

Hamilton Eaton Bridge 7.449

Butler County Engineers

Hamilton Eaton Bridge 7.449



- 463 square miles
- 368,130 population
- 266 centerlines miles of roadway
- 609 lane miles of roadway
- 1,025 culverts
- 35 employees work in the Operations Department

Hamilton Eaton Bridge 7.449



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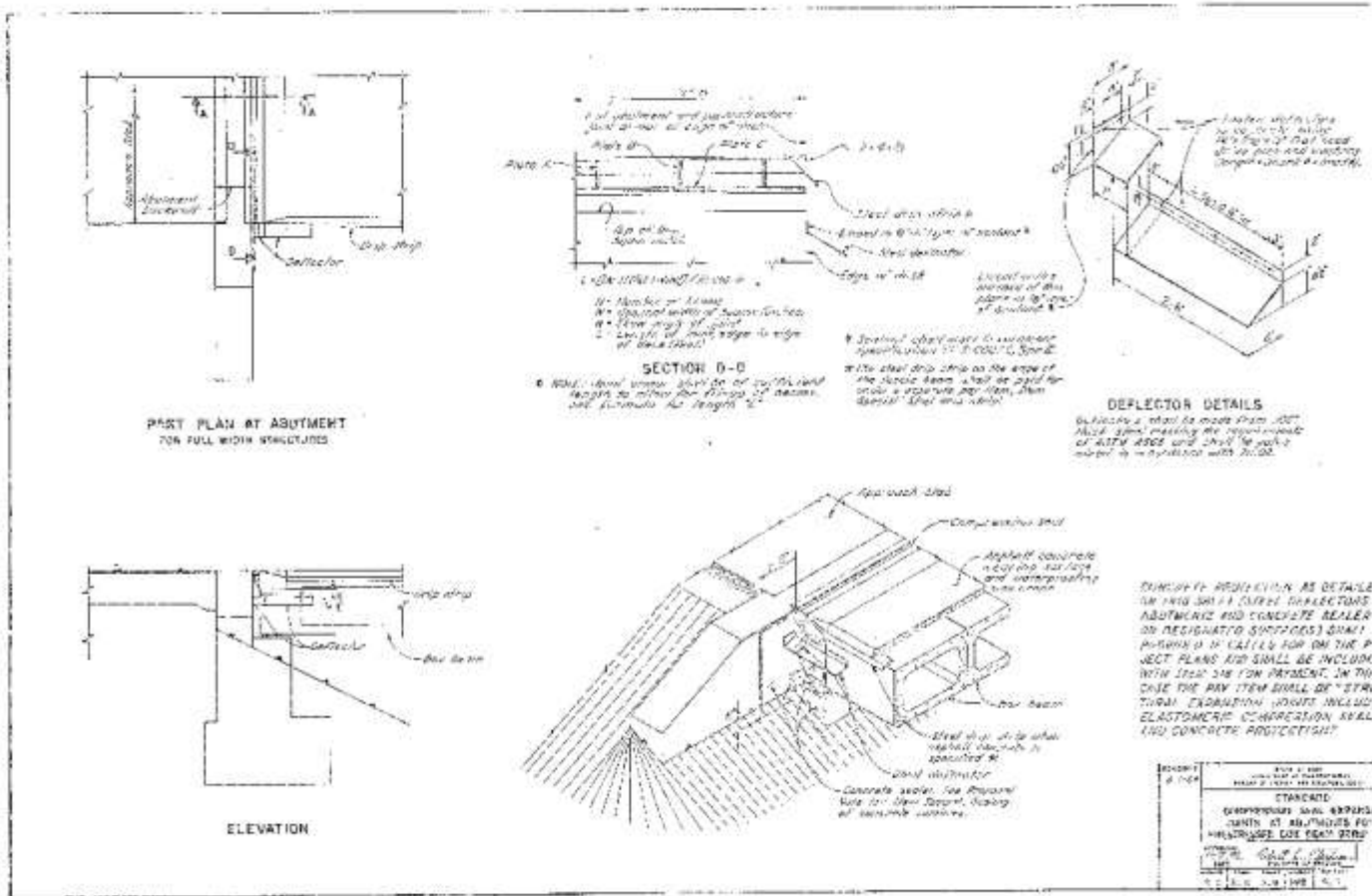


