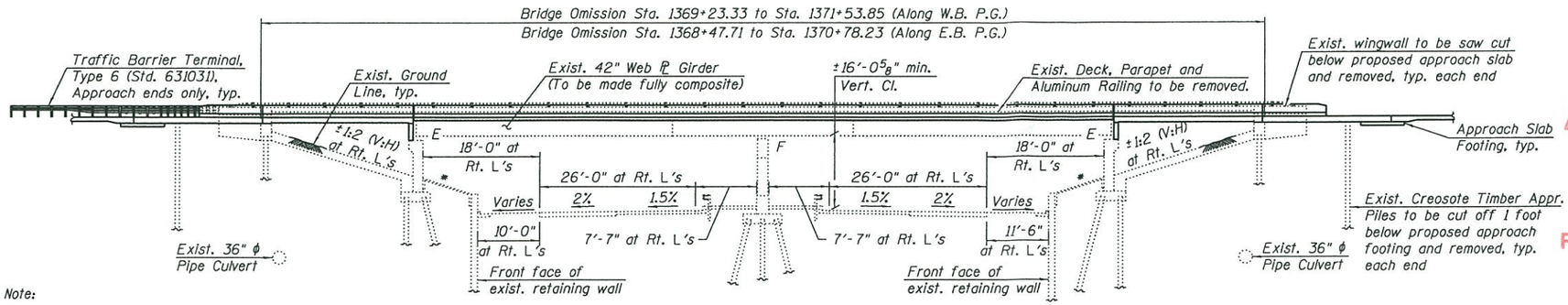
Bench Mark: National Geodetic Survey Brass Tablet set in top of concrete bridge handrail, located in the NE corner of SN 084-0149 at Sta. 1370+93, 28' Rt. Disk is stamped Curran No. 2 1975. NAVD' 88 = 640.80.

Existing Structure: The existing structures were constructed in 1974 as FA 408, Section 84-9-2HB-5. In 1992, the expansion joints were replaced on SN 084-0148. In 1998, the existing wearing surfaces on both structures were replaced with a microsilica overlay and the expansion joints were replaced on SN 084-0149. In 2004, both structures were repainted. Each structure is a two span, composite (positive moment regions only), continuous steel welded plate girder bridge consisting of a reinforced concrete deck supported on six 42" plate girders with vaulted abutments and a multicolumn pier. The approach bents, vaulted abutments, and pier are supported on concrete piles. The span lengths for each structure are 36'-6", 79'-6", 79'-6", and 36'-6" respectively. The existing structures are skewed 47°12'30" right forward. Each existing structure measures 232'-0" back to back approach bents and 42'-0" out to out bridge deck. One lane of traffic in each direction shall be maintained utilizing stage construction.

Salvage: None

SCOPE OF WORK

1. Remove and replace the existing concrete deck at each bridge.
2. Make each new deck composite full length.
3. Remove and replace each vaulted span slab at each bridge using a temporary edge beam for Stage I Traffic.
4. Remove and replace bridge approach slabs.
5. Remove and replace each abutment backwall.
6. Remove steel rocker bearings at each abutment and install new elastomeric bearings.
7. Perform concrete repair at each abutment and pier, as required.

