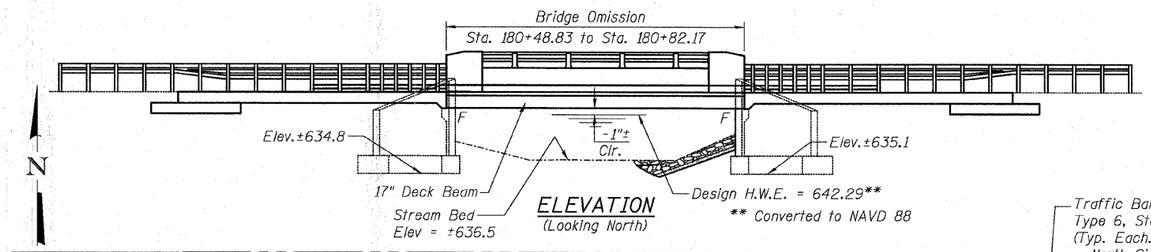
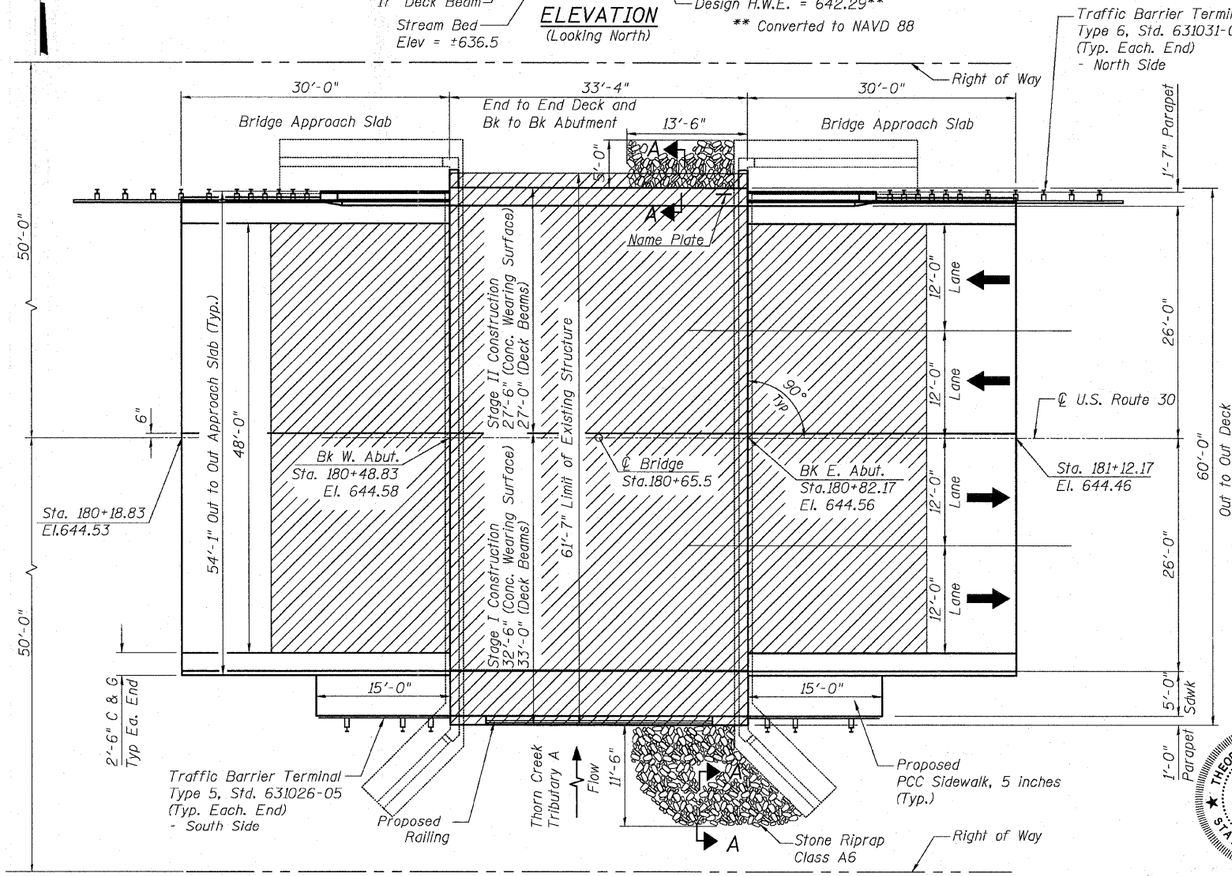
Bench Mark: BM #1 - Cut in SW corner of TCB Concrete Base SE corner of US 30 & State St. Elev. 650.71

Existing Structure: SN 016-2503, constructed in 1982 as F.A. Rte. 848, Section 1978-214BR-78 as a single span of Precast Prestressed Concrete Deck beams, 17 inch depth, with a minimum $1\frac{3}{4}$"± bituminous surface overlay and water proofing membrane.
The Structure carries two 12'-0" lane in each direction and a 5'-0" sidewalk on the south side of the bridge. The Out to Out of deck measures 61'-7" and the Bk. to Bk. of abutments is 33'-4".
The substructure consists of Reinforced Concrete closed wall abutments supported on spread footing keyed into rock
Traffic is to be maintained utilizing stage construction. One Lane for each direction will be provided.

