

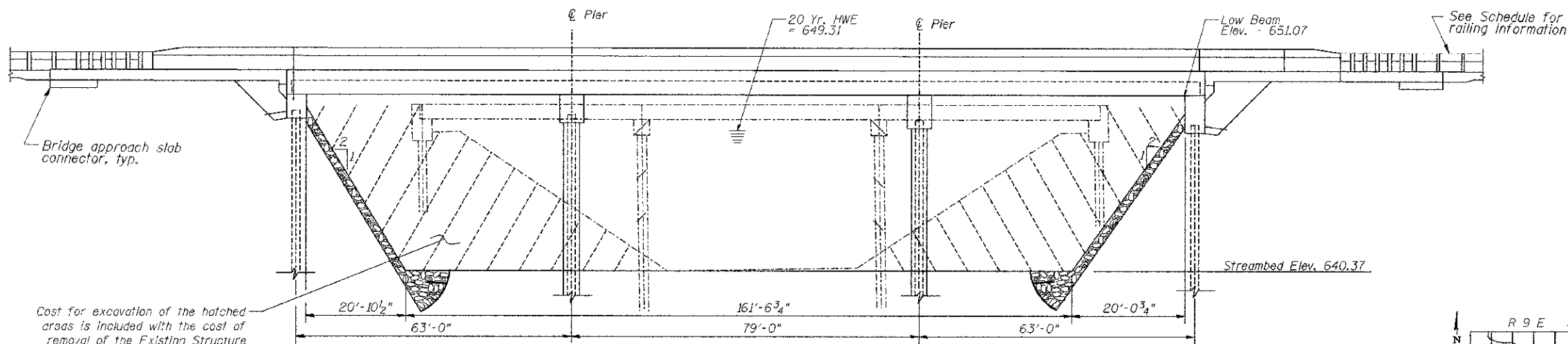
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	10

BENCHMARK DATA:

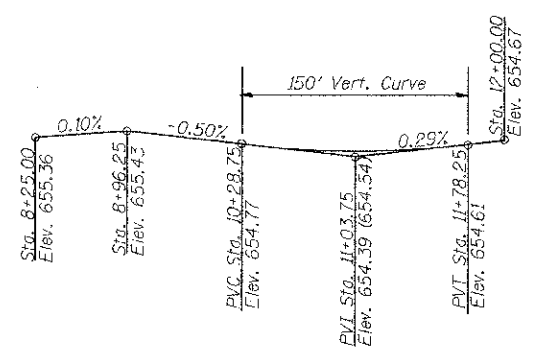
BM #1 - Spike in South face of utility pole North side of C.H. 16, 2nd pole West of bridge Sta. 7+17 67.5' Lt. Elev. 655.25
 BM #2 - CPS in South face of utility pole North side of C.H. 16, 1st pole West of bridge Sta. 9+13 69.5' Lt. Elev. 648.94
 BM #1 - CPS in South face of utility pole North side of C.H. 16, 1st pole E. of bridge Sta. 11+72, 69.2' Lt. Elev. 647.86