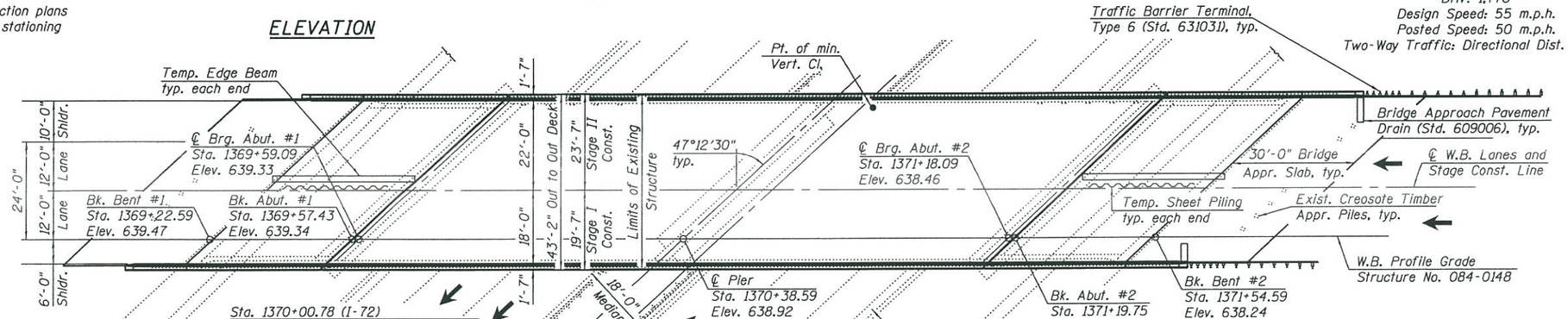


Note:

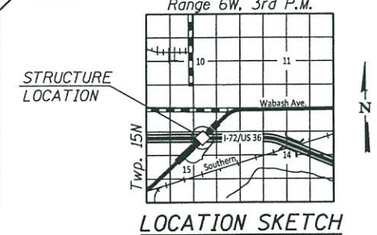
The I-72 stationing matches the original 1972 construction plans under Contract No. 29256 and differs from the I-72 stationing in the construction plans for Contract No. 72890.

* 1:2 (V:H) at Rt. L's

ELEVATION



PLAN



LOCATION SKETCH

APPROVED
SEP 30 2014
AS A BASIS FOR PREPARATION OF DETAILED PLANS

HIGHWAY CLASSIFICATION

F.A.I. 72 - I-72 / U.S. Rte. 36
Functional Class: Interstate
ADT: 19,000 (2013); 23,560 (2033)
ADTT: 3,200 (2013); 3,968 (2033)
DHV: 2,828
Design Speed: 75 m.p.h.
Posted Speed: 70 m.p.h.
Two-Way Traffic: Directional Dist. 50:50

Wabash Ave.
Functional Class: Minor Arterial (SB), Other Principal Arterial (NB)
ADT: 11,900 (2012); 14,750 (2032)
ADTT: 2,821 (2012); 3,496 (2032)
DHV: 1,770
Design Speed: 55 m.p.h.
Posted Speed: 50 m.p.h.
Two-Way Traffic: Directional Dist. 50:50

LOADING HS20-44 & ALT. (New Const.)

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

DESIGN SPECIFICATIONS (New Const.)

2002 AASHTO Standard Specification for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi (Substructure)
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Horizontal Bedrock Acceleration Coefficient (A) = 0.048g
Site Coefficient (S) = 1.2

GENERAL PLAN
I-72 (US 36) OVER WABASH AVE.
F.A.I. 72 SEC. (84-10-1,2)RS-4
SANGAMON COUNTY
STATION 1370+00.78
STRUCTURE NO. 084-0148 (W.B.) & 0149 (E.B.)

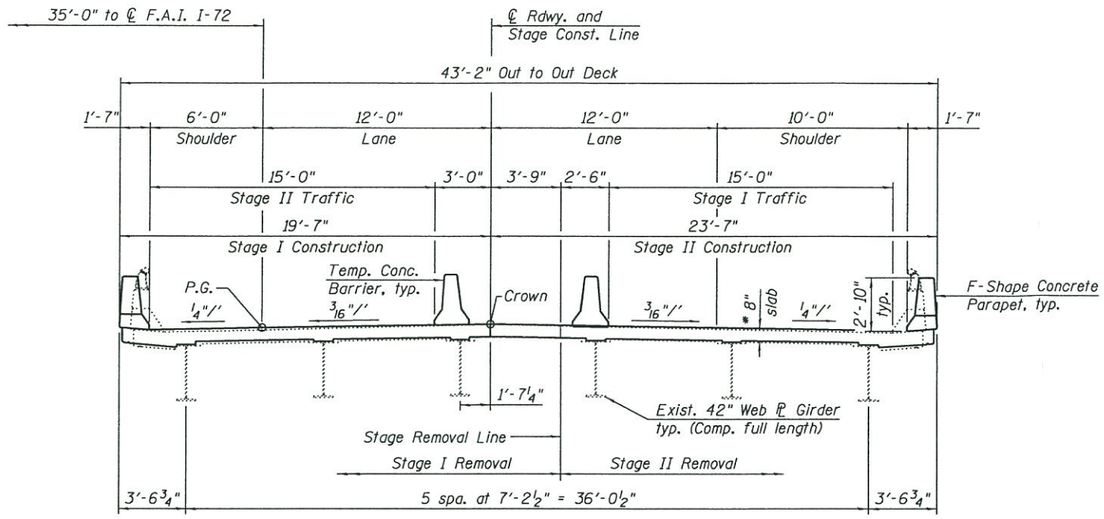
design firm no. 184001036
whks engineers + planners + land surveyors

