

BM#59: Chiseled square on southwest corner brg. hub guard, 16.6' Rt. Sta. 950+48.1, Elev. 655.02

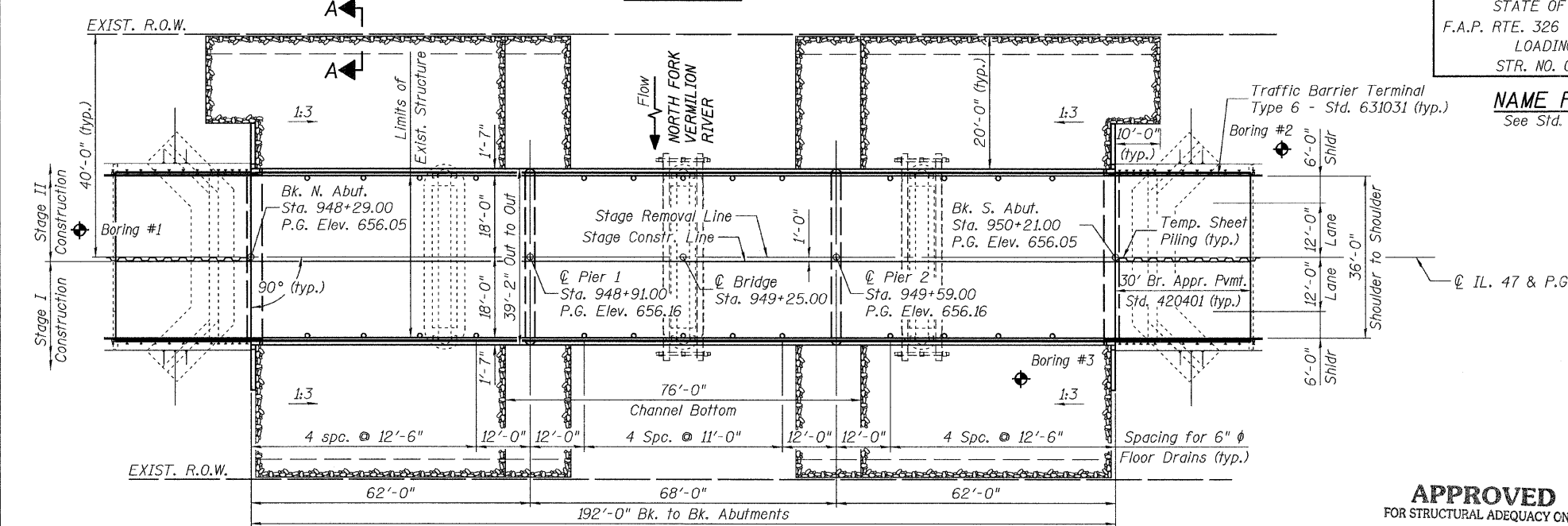
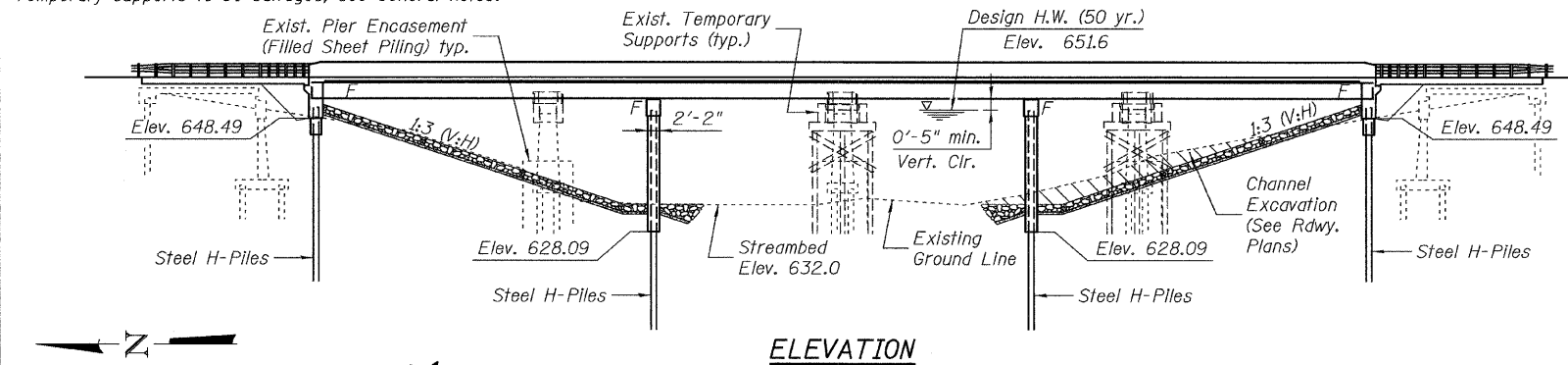
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 1  
OF 18

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(123)BR-3	LIVINGSTON	123	123
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 66601	

EXISTING STRUCTURE: S.N. 053-0050, originally constructed in 1928 as SBI 47, Section 123-B at Station 949+25.00, superstructure replaced on a widened substructure in 1964 with 27" PPC deck beams and 2" bituminous overlay, four simple spans @ 52.5'-53.0'-53.1'-52.1', 210.6' back-back abutments, 253.3' back-back approach bents, 36.0' o. to o. width, R.C. closed abutments on timber piles, R.C. solid pier on timber piles. Temporary Supports added in 2004. Existing structure shall be removed and replaced using staged construction to maintain one lane of traffic at all times.

