STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

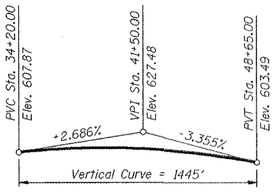
Benchmarks:

1.) BM TA16 Chiseled "□" on Northwest corner of concrete median, where I-55 N.B. and South Sixth St. split, 2.55 miles North of North end to late bridges, Sta. 29+74.15/15.92' LT., Elev. 599.05.
2.) BM TA17 Chiseled "□" in Southwest wingwall of hubguard of South Sixth St. bridge S.N. 084-0028, Sta. 40+00.06/16.68' RT., Elev. 616.53.

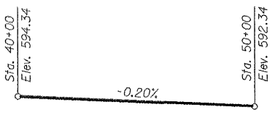
Existing Structure: Structure No. 084-0028, built in 1963 as Section 84-3HB-6. The superstructure consists of a continuous three span non-composite welded plate girder bridge with a 7" concrete slab. The substructure consists of concrete pile bent abutments supported by steel piles and concrete multiple column piers supported by timber piles. The back-to-back of abutments dimension measures 280'-3" and the out-to-out of deck dimension measures 36'-0". The span lengths are 82'-9", 113'-9" and 76'-1" (℄ bearing to ℄ bearing) with a 58°42'45" right forward skew. The existing beams, piers and a portion of the abuments will be reincorporated into the new structure. One lane of traffic will be maintained utilizing stage construction.

STATION 41+64.82
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RTE. 55 SEC. (84-3HB-6)BR
LOADING HS20-44
STRUCTURE NO. 084-0028

NAME PLATE
See Std. 515001



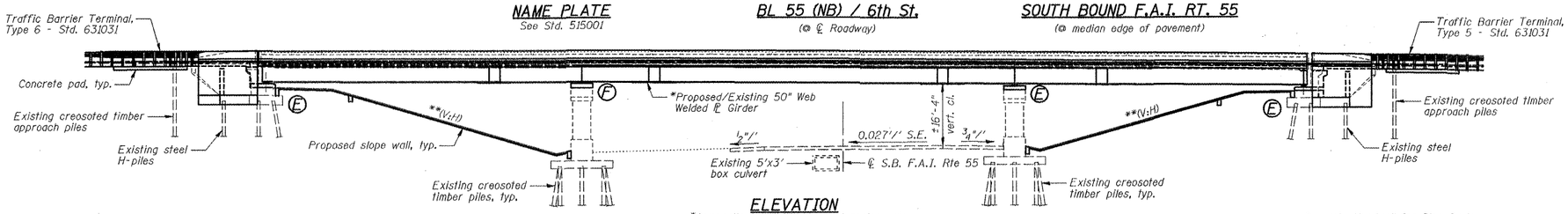
PROFILE GRADE
BL 55 (NB) / 6th St.
(@ ℄ Roadway)



PROFILE GRADE (EXIST. PLANS)
SOUTH BOUND F.A.I. RT. 55
(@ median edge of pavement)