USER NAME = dheberling	DESIGNED - SBC	REVISED
FILE NAME = 0840148-0149-72854_TSL.dgn	CHECKED - CEH	REVISED
PLOT SCALE = 0.2 '/ / in.	DRAWN - DLH	REVISED
PLOT DATE = 9/15/2014	CHECKED - SBC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

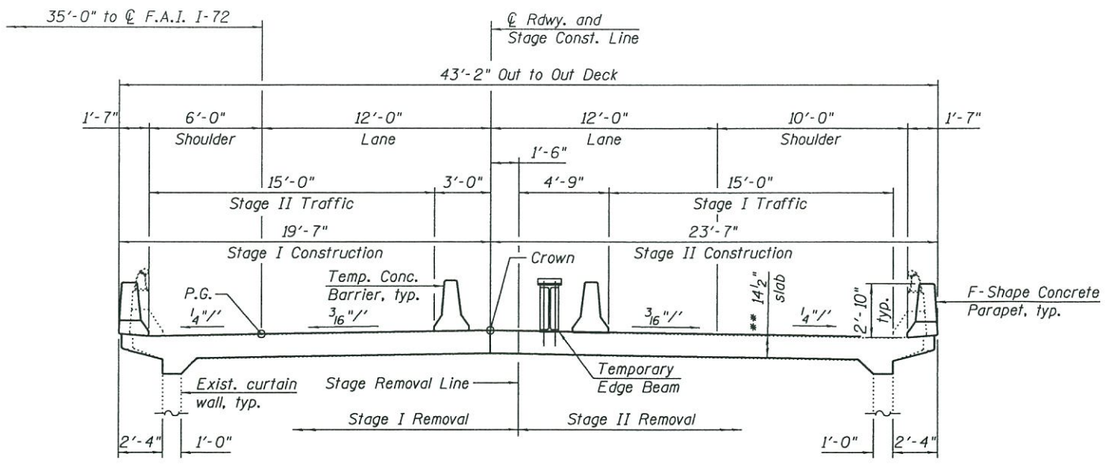
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2)RS-4	SANGAMON		
		CONTRACT NO. 72C90		
	ILLINOIS	FED. AID PROJECT		



* 8 1/4" slab in final design. Diamond Grinding for smoothness of the bridge deck shall be incorporated into the final design.

