

MADISON COUNTY

FIRST INSPECTION

57-SR223-0228

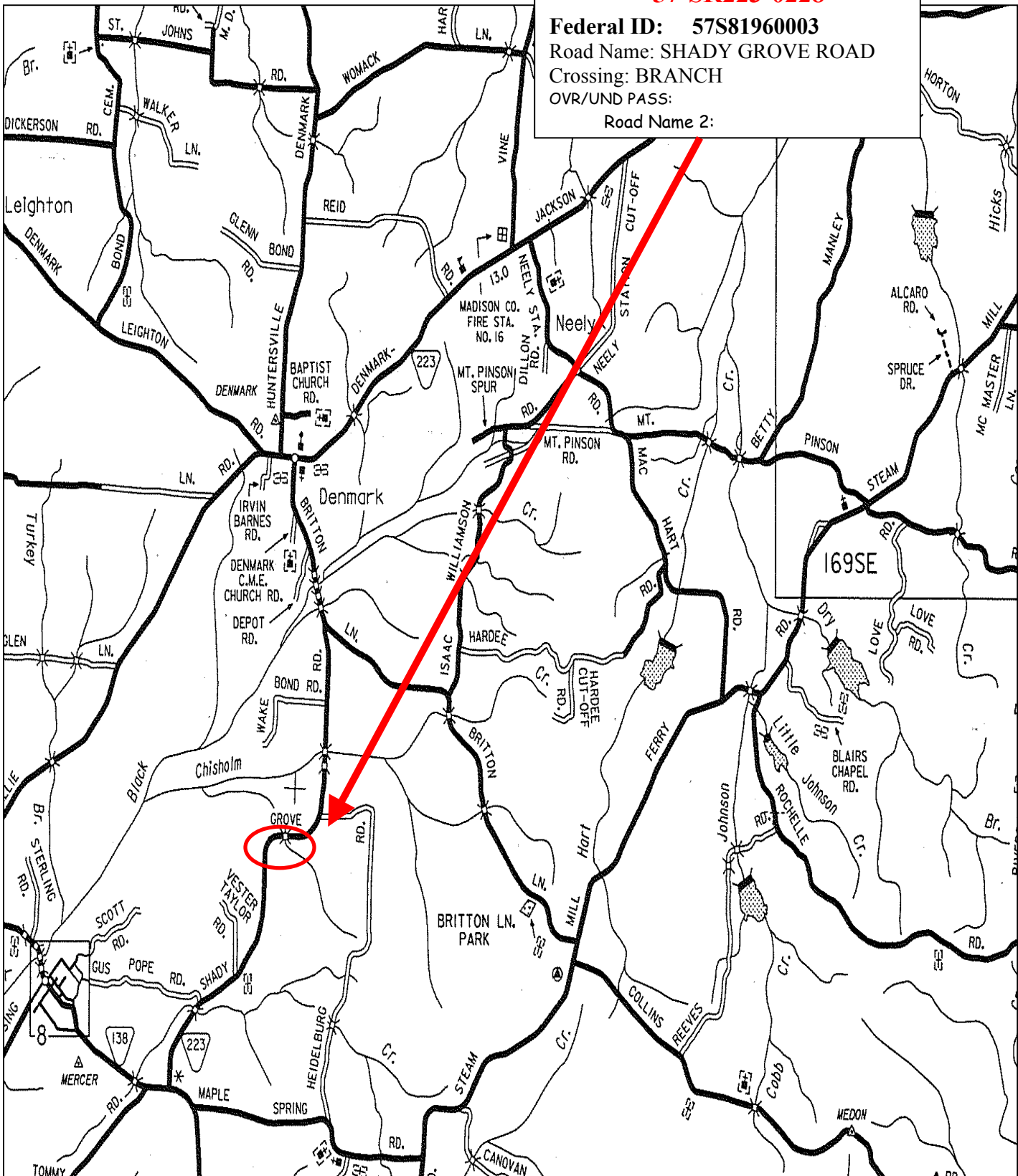
Federal ID: 57S81960003

Road Name: SHADY GROVE ROAD

Crossing: BRANCH

OVR/UND PASS:

Road Name 2:



BRIDGE MAINTENANCE RECOMMENDATIONS

COUNTY: MADISON

LOCATION: 57-SR223-02.28-

CO. SEQ.: 1 SPEC. CASE: 0

Tennessee Department
of Transportation

CROSSING: BRANCH

FED. BRIDGE NO.: 57S81960003

MAINT. DIST.: 57

REPAIR LIST NO.: 1

DATE ADDED: 07/10/2017

REVISED: 08/03/2017

FACILITY CARRIED:	FAS 223	NUMBER OF MAIN SPANS:	1
HIGHWAY SYSTEM:	05-STP RURAL, STATE	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	20 FT 11 IN	BRIDGE LENGTH (FT):	23
BRIDGE WIDTH (OUT TO OUT):	22 FT 3 IN	MAXIMUM SPAN LENGTH (FT):	23
APPROACH ROADWAY (W/SHOULDERS):	29 FT 10 IN	SKEW ANGLE (DEGREES):	60

