

**BENCHMARK**

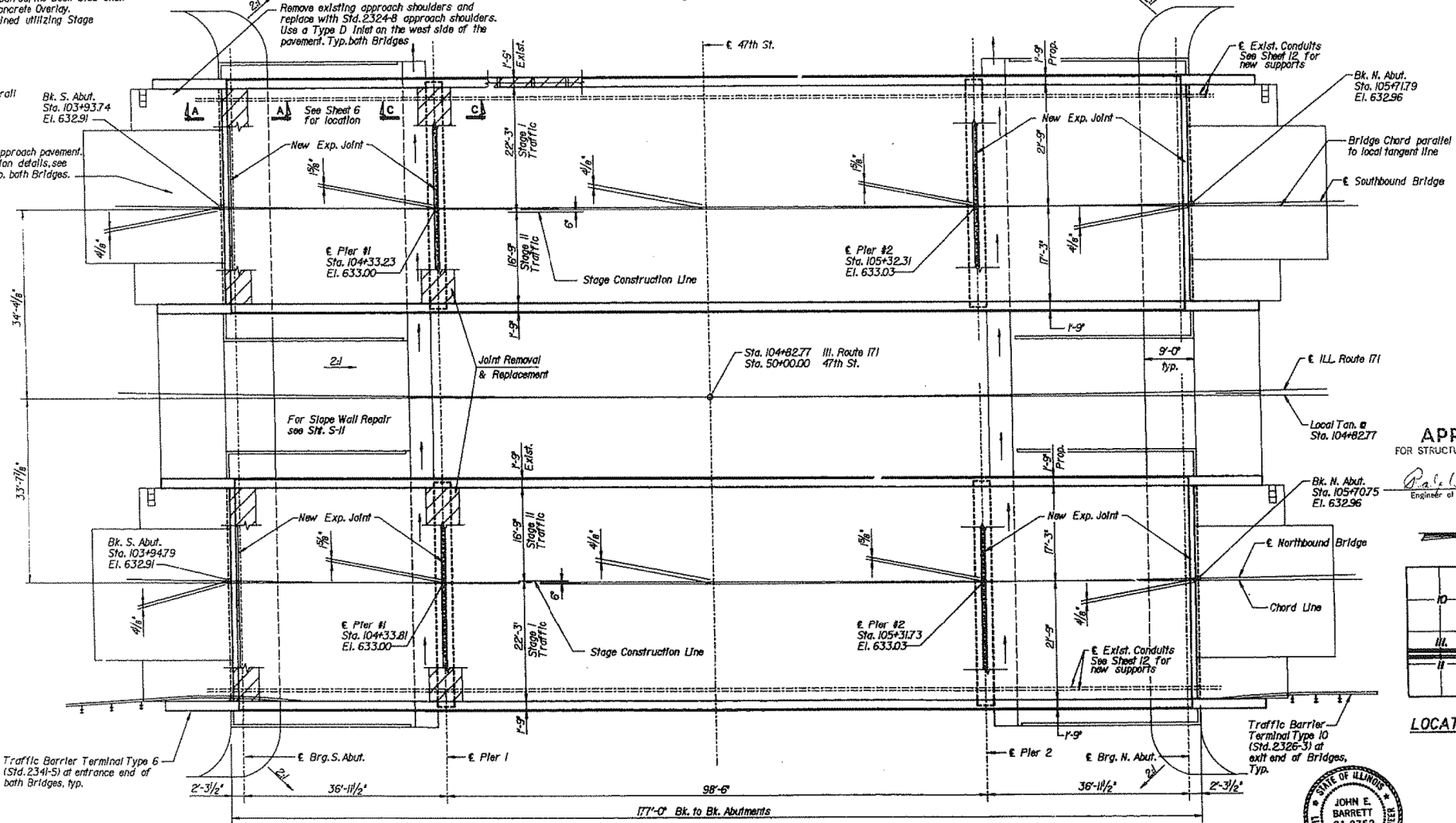
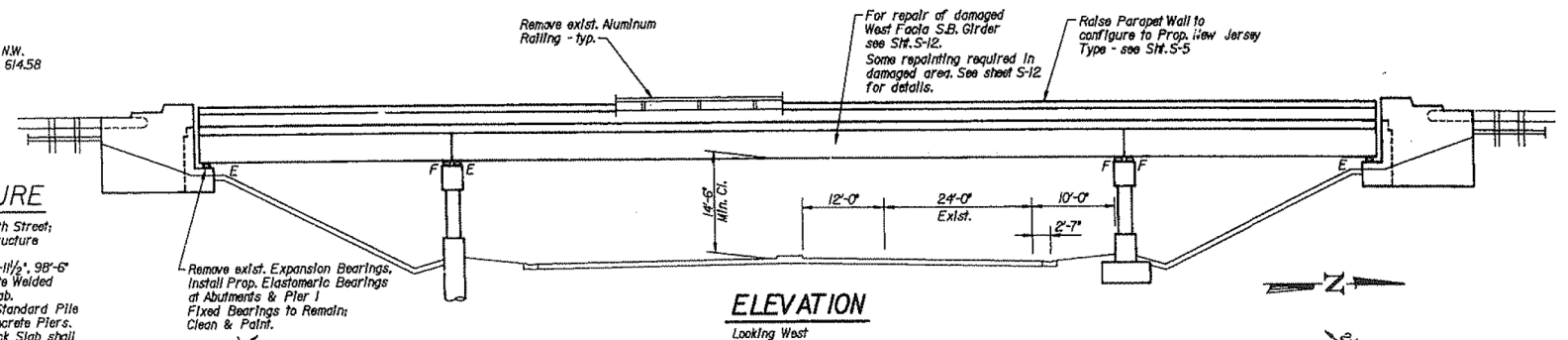
1" = 40' cut on NW Corner of Acclator on NW Corner of IL 171 and 47th Street - El. 614.58

**EXISTING STRUCTURE**

Sta. 104+82.77; Illinois Route 171 / 47th Street, Section 102-683HBK; built in 1968; Structure No. 016-1000 SB & 016-1001 NB. Consisting of three simple spans, 36'-11/2", 98'-6" & 36'-11/2" wide flange and composite welded plate girder with 2" concrete deck slab. The superstructure is supported by standard pile abutments and 2 multiple column concrete piers. The bridges shall be repaired, the deck slab shall receive 2" microsilica concrete overlay. Traffic is to be maintained utilizing stage construction.