CROSS SECTION THRU BRIDGE

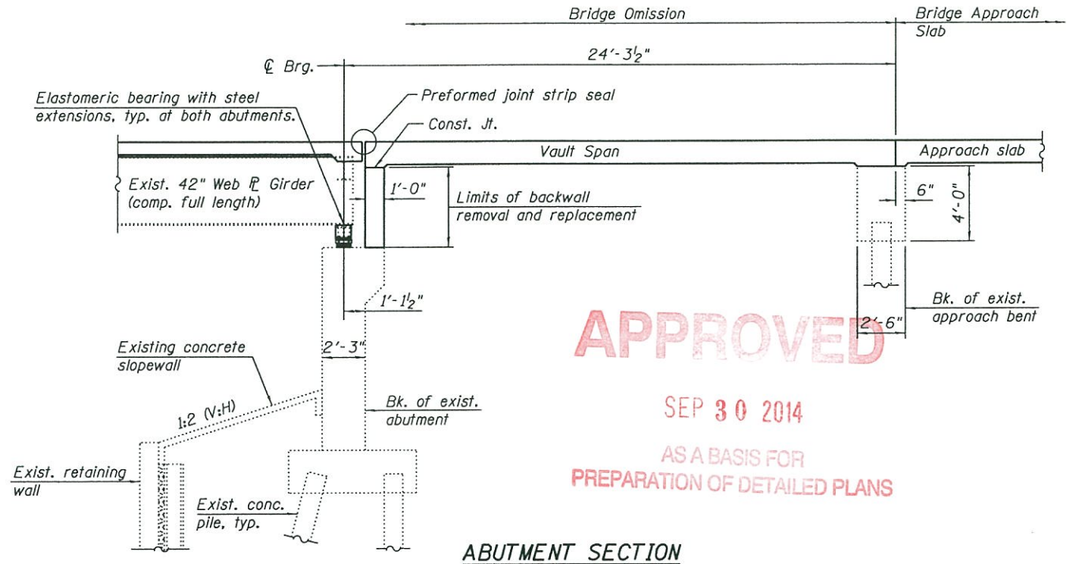
SN: 084-0148 (W.B. Looking West)
SN: 084-0149 (E.B. Looking East)



** 14 3/4" in final design. Diamond Grinding for smoothness of the vaulted and approach slabs shall be incorporated into the final design.

CROSS SECTION THRU VAULT SLAB

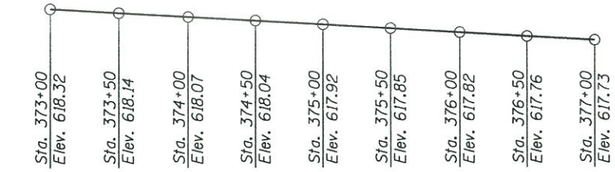
SN: 084-0148 (W.B. Looking West)
SN: 084-0149 (E.B. Looking East)



APPROVED
SEP 30 2014
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

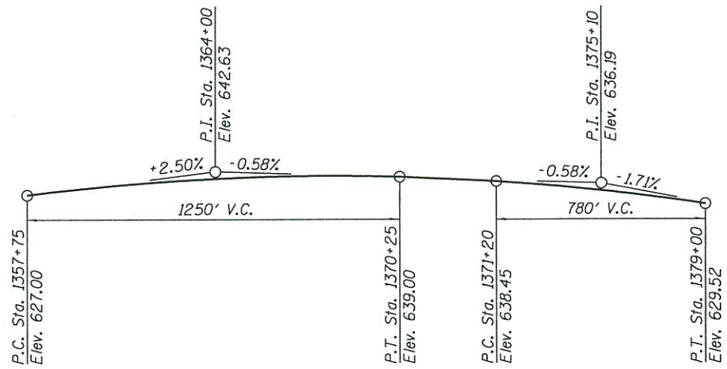
ABUTMENT SECTION

(Horiz. dimensions or Rt. L's except as noted.)



WABASH AVE. PROFILE GRADE

(See Plan on Sheet 1 of 2 for P.G. location.)



E.B. & W.B. I-72 PROFILE GRADE

(Along median edge of pavement)

design firm n.e. 184001036 whks engineers + planners + land surveyors	USER NAME = dheberling	DESIGNED - SBC	REVISED
	FILE NAME = 0840148-0149-72854.TSL	CHECKED - CEH	REVISED
	PLOT SCALE = 0x2 '-' / in.	DRAWN - DLH	REVISED
	PLOT DATE = 9/15/2014	CHECKED - SBC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS
STRUCTURE NO. 084-0148(E.B.) & 0149(W.B.)
SHEET NO. 2 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2)RS-4	SANGAMON		
		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		