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	STEEL
MAIN SPAN DESIGN TYPE:	STRINGER/MULTI-BEAM OR GIRDER
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	08/03/2017	GENERAL CONDITION:	GOOD
EVALUATION DATE:	07/10/2017	STRUCTURALLY DEFICIENT:	YES
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	10 TONS	SUFFICIENCY RATING:	27.4

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS

APPROACH GUARDRAILS ARE NON-EXISTENT

BRIDGERAILS ARE NON-EXISTENT

GENERAL COMMENTS:

08-03-17 FIRST INSPECTION

BRIDGE REPLACEMENT PROJECT ESTIMATED TO BE LET 12/2017.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 08/03/2017

Bridge Number: 57S819600031
(Includes Item 5A)

Feature Intersected: BRANCH

Evaluation Status: CONDITION ITEM CHANGE

County: 57

Route: SR223

Special Case: 0

County Sequence: 1

Log Mile: 2.28

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM # DESCRIPTION

VALUE

CONDITION CODING GUIDELINES

90 LAST INSPECTION DATE
EARLIEST DATE OF
NEXT
REGULAR INSPECTION

08/03/2017

06/04/2019

 / /

(Values for Coding Items 58, 59, 60 and 62)

N NOT APPLICABLE

10 MINIMUM V.C. OVER
DECK
(ROADWAY + SHOULDERS)

99 FT. 99 IN.
 FT. IN.

520 MINIMUM V.C. OVER DECK
(EXCLUDES SHOULDERS)

99 FT. 99 IN.
 FT. IN.

36 TRAFFIC SAFETY FEATURES

Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT
0	0	0	0	45

41 STRC OPEN/CLOSED/POSTED
A K P

A

58 DECK

8

59 SUPERSTRUCTURE

7

60 SUBSTRUCTURE

7

61 CHANL/CHANL PROTECTION

7

62 CULVERT AND RETAIN WALL

N

71 WATERWAY ADEQUACY

6

72 APPROACH RDWY ALIGNMENT

8

521 OVERALL CONDITION

GOOD

16 LATITUDE 17 LONGITUDE
N 35° 29.7150' W 89° .0767'

TEAM LEADER SIGNATURE

REVIEW DATE

9 EXCELLENT CONDITION

8 VERY GOOD CONDITION - NO
PROBLEMS NOTED.

7 GOOD CONDITION - SOME MINOR PROBLEMS.

6 SATISFACTORY CONDITION - MINOR
DETERIORATION OF STRUCTURAL
ELEMENTS.

5 FAIR CONDITION - ALL PRIMARY
STRUCTURAL ELEMENTS ARE SOUND BUT
MAY HAVE MINOR SECTION LOSS,
CRACKING, SPALLING OR SCOUR.

4 POOR CONDITION - ADVANCED SECTION
LOSS, DETERIORATION, SPALLING OR
SCOUR.

3 SERIOUS CONDITION - LOSS OF SECTION,
DETERIORATION, SPALLING OR SCOUR HAVE
SERIOUSLY AFFECTED PRIMARY
STRUCTURAL COMPONENTS. LOCAL
FAILURES ARE POSSIBLE. FATIGUE CRACKS
IN STEEL OR SHEAR CRACKS IN CONCRETE
MAY BE PRESENT.

2 CRITICAL CONDITION - ADVANCED
DETERIORATION OF PRIMARY STRUCTURAL
ELEMENTS. FATIGUE CRACKS IN STEEL OR
SHEAR CRACKS IN CONCRETE MAY BE
PRESENT OR SCOUR MAY HAVE REMOVED
SUBSTRUCTURE SUPPORT. UNLESS
CLOSELY MONITORED IT MAY BE
NECESSARY TO CLOSE THE BRIDGE UNTIL
CORRECTIVE ACTION IS TAKEN.

1 "IMMINENT" FAILURE CONDITION - MAJOR
DETERIORATION OR SECTION LOSS
PRESENT IN CRITICAL STRUCTURAL
COMPONENTS OR OBVIOUS VERTICAL OR
HORIZONTAL MOVEMENT AFFECTING
STRUCTURAL STABILITY. BRIDGE IS
CLOSED TO TRAFFIC BUT CORRECTIVE
ACTION MAY PUT IT BACK IN LIGHT SERVICE.

0 FAILED CONDITION - OUT OF SERVICE AND
BEYOND CORRECTIVE ACTION.

Bridge Loc. No: 57-SR223-02.28 Date: 08-03-17



LOOKING AHEAD ON ROUTE



RIGHT VIEW FROM TOP

Bridge Loc. No: 57-SR223-02.28 Date: 08-03-17



LEFT VIEW FROM TOP



VIEW ACROSS TOP OF DECK

Bridge Loc. No: 57-SR223-02.28 Date: 08-03-17



LOOKING BACK ON ROUTE



BRIDGE NUMBER

Bridge Loc. No: 57-SR223-02.28 Date: 08-03-17



RIGHT SIDE ELEVATION



ABUTMENT 1

Bridge Loc. No: 57-SR223-02.28 Date: 08-03-17



BOTTOM DECK



ABUTMENT 2

Bridge Loc. No: 57-SR223-02.28

Date: 08-03-17



LEFT SIDE ELEVATION

BRIDGE INSPECTION REPORT

Form BIR 3.0
(Rev. 9-22-98)
DT-0069

Field Report No. _____ Date 8/3/17
Previous Report No. _____ Date _____
Co Seq: 01 Plans: YES () NO ()

Bridge No. 57S81960003 Bridge Location No. 57 - SR223 - 0228
Eleven Digit No. _____ Co. _____ Route _____ Log Mile _____ OVER/UNDER PASS _____

SHADY GROVE ROAD BRANCH
Road Name _____ Feature Intersected _____ CITY _____

Year Constructed 2017 County Madison Maint. Dist.: 48 Maint.Resp: 02

Year Widened _____ Year Rehabilitated _____ Structure Name (If Named) _____

FEATURES

Wearing Surface Concrete () Timber () Asphalt ☒ Depth 1 1/2" (in.)
Flared Width Yes () No ☒ Median Width Open () None () Closed ()
Navigational Control Yes () No ☒ Bridge Skew 75R ° LT () RT ()
Structure Type (Main Span) P.C.C.S.
Structure Type (Appr.Spans) _____
No. Main Spans 1 No. Approach Spans _____
Maximum Span Length 28.0' (**. ft.)
Total Length 28.0' (**. ft.)

INSPECTORS

1. MOORE (TL)
2. ARRINGTON
3. CONWAY
4. HAYES
5. B. JONES
6. THOMAS
7. _____
8. _____

WIDTHS (**. ft.)

Deck Out-to-Out 27.5'
Roadway Curb/Curb 26.5'
Roadway Rail/Rail _____
Sidewalk Rt. _____ Lt. _____
*Approach Roadway 18.0
*(Does Not Include Shoulders)
Approach Shoulder Rt. 2.0
Lt. 2.0

CLEARANCES

Min. Vertical Clearance over Deck _____ (ft.-in.)
Min. Vertical Under Clearance _____ (ft.-in.)
Min. Lateral Under Clearance Rt. _____ (**. ft.)
Min. Lateral Under Clearance Lt. _____ (**. ft.)

FRACTURE CRITICAL: _____
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) _____ (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: _____ Date _____

DOT FIELD TEAM () CONTRACT DIVERS () NONE REQUIRED ☒

Change in Structural Condition: Yes () No ☒

Major Repairs Made: Yes () No ☒

COMMENTS:

LATITUDE: N35 ° 29.7150 '
LONGITUDE: W89 ° 0.0766
G.P.S. Location _____

BRIDGE RATING: ☒ () () ()
GOOD FAIR POOR CRITICAL

Supervising Bridge Inspector _____

1ST INSPECTION

PERFORMANCE EVALUATION

Time of Day Inspected 9:00 AM Weather Conditions SUNNY, 80°
Vehicles Observed NONE

LIVE LOAD BEHAVIOR

	YES	NO	Comments
Substructure			
Horiz./ Vert. Defl.	()	(X)	
Vibration	()	(X)	
Superstructure			
Horiz./ Vert. Defl.	()	(X)	
Vibration	()	(X)	

APPROACH

	Rating	Comments
Alignment	(G) F P C	
Slab	G F P C	—
Joints	G F P C	—
Pavement	(G) F P C	
Embankment	(G) F P C	
Drains	G F P C	—

TRAFFIC SAFETY FEATURES

	Rating	STANDARD/SUB-STANDARD	Comments
Bridgerailing	G F P C	() ()	NONE
Transitions	G F P C	() ()	
Guardrail	G F P C	() ()	↓
Guardrail Terminal	G F P C	() ()	↓

SIGNING

	YES	NO	NEEDED	Weight Limit Posted
Paddleboards	(X)	()	()	YES () NO (X)
Vertical Clearance (<14'-6")	()	(X)	()	Gross..... Tons
NARROW ()	()	(X)	()	2 Axle..... Tons
ONE LANE BRIDGE ()	()	(X)	()	3 or more Axles.. Tons

