Exhibit 5G: Bridge Inspection Reports

BURNS McDONNELL

Bridge Inspection Report

Wilmington-Peotone Road over I-57

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-0161

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2023
Rev 1: 2/15/20024

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-0161			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Peotone Township, IL			
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)			
FEATURE CROSSED:	I-57 (F.A.I. Rte. 57)			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,300	(2023)	8,064	(2046)
ADTT:	1,197	(2023)	1,533	(2046)
Inventory Rating:	1.795	(HS20-44) (LFD)		
Operating Rating:	2.750	(HS20-44) (LFD)		
Sufficiency Rating:	77.0			

Construction History and Physical Description:

- The existing structure is a 4-span steel wide flange beam bridge with a cast-in-place, composite, reinforced concrete deck supported by solid wall hammerhead piers on creosoted timber piles and stub abutments on concrete piles. The structure has spans measuring 44'-11", 68'-0 5/8", 68'-0 5/8" and 44'-11" with a total back-to-back abutment length of 230'-8 1/4". The deck width measures 34'-9 3/8" out-to-out. The deck slab is composite in positive moment areas and is approximately 7 1/2" thick with 2'-10" F-shape barrier.
- The structure is on a horizontal tangent alignment and a vertical crest curve with grades of 2.13% and -2.13%. The bridge has a skew of 8°47' left forward.
- The original structure was constructed in 1967 under Route FAI-57, Section 99-2HB-2.
- In 2001 under Route FAI-57, Section 99-2HB-2B, Contract 60535 the deck and curb was removed and replaced with a partially composite, reinforced concrete deck and F-shape barrier. The bearings and end diaphragms at the abutments were replaced. Abutment wingwalls were modified to accommodate new bridge cross-section. In addition, piers and slopewalls underwent substructure repairs.
- Abbreviated original and rehab plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Kevin Heffern, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2022	Deck:	6	Super:	5	Sub:	7
Year:	2020	Deck:	6	Super:	5	Sub:	7
Year:	2018	Deck:	6	Super:	5	Sub:	7

Bridge Deck: The bridge deck is in satisfactory condition. The top of deck shows no notable signs of deterioration (Photo 2). The underside of the deck shows signs of minor deterioration (Photo 3). Bridge deck fascia appear to be in good condition. The approach slabs show no notable signs of deterioration (Photo 4).

Superstructure: Steel beams are in fair condition. The paint shows wear on girders and diaphragms (Photo 3, 7, and 12). Heavy rust staining is visible at abutments (Photo 9). Minor section loss and cracks are present, as indicated by the Structure Summary Report.

Joints: From top of deck joints appear to be functioning properly (Photo 5 and 6). Signs of water infiltration, such as rust stains and corrosion are present at abutment backwalls (Photo 9 and 12).

Bearings: Bearings appear to be functioning properly. Paint peeling and rust are observed at bearings (Photo 7, 8 and 9). Side retainers are present at abutments.

Substructure: The substructure is in good condition. Abutments have minor leaching, cracking, and staining (Photo 11 and 12). Piers show no significant deterioration (Photo 10). Slopewalls are in satisfactory condition (Photo 13).

Railings: The bridge parapets are 2'-10" F-shape barrier and meet current standards for an existing structure.

Vertical /Horizontal Clearance: The existing plans note a vertical clearance of over 16'-0" which is acceptable for a structure to remain in place. However, the Structure Summary Report denotes intolerable underclearance (vertical or lateral) which is a high priority for correction.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in fair condition, and if it is to be left in place the following scope of work is recommended:

- Clean and paint all structural.
- Repair and replace beams and diaphragms where section loss is present, as needed.
- Clear out gravel and debris from gutters and expansion joints.
- Clean and seal abutment seats and backwalls.
- Epoxy crack injection of cracks over 1/16" wide at substructure.
- Restore riprap along the wingwalls and slopewalls to reduce risk of undermining.
- Verify vertical clearance.

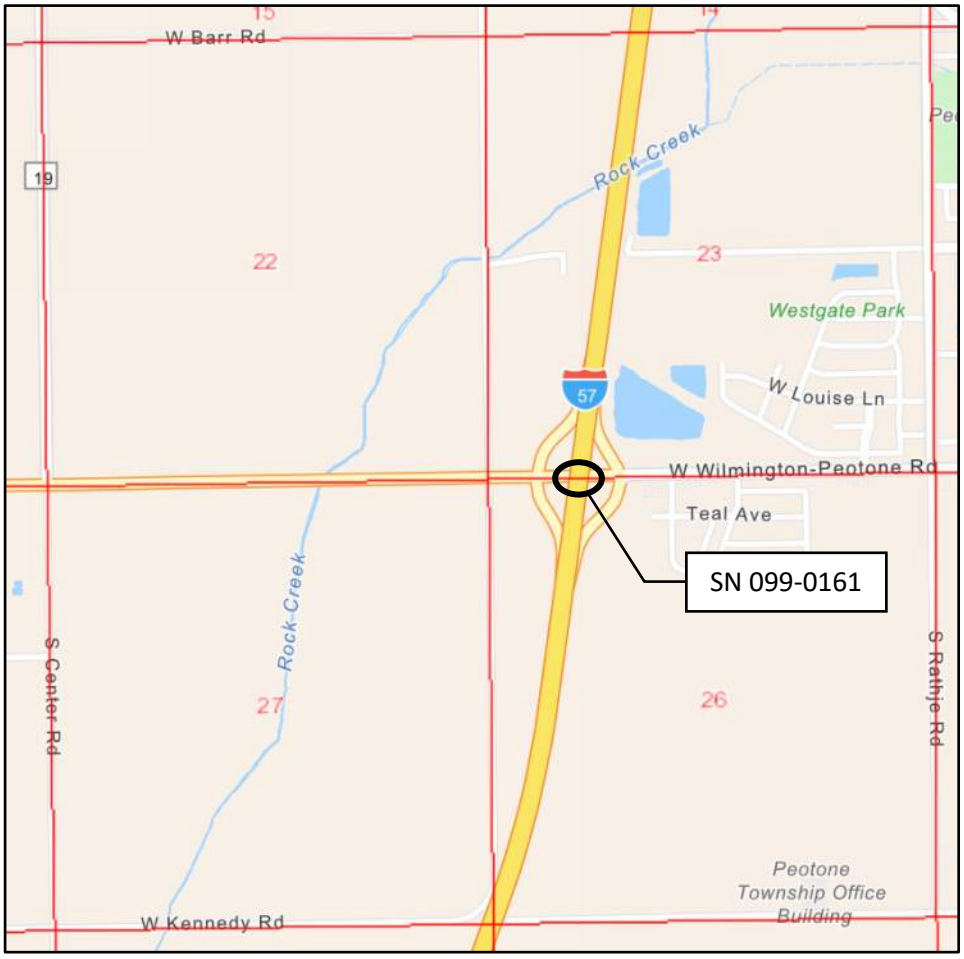
If additional roadway width is required across the bridge per a PEL alternative to be carried forward, it is recommended the structure be fully replaced. Modifications that would need to be made for the existing structure to be left in place, such as widening, are substantial considering the condition of the bridge and that the design life of the structure would be met in the next 20 years. Additionally, a complete replacement will allow for a customized and aesthetic structure that could suit any determined needs of the interchange as well as correct any current clearance issues.

It is anticipated that all recommended work, including full replacement if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 12E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-0161 **District:** 1

Inventory Data

Facility Carried: WILMINGTON RD
Feature Crossed: I- 57
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 099 WILL
Maint Responsibility: 13 I.D.O.T.
Service On/Under: 5 SECOND LEVEL INTERCHANGE 1 / HIGHWAY
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 4 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41.32446517 **S** **Longitude:** 87.82027232 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 13.2 M S OF US 30
Status Date: 1/1/2002 12:00:00 AM
Maint Township: 15 PEOTONE
COUNTY

Sufficiency Rating: 77.0
HBP Eligible: Yes
Replaced By: -
Replaces: -
Last Update Date: 03/30/2021
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: L Left
Skew Angle: 8 **D**
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 218600
Substructure Material:

Rated By: 2 IDOT
Inventory Rating: 1.795(64)
Operating Rating: 2.750(99)
Design Load: 02 HS20
Deck Structure Thickness: 7.5 **SD:** N **FO:** Y

Structure Length: 230.6
AASHTO Bridge Length: 99.9
Length of Long Span: 68.0
Bridge Roadway Width: 31.5
Appr Roadway Width: 31.5
Deck Width: 34.8
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00

Rate Method: 6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)
Load Rating Date: 05/21/2002
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357
Appurtenances Main Route 00000
Inventory County: 099 WILL
Township/Road Dist 15 PEOTONE
Municipality 0000
Urban Area: 1051 1051
Functional Class: 3 OTHER PRINCIPAL ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 31.5
Horizontal: 32.7 0.0
Lateral:

Station: 22.7200
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 6300
Est Truck Percentage: 19
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2046 / 8064
Designated Truck Rte: NONE
Special Systems: Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0057
Main Route 00000
099
15 PEOTONE
0000
1051 1051
1 INTERSTATE
South/East **North/West**
0.0
64.1 64.0

Station: 2.1100
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 28800
Est Truck Percentage: 20
Number Of Lanes: 4
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2046 / 49248
Designated Truck Rte: CLASS I
Special Systems: Yes

*** Marked Route On Data ***

	Designation		Kind		Number
Route #1:	1	Mainline	8	Other	
Route #2:	1	Mainline			
Route #3:	1	Mainline			

*** Marked Route Under Data ***

	Designation		Kind		Number
	1	Mainline	1	Interstate Highway	057
	1	Mainline			
	1	Mainline			

Structure Number: 099-0161 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:** 0	**Combination Type 3S-1:** Tons	5 No Posting Required
		Special:	N	**Single Unit Vehicles:** Tons	**Combination Type 3S-2** Tons	

Inspection/Appraisal Information

Inspection Date: 11/22/2022 **Inspection Temperature:** 47Deg. F

Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Single Unit Vehicles:**	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	
Channel and Protection:	N	NOT APPLICABLE	**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY			**Last Paint Type:**	C
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE	**Deck Membrane:**	F	NONE			LD SHP GRN&AL FNL	
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE	**Deck Protection:**	A	EPOXY COATED REINF				
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION	**Total Deck Thick:**	7.5					
Waterway Adequacy:	N	NOT APPLICABLE	**Last Paint Date:**	10/2001					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	22N	Not Acceptable	Not Acceptable	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1967	Original		2001	Reconstructed	
Route:	FAI-57		**Sta:** 926+25.74	FAI-57		**Sta:** 92+354.40
Section Nbr:		99-2HB-2			99-2HB-2B	
Contract Nbr:					60535	
Fed Aid Pr#:		I-57-7(76)328			ACBHI-57-72583	
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Photo 1: North Fascia, looking East (IMG_9645)

Photo 2: Typical Top of Deck Condition, looking West (IMG_9158)

Photo 3: Typical Underside of Deck Condition (IMG_9153)

Photo 4: Typical Approach Slab Condition, looking North (IMG_9161)

Photo 5: Typical Condition of Expansion Joints, looking North (IMG_9656)

Photo 6: Expansion Joint at East Abutment, Showing Compressed Seal (IMG_9163)

Photo 7: Typical Condition of Fascia Beam and Bearings, Showing Peeling Paint and Rusting (IMG_9166)

Photo 8: Typical Condition of Interior Beams and Bearings, Showing Paint Wear and Rusting (IMG_9602)

Photo 9: Water Penetration at Abutments, Showing Rust Stains and Corrosion (IMG_9641)

Photo 10: Piers, looking Northeast (IMG_9150)

Photo 11: Typical Condition of Abutments, Minor Cracking and Staining (IMG_9144)

Photo 12: Typical Condition of Abutment Backwall, Leaching, Staining and Cracks (IMG_9663)

Photo 13: Typical Condition of Slopewalls (IMG_9175)

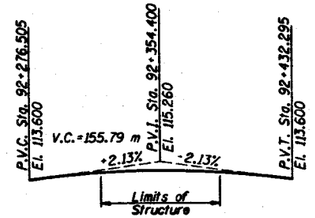
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-2HB-2B	WILL	49	18
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

Bench Mark:
Brass disk on southeast wingwall, Elevation 114.763.

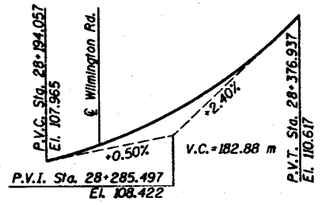
Existing Structure:
S.N. 099-0161 built as F.A.I. Rte. 57 Sec. 99-2HB-2 in 1967. The superstructure consists of a 178 mm R.C. deck 69.222 m long by 9.296 m wide supported on a four span continuous rolled girder bridge with welded coverplates over the center pier. Existing deck to be removed and replaced. New deck to be composite with the existing steel beams.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.035g
Site Coefficient (S) = 1.0



PROFILE GRADE WILMINGTON RD.
(Along ℄ Roadway - Proposed)



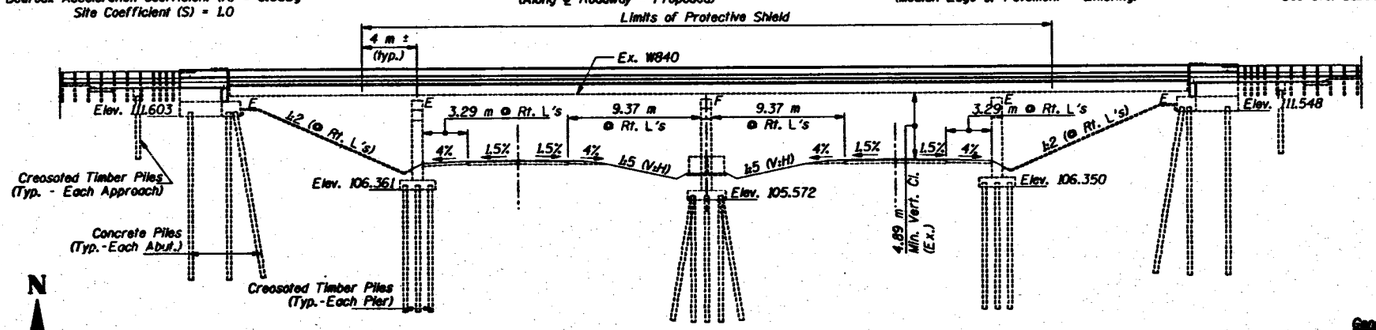
PROFILE GRADE F.A.I. ROUTE 57
(Median Edge of Pavement - Existing)

STATION 28+232.326
REBUILT 20 BY
STATE OF ILLINOIS
F.A.I. 57 SEC. 99-2HB-2B
F.A. PROJ. NO. ACNHI-57-7
LOADING MS18 (ENGLISH)
STR. NO. 099-0161

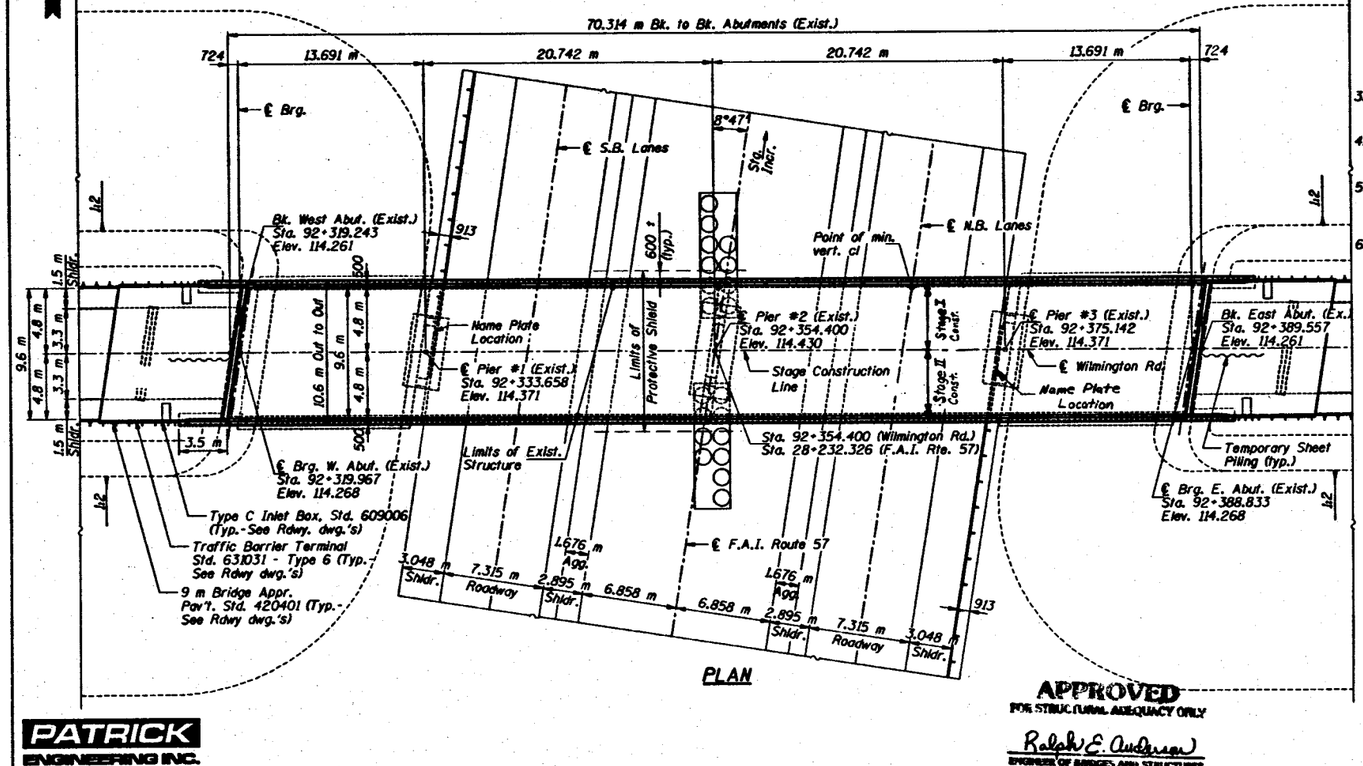
NAME PLATE
See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Removal of Existing Concrete Deck	Each	1		1
Concrete Removal	m^3		16.0	16.0
Slope Wall Removal	m^2		52	52
Structure Excavation	m^3		20	20
Concrete Structures	m^3		9.1	9.1
Concrete Superstructure	m^3	188.3		188.3
Preformed Joint Seal (102 mm)	m	21.5		21.5
Bridge Deck Grooving	m^2	665		665
Elastomeric Bearing Assembly, Type II	Each	12		12
Protective Coat	m^2	838		838
High Performance Enhanced Shotcrete	m^2		18	18
Furnishing and Erecting Structural Steel	kg	3,200		3,200
Cleaning & Painting Steel Bridge	L. Sum	1		1
Blasting Residue Containment & Disposal	L. Sum	1		1
Power Tool Cleaning Residue Cont. & Disp.	L. Sum	1		1
Stud Shear Connectors	Each	3,456		3,456
Jack and Remove Existing Bearings	Each	12		12
Structural Steel Removal	kg	1,120		1,120
Slope Wall Crack Sealing	m		121	121
Reinforcement Bars, (Epoxy Coated)	kg	27,150	1,130	28,280
Slope Wall 100 mm	m^2		52	52
Temporary Sheet Piling	m^2		26	26
Name Plates	Each		2	2
Protective Shield	m^2	584		584
Bar Splicers	Each	621	92	713
Temporary Shoring	Each	6		6



ELEVATION



PLAN

General Notes:

1. Fasteners shall be high strength bolts. Bolts M20, open holes 24 mm ϕ, unless otherwise noted.
2. Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
3. Anchor bolts shall be set before bolting diaphragms over supports.
4. Reinforcement bars shall conform to the requirements of AASHTO M 31M, M 42M, or M 53M Grade 400.
5. Slope wall shall be reinforced with welded wire fabric, 152 x 152 - MW25.8 x MW25.8 with a mass of 2.91 kg/m².
6. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
7. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 3 mm. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3 mm adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
8. All dimensions are in millimeters (mm) except as noted.
9. The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
10. Cleaning and painting of the existing structural steel shall be as specified in the Special Provision for "Cleaning and Painting Existing Steel Structures". Refer to General Notes for Paint on Sheet 7 of 15.
11. Metric dimensions for bolt spacings, bolt hole diameters, edge clearances, etc. are soft converted (rounded to the nearest mm) based upon data available from existing plans.
12. New name plates shall be located next to existing name plates.

DESIGN SPECIFICATIONS

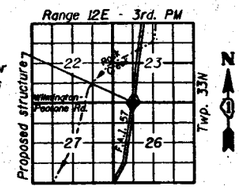
1996 AASHTO Standard Specifications for Highway Bridges and 1997-1998 Interims

LOADING MS18

Allowance for Future Wearing Surface = 1.2 kN/m²

DESIGN STRESSES

f'c = 24 MPa
fy = 400 MPa (Reinf.)
fy = 250 MPa (M270 Grade 250)



LOCATION SKETCH

PATRICK ENGINEERING INC.
PAUL M. LOPEZ, S.E.

STATE OF ILLINOIS · PAUL M. LOPEZ · 081-005231 · CHICAGO, ILLINOIS · LICENSED STRUCTURAL ENGINEER

PAUL M. LOPEZ, S.E.
IL. REG. NO. 081-005231
EXP 11-30-00
DATE 6-20-00

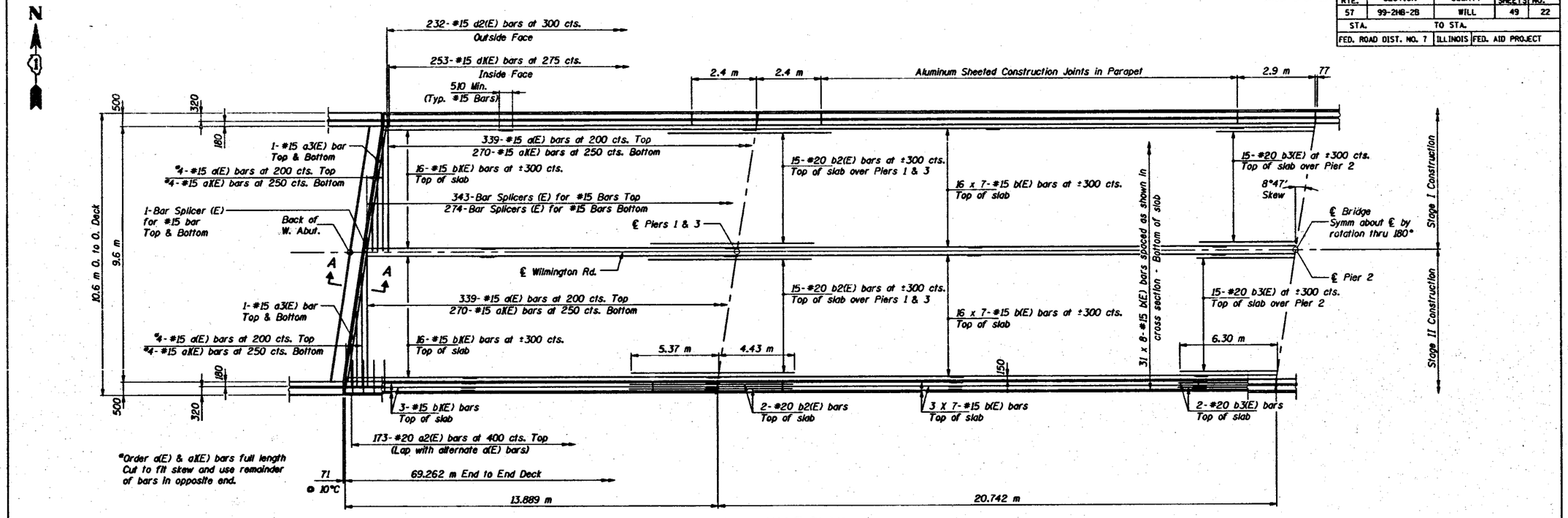
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

REVISIONS	
NAME	DATE

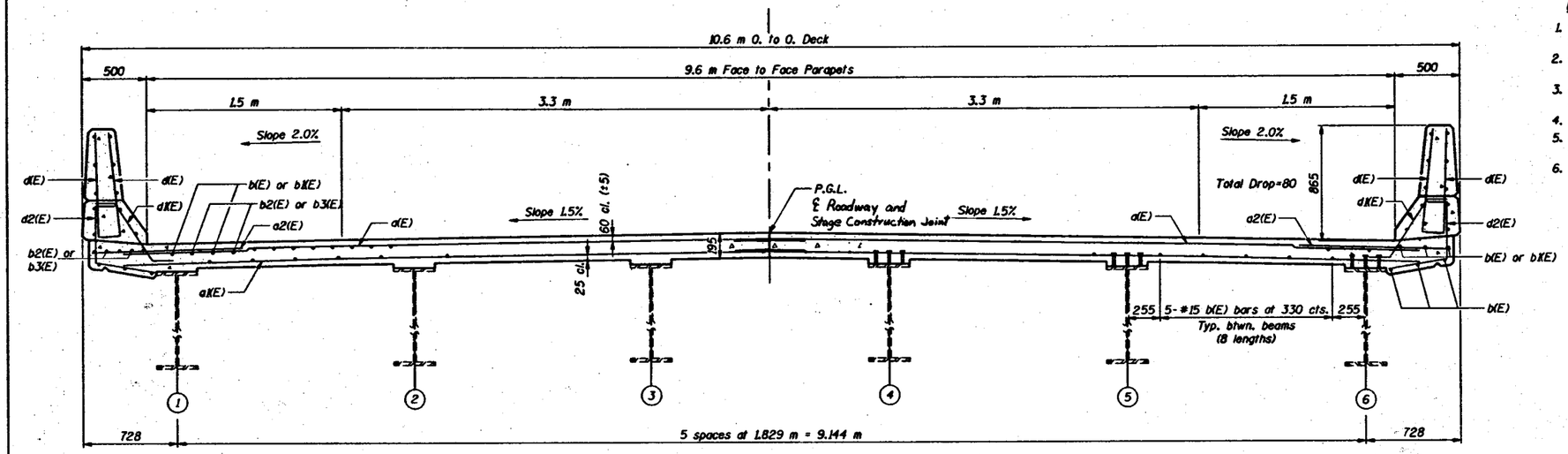
ILLINOIS DEPARTMENT OF TRANSPORTATION
I-57 AT WILMINGTON ROAD
GENERAL PLAN & ELEVATION
WILMINGTON ROAD OVER I-57
FAI 57 SECTION 99-2HB-2B
STRUCTURE NUMBER 099-0161
WILL COUNTY STATION 92+354.400
SCALE: NONE DRAWN BY: CLIFF GALITZ
DATE: 06/20/00 CHECKED BY: PAUL LOPEZ

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-2HB-2B	WILL	49	22
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



HALF PLAN



NEAR PIER NEAR MIDSPAN

CROSS SECTION
(Looking East)

NOTES:

1. See Sheet 6 of 15 for superstructure details, Section A-A, and Bill of Material.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.
4. See Sheet 6 of 15 for parapet reinforcement.
5. All dimensions are in millimeters (mm) except as noted.
6. See Sheet 14 of 15 for Bar Splicer details.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

I-57 AT WILMINGTON ROAD

SUPERSTRUCTURE PLAN & SECTION
WILMINGTON ROAD OVER I-57

FAI 57 SECTION 99-2HB-2B
STRUCTURE NUMBER 099-0161
WILL COUNTY STATION 92+354.400

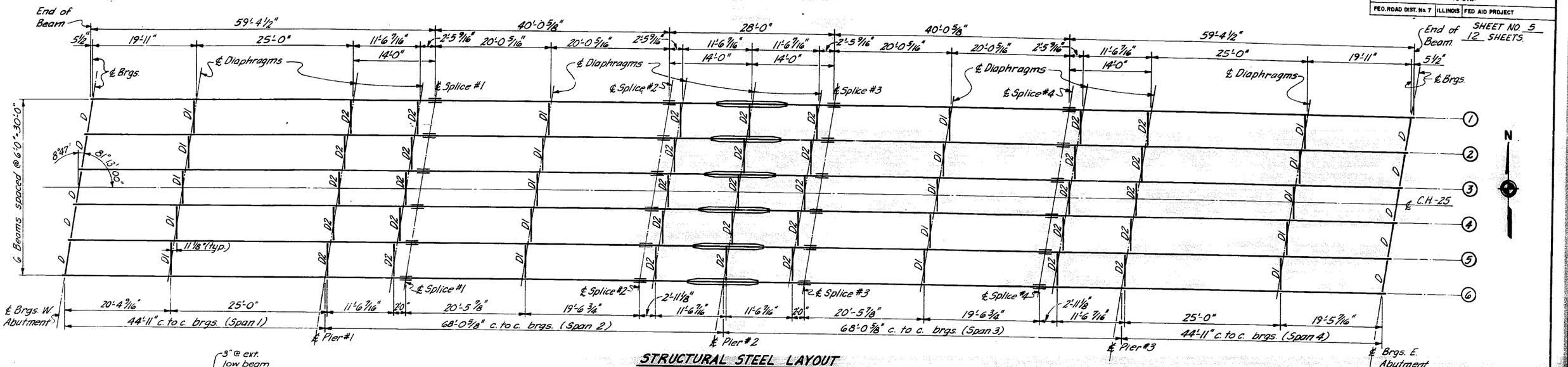
SCALE: NONE DRAWN BY: C. GALITZ
DATE: 06/20/00 CHECKED BY: P. LOPEZ

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

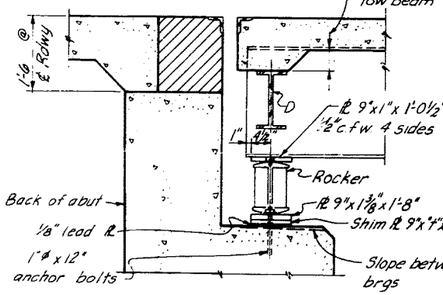
ROUTE NO.	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	99-2 HB-2	WILL	28	9
STA.	TO STA.			
FED. ROAD DIST. No. 7	ILLINOIS	FED AID PROJECT		

SHEET NO. 5 12 SHEETS.

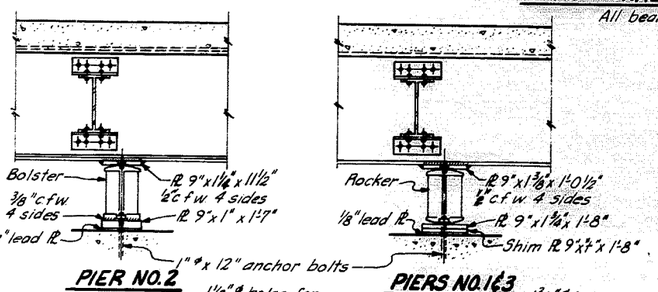


STRUCTURAL STEEL LAYOUT

All beams - 33 WF 130



SECTION AT ABUTMENT



PIER NO. 2

PLAN

PIERS NO. 1 & 3

PLAN

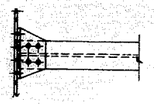
See sht. 7 for location of shim plates.

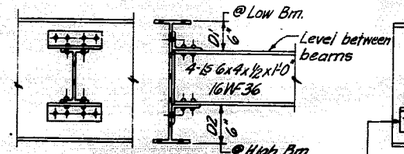
PLAN

See sht. 9 for location of shim plates.

PINTLE

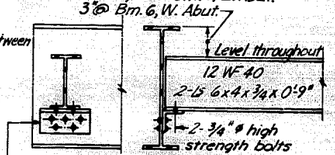
DETAIL OF BEARING AT PIERS NO. 1 & 3 AND ABUTMENTS





DIAPHRAGMS D1 & D2

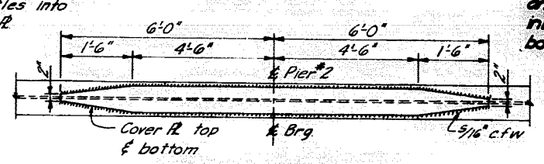
20 Required - D1
35 Required - D2



DIAPHRAGM O

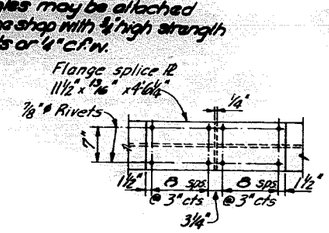
10 Required

In lieu of shop rivets, angles may be attached in the shop with ¾" high strength bolts or ¼" c.f.w.



DETAIL OF COVER PLATE

(All Cover Pl's 10" x ½")



ELEVATION TOP OF BEAMS *

BEAM	1	2	3	4	5	6
℄ Brg., West Abut.	373.420	373.522	373.576	373.568	373.498	373.379
℄ Brg., Pier No.1	373.674	373.779	373.836	373.831	373.764	373.649
℄ Splice No.1	373.753	373.859	373.917	373.913	373.847	373.733
℄ Splice No.2	373.852	373.961	374.022	374.021	373.958	373.847
℄ Brg. Pier No.2	373.850	373.960	374.022	374.022	373.960	373.850
℄ Splice No.3	373.847	373.958	374.021	374.022	373.961	373.852
℄ Splice No.4	373.733	373.847	373.913	373.917	373.859	373.753
℄ Brg. Pier No.3	373.649	373.764	373.831	373.836	373.779	373.674
℄ Brg. East Abut.	373.379	373.498	373.568	373.576	373.522	373.420

*These elevations are theoretical top of W. flange elevations and are to be used for fabrication of structural steel. They do not include any allowance for deflection.

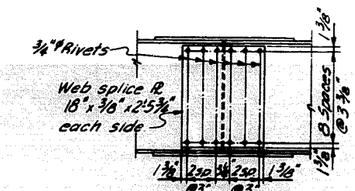
TABLE OF SHIM Pl "t" DIMENSIONS

LOCATION	BEAM NUMBER	"t"
West Abutment	2	¼"
	3	⅛"
Pier #1	2	⅛"
	3	⅛"
Pier #3	4	⅛"
	5	⅛"
East Abutment	4	⅛"
	5	¼"

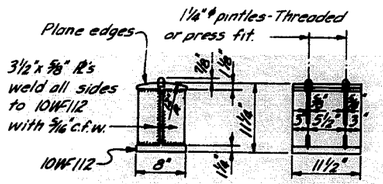
Bearings and Anchorage

The location of the anchor bolts and vertical alignment of the expansion bearings shall be adjusted to the temperature at the time of erection. See Art. 54.9(f).

Anchor Bolts shall be grouted into drilled holes after beams are in place, or bolts at fixed pier may be built into the masonry.



DETAIL OF SPLICE



DETAIL OF BEARING AT PIER NO. 2

DESIGNED	W.L.R.
CHECKED	O.N.
DRAWN	L.S.
CHECKED	W.R.T.

EXAMINED _____ IS
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED _____
ENGINEER OF DESIGN

APPROVED _____
CHIEF HIGHWAY ENGINEER

ILLINOIS DIVISION OF HIGHWAYS

STRUCTURAL STEEL

F.A.I. RT. 57 SEC. 99-2 HB-2

WILL COUNTY

STA. 926 + 25.74

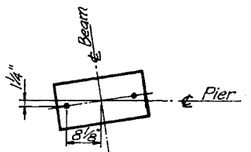
TRI-CITY BLUE, S.E.C. 130

E-5.G.17

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	99-2 HB-2	WILL	28	12
STA.		TO STA.		
PEO. ROAD DIST. No. 7	ILLINOIS	FED. AID PROJECT		

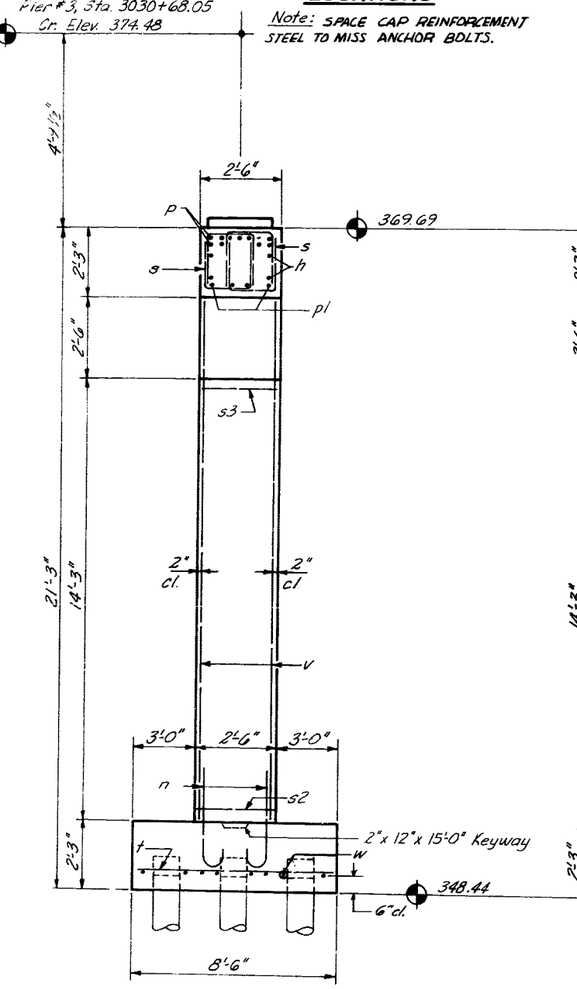
SHEET NO. 8
12 SHEETS



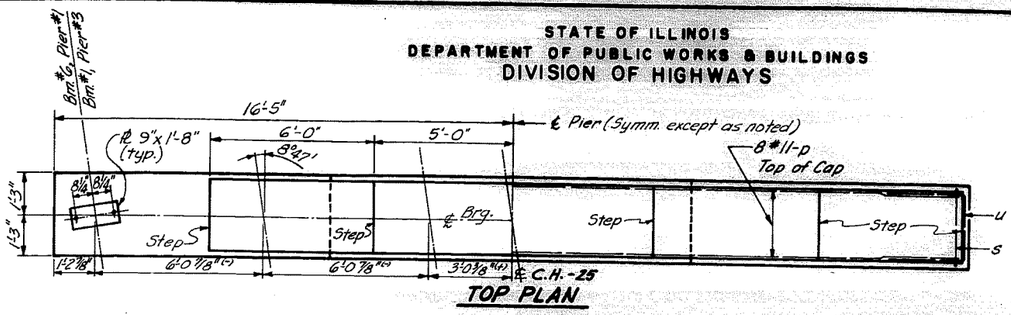
ANCHOR BOLT LOCATIONS

Note: SPACE CAP REINFORCEMENT STEEL TO MISS ANCHOR BOLTS.

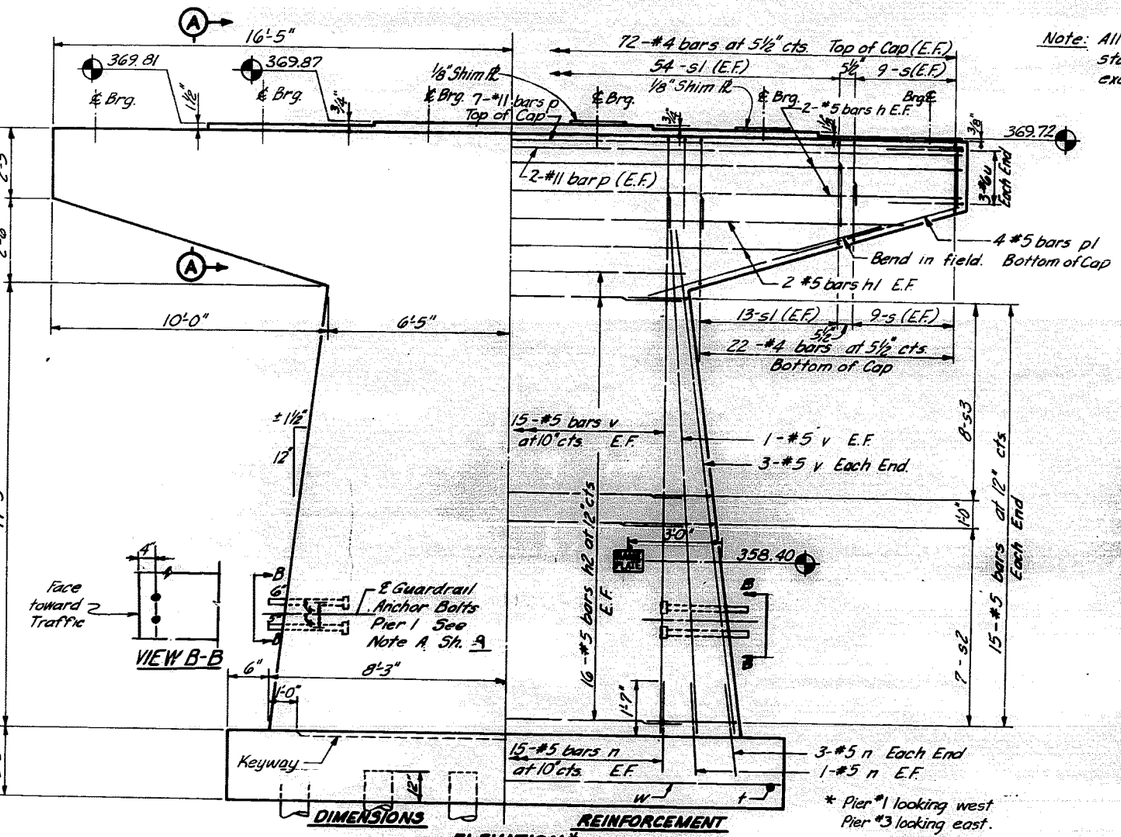
Pier #1, Sta. 3029+31.95
Pier #3, Sta. 3030+68.05
Cr. Elev. 374.48



END VIEW



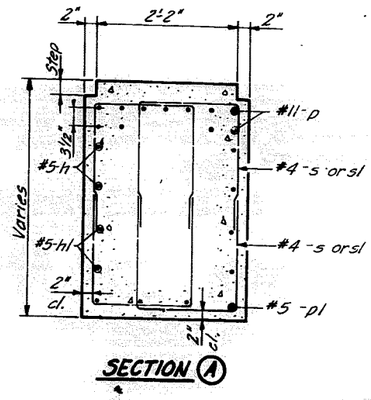
TOP PLAN



ELEVATION *

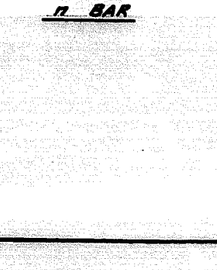
* Pier #1 looking west
Pier #3 looking east.

Note: All edges shall have standard ¾" chamfers except footings.



SECTION (A)

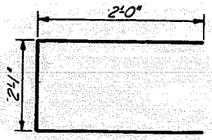
VIEW B-B



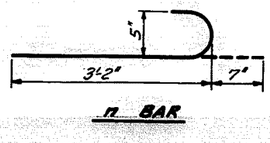
A & B DIMENSIONS

BAR	A	B
s	1'-7"	2'-0"
s1	1'-7"	2'-9"
s2	2'-3"	3'-0"
s3	2'-3"	2'-1"

S BARS



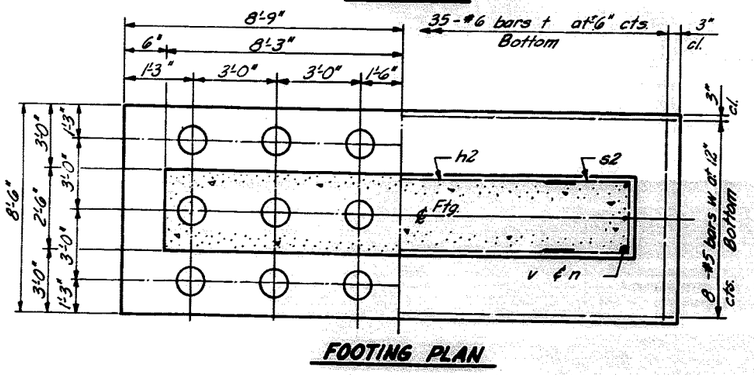
u BAR



n BAR

PILE DATA

Type: Creosoted Piles.
Capacity: 20 Ton Min.
Est. Length: 30'
(2 Piers) No. Req'd.: (18 - Each)



FOOTING PLAN

PIERS #1 & #3 BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	8	#5	32'-6"	—
h1	8	#5	24'-6"	—
h2	64	#5	12'-6"	—
n	80	#5	3'-9"	⊂
p	22	#11	32'-6"	—
p1	16	#5	11'-0"	—
s	144	#4	5'-7"	□
s1	320	#4	7'-1"	□
s2	28	#5	8'-3"	□
s3	32	#5	6'-5"	□
t	70	#6	8'-0"	—
u	12	#6	64'-4"	⊏
v	80	#5	17'-0"	—
w	16	#5	17'-0"	—
Class X Concrete		Cu. Yds.	87.5	
Reinforcement Bars		Lbs.	10,765	
Cl. A Excav. for Struct.		Cu. Yds.	87	
Creosoted Piles		Lin. Ft.	1080	
Name Plate		Each	2	

DESIGNED	W.L.R.
CHECKED	D.N.
DRAWN	L.S.
CHECKED	W.R.T.

19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

ILLINOIS DIVISION OF HIGHWAYS

PIERS NO. 1 & 3

F.A.I. RT. 57 SEC. 99-2 HB-2

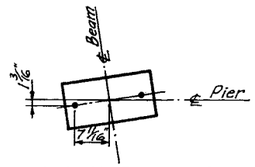
WILL COUNTY

STA. 926+25.74

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

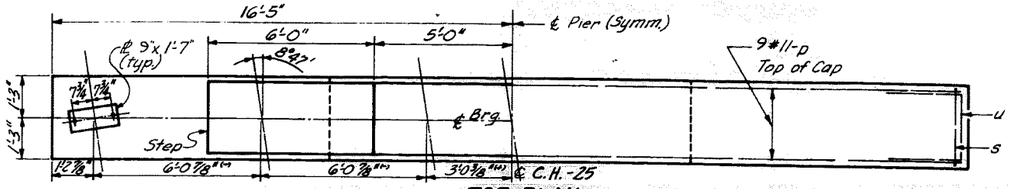
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	99-2 HB-2	WILL	28	13
STA.	TO STA.			
FED. ROAD DIST. No. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
12 SHEETS

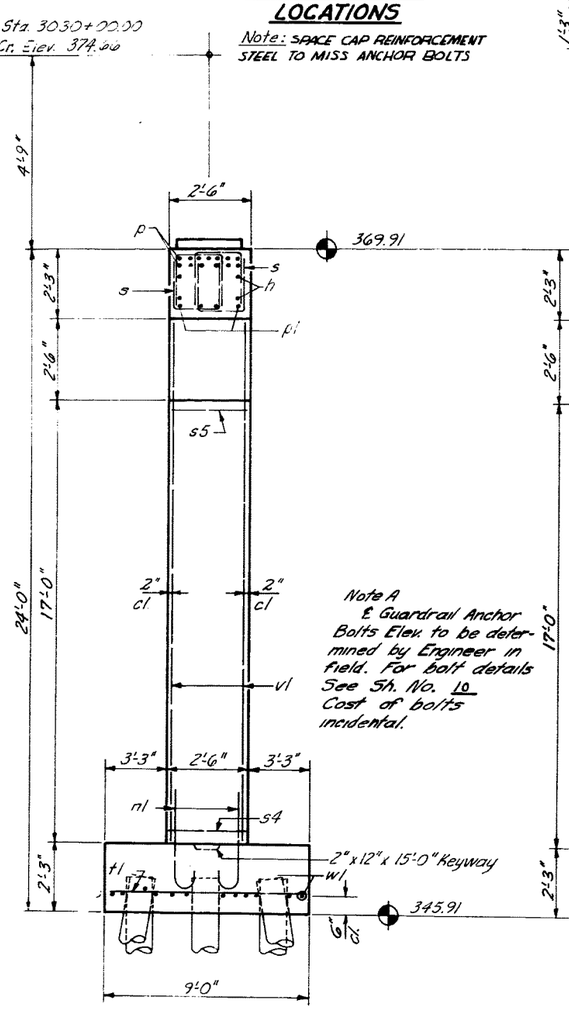


ANCHOR BOLT LOCATIONS

Note: SPACE CAP REINFORCEMENT STEEL TO MISS ANCHOR BOLTS

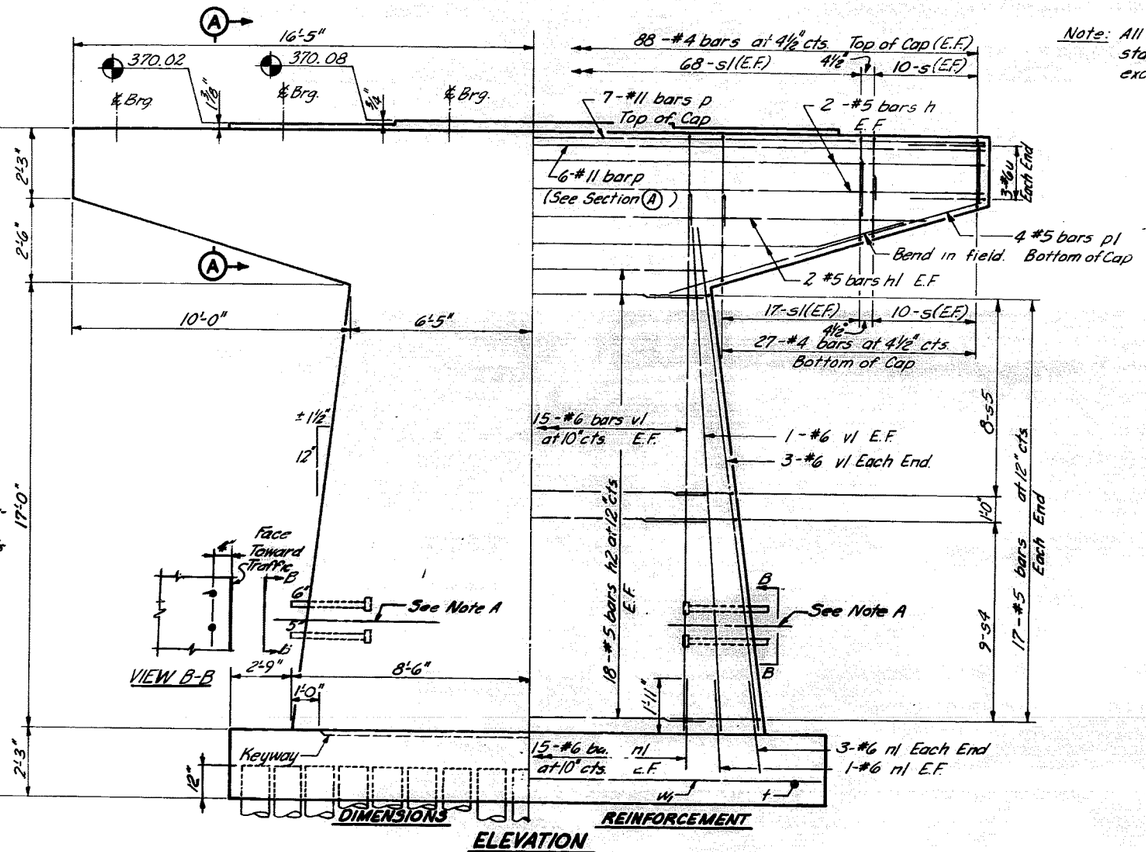


TOP PLAN



Note A
℄ Guardrail Anchor Bolts Elev. to be determined by Engineer in field. For bolt details See Sh. No. 10 Cost of bolts incidental.

