Bench Mark: #201 Chiseled square on top of Southwest Wingwall of Structure 070-0001 Station 139+44; 23.4' Lt. Elevation 657.57

Existing Structure: S.N. 070-0001 Built 1930 as SBI Route 132, Section 102 at Station 139+30 as a reinforced concrete T-beam bridge, 53'-2" Bk. to Bk. closed abutments supported on untreated timber piles. In 1970, bridge widening & superstructure replacement with PPC deck beams. Existing bridge to be removed and replaced.

Traffic to be maintained utilizing stage construction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	-	-		
-				
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1

1 SHEETS

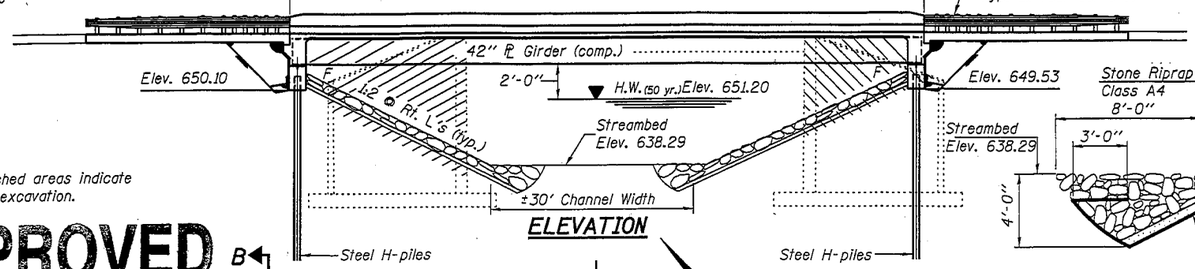
Contract #

Note: Flanges to be designed to limit deadload deflection for stage construction.

No salvage

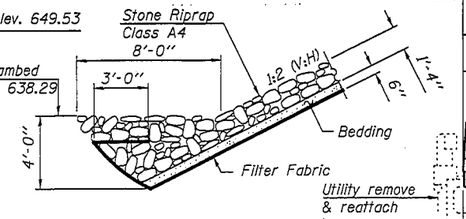
Bridge Omission Sta. 138+67.00 to Sta. 139+61.00

Traffic Barrier Terminal Std. 631031 Type 6 (typ. all four corners)

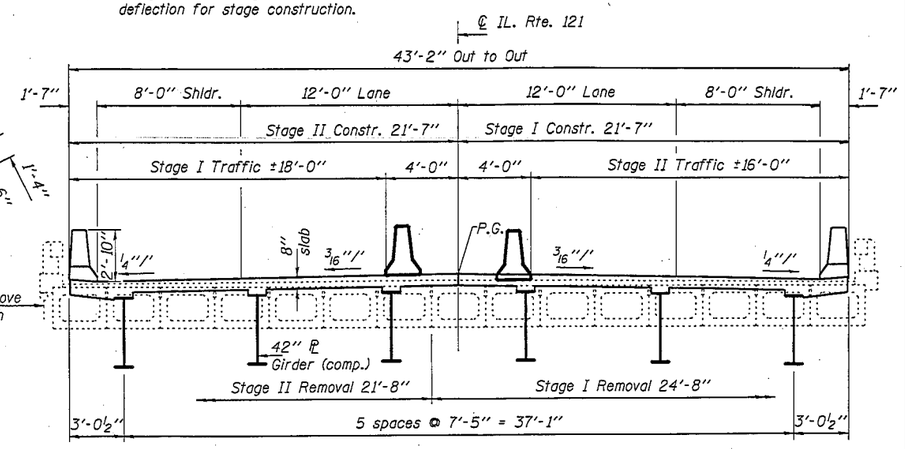


ELEVATION

Note: Hatched areas indicate soil excavation.



