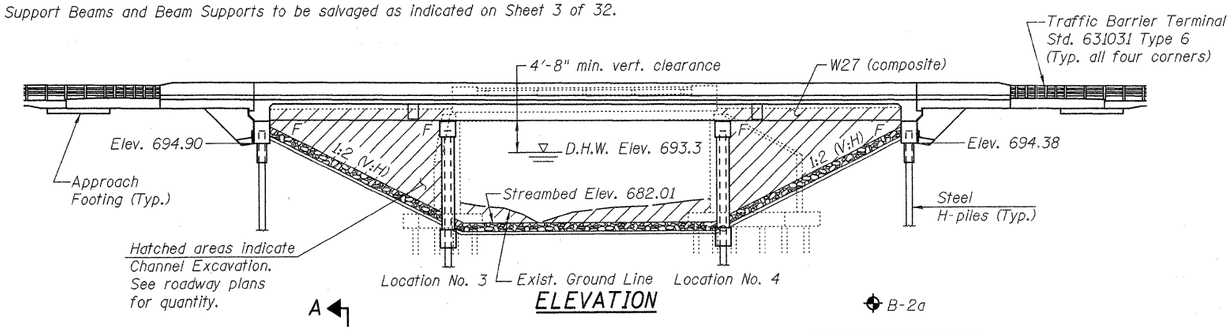
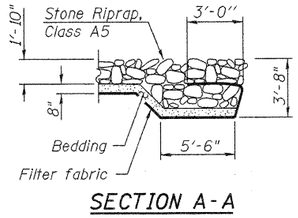
Bench Mark: Survey Point 401 - NE Headwall of SN 052-0025, 22.36' Lt, Sta. 420+76.12, Elev. 699.42.

Existing Structure: S.N. 052-0025 was built in 1929 as S.B.I. 89, Section 102B. In 1975 under S.B.I. 89, Section 102-BR, the bridge was widened and superstructure replaced. In 1990 under FA 38, Section 102BR-1 L(89), the bituminous wearing surface was replaced with concrete overlay. In 2007, under Section (102BR)M, five of the damaged PPC Deck Beams were supported with steel I beams. Existing structure is a single span PPC Deck Beam bridge on reinforced concrete closed abutments founded on untreated timber piles, measuring 43'-0" bk. to bk. abutments, 42'-0" out to out with zero skew angle. The contractor shall remove and replace the existing structure. Staged Construction shall be utilized to maintain one lane of traffic during construction.