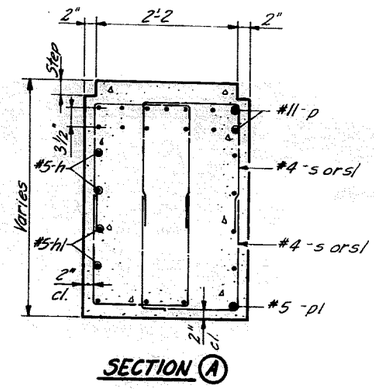
END VIEW



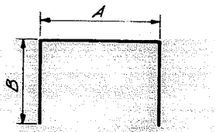
DIMENSIONS — REINFORCEMENT

ELEVATION

Note: All edges shall have standard ¾" chamfers except footings.



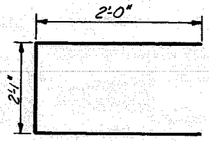
SECTION A



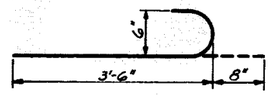
A & B DIMENSIONS

BAR	A	B
s	1'-7"	2'-0"
s1	1'-7"	2'-9"
s4	2'-3"	3'-2"
s5	2'-3"	2'-2"

s BARS



u BAR



n1 BAR

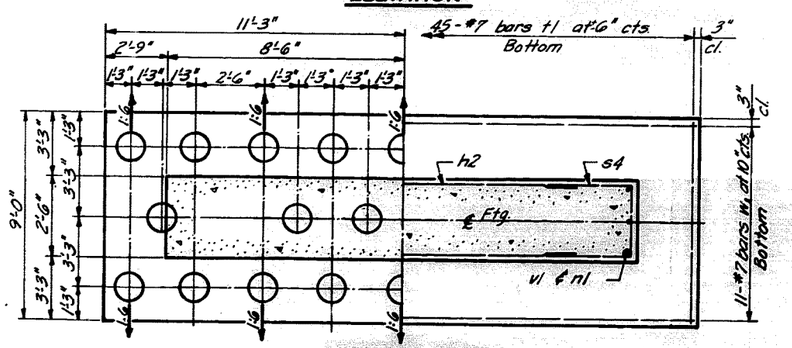
PIER #2 BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	4	#5	32'-6"	—
h1	4	#5	24'-6"	—
h2	36	#5	12'-6"	—
n1	40	#6	4'-2"	⊂
p	13	#11	32'-6"	—
p1	8	#5	11'-0"	—
s	80	#4	5'-7"	⊏⊐
s1	204	#4	7'-1"	⊏⊐
s4	18	#5	8'-7"	⊏⊐
s5	16	#5	6'-7"	⊏⊐
H	45	#7	8'-6"	—
u	6	#6	6'-4"	⊏
v1	40	#6	20'-0"	—
w1	11	#7	22'-0"	—

Class X Concrete	Cu. Yds.	52.3
Reinforcement Bars	Lbs.	7,362
Cl. A Excav. for Struct.	Cu. Yds.	90
Creosoted Piles	Lin. Ft.	720
Test Pile (Timber)	Each	1

PILE DATA

Type: Creosoted Piles
Capacity: 20 Ton Min
Est. Length: 30'
No. Req'd: 24 & 1 Test Pile (Timber) in vicinity of Pier #2.



FOOTING PLAN

DESIGNED	WLR
CHECKED	DN
DRAWN	L.S.
CHECKED	WRT

EXAMINED 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

ILLINOIS DIVISION OF HIGHWAYS

PIER NO. 2

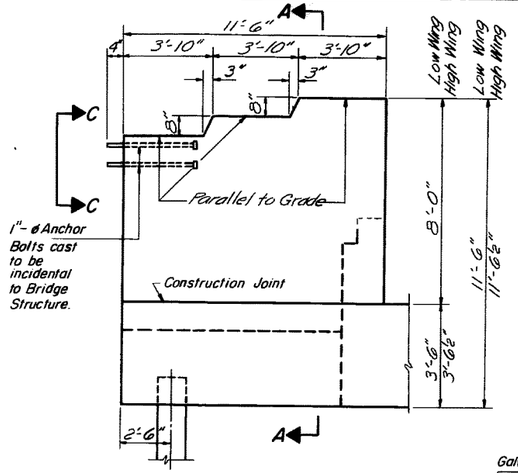
F.A.I. RT. 57 SEC. 99-2 HB-2
WILL COUNTY
STA. 926+25.74

TAP-CITY BLUE, F.E.C. 100

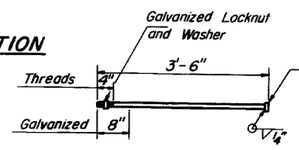
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A. I. 57	99-2 HB-2	Will	28	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

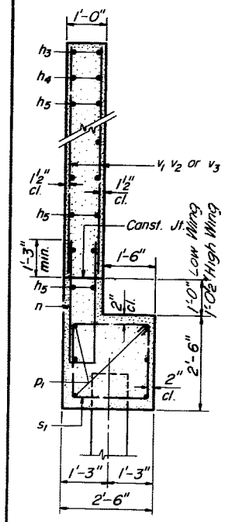
SHEET NO. 10
12 SHEETS



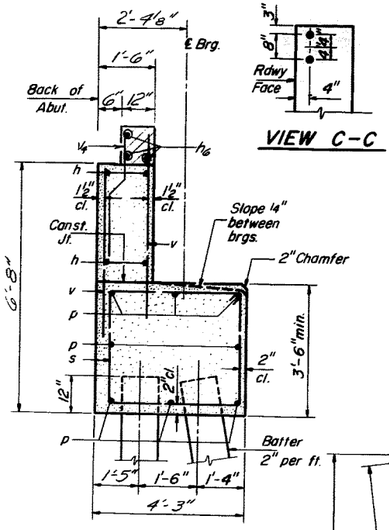
WING WALL ELEVATION



1" ø ANCHOR BOLT

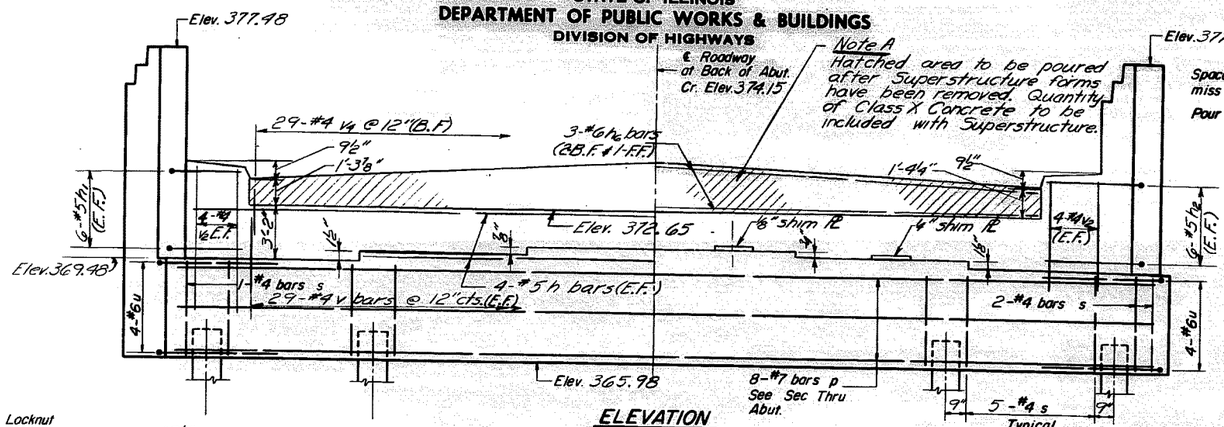


SEC. A-A



SEC. THRU ABUT.

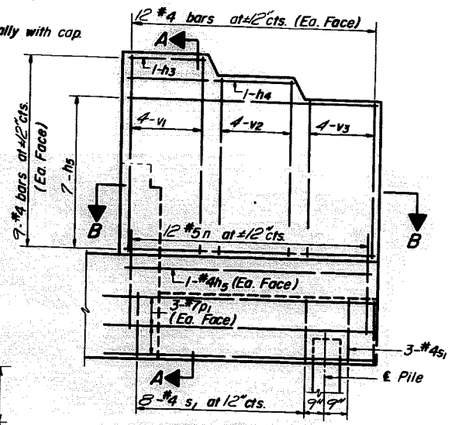
VIEW C-C



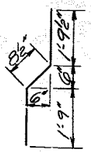
ELEVATION

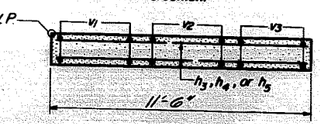
Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

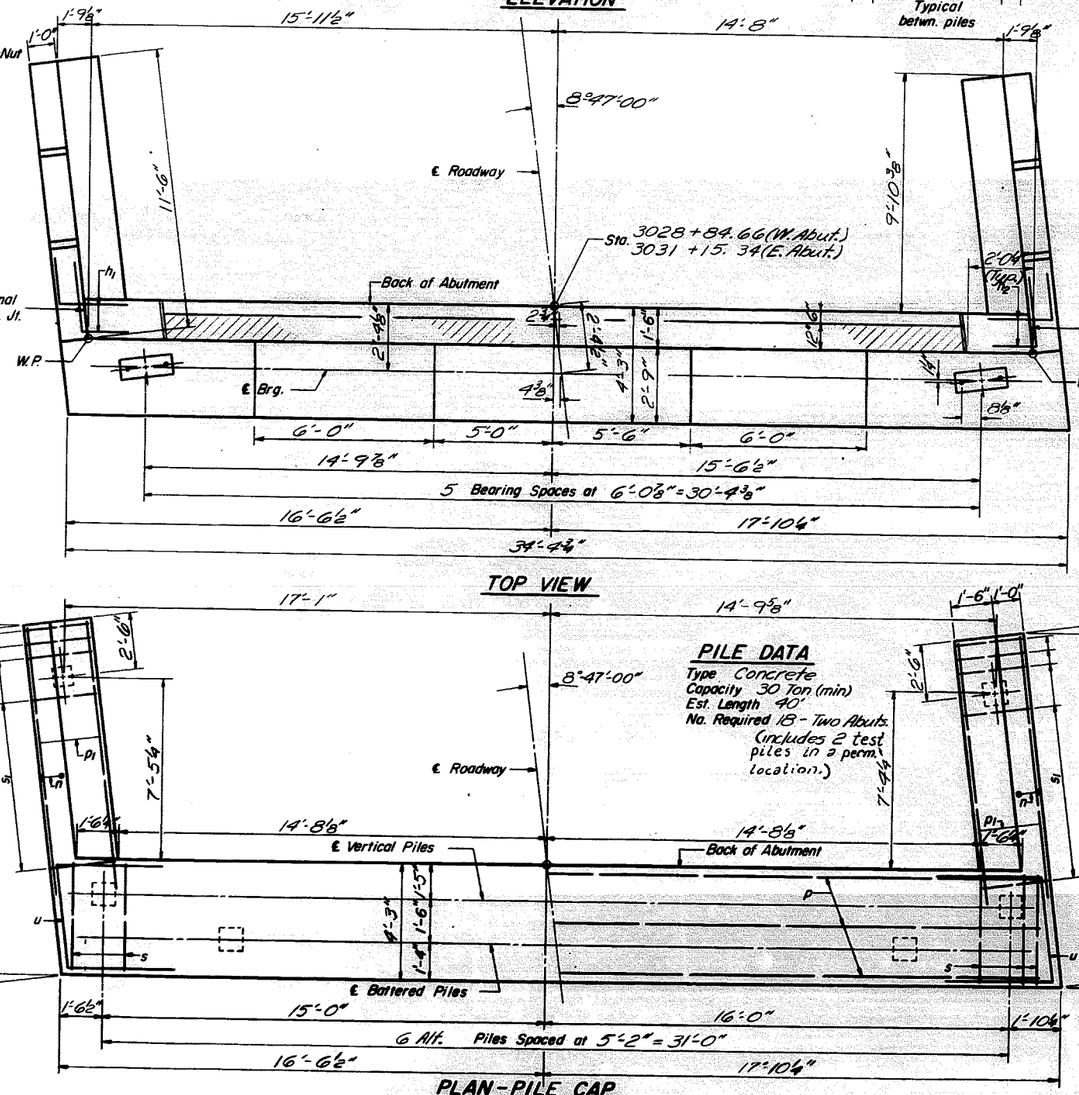


WING WALL ELEVATION
Reinforcement

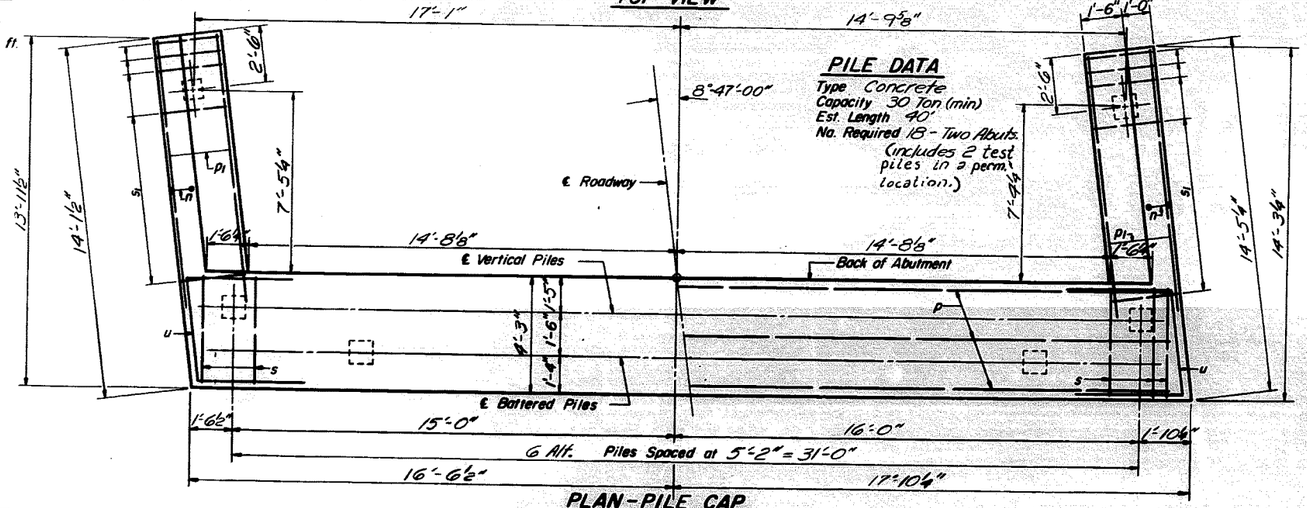




SEC. B-B

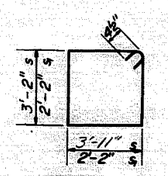


TOP VIEW

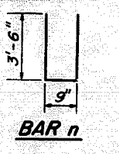


PLAN-PILE CAP

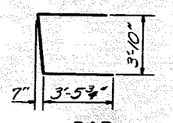
PILE DATA
Type Concrete
Capacity 30 Ton (min)
Est. Length 40'
No. Required 18 - Two Abuts.
(Includes 2 test piles in a perm. location.)



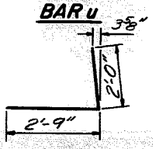
BARs s & s1



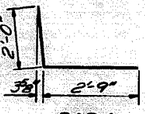
BAR n



BAR u



BAR h2



BAR h1

TWO ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_1	16	#5	32'-0"	
h_{1A}	24	#5	4'-7"	
h_{2A}	24	#5	4'-7"	
h_{3A}	8	#4	3'-6"	
h_{4A}	8	#4	7'-6"	
h_{5A}	64	#4	11'-3"	
h_{6A}	6	#6	28'-0"	
n_A	48	#5	7'-9"	
p_A	16	#7	34'-0"	
p_{1A}	24	#7	11'-6"	
s_A	66	#4	14'-11"	
s_{1A}	44	#4	9'-5"	
u_A	16	#6	10'-9"	
v_A	116	#4	5'-3"	
v_{1A}	32	#4	7'-9"	
v_{2A}	64	#4	7'-0"	
v_{3A}	32	#4	6'-6"	
v_{4A}	58	#4	4'-3"	
Class X Concrete			Cu. Yds.	73.6
Reinforcement Bars			Lbs.	6000
Concrete Piles			Lin. Ft.	640
Test Piles (Concrete)			Ea.	2

Note: Bar designation subscripts A omitted in drawings.

ABUTMENTS
F.A.I. RT. 57 SEC. 99-2HB-2
WILL COUNTY
STA. 926+25.74

DESIGNED	Wen-mo Chen
CHECKED	
DRAWN	S.G. Ferchow
CHECKED	

EXAMINED _____ 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED _____
ENGINEER OF DESIGN
APPROVED _____
CHIEF HIGHWAY ENGINEER

A-9-L (1°-14°) 2-1-66

Bridge Inspection Report

Wilmington-Peotone Road over Jordan Creek

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3042

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 1/12/2024

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3042			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Florence Township, IL			
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)			
FEATURE CROSSED:	Jordan Creek			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,250	(2023)	13,320	(2046)
ADTT:	2,000	(2023)	4,263	(2046)
Inventory Rating:	1.00	(HL-93)		
Operating Rating:	1.36	(HL-93)		
Sufficiency Rating:	100.0			

Construction History and Physical Description:

- The existing structure is a simple span steel wide flange beam bridge with a cast-in-place reinforced concrete composite deck supported by closed concrete abutments on spread footings. The structure has a single span measuring 52'-0" and a total back-to-back abutment bridge length of 58'-0". The deck width measures 63'-2" out-to-out. The deck slab is 8" thick and utilizes 2'-10" F-shape barrier.
- The structure is on a horizontal tangent alignment. The bridge spans a vertical sag curve with grades of -2.34% and 0.50% and tangent profile with grade of 0.50%. The bridge has no skew.
- The existing structure was constructed in 2012 by Will County under Route C.H. 25, Section 10-00116-09-BR to replace structure 099-0340.
- No repair history is available.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Gerry Koylass, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2022	Deck:	8	Super:	8	Sub:	8
Year:	2018	Deck:	8	Super:	8	Sub:	8
Year:	2014	Deck:	8	Super:	8	Sub:	8

Bridge Deck: The bridge deck is in good condition. Both the top and bottom of deck show no notable signs of deterioration (Photos 2 and 3). Cracking observed in the west approach slab near the northwest drain (Photo 7).

Superstructure: The superstructure is in good condition (Photos 3 and 6).

Joints: Expansion joints appear to be functioning properly. There is minor cracking of the concrete encasing the expansion device (Photo 4).

Bearings: Bearings appear to be functioning properly. No deterioration is visible. Side retainers are present at abutments.

Substructure: The substructure is in good condition. Abutments exhibit minor cracking (Photo 8).

Railings: The bridge parapets are 2'-10" F-shape barrier which meets current standards for an existing structure.

Hydraulics:
Riprap at East abutment shows minor washout (Photo 8). No signs of scour are visible (Photo 9 and 10). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in good condition and the following scope of work is recommended:

- Clear debris and sediment from gutters and expansion joints.
- Clean and seal abutment seats and backwalls.
- Epoxy crack injection of cracks over 1/16" wide in substructure.
- Monitor riprap at East abutment.

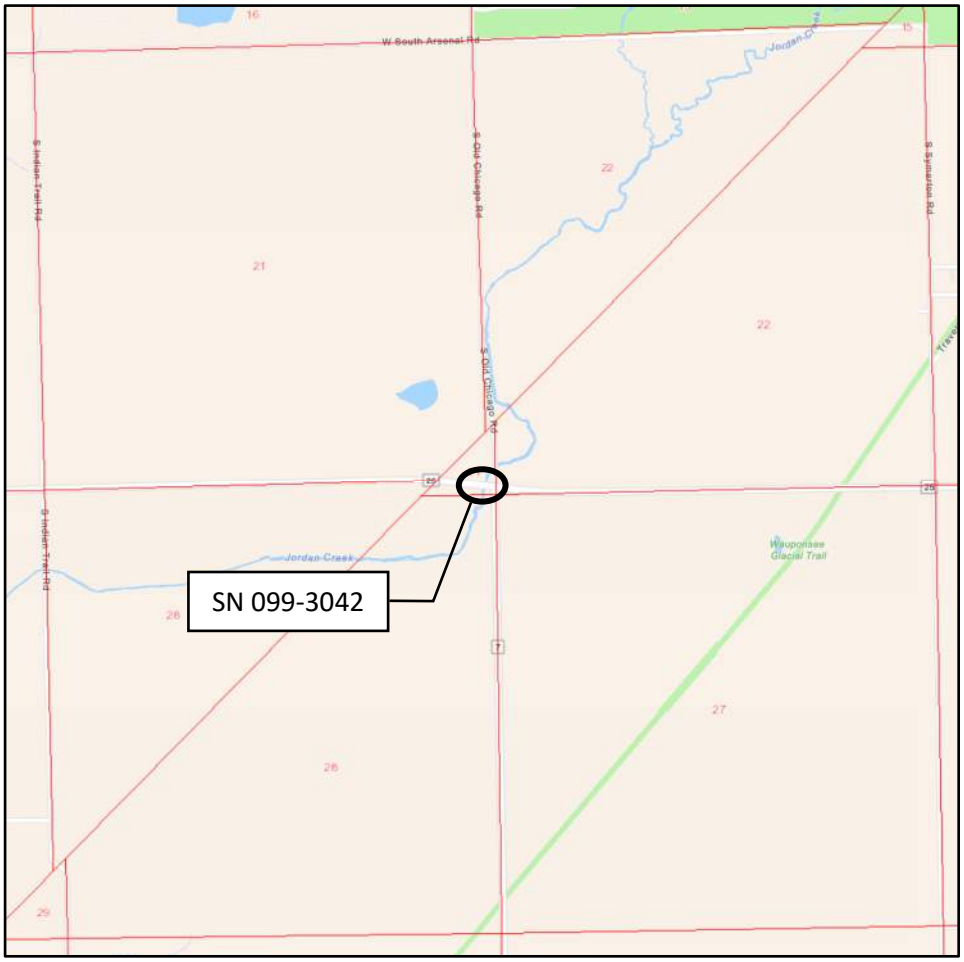
Replacement of the existing structure was not considered based on the bridge's current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 10E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3042 **District:** 1

Inventory Data

Facility Carried: CH 25
Feature Crossed: JORDAN CREEK
Bridge Remarks: WILMINGTON-PEOTONE RD over JORDAN CREEK
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 099 WILL
Maint Responsibility: 30 COUNTY
Service On/Under: 1 HIGHWAY / 5 WATERWAY
Reporting Agency: 3 COUNTY
Main Span Matl/Type: 3 STEEL / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 1 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41.32118889 **S** **Longitude:** 88.07501374 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 2.95M E IL ROUTE 53
Status Date: 12/21/2012 12:00:00 AM
Maint Township: 05 FLORENCE UNKNOWN

Sufficiency Rating: 100.0
HBP Eligible: No
Replaced By: -
Replaces: 099-3040
Last Update Date: 03/17/2023
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: N None
Skew Angle: 0 **D**
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 56500
Substructure Material: 5N

Structure Length: 58.0
AASHTO Bridge Length: 50.0
Length of Long Span: 52.0
Bridge Roadway Width: 60.0
Appr Roadway Width: 56.0
Deck Width: 63.2
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: 0 No
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00

Rated By: 2 IDOT
Rate Method: D ASSIGNED RATING BASED ON LFD REPORTED BY RATING FACTOR (RF)
Inventory Rating: 1.000(36)
Operating Rating: 1.360(48)
Load Rating Date: 12/19/2012
Design Load: 93 HL93
Deck Structure Thickness: 8 **SD:** N **FO:** N

Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357
Appurtenances Main Route 00000
Inventory County: 099 WILL
Township/Road Dist 05 FLORENCE
Municipality 0000
Urban Area: 1051 1051
Functional Class: 3 OTHER PRINCIPAL ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 24.0
Horizontal: 60.0 0.0
Lateral:

Station: 9.4600
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 6250
Est Truck Percentage: 32
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2046 / 13320
Designated Truck Rte: NONE
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

Structure Number: 099-3042 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	48 MOS	**Underwater:**	MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 07/22/2022 **Inspection Temperature:** 86Deg. F

Deck:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Single Unit Vehicles:**	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-1:**	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	V
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Deck Membrane:**	F	NONE		GALVANIZED	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	8.0				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**	10/2012				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

**** Actual Posted Limits ****

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 11/13/2012

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2012	Original		Reconstructed
Route:	CH25	**Sta:** 158+44.50	**Sta:**	
Section Nbr:				
Contract Nbr:				
Fed Aid Pr#:				
Built By:	3	COUNTY AGENCY		

Photo 1: South Fascia, looking North (099-3042_p13)

Photo 2: Typical Top of Deck and Barrier Condition, looking South (099-3042_p16)

Photo 3: Typical Underside Edge of Deck Condition (099-3042_p92)

Photo 4: Typical Expansion Joint Condition, Minor Cracking (099-3042_p6)

Photo 5: Debris and Water in Gutter, looking East (099-3042_p9)

Photo 6: Typical Condition of Barriers, Cracking (099-3042_p18)

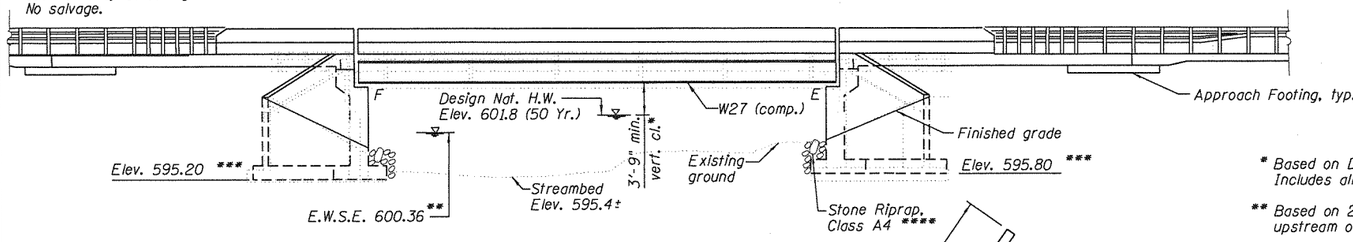
Photo 7: Cracking in West Approach Slab, looking East (099-3042_p5)

Photo 8: Typical Condition of Abutments, Riprap and Channel, looking East (099-3042_p93)

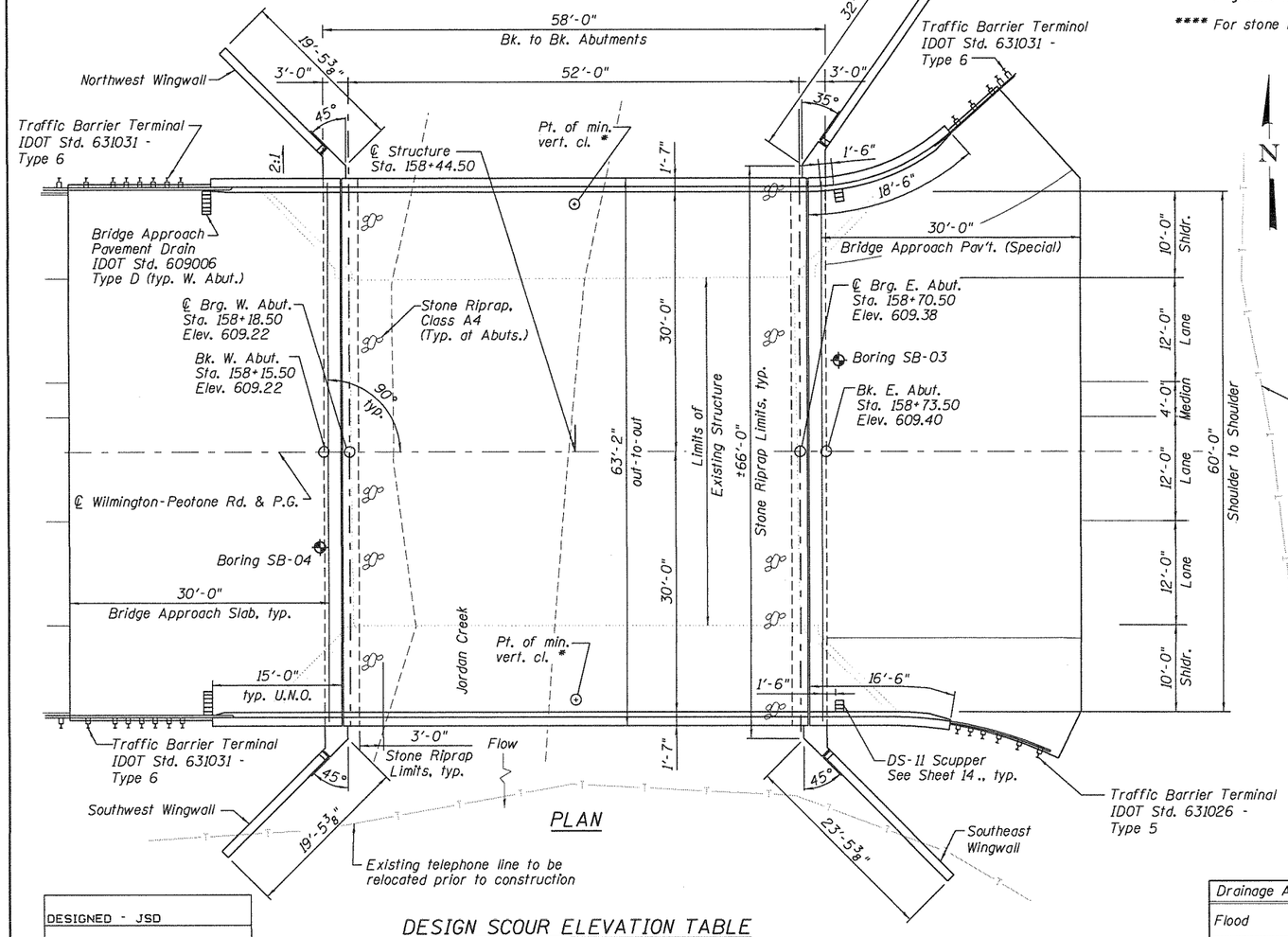
Photo 9: Jordan Creek, looking Upstream/North (099-3042_p15)

Photo 10: Jordan Creek, looking Downstream/South (099-3042_p10)

Benchmark: BM #266 - Brass disc at NE headwall of SN. 099-3040, Sta. 158+72, 20' Lt., El. 607.36
Existing Structure: S.N. 099-3040, originally constructed in 1941 as Section 80-B-15d by Will County using deck girders and closed abutments founded on spread footings spanning 51'-6" between centerline of bearings. Reconstructed and widened in 1986 under Section 79-00116-01-BR by Will County with the placement of new PPC Deck Beams, new concrete deck and widened abutments.
Existing bridge will be removed and replaced with a single-span, wide-flanged superstructure on closed abutments by detouring traffic.
No salvage.



ELEVATION



PLAN

* Based on Design Natural Highwater Elevation. Includes allowance for dead load deflection of beam.

** Based on 2-yr existing water elevation taken just upstream of existing bridge.

*** 6" (min.) below top of fractured bedrock elev. Pressure grout around the interface between footing ond bedrock if ground is less than 4' above bottom of footing.

**** For stone riprap sections and details see Sheet 21 .

LOADING HL-93 & PERMIT LOAD

Allow 50#/sq ft. for Future Wearing Surface

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

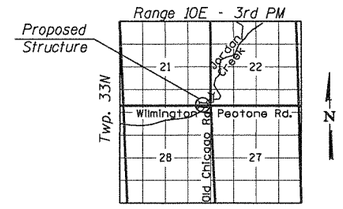
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{01}) = 0.068g
Design Spectral Acceleration at 0.2 sec. (S_{0S}) = 0.126g
Soil Site Class = C

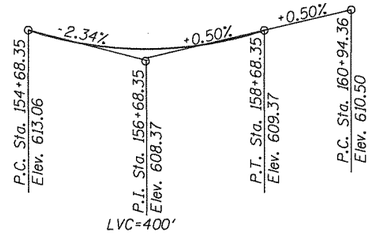
STATION 158+44.50
BUILT 2012 BY
WILL COUNTY
SECTION 10-00116-09-BR
LOADING HL-93 AND PERMIT LOAD
STRUCTURE NO. 099-3042

NAME PLATE

See IDOT Std. 515001



LOCATION SKETCH



PROFILE GRADE

(Along ℄ Wilmington-Peotone Rd.)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	West Abutment	East Abutment
	595.70	596.30

NOTE

For utility and ROW information see drainage and utility plans for details.

WATERWAY INFORMATION

Drainage Area = 12.62 sq. mi. Low Grade Elev. 609.20 @ Sta. 157+98

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	691	182	182	601.2	0.2	0.1	601.4	601.3
Design	50	1006	214	214	601.8	0.4	0.2	602.2	602.0
Base	100	1129	223	223	602.0	0.5	0.3	602.5	602.3
Overtopping									
Max. Calc.	500	1418	240	240	602.3	0.8	0.5	603.1	602.8

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	595.70	596.30

Note: No scour is expected. Elevations shown in table are based on anticipated bottom of footing elevations.

DESIGNED	JSD
CHECKED	MF
DRAWN	JSD/EF
CHECKED	RH

GENERAL PLAN & ELEVATION
WILMINGTON-PEOTONE ROAD (CH25)
OVER JORDAN CREEK
WILL COUNTY
STATION 158+44.50
STRUCTURE NO. 099-3042

LOCHNER
H.W. LOCHNER, INC.
CONSULTING ENGINEERS & PLANNERS
20 NORTH WACKER DRIVE SUITE 1200
CHICAGO, IL 60606

SHEET NO.	TOTAL SHEETS
49	127

SHEET NO. 1 OF 29 SHEETS

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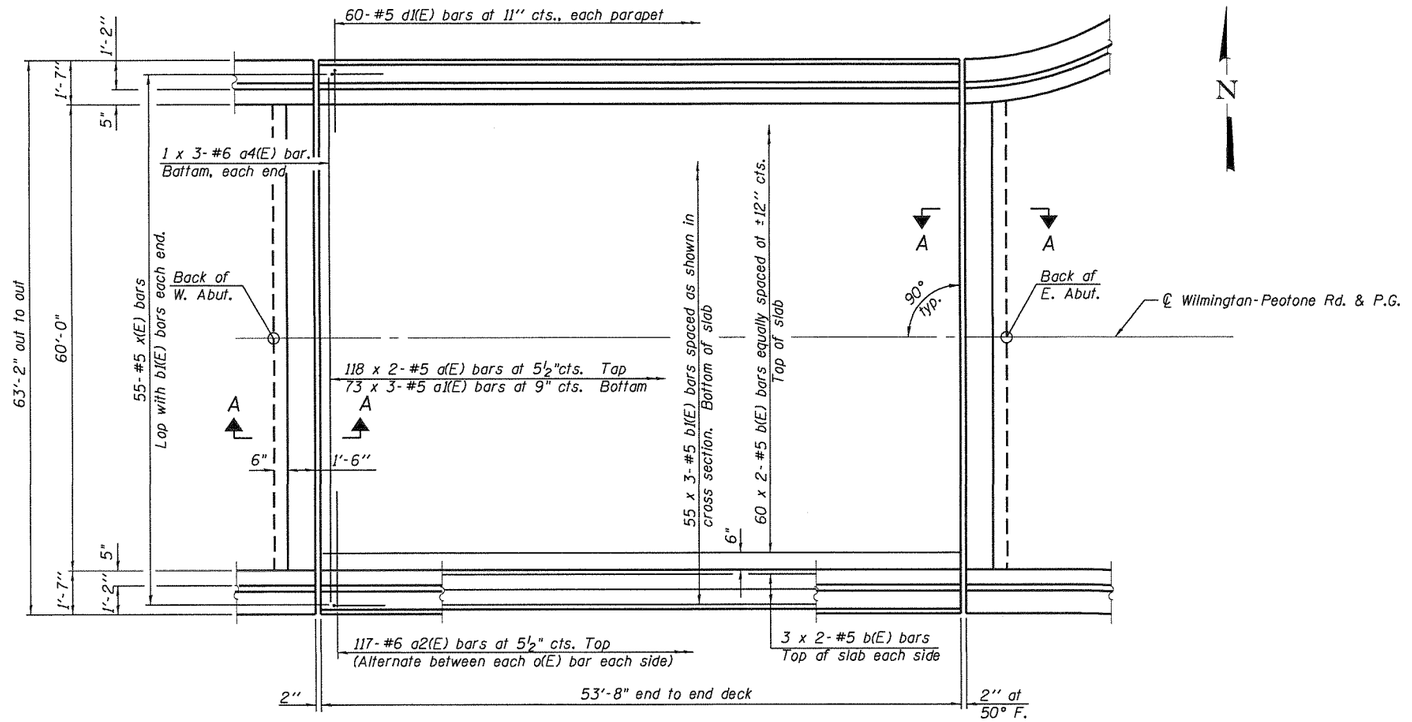


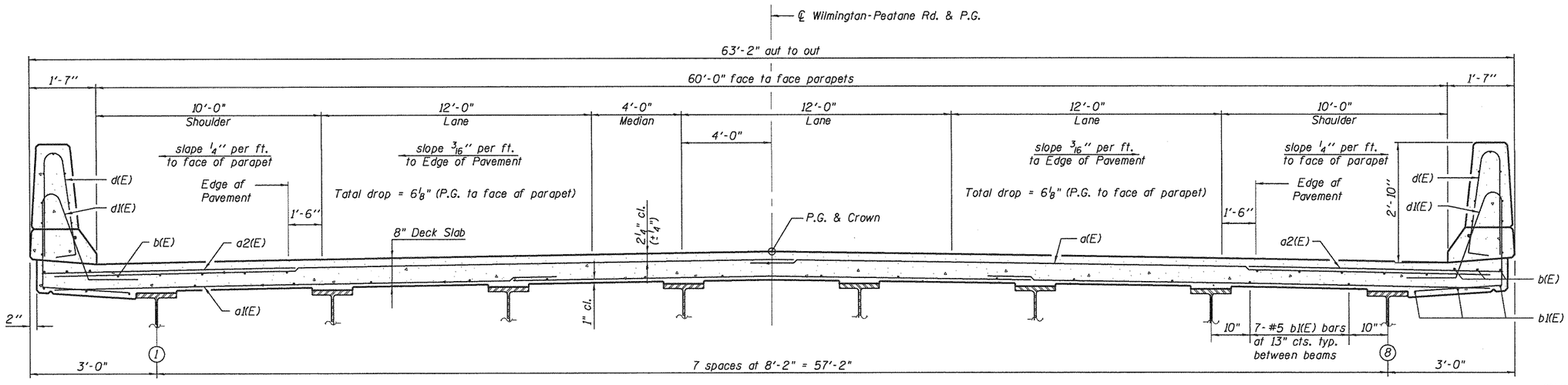
PLAN

MINIMUM BAR LAPS

#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES

1. See Sheet 9 for superstructure details and Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet 9 for parapet reinforcement.
4. See Sheet 9 for Section A-A.



CROSS SECTION
(Looking East)

SUPERSTRUCTURE
STRUCTURE NO. 099-3042

DESIGNED - BJN	
CHECKED - RH	
DRAWN - BJN	
CHECKED - RH	

LOCHNER
H.W. LOCHNER, INC.
CONSULTING ENGINEERS & PLANNERS
20 NORTH WACKER DRIVE SUITE 1200
CHICAGO, IL 60606

SHEET NO. 8 OF 29 SHEETS	
SHEET NO.	TOTAL SHEETS
56	127

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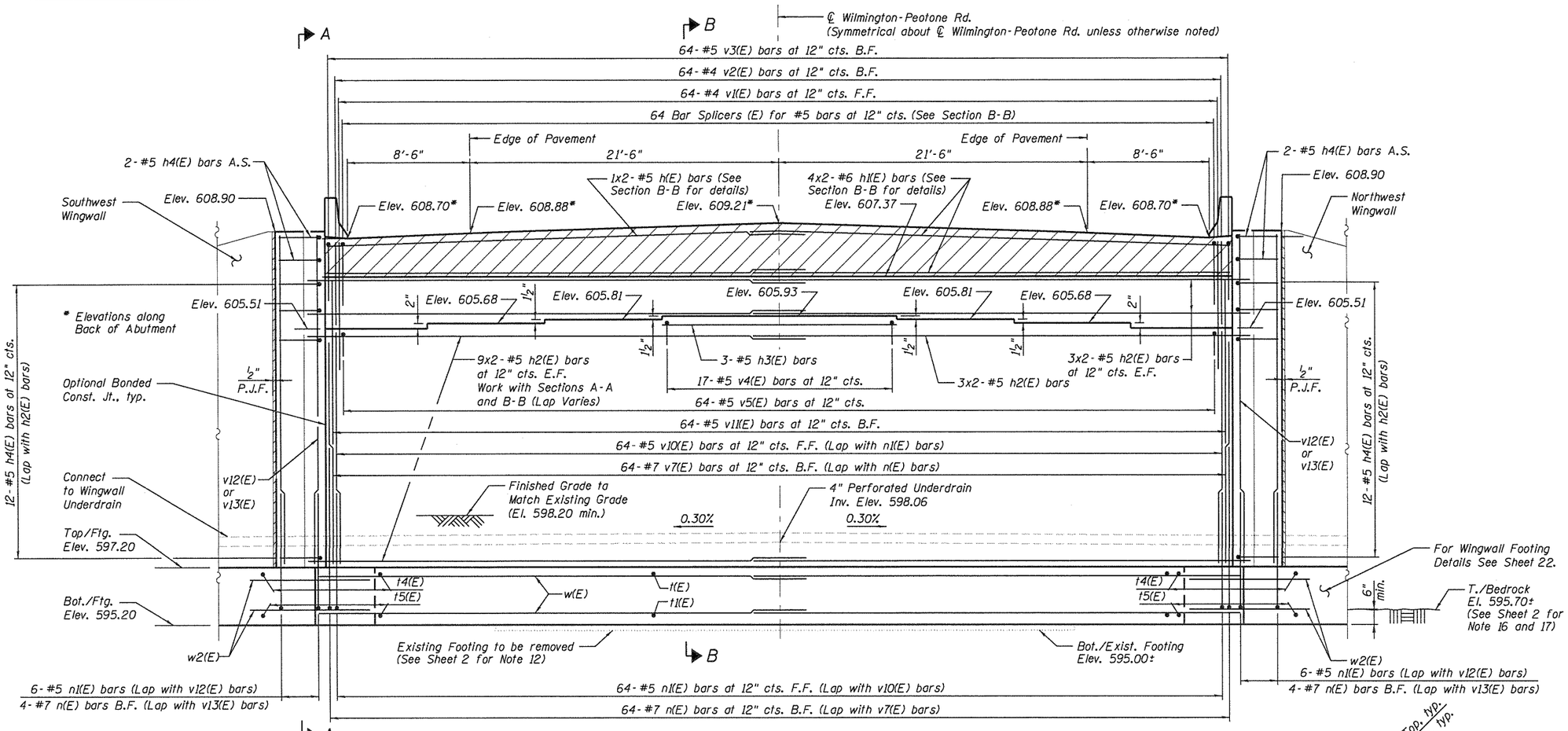
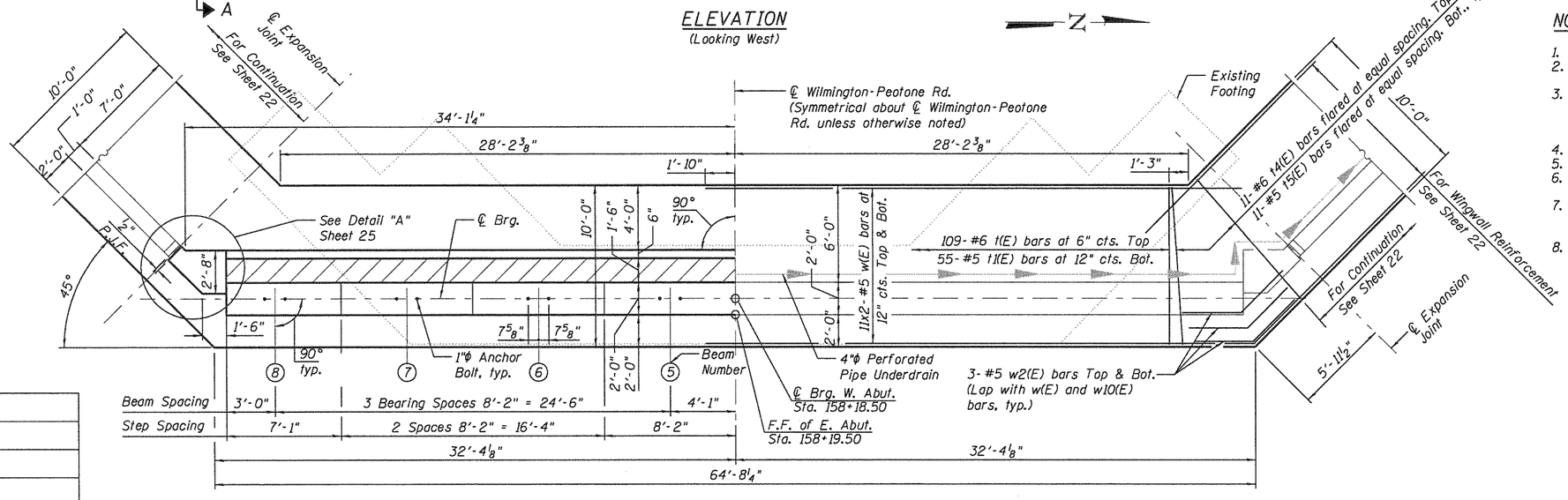


ELEVATION
(Looking West)



TOP PLAN

FOOTING PLAN

MINIMUM BAR LAP

#5 bar = 2'-7"
#5 bar = 3'-8" (Top Bars)
#6 bar = 4'-5" (Tap Bars)
#7 bar = 4'-2"

NOTES

1. Space reinforcement to miss anchor bolts.
2. Bars indicated thus 18 x 2-#5 etc. indicates 18 lines of bars with 2 lengths per line.
3. A.S. denotes As Shown.
   F.F. denotes Front Face
   B.F. denotes Back Face
   E.F. denotes Each Face
4. For Section A-A and Section B-B, see Sheet 21.
5. Pour steps monolithically with stem.
6. Order v2(E), t4(E) and t5(E) bars full length. Cut to fit in the field.
7. Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Concrete Superstructure.
8. All surfaces of backwall, bridge seat and front face of the abutment shall be applied with Concrete Sealer.

