

Bench Mark: Cut "X" in concrete median at Sta. 189+63.83, 79' Right. Elevation 686.34.

Existing Structure: Structure Number 045-0037, originally built in 1961 as FA Rte 141 under Section 61-HB-1. In 1969, the structure was widened to the South as FA Route 141 Section 61-K. In 1992, as FAU 1521 under Section 61(HB-18K)I-DL, the concrete slope walls were removed and replaced with bituminous coated aggregate slope walls. The structure is a four span continuous steel beam bridge supported by stub abutments and multi-column piers on pile supported footings. The back to back abutment length is 248'-10" and the out to out width varies 82'-10" to 88'-10 1/4". The steel beams have cover plates at Piers 1 and 2 and the newer south portion is composite. Staged construction shall be utilized to maintain one lane of traffic in each direction at all times. Salvage existing bridge rail.

* Transverse limit shall be out to out of superstructure.

INDEX OF SHEETS

1. General Plan and Elevation
2. General Data
3. Slope Wall Details
4. Stage Construction Details
5. Temporary Concrete Barrier for Stage Construction
- 6.-11. Top of Slab Elevations
- 12.-13. Top of Approach Slab Elevations
14. Superstructure
- 15.-17. Superstructure Details
- 18.-21. Bridge Approach Slab Details
22. Preformed Joint Strip Seal
23. Drainage Scupper, DS-11
24. Drainage Scupper, DS-12
25. Framing Plan and Design Data
- 26.-27. Steel Details
28. Bearing Removal Details
29. Abutment Bearing Details
- 30.-31. Pier Bearing Details
32. Concrete Removal Details
33. West Abutment Details
34. East Abutment Details
35. Abutment Details
- 36.-37. Pier 2 Pedestal Details
38. Pier Repairs
39. Bar Splicer Assembly Details

DESIGN STRESSES

FIELD UNITS

NEW CONSTRUCTION

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel) (M270 Gr. 36)

