



## Structure Inventory and Appraisal

Bridge ID: HANOVER-129431  
 FHWA No.: 129431

Official	SR: 80.4	SD/FO: Not Deficient or Obsolete
Unofficial	SR: 80.4	SD/FO: Not Deficient or Obsolete

**IDENTIFICATION**

7 Facility Carried: 170TH ST  
 5B Rte. Signing Prefix: 4  
 5C Level of Service: 1 - MAINLINE  
 5D Inventory Route: 00000  
 City: RURAL  
 3 County: 024 - Crawford  
 9 Location: 084402002  
 5E Directional Suffix: 0 - NOT APPLICABLE  
 6 Feature Intersected: EMIGRANT CREEK  
 2 District: 0  
 Garage: 000  
 98 Border Bridge Code:  
 % Responsibility: 0  
 99 Border Bridge No.:

**INSPECTION**

**90 Inspection Date: 05/08/2014**  
 Next Routine Insp Date: 05/08/2016  
 Inspection Agency: 5 - Consultant  
 93A FC Inspection Date:  
 92A FC Frequency: 0  
 93B UW Inspection Date:  
 92B UW Frequency: 0  
 93C SI Date:  
 92C SI Frequency: 0  
 Other Non-NBI Date:  
 Other Non-NBI Freq.:

Inspection Type: N/A  
 91 Frequency: 24  
 Next Insp Type: Regular  
 Inspection Group: Crawford County  
 Next FC Insp.: NA  
 Next UW Insp.: NA  
 Next Spec. Insp.: NA  
 Next Other Insp.: NA

**STRUCTURE TYPE AND MATERIALS**

43A Main Span 3 - Steel  
 43B Main Span Design: 02 - Stringer/Multi-beam or Girder  
 45 No. Spans Main Unit: 1  
 44A Appr. Span 000 - NA  
 44B Appr. Span Design: 000 - NA  
 46 No. of Appr. Spans: Near 0 Far 0  
 107 Deck Type: 8 - Wood or Timber  
 108A Wearing Surface: 8 - Gravel  
 108B Membrane: 0 - None  
 108C Deck Protection: 0 - None

**CONDITION**

58 Deck: 8 - Very Good Condition (no problems noted)  
 59 Super: 7 - Good Condition (some minor problems)  
 60 Sub: 8 - Very Good Condition (no problems noted)  
 61 Channel/Channel Prot.: 8 - Banks are protected  
 62 Culvert: N - Not Applicable

**GEOMETRIC DATA**

48 Length Max Span: 47 ft.  
 49 Structure Length: 48 ft.  
 34 Skew: 0°  
 Deck Area: 1209.6 sq. ft.  
 50B Curb/Sdwb Width R: 0 ft.  
 50A Curb/Sdwb Width L: 0 ft.  
 51 Width Curb to Curb: 24.2 ft.  
 52 Width Out to Out: 25.2 ft.  
 32 Appr. Roadway width: 24 ft.  
 (w/ Shoulders)  
 33 Median: 0 - No median  
 35 Structure Flared: 00 - No flare  
 10 Vertical Clearance: 99'99"  
 47 Horiz. Clearance: 24'02"  
 53 Min. Vert. Clearance Over: 99'99"  
 54B Min. Vert. Underclearance: 00'00"  
 55 Min. Lat. Underclearance R: 00'00"  
 56 Min. Lat. Underclearance L: 00'00"

**APPRAISAL**

67 Str. Evaluation: 5 - Somewhat better than minimum adequacy  
 68 Deck Geometry: 6 - Equal to present minimum criteria  
 69 Underclear Vert & Horiz: N - Not applicable  
 71 Waterway Adequacy: 8 - Bridge Above Approaches  
 72 Approach Alignment: 8 - Equal to present desirable criteria  
 36A Bridge Rail: 0 - DOES NOT MEET CURRENT SAFETY STANDARDS, OR IS NOT THERE AND IS NEEDED.  
 36B Transition: 0 - DOES NOT MEET CURRENT SAFETY STANDARDS, OR IS NOT THERE AND IS NEEDED  
 36C Approach Rail: 0 - DOES NOT MEET CURRENT SAFETY STANDARDS, OR IS NOT THERE AND IS NEEDED  
 36D Approach Rail Ends: 0 - DOES NOT MEET CURRENT SAFETY STANDARDS, OR IS NOT THERE AND IS NEEDED  
 113 Scour Critical: 8 - Stable - Excellent Condition