WEST ABUTMENT PLAN & ELEVATION
STRUCTURE NO. 099-3042

DESIGNED	MAF
CHECKED	RH
DRAWN	MAF
CHECKED	RH

LOCHNER
H.W. LOCHNER, INC.
CONSULTING ENGINEERS & PLANNERS
20 NORTH WACKER DRIVE SUITE 1200
CHICAGO, IL 60606

SHEET NO.	TOTAL SHEETS
67	127

SHEET NO. 19 OF 29 SHEETS

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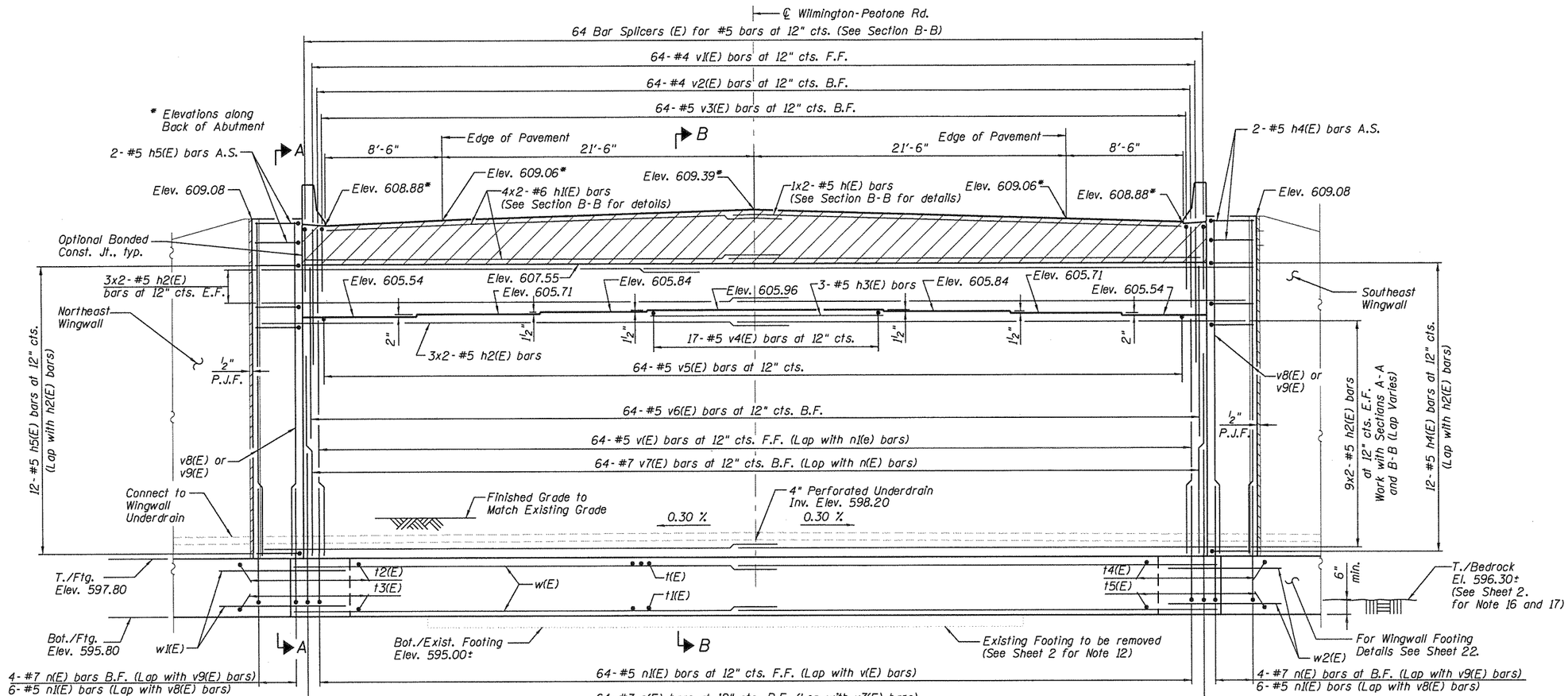
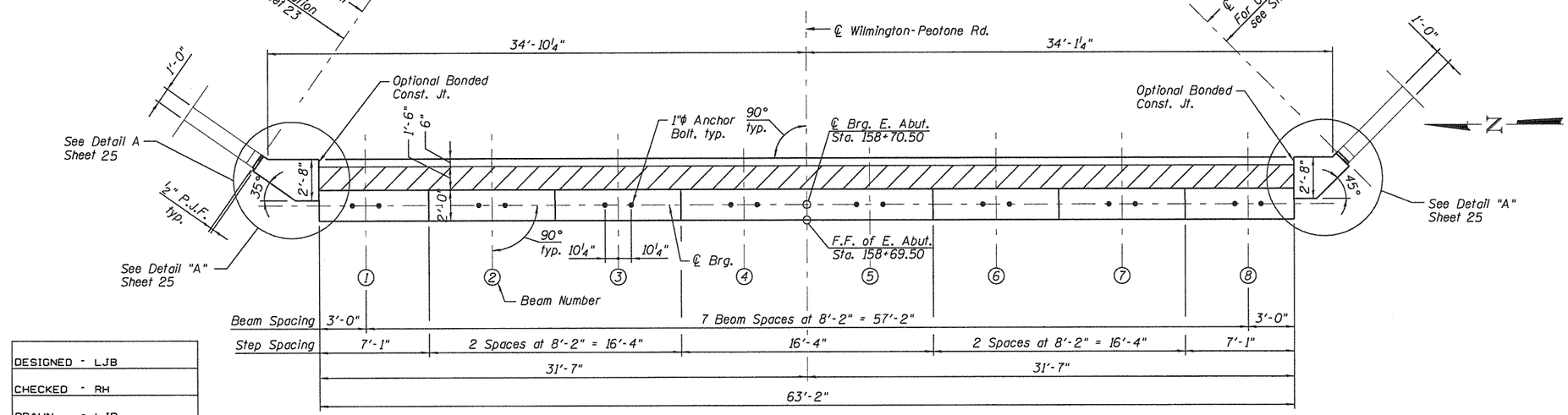


ELEVATION

(Looking East)

MINIMUM BAR LAP

#5 bar = 2'-7"
#5 bar = 3'-8" (Top Bars)
#6 bar = 4'-5" (Top Bars)
#7 bar = 4'-2"



TOP PLAN

NOTES

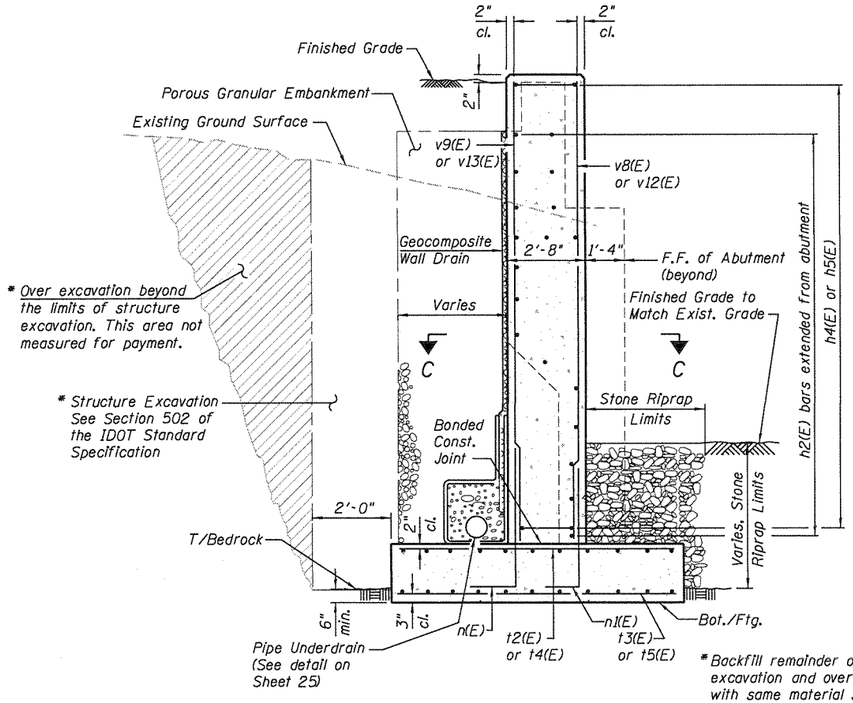
1. Spoce reinforcement to miss anchor bolts.
2. Bars indicated thus 18 x 2-#5 etc. indicates 18 lines of bars with 2 lengths per line.
3. A.S. denotes As Shown.
   F.F. denotes Front Face
   B.F. denotes Back Face
   E.F. denotes Each Face
4. For Section A-A and Section B-B, see Sheet 21.
5. Pour steps monolithically with stem.
6. Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Concrete Superstructure.
7. All surfaces of backwall, bridge seat and front face of the abutment shall be applied with Concrete Sealer.

DESIGNED	LJB
CHECKED	RH
DRAWN	LJB
CHECKED	RH

EAST ABUTMENT PLAN & ELEVATION STRUCTURE NO. 099-3042

LOCHNER
H.W. LOCHNER, INC.
CONSULTING ENGINEERS & PLANNERS
20 NORTH WACKER DRIVE SUITE 1200
CHICAGO, IL 60606

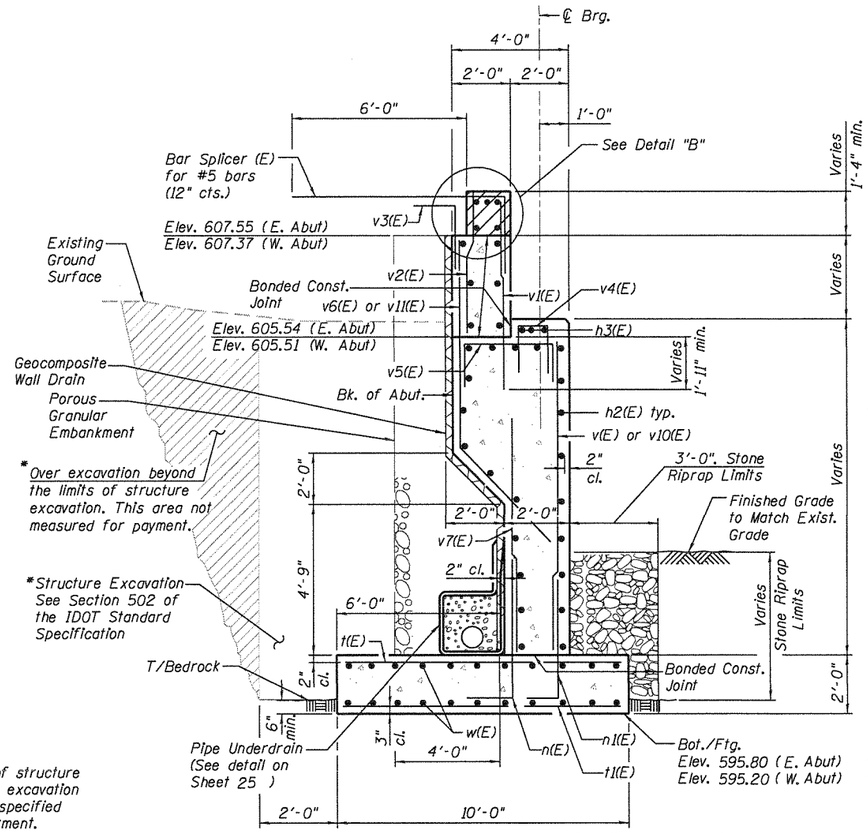
SHEET NO. 20 OF 29 SHEETS	
SHEET NO.	TOTAL SHEETS
68	127



* Backfill remainder of structure excavation and over excavation with same material specified for roadway embankment.

SECTION A-A

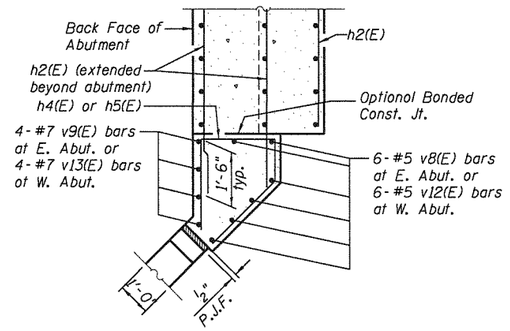
Typ. E. & W. Abutment



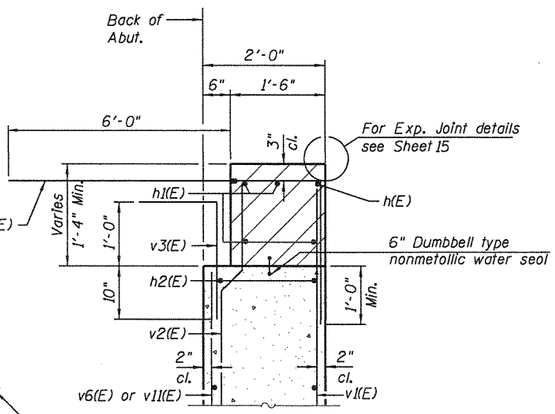
* Backfill remainder of structure excavation and over excavation with same material specified for roadway embankment.

SECTION B-B

Typ. E. & W. Abutment



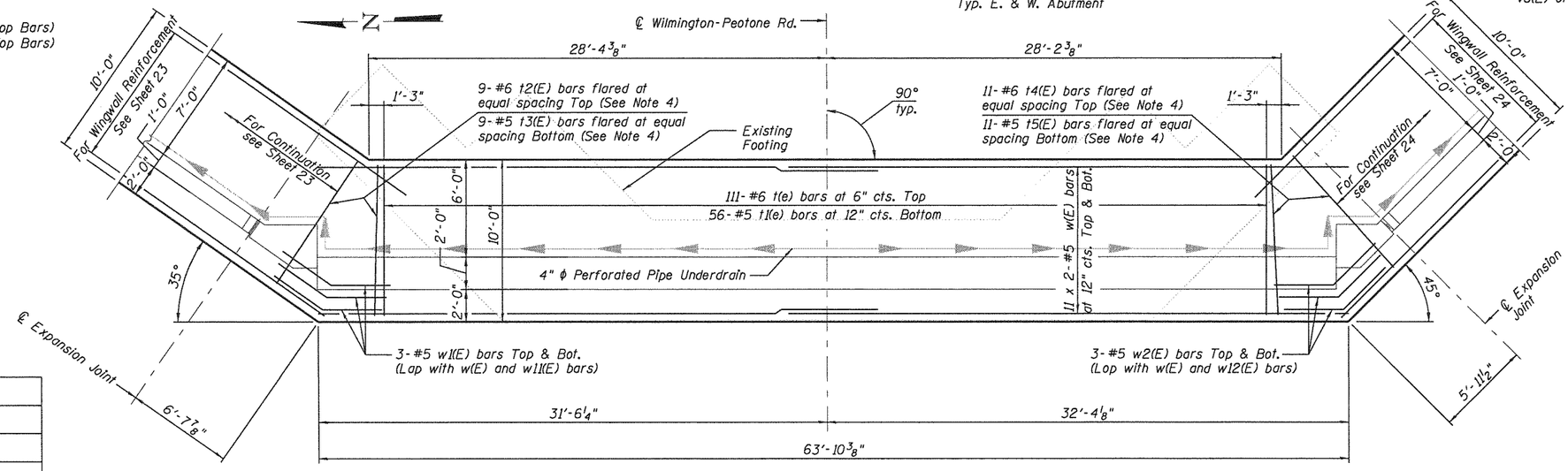
SECTION C-C



DETAIL "B"

MINIMUM BAR LAP

#5 bar = 2'-7"
#5 bar = 3'-8" (Top Bars)
#6 bar = 4'-5" (Top Bars)
#7 bar = 4'-2"



FOOTING PLAN

℄ Wilmington-Peotone Rd. (Symmetrical about ℄ Wilmington-Peotone Rd. unless otherwise noted)

NOTES

1. Bars indicated thus 18 x 2-#5 etc. indicates 18 lines of bars with 2 lengths per line.
2. A.S. denotes As Shown.
   F.F. denotes Front Face
   B.F. denotes Back Face
   E.F. denotes Each Face
3. For locations of Section A-A and Section B-B, see Sheets 19 and 20.
4. Order v2(E) and t2(E) thru t5(E) bars full length. Cut to fit in the field.
5. All surfaces of backwall, bridge seat and front face of the abutment shall be applied with Concrete Sealer.
6. For details of Bar Splicers, see Sheet 27.

EAST ABUTMENT PLAN & SECTIONS STRUCTURE NO. 099-3042

DESIGNED	LJB
CHECKED	RH
DRAWN	LJB
CHECKED	RH

LOCHNER
H.W. LOCHNER, INC.
CONSULTING ENGINEERS & PLANNERS
20 NORTH WACKER DRIVE SUITE 1200
CHICAGO, IL 60606

SHEET NO. 21 OF 29 SHEETS	
SHEET NO.	TOTAL SHEETS
69	127

t:\4412-willcounty\struct\dgn\4412-WP-EA02.dgn

Bridge Inspection Report

Wilmington-Peotone Road over Forked Creek S. Branch

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3099

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2023

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3099			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Peotone Township, IL			
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)			
FEATURE CROSSED:	Forked Creek S. Branch			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,000	(2023)	9,432	(2046)
ADTT:	1,800	(2023)	2,830	(2046)
Inventory Rating:	1.00	(HL93)		
Operating Rating:	1.30	(HL93)		
Sufficiency Rating:	97.0			

Construction History and Physical Description:

- The existing structure is a 3-span cast-in-place reinforced concrete slab bridge supported by solid wall encased pile bents and pile supported integral concrete abutments. The structure has spans measuring 24'-0", 29'-0", and 24'-0" with a total back-to-back abutment bridge length of 80'-0". The deck width measures 44'-0" out-to-out. The deck slab is 14" thick and utilizes side-mounted Steel Railing (Type SM).
- The structure is on a horizontal tangent alignment and a vertical sag curve with grades of +0.74% and +2.91%. The bridge has no skew.
- The existing structure was constructed in 2014 by Will County under Route C.H. 25, Section 12-00114-06-BR to replace structure 099-3332.
- No repair history is available.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Kevin Heffern, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2020	Deck:	8	Super:	8	Sub:	8
Year:	2016	Deck:	8	Super:	8	Sub:	9
Year:	2014	Deck:	9	Super:	9	Sub:	9

Bridge Deck / Superstructure: The bridge deck is in good condition. The top and bottom of deck shows no notable deterioration (Photos 2 and 3). Bridge deck fascia appear to be in good condition.

Substructure: The substructure is in good condition. Abutments exhibit cracks and light spalling at construction joints between the deck slab and top of abutments (Photos 5 and 8). Piers show no significant deterioration (Photo 4).

Railings: The existing SM steel railing does not meet current standards. Retrofit of the existing structure is not feasible.

Hydraulics:
Signs of possible scour are visible at upstream ends of piers (Photo 4); in addition, aggradation is apparent under Spans 1 and 3 of the structure (Photo 3). Also, there is a collection of debris on top of the riprap at the northwest quadrant of the structure (Photo 8). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in good condition and the following scope of work is recommended:

- Formed concrete repair of substructure.
- Epoxy crack injection of cracks over 1/16” wide at substructure.
- Remediate aggradation, remove debris, and restore riprap under end spans based on Phase I hydraulic findings.

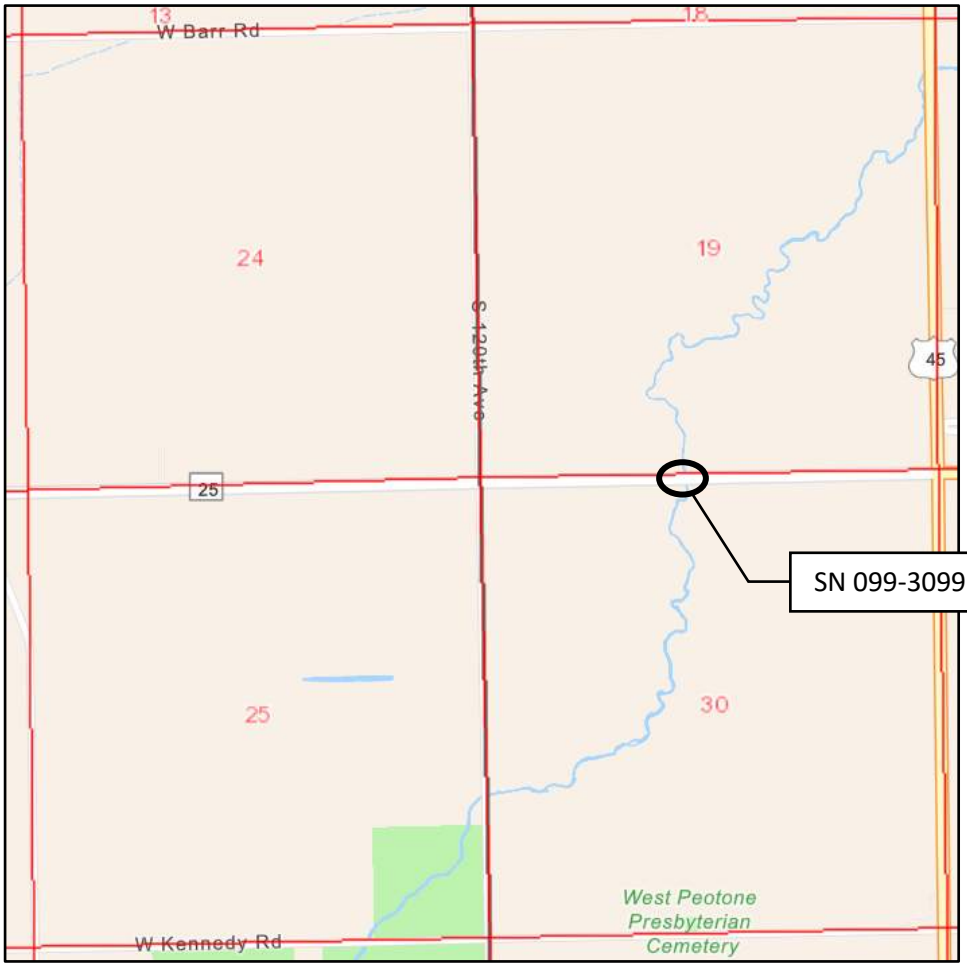
Replacement of the existing structure was not considered based on the bridge’s current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 12E – 3 PM



Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3099 **District:** 1

Inventory Data

Facility Carried: Ch 25, Wilm.-Peo. Rd
Feature Crossed: S Br Frorked Creek
Bridge Remarks: SN requested by Christina Kupkowski of Will County 03/14/2013.
Bridge Status: 1 OPEN - NO RESTRICT
Status Date: 11/17/2014 12:00:00 AM
Status Remarks:
Maint County: 099 WILL
Maint Township: 22 WILL
Maint Responsibility: 30 COUNTY UNKNOWN
Service On/Under: 1 HIGHWAY 5 / WATERWAY
Reporting Agency: 3 COUNTY
Main Span Matl/Type: 2 CONCRETE CONTINUOUS / 01 SLAB
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41.32354862 **S** **Longitude:** 87.89240064 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Sufficiency Rating: 97.0
HBP Eligible: No
Replaced By: -
Replaces: 099-3332
Last Update Date: 03/30/2021
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: N None
Skew Angle: D
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility:
Structural Steel Wt
Substructure Material: 55

Structure Length: 80.0
AASHTO Bridge Length: 74.0
Length of Long Span: 29.0
Bridge Roadway Width: 44.0
Appr Roadway Width: 44.0
Deck Width: 44.0
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: 0 No
Navigation Horiz Clear:
Navigation Vert Clear:
Culvert Fill Depth:
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00

Rated By: 2 IDOT
Rate Method: F ASSIGNED RATING BASED ON LRFD REPORTED BY RATING FACTOR (RF)
Inventory Rating: 1.000(36)
Operating Rating: 1.300(46)
Load Rating Date: 11/13/2014
Design Load: 93 HL93
Deck Structure Thickness: 14 **SD:** N **FO:** N

Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear:
RR Vertical Underclear: **Ft** **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357
Appurtenances Main Route 00000
Inventory County: 099 WILL
Township/Road Dist 15 PEOTONE
Municipality 0000
Urban Area: None 0000
Functional Class: 3 OTHER PRINCIPAL ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 24.0
Horizontal: 28.0
Lateral:

Station: 18.9700
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 6000
Est Truck Percentage: 30
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2046 / 9432
Designated Truck Rte: NONE
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

Structure Number: 099-3099 **District: 1**

Data Related to Inspection Information

***** Inspection Intervals *****

Routine NBIS: 48 MOS **Underwater:** MOS **Special:** N

***** Maximum Allowable Posting Limits *****

One Truck At A Time: 0 **Single Unit Vehicles:** Tons **Combination Type 3S-1:** Tons **Combination Type 3S-2** Tons

Bridge Posting Level: 5 No Posting Required

Inspection/Appraisal Information

Inspection Date: 07/14/2020 **Inspection Temperature:** 82Deg. F

Deck:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED
Culvert:	N	NOT APPLICABLE
Channel and Protection:	7	GOOD CONDITION - SOME MINOR PROBLEMS
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA
Underclearance-Vert/Lat.:	N	NOT APPLICABLE
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA
Bridge Railing Appraisal:	2	Doesn't Meet Standards
Approach Guardrail:	222	Not Acceptable Not Acceptable Not Acceptable
Pier Navig Protection:	N	N/A

**** Actual Posted Limits ****

Single Unit Vehicles: Tons
Combination Type 3S-1: Tons
Combination Type 3S-2: Tons
One Truck At A Time: 0

Deck Wearing Surf: A BARE DECK NO OVRLAY
Deck Membrane: F NONE
Deck Protection: A EPOXY COATED REINF
Total Deck Thick: 16.0
Last Paint Date:
Last Paint Type:

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 10/06/2014

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year: 2014 Original Reconstructed
Route: C.H. 25 **Sta:** 660+35 **Sta:**
Section Nbr: 12-00114-06-BR
Contract Nbr:
Fed Aid Pr#:
Built By: 3 COUNTY AGENCY

Photo 1: South Fascia, looking West (IMG_9096)

Photo 2: Typical Top of Deck Condition, looking West (IMG_9086)

Photo 3: Typical Underside of Deck Condition and Stream Aggradation (IMG_9110)

Photo 4: Typical Condition of Piers, looking Southeast (IMG_9108)

Photo 5: Typical Wingwall Condition, looking Northwest (IMG_9594)

Photo 6: Forked Creek, looking Upstream/North (IMG_9601)

Photo 7: Forked Creek, looking Downstream/South (IMG_9602)

Photo 8: Collection of Debris at Northwest Quadrant (IMG_9104)

Bridge Inspection Report

River Road over Prairie Creek

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (River Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3294

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2024

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3294			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Wilmington Township, IL			
ROUTE CARRIED:	River Road (F.A.P. 357)			
FEATURE CROSSED:	Prairie Creek			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	7,500	(2023)	13,320	(2046)
ADTT:	2,700	(2023)	4,796	(2046)
Inventory Rating:	1.00	(HL93)		
Operating Rating:	1.66	(HL93)		
Sufficiency Rating:	99.6			

Construction History and Physical Description:

- The existing structure is a 3-span cast-in-place reinforced continuous concrete slab bridge supported by solid wall bents on spread footings and closed concrete abutments. The structure has spans measuring 27'-0", 34'-0" and 27'-0" with a total back-to-back abutment length of 90'-6". The deck width measures 46'-6" out-to-out. The deck slab is 16" thick and utilizes 2'-10" F-shape barrier.
- The structure is on a horizontal tangent alignment and 0.37% tangent profile. The bridge has no skew.
- The original structure was constructed in 1969 under Route F.A.S. 304, Section 34-B.
- In 1999 a portion of the deck and overlay was repaired. In 2012 under Route C.H. 44, Section 11-00034-07-BR the bridge superstructure was removed and replaced. The wingwalls, piers and abutments were repaired and reused.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Gerry Koylass, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2023	Deck:	8	Super:	8	Sub:	7
Year:	2019	Deck:	8	Super:	8	Sub:	7
Year:	2015	Deck:	8	Super:	8	Sub:	7

Bridge Deck / Superstructure: The deck slab is in good condition. The top of slab has minor longitudinal cracking throughout and near silicone joints (Photo 2). Evaluation of the underside of slab shows no notable signs of deterioration (Photo 3).

Substructure: The substructure is in good condition. Abutments exhibit minor cracking and efflorescence at construction joints (Photo 4). Piers show no notable signs of deterioration (Photo 5).

Railings: The bridge parapets are 2'-10" F-shape barrier and meet current standards for an existing structure.

Hydraulics: Potential signs of scour were noted at the northwest wingwall (Photo 8). The water level appears to be about two feet below the streambed, approximately matching the estimated water surface elevation on existing plans. There is a large fallen branch, trees, and debris at the northwest corner of the bridge, and vegetation is constricting the waterway upstream. Aggradation is apparent downstream of the bridge (Photo 6 and 7). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in good condition and the following scope of work is recommended:

- Clear trees and debris from creek bed.
- Place riprap at northwest corner of the abutment to prevent further erosion of the ground slope.
- Epoxy crack injection of cracks over 1/16" wide in superstructure and substructure.
- Remediate aggradation upstream and under bridge based on Phase I hydraulic findings.

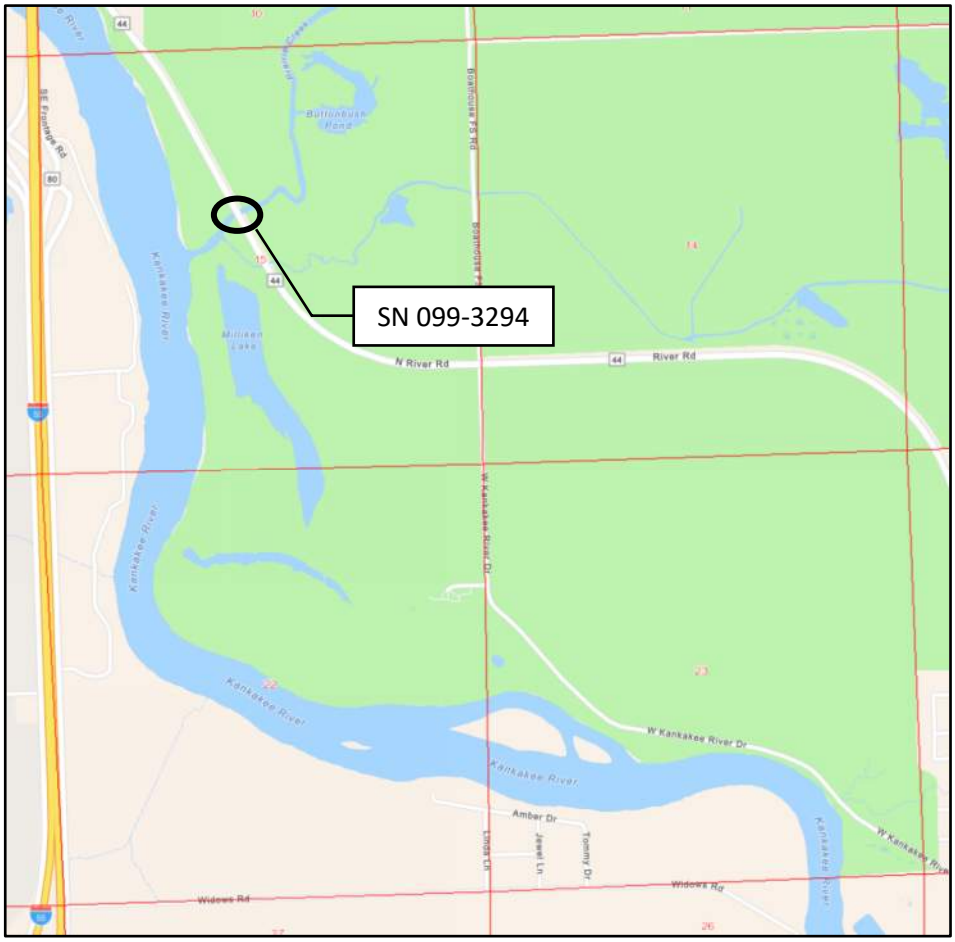
Replacement of the existing structure was not considered based on the bridge's current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 9E – 3 PM



Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3294 **District:** 1

Inventory Data

Facility Carried: NEW RIVER ROAD
Feature Crossed: PRAIRIE CREEK
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 099 WILL
Maint Responsibility: 30 COUNTY
Service On/Under: 1 HIGHWAY / 5 WATERWAY
Reporting Agency: 3 COUNTY
Main Span Matl/Type: 2 CONCRETE CONTINUOUS / 01 SLAB
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41.34231000 **S** **Longitude:** 88.18244000 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 1 M E. I55(NW WILMGT
Status Date: 4/1/1988 12:00:00 AM
Maint Township: 23 WILMINGTON UNKNOWN

Sufficiency Rating: 99.6
HBP Eligible: No
Replaced By: -
Replaces: -
Last Update Date: 03/30/2021
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: N None
Skew Angle: 0 **D**
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 0
Substructure Material: 55
Rated By: 2 IDOT
Inventory Rating: 1.000(36)
Operating Rating: 1.660(59)
Design Load: 93 HL93
Deck Structure Thickness: 16 **SD:** N **FO:** N

Structure Length: 87.0
AASHTO Bridge Length: 86.5
Length of Long Span: 34.0
Bridge Roadway Width: 44.0
Appr Roadway Width: 42.5
Deck Width: 46.5
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: 0 No
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: 6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)
Load Rating Date: 03/31/2010
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Railroad Crossing Info

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357
Appurtenances Main Route 00000
Inventory County: 099 WILL
Township/Road Dist 23 WILMINGTON
Municipality 0000
Urban Area: 0605 0605
Functional Class: 3 OTHER PRINCIPAL ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 44.0
Horizontal: 44.0 0.0
Lateral:

Station: 2.8500
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 7500
Est Truck Percentage: 36
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 1
Future AADT Yr/Cnt: 2046 / 13320
Designated Truck Rte: NONE
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

*** Marked Route On Data ***

	Designation		Kind		Number
Route #1:	1	Mainline	8	Other	
Route #2:	1	Mainline			
Route #3:	1	Mainline			

*** Marked Route Under Data ***

Designation	Kind	Number

Structure Number: 099-3294 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	48 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 04/27/2023 **Inspection Temperature:** 68Deg. F

Deck:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Single Unit Vehicles:**	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED		**Deck Wearing Surf:**	G	BITUMINOUS OVERLAY		**Last Paint Type:**	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Membrane:**	A	WATERPROOF MEM SYST			
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Protection:**	J	NONE			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	16.0				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 01/26/1995

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1969 Original	2012	Reconstructed	
Route:	FAS 304	**Sta:** 39+70.0	**Sta:**	
Section Nbr:	34-B			
Contract Nbr:				
Fed Aid Pr#:	J-S-304-(102)			
Built By:	3 COUNTY AGENCY	0	UNKNOWN	

Photo 1: North Fascia, looking South (099-3294_p58)

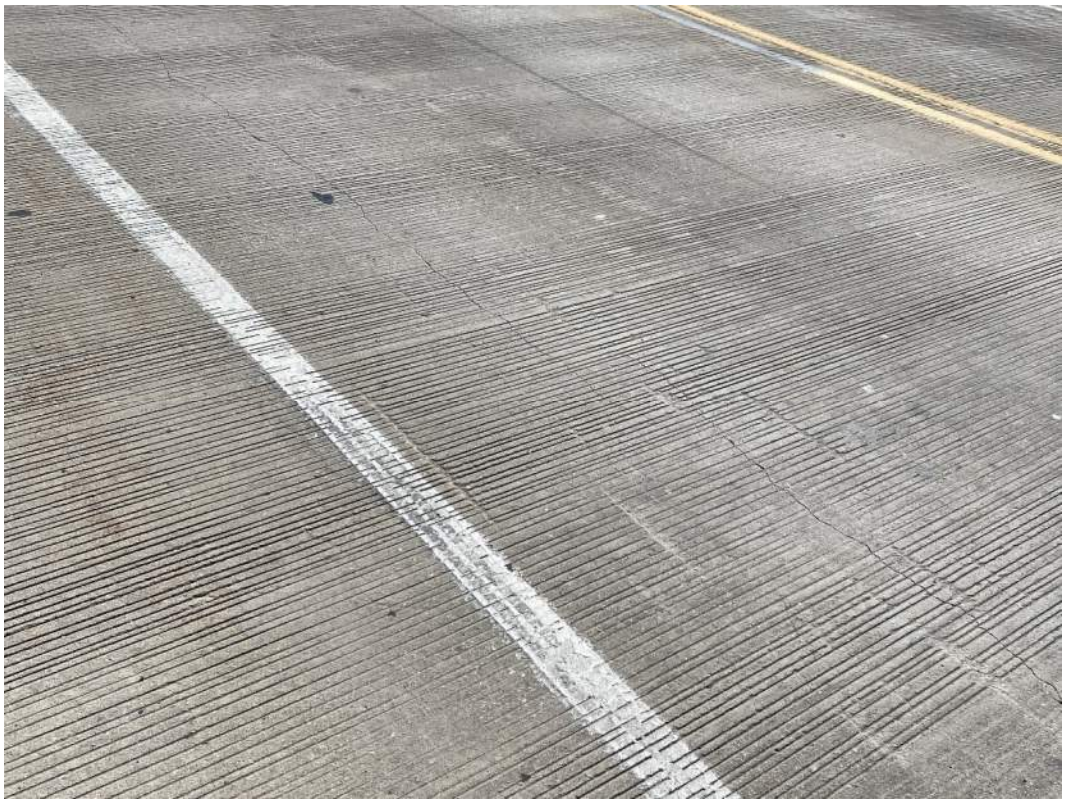


Photo 2: Typical Top of Deck Condition, showing cracking (099-3294_p51)

Photo 3: Typical Underside of Deck Condition (099-3294_p46)

Photo 4: Typical Condition of Abutments, Minor Cracking and Spalling (099-3294_53)

Photo 5: Typical Condition of Piers, looking East (099-3294_45)

Photo 6: Prairie Creek, looking Upstream / Northeast (099-3294_p61)

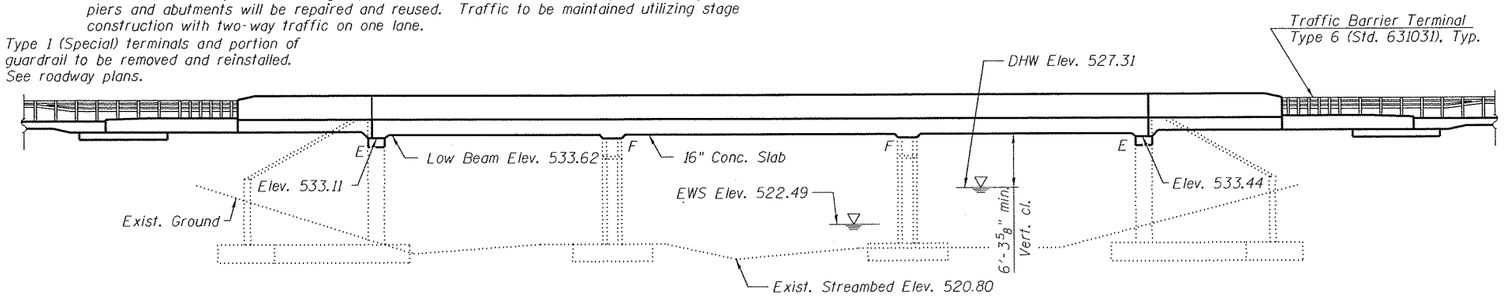
Photo 7: Prairie Creek, looking Downstream / Southwest (099-3294_p62)

Photo 8: Debris and Potential Scour at Northwest Corner, looking North (099-3294_p56)

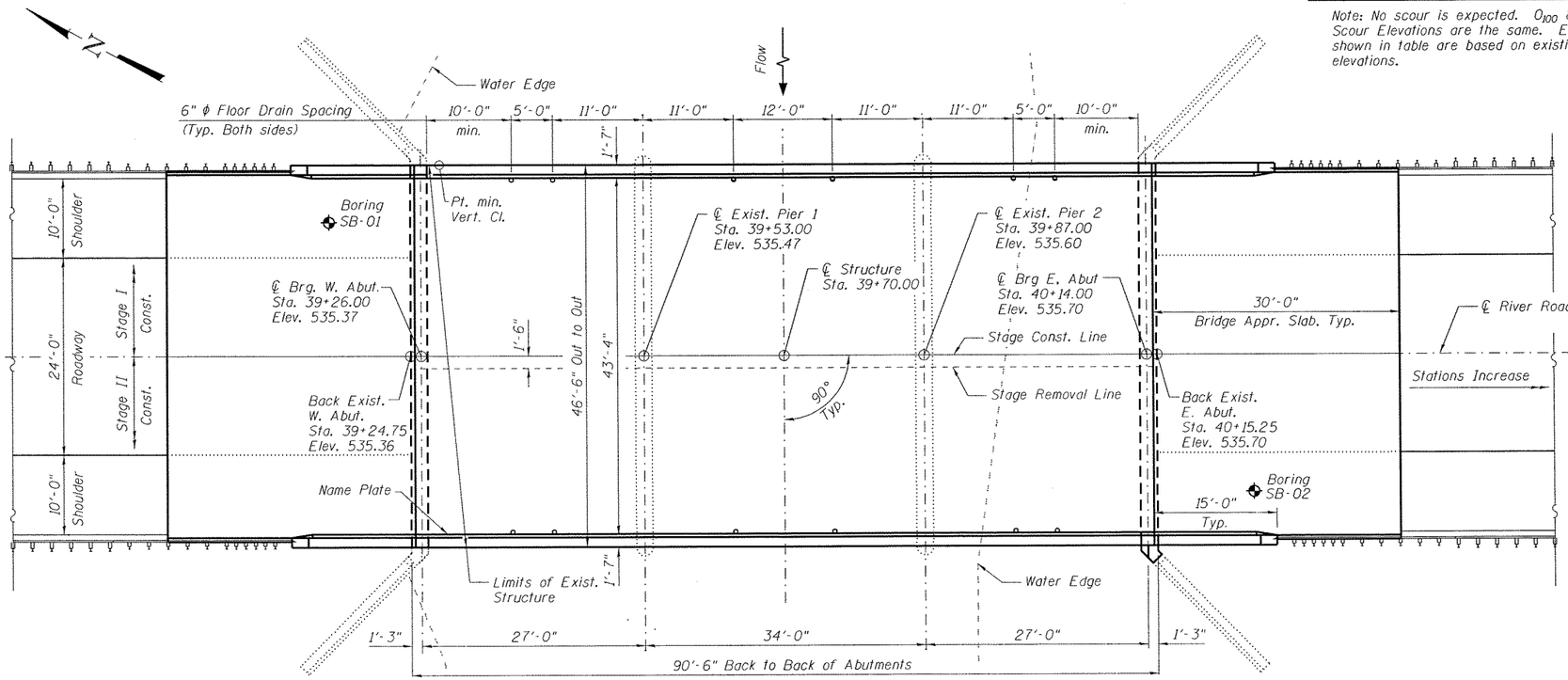
Benchmark: Chiseled square top of wingwall at Northwest corner of bridge. Elevation 535.50.

Existing Structure: S.N. 099-3294 Built in 1969 as F.A.S. Route 304, Section 34-B at Station 39+70. The superstructure consists of three continuous spans of a reinforced concrete slab. 90'-6" back to back abutments by 46'-6" wide, supported on two closed wall abutments and two solid wall piers. Existing superstructure to be removed and replaced. Wingwalls, piers and abutments will be repaired and reused. Traffic to be maintained utilizing stage construction with two-way traffic on one lane.

Salvage: Type 1 (Special) terminals and portion of guardrail to be removed and reinstalled. See roadway plans.



ELEVATION



PLAN

PRAIRIE CREEK
RE-BUILT 20 BY
WILL COUNTY
SEC. 11-00034-07-BR
F.A.P. RT. 357 STA. 39+70
STR. NO. 099-3294
LOADING HL-93 AND PERMIT LOAD

NAME PLATE

See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

DESIGN SCOUR ELEVATION TABLE

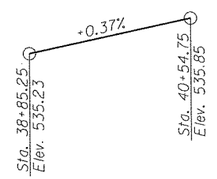
Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	521.36	521.35	521.18	521.70

Note: No scour is expected. Q_{100} & Q_{500} Scour Elevations are the same. Elevations shown in table are based on existing bedrock elevations.

STATE OF ILLINOIS
JOEL J. HIGE
5051
LICENSED STRUCTURAL ENGINEER
ITASCA

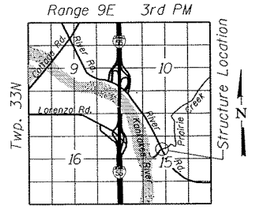
DATE SIGNED: 5-03-12
EXP. DATE: 11-30-12

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one of the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.



PROFILE GRADE

(Along ℄ Roadway)



LOCATION SKETCH

LOADING HL-93 & PERMIT LOAD

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

DESIGN STRESSES

FIELD UNITS

(New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

FIELD UNITS

(Existing Construction)

fc = 1,000 psi
fs = 20,000 psi (Reinforcement)

SEISMIC DATA

(New Construction)

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.042g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.103g
Soil Site Class = B

(Existing Construction)

Seismic Performance Category (SPC) = A
Horizontal Bedrock Acceleration Coefficient = 0.04g
Site Coefficient = 1.0

WATERWAY INFORMATION

Drainage Area = 49.05 sq. mi. Existing Low Grade Elev. 535.21 @ Sta.38+86.53 Proposed Low Grade Elev. 535.23 @ Sta.38+86.53

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1810	429.51	429.51	526.53	0.25	0.25	526.78	526.78
Design	30	2215	476.51	476.51	527.01	0.30	0.30	527.31	527.31
	50	2620	519.61	519.61	527.44	0.35	0.35	527.79	527.79
Base	100	2930	547.46	547.46	527.73	0.37	0.37	528.10	528.10
Overtopping	---	---	---	---	---	---	---	---	---
Max. Calc.	100	2930	547.46	547.46	527.73	0.37	0.37	528.10	528.10

GENERAL PLAN AND ELEVATION
RIVER ROAD (CH-44) OVER PRAIRIE CREEK
FAP 0357 - SECTION 11-00034-07-BR
WILL COUNTY
STATION 39+70.00
STRUCTURE NO. 099-3294

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

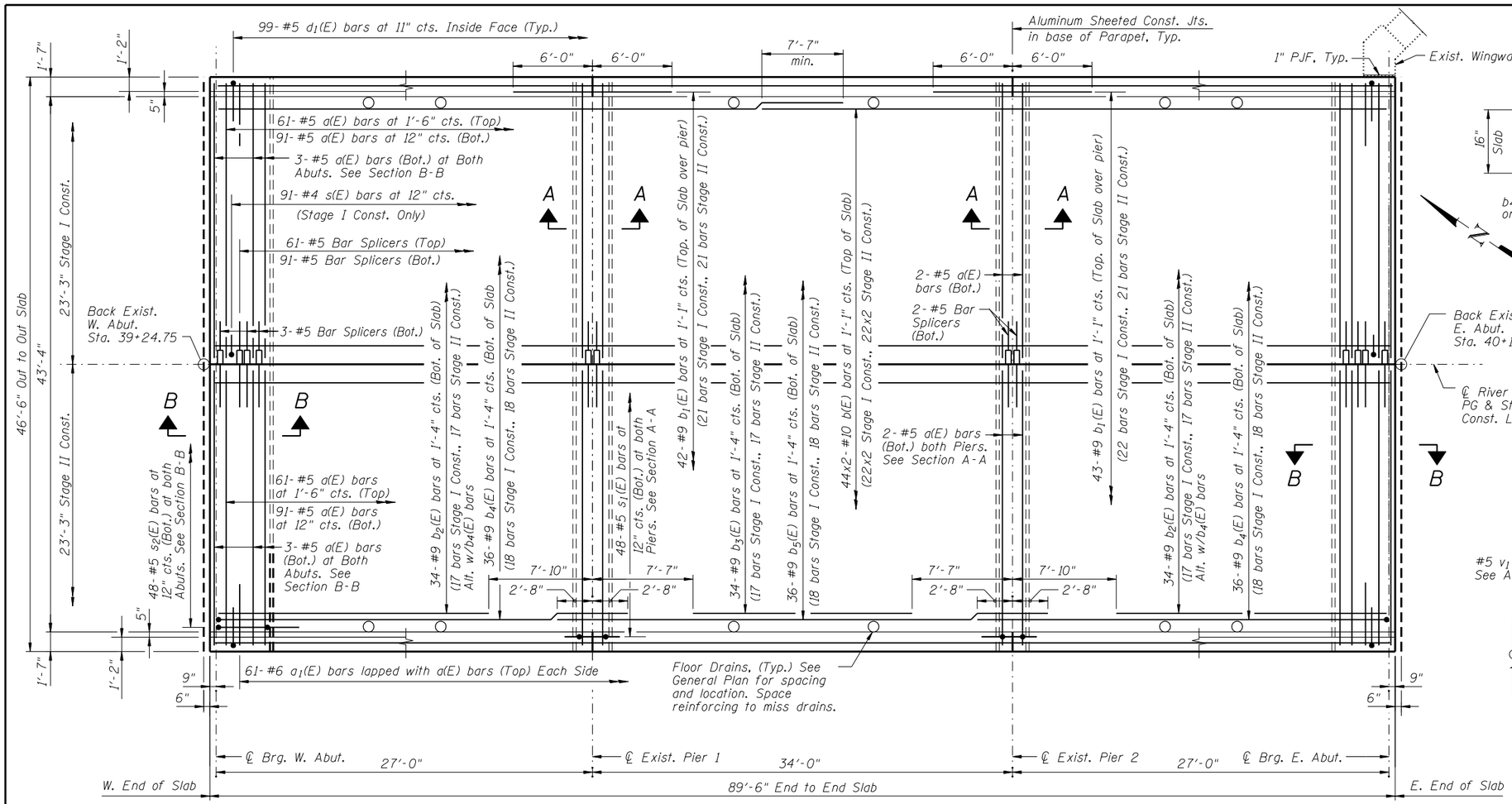
USER NAME = jtobergte	DESIGNED	JMT	REVISED
	CHECKED	JII	REVISED
PLOT SCALE =	DRAWN	GM	REVISED
PLOT DATE = 5/3/2012	CHECKED	JII	REVISED

WILL COUNTY
DEPARTMENT OF HIGHWAYS

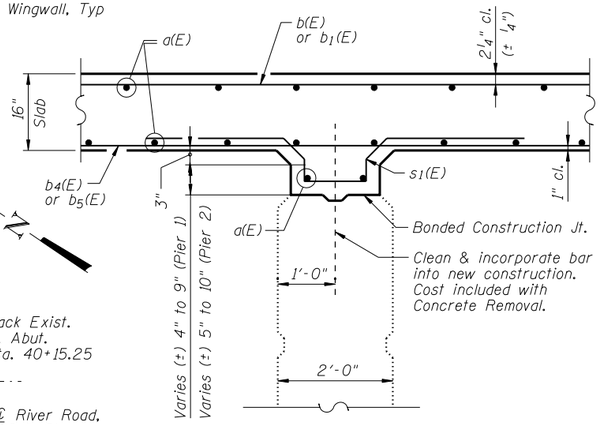
SHEET NO. 1 OF 18 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
357	11-00034-07-BR	WILL	39	16
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

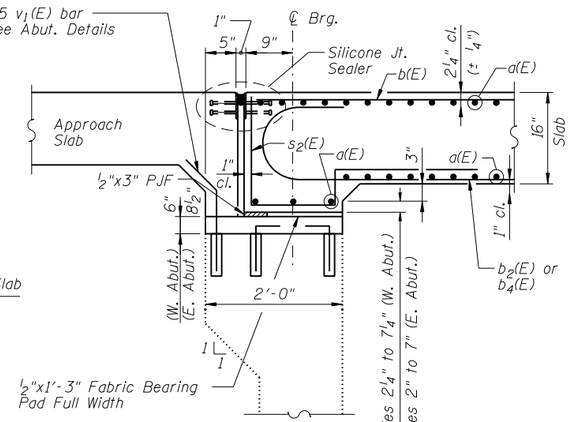
FILE NAME = k:\939-000 Will Co DOH - River Rd over Prairie Cr\CADD\Sheets\Structural\939-000-001.dgn



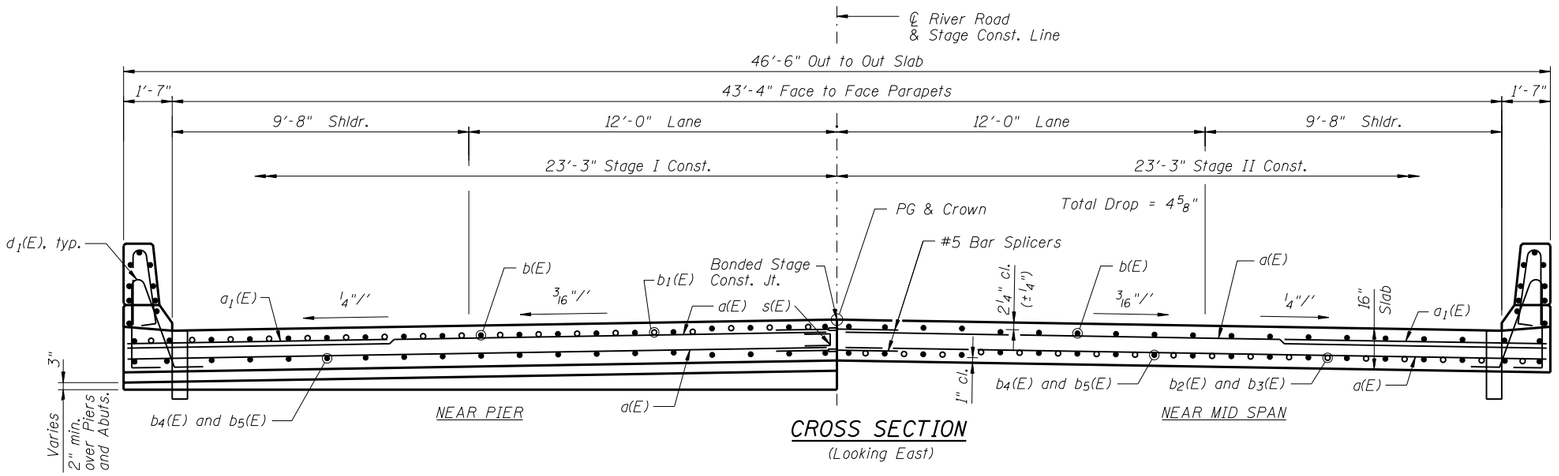
PLAN



SECTION A-A



SECTION B-B



CROSS SECTION

(Looking East)

Notes:

See Sheet 9 of 18 for Superstructure Details, Parapet Reinforcement and Bill of Material.

Bars indicated thus 44 x 2-#10 etc. indicates 44 lines of bars with 2 lengths per line.