SECTION A-A



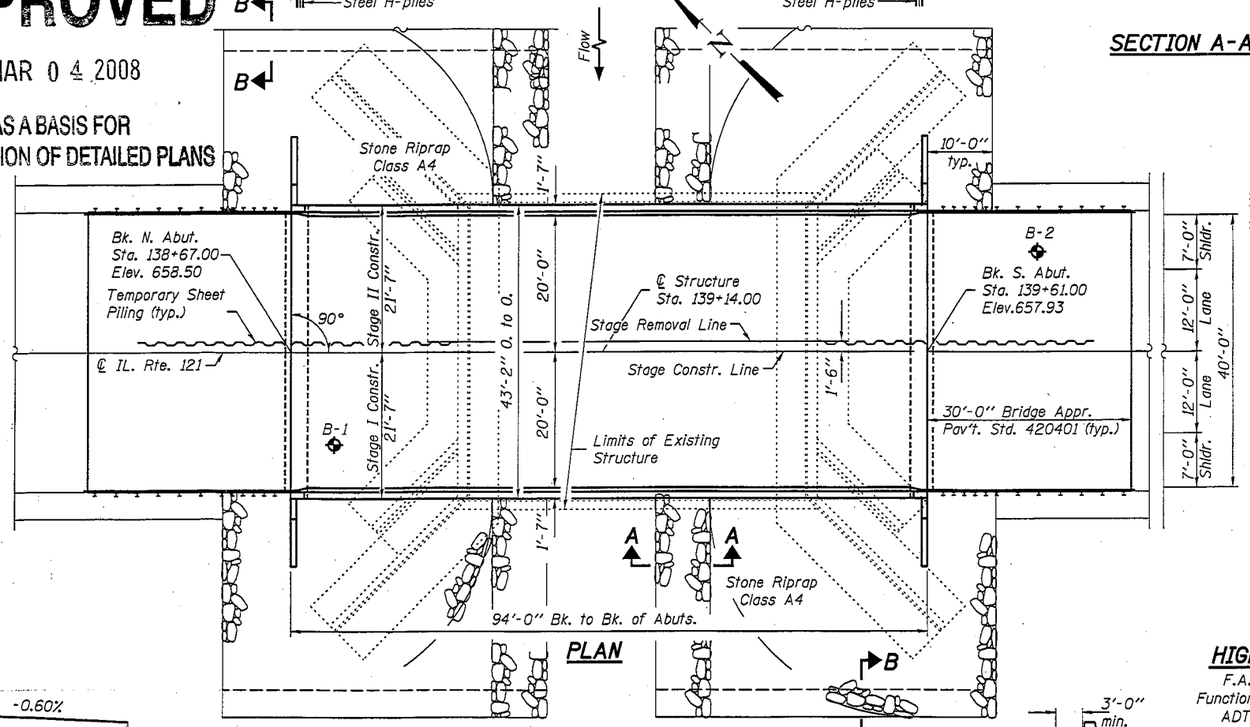
CROSS SECTION

*Stage I Traffic based on 8-15-07 Damage Inspection. See notes below.

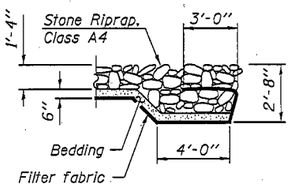
APPROVED

MAR 0 4 2008

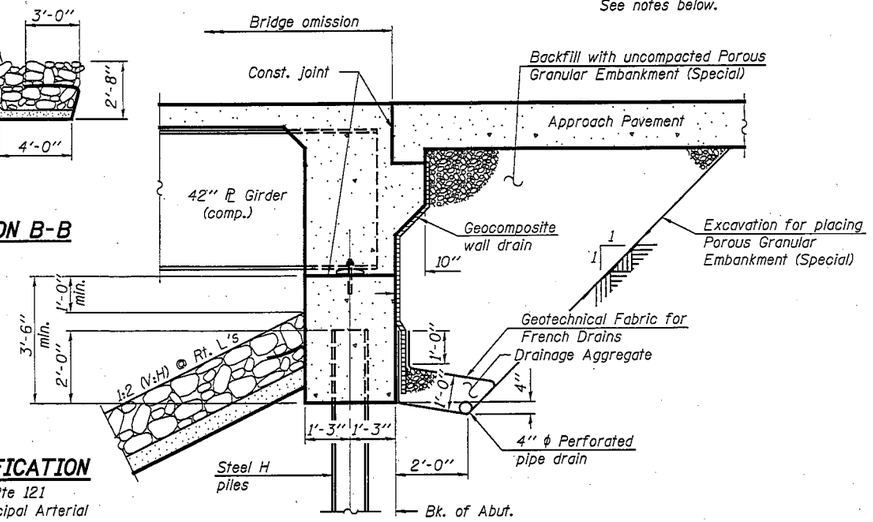
AS A BASIS FOR PREPARATION OF DETAILED PLANS



PLAN

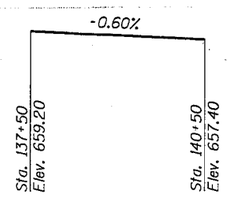


SECTION B-B

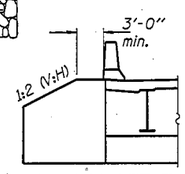


SECTION THRU INTEGRAL ABUTMENT

Note:
The condition of the existing deck beams for the duration of Stage I Traffic should be verified during final design. If their condition changes, the proposed staging sequence shall be re-evaluated. If a beam replacement, or beam support contract is required, the designer shall provide the necessary plans.



PROFILE GRADE
(IL. Rte. 121)



WINGWALL DETAIL

HIGHWAY CLASSIFICATION

F.A.P. Rte. 320 - IL. Rte 121
Functional Class: Other Principal Arterial
ADT: 4,650 (2005); 6,233 (2029)
DHV: 590
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.

LOADING HL 93

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

DESIGN SPECIFICATIONS

2007 LRFD Bridge Design Specifications, 4th. Edition

DESIGN STRESSES

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel)

SEISMIC DATA

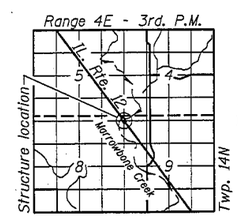
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 4.95%g
Site Coefficient (S) = 1.0

WATERWAY INFORMATION

Proposed Low Grade Elev. 656.66 @ Sta. 141+50.00
Drainage Area = 17.1 sq. mi. Existing Low Grade Elev. 656.66 @ Sta. 114+50.00

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	1175	454	565	649.7	0	0	649.7	649.7
Design	50	2873	529	689	651.2	0.1	0	651.3	651.2
Base	100	3364	554	732	651.8	0.2	0	652.0	651.8
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	4566	618	848	653.0	0.5	0.1	653.5	653.1

10 yr. velocity thru existing bridge = 3.97cfs 10 yr. velocity thru proposed bridge = 3.24 cfs



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (feet)	North Abut.	South Abut.
	650.10	649.53

GENERAL PLAN
IL. RTE. 121 OVER MARROWBONE CREEK
F.A.P. RTE. 320 - SEC. (102BY)B-1
MOULTRIE COUNTY
STATION 139+14.00
S.N. 070-0050

DESIGNED	R.J. Chaput
CHECKED	J.A. Elston
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

- 200

EXAMINED

ENGINEER OF BRIDGE DESIGN

PASSED

ENGINEER OF BRIDGES AND STRUCTURES