EXISTING STRUCTURE DESCRIPTION

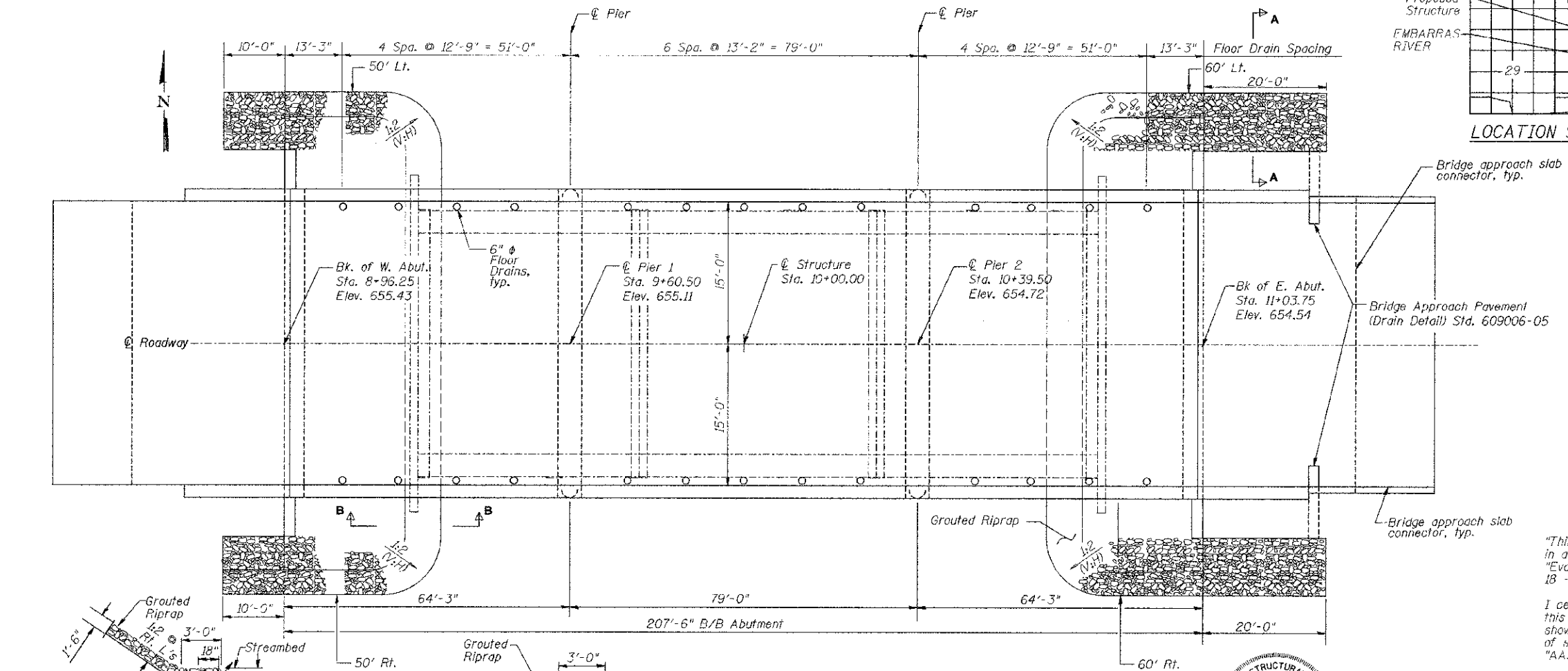
NO. 010-0117, three span 140'-3" long, back to back abutments, with a 36'-0" roadway surface, with precast concrete beams supported on concrete abutments and concrete piers supported by concrete piles. Built as Sec. 50BR at sta. 253+65 in 1969. The contractor shall remove the existing structure as required. The existing structure shall be replaced with a three span steel girder concrete deck bridge at a 0° Skew



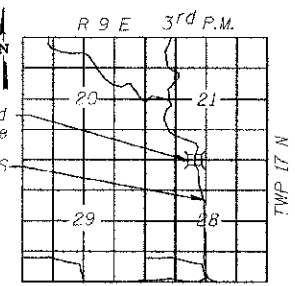
ELEVATION
(along \hat{C} Roadway)



PROFILE GRADE
(along \hat{C} Roadway)



PLAN



LOCATION SKETCH

STRUCTURE NO. 010-4548
 SEC. 07-00944-00-BR BUILT 20XX
 C.H. 16
 CHAMPAIGN COUNTY
 LOADING HL-93

NAME PLATE
 See Std. 515001

DESIGN LOADING

HL 93 and Allowance for 25 P.S.F. Future Wearing Surface

DESIGN STRESSES

$f'_c = 3,500$ psi (Concrete)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 GRADE 50W)

DESIGN SPECIFICATIONS

2010 AASHTO LFRD 5th Edition

WATERWAY DATA

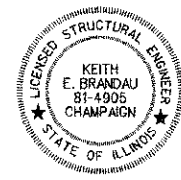
Drainage Area	47.56	Sq. Mi.
Existing Opening (20 Year)	697	Sq. Ft.
Required Opening (20 Year)	1204	Sq. Ft.
Proposed Opening (20 Year)	1127	Sq. Ft.
Design Discharge (20 Year)	1220	C.F.S.
Computed Discharge (100 Year)	4830	C.F.S.

"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 the requirements of the current "AASHTO Standard Specifications for Highway Bridges".

SECTION B-B THRU TOE OF RIPRAP
R-0-W TO R-0-W

SECTION A-A



Keith E. Brandau 4/11/12
 KEITH E. BRANDAU DATE
 Illinois Licensed Structural Engineer Number 81-4905
 License Expires 11/30/12

GENERAL PLAN AND ELEVATION
 SECTION: 07-00944-00-BR
 CHAMPAIGN COUNTY
 \hat{C} STATION 10+00