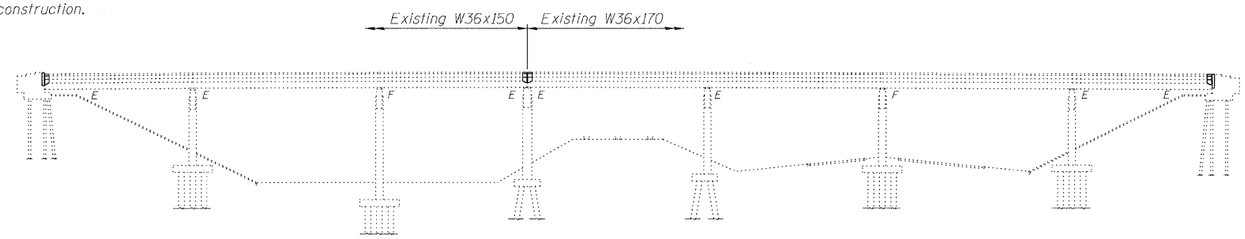
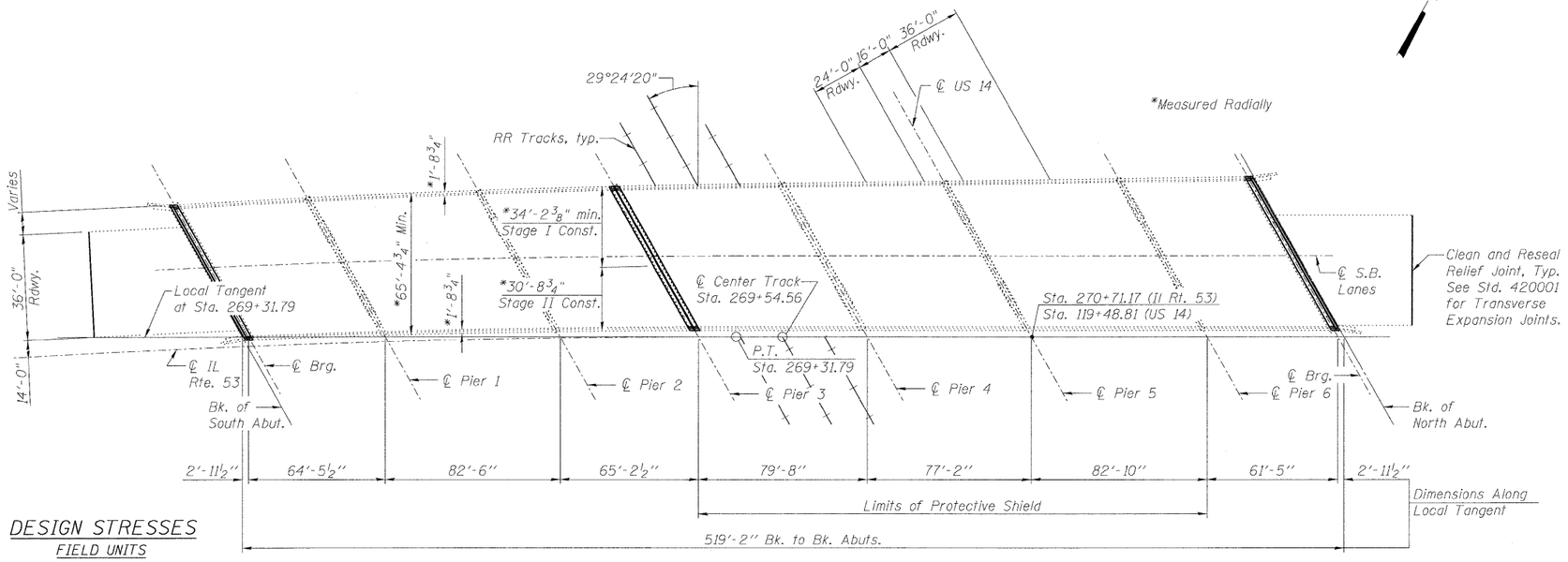
Existing Structure: S.N. 016-1119 built in 1964 as F.A. 61, Section 531-2-VHB at Station 270+71.17. In 1991, the deck was repaired, neoprene expansion joints were provided and an overlay was replaced. In 2000, the rocker bearings were replaced with elastomeric bearings. Existing structure is a seven span continuous steel superstructure with a 7" reinforced concrete deck and 2" overlay, supported on two-column piers and stub abutments, measuring 519'-2" back to back abutments, varies 65'-4 3/4" to 72'-5 1/4" out to out deck, with a 29°24'20" right ahead skew. Traffic is to be maintained utilizing stage construction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