Other Signs or Plaques: NONE

Comments Regarding any Problems with Signing: NONE

DECK

	Rating	Comments
Wearing Surface	<u>G</u> F P C	
Deck - Structural Condition	G F P C	<u>SEE PCCS</u>
Curbs	<u>G</u> F P C	
Median	G F P C	
Sidewalks	G F P C	
Parapet	G F P C	
Railing	G F P C	
Paint	G F P C	
Drains	<u>G</u> F P C	
Lighting Standards	G F P C	
Utilities	G F P C	
Joint Leakage	<u>G</u> F P C	
Expansion Joints	G F P C	

SUPERSTRUCTURE

Bearing Devices	G F P C	
Beams	G F P C	
Girders	G F P C	
P C C S	G <u>F</u> P C	
BOLTS (PCCS)	G <u>F</u> P C	
Floor Beams	G F P C	
Stringers	G F P C	
Diaphragms	G F P C	
Bracing	G F P C	
Trusses - General	G F P C	
Portals	G F P C	
Bracing	G F P C	
Paint	G F P C	
Alignment of Members	<u>G</u> F P C	

TEXTURE COAT

Condition Rating	G F P C	Fading	G F P C
Overall Appearance	G F P C	Needs Spot Painting	YES () NO ()
Staining Rating	G F P C	Needs Repainting	YES () NO ()

Comments _____ Scaling Rating G F P C
RECOMMENDATIONS: _____ CLEAN SEAL JOINTS ()
_____ CLEAN DRAINS ()

SUBSTRUCTURE

PILES TO BE
REPLACED

ABUTMENTS

	Rating	Comments	PILE(S)	ABUTMENT
Caps	<u>G</u> F P C			
Breastwall	<u>G</u> F P C			
Wings	<u>G</u> F P C			
Backwall	G F P C			
Plumb	<u>G</u> F P C			
Footing	G F P C			
Piles	<u>G</u> F P C			
Embankment	<u>G</u> F P C			
Bearing	G F P C			
Slope Paving	G F P C			
Rip Rap	G F P C			
Earthquake Devices	G F P C			

PIERS

		PILE(S)	PIER
Caps	G F P C		
Columns	G F P C		
Plumb	G F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	G F P C		
Web	G F P C		
Earthquake Devices	G F P C		

BENTS

		PILE(S)	BENT
Caps	G F P C		
Columns	G F P C		
Plumb	G F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	G F P C		
Bracing	G F P C		
Earthquake Devices	G F P C		

Piles Need Replacement: NO (X) YES ()

CUT VEGETATION NO (X) YES ()

CLEAR DRIFT NO (X) YES ()

RECOMMENDATIONS:

STREAM CHANNEL DATA AND CONDITIONS

Stream Crossing: BRANCH

- I. 1. Type of bed material? SILT
2. Has channel shifted? YES () NO (☒) NOT APPARENT ()
3. Condition of rip-rap? G F P C Est. % failed _____ % N/A (☒)
4. Overall condition of channel? (☒ G) F P C
5. Item 61 - Code values 0 thru 9 according to the recording
and coding guide currently in effect: 7
6. Underwater diver inspection recommended? YES () NO (☒)
If yes, why? _____

- II. Channel and bank stability conditions: (check if applicable)
1. Steep bank conditions: Failures upstream () Failures downstream ()
2. Moderate bank erosion ()
3. Bank vegetation: a. low growth (☒) b. large timber (☒) c. clear banks (☒)
d. dead trees upstream () e. dead trees downstream ()
4. Sediment or gravel accumulation: YES () NO (☒) UNKNOWN ()
5. Channel altered or straightened: YES () NO (☒) UNKNOWN ()
6. Stable conditions: a. live growth (☒) b. bedrock ()
c. boulders () d. flat slopes ($\leq 2:1$) ()

- III. Waterway adequacy and debris characteristics: (check if applicable)
1. Bridge deck elevations:
a. level with approach roadway. ()
b. higher than approach roadway. (☒)
c. roadway approach ≥ 2 ft. above natural ground line. ()
2. Abutment encroaches into channel. ()
3. Large scour (blowhole) under bridge. ()
4. Indications that flood waters overtop bridge:
NO (☒) YES () OCCASIONALLY () FREQUENTLY () UNKNOWN ()
5. Debris characteristics:
a. debris/drift present YES () NO (☒)
b. debris/drift likely to accumulate YES (☒) NO ()
c. dead trees upstream () dead trees downstream ()

IV. Comments: _____

SPECIAL INSPECTION DATA - FOR REASONS OTHER THAN FC OR SCOUR

- I. Does this bridge need a special inspection? YES () NO (☒)
II. Reason for special inspection: _____

Inspection Team's Summary
Bridge Location No. 57 -SR223 - 02.28
Inspection Date 08 - 03 - 17
Bridge Rating GOOD

THIS IS A 1 SPAN P.C.C.S. BRIDGE
SUBSTRUCTURE IS TIMBER
SAFETY FEATURES INCLUDE CONCRETE CURBS & 2 PADDLE BOARDS
ON APPROACH # 1 & # 2
ASPHALT ROADWAY, CONCRETE WEARING SURFACE, P.C.C.S.,
SUBSTRUCTURE, SCOUR & VEGETATION HAVE NO PROBLEMS
THIS IS THE INITIAL INSPECTION

FLOATING MAINTENANCE IS WORKING ON PUTTING A/C ON THE TOP
DECK

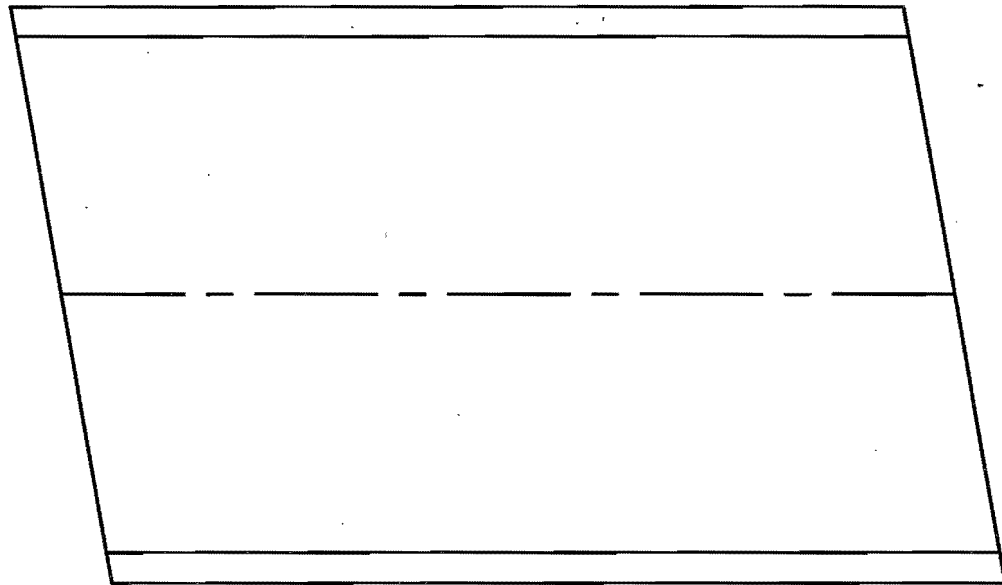
CHARLES THOMAS

INSPECTOR

CROSS SECTION: YES () NO (X) BRM: YES () NO (X)

Bridge No. 57 -- SR223 -- 2.28 Skew RT.