Hamilton Eaton Bridge 7.449

- Pre-stressed Box Beam structure built in 1994



Hamilton Eaton Bridge 7.449



Hamilton Eaton Bridge 7.449

STATE OF OHIO DEPARTMENT OF TRANSPORTATION BRIDGE INSPECTION FIELD REPORT

Structure File Number: 0936158 Inventory Bridge Number: BUT C0180 07.450 N Bridge Type: 2 - PRESTRESSED CONCRETE/3 - BOX BEAM/1 - SIMPLE
Sufficiency Rating: 80.5 Date Built: 7/1/1994

District: 08 Place Code (FIPS): MILFORD TWP HAMILTON EATON RD over WILLIAMS RUN Type of Service on: HIGHWAY
Key: "QTY" = Quantity for Element Linear Expansion; "L.F." = Linear Feet; "SQ.FT." = Square Feet; "EACH" or "NO." = 1.4 Condition Rating or average of worst span unless otherwise noted; "TR" = Transition Rating or weighted average of condition states; "0" = distressed or specific chart and guidance; all others use Manual specific designations; "C" = condition code; "TR" = TRIS rating.

Inspection Procedures

Comments

APPROACH

c1. Approach Wearing Surface

Longitudinal and transverse cracks.

c2. Approach Slabs

Paved Over.

c4. Embankment

Little low on north west corner.

DECK

c7.1 Floor/Slab

Spalling on top of beam #1 at rear abutment. Leaking between beams #5 & #6 for the entire span. Heavy deterioration in beams at each expansion joint. Leaking with efflorescence between beams. Isolated leaking in all joints except joints #1, #7 and #8.

c8. Wearing Surface

Longitudinal and transverse cracks. Asphalt coming up on concrete backwalls and top of beams. Asphalt separating at edge of bridge. Small potholes on west edge of deck.

c13. Expansion Joint

Paved over.

SUPERSTRUCTURE

c14. Alignment

Pre-cast camber difference between left and right side of the bridge up to 2.5"

c15.1 Beams/Girders

Spalling on top of beam #1 at rear abutment. Leaking between beams #5 & #6 for the entire span. Heavy deterioration in beams at each expansion joint. Leaking with efflorescence between beams. Isolated leaking in all joints except joints #1, #7 and #8.

SUBSTRUCTURE

c33. Abutment Walls

Inspection Date: 03/27/2015

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Reviewed Date: 12/31/2015

STATE OF OHIO DEPARTMENT OF TRANSPORTATION BRIDGE INSPECTION FIELD REPORT

Structure File Number: 0935158 Inventory Bridge Number: BUT C0180 07.450 N Bridge Type: 2 - PRESTRESSED CONCRETE/3 - BOX BEAM/1 - SIMPLE
Sufficiency Rating: 80.5 Date Built: 7/1/1994
District: 08 Place Code (FIPS): MILFORD TWP HAMILTON EATON RD over WILLIAMS RUN Type of Service on: HIGHWAY

APPROACH ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|-----------------------------------|-------|---|-------|---|-------|
| c1. Approach Wearing Surface (EA) | | | | | |
| c2. Approach Slabs (SF) | 640.0 | | | | |
| c3. Relief Joint (LF) | | | | | |
| c4. Embankment (EA) d | 4 | | | | |
| c5. Guardrail (EA) | 0.0 | | | | |
| N36. Safety Features: Tr, Gr, Trm | | | | | |
| c6. Approach Summary | 30(8) | 1 | 36(0) | 1 | 36(0) |

