

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

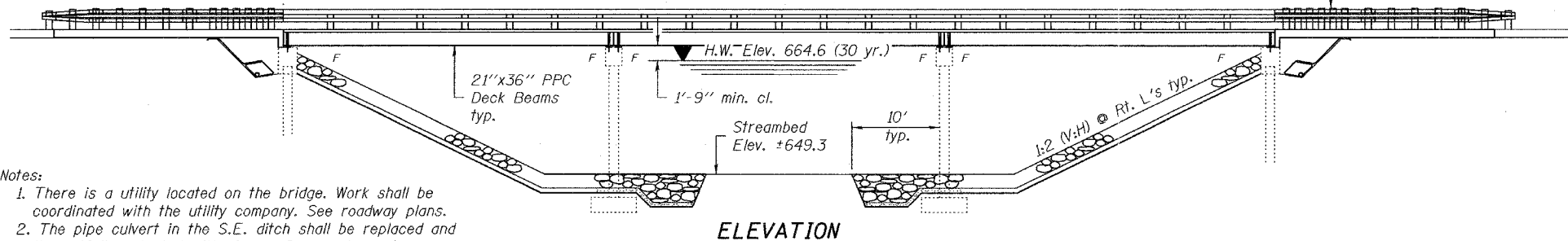
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAS 516	(240B) BR	CHAMPAIGN	9	9 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract No. 70184

Bench Mark: Chiseled square on northeast wingwall of S.N. 010-0220 21.95 ft. Right of Station 69+64.48 Elevation 668.19.
Existing Structure: S.N. 010-0220 was built in 1971 as CH-S-12, Section 240-B MFT at Sta. 3+80.00.
The structure consists of 3 simple span PPC-deck beams on pile bent abutments and multi-column piers on spread footings.
The bk. to bk. abutments dimension measures 134'-0 1/4" while the O.-O. width measures 33'-0". The existing superstructure shall be replaced with PPC deck beams. Road closure shall be used during construction.

No salvage

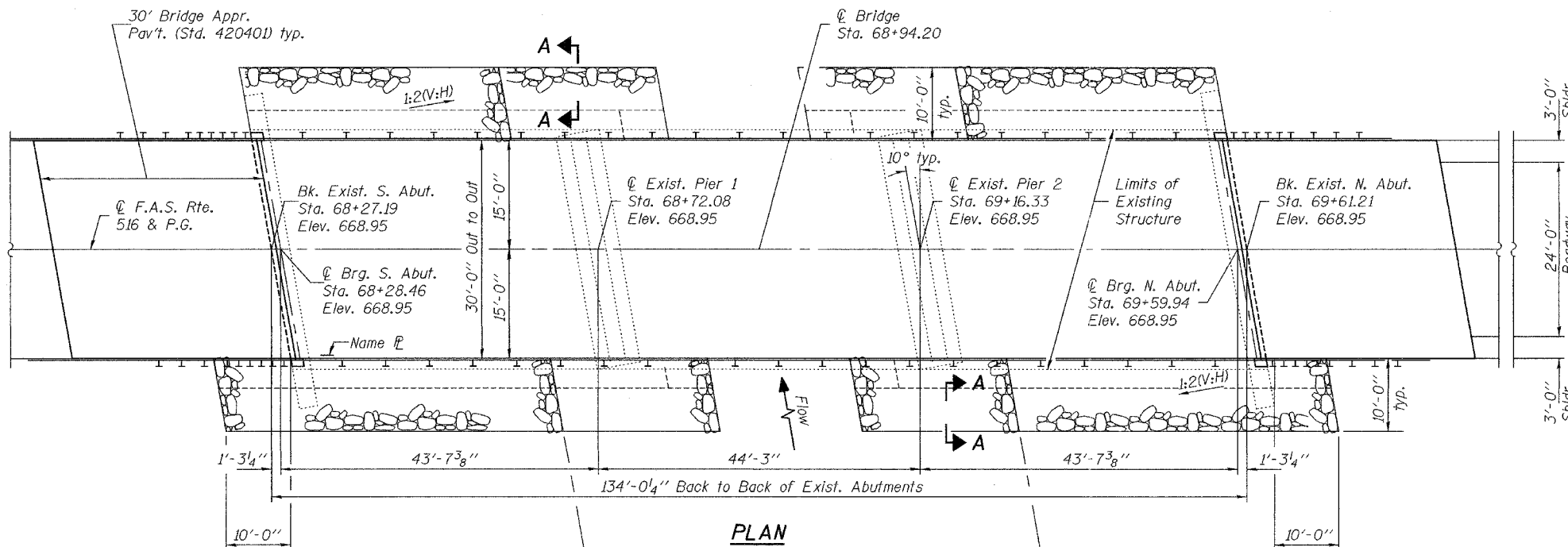
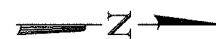
Traffic Barrier Terminal
Std. 631032 Type 6A
(typ. all four corners)