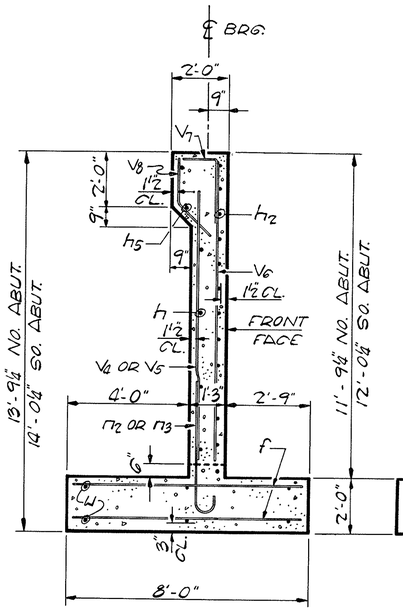
The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

See Sheets 13 & 15 of 18 for existing wingwalls.

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = jtobergte	DESIGNED JMT	REVISED	WILL COUNTY DEPARTMENT OF HIGHWAYS	SUPERSTRUCTURE STRUCTURE NO. 099-3294	F.A.P RTE. 357	SECTION 11-00034-07-BR	COUNTY WILL	TOTAL SHEETS 39	SHEET NO. 23
	PLOT SCALE =	DRAWN GM	REVISED					CONTRACT NO.		
	PLOT DATE = 5/3/2012	CHECKED JII	REVISED		SHEET NO. 8 OF 18 SHEETS			ILLINOIS FED. AID PROJECT		

FILE NAME = W:\939-000 Will Co DOH - River Rd over Prairie Cr\CADD\Sheets\Structural\939-000-008.dgn

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 304	34-B	WILL	14	8
FED. ROAD DIST. NO. 7 ILLINOIS		PROJECT S-303( )		



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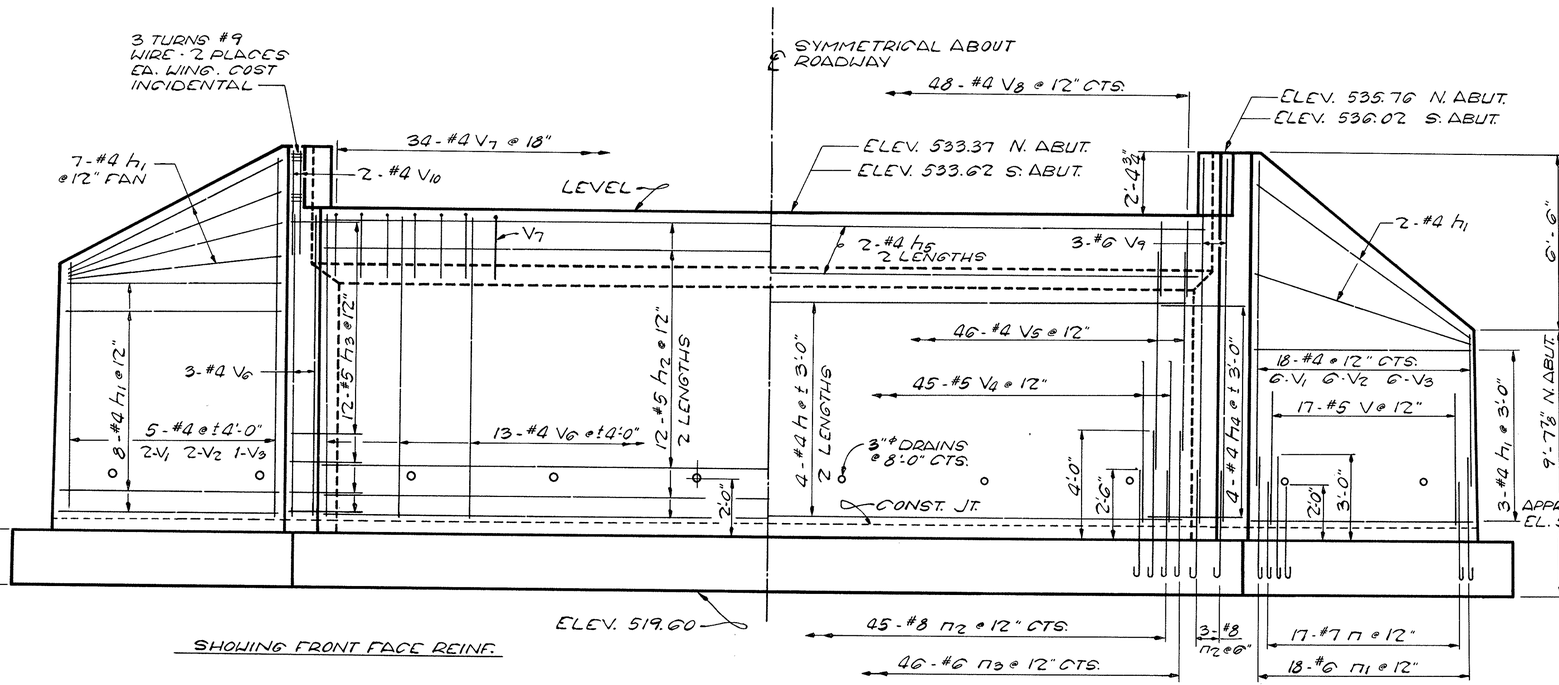
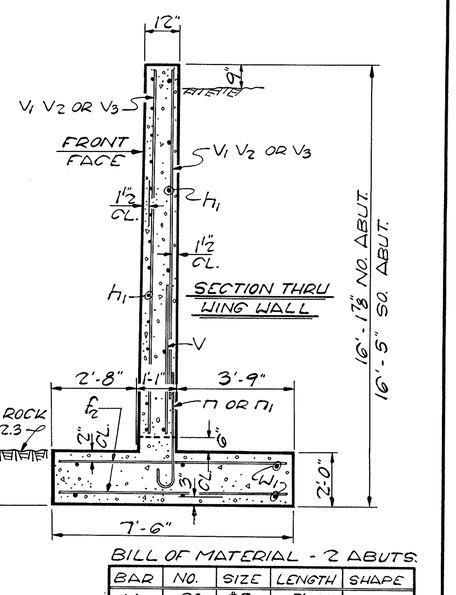
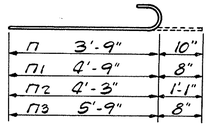


SHOWING FRONT FACE REINF.

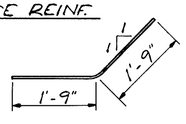
SHOWING BACK FACE REINF.



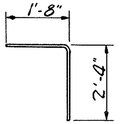
ELEVATION



BARS n, n1, n2 & n3



BAR V8

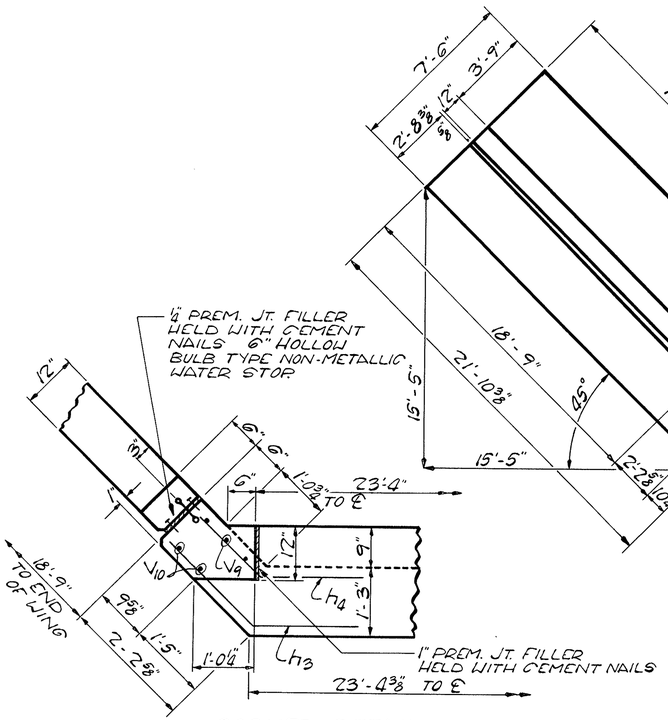


BAR V7

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
V	68	#5	5'-6"	——
V1	32	#4	12'-0"	——
V2	32	#4	9'-10"	——
V3	28	#4	7'-8"	——
V4	90	#5	6'-0"	——
V5	92	#4	8'-6"	——
V6	38	#4	11'-0"	——
V7	68	#4	4'-0"	⌐
V8	96	#4	3'-6"	⌐
V9	12	#6	13'-6"	——
V10	8	#4	4'-0"	——
h	16	#4	23'-6"	——
h1	80	#4	18'-0"	——
h2	48	#5	24'-3"	——
h3	48	#5	4'-0"	⌐
h4	16	#4	3'-3"	⌐
h5	8	#4	24'-3"	——
n	68	#7	4'-7"	⊃
n1	72	#6	5'-5"	⊃
n2	102	#8	5'-4"	⊃
n3	92	#6	6'-5"	⊃
f	260	#5	7'-8"	——
f2	196	#5	7'-2"	——
W	24	#5	25'-6"	——
W1	24	#5	20'-0"	——

CLASS X CONCRETE CU. YD.	194.0
REINFORCEMENT BARS LBS.	14070
ROCK EXC. FOR STRUCT. C.Y.	134.8
CLASS A EXC. FOR STRUCT. C.Y.	134
CLASS B EXC. FOR STRUCT. C.Y.	62

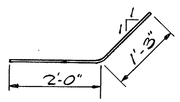


CORNER DETAIL

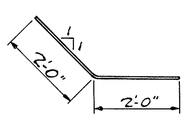
SHOWING DIMENSIONS

SHOWING FOOTING REINFORCEMENT

PLAN - VIEW
NO SCALE



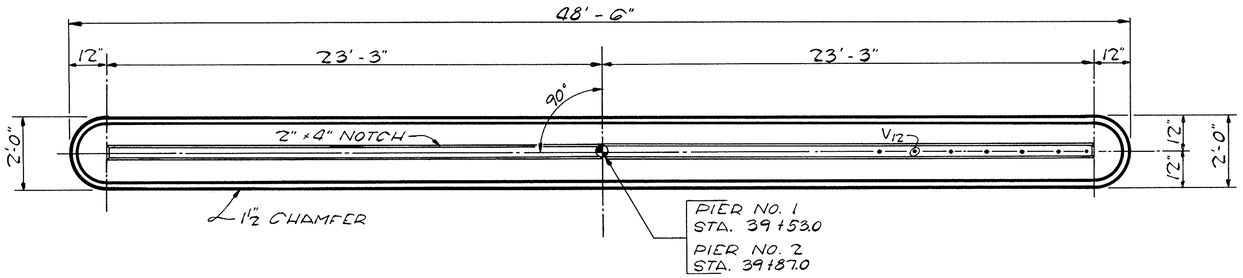
BAR h4



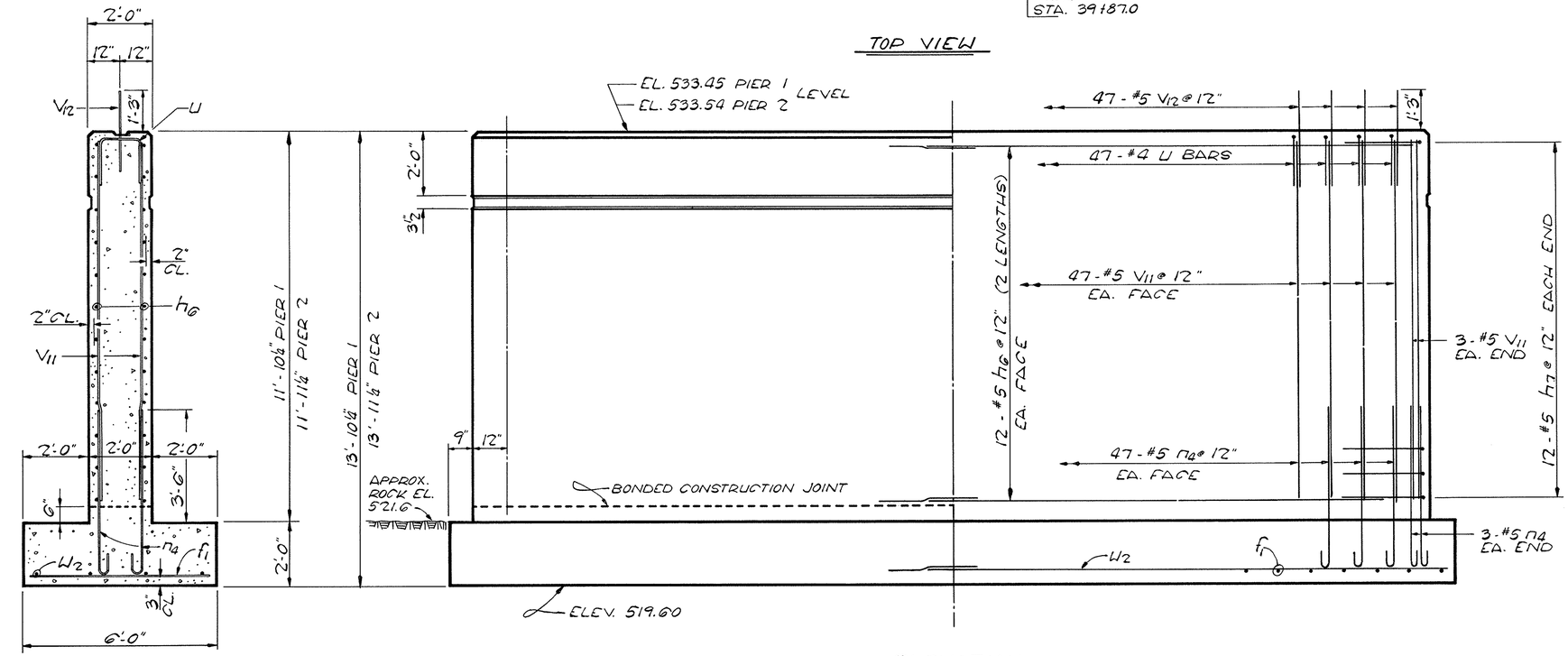
BAR h3

ABUTMENT DETAILS
F.A.S. RT. 304 - SECTION 34-B
STATION 39+70
WILL COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 304	34-B	WILL	14	9
FED. ROAD DIST. NO. 7 ILLINOIS		PROJECT S-304( )		

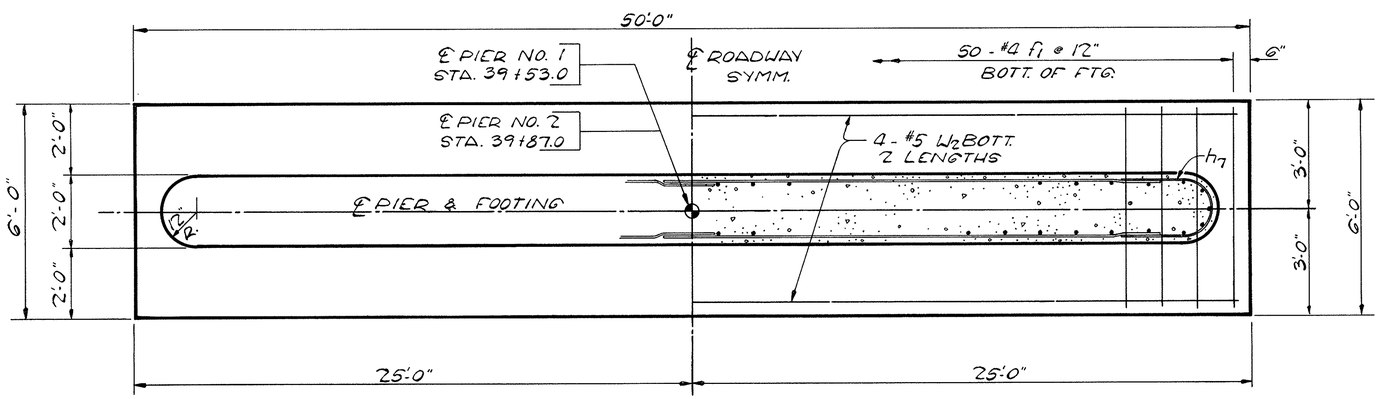


TOP VIEW

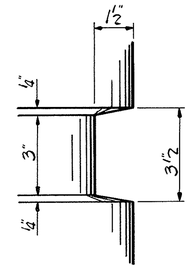


SECTION THRU PIER

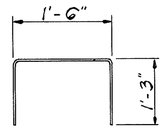
ELEVATION



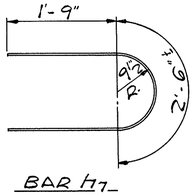
PLAN - FOOTING



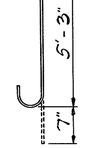
NOTCH DETAIL



BAR U



BAR H7



BAR N4

BILL OF MATERIAL - 2 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
H6	96	#5	23'-6"	
H7	48	#5	6'-0"	
N4	200	#5	5'-10"	
U	94	#4	4'-0"	
V11	200	#5	11'-0"	
V12	94	#5	2'-6"	
f1	100	#4	5'-9"	
W2	16	#5	25'-6"	
CLASS X CONCRETE CU. YDS.				129.0
REINFORCEMENT BARS LBS.				7870
ROCK EXCAV. FOR STRUCT. C.Y.				44.4

PIER DETAILS
F.A.S. RT. 304 - SECTION 34-B
STATION 39+70
WILL COUNTY

Bridge Inspection Report

Wilmington-Peotone Road over Forked Creek W. Branch

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3327

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 10/13/2023

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3327			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Wilton Township, IL			
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)			
FEATURE CROSSED:	Forked Creek W. Branch			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,050	(2023)	7,200	(2046)
ADTT:	2,057	(2023)	2,448	(2046)
Inventory Rating:	0.76	(HL93)		
Operating Rating:	1.28	(HL93)		
Sufficiency Rating:	86.9			

Construction History and Physical Description:

- The existing structure is a 3-span steel wide flange beam bridge with a cast-in-place reinforced concrete deck supported by solid wall hammerhead piers and full height spread footing supported concrete cantilever abutment with concrete wingwalls. The structure has spans measuring 37'-2 7/8", 46'-1½", and 37'-2 7/8" with a total back-to-back abutment length of 129'-3 7/8". The deck width measures 47'-2" out-to-out. The deck slab is 8" thick and utilizes 2'-10" F-shape barrier.
- The structure is on a horizontal tangent alignment and a vertical crest curve with grades of +0.50% and -0.73%. The bridge has a skew of 45°00' left forward.
- The original structure was constructed in 1985 under Route C.H. 25, Section 85-00116-02-BR with simple span precast prestressed concrete deck beams.
- In 2016 under Section 13-00116-11-BR the abutment stems were removed and replaced, and wingwalls were extended. Pier caps were removed and replaced with widened caps. The superstructure was removed and replaced with steel wide flange beams and concrete deck.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Kevin Heffern, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2023	Deck:	7	Super:	7	Sub:	7
Year:	2021	Deck:	8	Super:	7	Sub:	8
Year:	2019	Deck:	8	Super:	8	Sub:	8

Bridge Deck: The bridge deck is in good condition. The top of deck shows no notable deterioration (Photo 2). The underside of the deck was not accessible for evaluation. Bridge deck fascia and overhangs appear to be in good condition. At approach slabs gravel has eroded, and undermining is present between wingwalls and approaches (Photo 4).

Superstructure: Steel beams are in good condition. Paint shows minor wear.

Joints: From top of deck joints appear to be functioning properly (Photo 3). Minor leaching is present at visible portions of backwalls.

Bearings: Elastomeric bearings are functioning properly. No deterioration is visible. Side retainers are present at abutment fascia girders.

Substructure: The substructure is in good condition. Abutments and wingwalls have cracks (Photo 7). Piers show no significant deterioration (Photo 5).

Railings: The bridge parapets are 2'-10" F-shape barrier which meets current standards for an existing structure.

Hydraulics: No signs of scour are visible; however, aggradation is apparent upstream and under Span 3 of the structure (Photos 6 & 9). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in good condition and the following scope of work is recommended:

- Fill area between approach slabs and wingwalls with gravel to reduce future risk of undermining.
- Clean debris out of preformed joints.
- Clean and seal abutment seats and backwalls.
- Epoxy crack injection of cracks over 1/16" wide at substructure.
- Remediate aggradation upstream and under bridge based on Phase I hydraulic findings.

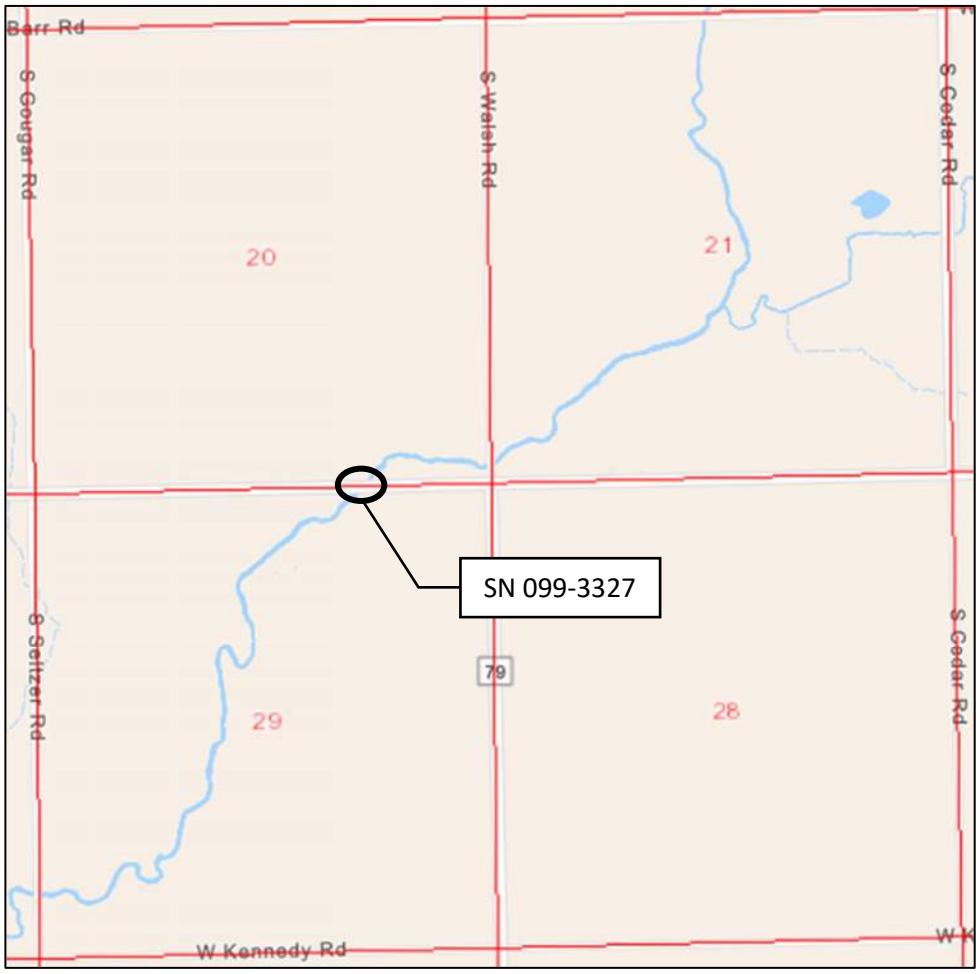
Replacement of the existing structure was not considered based on the bridge's current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 11E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3327 **District:** 1

Inventory Data

Facility Carried:	WILMINGTONPEOTONE RD	**Bridge Name:**		**Sufficiency Rating:**	86.9	**Structure Length:**	122.0
Feature Crossed:	FORKED CREEK W BR	**Location:**	1.2 MI W CEDAR RD	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	46.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	6/23/2017 12:00:00 AM	**Replaces:**	-	**Bridge Roadway Width:**	40.0
Status Remarks:	Bridge complete and open to traffic.			**Last Update Date:**	03/30/2021	**Appr Roadway Width:**	27.0
Maint County:	099 WILL	**Maint Township:**	24 WILTON	**Parallel Structure:**	None	**Deck Width:**	40.0
Maint Responsibility:	30 COUNTY		UNKNOWN	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY		5 / WATERWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	3 COUNTY			**Skew Angle:**	45 **D**	**Navigation Control:**	0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:			/	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**	55	**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	3 Consultant	**Rate Method:**	6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)
Guardrail Type L/R:	1Steel Plate Beam / 1 Steel Plate Beam	**Inventory Rating:**	0.760(27)	**Load Rating Date:**	05/27/2016	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	1.280(46)			**Crossing 1 Nbr:**	
Latitude:	41.32198791 **S**	**Longitude:**	87.98365311 **S**	**Design Load:**	93 HL93	**Crossing 1 Nbr:**	
Deck Structure Type:	E PCAST PRES CN DK BM	**Deck Structure Thickness:**	21 **SD:** N **FO:** N			**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:**	0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0357	**Station:**	14.2100		
Appurtenances	Main Route 00000	**Segment:**			
Inventory County:	099 WILL	**Linked:**	Y		
Township/Road Dist	24 WILTON	**Natl. Hwy System:**	On NHS		
Municipality	0000	**Inventory Direction:**			
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2023 / 6050		
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	34		
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	2	**South/East**	**North/West**
Max Rdwy Width:	40.0	**One Or Two Way:**	2 Two-Way		
Horizontal:	40.0 0.0	**Bypass Length:**	6		
		Future AADT Yr/Cnt:	2046 / 7200		
		Designated Truck Rte:	NONE		
Lateral:		**Special Systems:**	Yes		

Key Route Under Data

Station:	
Segment:	
Linked:	
Natl. Hwy System:	
Inventory Direction:	
Curr AADT Yr/Count:	/
Est Truck Percentage:	
Number Of Lanes:	
One Or Two Way:	
Bypass Length:	
Future AADT Yr/Cnt:	/
Designated Truck Rte:	
Special Systems:	

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

Designation	Kind	Number

Structure Number: 099-3327 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 06/06/2023 **Inspection Temperature:** 72Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	
Channel and Protection:	6	SATISFACTORY CONDITION - MINOR DETERIORATION		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	P
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		OTHER COATING SYS	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	8.0				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**	06/2017				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	2	Doesn't Meet Standards							
Approach Guardrail:	222	Not Acceptable	Not Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 5 CALCULATED SCOUR ACCEPTABLE **Evaluation Method:** B Rational Analysis
Analysis Date: 12/30/2014

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year: 1985 Original Reconstructed
Route: CH 25 **Sta:** 5+00 **Sta:**
Section Nbr: 85-00116-02-BR
Contract Nbr:
Fed Aid Pr#: 00003040000000
Built By: 3 COUNTY AGENCY

Photo 1: North Fascia, looking West (IMG_9578)

Photo 2: Typical Top of Deck Condition, looking West (IMG_9052)

Photo 3: Typical Preformed Joint Condition (IMG_9023)

Photo 4: Typical Undermining of Approach Slab, SE Wingwall (IMG_9027)

Photo 5: Piers, looking West (IMG_9035)

Photo 6: Stream Aggradation, looking South (IMG_9049)

Photo 7: East Abutment, looking North (IMG_9033)

Photo 8: Forked Creek W. Branch, Looking Downstream/South (IMG_9057)

Photo 9: Forked Creek W. Branch, looking Upstream/North (IMG_9058)

Bench Mark: Metal disk set in top of southwest wingwall 20.89' right of ℄ County Highway 25 at Sta. 1010+22.72. Elev. 639.96.

Existing Structure: S.N. 099-3327 was re-built in 1985 as County Highway NO. 25 Section 85-00116-02-BR at Station 5+00.00. The existing three span structure consists of simple span precast prestressed concrete deck beams with a bituminous overlay supported on full height cantilever abutments and solid wall hammer head piers. The abutments and piers are founded on rock. The structure is 122'-3" out to out of bridge deck and is 40'-0" out to out of deck beams. The existing superstructure will be replaced and widened, the abutment and wingwall stems and the pier cap will be replaced. The abutments and wingwalls will be lengthened. Stage construction with traffic signaling will be utilized to maintain one lane of traffic.

Salvage: Steel railing.

LOADING HL-93 & IL-120

Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.068g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.126g
Soil Site Class = C

DESIGN SPECIFICATIONS

NEW CONSTRUCTION:

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition (Substructure)

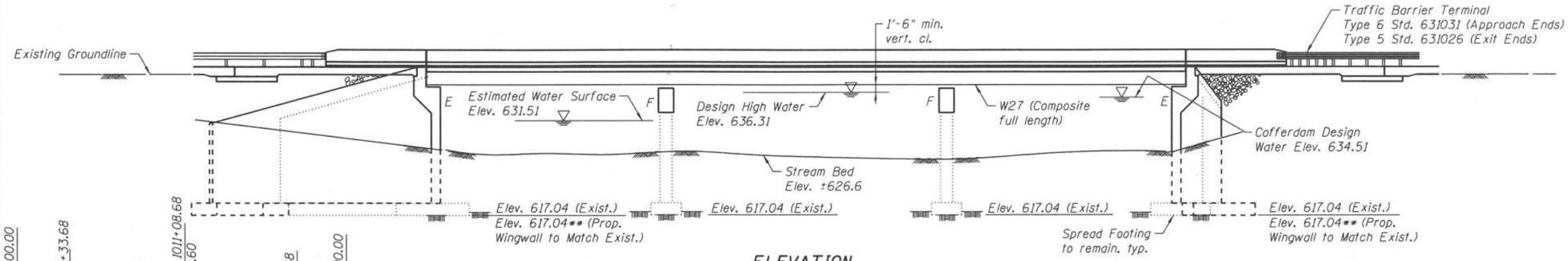
DESIGN STRESSES

FIELD UNITS (NEW CONST.)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

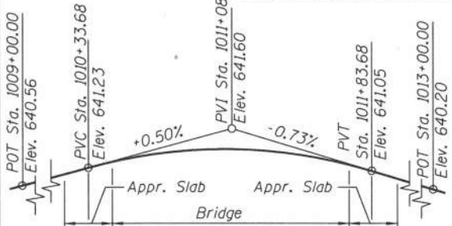
FIELD UNITS (EXIST. CONST.)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)



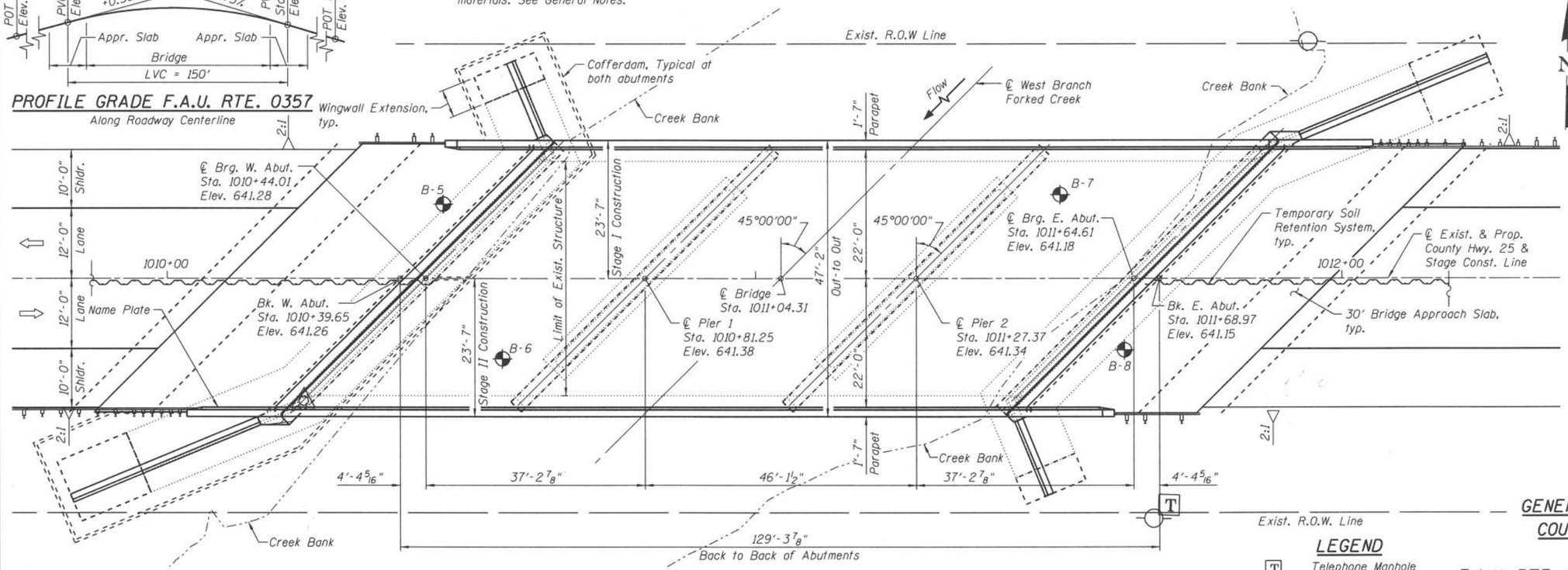
ELEVATION

** Contractor to verify existing elevation prior to new construction and ordering of materials. See General Notes.

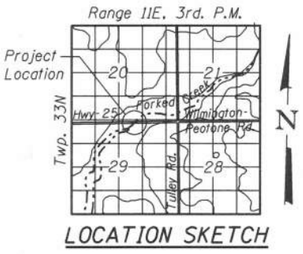


PROFILE GRADE F.A.U. RTE. 0357

Along Roadway Centerline



PLAN



LOCATION SKETCH

LEGEND

- Telephone Manhole
- Telephone Pole
- Rock
- Soil
- Soil Boring Location
- Direction of Traffic

TONY FATJON SHKURTI
081-005902
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

Signed:
Date: 1-16-16
Exp: 11/30/2016
Sheets: 1 thru 30

GENERAL PLAN & ELEVATION
COUNTY HIGHWAY 25 OVER FORKED CREEK
F.A.U. RTE. 0357 - SECTION 13-00116-11-BR
WILL COUNTY
STATION 1011+04.31
STRUCTURE NO. 099-3327

HNTB

USER NAME = jcollett	DESIGNED	PCA	REVISED
	CHECKED	MLK	REVISED
PLOT SCALE = 0:2 '/ / in.	DRAWN	CFB/LK	REVISED
PLOT DATE = 1/14/2016	CHECKED	MLK	REVISED

WILL COUNTY
DIVISION OF TRANSPORTATION

SHEET NO. 1 OF 30 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0357	13-00116-11-BR	WILL	68	18
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

FILE NAME = \\chi-00\project.data\61279\CADD\cds\STR\099327-01-GPE.dgn

Bridge Inspection Report

Wilmington-Peotone Road over Forked Creek

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3331

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2024

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3331
REGION/DISTRICT:	1/1
COUNTY:	Will
LOCATION:	Wilmington, IL
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)
FEATURE CROSSED:	Forked Creek

Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,250	(2023)	9,576	(2046)
ADTT:	2,000	(2023)	3,065	(2046)

Inventory Rating:	0.92	(HS20-44) (LFD)
Operating Rating:	1.53	(HS20-44) (LFD)
Sufficiency Rating:	80.3	

Construction History and Physical Description:

- The existing structure is a single span precast prestressed concrete deck beam bridge with a HMA overlay supported by integral concrete abutments on steel H-piles. The structure has a back-to-back abutment length of 46'-0". The deck width measures 40'-0" out-to-out. The deck beams are 17" deep by 48" wide and overlayed with a variable depth HMA surface and waterproofing membrane. The structure utilizes type WT steel railing.
- The structure is on a horizontal tangent alignment and 0.0% tangent profile. The bridge has no skew.
- The original structure was constructed in 1988 by Will County under Route C.H. 25, Section 87-00116-03-BR and replaced structure 099-3039.
- In 2020, under Section 20-00116-13-BR, the overlay and waterproofing membrane was removed along with other structural repairs.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Gerry Koylass, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2023	Deck:	5	Super:	5	Sub:	8
Year:	2021	Deck:	5	Super:	5	Sub:	8
Year:	2019	Deck:	5	Super:	5	Sub:	6

Bridge Deck / Superstructure: The bridge deck is in fair condition. The overlay shows no notable signs of deterioration (Photo 2); however, the underside of the deck beams shows signs of water penetration through membrane causing cracking, delamination and spalling of the beams (Photos 3 and 4).

Bearings: Bearing pads are not visible.

Substructure: The substructure is in good condition. Abutments show signs of some minor cracking, efflorescence, and water seepage (Photo 3 and 5). Minor spalling is present at wingwalls.

Railings: The existing WT steel guardrail does not meet current standards. Retrofit of the existing structure is not feasible.

Hydraulics:
No signs of scour are visible (Photos 6 and 7). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, portions of the structure range from fair to good condition and the following scope of work is recommended:

- Clear debris from riprap and channel.
- Epoxy crack injection of cracks over 1/16” wide in substructure and repair spalled areas.
- Repair spalling of concrete deck beams.

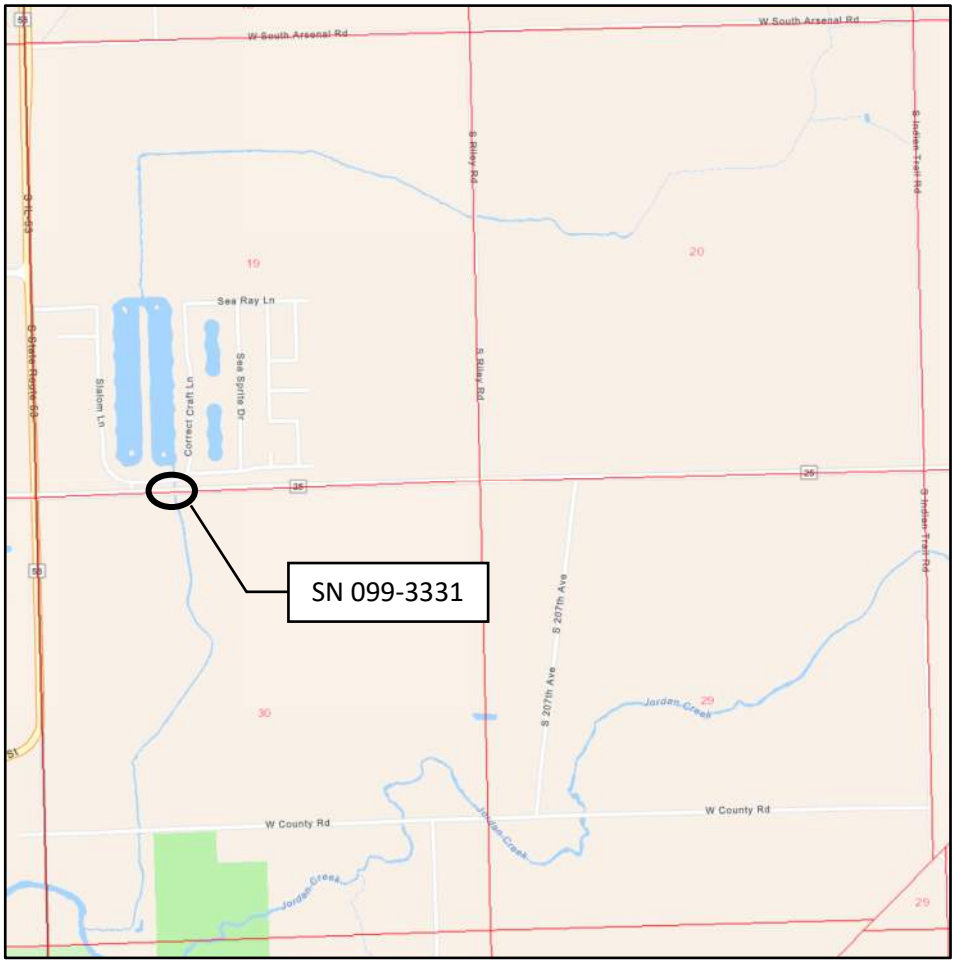
Although widening of the structure appears feasible; based on the age, condition, and size of the structure it is likely more economical to replace the structure if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including replacement if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 10E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3331 **District:** 1

Inventory Data

Facility Carried:	WIL-PEO RD.	**Bridge Name:**	BELL BRIDGE	**Sufficiency Rating:**	80.3
Feature Crossed:	FORKED CREEK	**Location:**	0.3M.E.OFIL-53	**HBP Eligible:**	No
Bridge Remarks:				**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	6/1/1989 12:00:00 AM	**Replaces:**	099-3039
Status Remarks:				**Last Update Date:**	03/30/2021
Maint County:	099 WILL	**Maint Township:**	05 FLORENCE	**Parallel Structure:**	None
Maint Responsibility:	30 COUNTY		UNKNOWN	**Multi-Level Structure Nbr:**	
Service On/Under:	1 HIGHWAY		5 / WATERWAY	**Skew Direction:**	N None
Reporting Agency:	3 COUNTY			**Skew Angle:**	0 **D**
Main Span Matl/Type:	5 PRESTRESS CONCRETE		/ 05 BOX BEAM OR GIRDER-MULTIPLE	**Structure Flared:**	No
Nbr Of Main Spans:	1	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No
*****Approaches*****				**Border Bridge State:**	
Near #1 Matl/Type:			/	**Bdr State SN:**	
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0
Far #1 Matl/Type:			/	**Structural Steel Wt**	0
Far #2 Matl/Type:			/	**Substructure Material:**	3N
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	3 Consultant
Guardrail Type L/R:	1Steel Plate Beam / 1 Steel Plate Beam			**Inventory Rating:**	0.920(33)
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	1.530(55)
Latitude:	41.32033832 **S**	**Longitude:**	88.12668116 **S**	**Design Load:**	02 HS20
Deck Structure Type:	E PCAST PRES CN DK BM			**Deck Structure Thickness:**	17 **SD:** N **FO:** N
Sidewalks Under Structure:	0 None				

Structure Length:	46.0	**Rate Method:**	6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)
AASHTO Bridge Length:	40.0		
Length of Long Span:	42.5		
Bridge Roadway Width:	40.0		
Appr Roadway Width:	32.0		
Deck Width:	40.0		
Sidewalk Width Right:	0.0		
Sidewalk Width Left:	0.0		
Navigation Control:	0 No		
Navigation Horiz Clear:	0		
Navigation Vert Clear:	0		
Culvert Fill Depth:	0.0		
Number Culvert Cells:	0		
Culvert Opening Area:	0.0		
Culvert Cell Height:	0.00		
Culvert Cell Width:	0.00		
Load Rating Date:	11/12/2020	**Railroad Crossing Info**	
Crossing 1 Nbr:			
Crossing 1 Nbr:			
RR Lateral Underclear:	0.0		
RR Vertical Underclear:	0 **Ft** 0 **In**		

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0357	**Station:**	6.7700
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	099 WILL	**Linked:**	Y
Township/Road Dist	05 FLORENCE	**Natl. Hwy System:**	On NHS
Municipality	0000	**Inventory Direction:**	
Urban Area:	0605 0605	**Curr AADT Yr/Count:**	2023 / 6250
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	32
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	2
Max Rdwy Width:	40.0	**One Or Two Way:**	2 Two-Way
Horizontal:	40.0 0.0	**Bypass Length:**	4
		Future AADT Yr/Cnt:	2046 / 9576
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	Yes

Key Route Under Data

Station:			
Segment:			
Linked:			
Natl. Hwy System:			
Inventory Direction:			
Curr AADT Yr/Count:	/		
Est Truck Percentage:			
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation		Kind		Number
Route #1:	1	Mainline	8	Other	
Route #2:	1	Mainline			
Route #3:	1	Mainline			

*** Marked Route Under Data ***

Designation	Kind	Number

Structure Number: 099-3331 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 03/16/2023 **Inspection Temperature:** 44Deg. F

Deck:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						**Single Unit Vehicles:**	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						**Combination Type 3S-1:**	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	
Channel and Protection:	7	GOOD CONDITION - SOME MINOR PROBLEMS		**Deck Wearing Surf:**	G	BITUMINOUS OVERLAY		**Last Paint Type:**	
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		**Deck Membrane:**	A	WATERPROOF MEM SYST			
Deck Geometry:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		**Deck Protection:**	J	NONE			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	19.5				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	2	Doesn't Meet Standards							
Approach Guardrail:	222	Not Acceptable	Not Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

**** Actual Posted Limits ****

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 02/01/1995

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year: 1988 Original Reconstructed
Route: CH-25 **Sta:** 20+15 **Sta:**
Section Nbr: 87-00116-03BR
Contract Nbr:
Fed Aid Pr#:
Built By: 3 COUNTY AGENCY

Photo 1: South Fascia, looking North (099-3331_p41)

Photo 2: Top of Overlay Condition, looking East (099-3331_p42)

Photo 3: Typical Deck Beam Condition, showing Cracks, Spalling and Delamination (099-3331_p35)

Photo 4: Spalling of Deck Beams, Water Penetration through Joints (099-3331_p34)

Photo 5: Typical Condition of Abutments, Riprap, and Channel, looking East (099-3331_32)

Photo 6: Forked Creek, looking Upstream/North (099-3331_p36)

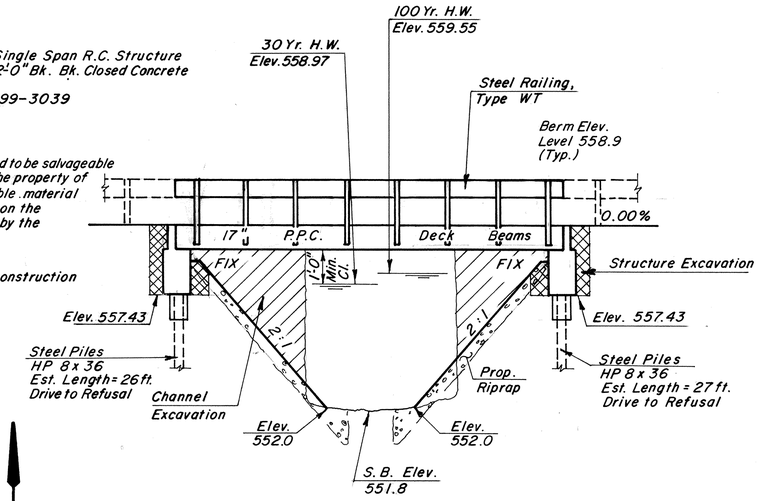
Photo 7: Forked Creek, looking Downstream/South (099-3331_p37)

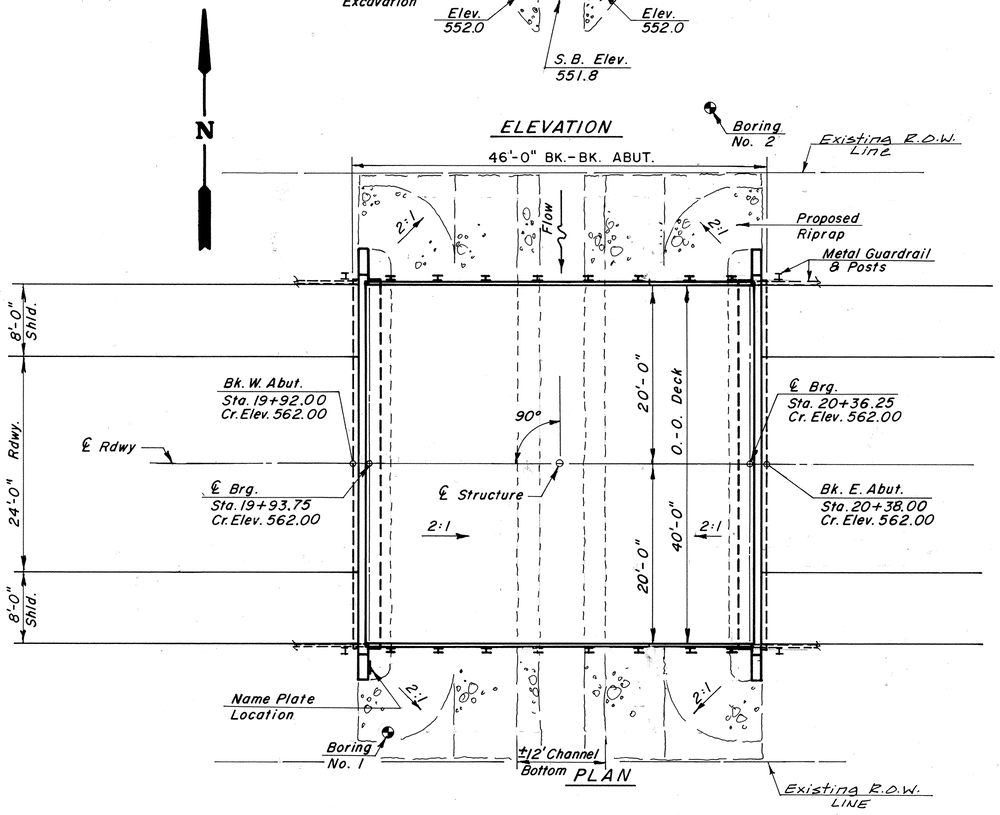
B.M. : R.R. Spike in power pole
31'Lt. Sta. 19+92
Elev. 559.87

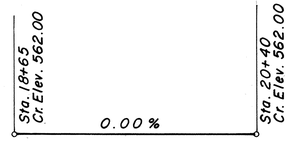
EXISTING STRUCTURE : Single Span R.C. Structure ±25'-0" Clear Roadway, ±22'-0" Bk. Bk. Closed Concrete Abutments.
Existing Structure No. 099-3039

SALVAGE : Any material determined to be salvageable by the Engineer shall become the property of the Local Agency. Salvageable material shall be removed and placed on the existing R.O.W. as directed by the Engineer.

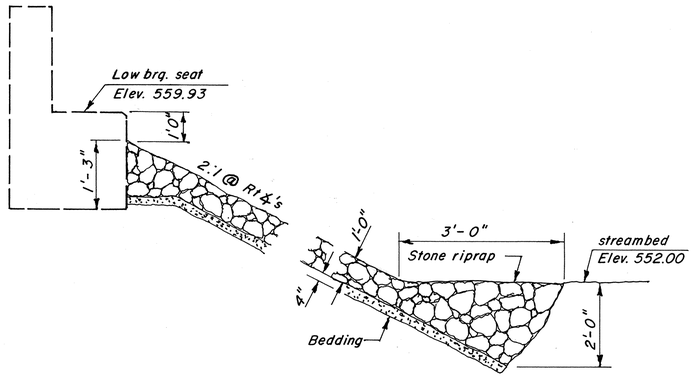
Traffic to be maintained during construction using a temporary runaround.







PROFILE GRADE
(℄ Rdwy.)



STONE RIPRAP DETAIL

FORKED CREEK
BUILT 198 BY
WILL COUNTY
SEC. 87-00116-03-BR
STA. 20+15
STR. 099-3331 LOADING HS20

NAME PLATE
See Std. 2113

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 25	*	WILL	12	6
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

*SEC. 87-00116-03-BR

GENERAL NOTES

Class X Concrete shall be used throughout except in the deck beams.

The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.

See Special Provisions for boring logs.