SCOPE OF WORK

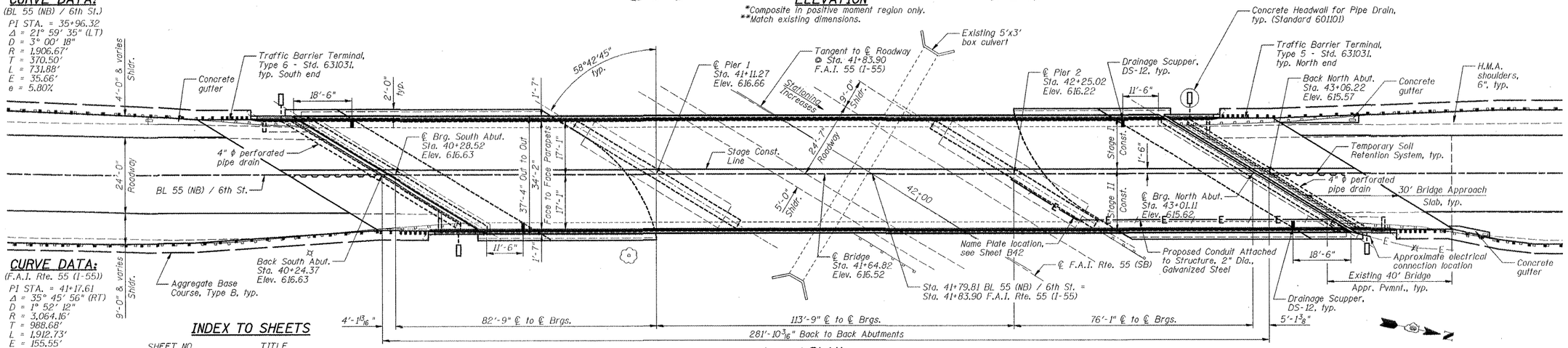
1.) Remove and replace the existing reinforced concrete deck utilizing stage construction.
2.) Remove and replace the existing concrete approach pavement.
3.) Remove and replace exterior girders, all cross frames in exterior bays and all end diaphragms.
4.) Raise the remaining existing girders 3" in order to meet the vertical clearance requirement.
5.) Remove and replace the existing expansion bearings at the Abutments and Pier #2 with elastomeric bearings.
6.) Remove and replace the existing fixed bearings at Pier #1.
7.) Install stud shear connectors in the positive moment region in order to make the existing welded plate girders composite with the cast-in-place reinforced concrete deck.
8.) Remove and replace the existing abutment backwall and a portion of the wingwalls as shown.
9.) Place additional concrete on the abutment and pier caps in order to meet the proposed grade change.
10.) Remove and replace North and South Slopewalls.
11.) Repair abutments and piers as required.
12.) Clean and paint existing structural steel under a separate contract.



ELEVATION
*Composite in positive moment region only.
**Match existing dimensions.

CURVE DATA:
(BL 55 (NB) / 6th St.)
PI STA. = 35+96.32
Δ = 21° 59' 35" (LT)
D = 3° 00' 18"
R = 1,906.67'
T = 370.50'
L = 731.88'
E = 35.66'
e = 5.80%

CURVE DATA:
(F.A.I. Rte. 55 (I-55))
PI STA. = 41+17.61
Δ = 35° 45' 56" (RT)
D = 1° 52' 12"
R = 3,064.16'
T = 988.68'
L = 1,912.73'
E = 155.55'
e = 2.70%



INDEX TO SHEETS

EXISTING DESIGN STRESSES
f'c = 1,400 psi
fs = 20,000 psi (Reinforcement)
fs = 18,000 psi (Structural Steel)
n = 10

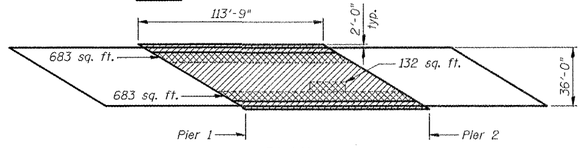
DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi (Cast-in-Place)
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel - M270 Grade 36)
fy = 50,000 psi (Structural Steel - M270 Grade 50)

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.

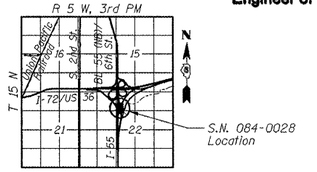
SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.048
Site Coefficient (S) = 2.0

PLAN



PLAN
(Limits of Protective Shield)

Proposed Protective Shield
Existing Protective Shield



LOCATION SKETCH

APPROVED
For Structural Adequacy Only

Ralph E. Anderson
Engineer of Bridges & Structures

GENERAL PLAN AND ELEVATION
BUSINESS 55 / 6th STREET OVER
S.B. F.A.I ROUTE 55
SECTION (84-3HB-6)BR
SANGAMON COUNTY
STATION 41+64.82
STRUCTURE NO. 084-0028

JOSEPH M. LOWRANCE 081-006446 LICENSED STRUCTURAL ENGINEER OF BLOOMINGTON ILLINOIS

Joseph M. Lowrance Date 03/05/09
JOSEPH M. LOWRANCE
ILLINOIS STRUCTURAL ENGINEER
NO. 081-006446
Exp. Date 11/30/10

DESIGNED	JML
CHECKED	MSW
DRAWN	DJM
CHECKED	MGO/MSW
DATE	03/05/09

SHEET NO. B1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
44 SHEETS	55	(84-3HB-6)BR	SANGAMON	90	35
		SN 084-0028	CONTRACT NO. 72A64		
		FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT	