

Benchmark #100: Chisled square in top NW corner of NW approach parapet of bridge SN 084-0150 NAVD88, Elev. 571.65.
 Benchmark #101: Chisled square in top SE corner of SE approach parapet of bridge SN 084-0150, NAVD88, Elev. 571.22.

Existing Structure: S.N. 084-0150 built in 1974 under section 84-10-1HB is a 2 span continuous welded plate girder structure with CIP concrete deck, supported by vaulted abutments supported on steel piles and a trapezoidal 5-column pier supported on steel piles. The existing structure is 195'-1" back to back existing abutments with 27'-7" vaulted approach spans at each end. The bridge deck is 8" thick with a 1/2" overlay, 68'-0" out to out with an 18'-0" median. In 1995, the overlay was replaced.

Bridge to be reconstructed using stage construction. One lane of Traffic to be maintained at all times. No Salvage.

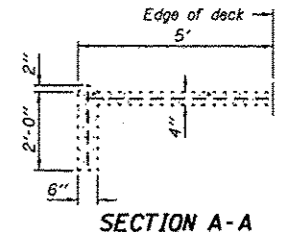
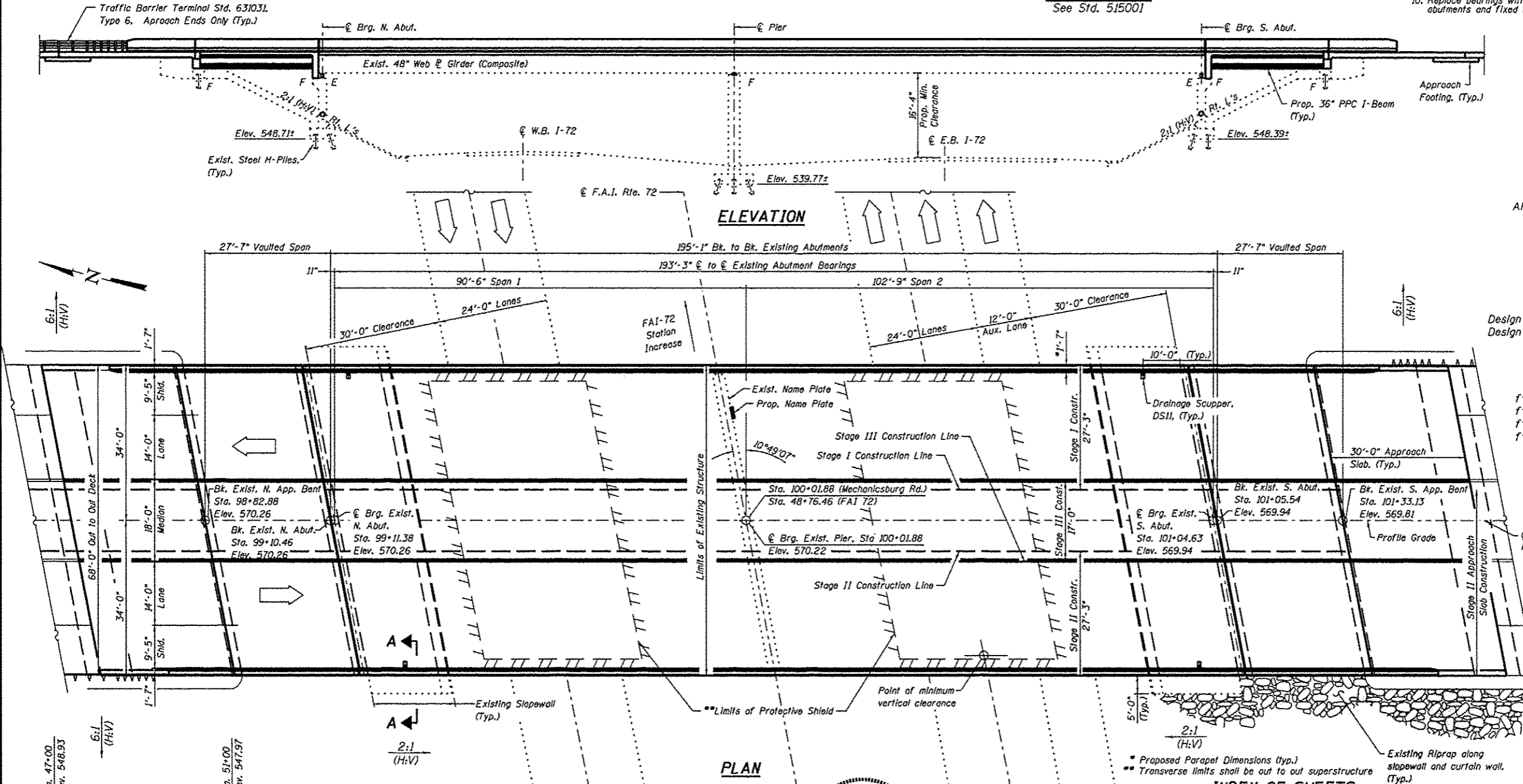
STATION 48+76.46
 REBUILT 20... BY
 STATE OF ILLINOIS
 F.A.I. RTE. 72
 SEC. (84-10-1.2) RS-3
 LOADING HS-20
 STRUCTURE NO. 084-0150