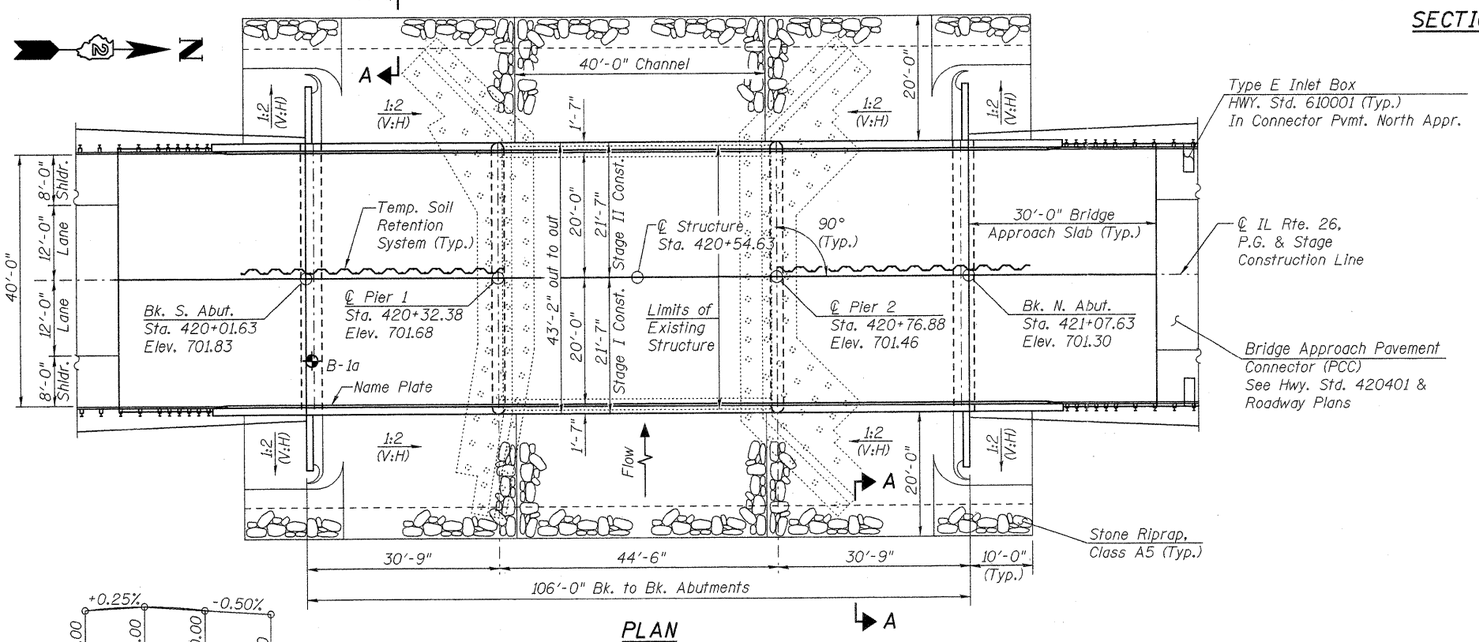
Existing Support Beams and Beam Supports to be salvaged as indicated on Sheet 3 of 32.



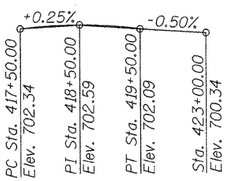
ELEVATION



SECTION A-A



PLAN



PROFILE GRADE
(along ℄ Roadway)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	694.9	672.6	672.6	694.4

WATERWAY INFORMATION

Drainage Area = 16.95 sq. mi. Existing Low Grade Elev. 699.85 @ Sta. 481+68 Proposed Low Grade Elev. 701.62 @ Sta. 489+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	1050	312	553	691.7	0.3	0.0	692.0	691.7
Design	50	1550	376	683	693.3	0.3	0.0	693.6	693.3
Base	100	1750	400	735	693.9	0.3	0.0	694.2	693.9
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	2230	448	842	695.1	0.3	0.0	695.4	695.1

10 Yr. Velocity thru Exist. Bridge=3.23 fps 10 Yr. Velocity thru Prop. Bridge=1.88 fps

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.089g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.149g
Soil Site Class = D

LOADING HL-93

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

DESIGN SPECIFICATIONS

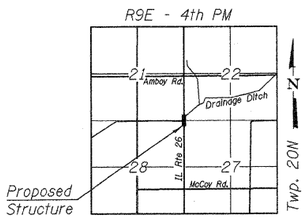
2010 AASHTO LRFD Bridge Design Specifications, 5th Edition

INDEX OF SHEETS

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

LICENSED STRUCTURAL ENGINEER
JOHN A. MORRIS
NO. 81-4277
STATE OF ILLINOIS

John A. Morris 8-17-11
John A. Morris Date
Licensed Structural Engineer
State of Illinois No. 81-4277
Expires 11-30-2012



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL RTE 26 OVER DRAINAGE DITCH
FAP RTE 316 - SECTION 102BR-5
LEE COUNTY
STATION 420+54.63
STRUCTURE NO. 052-0080

FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS	FILE NAME = 052080-64D57.DGN	DESIGNED - J.A.M.	REVISED -
	USER NAME = S.A.P.	CHECKED - A.R.K.	REVISED -
	PLOT SCALE =	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 08/10/11	CHECKED - J.A.M. & A.R.K.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 052-0080
SHEET NO. 1 OF 32 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	102BR-5	LEE	216	102
		CONTRACT NO. 64D57		
	ILLINOIS	FED. AID PROJECT		