APPROVED

APR 28 2005

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(123)BR-5	LIVINGSTON		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. ----

SHEET 1 OF 1

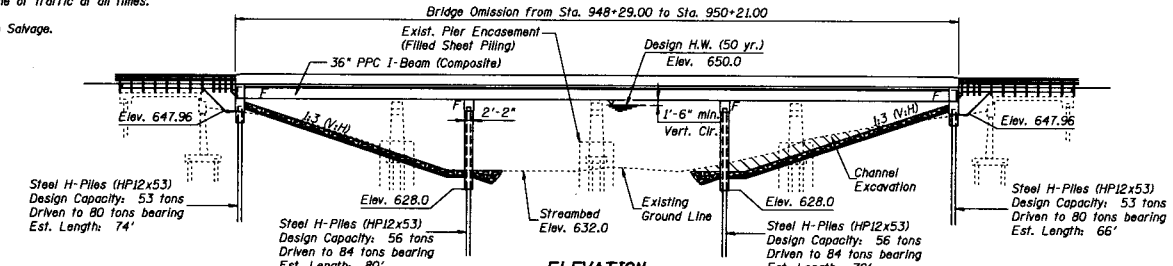
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS A BASIS FOR PREPARATION OF DETAILED PLANS

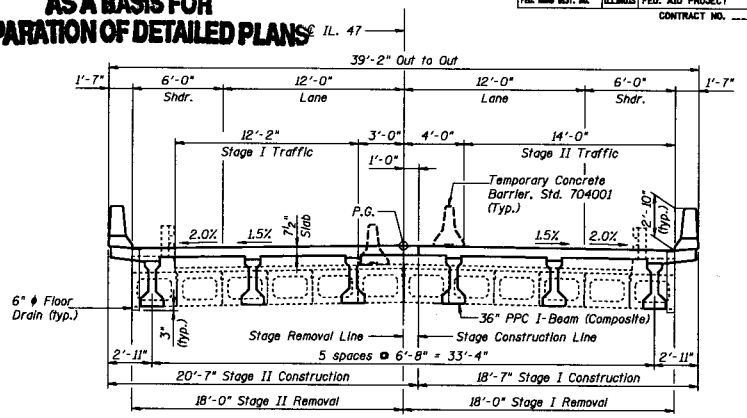
BM#59: Chiseled square on southwest corner brg. hub guard, 16.6' Rt. Sta. 950+48.1, Elev. 655.02

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. Existing structure shall be removed and replaced using staged construction to maintain one lane of traffic at all times.

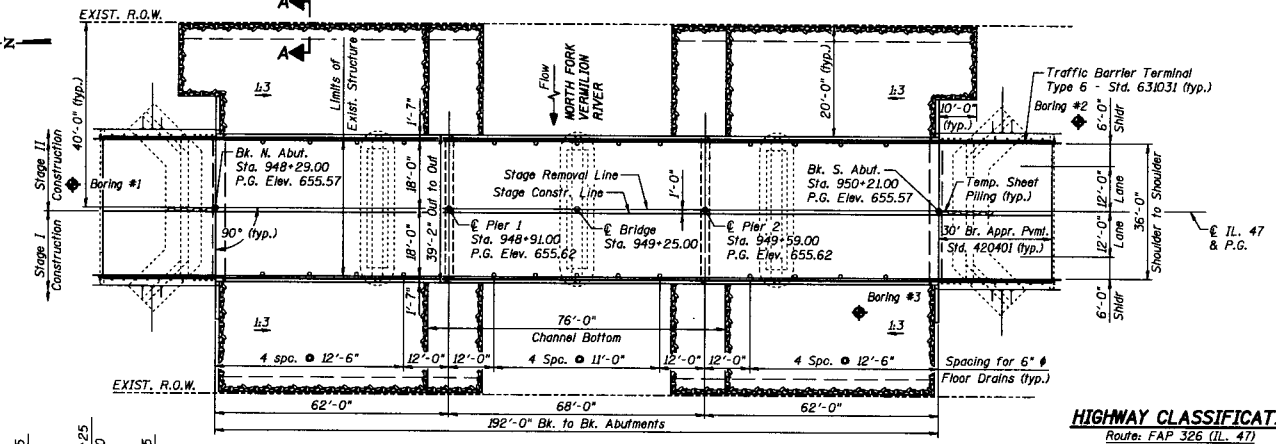
No Salvage.



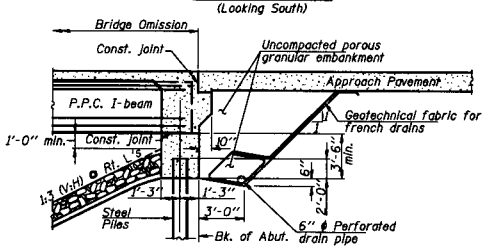
ELEVATION



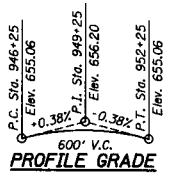
CROSS SECTION
(Looking South)



PLAN

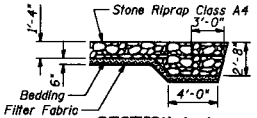


SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

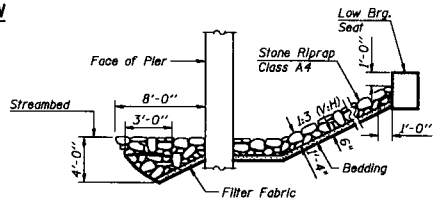


PROFILE GRADE

NOTE: Profile may be raised slightly during Final Design, in order to clear emergency repair supports.



SECTION A-A



STONE RIPRAP ANCHOR DETAIL

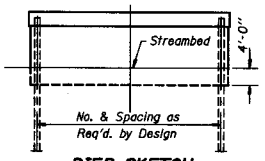
HIGHWAY CLASSIFICATION
Route: FAP 326 (IL. 47)
Functional Class: Other Principal Arterial
ADT: 3050 (2004) ; 4550 (2027)
ADTT: 860 (2004) ; 1280 (2027)
DHV: 305 (2004) ; 445 (2027)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.

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

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
f's = 270,000 psi (½" ϕ low lax strands)
fsi = 201,960 psi (½" ϕ low lax strands)

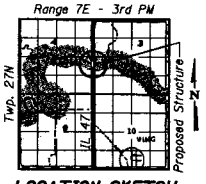
SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.2



PIER SKETCH

WATERWAY INFORMATION
Prop. Low Grade Elev. = 655.6' @ Sta. 949+00
Exist. Low Grade Elev. = 654.3' @ Sta. 949+00
Drainage Area = 229 Sq. Mi.

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	50	7000	2045	2230	650.0	0.0	0.0	650.0	650.0
Base	100	7765	2220	2395	650.9	0.0	0.0	650.9	650.9
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	9800	2340	2505	653.1	0.1	0.1	653.2	653.2



LOCATION SKETCH

GENERAL PLAN (TS&L)
ILLINOIS 47 OVER
NORTH FORK VERMILION RIVER
FAP ROUTE 326 SECTION (123)BR-5
LIVINGSTON COUNTY
STATION 949+25.00
STRUCTURE NO. 053-0179

FILE: J:\DOW\0027-L47 Livingston\Vermilion River\TSL\Digion_tsl.dgn
USER: DCD
DATE: 04/07/2005 - 11:48:52