JAMES O. HAMILTON 3668 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

James O. Hamilton

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.	——	231	231
Structure Excavation	Cu. Yd.	——	85	85
Class X Concrete	Cu. Yd.	——	28.1	28.1
P.P.C. Deck Beams (17" Depth)	Sq. Ft.	1,747	——	1,747
Steel Railing, Type WT	Lin. Ft.	88	——	88
Reinforcement Bars	Pound	——	3,540	3,540
Steel Piles HP 8 x 36	Lin. Ft.	——	344	344
Test Piles Steel HP 8 x 36	Each	——	1	1
Name Plates	Each	——	——	1
Removal of Existing Structures	Each	——	——	1
Stone Riprap	Ton	——	230	230
Bituminous Concrete Surface Course, Cl. I	Ton	28	——	28
Waterproofing Membrane System	Sq. Yd.	200	——	200
Mortar Fairing Course	Lin. Ft.	200	——	200

WATERWAY INFORMATION

Drainage Area 3.5 Sq. Mi. Low Grade Elev. 557.34 @ Sta. 8+00

Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Sq. Ft. Prop.	Nat. H.W.E.	Head Ft. Exist.	Head Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	30	669	143	170	558.97		< 0.5'		558.97
Base	100	859	155	192	559.55		< 1.0'		559.55

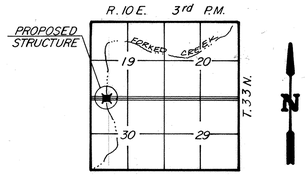
DESIGN STRESSES

(FIELD UNITS)
f'c = 3,500 p.s.i. Class X Concrete
fy = 60,000 p.s.i. Reinforcement Bars

(PRECAST PRESTRESSED UNITS)
f'c = 5,000 p.s.i.
f'ci = 4,700 p.s.i.
f's = 270,000 p.s.i. (½" ϕ Strands)
fsi = 189,000 p.s.i. (½" ϕ Strands)
fy = 60,000 p.s.i. (Reinforcement Bars)

LOADING HS 20-44

DESIGN SPECIFICATIONS : 1983 AASHTO and 1984, 1985 & 1986 Interims
Allow 25 p.s.i. for Future Wearing Surface

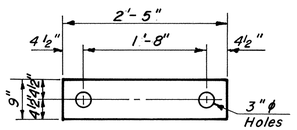


LOCATION SKETCH

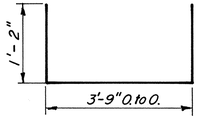
GENERAL PLAN & ELEVATION
C.H. 25
SEC. 87-00116-03-BR
WILL COUNTY
STA 20+15

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 25	*	WILL	12	7
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

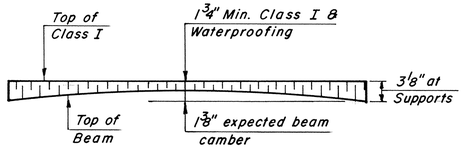
* SEC. 87-00116-03-BR



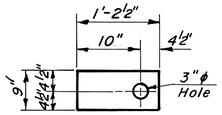
FABRIC BEARING PAD
INTERIOR



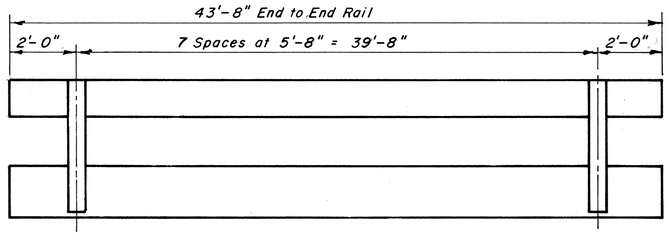
U BAR



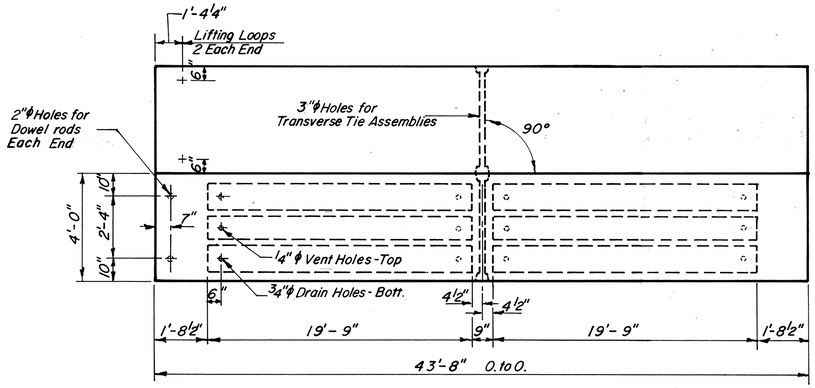
PROFILE OF OVERLAY



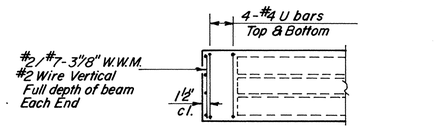
FABRIC BEARING PAD
EXTERIOR



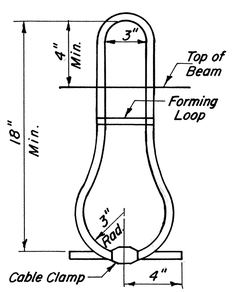
ELEVATION



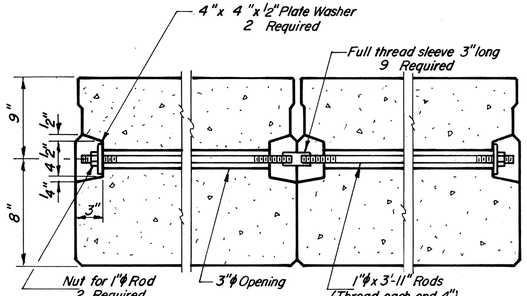
PLAN



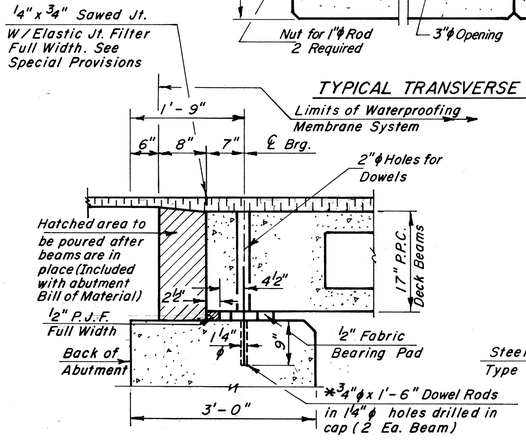
END REINFORCEMENT



LIFTING LOOP DETAIL



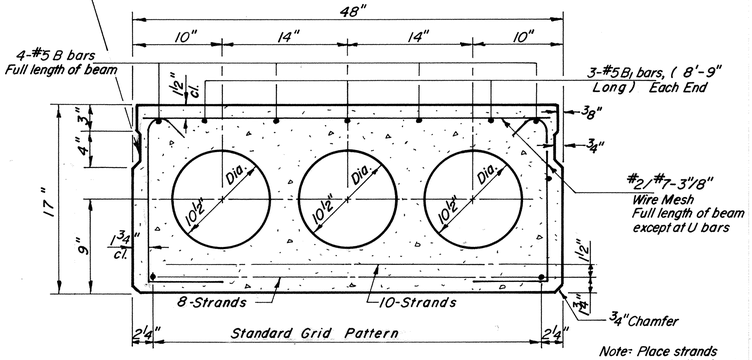
TYPICAL TRANSVERSE TIE ASSEMBLY



SEC. THRU ABUT.

*Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 Hrs.) prior to grouting the shear keys.

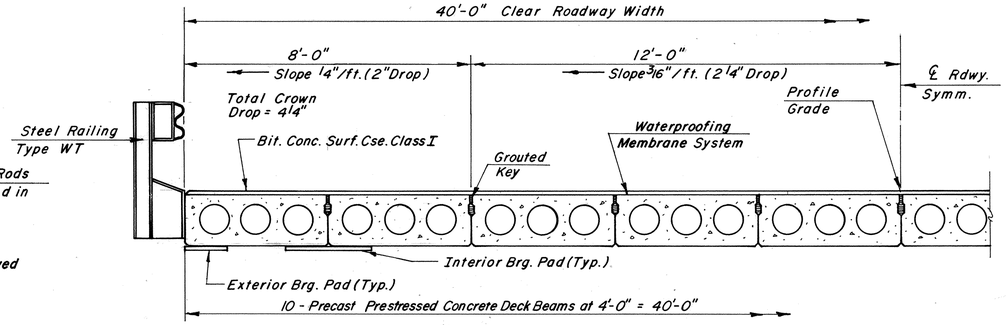
Omit Shear key on outside face of exterior beam



Note: Place strands symmetrically about ℄ of beam.

TYPICAL SECTION

18-½"ϕ Strands, Each Strand Stressed to 28,900 Lbs.
8-Strands 1¾" up, 10-Strands 3¼" up



HALF CROSS SECTION

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be ⅜" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs. or 2-½"ϕ-270 ksi strands.

The 1"ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to AASHTO M-31 or M-53, Grade 60.

The bearing seat surface shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Required Release Strength, f'ci shall be 4,700 p.s.i.

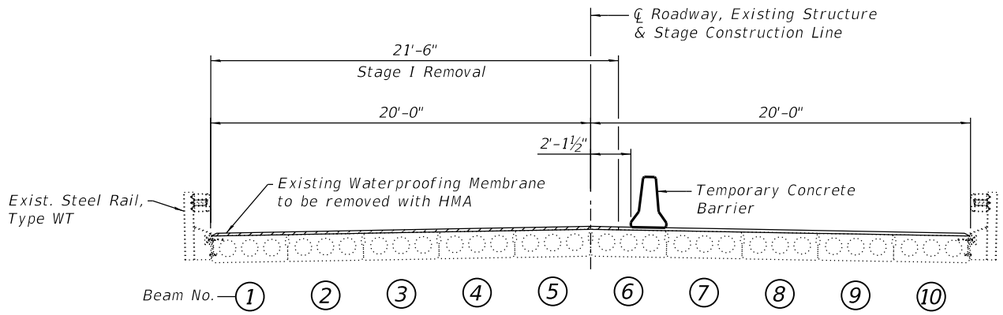
Keyway surface shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

BILL OF MATERIAL

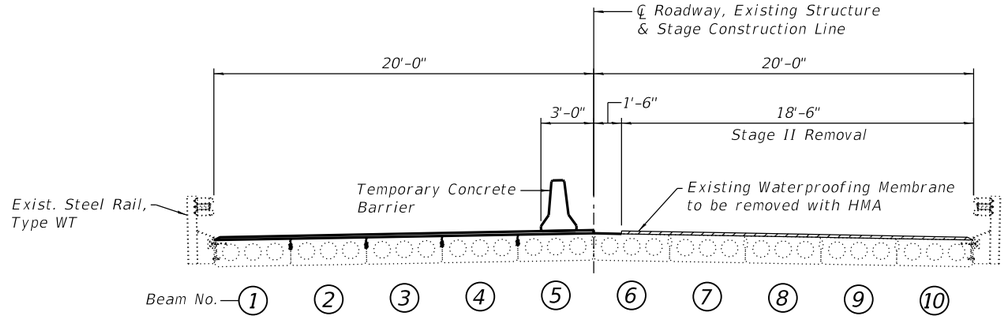
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,747
Bit. Conc. Surf. Cse. Class I	Ton	28
Waterproofing Membrane System	Sq. Yd.	200
Mortar Fairing Course	Lin. Ft.	200
Steel Railing, Type WT	Lin. Ft.	88

SUPERSTRUCTURE
C.H. 25
SEC. 87-00116-03-BR
WILL COUNTY
STA. 20+15



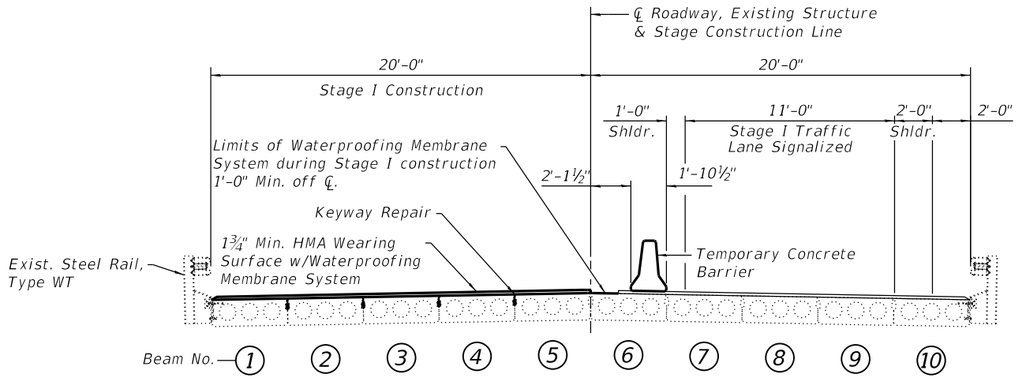
STAGE I REMOVAL

(Looking East)



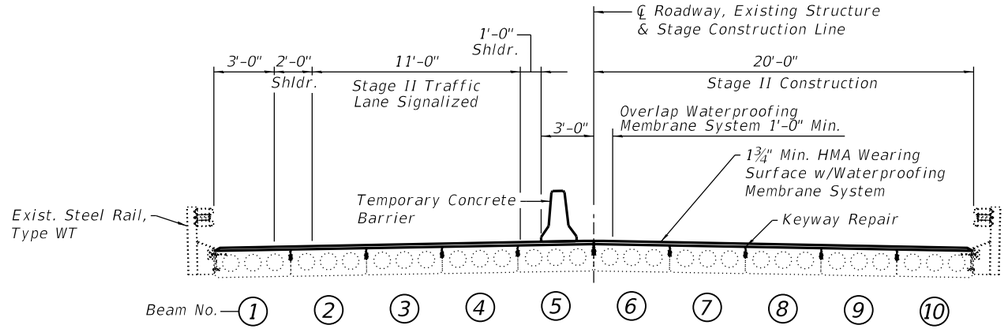
STAGE II REMOVAL

(Looking East)



STAGE I CONSTRUCTION

(Looking East)



STAGE II CONSTRUCTION

(Looking East)

NOTES:

Hatched area indicates "Bridge Wearing Surface Removal".

Existing Waterproofing Membrane Removal cost shall be included in "Bridge Wearing Surface Removal".

Temporary Concrete Barrier shall be provided for Stage Construction, see Standard 704001-08. Pay item for "Temporary Concrete Barrier" is included in the roadway plans. "Temporary Concrete Barrier" shall include the installation of Type B or C reflectors in accordance with Standard 782006-01.

REVISION	DATE	BY	REMARKS

DESIGNED	ATK
DRAWN	DAN
REVIEWED	MRL
APPROVED	MRL

WILL COUNTY DIVISION OF TRANSPORTATION
F.A.P. 357 (W. PEOTONE ROAD) OVER FORKED CREEK
STATION 20+00

WILLETT HOFMANN & ASSOCIATES, INC.
ENGINEERING AND SURVEYING LAND DESIGN
805 SOUTH 2ND STREET, DIXON, ILLINOIS 61021-0567
(815) 284-2581 FAX (815) 284-2519

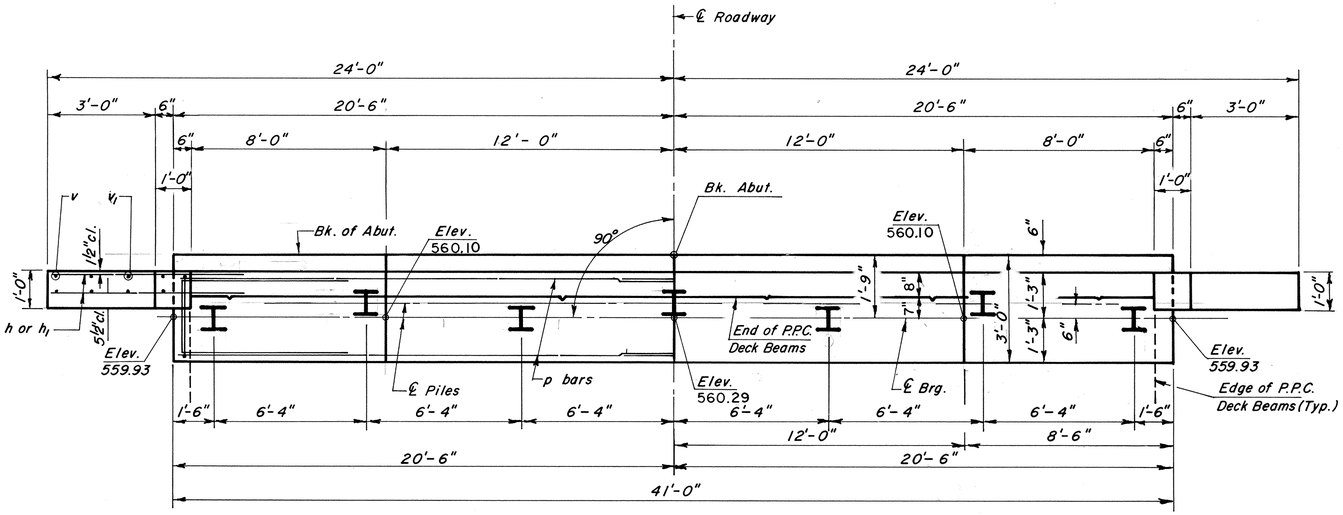
CONSTRUCTION STAGING
STRUCTURE NO. 099-3331

STRUCTURAL SHEET NO. 2 OF 11 SHEETS

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
357	20-00116-13-BR	WILL	19	10
		WHA* 1133020		
	ILLINOIS			

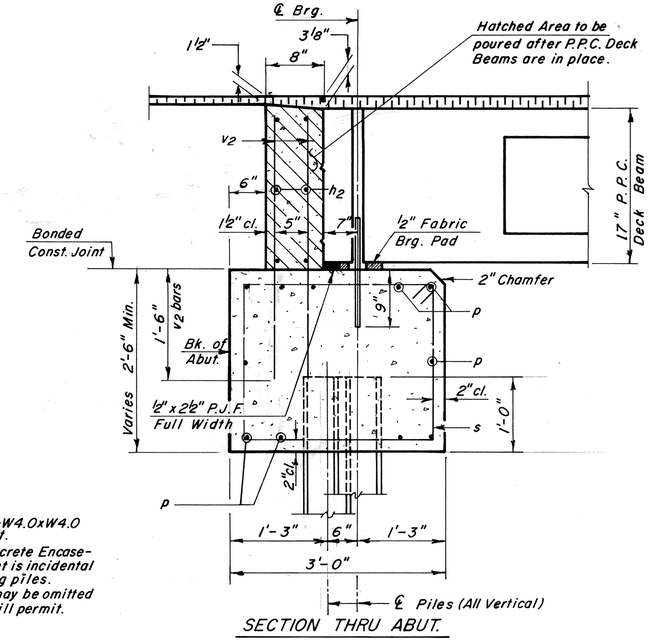
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
C.H.25	*	WILL	12	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

* 87-00116-03-BR



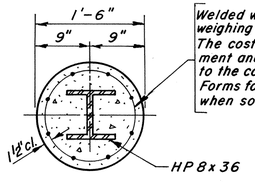
PLAN

Elevations in Plan are at top of cap.



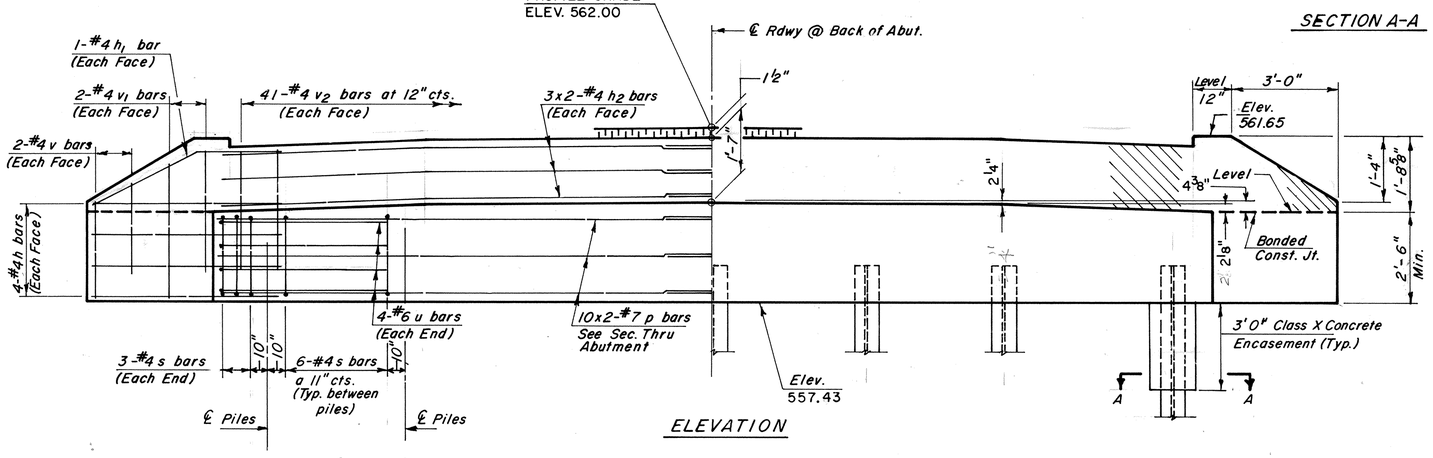
SECTION THRU ABUT.

(At Right Angles)

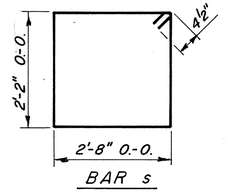


Welded wire fabric 6x6-W4.0xW4.0 weighing 58#/100 sq. ft.
The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles.
Forms for encasement may be omitted when soil conditions will permit.

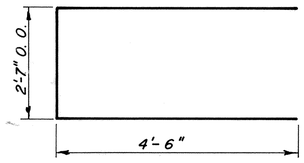
SECTION A-A



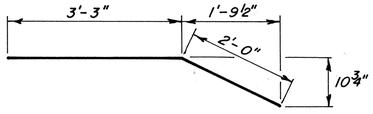
ELEVATION



BAR s



BAR u



BAR h_1

BAR LIST FOR 2 ABUTMENTS

BAR	NO.	SIZE	LENGTH	SHAPE
h	32	#4	5'-0"	——
h_1	8	#4	5'-3"	——
h_2	24	#4	21'-6"	——
p	40	#7	22'-3"	——
s	84	#4	10'-5"	□
u	16	#6	11'-7"	⊏
v	16	#4	2'-9"	——
v_1	16	#4	3'-6"	——
v_2	164	#4	2'-10"	——

QUANTITIES FOR 2 ABUTMENTS

Class X Concrete	28.1 Cu. Yds.
Reinforcement Bars	3,540 Lbs.
Steel Piles HP 8 x 36	344 Lin. Ft.
Test Piles Steel HP8x36	1 Each

MIN. BAR LAPS

#4 bars 1'-8"

#7 bars 3'-5"

PILE DATA

Type : Steel HP 8x 36
Capacity : Drive to Refusal
Est. Length : 26 ft.@ W. Abut.
27 ft.@ E. Abut.
No. Req'd. : 14 (Includes one test pile @ E. Abut.)

NOTES

1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to A.A.S.H.T.O M-31 or M-53, Grade 60.

ABUTMENTS

C.H. 25

SEC. 87-00116-03-BR

WILL COUNTY

STA. 20+15

Bridge Inspection Report

Wilmington-Peotone Road over Forked Creek

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3342

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 10/13/2023

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3342
REGION/DISTRICT:	1/1
COUNTY:	Will
LOCATION:	Wilton Township, IL
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)
FEATURE CROSSED:	Forked Creek

Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,050	(2023)	7,200	(2046)
ADTT:	2,057	(2023)	2,448	(2046)
Inventory Rating:	1.00	(HS20-44)		
Operating Rating:	1.36	(HS20-44)		
Sufficiency Rating:	97.0			

Construction History and Physical Description:

- The existing structure is a 3-span cast-in-place reinforced concrete slab bridge supported by solid wall encased pile bents and pile supported integral concrete abutments with concrete slopewalls. The structure has spans measuring 16'-3", 23'-0", and 16'-3" and a total back-to-back abutment length of 58'-0". The deck width measures 40'-8" out-to-out. The deck slab is 16" thick and utilizes type S1 steel railings.
- The structure is on a horizontal tangent alignment, -0.21% tangent profile, and has no skew.
- The existing structure was constructed in 1993 under Route C.H. 25, Section 92-00116-05-BR to replace structure 099-3041.
- No repair history is available.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Kevin Heffern, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2020	Deck:	7	Super:	7	Sub:	8
Year:	2016	Deck:	7	Super:	7	Sub:	8
Year:	2012	Deck:	7	Super:	7	Sub:	8

Bridge Deck / Superstructure: The bridge deck is in good condition. The top of deck shows no notable deterioration (Photo 2). Evaluation of the underside of deck reveals hairline cracks and water infiltration along the edge of deck (Photo 3).

Substructure: The substructure is in good condition. Abutments exhibit cracks and light spalling at construction joints between the deck slab and top of abutments (Photo 4). Piers show no significant deterioration (Photo 5).

Railings: The existing S-1 steel guardrail does not meet current standards. Retrofit of the existing structure is not feasible.

Hydraulics:
No signs of scour are visible; however, the east slopewall has a large amount of debris buildup (Photo 6). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria are met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in good condition and the following scope of work is recommended:

- Debris removal from east slopewall.
- Formed concrete repair of substructure.
- Epoxy crack injection of cracks over 1/16” wide at substructure.

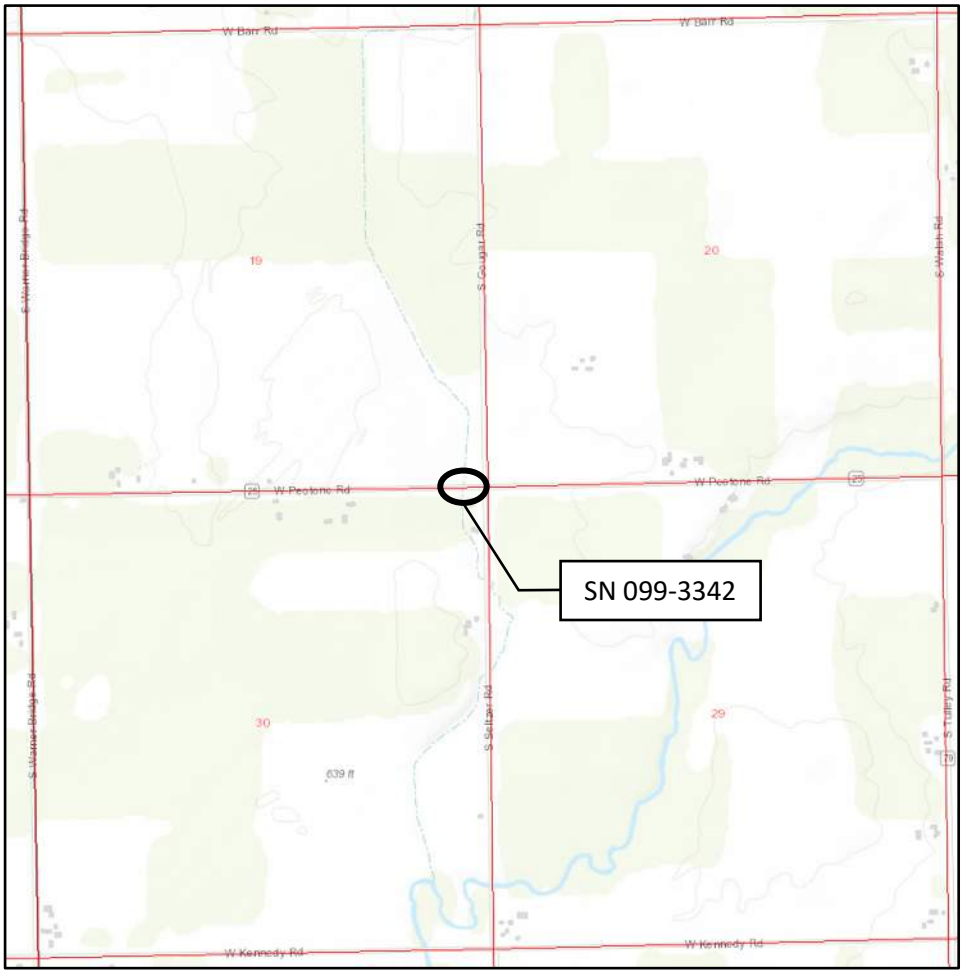
Replacement of the existing structure was not considered based on the bridge’s current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 11E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3342 **District:** 1

Inventory Data

Facility Carried: WILMINGTON-PEOTONE R
Feature Crossed: FORKED CREEK
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks: BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION
Maint County: 099 WILL
Maint Responsibility: 30 COUNTY
Service On/Under: 1 HIGHWAY / 5 WATERWAY
Reporting Agency: 3 COUNTY
Main Span Matl/Type: 2 CONCRETE CONTINUOUS / 01 SLAB
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 1Steel Plate Beam / 1 Steel Plate Beam
Toll Facility Indicator: 0 No Toll
Latitude: 41.32175767 **S** **Longitude:** 87.99838713 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: JUST W.COUGAR RD
Status Date: 6/1/1995 12:00:00 AM
Maint Township: 24 WILTON
UNKNOWN
Skew Direction: N
Skew Angle: 0 **D**
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 0
Substructure Material: 33
Rated By: 2 IDOT
Inventory Rating: 1.000(36)
Operating Rating: 1.360(48)
Design Load: 02 HS20
Deck Structure Thickness: 16 **SD:** N **FO:** N

Sufficiency Rating: 97.0
HBP Eligible: No
Replaced By: -
Replaces: 099-3041
Last Update Date: 03/30/2021
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: None
Navigation Control: 0 No
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: D ASSIGNED RATING BASED ON LFD REPORTED BY RATING FACTOR (RF)
Load Rating Date: 10/19/1994

Structure Length: 58.0
AASHTO Bridge Length: 53.0
Length of Long Span: 23.0
Bridge Roadway Width: 40.0
Appr Roadway Width: 40.0
Deck Width: 40.7
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: 0 No
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357
Appurtenances Main Route 00000
Inventory County: 099 WILL
Township/Road Dist 24 WILTON
Municipality 0000
Urban Area: 1051 1051
Functional Class: 3 OTHER PRINCIPAL ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 20.0
Horizontal: 20.0 0.0
Lateral:

Station: 13.4500
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 6050
Est Truck Percentage: 34
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2046 / 7200
Designated Truck Rte: NONE
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

Structure Number: 099-3342 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	48 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 03/24/2020 **Inspection Temperature:** 35Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-1:**	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	7	GOOD CONDITION - SOME MINOR PROBLEMS		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE			
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	16.0				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	2	Doesn't Meet Standards							
Approach Guardrail:	222	Not Acceptable	Not Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 12/28/1994

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year: 1993 Original Reconstructed
Route: CH-25 **Sta:** 20+00 **Sta:**
Section Nbr: 92-00116-05-BR
Contract Nbr:
Fed Aid Pr#:
Built By: 3 COUNTY AGENCY

Photo 1: North Fascia, looking East (IMG_8980)

Photo 2: Typical Top of Deck Condition, looking West (IMG_8965)

Photo 3: Typical Underside Edge of Deck Condition, Hairline Cracking (IMG_9559)

Photo 4: West Abutment Cracks (IMG_8994)

Photo 5: Piers and Slopewall, looking West (IMG_9552)

Photo 6: East Slopewall, looking North (IMG_9549)

Photo 7: Forked Creek, looking Upstream/North (IMG_9554)

Photo 8: Forked Creek, looking Downstream/South (IMG_9555)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H.25	92-00116-05-BR	WILL	19	14
	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
SHEETS 5

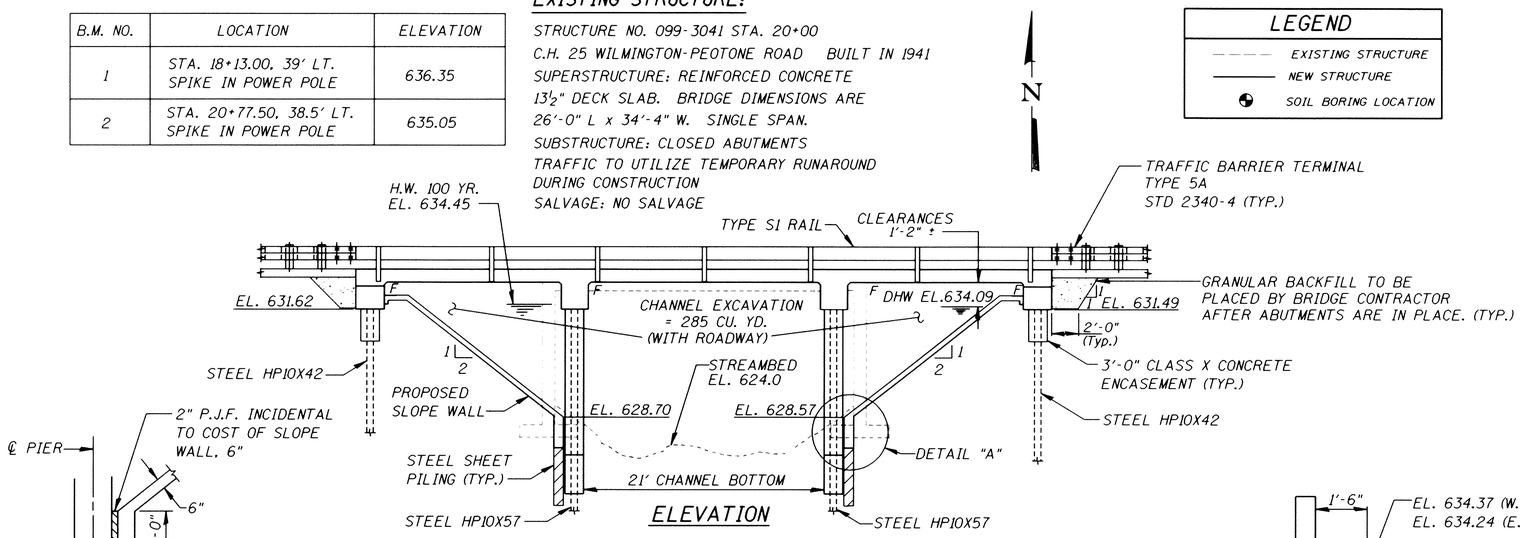
BENCH MARK

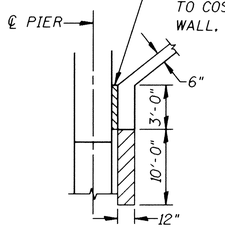
B.M. NO.	LOCATION	ELEVATION
1	STA. 18+13.00, 39' LT. SPIKE IN POWER POLE	636.35
2	STA. 20+77.50, 38.5' LT. SPIKE IN POWER POLE	635.05

EXISTING STRUCTURE:

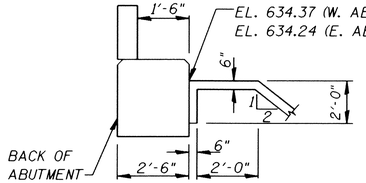
STRUCTURE NO. 099-3041 STA. 20+00
C.H. 25 WILMINGTON-PEOTONE ROAD BUILT IN 1941
SUPERSTRUCTURE: REINFORCED CONCRETE
13½" DECK SLAB. BRIDGE DIMENSIONS ARE
26'-0" L x 34'-4" W. SINGLE SPAN.
SUBSTRUCTURE: CLOSED ABUTMENTS
TRAFFIC TO UTILIZE TEMPORARY RUNAROUND DURING CONSTRUCTION
SALVAGE: NO SALVAGE

LEGEND
- EXISTING STRUCTURE
- NEW STRUCTURE
- SOIL BORING LOCATION

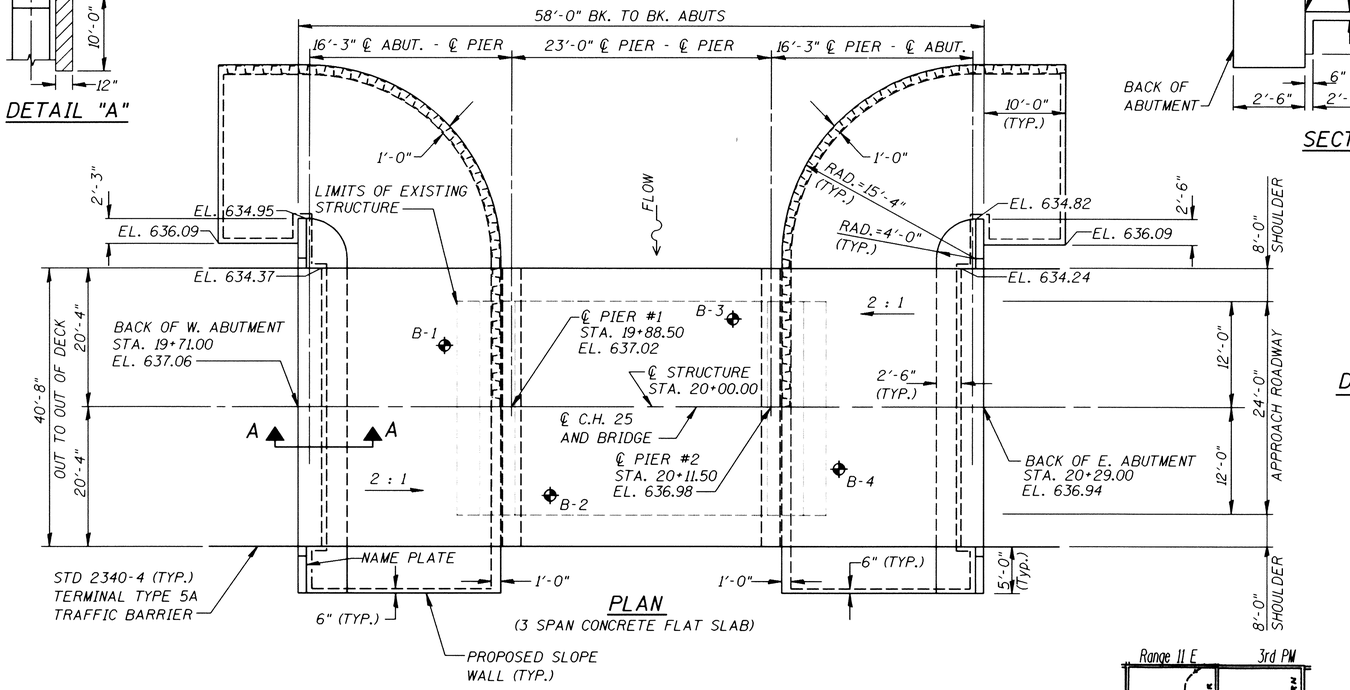




DETAIL "A"



SECTION A-A



PLAN
(3 SPAN CONCRETE FLAT SLAB)

NOTES:

1. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42, OR M-53 GRADE 60.
2. LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR SHALL DRIVE IN PERMANENT LOCATIONS. ONE STEEL HP10X42 TEST PILE AT THE WEST ABUTMENT AND ONE STEEL HP10X57 TEST PILE AT PIER #2 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.
4. THE CONTRACTOR SHALL MAKE ALLOWANCE FOR THE DEFLECTION OF FORMS, SHRINKAGE AND SETTLEMENT OF FALSE WORK, IN ADDITION TO ALLOWANCE FOR DEAD LOAD DEFLECTION.
5. SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC, 6" x 6"-W4.0 x W4.0 WEIGHING 58 LBS. PER 100 SQ. FT.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
REMOVAL OF EXISTING STRUCTURE	EACH	———	———	1
STRUCTURE EXCAVATION	CU YD	———	83	83
CLASS X CONCRETE, SUPERSTRUCTURE	CU YD	139.4	———	139.4
PROTECTIVE COAT*	SQ YD	280	———	280
CLASS X CONCRETE	CU YD	———	86.4	86.4
REINFORCEMENT BARS, EPOXY COATED	LBS	18127	9866	27993
FURNISHING STEEL PILES HP10x42	LIN FT	———	366	366
FURNISHING STEEL PILES HP10x57	LIN FT	———	409	409
TEST PILE HP10x42	EACH	———	1	1
TEST PILE HP10x57	EACH	———	1	1
CLASS X CONCRETE ENCASEMENT	CU YD	———	7.4	7.4
DRIVING STEEL PILES	LIN FT	———	775	775
NAME PLATES	EACH	1	———	1
STEEL SHEET PILING	SQ FT	———	1109	1109
STEEL RAILING, TYPE S-1	LIN FT	116	———	116
SLOPE WALL, 6 INCH	SQ YD	———	242	242
GRANULAR BACKFILL, SPECIAL	CU YD	———	47	47
TEMPORARY BRIDGE COMPLETE	EACH	———	———	1

*QUANTITY INCLUDES DECK SURFACE AND SIDES.

DESIGN SPECIFICATIONS

1992 AASHTO

LOADING HS20-44

ALLOW 25#/SQ. FT. FOR FUTURE WEARING SURFACE.

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH THE REQUIREMENTS OF THE CURRENT "AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES."

David J. Walker
Illinois Structural No. 081-004918
(expires 11-30-94)

DAVID J. WALKER 081-004918 REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS

WATERWAY INFORMATION

Drainage Area = 6.04 sq.mi. Low Grade Elev. 636.30 @ Sta. 23+00

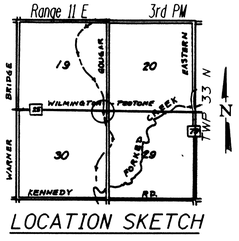
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	30	597	237	336	634.09	0.12	0.09	634.21	634.18
Base	100	755	245	353	634.45	0.17	0.11	634.62	634.56
Overtopping									
Max. Calc.	500	945	250	363	634.65	0.27	0.17	634.92	634.82

DESIGNED	ERB
CHECKED	DWG
DRAWN	SLN
CHECKED	DJW

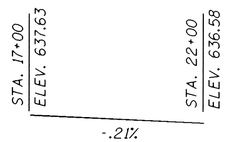
FORKED CREEK
BUILT 1993 BY
WILL COUNTY
SECTION 92-00116-05-BR
LOADING HS20
STR. NO. 099-3342

NAME PLATE

See Std. 2113



LOCATION SKETCH



PROFILE GRADE

C.H. 25
WILMINGTON-PEOTONE ROAD
(ALONG ℄ ROADWAY)

REVISIONS	
BY	DATE

STRAND ASSOCIATES
CONSULTING ENGINEERS
Joliet, IL 60435 (815)744-4200

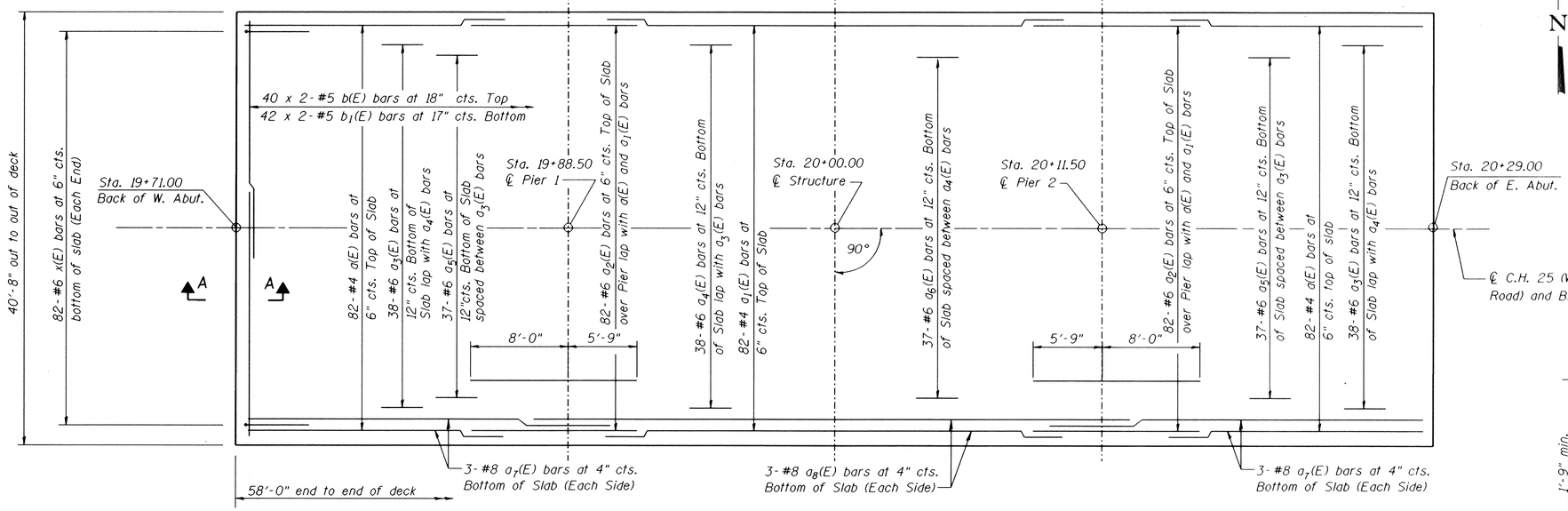
GENERAL PLAN
C.H.25/WILMINGTON-PEOTONE ROAD
SECTION 92-00116-05-BR
WILL COUNTY
STATION 20+00, S.N. 099-3342

SCALE: NONE DATE: 3/16/93

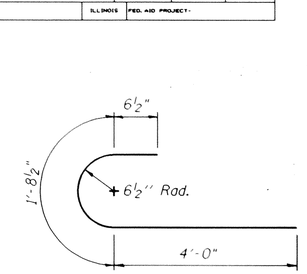
FILENAME: GENPLNWP.DGN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H.25	92-00116-05-BR	WILL	19	15
		ILLINOIS	FED. AID PROJECT-	

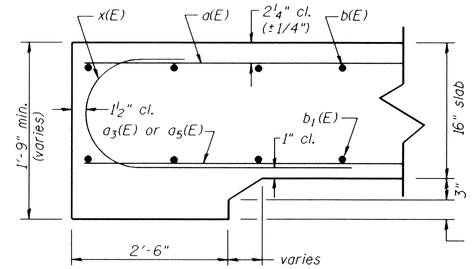
SHEET NO. 2
SHEETS 5



PLAN VIEW



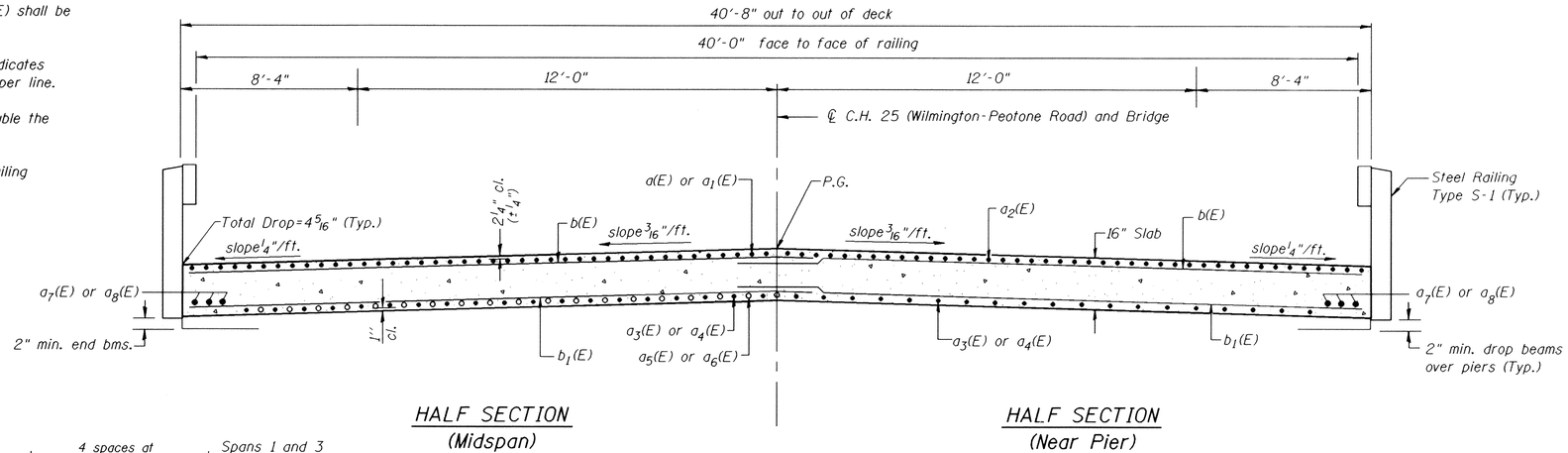
BAR x(E)



SECTION A-A

NOTES:

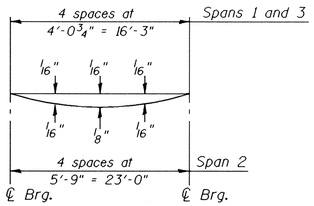
1. Reinforcement bars designated (E) shall be epoxy coated.
2. Bars indicated thus 40x2 etc. indicates 40 lines of bars with 2 lengths per line.
3. Bar splices shall be tied with double the number of ties normally used.
4. See bridge sheet #3 of 5 for railing details.