SPAN. NO. 1

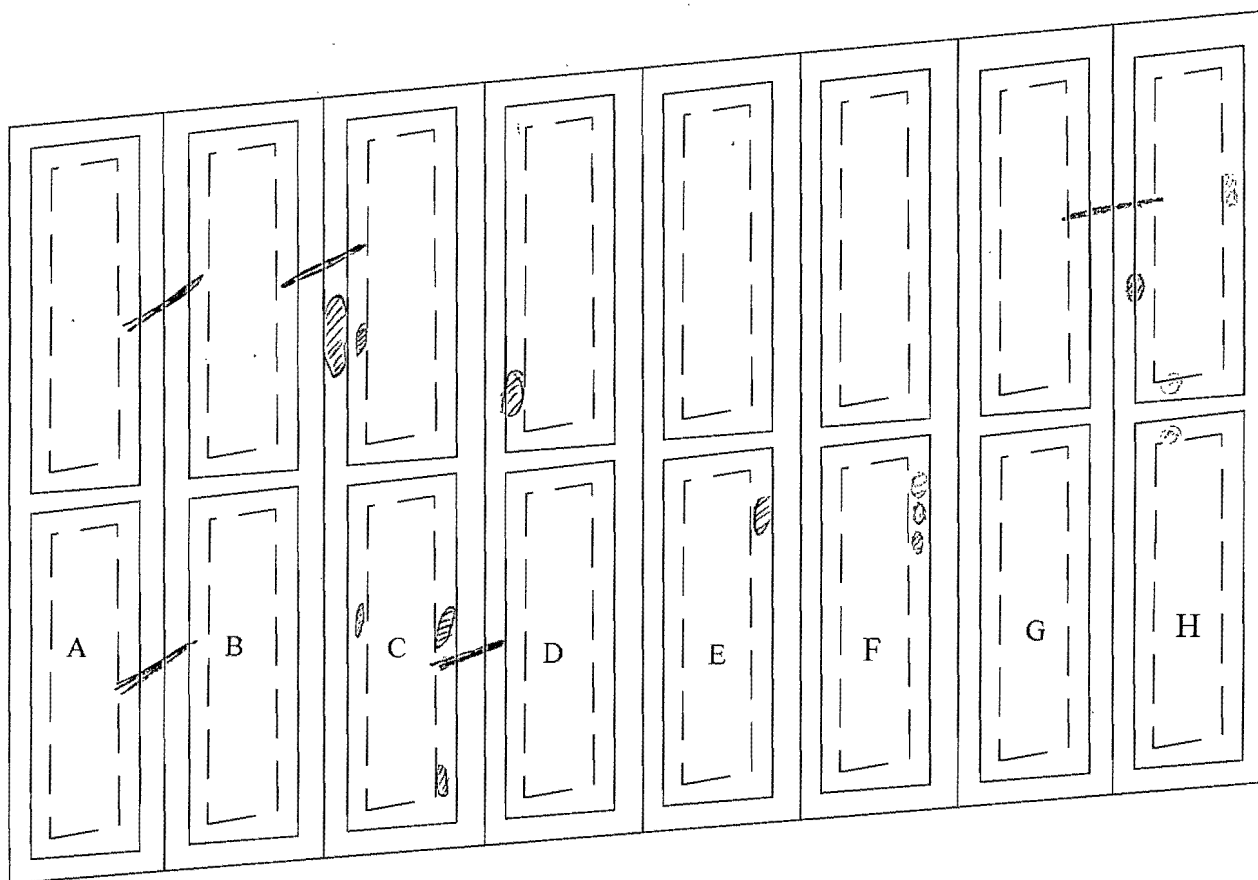


DOR 

ELEMENT	RATING	COMMENT
TOP DECK	 F P C	
CURBS	 F P C	
DRAINS	 F P C	
JOINT	 F P C	
	G F P C	
	G F P C	

Bridge No. Co. Route Log Mile R/L Skew

SPAN. NO. 1

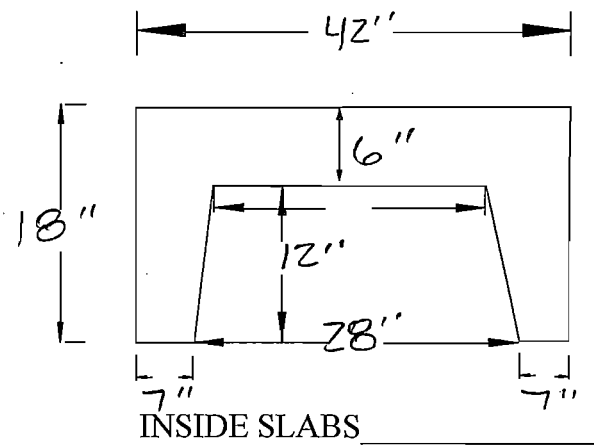
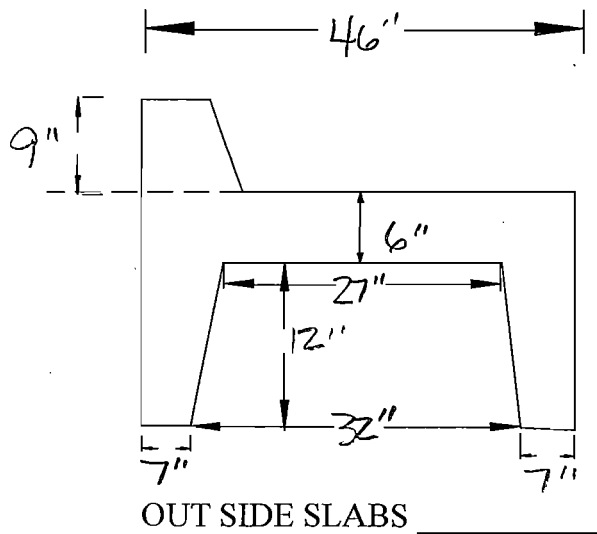
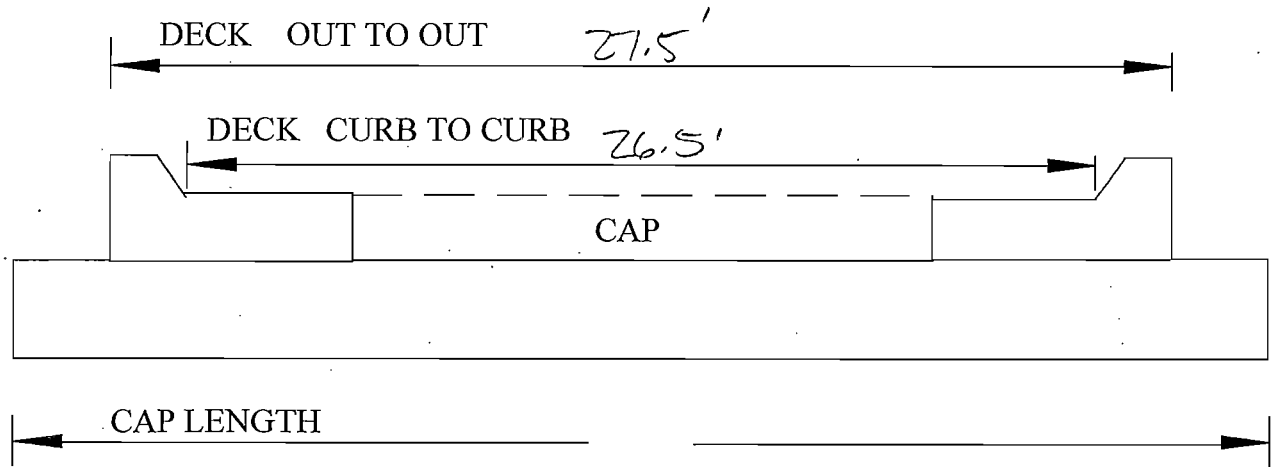