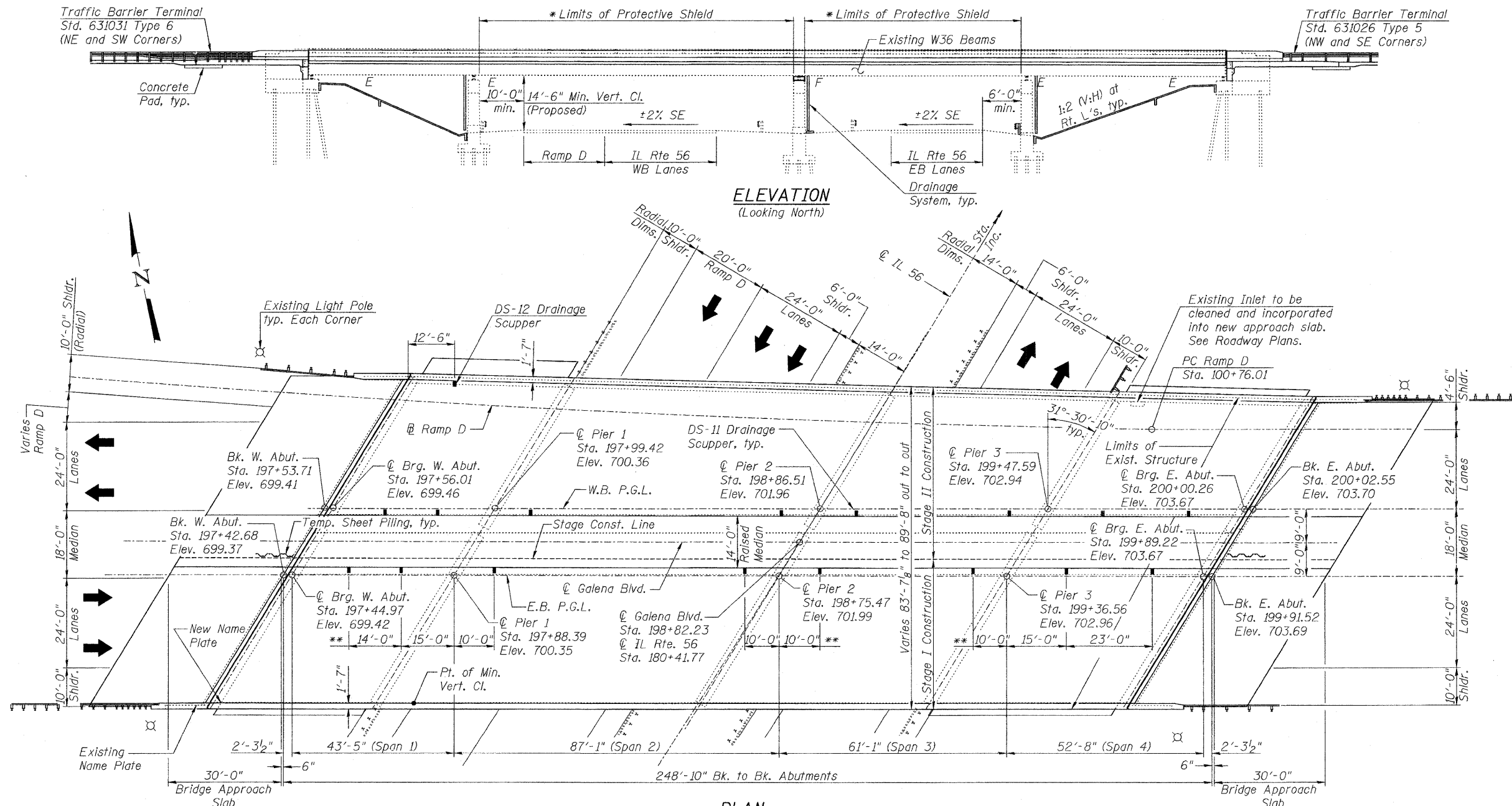
EXISTING W.B. CONSTRUCTION

$f'_c = 1,400$ psi
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 18,000$ psi (Structural Steel)

EXISTING E.B. CONSTRUCTION

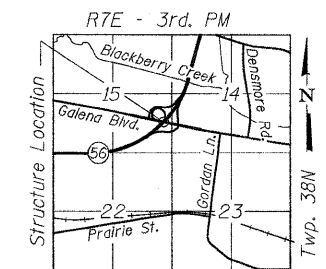
$f'_c = 1,200$ psi (Slab)
 $f'_c = 1,400$ psi (Sub, Parapet & Curb)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel)

Note:
 Scuppers in Spans 1 & 4 shall be free falling while scuppers in Spans 2 & 3 shall be connected to a closed drainage system.



PLAN

** DS-11 Scupper spacing, typ. each side of median.



LOCATION SKETCH

DESIGN SPECIFICATIONS

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

LOADING HS 20-44

Allow 25 psf for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.037 g
 Site Coefficient (S) = 1.0

CURVE DATA

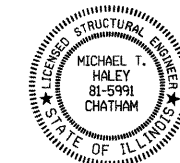
(IL Rte. 56)
 $\Delta = 74^\circ-45'-12''$ LT.
 $D = 1^\circ-14'-59''$
 $T = 3502.37'$
 $L = 5981.73'$
 $E = 1184.69'$
 $R = 4584.79'$
 P.C. = Sta. 143+51.79
 P.T. = Sta. 203+33.52
 P.I. = Sta. 178+54.16

CURVE DATA

(Ramp D)
 $\Delta = 5^\circ-22'-41''$ RT.
 $D = 1^\circ-13'-33''$
 $T = 219.51'$
 $L = 438.69'$
 $E = 5.15'$
 $R = 4673.76'$
 P.C. = Sta. 100+76.01
 P.T. = Sta. 105+14.70
 P.I. = Sta. 102+95.52

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

Michael T. Haley
 ENGINEER OF BRIDGES AND STRUCTURES



Michael T. Haley 8-26-2011 Date
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2012

**GENERAL PLAN AND ELEVATION
 GALENA BOULEVARD OVER IL 56**

FAP 573 - SECTION 61HB-1-R

KANE COUNTY

STATION 198+82.23

STRUCTURE NO. 045-0037



USER NAME =	DESIGNED - MTH
FILE NAME =	CHECKED - ADB
PLOT SCALE =	DRAWN - AJF
PLOT DATE =	CHECKED - MTH

REVISIONS -	REVISIONS -
REVISIONS -	REVISIONS -
REVISIONS -	REVISIONS -
REVISIONS -	REVISIONS -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
573	61HB-1-R	KANE	110	51
			CONTRACT NO. 60K76	