

BRIDGE INSPECTION REPORT

2801388
Structure File Number

BRIDGE NUMBER **GEA 00322 0863**

YEAR BUILT **1961**

DIST **12** Bridge Type **395** TYPE SERVICE **1 5** **BEAVER CRK 1.77 MI. W 44**

| | | | | |
|---|-----------------------------|--------------------------------|--|------------|
| DECK out/out 0 Deck Area 1,076 sqft | | | N NOT APPLICABLE (CULVERT UNDER FILL ETC) | |
| 1. FLOOR | N NONE | | 2. WEARING SURFACE | Thk 0 |
| Left N NONE / Right N NONE | | | | |
| 3. CURBS, SIDEWALKS AND WALKWAYS | | | 4. MEDIAN | Lanes on 2 |
| 5. RAILING | N NONE | | 6. DRAINAGE | N NONE |
| 7. EXPANSION JOINTS | | | 8. SUMMARY | |
| SUPERSTRUCTURE | | | 3 N/A (CULVERTS, TRUSSES, ETC.) | |
| 9. ALIGNMENT | Max Spans 6 | | 10. BEAMS/GIRDERS/SLAB | |
| 11. DIAPHRAGMS or CROSSFRAMES | | | 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 | N NONE |
| 25. ARCH | | | 26. ARCH COLUMNS or HANGERS | |
| 27. SPANDREL WALLS | | | 28. PROTECTIVE COATING SYSTEM | |
| | | | Paint Date 1/1/1987 5 PAINT SYSTEM OZE | |
| 29. PINS/HANGERS/HINGES | | | 30. FATIGUE PRONE CONNECTIONS | |
| 31. LIVE LOAD RESPONSE | | | 32. SUMMARY | |
| SUBSTRUCTURE | | | N NONE | |
| 33. ABUTMENTS | N NONE | | 34. ABUTMENT SEATS | |
| | | | Abutment: NOT ON PILING | |
| 35. PIERS | | | 36. PIER SEATS | |
| | | | Piers: NOT ON PILING | |
| 37. BACKWALLS | | | 38. WINGWALLS | |
| 39. FENDERS and DOLPHINS | | Piers = NN NN NN Spans = 3 | 40. SCOUR | |
| 41. SLOPE PROTECTION | | N NONE-NATURAL PROTECTION(GRA) | 42. SUMMARY | |
| | | | Dive Date 12/30/1899 | |
| CULVERTS | | | | |
| 43. GENERAL | 5 PIPE-ARCH | 2 | 44. ALIGNMENT | |
| 45. SHAPE | | 2 | 46. SEAMS | |
| 47. HEADWALLS or ENDWALLS | Culvert Length 18 | 2 | 48. SCOUR | |
| 49. | | | 50. SUMMARY | |
| CHANNEL | | | | |
| 51. ALIGNMENT | | 2 | 52. PROTECTION | |
| | | | 0 OTHER-GRASS, BUSHES & TREES | |
| 53. WATERWAY ADEQUACY | 8 SLIGHT CHANCE OVERTOPPING | 2 | 54. SUMMARY | |
| APPROACHES | | | | |
| 55. PAVEMENT | 2 BITUMINOUS | 2 | 56. APPROACH SLABS | |
| 57. GUARDRAIL | 1 STEEL BEAM | 1 | 58. RELIEF JOINTS | |
| 59. EMBANKMENT | | 2 | 60. SUMMARY | |
| | | | Percent Legal = 150 | |
| GENERAL | | | | |
| 61. NAVIGATION LIGHTS | | | 62. WARNING SIGNS | |
| | | | Maint Resp 1 OHIO TRAN DEPT | |
| 63. SIGN SUPPORTS | | | 64. UTILITIES | |
| | | | Signs on = N MVC on = 9999.9 Under C = 0 | |
| 65. VERTICAL CLEARANCE | | N | 66. GENERAL APPRAISAL & OPERATIONAL STATUS | |
| | | | Under NC = 0 | |

67. INSPECTED BY _____ 68. REVIEWED BY _____
 _____ KJB 72336 MWB
 SIGNED PE Number INITIALS SIGNED PE Number INITIALS

CULVERTS

GENERAL: RUSTING SECTION LOSS TO AREAS OF THE INVERT AND
OTHER AREAS BELOW WATER LINE.

