

Bench Mark: B.M. 17 Top iron pin State Traverse Point "X"-57
Sta. 1291+42.12 @ F.A.I. 255 El. 419.98

Existing Structure: The original structure was constructed in 1987 as FAI Route 255, Section 60-7HB-5. The dual superstructures consists of continuous two span composite welded plate girder bridges with 7 1/2" decks. The decks consist of a 5" slab cast upon 2 1/2" precast pre-stressed panels. The substructures consist of open vaulted abutments and concrete piers, all supported on steel piles. The 7 1/2" thick abutment slabs rest on precast pre-stressed I-beams. The back-to-back of approach slab dimension is 394'-1 1/4" (SB) and 460'-8" (NB) and out-to-out of deck dimension measures 59'-2" (SB & NB). The span lengths (CI bearing to CI bearing) vary between 146'-9 7/8" and 159'-2 7/8" for span 1 (SB) and between 150'-7 7/8" and 167'-1 5/8" span 2 (SB) and 175'-3 1/2" and 195'-1 1/8" span 1 (NB) and 182'-2 1/2" and 196'-3 7/8" span 2 (NB). The south bound bridge has a right forward skew of 38°-44'-39" (South Abut), 46°-07'-39" (Center pier), 53°-35'-17" (North Abut). The North bound structure has a right forward skew of 30°-52'-25" (South Abut), 46°-07'-39" (Center pier), 53°-35'-17" (North Abut). Two lanes of traffic will be maintained in each direction utilizing stage construction.

GENERAL NOTES

- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- Plan dimensions, elevations and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Joint opening shall be adjusted according to Art. 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 deg. F.
- Reinforcement bars designated (E) shall be epoxy coated.
- The new concrete deck surfaces shall have its final finish tined according to Article 420.09(e)(1).
- The Contractor shall use extreme care during concrete removal so as not to damage the existing 2 1/2" precast, prestressed stay-in-place forms.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A3	Ton	47
Filter Fabric	Sq Yd	31
Polymerized Hot-Mix Asphalt Surface Course, Stone Matrix Asphalt, N80	Ton	546
Concrete Removal	Cu Yd	16.7
Protective Coat	Sq Yd	36
Furnishing and Erecting Structural Steel	Pound	3120
Concrete Superstructure	Cu Yd	19.2
Reinforcement Bars, Epoxy Coated	Pound	2800
Bar Splicers	Each	16
Preformed Joint Strip Seal	Foot	325.5
Waterproofing Membrane System	Sq Yd	5202
Concrete Sealer	Sq Ft	6026
Deck Slab Repair - (Partial Depth)	Sq Yd	125
Deck Slab Repair - (Full Depth, Type I)	Sq Yd	4

INDEX OF SHEETS

- General Plan And Elevation
- Stage Construction N.B.
- Stage Construction S.B.
- Temporary Concrete Barrier Details For Stage Construction
- Deck Patching Plan N.B.
- South Abutment Expansion Joint Concrete Removal And Replacement N.B
- North Abutment Expansion Joint Concrete Removal And Replacement N.B
- Deck Patching Plan S.B.
- North Abutment Expansion Joint Concrete Removal And Replacement S.B
- South Abutment Expansion Joint Concrete Removal And Replacement S.B
- Deck Joint Details N.B. & S.B.
- Approach Cross Section
- Shallow Joint Strip Seal Details
- Bar Splicer Assembly And Mechanical Splicer Details
- Slope wall Repairs Details.
- Seismic Bumpers