DECK ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|--------------------------------|-------|---|-------|---|-------|
| c7.1 Floor/Slab (SF) | 2924 | | | | |
| c7.2 Edge of Floor/Slab (LF) | 172 | | | | |
| c8. Wearing Surface (SF) | 1720 | | | | |
| c9. Curb/Sidewalk/Walkway (LF) | | | | | |
| c10. Median (LF) | 172 | | | | |
| c11. Railing (LF) | | | | | |
| N36. Safety Features: Rail | | | | | |
| c12. Drainage (EA) d | 0.0 | | | | |
| c13. Expansion Joint (LF) d | 0.0 | | | | |
| N58. Deck Summary | 30(8) | 1 | 36(0) | 1 | 36(0) |

SUPERSTRUCTURE ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|----------------------------------|-------|---|-------|---|-------|
| c14. Alignment (EA) d | | | | | |
| c15.1 Beams/Girders (LF) | 0.0 | | | | |
| c15.2 Slab (SF) | | | | | |
| c16. Diaphragm/X-Frames (EA) | 0.0 | | | | |
| c17. Stringers (LF) | | | | | |
| c18. Floorbeams (LF) | | | | | |
| c19. Truss Verticals (EA) | | | | | |
| c20. Truss Diagonals (EA) | | | | | |
| c21. Truss Upper Chord (EA) | | | | | |
| c22. Truss Lower Chord (EA) | | | | | |
| c23. Truss Gusset Plate (EA) d | | | | | |
| c24. Lateral Bracing (EA) | | | | | |
| c25. Sway Bracing (EA) | | | | | |
| c26. Bearing Devices (EA) d | 0.0 | | | | |
| c27. Arch (LF) | | | | | |
| c28. Arch Column/Hanger (EA) | | | | | |
| c29. Arch Spandrel Walls (LF) | | | | | |
| c30. Prot. Coating System (LF) d | | | | | |
| c31. Pins/Hangers/Hinges (EA) d | | | | | |
| c32. Fatigue (LF) d | | | | | |
| N69. Superstructure Summary | 30(8) | 1 | 36(0) | 1 | 36(0) |

SUBSTRUCTURE ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|-------------------------------|------|---|---|---|----|
| c33. Abutment Walls (LF) | 78.5 | | | | |
| c34. Abutment Caps (LF) | 78.5 | | | | |
| c35. Abut. Columns/Bents (EA) | 0.0 | | | | |
| c36. Pier Walls (LF) | | | | | |
| c37. Pier Caps (LF) | | | | | |
| c38. Pier Columns/Bents (EA) | | | | | |
| c39. Backwalls (LF) | 78.5 | | | | |
| c40. Wingwalls (EA) | 0.0 | | | | |
| c42. Scour (EA) d | | | | | |
| c43. Slope Protection (EA) d | 2 | | | | |
| N60. Substructure Summary | 0.0 | | | | |

CULVERT ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|----------------------------|---|---|---|---|----|
| c44. General (LF) | | | | | |
| c45. Alignment (LF) d | | | | | |
| c46. Shape (LF) d | | | | | |
| c47. Seams (LF) d | | | | | |
| c48. Headwall/Endwall (LF) | | | | | |
| c49. Scour (LF) d | | | | | |
| c50. Abutments (LF) | | | | | |
| N62. Culvert Summary | | | | | |

CHANNEL ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|-------------------------------|-------|---|---|---|----|
| c51. Alignment (LF) d | 200.0 | | | | |
| c52. Protection (LF) d | 200.0 | | | | |
| c53. Hydraulic Opening (EA) d | 1 | | | | |
| c54. Navigation Lights (EA) d | | | | | |
| N61. Channel Summary | | | | | |

SIGN/UTILITY ITEMS

| QTY. | 1 | 2 | 3 | 4 | TR |
|---------------------------|-----|---|---|---|----|
| c55. Signs (EA) d | 0.0 | | | | |
| c56. Sign Supports (EA) d | 0.0 | | | | |
| c57. Utilities (LF) d | | | | | |
| General Appraisal | | | | | |
| N41. Operating Status | | | | | |