SHAPE: WEST CELL APPROX 10' IN FROM INLET THERE IS A 8"
DIAMETER BULGE AT 10 O'CLOCK. BULGE IS NOT UNDER
TRAFFIC. EAST CELL APPROX 12' IN FROM INLET THERE IS
A 4" DIAMETER BULGE AT 10 O'CLOCK.

SEAMS: WATER INFILTRATION. SOME RUSTING SECTION LOSS. A FEW
AREAS OF CUSPING AS MUCH AS 1/8".

HEADWALLS: CRACKS AND SPALLS.

CHANNEL

ALIGNMENT: STREAM LINES UP WITH WESTERN 2 PIPES. LITTLE OR
NO FLOW.

WATERWAY ADEQUACY: 10" CLEARANCE BETWEEN WATER AND TOP OF
PIPE. 2" OF SEDIMENT ON AVERAGE IN ALL PIPES.

APPROACHES

PAVEMENT: CRACKS. DIP IN PAVEMENT 10' WEST OF PIPES.

EMBANKMENT: MINOR EROSION AROUND INLET AND OUTLET. SLIGHT
EROSION HOLE AT OUTLET BETWEEN WEST CELL AND MIDDLE CELL.

GENERAL

LAST DIVE INSPECTION IN 2007. (REPORT IS ATTACHED TO THIS
FILE).

INSPECTED WITH AH.

2801388

Structural File Number

GEA-00322-0863

Bridge Number

September 24, 2007

Inspection Date

Underwater Inspection Report for:

US 322 (Mayfield Road) over Beaver Creek
Geauga County, Ohio
(Three cell culvert)



General Elevation View

Personnel on site during inspection:

ODOT

Ms. Andrea Persanyi

Contractor

Mr. Don W. Wilkins (Primary Diver/ Supervisor)

Mr. James A. Ritchie (Backup Diver/ Inspector)

Mr. Brian B. Butler (Tender)

Prepared for:

ODOT District 12

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Garfield Heights, Ohio 44125

Prepared by:



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2801388

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1. Introduction

Marine Solutions, Inc (MSI) conducted a routine underwater inspection of the GEA-00322-0863 culvert over Beaver Creek in Claridon Township, Ohio. The inspection was completed on September 24, 2007. Details of the inspection, along with observed conditions and conclusions, are provided within this report. Supplemental drawings, pictures and a location map are provided within the Appendixes.

2. Description of Structure

Culvert Number GEA-00322-0863 (SFN 2801388) carries U.S. Route 322 (Mayfield Road) over Beaver Creek in Geagua County, Ohio. The culvert has an overall length of approximately 72 feet. The structure consists of three cell corrugated metal pipe arch culvert measuring approximately 6 feet wide by 4 feet 9 inches tall.

3. Inspection Procedure

The culvert inspection was performed on 9/24/07. A visual/tactile inspection was performed on the portions of the culvert located below the water surface. Original plans were not available for review.

Inspection Mode: *Wading*

Flow Direction / Velocity: *North/ < 1 knot*

Channel Bottom: *Corrugated steel pipe with silt and light debris*

Scour Checked By: *N/A*

Equipment Used: *Wet suit, digital camera, survey rod, lights*

Hazards Encountered: *< 2 ft of visibility*

Hydrographic Reference: *Top of footing, 5.1 ft below the water surface*

4. Observed Conditions

- There is light to moderate corrosion of the culvert pipes with no holes or section loss.
- The bottom material consists of the steel pipe with silt and light debris.
- There is an indentation in the top of barrel 1 measuring approximately 8 inches tall by 3 inches deep located 8.5 feet north of the south entrance of the barrel.
- There is an indentation in the top of barrel 3 measuring approximately 8 inches tall by 3 inches deep located 13.5 feet north of the south entrance of the barrel.
- There is light tree debris at the south entrance of barrel 2.
- There is a boulder measuring 2 feet in diameter located 2 feet south of the entrance to barrel 1.
- There is minor surface corrosion on the culvert joint bolt heads located throughout the three culvert pipes.