HALF SECTION (Midspan)

HALF SECTION (Near Pier)

CROSS SECTION



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete slab only)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	164	#4	11'-7"	——
a1(E)	82	#4	16'-0"	——
a2(E)	164	#6	13'-9"	——
a3(E)	76	#6	19'-0"	——
a4(E)	38	#6	26'-3"	——
a5(E)	74	#6	16'-4"	——
a6(E)	37	#6	15'-0"	——
a7(E)	12	#8	19'-3"	——
a8(E)	6	#8	26'-10"	——
b(E)	80	#5	21'-7"	——
b1(E)	84	#5	21'-7"	——
x(E)	164	#6	6'-3"	⊂
Reinforcement Bars, Epoxy Coated			Lbs.	18127
Class X Concrete Superstructure			Cu. Yds.	139.4

MINIMUM BAR LAP

#4 Bars = 2'-3"
#5 Bars = 2'-10"
#6 Bars = 3'-3"
#8 Bars = 3'-10"

DESIGNED	ERB
CHECKED	DWG
DRAWN	SLN
CHECKED	DJW

REVISIONS	
BY	DATE

STRAND ASSOCIATES
CONSULTING ENGINEERS
Joliet, IL 60435 (815)744-4200

SUPERSTRUCTURE DETAILS
C.H.25/WILMINGTON-PEOTONE ROAD
SECTION 92-00116-05-BR
WILL COUNTY
STATION 20+00, S.N. 099-3342

SCALE: NONE DATE: 1/4/93

LAST REVISION: 3-22-93 SLN

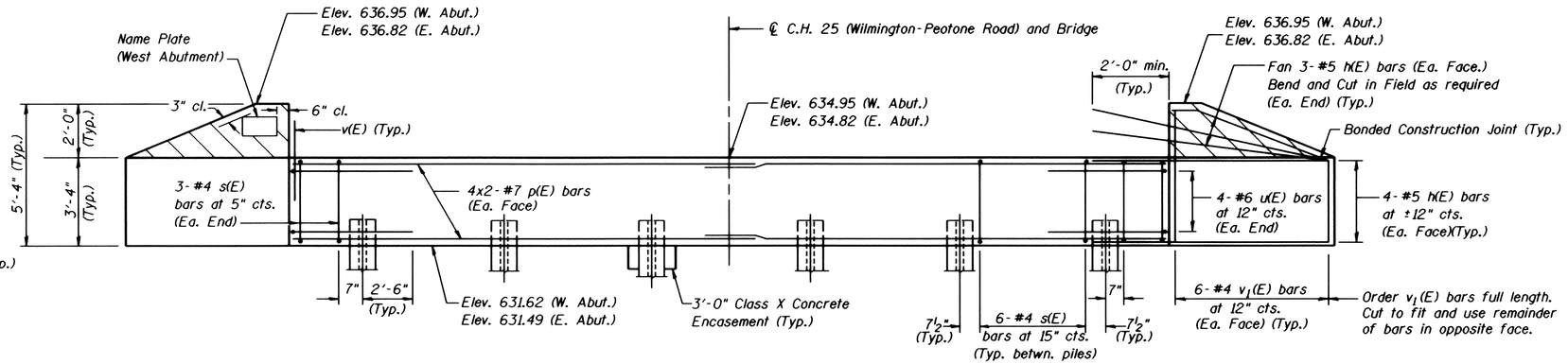
FILENAME: SPSTR-WP.DGN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H.25	92-00116-05-BR	WILL	19	17
	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
SHEETS 5

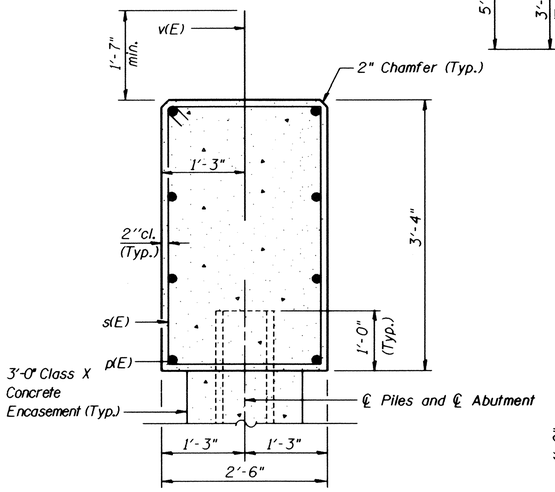
PILE DATA

Type: Steel Piles HP10x42
Design Capacity: 20 tons
Drive to 30 tons bearing
Est. Length: West Abut. = 30'-0"
East Abut. = 36'-0"
No. Required: West Abut. = 5 + 1 test pile
East Abut. = 6

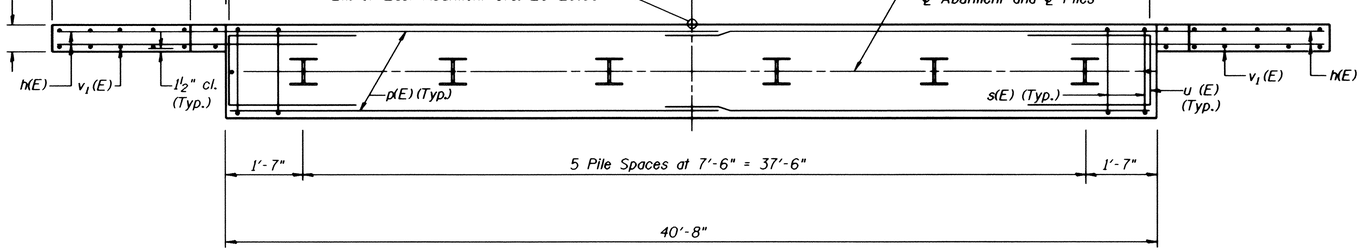


ELEVATION

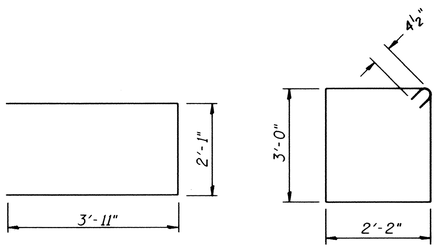
(East Abutment Looking East)
(West Abutment Looking West)



SEC. THRU ABUT.



PLAN



BAR u(E)

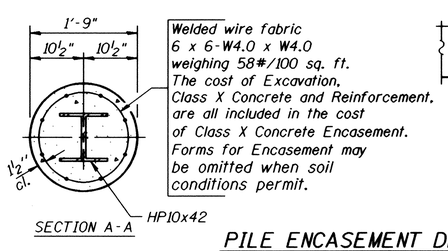
BAR s(E)

MIN. BAR LAPS

#7 = 3'-5"

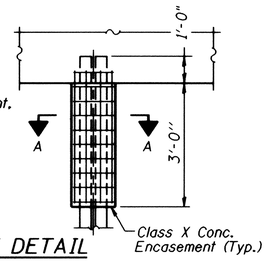
TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	56	#5	7'-6"	——
p(E)	32	#7	21'-11"	——
s(E)	72	#4	11'-1"	□
u(E)	16	#6	9'-11"	⊔
v(E)	82	#5	3'-3"	——
v1(E)	24	#4	8'-0"	——
Class X Concrete		Cu. Yd.	27.6	
Reinforcement Bars Epoxy Coated		Lbs.	3050	
Steel Piles HP10x42		Lin. Ft.	366	
Test Pile HP10x42		Each	1	
Class X Concrete Encasement		Cu. Yd.	3.2	
Structure Excavation		Cu. Yd.	74	



SECTION A-A

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, Class X Concrete and Reinforcement, are all included in the cost of Class X Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit.



PILE ENCASEMENT DETAIL

NOTES:

1. The Contractor shall drive, in permanent locations, one Steel HP10x42 test pile at the West Abutment and one Steel HP10x57 test pile at Pier #2 as directed by the Engineer, before ordering the remainder of piles.
2. All edges shall have standard ¾" chamfers except as noted.
3. Quantity of concrete in hatched area is included with Class X Concrete Superstructure.
4. Bars indicated 4 x 2-#7 etc. indicate 4 lines of bars with 2 lengths per line.
5. Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	ERB
CHECKED	DWG
DRAWN	SLN
CHECKED	DJW

LAST REV.: 3-22-93 SLN

REVISIONS	
BY	DATE

STRAND ASSOCIATES
CONSULTING ENGINEERS
Joliet, IL 60435 (815)744-4200

ABUTMENTS
C.H.25/WILMINGTON-PEOTONE ROAD
SECTION 92-00116-05-BR
WILL COUNTY
STATION 20+00, S.N. 099-3342

SCALE: NONE DATE: 1/4/93

FILENAME: ABUTS-WP.DGN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H.25	92-00116-05-BR	WILL	19	18
	ILLINOIS	FED. AID PROJECT-		

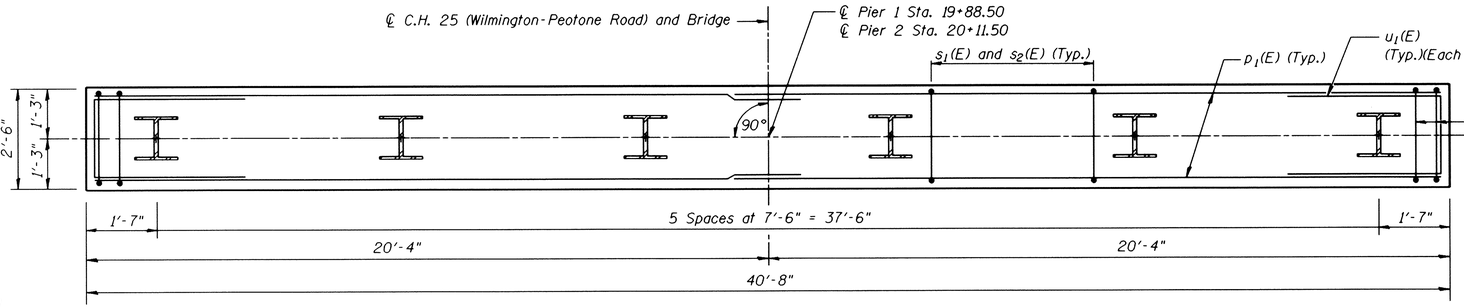
SHEET NO. 5
SHEETS 5

PILE DATA

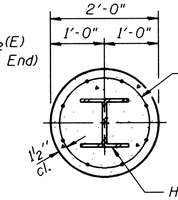
Type: Steel Piles HP10x57
Design Capacity: 42 Tons
Drive to 63 Tons bearing
Est. Length: Pier 1 = 39'-0"
Pier 2 = 35'-0"
No. Required: Pier 1 = 6
Pier 2 = 5 + 1 test pile

NOTES:

1. Pour pier caps monolithically with the deck slab, and include quantity of concrete in Class X Concrete Superstructure.
2. All edges shall have a $\frac{3}{4}$" standard chamfer except as noted.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42, or M-53, Grade 60.



TOP PLAN PIERS 1 AND 2



SECTION A-A

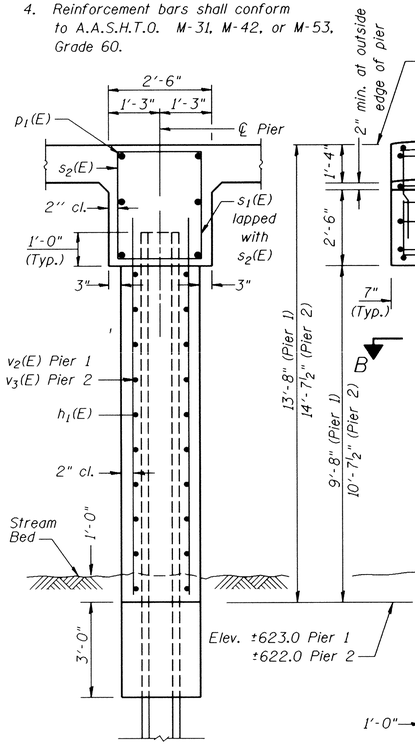
Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, Class X Concrete and Reinforcement, are all included in the cost of Class X Concrete.

MIN. BAR LAPS

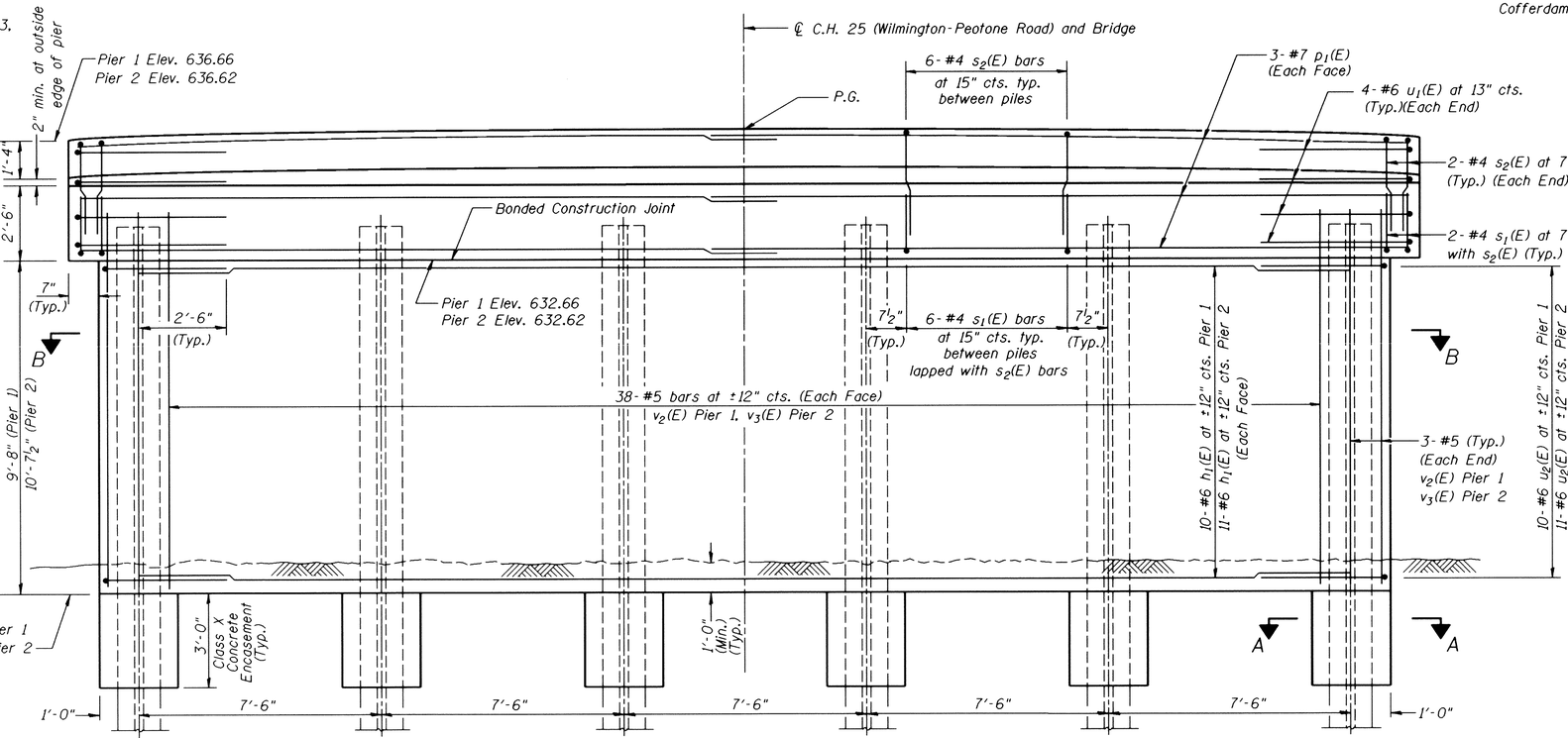
#4 = 1'-8"
#5 = 2'-2"
#7 = 3'-5"

NOTE:

If a portion of the pile encasement is under water, Class X Concrete Encasements shall be tremmied under water into forms as necessary. Cofferdams are not required for this work.



END VIEW

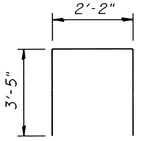


ELEVATION PIERS 1 AND 2

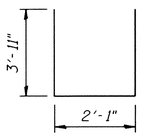
(Looking South Shown / Looking North similar by rotation of 180°)

2 PIERS BILL OF MATERIAL

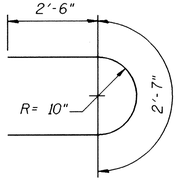
Bar	No.	Size	Length	Shape
h_1(E)	42	#6	37'-6"	——
p_1(E)	24	#7	21'-11"	——
s_1(E)	68	#4	6'-10"	⊔
s_2(E)	68	#4	9'-0"	⊓
u_1(E)	16	#6	9'-11"	⊔
u_2(E)	42	#6	7'-7"	⊃
v_2(E)	82	#5	10'-10"	——
v_3(E)	82	#5	11'-10"	——
Class X Concrete		Cu. Yd.	58.8	
Reinforcement Bars, Epoxy Coated		Lbs.	6816	
Steel Piles HP10x57		Lin. Ft.	409	
Test Pile HP10x57		Each	1	
Class X Concrete Encasement		Cu. Yd.	4.2	
Structure Excavation		Cu. Yd.	9	



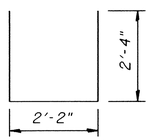
BAR s_2(E)



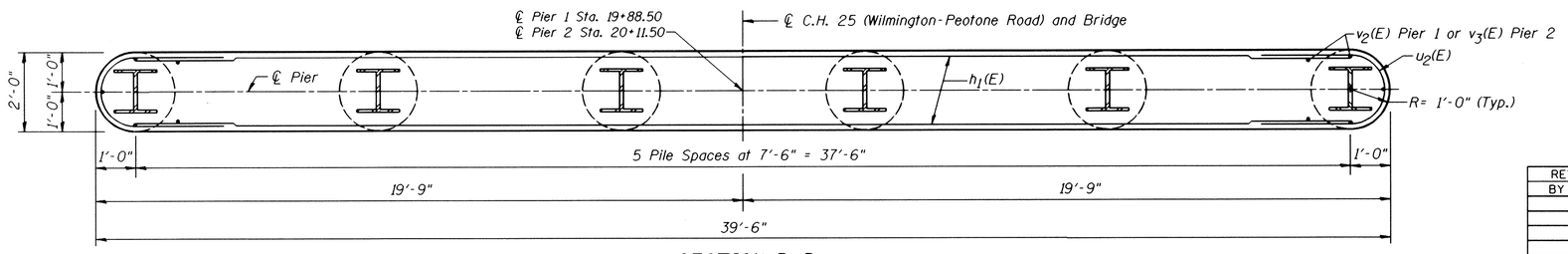
BAR u_1(E)



BAR u_2(E)



BAR s_1(E)



SECTION B-B

DESIGNED	ERB
CHECKED	DWG
DRAWN	SLN
CHECKED	DJW

REVISIONS	
BY	DATE

STRAND ASSOCIATES
CONSULTING ENGINEERS
Joliet, IL 60435 (815)744-4200

PIER DETAILS FOR PIERS 1 AND 2
C.H.25/WILMINGTON-PEOTONE ROAD
SECTION 92-00116-05-BR
WILL COUNTY
STATION 20+00, S.N. 099-3342
SCALE: NONE DATE: 1/27/93

LAST REV.: 3-22-93 SLN

FILENAME: PIERS-WP.DGN

Bridge Inspection Report

Wilmington-Peotone Road over Branch of Forked Creek

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3343

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2023

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3343			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Wilton Township, IL			
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)			
FEATURE CROSSED:	Branch of Forked Creek			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	5,250	(2023)	6,552	(2046)
ADTT:	1,838	(2023)	2,294	(2046)
Inventory Rating:	1.00	(HS20-44)		
Operating Rating:	1.36	(HS20-44)		
Sufficiency Rating:	97.0			

Construction History and Physical Description:

- The existing structure is a cast-in-place, double cell box culvert with 45° flared wings. The structure has cells measuring 12'-0" by and 8'-6" (span by rise) with a total out-to-out barrel width measuring approximately 26'-3" at centerline of roadway. The out-to-out headwall length measures 46'-0". The fill depth is approximately 16" thick. The structure utilizes Steel Plate Beam Guardrail anchored through the top slab of the culvert.
- The structure is on a horizontal tangent alignment, 0.00% tangent profile, and has no skew.
- The existing structure was constructed in 1994 by Will County under Route C.H. 25, Section 92-00116-06-BR to replace structure 099-3043.
- No repair history is available.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Kevin Heffern, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year: 2020	Culvert: 8	Channel and Protection: 6
Year: 2016	Culvert: 8	Channel and Protection: 6
Year: 2012	Culvert: 8	Channel and Protection: 6

Culvert: The visible portion of the culvert appears to be in good condition. The top of pavement shows some cracking and pavement repair (Photo 2). The underside of deck reveals no notable deterioration (Photo 3).

Channel and Protection: The channel and protection are in satisfactory condition. The channel appears to be constricted north (upstream) of the culvert.

Railings: The existing steel guardrail does not meet current standards. Retrofit of the existing structure is not feasible.

Hydraulics: Scour is present behind and around the end of the Northwest wingwall (Photo 4). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in good condition and the following scope of work is recommended:

- Restore/fill embankments behind wingwalls with riprap.
- Verify condition of barrel walls and slabs.
- Investigate cause of scour at inflow and outflow points and remediate based on Phase I hydraulic findings.

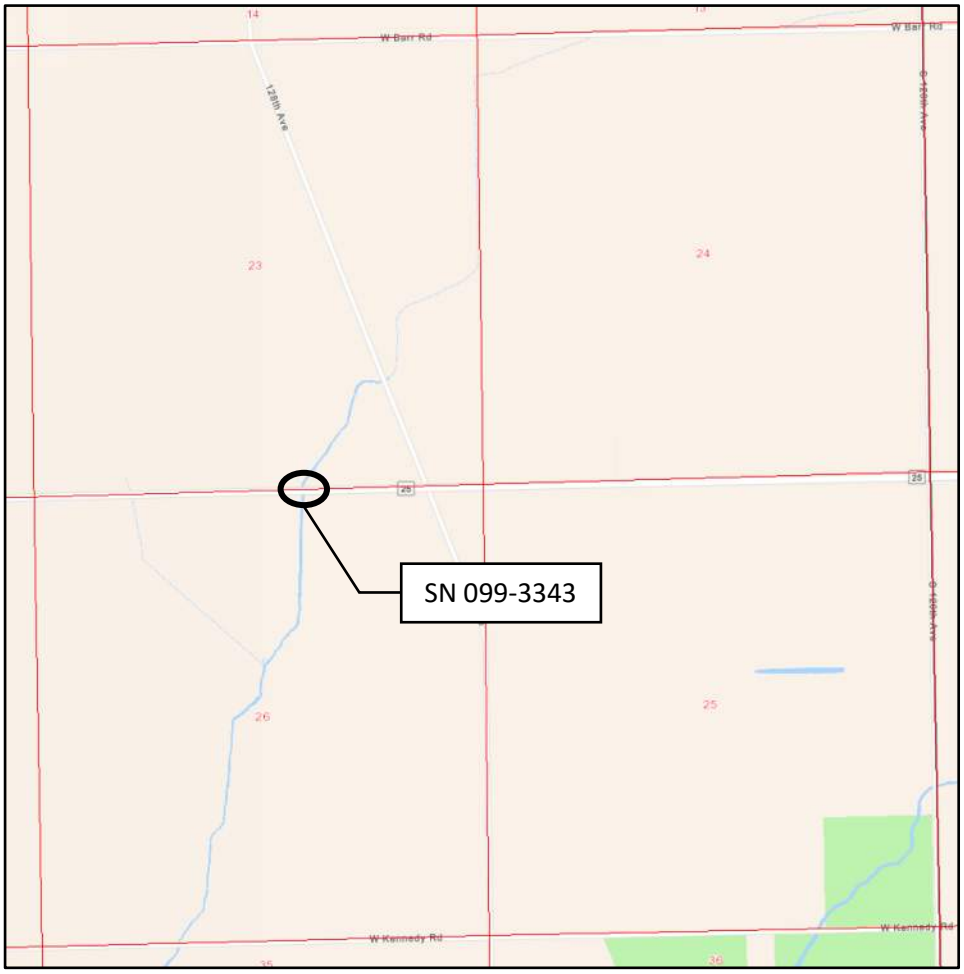
Replacement of the existing structure was not considered based on the bridge's current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 11E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3343 **District:** 1

Inventory Data

Facility Carried: WILM-PEOTONE RD
Feature Crossed: BR OF FORKED CREEK
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks: BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION
Maint County: 099 WILL
Maint Responsibility: 30 COUNTY
Service On/Under: 1 HIGHWAY / 5 WATERWAY
Reporting Agency: 3 COUNTY
Main Span Matl/Type: 2 CONCRETE CONTINUOUS / 19 CULVERT
Nbr Of Main Spans: 2 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 1Steel Plate Beam / 1 Steel Plate Beam
Toll Facility Indicator: 0 No Toll
Latitude: 41.32296591 **S** **Longitude:** 87.92804233 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 1.6 M E.CEDAR ROAD
Status Date: 6/1/1995 12:00:00 AM
Maint Township: 24 WILTON
UNKNOWN

Sufficiency Rating: 97.0
HBP Eligible: No
Replaced By: -
Replaces: 099-3043
Last Update Date: 03/30/2021
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: N None
Skew Angle: 0 **D**
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 0
Substructure Material: NN

Structure Length: 26.3
AASHTO Bridge Length: 24.8
Length of Long Span: 12.0
Bridge Roadway Width: 40.0
Appr Roadway Width: 40.0
Deck Width: 40.0
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: 0 No
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 2.0
Number Culvert Cells: 2
Culvert Opening Area: 204.1
Culvert Cell Height: 8.50
Culvert Cell Width: 12.00

Rated By: 2 IDOT
Rate Method: D ASSIGNED RATING BASED ON LFD REPORTED BY RATING FACTOR (RF)
Inventory Rating: 1.000(36)
Operating Rating: 1.360(48)
Load Rating Date: 10/19/1994
Design Load: 02 HS20
Deck Structure Thickness: 10.5 **SD:** N **FO:** N

Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357
Appurtenances Main Route 00000
Inventory County: 099 WILL
Township/Road Dist 24 WILTON
Municipality 0000
Urban Area: None 0000
Functional Class: 3 OTHER PRINCIPAL ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 40.0
Horizontal: 40.0 0.0
Lateral:

Station: 17.1100
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2023 / 5250
Est Truck Percentage: 35
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2046 / 6552
Designated Truck Rte: NONE
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

Structure Number: 099-3343 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	48 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 03/24/2020 **Inspection Temperature:** 38Deg. F

Deck:	N	NOT APPLICABLE					**Single Unit Vehicles:**	Tons
Superstructure:	N	NOT APPLICABLE					**Combination Type 3S-1:**	Tons
Substructure:	N	NOT APPLICABLE					**Combination Type 3S-2:**	Tons
Culvert:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					**One Truck At A Time:**	0
Channel and Protection:	6	SATISFACTORY CONDITION - MINOR DETERIORATION		**Deck Wearing Surf:**	N	N/A - NO DECK	**Last Paint Type:**	
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Deck Membrane:**	N	N/A		
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Protection:**	N	N/A		
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	0.0			
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	2	Doesn't Meet Standards						
Approach Guardrail:	222	Not Acceptable	Not Acceptable	Not Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 04/10/2006

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year: 1994 Original Reconstructed
Route: CH-25 **Sta:** 40+00 **Sta:**
Section Nbr: 92-00116-06-BR
Contract Nbr:
Fed Aid Pr#:
Built By: 3 COUNTY AGENCY

Photo 1: North Fascia, looking East (IMG_9069)

Photo 2: Typical Top of Pavement Condition, looking East (IMG_9070)

Photo 3: Typical Headwall Condition, looking Southwest (IMG_9593)

Photo 4: Northwest Wingwall, showing Scour (IMG_9073)

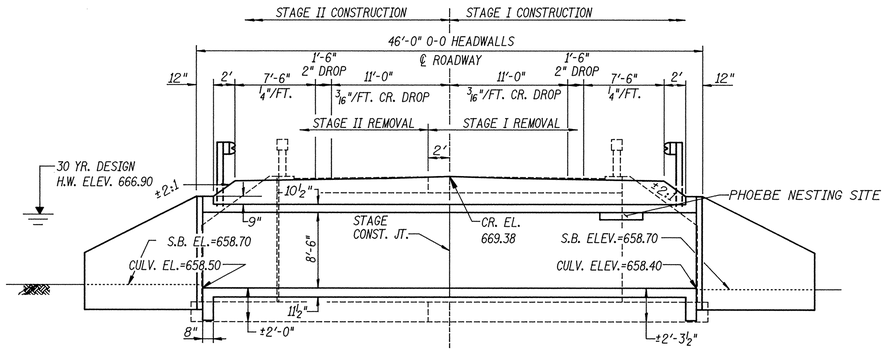
Photo 5: Forked Creek, looking Upstream/North (IMG_9585)

Photo 6: Forked Creek, looking Downstream/South (IMG_9588)

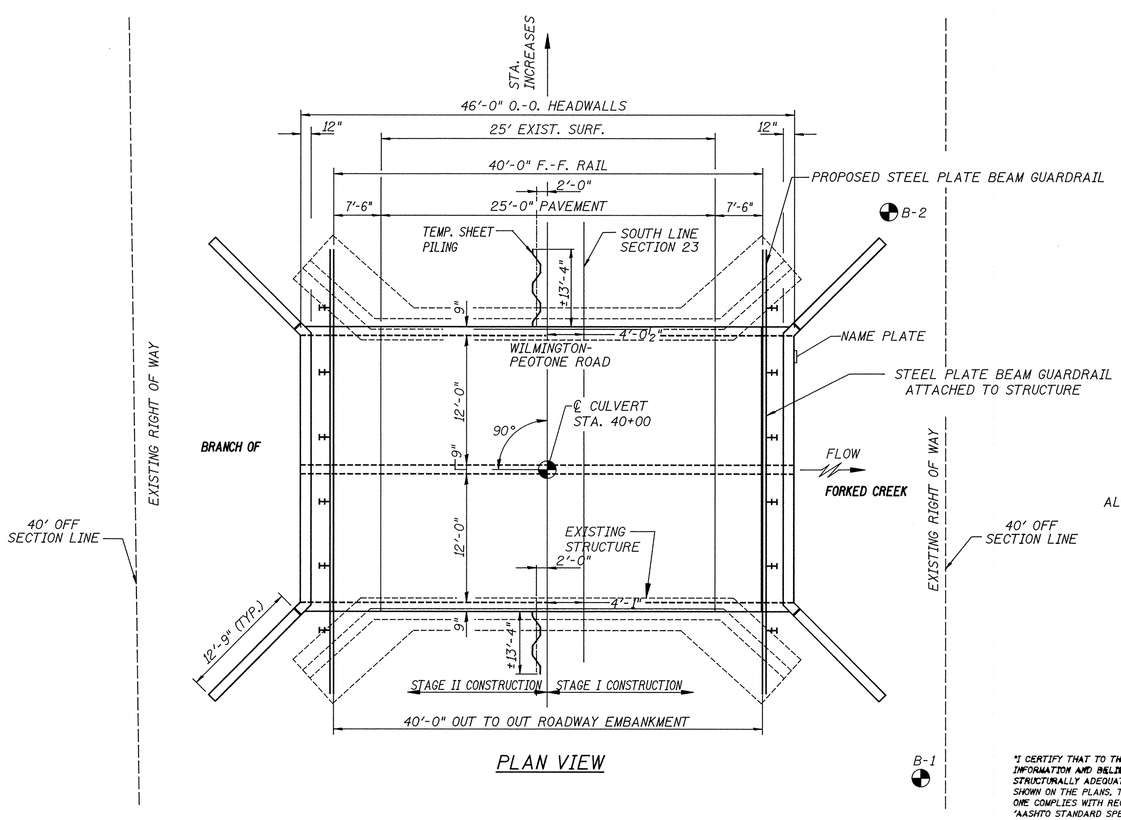
SECTION 92-00116-06-BR	SHEET 7 OF 16
COUNTY WILL	ROUTE C.H. 25 WILMINGTON-PEOTONE RD

EXISTING STRUCTURE: NO. 099-3043
SINGLE SPAN REINFORCED CONCRETE SLAB BRIDGE ON REINFORCED CONCRETE CLOSED ABUTMENTS 28' BK.-BK. ABUTS.
TRAFFIC SHALL BE MAINTAINED BY STAGE CONSTRUCTION.
NO SALVAGE.

BENCH MARK: RR SPIKE IN PP 39' LT
@ STA. 39+37, EL. 667.61



LONGITUDINAL SECTION



PLAN VIEW

GENERAL NOTES

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASSHTO M-31, M-42 OF M-53, GRADE 60

EXPOSED EDGES SHALL BE BEVELED ¾"

FOR BACKFILLING AND EMBANKMENTS, SEE STANDARD SPECIFICATIONS.

CLASS X CONCRETE SHALL BE USED THROUGHOUT.

AT LEAST 6' OF BARREL SHALL BE POURED MONOLITHICALLY WITH WING.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DIVERT THE STREAM FLOW DURING CONSTRUCTION IN ORDER TO KEEP THE CONSTRUCTION AREAS FREE FROM WATER. THE METHOD OF WATER DIVERSION WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND THE COST SHALL BE INCLUDED IN THE UNIT BID PRICE OF "CLASS X CONCRETE, BOX CULVERTS".

TEMPORARY CONCRETE BARRIERS SHALL BE PROVIDED FOR STAGE CONSTRUCTION, SEE STANDARD 2383.

PRECAST OPTION IS NOT ALLOWED FOR THIS CULVERT

CONTRACTOR TO ANCHOR SHEETING TO BACK OF EXISTING ABUTMENT WALL FOR STAGE I CONSTRUCTION. CONNECTION TO BE APPROVED BY ENGINEER. SHEETING WITHIN LIMITS OF EXISTING FOOTING SHALL HAVE THEIR TIP ELEV. AT TOP OF FOOTING. COST SHALL BE INCIDENTAL TO ***TEMPORARY SHEET PILING***

AFTER STAGE I IS COMPLETED. SHEETING IS TO BE ANCHORED TO THE BACK OF NEW CONSTRUCTION. COST SHALL BE INCIDENTAL TO ***TEMPORARY SHEET PILING***

NOTE:
SEE SHEET #8 OF 16 FOR TEMPORARY BRACING AND SUPPORT OF EXISTING STRUCTURE DURING STAGE CONSTRUCTION

BRANCH OF FORKED CREEK
BUILT 1993 BY
WILL COUNTY
SEC. 92-00116-06-BR
STA. 40+00
STR. NO. 099-3343 LOADING HS20

NAME PLATE LETTERING
REFER TO STD. 2113

DESIGN SPECIFICATIONS

DESIGN IN ACCORDANCE WITH AASHTO SPECIFICATIONS DATED 1992

LOADING HS20-44

ALLOW 25#/SQ. FT. FOR FUTURE WEARING SURFACE

DESIGN STRESSES

FIELD UNITS
f'_c = 3,500 psi CONC.
f_y = 60,000 psi REINF.

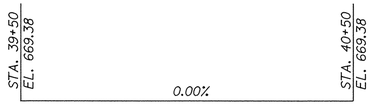
"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS CULVERT DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS, THE DESIGN IS AN ECONOMICAL ONE COMPLIES WITH REQUIREMENTS OF THE CURRENT 'AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES'."

STATE OF ILLINOIS
RONALD J. STEENKEN
081-004893
DIXON, ILL.
LICENSED STRUCTURAL ENGINEER

DATE: 2/16/93
EXPIRES 11/30/94

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
CLASS X CONCRETE BOX CULVERT	CU. YD	139.5
REINFORCEMENT BARS (EPOXY COATED)	LB.	24000
REMOVAL OF EXISTING STRUCTURES	EACH	1
TEMPORARY SUPPORT SYSTEM	EACH	1
TEMPORARY SHEET PILING	SQ. FT.	377
NAME PLATES	EACH	1

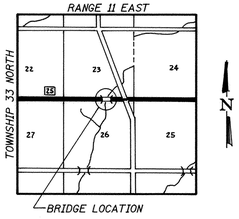


PROFILE GRADE
ALONG ℄ ROADWAY

WATERWAY INFORMATION

Drainage Area = 3.63 SQ. MI. Low Grade Elev. 669.38 @ Sta. 40+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	415	179	198	666.40	0.00	0.34	666.39	666.73
Design	30	540	191	202	666.90	0.02	0.09	666.92	666.99
Base	30	695	203	204	667.42	0.06	0.19	667.48	667.61
Overtopping	———	———	———	———	———	———	———	———	———
Max. Calc.	———	———	———	———	———	———	———	———	———



LOCATION SKETCH

SECTION 92-00116-06-BR
WILMINGTON-PEOTONE ROAD OVER
A BRANCH OF FORKED CREEK
WILL COUNTY

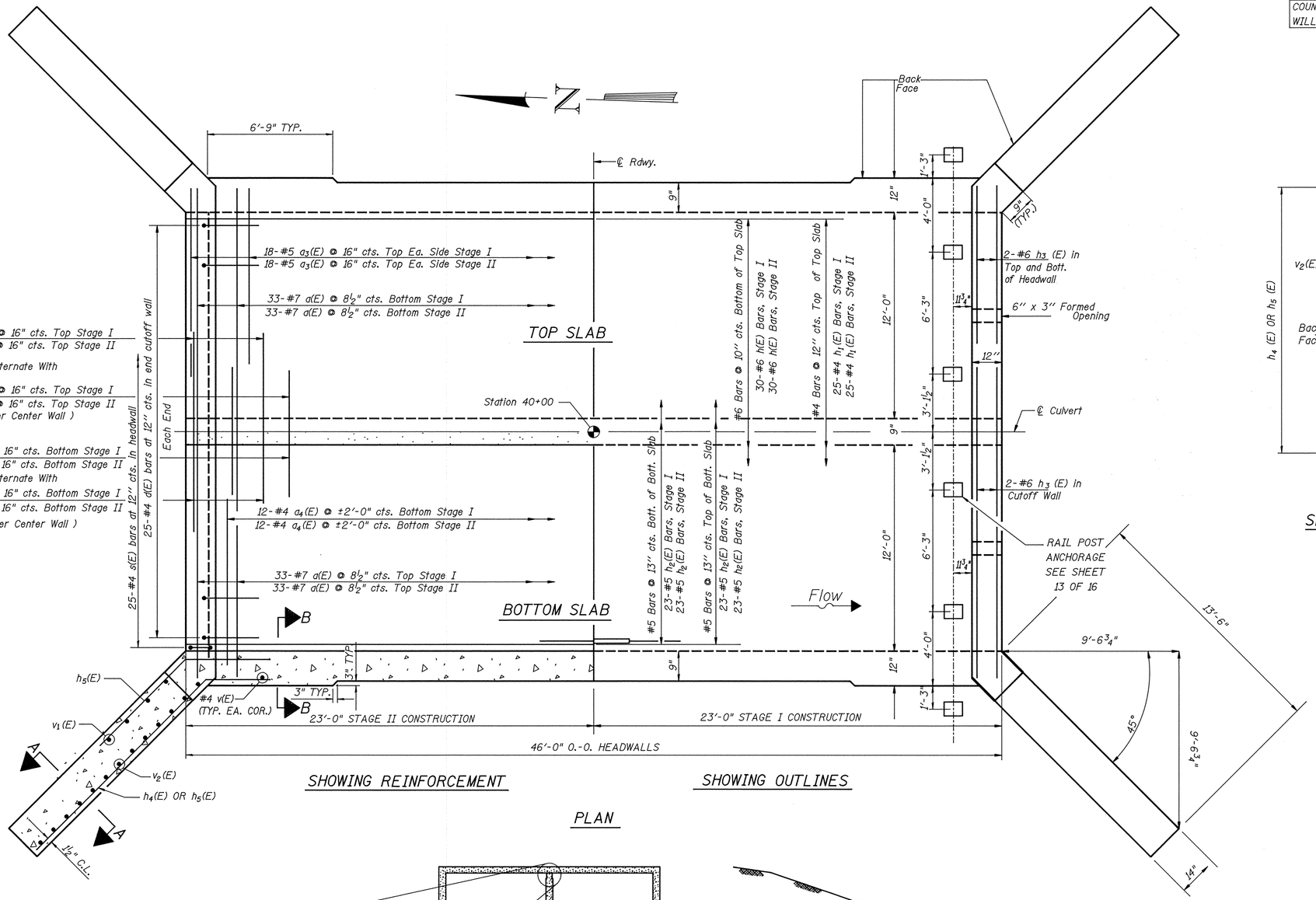
GENERAL PLAN & ELEVATION

WILLETT HOFMANN & ASSOCIATES, Inc.
Consulting Engineers

DESIGNED BY: M.R. LESLIE DATE: 12/92
CHECKED BY: B.K. CONVERSE DATE: 12/92
DRAWN BY: C.A. BENDER DATE: 12/92

E-5.G.123

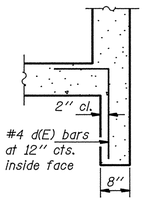
SECTION	SHEET
92-00116-06-BR	10 OF 16
COUNTY	ROUTE C.H. 25
WILL	WILMINGTON-PEOTONE RD



SHOWING REINFORCEMENT

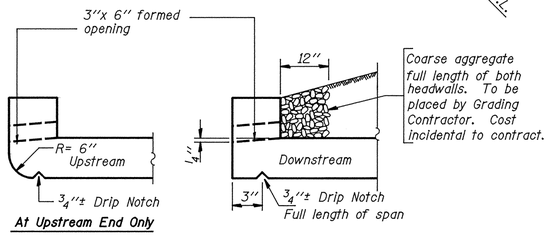
SHOWING OUTLINES

PLAN

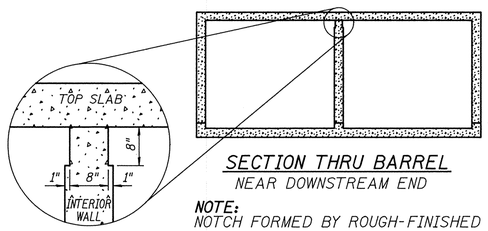


SEC.B-B

SECTION A-A



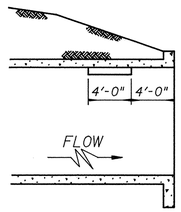
DRAIN DETAIL



NOTCH DETAIL

SECTION THRU BARREL
NEAR DOWNSTREAM END

NOTE:
NOTCH FORMED BY ROUGH-FINISHED BOARD ATTACHED TO AND REMOVED WITH FORMWORK.

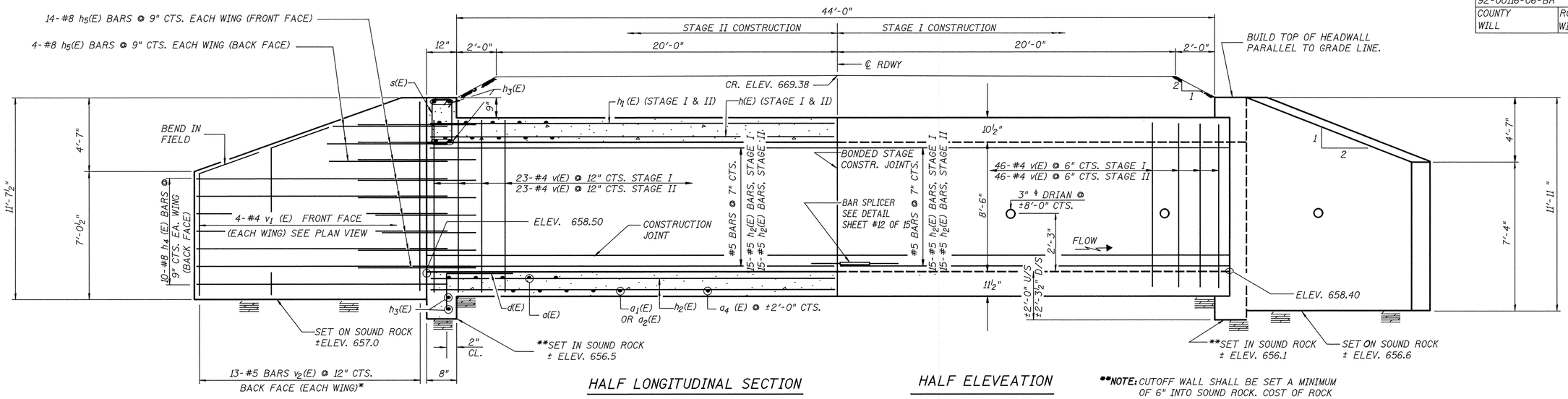


LONGITUDINAL SECTION

PHOEBE NESTING SITE DETAIL

CULVERT PLAN DETAILS
SECTION 92-00116-06-BR
WILMINGTON-PEOTONE ROAD OVER
A BRANCH OF FORKED CREEK
WILL COUNTY
WHA #D638

SECTION 92-00116-06-BR		SHEET 11 OF 16
COUNTY WILL	ROUTE C.H. 25	WILMINGTON-PEOTONE RD



HALF LONGITUDINAL SECTION

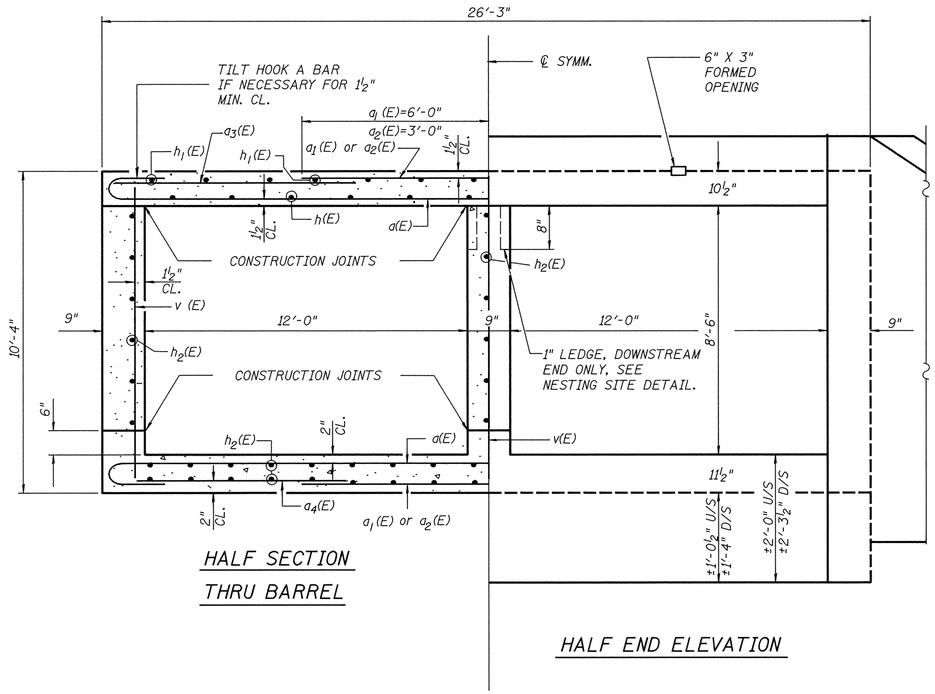
SHOWING BARS IN CENTER WALL

HALF ELEVEATION

SHOWING BARS IN OUTSIDE WALLS

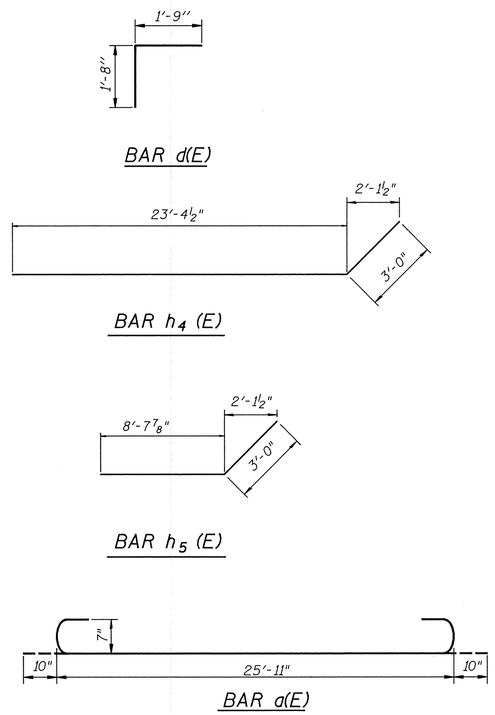
* CUT IN FIELD TO FIT UPSTREAM WING WALLS

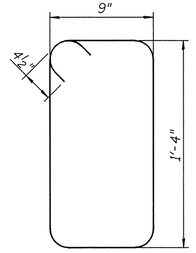
****NOTE:** CUTOFF WALL SHALL BE SET A MINIMUM OF 6" INTO SOUND ROCK. COST OF ROCK EXCAVATION SHALL BE INCIDENTAL TO **"CLASS X CONCRETE BOX CULVERT."**



HALF SECTION THRU BARREL

HALF END ELEVATION





BAR s(E)

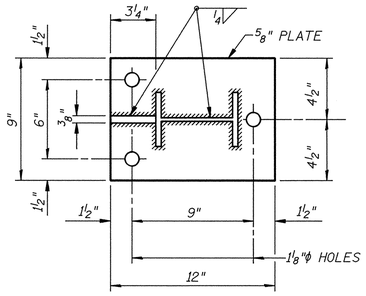
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d (E)	132	#7	27'-7"	
a1 (E)	72	#7	12'-0"	
a2 (E)	72	#7	6'-0"	
a3 (E)	36	#5	7'-2"	
a4 (E)	24	#4	7'-2"	
d (E)	50	#4	3'-5"	
h (E)	60	#6	22'-10"	
h1 (E)	50	#4	22'-10"	
h2 (E)	182	#5	22'-10"	
h3 (E)	12	#6	25'-11"	
h4(E)	40	#8	16'-6"	
h5(E)	72	#8	8'-0"	
s (E)	50	#4	4'-11"	
v (E)	234	#4	10'-0"	
v1(E)	16	#4	11'-8"	
v2(E)	52	#5	11'-8"	
Class X Concrete Box Culverts		Cu. Yds.	139.5	
Reinforcement Bars (Epoxy Coated)		Lbs.	24000	

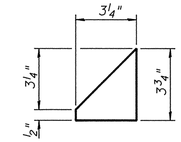
PROFILE & SECTION THRU BARREL DETAILS
SECTION 92-00116-06-BR
WILMINGTON-PEOTONE ROAD OVER A BRANCH OF FORKED CREEK
WILL COUNTY

WHA #D638

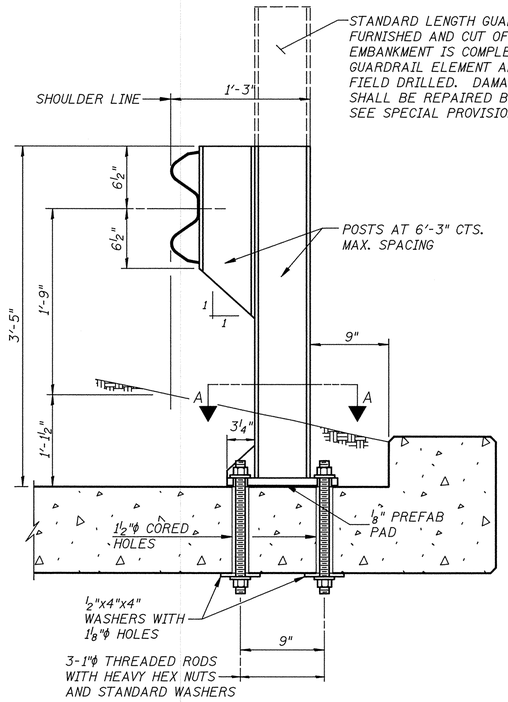
SECTION	SHEET
92-00116-06-BR	13 OF 16
COUNTY	ROUTE C.H. 25
WILL	WILMINGTON-PEOTONE RD.



VIEW A-A



⅜" GUSSET PLATE



RAIL POST ANCHORAGE DETAIL
(SEE HIGHWAY STD. 2325)

NOTE

STEEL POSTS W6X9 OR W8.5 SHALL BE USED ON THE STRUCTURE, UNLESS OTHERWISE SHOWN ON THE PLANS.

BOLTS, NUTS, WASHERS AND THREADED RODS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A-307. ALL OTHER STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-183.

BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 323. THE POSTS PLATES, AND THREADED RODS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M-111 AND ASTM A-385.

IF CONE-OUT ON THE BOTTOM OF THE CORED HOLES EXISTS, THE HOLES SHALL BE FILLED WITH GROUT TO CORRECT DIAMETER OF HOLE.

FOR DETAILS OF GUARDRAIL ELEMENTS NOT SHOWN, SEE STANDARD 2230.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PLACE THE BASE PLATE OF THE GUARDRAIL POSTS ALONG THE PROPER RADIUS AT THE PLAN SPECIFIED SPACING TO MISS CULVERT WALLS. AND TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN FIELD BEFORE ORDERING MATERIAL.

IN FIELD CUTTING OF POSTS, CARE SHALL BE TAKEN TO HAVE A SMOOTH CUT WITH MINIMUM DAMAGE TO GALVANIZING THE CUT AREAS SHALL BE REPAIRED IN ACCORDANCE WITH AASHTO M-36 PARAGRAPH 23.1.

