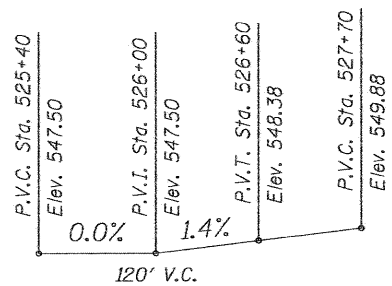
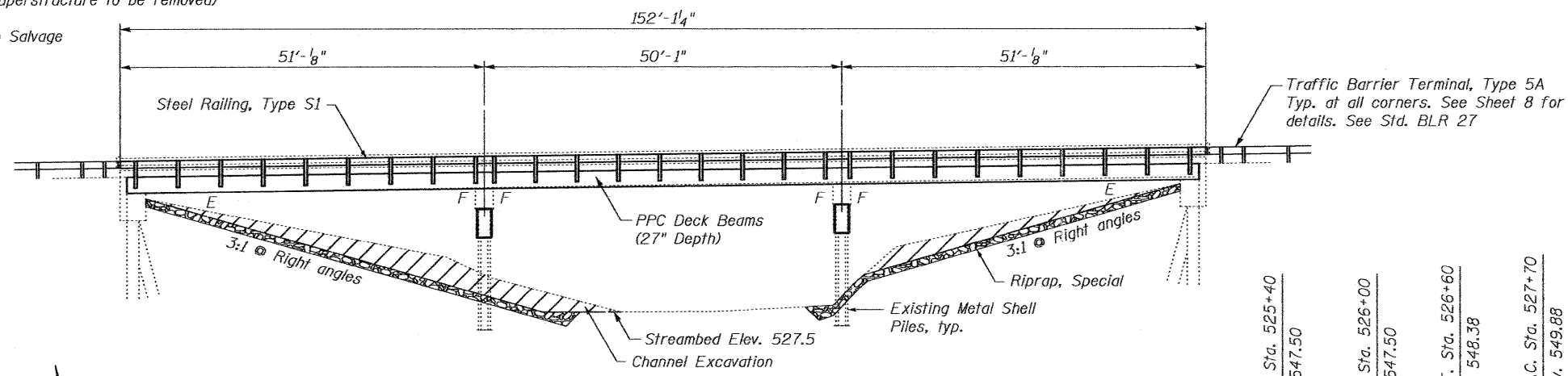


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 9	10-00094-00-BR	MACOUPIN	11	4
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

* Existing S.N. 059-3024 - Three span precast prestressed concrete deck beam bridge on concrete open abutments, and pile bent piers, 152.1' bk-bk of abutments, 28.0' fc-fc curb, 30° skew lt. fwd. @ Sta. 526+56.08 (Superstructure to be removed)

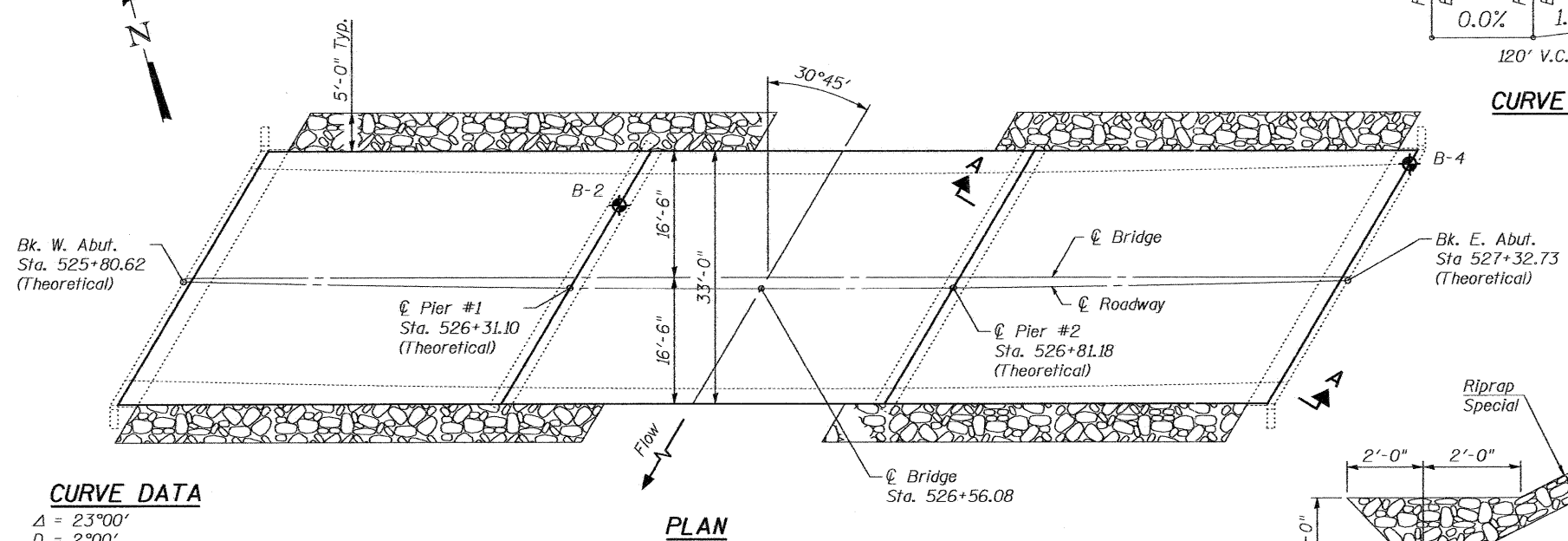
* No Salvage



GENERAL NOTES

The Standard Specifications adopted by the Department of Transportation January 1, 2012 shall apply to this work.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 Structural Repair of Concrete shall occur prior to placement of the new deck beams. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.
 The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
 If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Precast Prestressed Concrete Deck Beams (27" Depth).
 Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing Superstructures.
 Hot Mix Asphalt Surface Course Mix "C", N50, shall be used to level out beam camber and maintain the vertical alignment and shall be constructed according to Section 582 of the Standard Specifications.