DESIGN SPECIFICATIONS

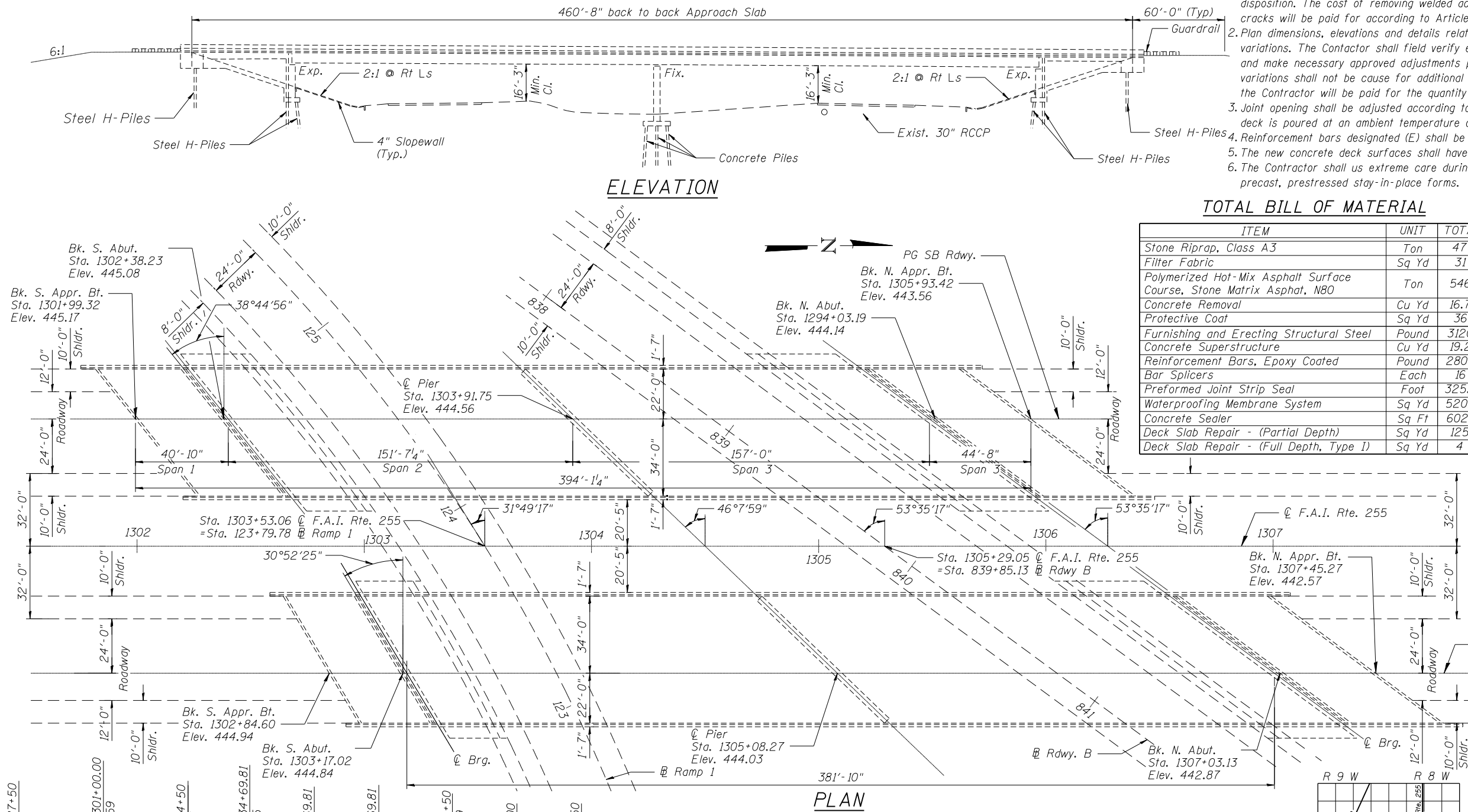
Original Construction
AASHTO 1977
& 1978, 1979 & 1980 Plus Interims

LOADING HS20-44

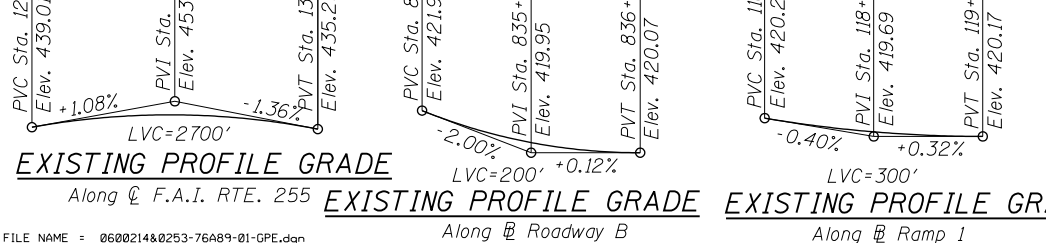
Original Construction
or Alternate Military Loading
Allow 25 p.s.f. for Fut.W.S.

DESIGN STRESSES

Original Construction
PRECAST PRESTRESSED UNITS
f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi - 1/2" φ strands
f'si = 189,000 psi - 1/2" φ strands
Load Factor Design for Slab.
f'c = 3,500 psi
fy = 60,000 psi
fs = 20,000 psi (M183) &
27,000 psi (M223 G50) & (M222 Structural)
fc = 1,400 psi, fs = 24,000 psi (Substructure)



4/16/14 PM - g:\CHIN\013\Bridges\2020827_south_phase_final\electronic_submission\FAI\255_60-11\BRS-2_CAD_Files\060-0214&0253\0600214&0253-76A89-01-GPE.dgn
 10/17/2012



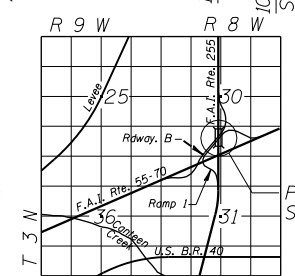
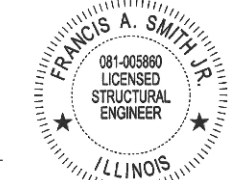
CURVE DATA RAMP 1

PI Sta. 122+49.50
Δ = 77°37'30"
D = 7°30'00"
R = 763.944'
T = 614.50'
L = 1035.00'
E = 216.48'

CURVE DATA ROADWAY B

PI Sta. 846+47.73
Δ = 46°36'08"
D = 5°00'00"
R = 1145.916'
T = 493.53'
L = 932.04'
E = 101.76'

DATE: 03/09/2012
Francis A. Smith, Jr.
F. ALLEN SMITH, P.E., S.E.
NO. 081-005860
EXP. DATE 11/30/2012



USER NAME = sdgnenn	DESIGNED - WKE	REVISD -
PLOT SCALE = 5/8" = 1' / IN.	CHECKED - FMS	REVISD -
PLOT DATE = 10/17/2012	DRAWN - DMG	REVISD -
	CHECKED - SKZ	REVISD -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
STRUCTURE NO. 060-0214 & 060-0253**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
255	60-(7,8) RS-2	MADISON	261	228
CONTRACT NO. 76A89				

SHEET NO. 1 OF 16 SHEETS

ILLINOIS FED. AID PROJECT