Inspector Name: Goodman, Mark
Inspection Date/Type: 03/27/2015 Routine
PE Number:
Reviewer Name: Quimby, David
Review Date: 12/31/2015
PE Number: 73096

Inspection Date: 03/27/2015

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Reviewed Date: 12/31/2015

Hamilton Eaton Bridge 7.449

- Abutment Seat
 - Leaking from top of abutment
 - Back Wall Rotted
- Wearing surface
 - Asphalt separating at edge of bridge
- Floor
 - Spalling on top of beam #1, leakage between beam 5-6 entire span



Hamilton Eaton Bridge 7.449

- Scope
 - Do as much in-house as possible
 - Plane bad asphalt from bridge and approach slabs
 - Repair bad concrete and rebar
 - Install drip edge
 - Prep and install Type 3 waterproofing
 - Resurface bridge and approach slabs

Hamilton Eaton Bridge 7.449

Force Account Project Assessment Form (Estimate)

Ohio Revised Code 117.16 requires the Auditor of State to develop a force account project assessment form to be used by each public office to estimate or report the cost of a force account project. The form shall include costs for employee salaries and benefits, any other labor costs, materials, freight, fuel, hauling, overhead expenses, workers' compensation premiums, and all other items of cost and expense, including a reasonable allowance for the use of all tools and equipment used on or in connection with such work and for the depreciation on the tools and equipment.

This form is to be completed as provided in Auditor of State Bulletin 2003-003.

Project Name/Number: Hamilton Eaton Bridge 7.449 / B018007.449/5A

Project Description: Bridge Rehab

Proposed Start Date: May 18, 2015

Proposed End Date: May 22, 2015

ESTIMATED LABOR (please complete the shaded fields)

| Description | Base Wage | Hours Worked | Total |
|-------------|-----------|--------------|------------|
| Nate Klaber | \$30.01 X | 80 | \$2,400.80 |
| Steve Moore | \$23.17 X | 80 | \$1,853.60 |
| Jody Horn | \$21.88 X | 80 | \$1,750.40 |
| Eric Brown | \$32.11 X | 80 | \$1,768.80 |
| | X | | \$0.00 |
| | X | | \$0.00 |
| | X | | \$0.00 |
| | X | | \$0.00 |
| | X | | \$0.00 |
| | X | | \$0.00 |

Total Base Wages \$7,773.60

50 % of base wages (fringe benefits, BWC, etc.) \$2,332.08

35 % of wages and fringe benefits for overhead \$3,840.16

Total Labor Estimate \$13,945.84

ESTIMATED MATERIALS (please complete the shaded fields)

| Description | Unit | Quantity | Unit Price | Total |
|-------------------------------|------|----------|------------|-------|
| Base Prep Type 3 Waterproofer | 25 | 1 | \$4,105.00 | |
| Primer | 4 | 1 | \$344.00 | |
| Joint Material | 76 | 1 | \$5,487.20 | |
| | | | \$0.00 | |
| Concrete / Rebar Materials | 11 | 1 | \$1,265.00 | |
| | | | \$0.00 | |
| | | | \$0.00 | |
| | | | \$0.00 | |
| | | | \$0.00 | |
| | | | \$0.00 | |
| | | | \$0.00 | |
| | | | \$0.00 | |

Base Materials \$11,201.20

15 % of base materials for overhead \$1,680.18

Total Materials Estimate \$12,881.38

ESTIMATED EQUIPMENT (please complete the shaded fields)

Each piece of equipment used in a project must be assigned an hourly rate. For equipment owned by the public entity, this rate must reflect the original purchase price of the equipment, maintenance costs, time in service, depreciation, freight, fuel, and hauling. The public office may use any generally accepted rate that reflects all of the aforementioned considerations, or it may use the statewide rates as published by the Ohio Department of Transportation and updated on a quarterly basis; however, the office must use the same rate source for all equipment used in a project. Any equipment rented by the public entity must be listed in the form and reflect the actual rental rate.