INSERT FOR GUARDRAIL ATTACHMENT
SECTION 92-00116-06-BR
WILMINGTON-PEOTONE ROAD OVER
BRANCH OF FORKED CREEK
WILL COUNTY
WHA# D638

Bridge Inspection Report

Wilmington-Peotone Road over Rock Creek

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (Wilmington-Peotone Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-3344

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2023
Rev 1: 2/15/2024

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-3344			
REGION/DISTRICT:	1/1			
COUNTY:	Will			
LOCATION:	Peotone Township, IL			
ROUTE CARRIED:	Wilmington-Peotone Road (F.A.P. 357)			
FEATURE CROSSED:	Rock Creek			
Roadway Classification:	Other Principal Arterial			
Design Speed/Posted Speed:	55 MPH/ 55 MPH			
ADT:	6,300	(2023)	8,064	(2046)
ADTT:	1,197	(2023)	1,533	(2046)
Inventory Rating:	1.00	(HS20-44) (LFD)		
Operating Rating:	1.36	(HS20-44) (LFD)		
Sufficiency Rating:	94.7			

Construction History and Physical Description:

- The existing structure is a 3-span cast-in-place reinforced concrete slab bridge supported by individually encased pile bents and pile supported integral concrete abutments. The structure has spans measuring 30'-0", 37'-0", and 30'-0" and a total back-to-back abutment bridge length of 100'-8 3/4". The deck width measures 42'-6" out-to-out. The deck slab is 14" thick and utilizes type S1 steel railings.
- The structure is on a horizontal tangent alignment, 0.0% tangent profile, and 20° skew left forward.
- The existing structure was constructed in 1994 by Will County under Route C.H. 25, Section 92-00114-02-BR to replace structure 099-3045.
- No repair history is available.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 26th, 2023, and led by Kevin Heffern, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2022	Deck:	6	Super:	6	Sub:	6
Year:	2020	Deck:	6	Super:	6	Sub:	6
Year:	2018	Deck:	6	Super:	6	Sub:	5

Bridge Deck / Superstructure: The bridge deck is in satisfactory condition. The top of deck shows spalling (Photo 2) and minor cracking along approach joints (Photo 3). Evaluation of the underside of deck reveals cracks and water infiltration along the stage construction joint (Photo 4).

Substructure: The substructure is in fair condition. Abutments show no notable signs of deterioration (Photo 4), however there is significant undermining at abutments (Photo 5). Pier caps show no significant deterioration (Photo 6 and 7). Upstream piers exhibit pitting/spalling near water line (Photo 8).

Railings: The existing S-1 steel guardrail does not meet current standards. Retrofit of the existing structure is not feasible.

Hydraulics:
Signs of local scour are visible at pier columns. Aggradation is also apparent upstream, under the bridge, and further downstream (Photo 7 thru 10). Erosion of slope protection and loss of riprap is also apparent (Photo 6). Limited hydraulic information is available for this structure. Additional investigation or analysis will be required during Phase I to verify whether current criteria is met.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in satisfactory condition and the following scope of work is recommended:

- Repair deck spalling on bridge and at approach joints.
- Replace bent guardrail at southwest corner of bridge.
- Epoxy crack injection of cracks over 1/16” wide at substructure.
- Replace slope protection at undermined abutments and wingwalls.
- Remediate aggradation and restore streambed to mitigate pier scour based on Phase I hydraulic findings.

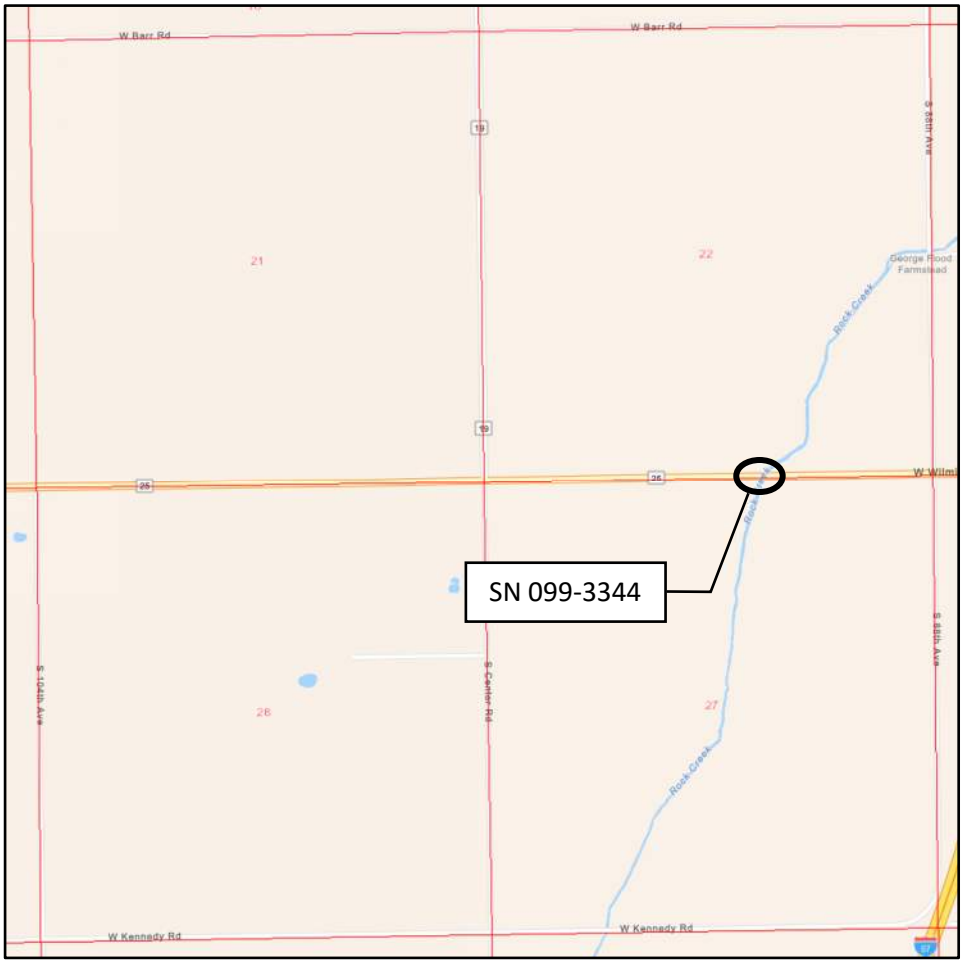
Replacement of the existing structure was not considered based on the bridge’s current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 12E – 3 PM



Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-3344 **District:** 1

Inventory Data

Facility Carried:	WILMINGTON-PEOTNE RD	**Bridge Name:**		**Sufficiency Rating:**	94.7	**Structure Length:**	100.7
Feature Crossed:	ROCK CREEK	**Location:**	0.5 MI W I-57	**HBP Eligible:**	No	**AASHTO Bridge Length:**	95.0
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	37.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	1/1/1995 12:00:00 AM	**Replaces:**	099-3045	**Bridge Roadway Width:**	40.0
Status Remarks:	BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION			**Last Update Date:**	03/30/2021	**Appr Roadway Width:**	40.0
Maint County:	099 WILL	**Maint Township:**	15 PEOTONE	**Parallel Structure:**	None	**Deck Width:**	42.5
Maint Responsibility:	30 COUNTY		UNKNOWN	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY		5 / WATERWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	3 COUNTY			**Skew Angle:**	20 **D**	**Navigation Control:**	0 No
Main Span Matl/Type:	2 CONCRETE CONTINUOUS		/ 01 SLAB	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:			/	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**	33	**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** D ASSIGNED RATING BASED ON LFD REPORTED BY RATING FACTOR (RF)

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.000(36) **Load Rating Date:** 07/05/1995 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 1.360(48) **Crossing 1 Nbr:**

Latitude: 41.32433049 **S** **Longitude:** 87.83093098 **S** **Design Load:** 02 HS20 **Crossing 1 Nbr:**

Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 14 **SD:** N **FO:** N **RR Lateral Underclear:** 0.0

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0357 **Station:** 22.1600
Appurtenances Main Route 00000 **Segment:**
Inventory County: 099 WILL **Linked:** Y
Township/Road Dist 15 PEOTONE **Natl. Hwy System:** On NHS
Municipality 0000 **Inventory Direction:**
Urban Area: None 0000 **Curr AADT Yr/Count:** 2023 / 6300
Functional Class: 3 OTHER PRINCIPAL ARTERIAL **Est Truck Percentage:** 19

** CLEARANCES **	South/East	North/West
Number Of Lanes:	2	
Max Rdwy Width:	0.0	
One Or Two Way:	2 Two-Way	
Horizontal:	40.0	0.0
Bypass Length:	3	
Future AADT Yr/Cnt:	2046 / 8064	
Designated Truck Rte:	NONE	
Lateral:		
Special Systems:	Yes	

Key Route Under Data

	South/East	North/West
Station:		
Segment:		
Linked:		
Natl. Hwy System:		
Inventory Direction:		
Curr AADT Yr/Count:	/	
Est Truck Percentage:		
Number Of Lanes:		
One Or Two Way:		
Bypass Length:		
Future AADT Yr/Cnt:	/	
Designated Truck Rte:		
Special Systems:		

Structure Number: 099-3344 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 07/06/2022 **Inspection Temperature:** 83Deg. F

Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					**Single Unit Vehicles:**	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					**Combination Type 3S-1:**	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE					**One Truck At A Time:**	
Channel and Protection:	7	GOOD CONDITION - SOME MINOR PROBLEMS		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY	**Last Paint Type:**	
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		
Deck Geometry:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		**Deck Protection:**	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	18.0			
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	2	Doesn't Meet Standards						
Approach Guardrail:	222	Not Acceptable	Not Acceptable	Not Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 12/16/1997

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year: 1994 Original Reconstructed
Route: CH 25 **Sta:** 10+01.00 **Sta:**
Section Nbr: 92-00114-02-BR
Contract Nbr:
Fed Aid Pr#:
Built By: 3 COUNTY AGENCY

Photo 1: South Fascia, looking East (IMG_9628)

Photo 2: Top of Deck Condition, looking West (IMG_9620)

Photo 3: Typical Approach Joint Condition, Minor Spalling (IMG_9123)

Photo 4: Typical Underside of Deck Condition, Minor Cracking (IMG_9632)

Photo 5: Undermining of East Abutment (IMG_9614)

Photo 6: Typical Condition of Pier and Riprap (IMG_9616)

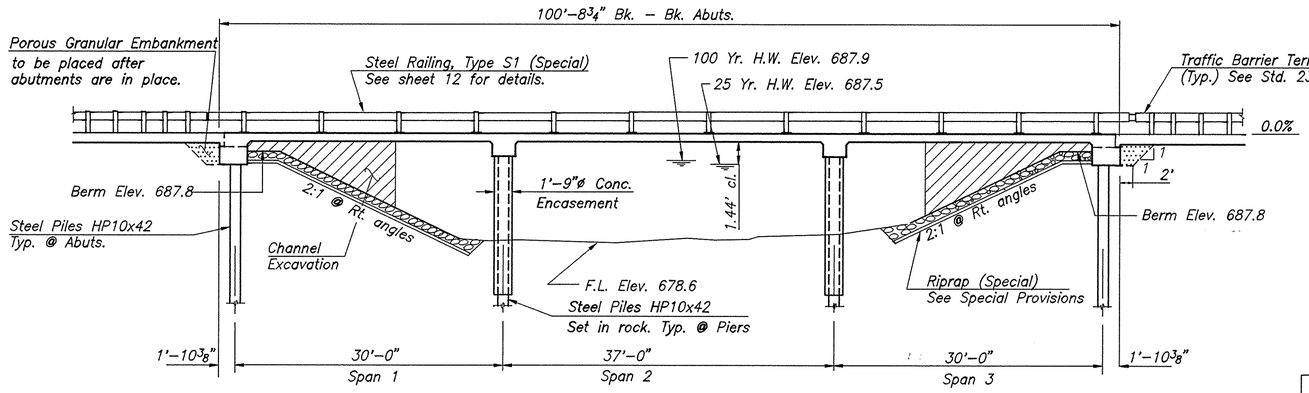
Photo 7: Aggradation in Channel (IMG_9633)

Photo 8: Underside of Bridge, looking West (IMG_9617)

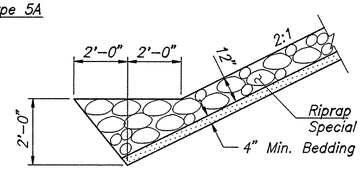
Photo 9: Rock Creek, looking Upstream/Northeast (IMG_9131)

Photo 10: Rock Creek, looking Downstream/South (IMG_9622)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 25	92-00114 -02-BR	WILL	13	7
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

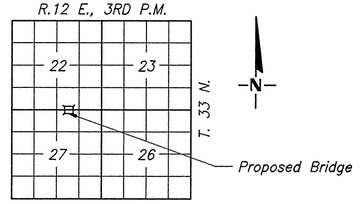


ELEVATION



RIPRAP, SPECIAL

Note: See Special Provisions for Riprap, Special



LOCATION PLAN

ROCK CREEK
BUILT 199_ BY
WILL COUNTY
SEC. 92-00114-02-BR
STATION 10+01
STR. NO. 099-3344
LOADING HS20

LETTERING FOR NAME PLATE

See Std. 2113

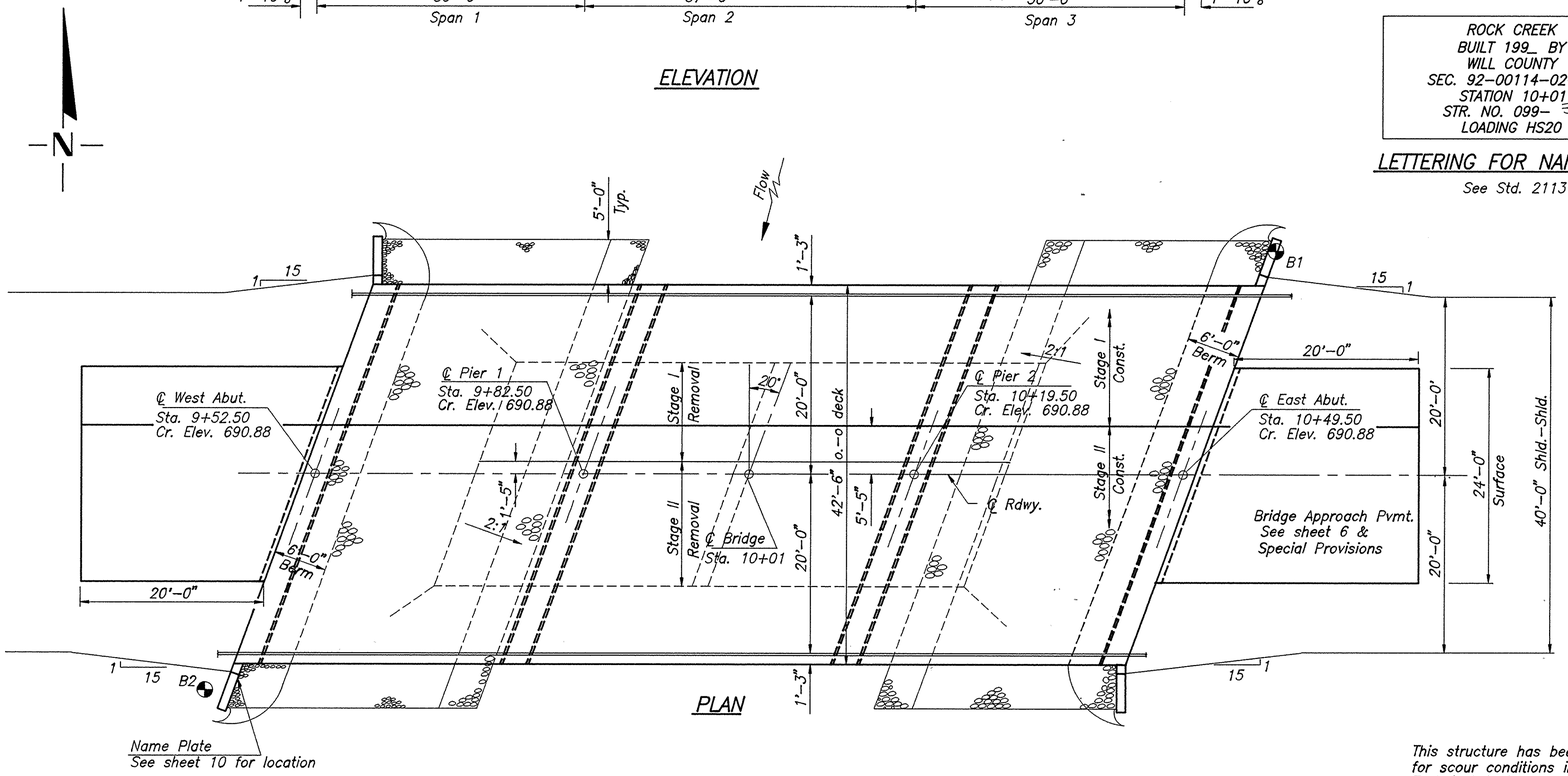
GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53, Grade 60.

The contractor shall drive two test piles in permanent locations, one HP 10x42 at each abutment, as directed by the Engineer, before ordering the remainder of the piles.

Layout of the riprap may be varied in the field to better suit the ground conditions as directed by the Engineer.

See Proposal for Boring Data.



PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete Superstructure	Cu. Yd.	204.1		204.1
Class X Concrete	Cu. Yd.		39.1	39.1
Temporary Sheet Piling	L. Sum			1
Reinforcement Bars, Epoxy Coated	Pound	50,520		50,520
Steel Railing, Type S1 (Special)	Lin. Ft.	208		208
Name Plates	Each		1	1
Protective Coat	Sq. Yd.	473		473
Steel Piles HP10x42	Lin. Ft.		590	590
Test Pile Steel HP10x42	Each		2	2
Riprap, Special	Ton		220	220
Setting Piles in Rock	Each		14	14
Metal Shoes	Each		12	12
Class X Concrete Encasement	Cu. Yd.		19.7	19.7

WATERWAY DATA

Drainage Area	14.7 Sq. Mi.
Existing Opening (30 Year)	420 Sq. Ft.
Required Opening (30 Year)	530 Sq. Ft.
Proposed Opening (30 Year)	530 Sq. Ft.
Design Discharge (30 Year)	1,170 C.F.S.
Created Head (30 Year)	0.1 Ft.
100 Year Discharge	1,480 C.F.S
100 Year Created Head	0.1 Ft.

DESIGN STRESSES

f'c = 3,500 p.s.i. (Class X Concrete)
fy = 60,000 p.s.i. (Reinforcement)
n = 9
LOAD FACTOR DESIGN

LOADING HS20-44
Design Specifications: 1992 AASHTO

25#/Sq. Ft. included in dead load for future wearing surface.

This structure has been designed to be stable for scour conditions in accordance with the FHWA Technical Advisory – T 5140.23, "Evaluating Scour at Bridges" and Hydraulic Engineering Circular 18 – Evaluating Scour at Bridges.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".

Michael G. Berry 3-10-93
ILLINOIS STRUCTURAL NO. 4622

MICHAEL G. BERRY 4622 LICENSED STRUCTURAL ENGINEER OF SPRINGFIELD ILLINOIS

Expires 11-30-94

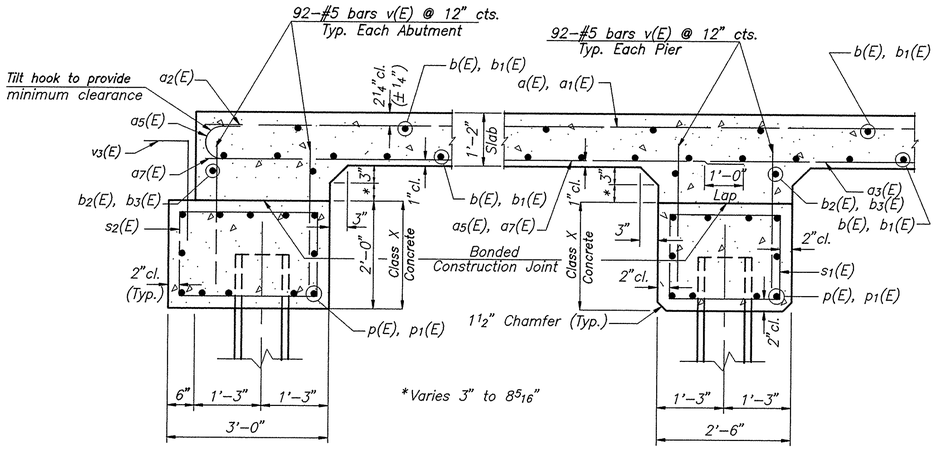
GENERAL PLAN & ELEVATION

SECTION 92-00114-02-BR
COUNTY HIGHWAY 25
WILL COUNTY
STATION 10+01

COLLINS AND RICE
CONSULTING ENGINEERS

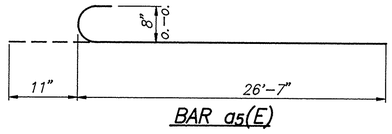
DESIGNED M.L.L. CHECKED M.G.B.
DRAWN G.B. DATE 1-29-93 NO. 769C

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 25	92-00114-02-BR	WILL	13	10
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

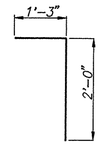


SECTION A–A

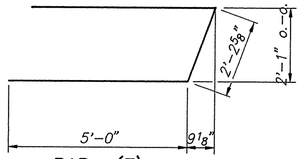
SECTION B–B



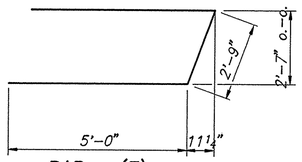
BAR a5(E)



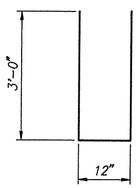
BAR v3(E)



BAR u(E)



BAR u1(E)

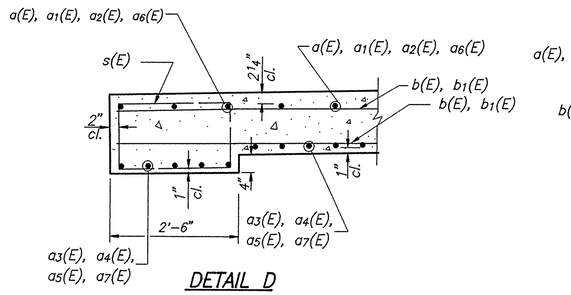


BAR a8(E)

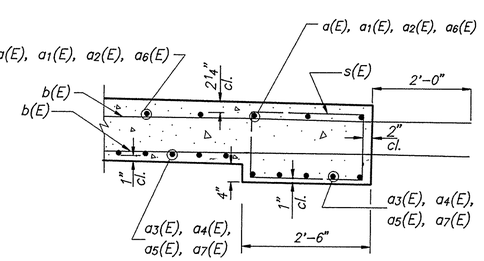
BILL OF MATERIAL
SUPERSTRUCTURE

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	86	#8	31'-4"	
a1(E)	84	#9	18'-1"	
a2(E)	86	#5	17'-2"	
a3(E)	43	#8	38'-0"	
a4(E)	42	#8	17'-8"	
a5(E)	84	#8	27'-6"	C
a6(E)	43	#5	9'-8"	
a7(E)	86	#8	31'-8"	
a8(E)	24	#4	7'-0"	
b(E)	165	#5	17'-8"	
b1(E)	165	#5	26'-4"	
b2(E)	8	#5	18'-8"	
b3(E)	8	#5	28'-1"	
h(E)	32	#5	7'-0"	
p(E)	44	#6	19'-7"	
p1(E)	44	#6	28'-1"	
s(E)	297	#4	7'-7"	
s1(E)	82	#5	8'-7"	
s2(E)	82	#5	9'-7"	
u(E)	12	#6	12'-3"	
u1(E)	12	#6	12'-9"	
v(E)	368	#5	3'-0"	
v1(E)	24	#5	1'-3"	
v2(E)	24	#5	2'-9"	
v3(E)	54	#5	3'-3"	

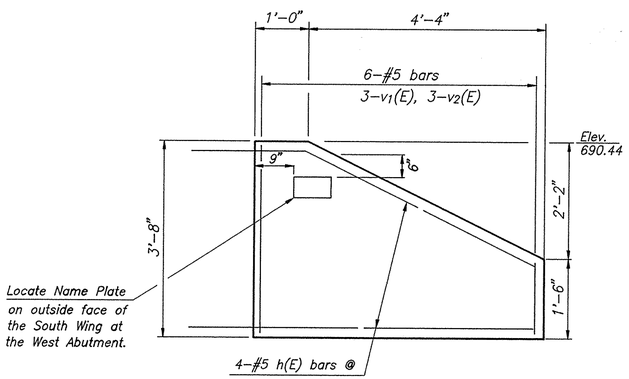
Class X Conc. Superstr.	Cu. Yd.	204.1
Reinf. Bars, Epoxy Coated	Pound	50,520
Class X Concrete	Cu. Yd.	39.1
Protective Coat	Sq. Yd.	473
Name Plates	Each	1
Steel Piles HP10 x42	Lin. Ft.	590
Test Pile Steel HP10 x 42	Each	2
Metal Shoes	Each	12



DETAIL D

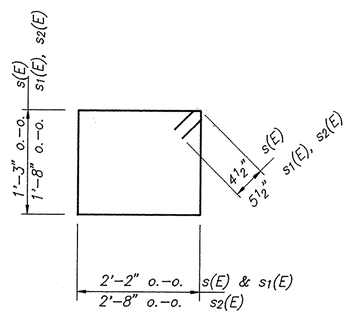


DETAIL C



WINGWALL DETAIL

Note: Wingwalls to be cast after slab has been poured and forms removed.



BAR s(E), s1(E) & s2(E)

MIN. BAR LAP

#5_____1'-10"

Except as noted.

NOTES: Reinforcement bars designated (E) shall be epoxy coated.
Work this sheet with sheets 9 & 11.

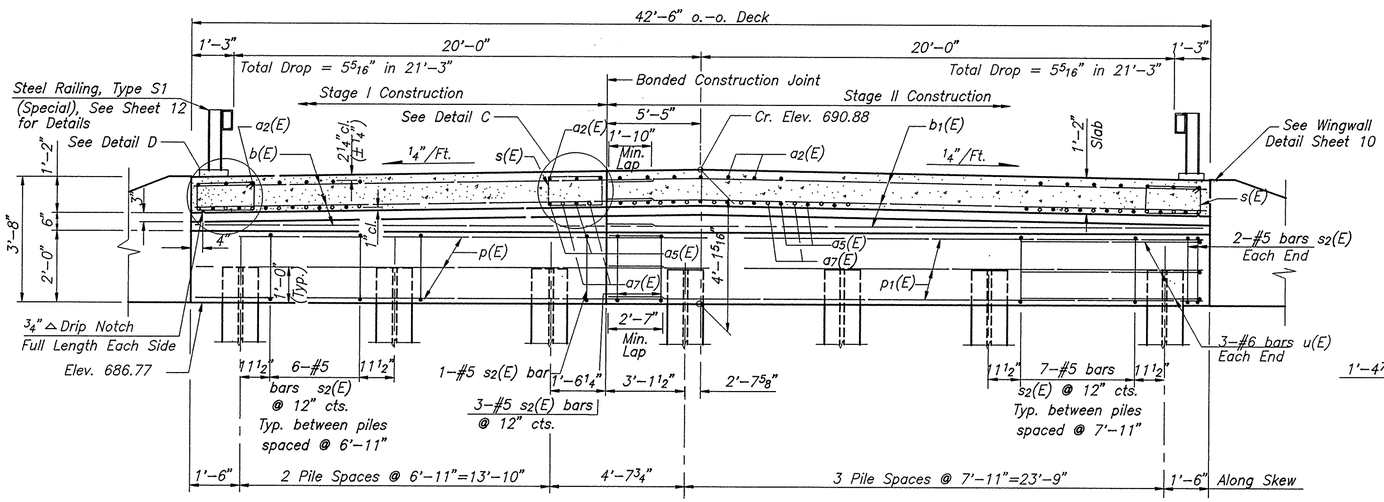
SUPERSTRUCTURE DETAILS

SECTION 92-00114-02-BR
COUNTY HIGHWAY 25
WILL COUNTY
STATION 10+01

COLLINS AND RICE
CONSULTING ENGINEERS

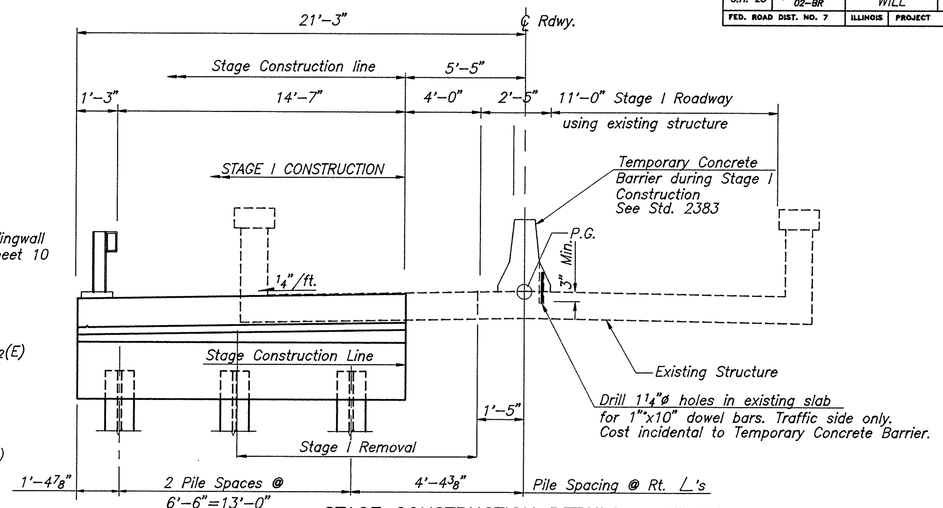
DESIGNED M.L.L. CHECKED M.G.B.
DRAWN M.L. DATE 1-29-93 NO. 769C

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 25	92-00114-02-BR	WILL	13	11
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



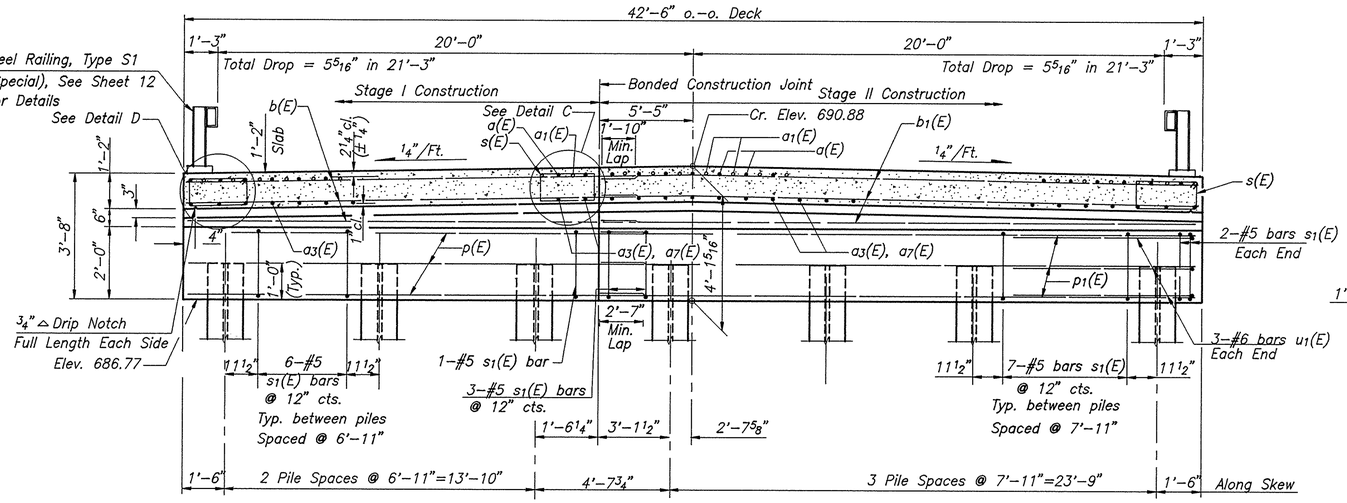
CROSS SECTION AT ABUTMENTS

(Looking East)



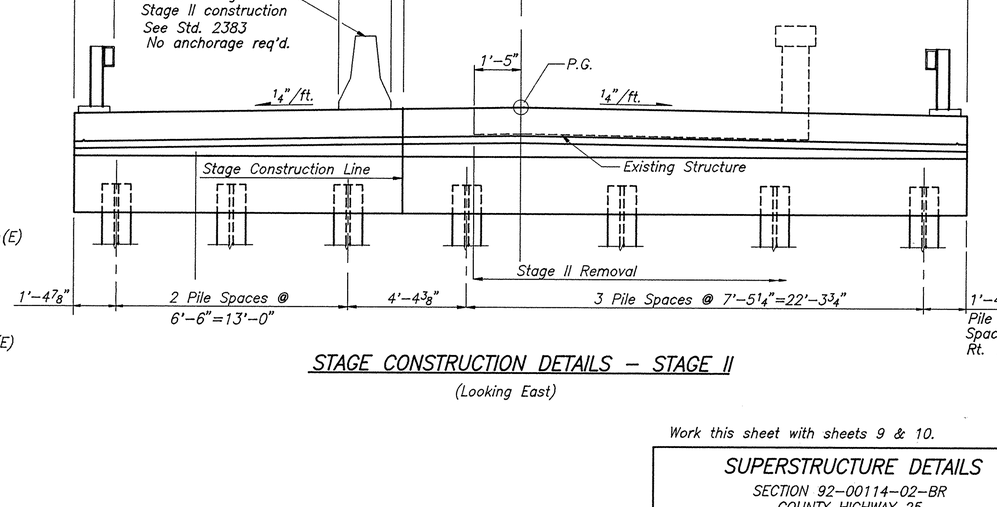
STAGE CONSTRUCTION DETAILS – STAGE I

(Looking East)



CROSS SECTION AT PIERS

(Looking East)



STAGE CONSTRUCTION DETAILS – STAGE II

(Looking East)

Work this sheet with sheets 9 & 10.

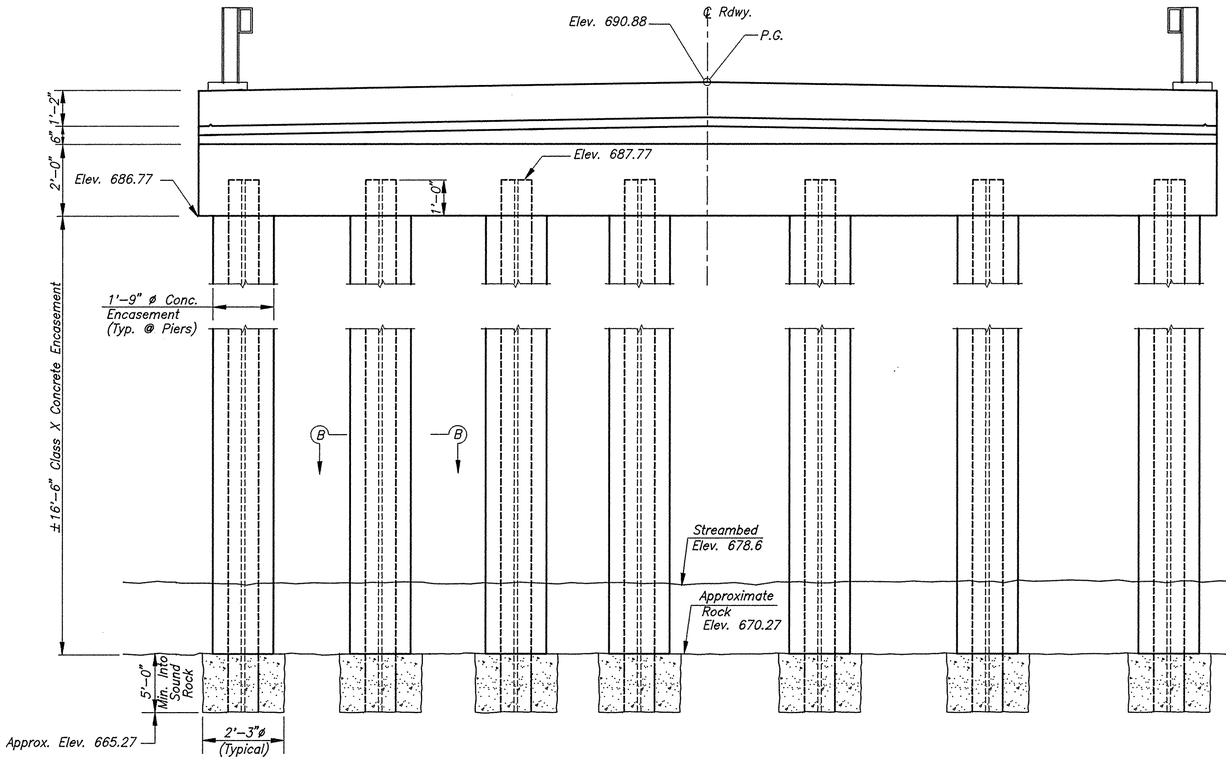
SUPERSTRUCTURE DETAILS

SECTION 92-00114-02-BR
COUNTY HIGHWAY 25
WILL COUNTY
STATION 10+01

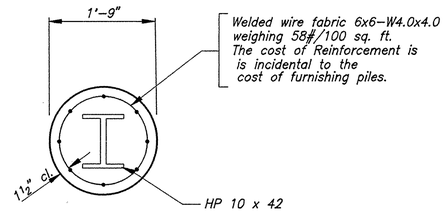
COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED M.L.L. CHECKED M.G.B.
DRAWN G.B. DATE 1-29-93 NO. 769C

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 25	92-00114 -02-BR	WILL	13	13
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



PIER ELEVATION
(Looking East)



SECTION B-B
(At Piers)

Note: See Sheet 9 for Pile Data.

ITEM	UNIT	QUANTITY
Class X Concrete Encasement	Cu. Yd.	19.7

PILE DETAILS

SECTION 92-00114-02-BR
COUNTY HIGHWAY 25
WILL COUNTY
STATION 10+01

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED M.L.L. CHECKED M.G.B.
DRAWN M.L. DATE 1-29-93 NO. 769C

Bridge Inspection Report

River Road over I-55

REGION:	1
DISTRICT:	1
ROUTE:	F.A.P. 357 (River Road)
COUNTY:	Will
STRUCTURE NUMBER:	099-4641

Prepared For: Will County Division of Transportation

Prepared By: BURNS McDONNELL

BMcD Job Number: 159646

Inspection Date: 9/27/2023
Report Date: 11/28/2023

I. General Information

Geographical and Administrative Data:

STRUCTURE NUMBER:	099-4641
REGION/DISTRICT:	1/1
COUNTY:	Will
LOCATION:	Wilmington Township, IL
ROUTE CARRIED:	River Road (F.A.P. 357)
FEATURE CROSSED:	I-55 (F.A.I. 55)
Roadway Classification:	Other Principal Arterial
Design Speed/Posted Speed:	45 MPH/ 45 MPH
ADT:	7,500 (2023) 13,320 (2046)
ADTT:	2,700 (2023) 4,796 (2046)
Inventory Rating:	1.340 (HS20-44) (LFD)
Operating Rating:	2.235 (HS20-44) (LFD)
Sufficiency Rating:	99.0

Construction History and Physical Description:

- The existing structure is a 2-span steel plate girder bridge with a cast-in-place, partially composite, reinforced concrete deck supported by a 5-column trapezoidal pier founded on drilled shafts and filled vaulted abutments founded on pile supported footings. The structure has main spans measuring approximately 102.1 ft, 112.7 ft with 29.9 ft vaulted spans at each end. for a total back-to-back approach bent length of 274.6 ft. The deck width measures 60.7 ft out-to-out. The deck slab is approximately 7½" thick and utilizes 2'-10" F-shape barrier and 9" raised curb median.
- The structure is on a curved horizontal alignment with a radius of 2546.5 ft and a vertical crest curve with grades of 4.678% and -4.889%. The bridge has a skew of 34°39'29" right forward relative to the local tangent.
- The existing structure was constructed in 2003 under Route FAI-55, Section 99-2HB-4B to replace structure 099-0160.
- No repair history is available.
- Abbreviated existing plans can be seen in Attachment D.

II. Structure Evaluation

Inspection of the bridge was conducted on September 27th, 2023, and led by Gerry Koylass, PE, SE of Burns & McDonnell. The condition of the structure was examined by visual and arms-length inspection. The following paragraphs outline the inspection findings as they pertain to individual bridge elements. See Attachment C for inspection photos.

Inspection History (NBIS Ratings):

Year:	2023	Deck:	7	Super:	7	Sub:	7
Year:	2021	Deck:	7	Super:	7	Sub:	7
Year:	2019	Deck:	7	Super:	7	Sub:	7

Bridge Deck: The bridge deck is in good condition. The top of deck and approach slab show minimal signs of deterioration (Photo 2, 3 and 4). The underside of the deck shows signs of no notable deterioration (Photo 5).

Superstructure: Steel girders are in good condition. The paint shows wear on girders and diaphragms (Photo 5 and 6).

Joints: From top of deck the west expansion joint appears to be functioning properly. The east expansion joint has failed (Photo 4). Signs of water infiltration are present at both abutments (Photo 7).

Bearings: Bearings appear to be functioning properly. Minimal paint peeling and rusting is observed at bearings (Photo 6). Side retainers are present at abutment girders.

Substructure: The substructure is in good condition. Abutments show deterioration including cracking, minor spalling, and efflorescence (Photo 7). Pier shows no notable signs of deterioration (Photo 8). Slopewalls are in good condition with minor deterioration including cracking.

Railings: The bridge parapets are 2'-10" F-shape barrier and meet current standards for an existing structure. Hairline vertical cracking is observed throughout. The raised curb median is in good condition with minor cracking.

Approach Pavement: The approach pavement is in poor condition with failing repairs and cracking observed throughout.

III. Recommended Scope of Work

This report is part of the Planning and Environmental Linkage (PEL) Study to improve traffic flow through the corridor of River Road from I-55 to IL 53 and Wilmington-Peotone Road from IL 53 to I-57. Based on the findings from inspection, the structure is currently in fair condition to be left in place and the following scope of work is recommended:

- Replace expansion joints.
- Clean and paint fascia girders and steel within 10 feet of expansion joints.
- Clear out gravel and debris from gutters.
- Trim branches of trees adjacent to bridge that are extending into bridge shoulder.
- Clean and seal front face of abutment, seats, and backwalls, and inside face of curtain walls.
- Epoxy crack injection of cracks over 1/16" wide in substructure.

Replacement of the existing structure was not considered based on the bridge's current condition. Widening of the structure appears feasible if required by an alternative to be continued forward in the PEL study.

It is anticipated that all recommended work, including widening if needed, would be performed under staged construction with a single lane of traffic open in each direction for the duration of the construction.

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Structure Photos
D. Abbreviated Existing Plans

Range 9E – 3 PM

Twp. 33N

Location Map

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-4641 **District:** 1

Inventory Data

Facility Carried:	WILMINGTON/RIVER RD	**Bridge Name:**		**Sufficiency Rating:**	99.0
Feature Crossed:	I- 55	**Location:**	2.5 M N IL-129	**HBP Eligible:**	No
Bridge Remarks:				**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	3/1/2004 12:00:00 AM	**Replaces:**	099-0160
Status Remarks:				**Last Update Date:**	03/30/2021
Maint County:	099 WILL	**Maint Township:**	23 WILMINGTON	**Parallel Structure:**	None
Maint Responsibility:	10 I.D.O.T.		UNKNOWN	**Multi-Level Structure Nbr:**	
Service On/Under:	5 SECOND LEVEL INTERCHANGE		1 / HIGHWAY	**Skew Direction:**	
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No
Nbr Of Main Spans:	2	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No
*****Approaches*****				**Border Bridge State:**	
Near #1 Matl/Type:			/	**Bdr State SN:**	
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0
Far #1 Matl/Type:			/	**Structural Steel Wt**	406839
Far #2 Matl/Type:			/	**Substructure Material:**	

Structure Length:	214.7				
AASHTO Bridge Length:	99.9				
Length of Long Span:	112.7				
Bridge Roadway Width:	53.8				
Appr Roadway Width:	53.8				
Deck Width:	60.7				
Sidewalk Width Right:	0.0				
Sidewalk Width Left:	0.0				
Navigation Control:	N	N/A			
Navigation Horiz Clear:	0				
Navigation Vert Clear:	0				
Culvert Fill Depth:	0.0				
Number Culvert Cells:	0				
Culvert Opening Area:	0.0				
Culvert Cell Height:	0.00				
Culvert Cell Width:	0.00				

Median Width/Type:	3 Ft. / 3 Curb	**Rated By:**	2 IDOT	**Rate Method:**	6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.340(48)	**Load Rating Date:**	09/21/2004
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	2.235(80)		
Latitude:	41.35247000 **S**	**Longitude:**	88.19238000 **S**	**Design Load:**	02 HS20
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5	**SD:** N **FO:** N	
Sidewalks Under Structure:	0 None				

Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0357	**Station:**	1.9900		
Appurtenances	Main Route 00000	**Segment:**			
Inventory County:	099 WILL	**Linked:**	Y		
Township/Road Dist	23 WILMINGTON	**Natl. Hwy System:**	On NHS		
Municipality	0000	**Inventory Direction:**			
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2023 / 7500		
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	36		
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	2		
Max Rdwy Width:	32.0	**One Or Two Way:**	2 Two-Way		
Horizontal:	59.5 0.0	**Bypass Length:**	0		
		Future AADT Yr/Cnt:	2046 / 13320		
		Designated Truck Rte:	NONE		
Lateral:		**Special Systems:**	Yes		

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	7.5500		
Main Route 00000		**Segment:**			
099		**Linked:**	Y		
23 WILMINGTON		**Natl. Hwy System:**	On NHS		
0000		**Inventory Direction:**			
1051 1051		**Curr AADT Yr/Count:**	2022 / 39800		
1 INTERSTATE		**Est Truck Percentage:**	7		
South/East	**North/West**	**Number Of Lanes:**	4		
0.0		**One Or Two Way:**	2 Two-Way		
58.0	60.0	**Bypass Length:**	0		
		Future AADT Yr/Cnt:	2046 / 55872		
		Designated Truck Rte:	CLASS I		
		Special Systems:	Yes		

*** Marked Route On Data ***

	Designation		Kind		Number
Route #1:	1 Mainline		8 Other		
Route #2:	1 Mainline				
Route #3:	1 Mainline				

*** Marked Route Under Data ***

	Designation		Kind		Number
	1 Mainline		1 Interstate Highway		055
	1 Mainline				
	1 Mainline				

Structure Number: 099-4641 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 04/07/2023 **Inspection Temperature:** 47Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	S
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Total Deck Thick:**	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	06/2004				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	223	Not Acceptable	Not Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

**** Actual Posted Limits ****

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2003	Original		Reconstructed	
Route:	FAI 55		**Sta:** 1+524.003	**Sta:**	
Section Nbr:		99-2HB-4B			
Contract Nbr:		60537			
Fed Aid Pr#:		IM-055-6(211)2			
Built By:	1	I.D.O.T.			

Photo 1: North Fascia, looking South (099-4641_95)

Photo 2: Typical Top of Deck Condition, looking East (099-4641_21)

Photo 3: Typical Condition of Approach Slabs and Median Curb, looking West (099-4641_25)

Photo 4: East Expansion Joint, showing Debris, Cracking and Failed Seal (099-4641_23)

Photo 5: Typical Underside of Deck Condition, showing Cracking and Efflorescence (099-4641_30)

Photo 6: Typical Condition of Girders and Bearings, showing Paint Wear (099-4641_26)

Photo 7: East Abutment and Slopewall, looking East (099-4641_28)

Photo 8: Pier, looking West (099-4641_27)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	62
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Bench Mark:

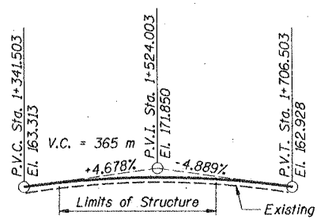
PK Nail in Pavement of Wilmington Road at Sta. 1+452.398 Offset 3.570 m (Rt.), Elevation 166.300.

Existing Structure:

S.N. 099-0160 built as F.A.I. Rte. 55 Sec. 99-2HB-4 in 1961. The superstructure consists of a 178 mm R.C. deck 77.82 m long by 10.46 m wide supported on a four simple-span rolled girder bridge with welded coverplates and composite design. No Salvage.

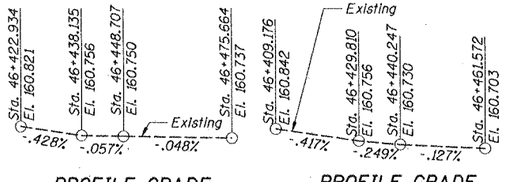
Notes:

1. *Traffic to be detoured during construction.*
2. *All dimensions are in millimeters (mm) except as noted.*



PROFILE GRADE WILMINGTON RD.

(Along ℄ Roadway - Proposed)

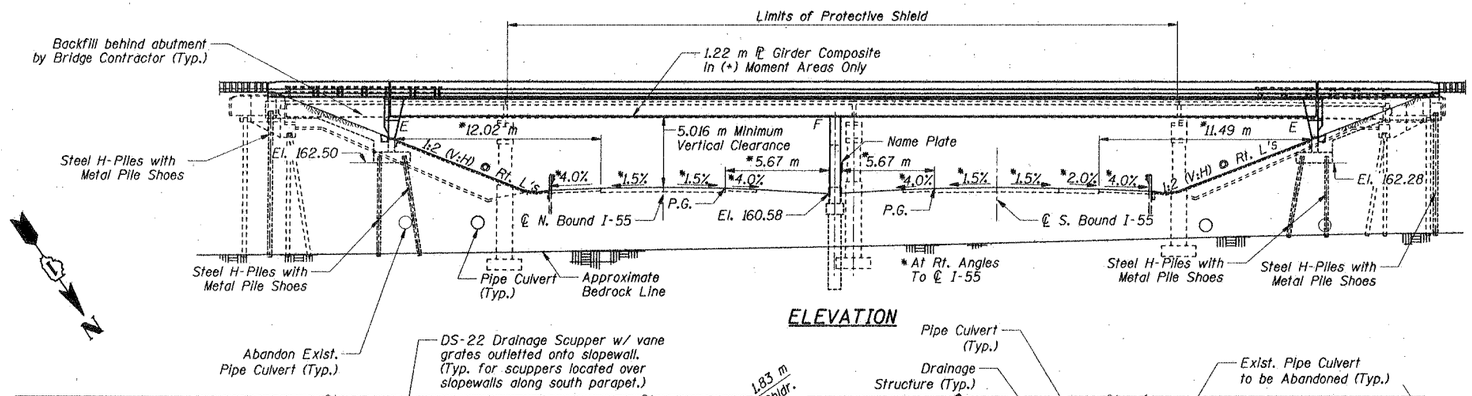


PROFILE GRADE F.A.I. ROUTE 55 (NB)

(Median Edge of Pavement - Existing)

PROFILE GRADE F.A.I. ROUTE 55 (SB)

(Median Edge of Pavement - Existing)



ELEVATION

PLAN

INDEX OF SHEETS

STATION 1+524.003
BUILT 200_ BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 99-2HB-4
F.A. PROJ.
LOADING MS 18
STR. NO. 099-4641

NAME PLATE

See Standard 515001

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PATRICK ENGINEERING, INC.
PAUL M. LOPEZ, S.E.