**NAVIGATION DATA**

38 Navigation Control:  
 0 - No navigation control on waterway (bridge permit not required)  
 111 Pier Protection:  
 39 Vertical Clearance: 00'00"  
 40 Horiz. Clearance: 000'00"

**LOAD RATING AND POSTING**

31 Design Load: 0 - Unknown  
 63 Rating Method: 2 - Allowable Stress (AS) reported in english tons using HS-20 loading.  
 64 Operating Rating: 25.5 Tons  
 65 Rating Method: 2 - Allowable Stress (AS) reported in english tons using HS-20 loading.  
 66 Inventory Rating: 21.2 Tons  
 70 Posting: 5 - Equal to or above legal loads  
 41 Posting Status: A - Open

16 Latitude: 42.07245177      17 Longitude: -95.53722145

**AGE AND SERVICE**

27 Year Built: 2000      Design No.: 0  
 106 Year Reconstructed: 0  
 42A Type of Service on: 1 - Highway  
 42B Type of Service Under: 5 - Waterway  
 28A Lanes on: 2      28B Lanes under: 0  
 29 ADT: 25      30 Year of ADT: 2012  
 109 Truck ADT: 0 %      Speed Limit: 55  
 19 Detour Length: 4 mi.

FRA No. (if RR Bridge):  
 Mile Post:

**CLASSIFICATION**

112 NBIS Length: Y  
 26 Functional Class: 09 - Rural - Local  
 100 STRAHNET: 0 - Not a defense highway  
 101 Parallel Structure: N - No parallel structure  
 102 Direction of Traffic: 2 - 2-way traffic  
 22 Owner: 02 - County Highway Agency  
 21 Custodian: 02 - County Highway Agency  
 37 Historical Significance: 5 - Not eligible  
 75A Type of Work Proposed:  
 75B Work Done by:

Project: Crawford Co Rtg's 2001 Date: 10/28/01

Subject: Hanover 129430 0 Designed: ctv Checked: \_\_\_\_\_

New bridge

Span E to E Brg 46.7'

Roadway width 24.2'

Deck width 23.3'

Deck Deck & a half

Blm 4x16  
Top 3x12

1" gravel

$$\frac{\text{Deck } 23.3' - \text{be } .75'}{7\text{spa}}$$

$$= 3.22' = 38.7''$$

Stringers: (8) WF 24x76 ✓ Spacing = 39" (8 beams)

$$d = 23\frac{3}{8} \quad tw = \frac{7}{16}$$

$$bf = 9'' \quad tf = \frac{9}{16}$$

Diaphragms: Dist. from E Brg 1.6', 19.1', 27.5', 45.1'

1.6      17.5'      8.40      17.6      1.6

DL to transverse plank: psf

$$1'' \text{ gravel } \left(\frac{1}{12}\right) 120 \text{ psf} = 10 \text{ psf}$$

$$3 \times 12 \quad \left(\frac{3}{12}\right) 50 \text{ psf} = 12.5 \text{ psf}$$

DL to stringer: p/f

$$\text{Gravel } 10 \text{ psf} \left(\frac{39}{12}\right) = 32.5 \text{ p/f}$$

$$3 \times 12 \text{ (Top)} \quad 12.5 \left(\frac{39}{12}\right) = 40.6 \text{ p/f}$$

$$4 \times 16 \text{ (Blm)} \quad \frac{1}{2} \left(\frac{4}{12}\right) 50 \text{ psf} \left(\frac{39}{12}\right) = 27.1 \text{ p/f}$$

half deck

$$100.2 \text{ p/f}$$

$$\frac{WL}{\text{blm}} = \frac{5}{5.5} \frac{39}{12} = \frac{591}{5.5} \text{ WL beam}$$