Bench Mark: Iron pipe approximately 100' south of Pier 3, approximately 5' west of Woodlawn Avenue edge of pavement, Elevation 588.23.

Existing Structure: Structure No. 016-2440 was constructed in 1970 by the Cook County Department of Highways. The superstructure consists of thirteen steel plate girders with four continuous spans, supporting a noncomposite 8" reinforced concrete deck and 1½" bituminous concrete overlay. The interior spans are 138'-0" long and the end spans are 129'-0" long. The deck has a constant out-to out width of 88'-0". The substructure consists of three solid wall concrete piers and two stub-type concrete abutments with concrete wingwalls extending parallel to the Stony Island Connector. All substructure units have a 16°00'00" forward left skew and are all supported on steel piles. One lane of traffic in each direction is to be maintained utilizing stage construction.

No salvage.

SCOPE OF WORK

1. Remove and replace deck.
2. Remove approach slabs and replace with precast approach slabs.
3. Make deck composite full-length by installing stud shear connectors.
4. Remove abutment backwalls and reconstruct as semi-integral abutments.
5. Remove expansion bearings at abutments, Pier 1, and Pier 3 and replace with elastomeric or HLMR bearings with steel extensions.
6. Install interior cross frames between all girders near each abutment and remove end cross frames.
7. Install interior cross frames between Girders 6 and 7 along entire bridge length.
8. Perform crack injection and formed concrete repairs at abutments and piers.
9. Clean and paint steel superstructure.
10. Remove and replace drainage system.
11. Remove and replace damaged portions of slope wall at West Abutment.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

1995 FHWA Seismic Retrofitting Manual for Highway Bridges (FHWA-RD-94-052)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.038g
Site Coefficient (S) = 1.0

LOADING HS20-44 & ALT. MILITARY

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 36,000 psi (structural steel)
fy = 60,000 psi (reinforcement)

FIELD UNITS (Exist. Construction)

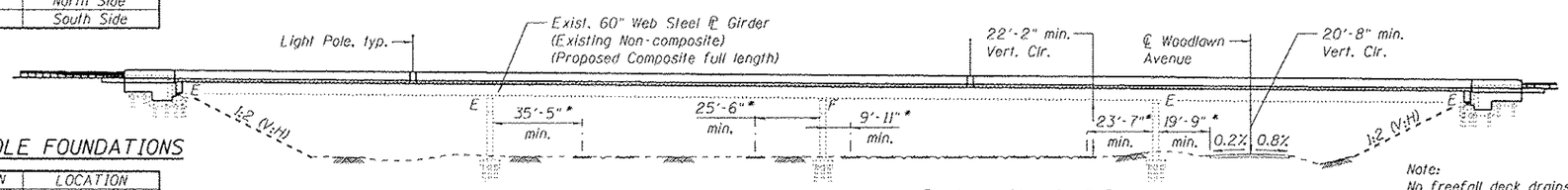
f'c = 3,000 psi
fy = 40,000 psi (reinforcement)
fy = 36,000 psi (structural steel)