| Description | Rate per Hour | Hours | Total |
|---|---------------|-------|-------------|
| Crewcab (312) | \$25.14 X | 80 | \$2,011.20 |
| Dump Truck (155) | \$77.80 X | 8 | \$622.40 |
| Dump Truck (166) | \$77.88 X | 8 | \$623.04 |
| Dump Truck (150) | \$18.39 X | 12 | \$774.24 |
| Crawler Mounted Excavator (250) | \$84.18 X | | \$0.00 |
| Wheel Mounted Excavator (241) | \$85.69 X | | \$0.00 |
| Compact Solid Steel Loader (229) | \$37.65 X | 10 | \$662.40 |
| Trailer Mounted Seeder (237) | \$15.38 X | | \$0.00 |
| On Highway Tractor (180) | \$61.81 X | | \$0.00 |
| Hydraulic Removable Gooseneck Trailer (181) | \$15.90 X | | \$0.00 |
| Non-Tilt Deck Utility Trailer (168) | \$3.74 X | | \$0.00 |
| Non-Tilt Deck Utility Trailer (177) | \$3.05 X | | \$0.00 |
| | | | |
| RA Summary Sub Work (Asphalt) | \$23,000.00 X | 1 | \$23,000.00 |
| Rental of Curb Polymold (week rate) | \$1,550.00 X | 1 | \$1,550.00 |

Total Equipment Estimate \$29,183.28

TOTAL ESTIMATED PROJECT COST \$36,010.50
(labor + materials + equipment)

Prepared by: Scott L. Bressler

Title: Operations Deputy

Date: 5/5/2015

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- Cut out and tie in new steel
- Chip out loose material
- ChemSpeed 65
(High Strength Rapid Set)



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Qualified Product List

Ohio Department of Transportation

Spec Reference: 711.29

Click on Brand Name for any additional information

| Sample Id | PS CD | Mtl Cd | Mtl Name | Brand Name | P/S Name | Street | City | St/Zip | Phone |
|--------------------|----------|--------|--------------------------------------|--------------------------------|---------------------------|----------------------|-----------|----------|--------------|
| QPLITEMS104J090909 | 06646-01 | 61717 | MEMBRANE WATERPROOF SHEETING, TYPE 3 | PAVE PREP | CRAFCO INC @ CHANDLER, AZ | 6975 WEST CRAFCO WAY | CHANDLER | AZ 85226 | 602-276-0476 |
| QPLITEMS104J091132 | 06646-01 | 61717 | MEMBRANE WATERPROOF SHEETING, TYPE 3 | PAVE PREP SA | CRAFCO INC @ CHANDLER, AZ | 6975 WEST CRAFCO WAY | CHANDLER | AZ 85226 | 602-276-0476 |
| QPLITEMS126B104346 | 06675-01 | 61717 | MEMBRANE WATERPROOF SHEETING, TYPE 3 | POLYGUARD 1100 | POLYGUARD PROD/TX | P. O. BOX 755 | ENNIS | TX 75120 | 972-975-8421 |
| QPLITEMS000515 | 06562-01 | 61717 | MEMBRANE WATERPROOF SHEETING, TYPE 3 | ODOT TYPE 3 | W.R. MEADOWS/IL | 300 INDUSTRIAL DR | HAMPSHIRE | IL 60140 | 800-825-5976 |

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- Type 3 Waterproofing
PolyGuard 1100