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- There is an area of tree debris located on the northwest face of the pier.
- There is minor surface corrosion on the sides of the steel pipe from 1 foot below the surface to 1 foot above the water surface.
- There is minor surface corrosion of the steel culvert roof. There are isolated water seepage through the top of the culvert pipe.

5. Conclusions

The condition of the culvert during the 2007 inspection was consistent with the findings of the 2006 inspection.

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Photo by B. Butler 09/24/07

Photo 1. Elevation view looking North to South.



Photo by B. Butler 09/24/07

Photo 2. Elevation view looking South to North.



Photo by B. Butler 09/24/07

Photo 3. Indention in pipe number 1.



Photo by B. Butler 09/24/07

Photo 4. Indention in pipe number 3.

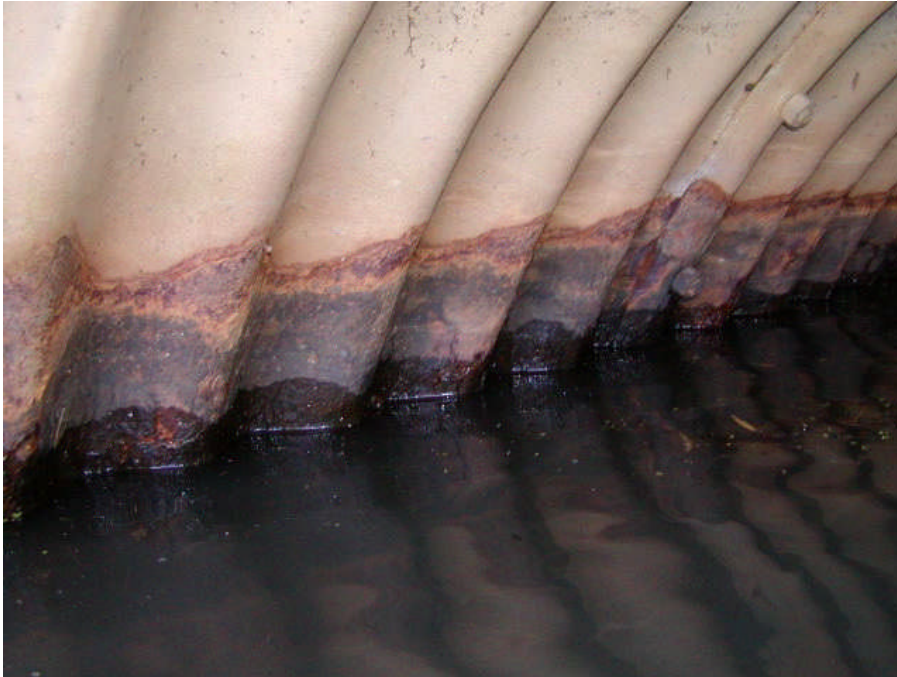


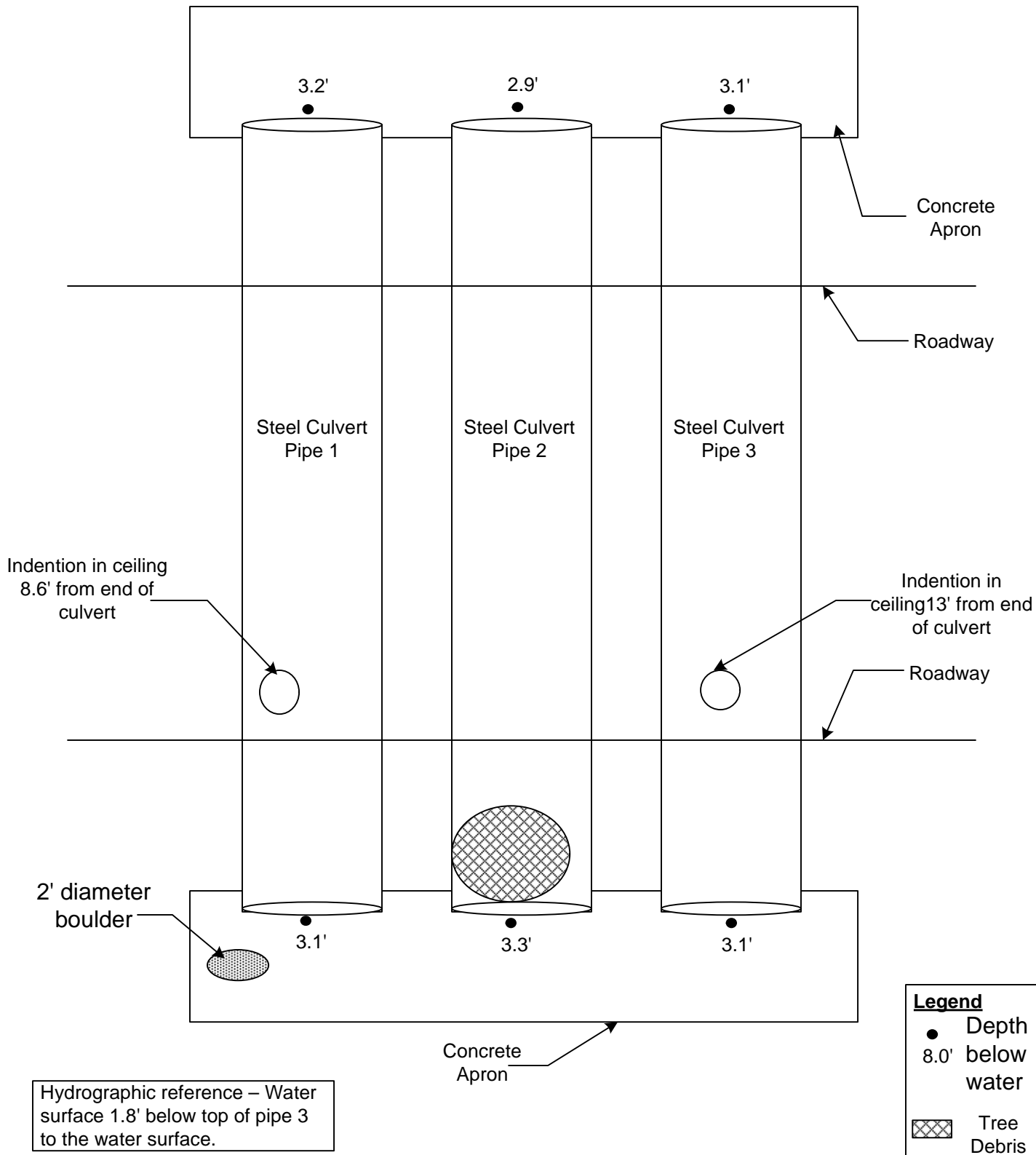
Photo by B. Butler 09/24/07

Photo 5. Typical surface corrosion from water surface to 1 ft above.



Photo by B. Butler 09/24/07

Photo 6. Typical surface corrosion on roof of culvert.



MSI MARINE SOLUTIONS, INC.
ENGINEERING & COMMERCIAL DIVING SERVICES

GRAPHIC SCALE:
Not to Scale

INSPECTION DATE: **October 24, 2007**

DRAWN BY: **DW** CKD. BY: **ANW**

FMSM JOB NO.: **MSI2007008**

FILE NAME: **GEA-00322-0863**

PROJECT: **ODOT District 12
2007 Underwater Bridge Inspections**

SHEET: **GEA-00322-0863
US 322 (Mayfield Rd)
over Beaver Creek
Geauga County**

Substructure Plan View

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