**SALVAGE**

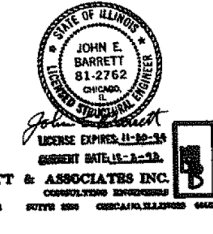
Bridge Aluminum Handrail  
Regrade existing approach pavement. 2" overlay transition details, see roadway plans. Typ. both bridges.



DESIGNED	LM
CHECKED	ELD
DRAWN	MF
CHECKED	ELD

**STAGING INSTRUCTIONS**  
STAGE I:  
Outer lanes shall be used for traffic while inner lanes are repaired.  
STAGE II:  
Inner lanes of renovated bridge shall be used for traffic while outer lanes are repaired.

**CURVE DATA**  
ILL. Rt. 171  
P.I. Station 105+97.15  
Δ = 14° L = 1,400'  
D = 118' E = 43.028'  
T = 703.504' R = 5729.58'



**BOWMAN, BARRETT & ASSOCIATES INC.**  
CORPORATE ENGINEERS  
180 N. HANCOCK AVENUE SUITE 200 CHICAGO, ILLINOIS 60601

DATE	REVISION	BY	CHKD	APP'D
11/16/16	1	ELC	ELC	ELC
11/16/16	2	ELC	ELC	ELC

**DESIGN SPECIFICATIONS**

AASHTO 1989 Standard Specifications with 1990 and 1991 Interims for Highway Bridges

**DESIGN STRESSES**

Existing Construction  
Substructure and Deck f<sub>c</sub> = 4,000 psi  
New Const: f<sub>c</sub> = 3,500 psi; f<sub>y</sub> = 60,000 psi (Relief)  
Loading: HS20-44 f<sub>y</sub> = 36 KSL M270 Grade 30  
f<sub>y</sub> = 50 KSL M270 Grade 50

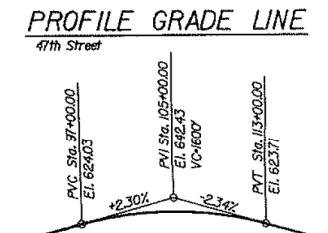
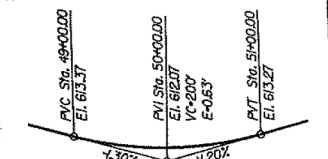
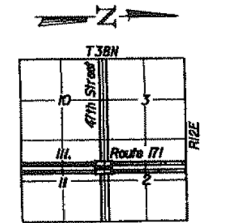
**INDEX OF DRAWINGS**

- General Plan
- General Notes & Total Bill of Material
- Bridge Staging
- Deck Repairs
- Parapet Reconstruction and Repair
- Expansion Joint Removal & Replacement and Drain Detail
- Abutment Repairs - Northbound
- Abutment Repairs - Southbound
- Pier Repairs - Northbound
- Pier Repairs - Southbound
- Elastomeric Bearings and Slope Wall Repair
- Beam Straightening and Conduit Bracket Replacement
- Anchor Bolt Details for Bearing
- Splicer Bar Details

**MAJOR WORK ITEMS**

- Remove existing Aluminum Handrail and reconfigure the Parapet Wall to New Jersey type.
- Remove existing 1/2" Bituminous Wearing Surface, Scarify 1/2" existing Concrete Deck and perform Partial and Full Depth Deck Slab Repair as directed by the Engineer.
- Replace all Expansion Joints and Tied Fixed Joints at Pier 2 - Southbound.
- Remove and replace Top of Abutment Back Walls.
- Perform Formed Concrete Repair and Epoxy Crack Sealing on Parapet Walls, Piers and Abutments.
- Straighten Southbound West Face Girder and remove & reattach the 2 - 3" Electrical Conduits as per proposed design. After the existing brackets are removed, check Web of Girders for Fatigue Cracks.
- Install proposed 2" Bridge Deck Microsilica Concrete Overlay.
- Replace existing Steel Expansion Bearings with Elastomeric Bearing Type I and raise the Concrete Bearing Pedestals.
- Replace or repair existing Concrete Slope Wall as Indicated.
- Replace Approach Pavement.

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY  
*John E. Barrett*  
Engineer of Bridges and Structures



**GENERAL PLAN**  
BRIDGE REHABILITATION ILLINOIS ROUTE 171 NORTHBOUND & SOUTHBOUND OVER 47TH STREET  
FAU 2746 SECTION 102-683 HBK  
STATION 104+82.77 COOK COUNTY  
STRUCTURE NO. 016-1001 N.B.  
STRUCTURE NO. 016-1000 S.B.



Alfred Benesch & Company  
205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-565-0450 Job No. 10093

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		FSM	REVISIONS
		RMM	REVISIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION (16 OF 25)  
STRUCTURE NO. 016-1000/1001

FOR INFORMATION ONLY

F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-038B-R	COOK	821	304
CONTRACT NO. 60J16			ILLINOIS FED. AID PROJECT	

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