STATE OF ILLINOIS · PAUL M. LOPEZ · 081-005231 · LICENSED STRUCTURAL ENGINEER

Paul M. Lopez

PAUL M. LOPEZ, S.E.
081-005231

EXP 11-30-02

DATE 11-01-02

CURVE DATA

Δ = 35° 52' 31"
T = 251.259 m
L = 485.991 m
E = 39.655 m
R = 776.168 m
S.E. = 2.6%
P.C. = Sta. 1+282.582
P.T. = Sta. 1+768.573
P.I. = Sta. 1+533.840

DESIGN SPECIFICATIONS

1996 AASHTO Standard Specifications for Highway Bridges and 1997-2000 Interims

LOADING MS18

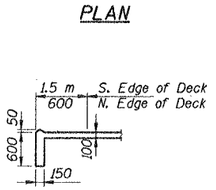
Allowance for Future Wearing Surface = 2.4 kN/m²

DESIGN STRESSES

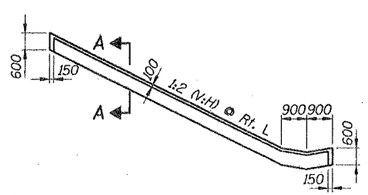
f'c = 24 Mpa
fy = 400 MPa (reinf.)
fy = 345 MPa (str.) (M270M Grade 345)

SEISMIC DATA

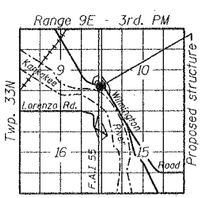
Seismic Perf. Category (SPC) = A
Bedrock Accel. Coeff. (A) = 0.035g
Site Coefficient (S) = 1.0



SECTION A-A



SECTION THRU SLOPEWALL



LOCATION SKETCH

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
WILMINGTON ROAD OVER I-55

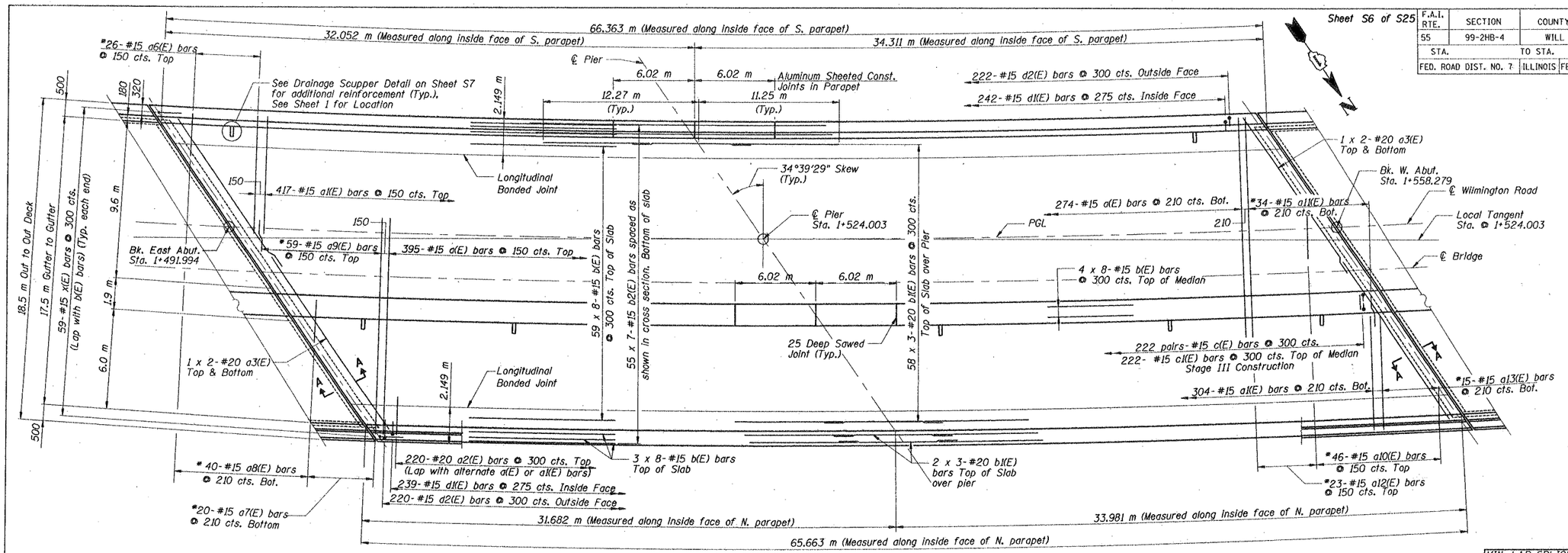
FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

SCALE: NONE DRAWN BY: B. SAUTER
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

bsauter 11/01/2002 04:56:01 PM g:\trans\8069a01\bridge\01_gpe.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	67
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



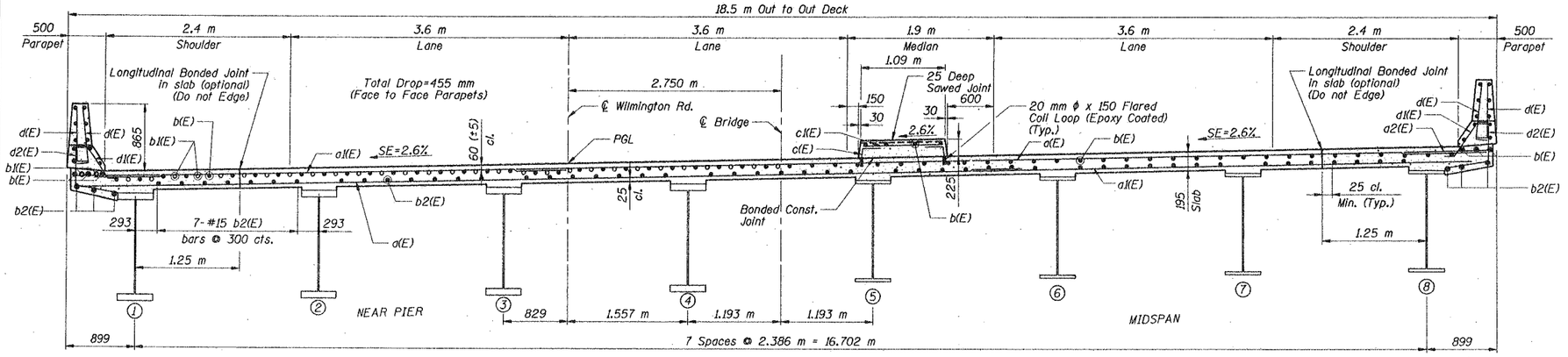
MIN. LAP SPLICE	
Bar Size	Min. Lap
#15	640
#20	790
#25	1320

* See Field Cutting Diagram on Sheet S7.

PLAN

Dimensions measured radially from ℄ Wilmington Road

Rebars a(E) and a1(E) are placed radial and spacing is along North curb line.



CROSS SECTION

(Looking West)

Dimensions measured radially from ℄ Wilmington Road

Notes:

Reinforcement bars designated (E) shall be epoxy coated.

See Sheet S7 for superstructure details and Bill of Material.

Bars indicated 20 x 3 - #15 etc. indicates 20 lines of bars with 3 lengths per line.

See Sheet S7 for Parapet Reinforcement.

All dimensions are in millimeters (mm) unless otherwise noted.

See Sheet S7 for Section A-A.

The cost of Epoxy Coated Flared Coil Loops is included with "Reinforcement Bars, Epoxy Coated".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK PLAN AND CROSS SECTION
WILMINGTON ROAD OVER I-55

FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

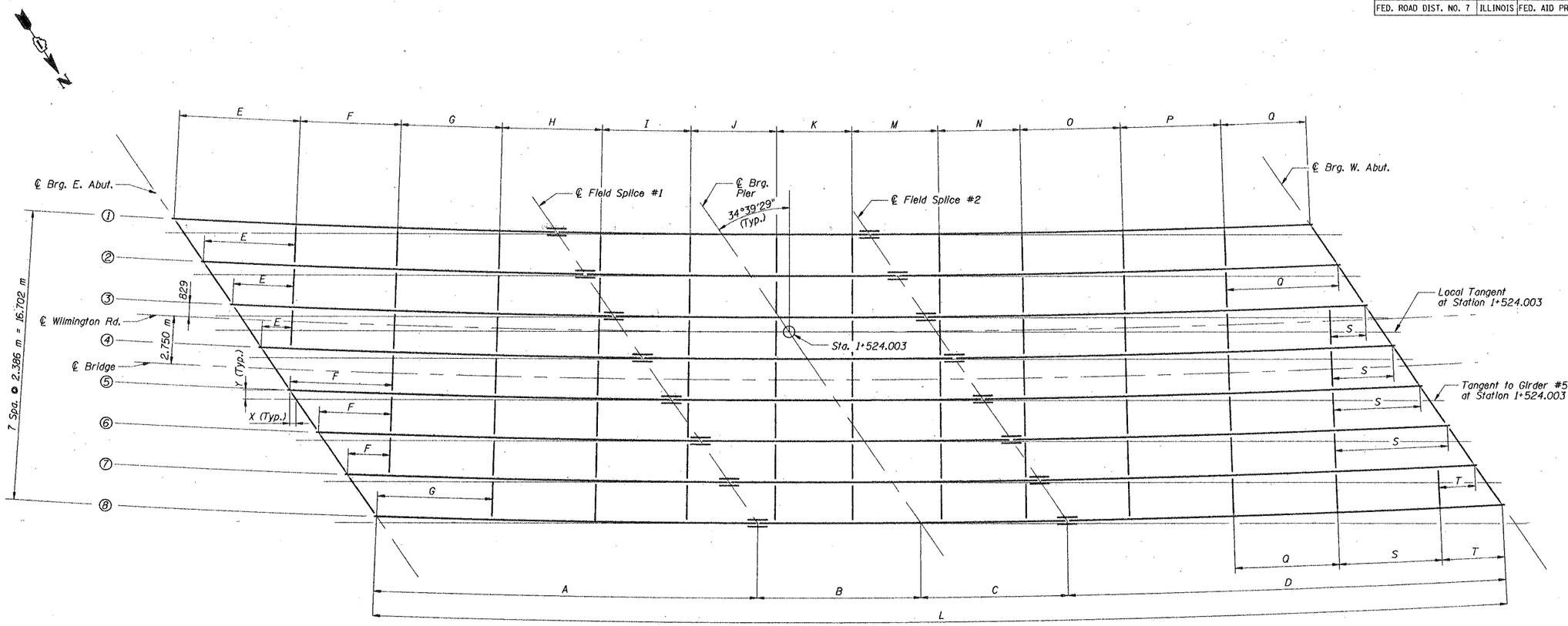
SCALE: NONE DRAWN BY: B. SAUTER
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

g:\trans\8069s01\bridge\06_deck.dgn
04:45:06 PM
bsauter
11/01/2002

Sheet S12 of S25

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	73
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



FRAMING PLAN

LAYOUT DIMENSIONS (in meters)

Girder	E. Abut. X	E. Abut. Y	Splice #1 X	Splice #1 Y	Pier X	Pier Y	Splice #2 X	Splice #2 Y	W. Abut. X	W. Abut. Y
1	0.567	0.820	0.081	0.116	0.007	0.010	0.010	0.014	0.406	0.587
2	0.512	0.741	0.062	0.089	0.002	0.003	0.018	0.026	0.449	0.650
3	0.461	0.666	0.045	0.065	0.000	0.000	0.028	0.040	0.494	0.715
4	0.412	0.596	0.031	0.045	0.001	0.001	0.041	0.059	0.541	0.783
5	0.366	0.530	0.029	0.020	0.003	0.005	0.055	0.080	0.590	0.854
6	0.323	0.468	0.011	0.017	0.008	0.012	0.073	0.105	0.641	0.927
7	0.283	0.410	0.005	0.008	0.016	0.023	0.092	0.133	0.694	1.004
8	0.246	0.356	0.001	0.002	0.026	0.037	0.113	0.164	0.749	1.083

FRAMING DIMENSIONS (in meters)

Girder	Radius	A	B	C	D	E	F	G	H	I	J	K	M	N	O	P	Q	S	T	Length(L)
1	770.567	22.164	9.515	8.513	25.448	7.098	5.873	5.873	5.873	5.134	4.957	4.384	5.032	4.740	5.873	5.873	4.930	-	-	65.640
2	772.953	22.127	9.500	8.500	25.414	5.304	5.891	5.891	5.891	5.150	4.972	4.400	5.048	4.755	5.891	5.891	5.891	-	-	65.541
3	775.339	22.090	9.486	8.488	25.380	3.513	5.909	5.909	5.909	5.166	4.987	4.411	5.064	4.769	5.909	5.909	5.909	2.078	-	65.444
4	777.725	22.054	9.471	8.476	25.347	1.725	5.927	5.927	5.927	5.182	5.003	4.425	5.079	4.784	5.927	5.927	5.927	3.586	-	65.348
5	780.111	22.018	9.457	8.464	25.314	-	5.886	5.946	5.946	5.198	5.018	4.439	5.095	4.799	5.945	5.945	5.945	5.092	-	65.253
6	782.497	21.983	9.443	8.452	25.282	-	4.112	5.964	5.964	5.214	5.003	4.452	5.110	4.813	5.964	5.964	5.964	6.597	-	65.160
7	784.883	21.948	9.430	8.440	25.250	-	2.362	5.982	5.982	5.230	5.049	4.466	5.126	4.828	5.982	5.982	5.982	5.982	2.117	65.068
8	787.269	21.914	9.416	8.429	25.219	-	-	6.604	6.000	5.246	5.064	4.479	5.141	4.843	6.000	6.000	6.000	6.000	3.600	64.978

Notes:

1. Dimensions "x" and "y" are given from Tangent ℄ Sta 1+524.003 for each respective girder line.
2. The contractor shall submit the proposed method of erection of the steel girders and cross frames for approval by the Engineer prior to the start of this work.
3. All girders, cross frames, connection plates, and splice plate material (except fill plates) shall be M270M, Grade 345.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
WILMINGTON ROAD OVER I-55

FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

SCALE: NONE DRAWN BY: B. SAUTER
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

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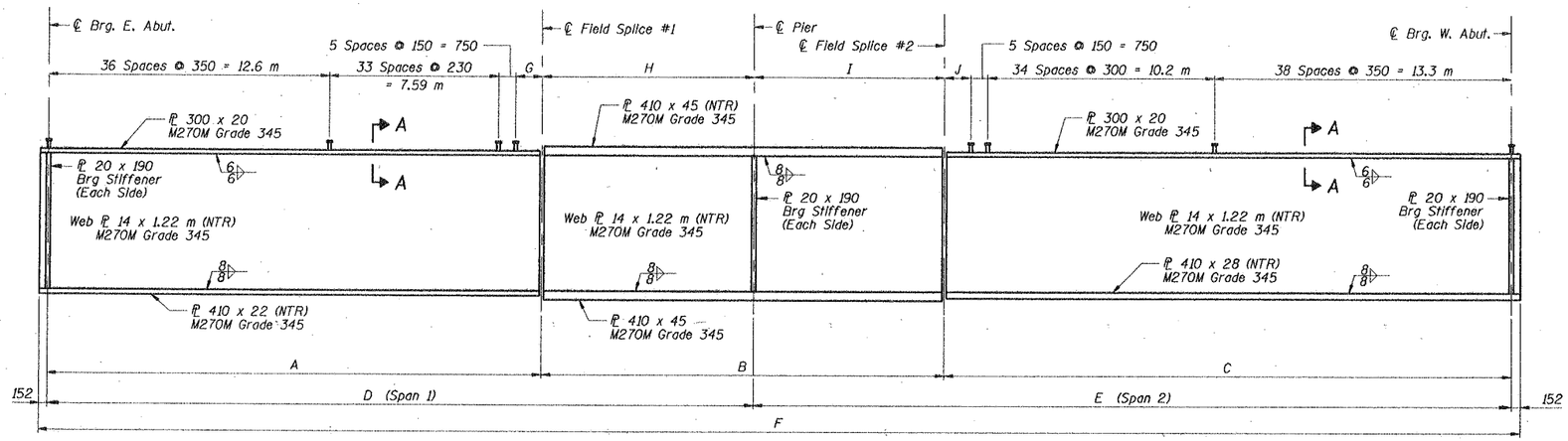
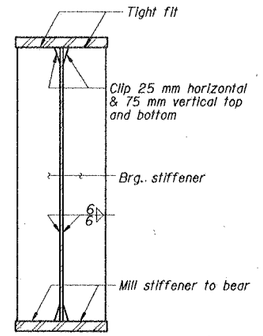
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	74
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

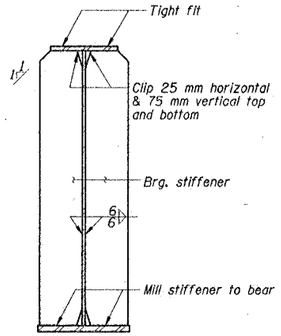


GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

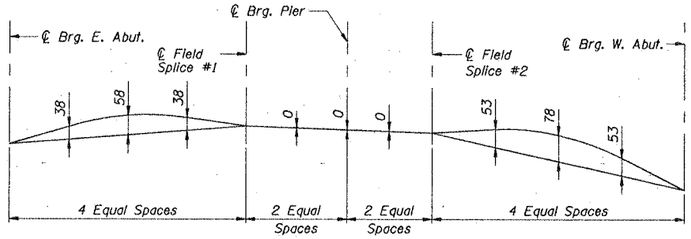


SECTION AT PIER



SECTION AT ABUTMENTS

GIRDER DIMENSIONS (m)										
Girders	A	B	C	D	E	F	G	H	I	J
1	22.164	18.016	25.448	31.679	33.961	65.944	1.224	9.515	8.513	1.198
2	22.127	17.988	25.414	31.627	33.914	65.845	1.187	9.500	8.500	1.164
3	22.090	17.961	25.380	31.576	33.868	65.748	1.150	9.486	8.488	1.130
4	22.054	17.936	25.347	31.525	33.823	65.652	1.114	9.471	8.476	1.097
5	22.018	17.912	25.314	31.475	33.778	65.557	1.078	9.457	8.464	1.064
6	21.983	17.879	25.282	31.426	33.734	65.464	1.043	9.443	8.452	1.032
7	21.948	17.853	25.250	31.378	33.690	65.372	1.008	9.430	8.440	1.000
8	21.914	17.831	25.219	31.330	33.648	65.282	0.974	9.416	8.429	0.969



CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE				
		0.4 Span 1	Pier 1	0.5 Span 2
Is	(10^6 mm⁴)	7,786	16,877	8,543
Ic (n)	(10^6 mm⁴)	20,092	-	22,764
Ic (3n)	(10^6 mm⁴)	14,684	-	16,366
Ss	(10^3 mm³)	13,581	25,763	15,873
Sc (n)	(10^3 mm³)	19,042	-	22,085
Sc (3n)	(10^3 mm³)	17,382	-	20,198
Sbi	(10^3 mm³)	619	1,259	783
℄	(kN/m)	13.93	23.50	14.15
M℄	(kN*m)	747	3,316	1,014
s℄	(kN/m)	7.56	-	7.56
Ms℄	(kN*m)	494	-	620
M℄	(kN*m)	1,489	1,346	1,601
M (Imp.)	(kN*m)	326	289	339
5/3 [M℄+M (Imp.)]	(kN*m)	3,025	2,726	3,234
Ma	(kN*m)	5,546	7,854	6,328
Mbl	(kN*m)	26	129	31
f s℄ non-comp	(MPa)	55	129	64
f s℄ (comp)	(MPa)	28	-	31
f s 5/3 (℄+Imp.)	(MPa)	159	106	146
fw	(MPa)	42	103	40
fs +fw(Overload)	(MPa)	274	314	272
fs (Total)	(MPa)	315	305	313
fs (Total)+fw	(MPa)	-	-	-
VR	(kN)	336	-	350
Fb	(MPa)	345	326	345

INTERIOR GIRDER REACTION TABLE				
		E. Abut.	Pier	W. Abut.
R℄	(kN)	240	954	267
R℄	(kN)	208	356	226
Imp.	(kN)	46	77	48
R (Total)	(kN)	494	1,387	541

Is and Ss are the moment of inertia and section modulus respectively of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus respectively of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus respectively of the composite section used in computing stresses due to superimposed dead loads.

VR is the maximum Live Load + Impact shear range in span.

Ma (Applied Moment)=1.3[M℄ + Ms℄ + 5/3 (M℄ + M_{Imp})]

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to M℄ + Ms℄ + 5/3 (M℄ + M_{Imp})].

Sbi is the section modulus for one flange plate for lateral flange bending.

Mbi is the lateral bending moment for flange plate (factored).

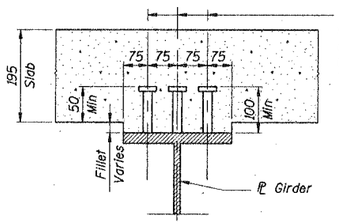
fw is the calculated normal stress at the edge of flange due to lateral bending (factored).

Fb is the maximum allowable stress Fbu or Fby computed according to AASHTO (Guide Specifications for Horizontal Curved Highway Bridges Section 2.12B and 2.16).

M℄ and R℄ include the effects of centrifugal force and superelevation.

fs(Total) is the sum of the stresses due to 1.3[M℄ + Ms℄ + 5/3 (M℄ +M_{Imp})].

fs+fw (Overload) is the sum of stresses due to M℄+Ms℄ + 5/3 (M℄ +M_{Imp}) + Mbl/1.3.



SECTION A-A

TOP OF GIRDER WEB ELEVATIONS (FOR FABRICATION ONLY)

Girder	℄ Bearing W. Abut	℄ Field Splice #1	℄ Bearing Pier	℄ Field Splice #2	℄ Bearing E. Abut
1	166.969	167.065	167.071	167.076	166.947
2	167.046	167.131	167.133	167.134	166.996
3	167.122	167.196	167.194	167.192	167.043
4	167.197	167.261	167.254	167.248	167.090
5	167.271	167.324	167.314	167.304	167.137
6	167.344	167.387	167.373	167.360	167.183
7	167.416	167.449	167.431	167.415	167.229
8	167.487	167.511	167.489	167.469	167.274

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GIRDER DETAILS
WILMINGTON ROAD OVER I-55

FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

SCALE: NONE DRAWN BY: B. SAUTER
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

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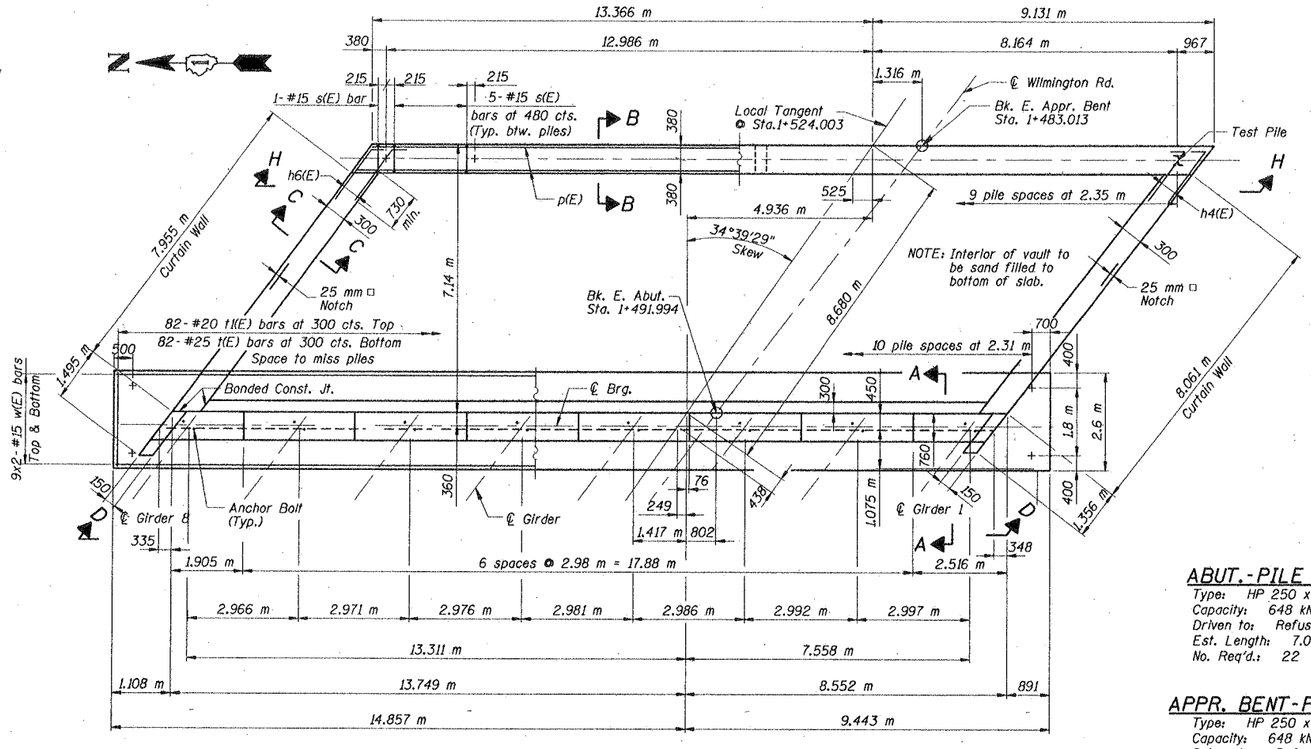
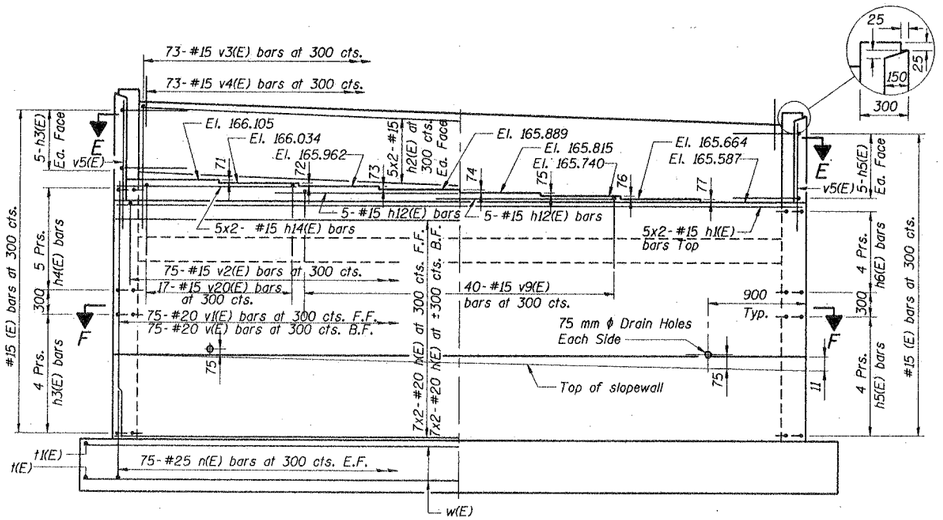
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	78
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	



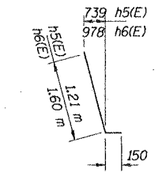
PLAN



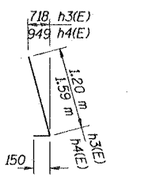
VIEW D-D
(Looking East)

Notes:

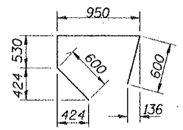
For Sections B-B, C-C, E-E, F-F, H-H and Side Elevations see Sheet S18.
Space reinforcement in cap to miss anchor bolts.
Reinforcement bars designated (E) shall be epoxy coated.
All dimensions are in millimeters (mm) except as noted.



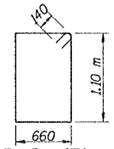
BARS h5(E) & h6(E)



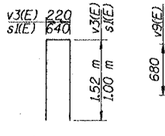
BARS h3(E) & h4(E)



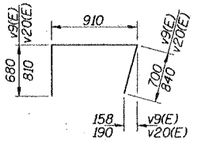
BAR v2(E)



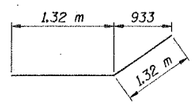
BAR s(E)



BARS v3(E) & s1(E)



BAR v9(E) & v20(E)



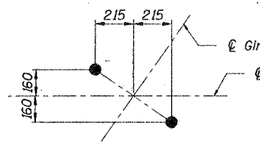
BAR p1(E)

ABUT.-PILE DATA

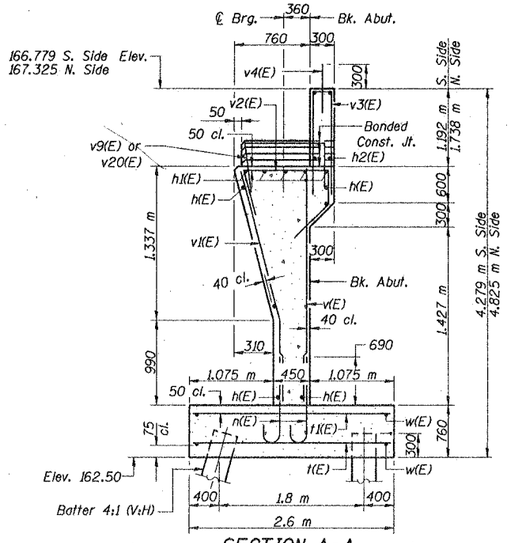
Type: HP 250 x 85
Capacity: 648 kN
Driven to: Refusal
Est. Length: 7.0 m
No. Req'd.: 22

APPR. BENT-PILE DATA

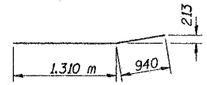
Type: HP 250 x 85
Capacity: 648 kN
Driven to: Refusal
Est. Length: 10.5 m
No. Req'd.: 9+1 Test Pile



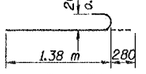
ANCHOR BOLT DETAIL



SECTION A-A



BAR v1(E)



BAR n(E)

MIN. LAP SPLICE	
Bar Size	Min. Lap
#15	640
#20	790
#25	1320

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
h(E)	28	#20	11.50	
h1(E)	10	#15	11.42	
h2(E)	20	#15	11.12	
h3(E)	18	#15	1.35	L
h4(E)	20	#15	1.74	L
h5(E)	18	#15	1.36	J
h6(E)	20	#15	1.75	J
h7(E)	13	#15	2.14	
h8(E)	22	#15	7.86	
h9(E)	4	#15	5.25	
h10(E)	16	#15	1.24	
h11(E)	4	#20	5.44	
h12(E)	10	#15	6.55	
h13(E)	10	#15	3.00	
h14(E)	10	#15	1.66	
n(E)	170	#25	1.66	
p(E)	22	#25	11.86	
p1(E)	2	#25	2.64	
s(E)	47	#15	3.80	
s1(E)	38	#15	2.64	
t(E)	82	#25	2.50	
t1(E)	82	#20	2.50	
v(E)	75	#20	2.23	
v1(E)	75	#20	2.25	
v2(E)	75	#15	2.68	
v3(E)	73	#15	3.22	
v4(E)	225	#15	0.65	
v5(E)	5	#15	1.79	
v6(E)	10	#15	3.80	
v7(E)	19	#15	4.05	
v8(E)	28	#15	1.44	
v9(E)	40	#15	2.29	
v16(E)	10	#15	4.35	
v17(E)	11	#15	4.87	
v18(E)	5	#15	2.33	
v19(E)	11	#15	1.71	
v20(E)	17	#15	2.56	
w(E)	36	#15	12.42	
Structure Excavation		m^3	222	
Concrete Structures		m^3	127.1	
Reinforcement Bars Epoxy Coated		kg	9,030	
HP 250 x 85 Piles		m	248.5	
Test Piles HP 250 x 85		Each	1	
Metal Shoes		Each	31	
Sand Backfill		m^3	198	
Bridge Seat Sealer		m^2	18	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
WILMINGTON ROAD OVER I-55
FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

SCALE: NONE DRAWN BY: E. MROCZEK
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

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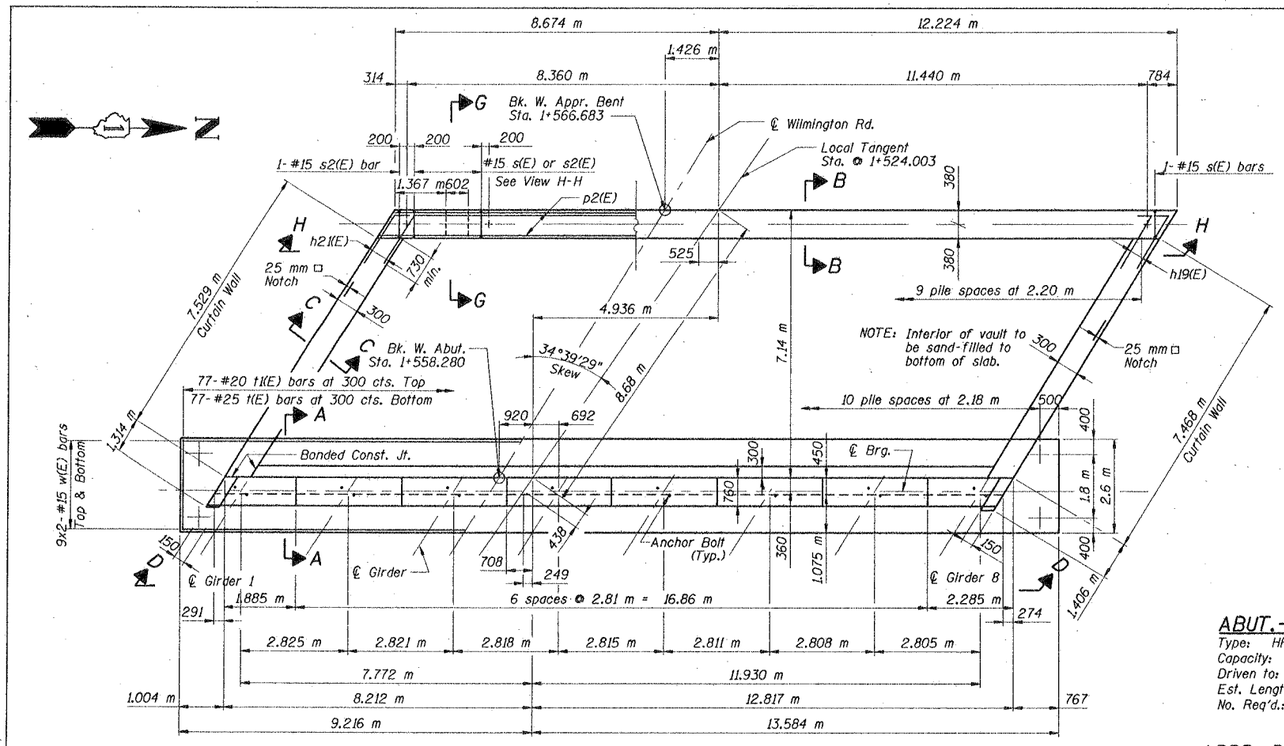
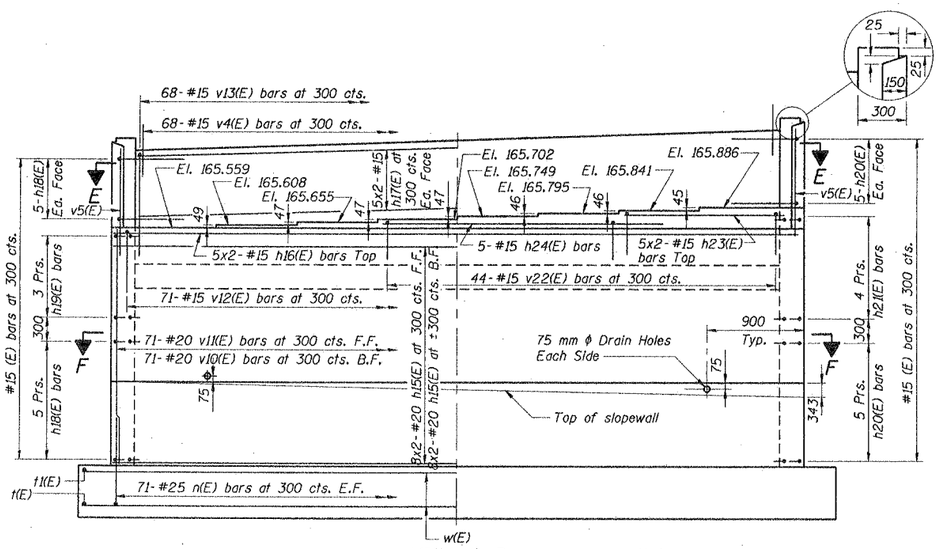
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	80
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

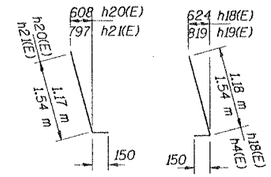


PLAN



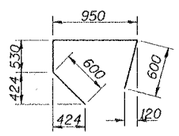
VIEW D-D

(Looking West)

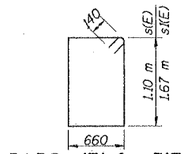


BARS h20(E) & h21(E)

BARS h18(E) & h19(E)

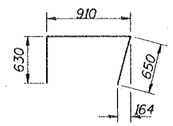


BAR v12(E)

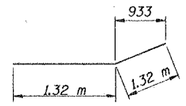


BARS s(E) & s3(E)

BARS s2(E) & v13(E)



BAR v22(E)



BAR p1(E)

BILL OF MATERIAL

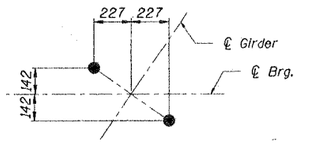
Bar	No.	Size	Length (m)	Shape
h15(E)	32	#20	10.86	
h16(E)	10	#15	10.79	
h17(E)	20	#15	10.44	
h18(E)	20	#15	1.33	L
h19(E)	18	#15	1.69	L
h20(E)	20	#15	1.32	J
h21(E)	20	#15	1.69	J
h22(E)	8	#15	1.15	
h23(E)	10	#15	2.81	
h24(E)	5	#15	9.07	
h25(E)	26	#15	7.37	
h26(E)	2	#20	2.68	
h27(E)	12	#15	2.05	
h28(E)	2	#15	3.22	
h29(E)	5	#15	5.68	
h30(E)	2	#20	5.14	
n(E)	162	#25	1.38	
p1(E)	4	#25	2.64	
p2(E)	22	#25	11.06	
s(E)	43	#15	3.80	□
s2(E)	33	#15	2.64	∏
s3(E)	4	#15	4.94	□
t(E)	77	#25	2.50	
t1(E)	77	#20	2.50	
v4(E)	208	#15	0.65	
v5(E)	5	#15	1.79	
v10(E)	71	#20	2.42	
v11(E)	71	#20	2.45	
v12(E)	71	#25	2.68	⊓
v13(E)	68	#15	3.36	∏
v14(E)	3	#15	4.59	
v15(E)	11	#15	5.02	
v18(E)	5	#15	2.33	
v21(E)	22	#15	1.74	
v22(E)	44	#15	2.19	⊓
v23(E)	36	#15	2.09	
v24(E)	10	#15	3.95	
v25(E)	10	#15	4.29	
w1(E)	36	#15	11.67	
Structure Excavation		m^3	215	
Concrete Structures		m^3	121.3	
Reinforcement Bars Epoxy Coated		kg	8,510	
HP 250 x 85 Piles		m	206	
Metal Shoes		Each	32	
Sand Backfill		m^3	185	
Bridge Seat Sealer		m^2	16	

ABUT.-PILE DATA

Type: HP 250 x 85
Capacity: 648 kN
Driven to: Refusal
Est. Length: 5.5 m
No. Req'd.: 22

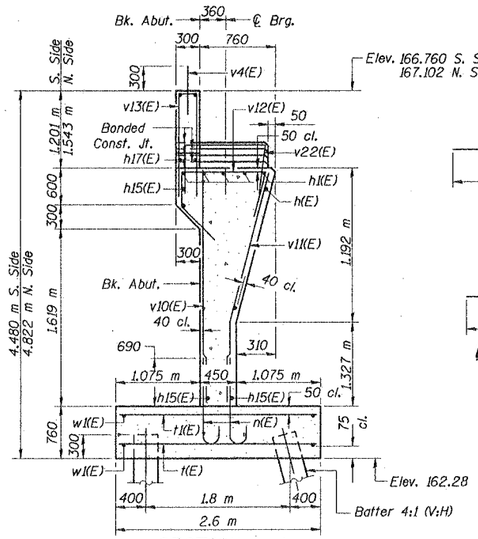
APPR. BENT-PILE DATA

Type: HP 250 x 85
Capacity: 648 kN
Driven to: Refusal
Est. Length: 8.5 m
No. Req'd.: 10

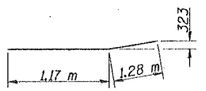


ANCHOR BOLT DETAIL

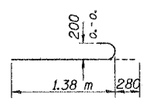
MIN. LAP SPLICE	
Bar Size	Min. Lap
#15	640
#20	790
#25	1320



SECTION A-A



BAR v11(E)



BAR n(E)

Notes:

For Sections B-B, C-C, E-E, F-F, G-G, View H-H and Side Elevations see Sheet S20.
Space reinforcement in cap to miss anchor bolts.
Reinforcement bars designated (E) shall be epoxy coated.
All dimensions are in millimeters (mm) except as noted.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
WILMINGTON ROAD OVER I-55

FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

SCALE: NONE DRAWN BY: E. MROCZEK
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

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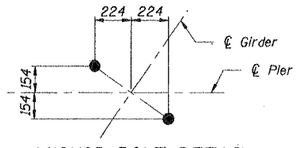
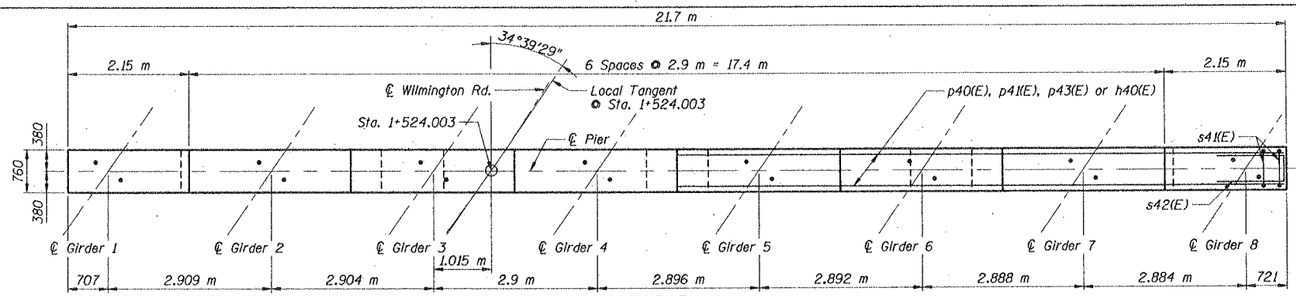
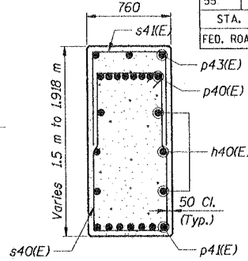
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-4	WILL	133	82
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



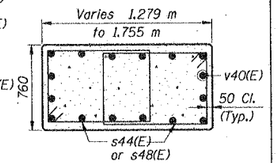
ANCHOR BOLT DETAIL



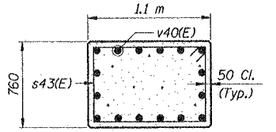
TOP PLAN



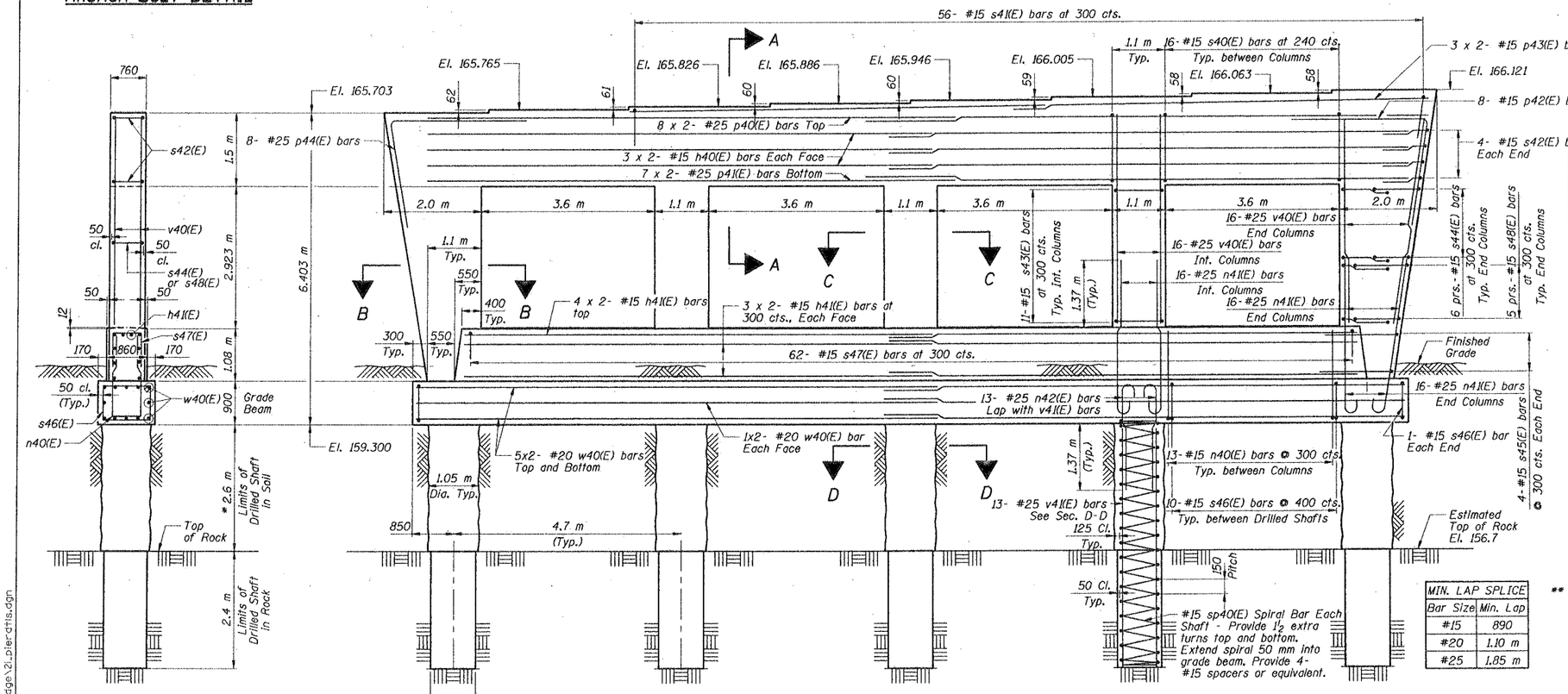
SECTION A-A



SECTION B-B



SECTION C-C



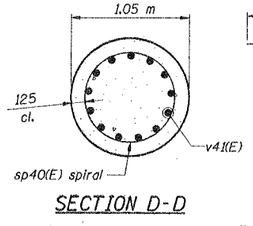
ELEVATION
(Looking West)

MIN. LAP SPLICE	
Bar Size	Min. Lap
#15	890
#20	1.10 m
#25	1.85 m

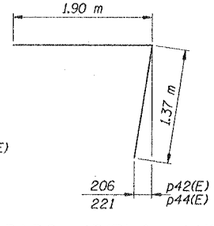
** Length is height of spiral

BILL OF MATERIAL

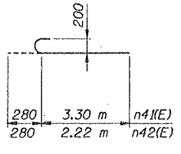
Bar	No.	Size	Length (m)	Shape
h40(E)	12	#15	11.04	
h41(E)	20	#15	9.80	
n40(E)	52	#15	4.52	
n41(E)	80	#25	3.58	
n42(E)	65	#25	2.50	
p40(E)	16	#25	11.69	
p41(E)	14	#25	11.47	
p42(E)	8	#25	3.27	
p43(E)	6	#15	9.20	
p44(E)	8	#25	3.27	
s40(E)	64	#15	4.40	
s41(E)	56	#15	1.86	
s42(E)	8	#15	2.26	
s43(E)	33	#15	3.60	
s44(E)	24	#15	3.70	
s45(E)	8	#15	3.66	
s46(E)	42	#15	4.08	
s47(E)	62	#15	2.04	
s48(E)	20	#15	3.34	
sp40(E)	5	#15	5.05	
v40(E)	80	#25	4.32	
v41(E)	65	#25	5.05	
w40(E)	24	#20	10.75	
Structure Excavation			m^3	68
Concrete Structures			m^3	82.5
Reinforcement Bars, Epoxy Coated			kg	9,860
Drilled Shaft in Soil, 1.05 m			m	13.0
Drilled Shaft in Rock, 915 mm			m	12.0



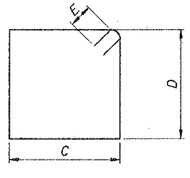
SECTION D-D



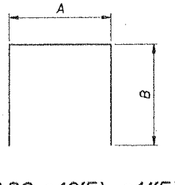
BARS p42(E) & p44(E)



BARS n41(E) & n42(E)



BARS s40(E), s43(E), s44(E), s46(E) & s48(E)



BARS n40(E), s41(E), s42(E), s45(E) & s47(E)

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

BAR DIMENSIONS

Bar	A	B
n40(E)	760	1.88 m
s41(E)	660	600
s42(E)	660	800
s45(E)	660	1.50 m
s47(E)	760	640

BAR DIMENSIONS

Bar	C	D	E
s40(E)	660	1.40 m	140
s43(E)	1.00 m	660	140
s44(E)	1.05 m	660	140
s46(E)	1.10 m	800	140
s48(E)	870	660	140

Notes:

1. Reinforcement Bars designated (E) shall be epoxy coated.
2. Cast steps monolithically with cap.
3. Space cap reinforcement to miss anchor bolts.
4. Minimum lap for spirals = 1½ turns.
5. Bars indicated thus 1 x 2- #15 etc. indicates 1 line of bars with two lengths per line.
6. All dimensions are in millimeters (mm) unless otherwise noted.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER
WILMINGTON ROAD OVER I-55

FAI 55 SECTION 99-2HB-4
STRUCTURE NUMBER 099-4641
WILL COUNTY STATION 1+524.003

SCALE: NONE DRAWN BY: B. SAUTER
DATE: OCTOBER 25, 2002 CHECKED BY: G. HATLESTAD

PATRICK ENGINEERING INC.
LISLE, ILLINOIS

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