Temporary supports to be salvaged, see General Notes.



STATION 949+25.00  
BUILT BY  
STATE OF ILLINOIS  
F.A.P. RTE. 326 SEC. (123) BR-3  
LOADING HS20  
STR. NO. 053-0179

**NAME PLATE**  
See Std. 515001

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

**LOADING HS20-44**  
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
2002 AASHTO

**DESIGN STRESSES**  
FIELD UNITS

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
**PRECAST PRESTRESSED UNITS**  
 $f'_c = 6,000$  psi  
 $f'_ci = 5,000$  psi  
 $f'_s = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strands)  
 $f'_si = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strands)

**SEISMIC DATA**  
Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.04g  
Site Coefficient (S) = 1.2

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The Steel H-piles shall be according to AASHTO M 270 Grade 50.

The contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

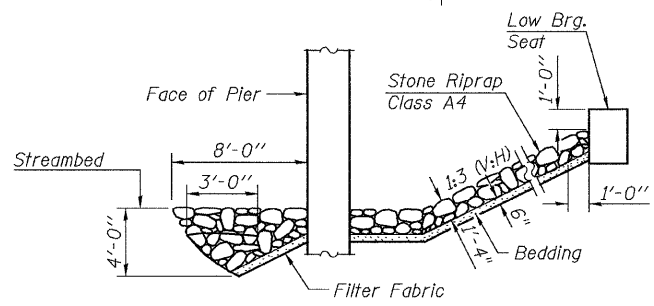
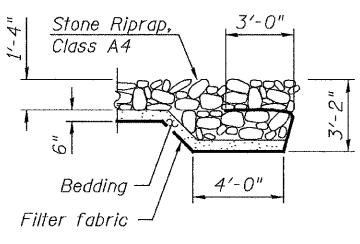
All construction joints shall be bonded.

The existing bearing pads at Piers 1 and 3 contain asbestos. The Contractor shall take appropriate precautions to deal with the presence and disposal of asbestos on this project. (See Special Provisions)

The Removal of Existing Structures shall include removal of the Piers (1-2-3), the Temporary Supports (at Piers 1-2-3), the Superstructure spans (1-2-3-4), and the Approach Span slabs at both ends of the bridge (beneath the proposed Bridge Approach Pavement). All structural steel from the existing temporary supports shall become the property of IDOT and delivered to Forrest maintenance yard.

**TOTAL BILL OF MATERIAL**

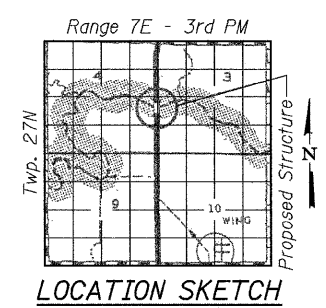
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu Yd	--	130	130
Stone Riprap, Class A4	Sq Yd	--	1286	1286
Filter Fabric	Sq Yd	--	1286	1286
Removal Of Existing Structures	Each	1	--	1
Structure Excavation	Cu Yd	--	106	106
Floor Drains	Each	26	--	26
Concrete Structures	Cu Yd	--	188.6	188.6
Concrete Superstructure	Cu Yd	258.6	--	258.6
Bridge Deck Grooving	Sq Yd	726	--	726
Protective Coat	Sq Yd	929	--	929
F & E PPC I-Beams, 36"	Foot	1137	--	1137
Reinforcement Bars, Epoxy Coated	Pound	55570	14040	69610
Bar Splicers	Each	638	108	746
Furnishing Steel Piles HP 12x53	Foot	--	2050	2050
Driving Piles	Foot	--	2050	2050
Test Pile Steel HP12x53	Each	--	4	4
Temporary Sheet Piling	Sq Ft	--	774	774
Name Plates	Each	1	--	1
Geocomposite Wall Drain	Sq Yd	--	68	68
Pipe Underdrains For Structures, 4"	Foot	--	148	148
Underwater Struct. Excav. Protection - Loc. 1	Each	--	1	1
Underwater Struct. Excav. Protection - Loc. 2	Each	--	1	1
Asbestos Bearing Pad Removal	Each	--	96	96



**WATERWAY INFORMATION**

Prop. Low Grade Elev. = 655.0' @ Sta. 952+50  
Exist. Low Grade Elev. = 654.2' @ Sta. 948+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	5687	1816	1830	647.96	0.0	0.0	647.96	647.96
Base	50	8285	2442	2696	651.60	0.0	0.0	651.60	651.60
Overtop.(Exist)	100	9354	2442	2791	652.77	0.0	0.0	652.77	652.77
Max. Calc.	500	11809	2442	2791	654.99	0.0	0.0	654.99	654.99



**GENERAL PLAN**  
ILLINOIS 47 OVER  
NORTH FORK VERMILION RIVER  
FAP ROUTE 326 SECTION (123)BR-3  
LIVINGSTON COUNTY  
STATION 949+25.00  
STRUCTURE NO. 053-0179

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**Johnson, Depp & Quisenberry**  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB DRAWN: P. Ray  
CHECKED: DCD CHECKED: CDB/DCD

STATE OF ILLINOIS  
DAVID C. DEPP  
081-006117  
LICENSED PROFESSIONAL ENGINEER  
STRUCTURAL ENGINEER

Signed: *David Depp*  
Date: 1-30-2008  
Lic. Expires: 11-30-2008