ELEMENT	RATING	COMMENT
SLABS A	(G) F P C	
B	(G) F P C	
C	(G) (F) P C	Spalling upto 2' Lx 6" Wx 1" D
D	(G) (F) P C	Spalling 6" Lx 4" H x 1/2" D
E	(G) (F) P C	Spalling 10" Lx 4" H x 1" D
F	(G) F P C	chipped areas upto 3" Dia x 1/4" D
G	(G) F P C	
H	(G) F P C	chipped areas upto 3" Dia x 1" D
BOLTS	(G) (F) P C	5 BOLTS missing
		IN PROCESS of PUTTING REMAINDER of BOLTS IN PLACE

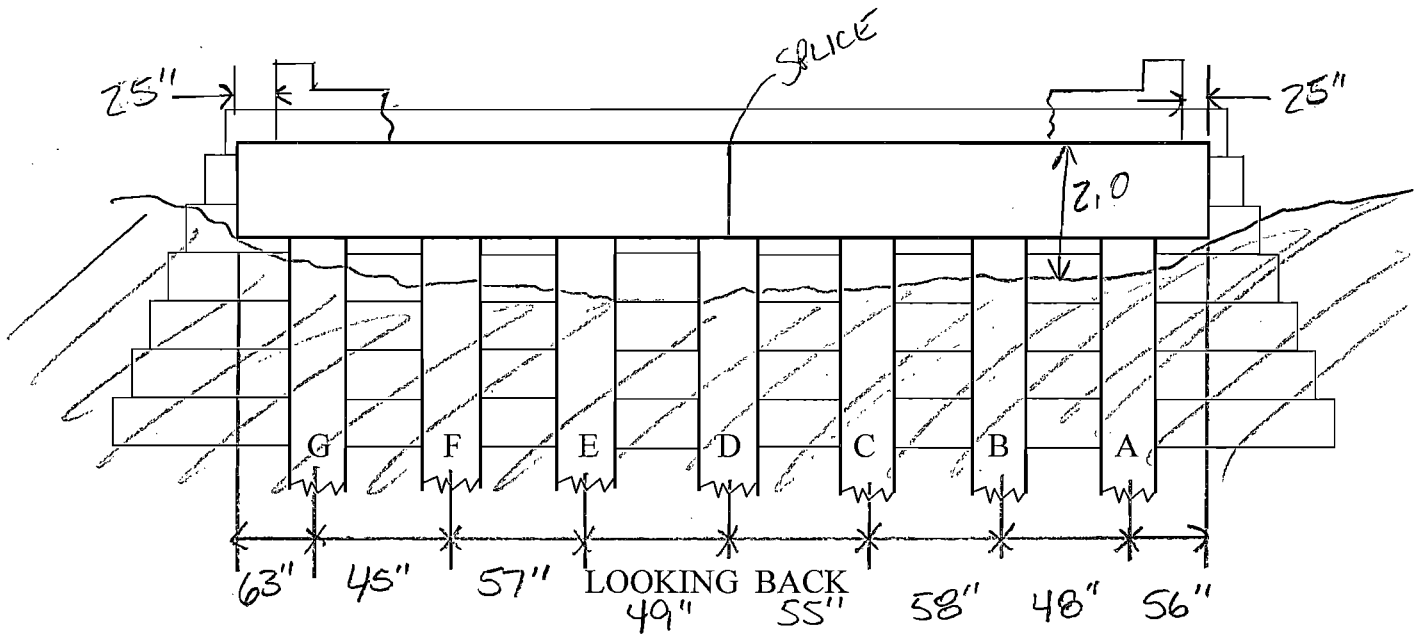
BR. NO. 57 SR223 2.28

SPAN NO. 1

50.5
23.0
26.5

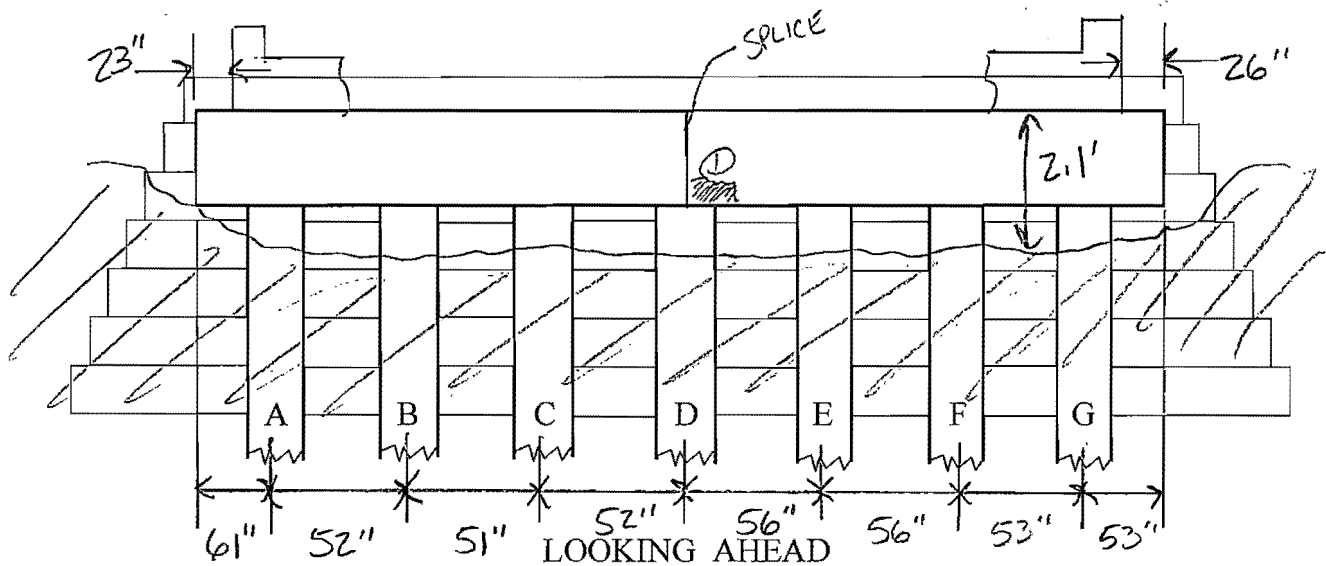


COMMENTS: _____



PILE LENGTHS ARE 24'-26'
 PILES WERE DRIVEN.

ELEMENT	RATING	COMMENT
CAP 14" X 14"	(G) F P C	
WINGS	(G) F P C	
PILES A 12"	(G) F P C	
B 12"	(G) F P C	
C 12"	(G) F P C	
D 13"	(G) F P C	
E 12"	(G) F P C	
F 12"	(G) F P C	
G 12"	(G) F P C	