Existing Name Plate shall be cleaned and relocated next to New Name Plate, Cost Included with Name Plate.

SCOPE OF WORK

1. Remove and replace deck.
2. Remove and replace approach span.
3. Remove and replace abutment back walls.
4. Remove and replace wingwalls.
5. Install approach slab.
6. Replace the damaged slope wall sections.
7. Replace end diaphragm with channel diaphragm.
8. Install Shear Studs In Negative Moment region of Deck.
9. Jack and remove existing bearings at abutments and pier and raise profile elevation 6" while deck is off.
10. Replace bearings with new elastomeric bearings at abutments and fixed bearings at pier.

NAME PLATE
 See Std. 515001



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

DESIGN SPECIFICATIONS
 (New Construction)
 2002 AASHTO "Standard Specifications for Highway Bridges"

SEISMIC DATA
 Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_D1) = 0.065g
 Design Spectral Acceleration at 2.0 sec. (S_D2) = 0.179g
 Soil Site Class = B

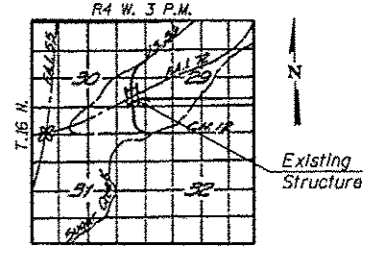
DESIGN STRESSES

PRECAST PRESTRESSED UNITS (Exist.)
 $f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_{st} = 173,600$ psi ($1/16"$ stress relieved strands)
 $f'_s = 248,000$ psi ($1/16"$ stress relieved strands)

PRECAST PRESTRESSED UNITS (Prop.)
 $f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pb} = 201,960$ psi ($1/2"$ low lax strands)
 $f_{pu} = 270,000$ psi ($1/2"$ low lax strands)

FIELD UNITS (Exist. Constr.)
 $f_c = 1,400$ psi (Substructure)
 $f_c = 1,200$ psi (Slab)
 $f_s = 20,000$ psi (Steel)
 $f_s = 20,000$ psi (Reinforcement)

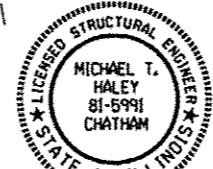
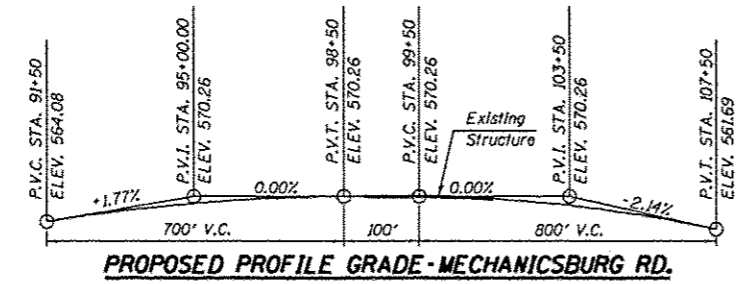
FIELD UNITS (New Const.)
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Steel)



EXISTING PROFILE GRADE - F.A.I. RT. 72
 (Median Edge of Pavement)

APPROVED
 For Structural Adequacy Only

Carl Krueger
 Engineer of Bridges & Structures



Michael T. Haley 9-18-2013
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2014

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FILE NAME * CH12 over FAI-72.dgn	USER NAME *	DESIGNED - SAL	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION MECHANICSBURG ROAD OVER F.A.I.-72 - S.N. 084-0150 SHEET NO. 1 OF 27 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE *	DRAWN - T.J.W.	REVISD -	72			(84-10-1.2) RS-3	SANGAMON	194	113	
PLOT DATE *	CHECKED - MTH	REVISD -	CONTRACT NO. 72C90							
FED. ROAD DIST. NO. 6 ILLINOIS FED. AID PROJECT										