Salvage: None

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





PLAN

SCOPE OF WORK

1. Remove existing Hot-Mix Asphalt Overlay, 2".
2. Remove and replace Bridge Superstructure in kind in Stages (PPC Deck Beams, 17" Depth).
3. Substructure Repairs.
4. Install 5 inch Concrete Wearing Surface.
5. Guardrail Improvement.
6. Repair Abutments Wall and Modify Top of Abutment & Beam Seat.
7. Remove and Replace Approach Slabs.
8. Maintain Traffic in all Stages of Construction
9. Provide/Install riprap along the East Abutment

LOADING HL-93

No future wearing surface allowed.

DESIGN SPECIFICATIONS

(NEW CONSTRUCTION)

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2008 and 2009 Interims

DESIGN STRESSES

FIELD UNITS

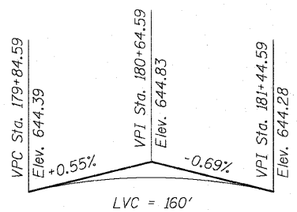
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpbt = 201,960 psi (1/2 "ϕ low relax. strands)
fpu = 270,000 psi (1/2 "ϕ low relax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.039g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.096g
Soil Site Class = B



PROFILE GRADE
Along ℄ US Rte. 30

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1	-	1
Concrete Superstructure	Cu. Yd.	174	-	174
Concrete Structures	Cu. Yd.	-	37	37
Reinforcement Bars, Epoxy Coated	Pound	46,650	60	46,710
Protective Coat	Sq. Yd.	607	-	607
Bridge Deck Grooving	Sq. Yd.	178	-	178
Bar Splicers	Each	256	-	256
Name Plates	Each	1	-	1
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,000	-	2,000
Epoxy Crack Injection	Foot	83*	-	83
Aluminum Railing Type L	Foot	25	-	25
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	-	32*	32*
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	-	5*	5*
Structure Excavation	Cu. Yd.	3	-	3
Approach Slab Removal	Sq. Yd.	214	-	214
Concrete Wearing Surface, 5"	Sq. Yd.	223	-	223
Combination Curb and Gutter Removal	Foot	120	-	120
P.C.C. Sidewalk, 5 inches	Sq. Ft.	150	-	150
Stone Riprap, Class A6	Sq. Yd.	130	-	130
Concrete Removal	Cu. Yd.	-	4	4
Filter Fabric	Sq. Yd.	-	215	215

* Inflated to 120%

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	634.80	635.10

WATERWAY INFORMATION

Drainage Area =3,033 Acres Existing Low Grade Elev. = 644.21 Ft @ Sta. 182+50
4.74 Sq.Mi. Proposed Low Grade Elev.= 644.21 Ft @ Sta. 182+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	849	173.3	173.3	642.06	0.00	0.00	642.06	642.06
Design	50	1059	177.7	177.7	642.44	0.07	0.07	642.51	642.51
Base	100	1112	177.7	177.7	642.54	0.06	0.06	642.60	642.60
Overtopping	>500								
Max. Calc.	500	1406	177.7	177.7	643.02	0.18	0.18	643.20	643.20

Datum: All Elevations are in NGVD29 (To Convert to NAVD 88 Subtract 0.15')

STATION 180+65.5
REBUILT 20 BY
STATE OF ILLINOIS
F.A.P. 353/US 30 SEC 11-5-B
LOADING HL-93
STRUCTURE NO. 016-2503

NAME PLATE

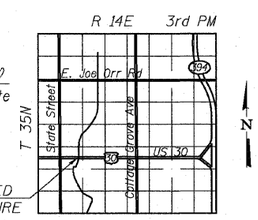
See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost Included with Name Plates.

THEODORE P. GEORGAS 081-004609 REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS

5-14-10
Theodore P. Georgas Date
Licensed Structural Engineer
State of Illinois 081-4609
Expires 11/30/2010

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson (TSD)
ENGINEER OF BRIDGES AND STRUCTURES



LOCATION SKETCH

LEGEND:
- Existing Approach Slab Removal
- Existing Superstructure Removal

Note: For Section A-A and Riprap Details, see Sheet S2 of S18.

GENERAL PLAN & ELEVATION
FAP 353/US 30 (LINCOLN HIGHWAY)
OVER THORN CREEK TRIBUTARY A
(FORMER THIRD CREEK)
COOK COUNTY
STA. 180+65.5
STRUCTURE NO. 016-2503

DESIGNED JPM	SHEET NO. S1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS / SHEET NO.
CHECKED TG	S18 SHEETS	353	11-5-B	COOK	39 / 13
DRAWN MPS				CONTRACT NO. 60J44	
CHECKED JPM, TG				ILLINOIS FED. AID PROJECT	

Primera
100 S. WACKER DRIVE SUITE 700 . CHICAGO IL 60606 . P:312-686-8900 F:312-686-9415