ELEVATION

- Notes:
1. There is a utility located on the bridge. Work shall be coordinated with the utility company. See roadway plans.
 2. The pipe culvert in the S.E. ditch shall be replaced and the outfall protected with riprap. See roadway plans.

- Index of Sheets
1. General Plan
 2. General Data
 3. Type SM Steel Bridge Rail Side Mounted
 4. Superstructure
 - 5-6. Superstructure Details
 7. South Abutment
 8. North Abutment
 9. Piers



PLAN

STATION 68+94.20
BUILT 200 BY
STATE OF ILLINOIS
FAS ROUTE 516 - SEC (240B)BR
LOADING HS20
STR. NO. 010-0220

NAME PLATE

See Std. 515001

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

- *Existing Beam Removal and Proposed Beam Erection Sequence:
1. Six adjacent existing beams shall be removed.
 2. Five new beams shall be installed and doweled into position.
 3. Remaining five existing beams shall be removed.
 4. Remaining five new beams shall be installed and doweled into position.

*In lieu of the noted beam removal and erection sequence, the Contractor has the option to brace piers both laterally and longitudinally prior to the deck beam removal process. The braces shall stay in place until all new deck beams are doweled into position. This is to prevent the development of excessive stresses during construction. The cost is included in Removal of Existing Superstructures.

LOADING HS20-44 (New Construction)

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS (New Construction)

2002 AASHTO

DESIGN STRESSES

FIELD UNITS

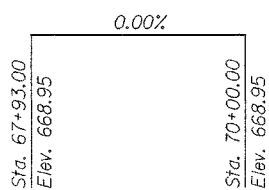
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

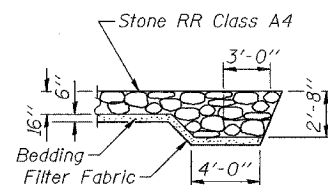
$f'_c = 5,000$ psi
 $f'_ci = 4,000$ psi
 $f'_s = 270,000$ psi (1/2" low lax. strands)
 $f'_{sl} = 201,960$ psi (1/2" low lax. strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 4.8%
Site Coefficient (S) = 1.0



PROFILE GRADE
(along ϕ roadway)



SECTION A-A

WATERWAY INFORMATION

Proposed Low Grade Elev. 668.03 @ Sta. 71+00

Drainage Area = 141.5 sq. mi.		Existing Low Grade Elev. 668.03 @ Sta. 71+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.			
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.			
Design	10	5691	1199	1199	663.5	0.5	0.5	664.0	664.0
Base	30	7359	1334	1334	664.6	0.6	0.6	665.2	665.2
Overtopping	100	9353	1457	1457	665.6	0.8	0.8	666.4	666.4
Max. Calc.	500	11817	1555	1555	666.7	1.0	1.0	667.7	667.7

10 year velocity through existing and proposed bridge = 4.79 fps

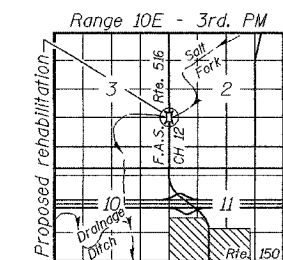
DESIGNED	Stephen M. Ryan
CHECKED	Chialyngha
DRAWN	WDC & BMC
CHECKED	SMR/ccc

EXAMINED January 28, 2005
Thomas J. Dwyer
ENGINEER OF BRIDGE DESIGN

PASSED
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2006



LOCATION SKETCH

GENERAL PLAN
CH 12 OVER
SALT FORK RIVER
F.A.S. ROUTE 516 - SECTION (240B)BR
CHAMPAIGN COUNTY
STATION 68+94.20
STRUCTURE NO. 010-0220