CURVE DATA



CURVE DATA

$\Delta = 23^{\circ}00'$
 $D = 2^{\circ}00'$
 $T = 582.85$
 $L = 1150.00'$
 $E = 58.69'$
 $R = 2864.79$
 $S.E. = 4.2\%$
 $P.C. = Sta. 524+50.00$
 $P.T. = Sta. 536+00.00$
 $P.I. = Sta. 530+32.85$
 Full Superelevation 0.042 ft/ft
 from Sta. 525+08 to sta 535+42

LOADING HL-93 (NEW CONST.)
LOADING HS20-44 (EXIST. CONST.)
 No allowance for future wearing surface.

DESIGN SPECIFICATIONS

NEW CONSTRUCTION
 2010 AASHTO LRFD Bridge Design Specifications
EXISTING CONSTRUCTION
 2002 AASHTO Bridge Design Specifications
 1995 FHWA Seismic Retrofitting Manual for Highway Bridges

DESIGN STRESSES

NEW CONSTRUCTION
PRECAST PRESTRESSED UNITS
 $f'c = 6,000$ psi
 $f'ci = 5,000$ psi
 $fpu = 270,000$ psi (1/2" low lax strands)
 $fpbt = 201,960$ psi (1/2" low lax strands)

EXISTING CONSTRUCTION

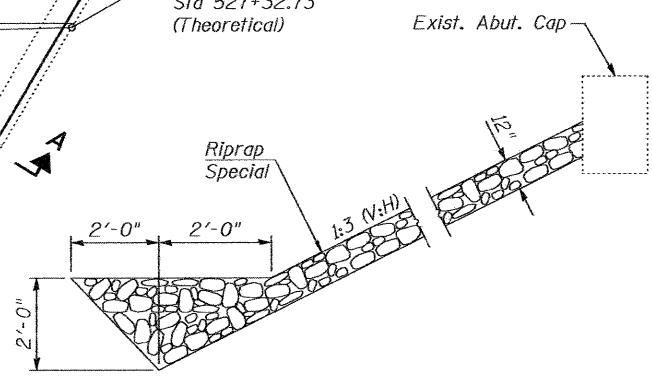
FIELD UNITS
 $f'c = 2,500$ psi
 $fy = 40,000$ psi (Reinforcement - 1964 Construction)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	542.04	518.0	518.0	543.94

SECTION A-A

Note: See Special Provisions for Riprap, Special



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4 (Special)	Ton			386
Removal of Existing Superstructures	Each	1		1
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	4,950		4,950
Steel Railing, Type S1	Foot	302		302
Name Plates	Each	1		1
Waterproofing Membrane System	Sq. Yd.	551		551
PC Mortar Fairing Course	Foot	100		100
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.		168	168
Asbestos Bearing Pad Removal	Each	33		33
Hot Mix Asphalt Surface Course, Mix "C", N50	Ton	64		64

WATERWAY INFORMATION

Drainage Area = 22.8 sq. mi. Low Grade Elev. 547.50 @ Sta. 525+50

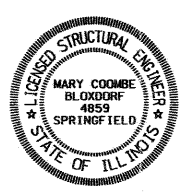
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater E.I.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Min. Calc.									
Design	20	4188	504	504	538.9	0.9	0.9	539.8	539.8
Base	100	6450	577	577	539.9	2.2	2.2	542.1	542.1
Overtopping									
Max. Calc.	500	8760	630	630	540.7	3.6	3.6	544.3	544.3

NAME PLATE
 See Std. 515001
 Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

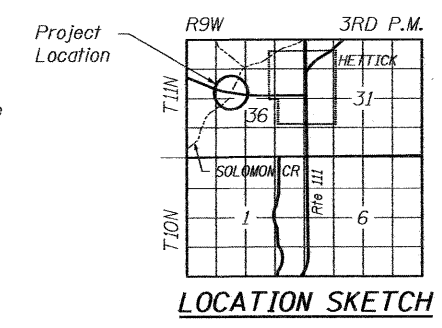
NAME PLATE

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

I certify to the best of my knowledge, information and belief, this bridge design is structurally adequate for the Design Loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current AASHTO Standard Specifications for Highway Bridges.



Mary Coombe Bloxdorf
 ILLINOIS STRUCTURAL NO. 4859
 EXPIRES 11/30/12
 DATE: 10/14/11



LOCATION SKETCH

SHEET TITLE
GENERAL PLAN AND ELEVATION

PROJECT: F.A.S. ROUTE 1737 / C.H. 9 SECTION 10-00094-00-BR MACOUPIN COUNTY STATION 526+56.08

PROJECT NO. 10017
 DATE: 8/26/2011
 DESIGN BY: CFC
 CHECKED BY: MRL
 DRAWING NO. 4
 OF 11 SHTS

Combe-Bloxdorf P.C.
 - CIVIL ENGINEERS -
 - STRUCTURAL ENGINEERS -
 - LAND SURVEYORS -
 Design Firm License No. 184-002703

PLOT DATE = 10/12/2011
 FILE NAME = ..\8-nel-bridge-mel001-sps.dgn
 PLOT SCALE = 108.000000 1" / 1"
 USER NAME = JPC