DESIGN STRESSES

FIELD UNITS

Existing Construction

fc = 1,400 psi (Substructure & Superstructure)
fs = 20,000 psi (Reinforcement)
fs = 20,000 psi (Structural Steel)

New Construction

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

DESIGN SPECIFICATIONS

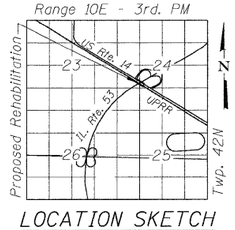
(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges", 17th Edition

LOADING HS 20-44

(Original Construction)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	34.7	-	34.7
Protective Shield	Sq. Yd.	1669	-	1669
Concrete Superstructure	Cu. Yd.	34.7	-	34.7
Reinforcement Bars, Epoxy Coated	Pound	4110	-	4110
Bar Splicers	Each	40	-	40
Preformed Joint Strip Seal	Foot	228	-	228
Concrete Sealer	Sq. Ft.	37764	-	37764
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	-	21	21
Structural Repair of Concrete (Depth Equal To or Less Than 5 in.)	Sq. Ft.	284	150	434
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	52.9	-	52.9
Deck Slab Repair (Partial)	Sq. Yd.	106.6	-	106.6
Clean and Reseal Relief Joint	Foot	100	-	100



LOCATION SKETCH

SCOPE OF WORK

1. Remove and replace concrete deck adjacent to expansion joints at abutments and pier 3.
2. Provide preformed joint strip seal expansion joints at abutments and pier 3.
3. Apply Concrete Sealer to top of concrete deck and top and inside vertical face of parapets.
4. Repair deck slab.
5. Clean and Reseal Relief Joints.
6. Repair deteriorated concrete on parapets, abutments and piers.

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions 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.

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 can not be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for futher 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.

The existing structural steel coating contains lead. The contractor shall take appropriate precautions to deal with the presence of lead on this project.

Joint opening shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

INDEX OF SHEETS

1. General Plan and Elevation
2. Stage Construction Details
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Parapet Repair
6. Concrete Removal
7. Abutment Concrete Details
8. Pier 3 Concrete Details
9. Abutment Repair
10. Pier Repair
11. Preformed Joint Strip Seal
12. Bar Splicer Assembly and Mechanical Splicer Details

EXIST. CURVE DATA

IL RTE 53

Δ = 77°11'38"
D = 0°57'17.8"
T = 4789.21'
L = 8083.72'
E = 1677.02'
R = 6000'
S.E. = 0.02'/'
P.C. = Sta. 188+48.07
P.T. = Sta. 269+31.79
P.I. = Sta. 236+37.28

MICHAEL T. HALEY 81-5991 CHATHAM — LICENSED STRUCTURAL ENGINEER — STATE OF ILLINOIS

Michael J. Haley 2/8/10
Date

Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

GENERAL PLAN AND ELEVATION
SB IL RTE 53 OVER US 14 & UP R.R.
F.A.I. RTE 290
SECTION (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 270+71.17
STRUCTURE NO. 016-1119

LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois

Designed By: RH | Checked By: MTH | Drawn By: RH
Date: 12/2009 | File: 016-1119.dgn

SHEET NO. 1
12 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1,0305-302K)RS-5	COOK	314	1%
		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		