BREASTWALL	(G) F P C	
EMB.	(G) F P C	
VEG.	(G) F P C	
RIP - RAP	G F P C	N/A
	G F P C	
	G F P C	



PILE LENGTHS ARE 24'-26',
PILES WERE DRIVEN.

ELEMENT	RATING	COMMENT
CAP 14" X 14"	(G) F P C	① - SPLINTERED 10" W X 4" H X 1/8" D
WINGS	(G) F P C	
PILES A 12"	(G) F P C	
B 12"	(G) F P C	
C 12"	(G) F P C	
D 13"	(G) F P C	
E 12"	(G) F P C	
F 12"	(G) F P C	
G 12"	(G) F P C	
BREASTWALL	(G) F P C	N/A
EMB.	(G) F P C	
VEG.	(G) F P C	
RIP - RAP	G F P C	
	G F P C	
	G F P C	

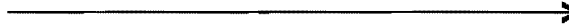
57S81960003 57 SR223 0228
BRIDGE NO.: CO. ROUTE L.M. L/R

SKEW: 75R

No. of Spans: 1

No. of Approach Spans:

Direction of Route



A1

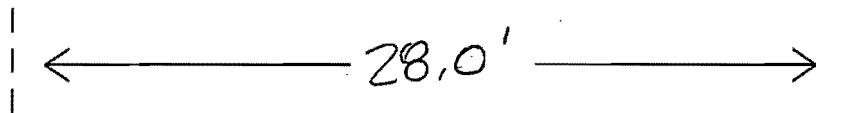
A2

F = FIXED

E = EXPANSION

S = SIMPLE

C = CONTINUOUS



A1



A2