Crafc 33140 Primer

515T Crafc Material

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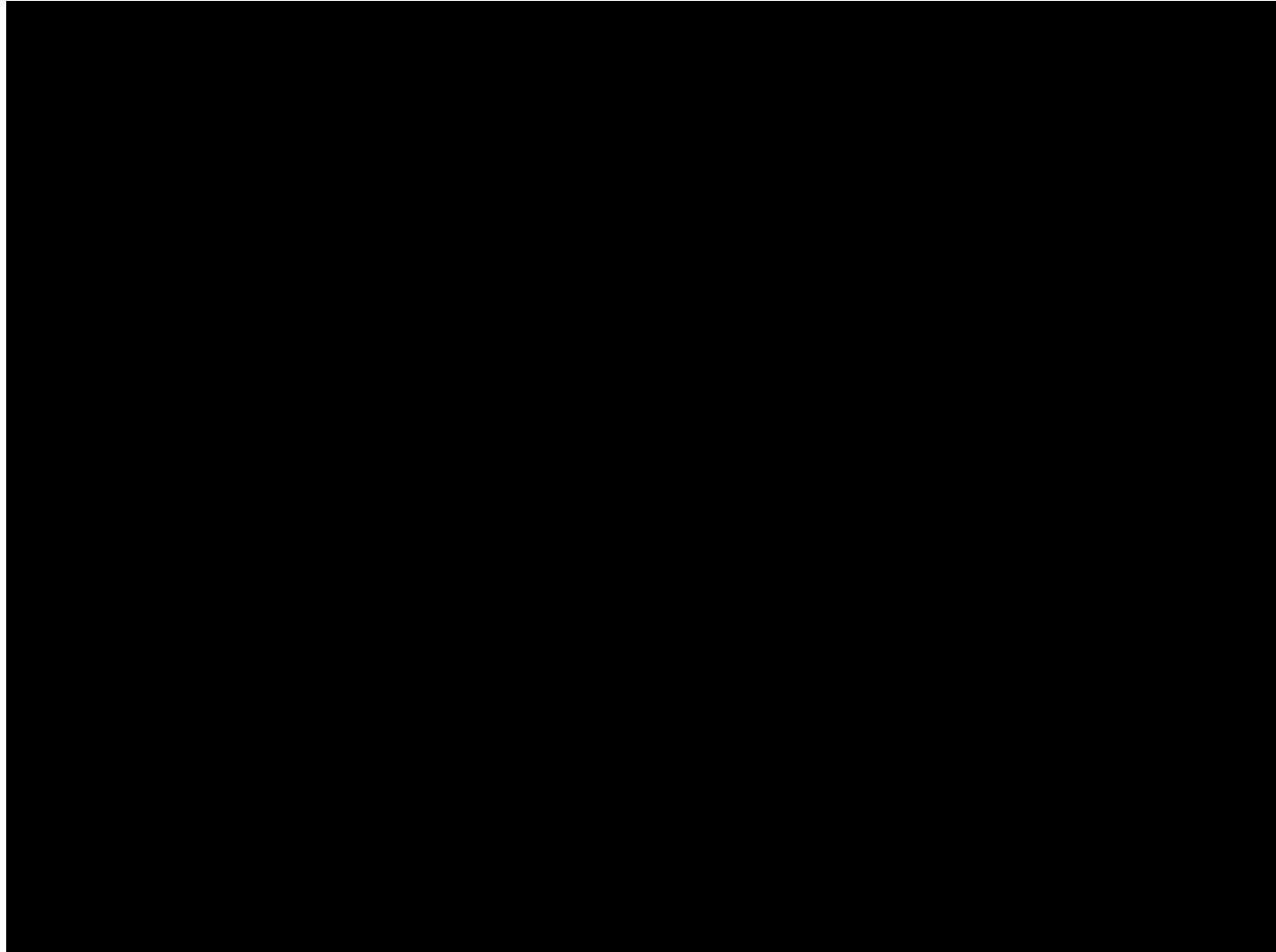
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- Area of Bridge Deck
 - Width 34ft.
 - Overall length 86ft.
- Final Cost of Project
 - \$56,109.39
 - \$19.20 / square ft.
- Make sure to spend time to get the prep right
- Make sure to apply the primer and emulsion correct
- Have enough manpower to lay sheets correctly
- Make sure the paving contractor is a good one

Hamilton Eaton Bridge 7.449

- R A Stempfley Contracting 513-678-7533
 - Rick Stempfley
- Welfle Inc. 419-663-1121
 - Bob Welfle
- Contractor Materials Company 513-956-3167
- DJL Materials & Supplies Inc. 940-252-0020
 - Bill Leahy