DRAINAGE SCUPPERS

STATION	LOCATION
931+00	North Side
931+24	South Side

LIGHT POLE FOUNDATIONS

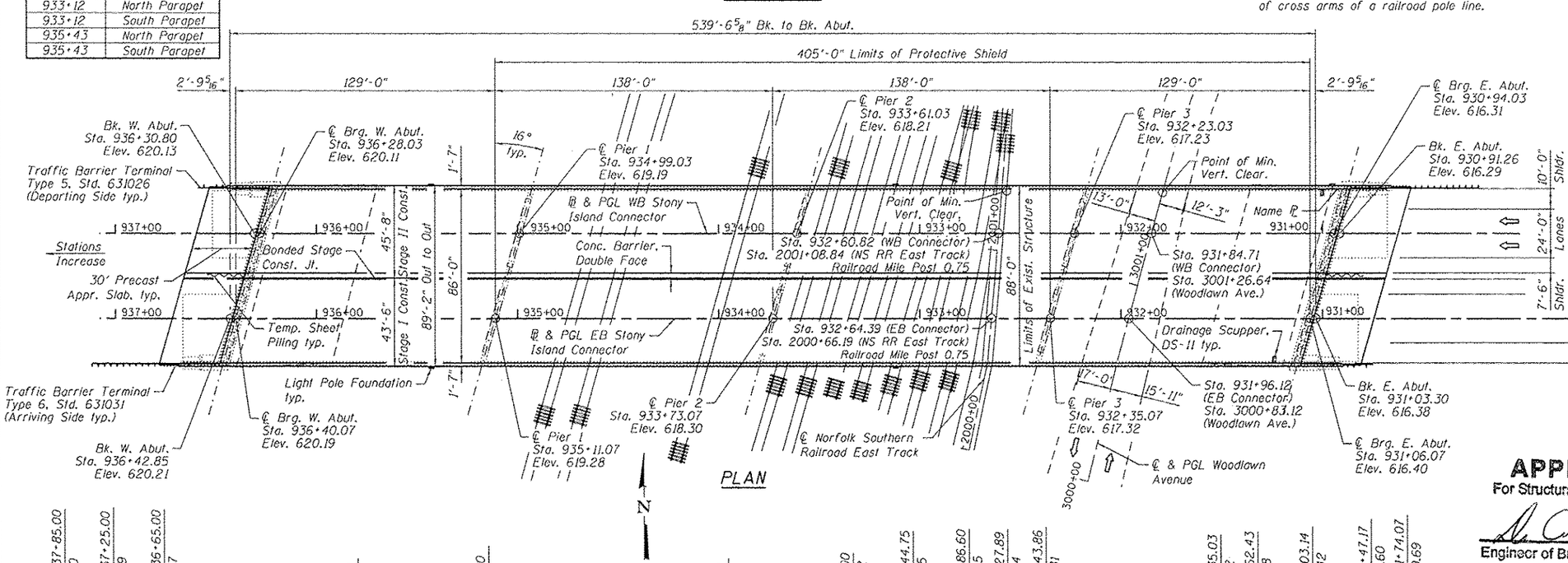
STATION	LOCATION
930+86	North Parapet
933+12	North Parapet
933+12	South Parapet
935+43	North Parapet
935+43	South Parapet



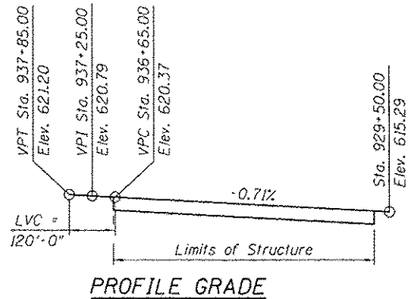
ELEVATION

*Horizontal Dimension @ Rt. L's

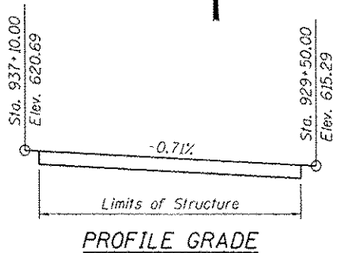
Note:
No freefall deck drains will be permitted in the spans over the tracks or within 10 ft. of cross arms of a railroad pole line.



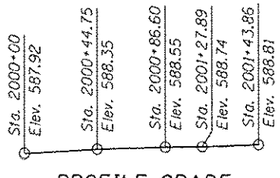
PLAN



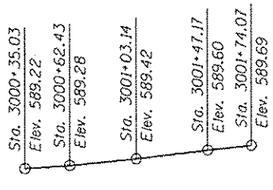
PROFILE GRADE
(Along ℄ of EB Stony Island Connector)



PROFILE GRADE
(Along ℄ of WB Stony Island Connector)

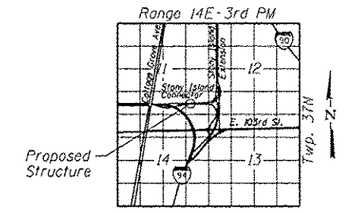


PROFILE GRADE
(Along east rail of Norfolk Southern Railroad East Track)



PROFILE GRADE
(Along ℄ Woodlawn Avenue)

Note:
The existing Profile Grades for Norfolk Southern Railroad East Track and Woodlawn Avenue were obtained from survey data.



LOCATION SKETCH

STATE OF ILLINOIS
BRENT KUNZ
81-006200
CHICAGO, IL
LICENSED STRUCTURAL ENGINEER

SIGNED: [signature]
DATE: March 29, 2013
EXPIRES: November 30, 2014

APPROVED
For Structural Adequacy Only
[signature]
Engineer of Bridges & Structures

GENERAL PLAN & ELEVATION
STONY ISLAND CONNECTOR OVER NORFOLK SOUTHERN RAILROAD & WOODLAWN AVENUE
F.A.I. RTE. 94 - SEC. 2012-059-BR
COOK COUNTY
STATION 933+61.03
STRUCTURE NO. 016-2440

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

USER NAME =	DESIGNED - TL	REVISED -
	CHECKED - BAK	REVISED -
PLOT SCALE =	DRAWN - TL	REVISED -
PLOT DATE = 03/29/2013	CHECKED - BAK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2012-059-BR	COOK	631	429
		CONTRACT NO. 60J12		
		ILLINOIS FED. AID PROJECT		

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