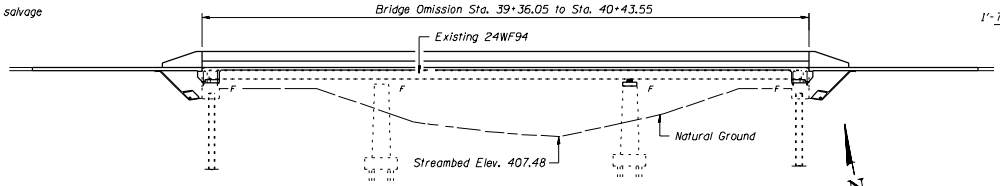
Bench Mark: Chiseled "□" above name plate on Westbound Bridge Parapet Elev. 424.11 ft.; Used SMI V for all Elevations and Stationing

Existing Structure: S.N. 082-0136. 3-span reinforced concrete deck on non-composite steel wide flange beams. Built 1957 under SA 69. Section 52-B-CS at Station 39+89. Open pile bent abutments and piers, supported on concrete piles. The existing concrete deck to be removed and replaced with a composite concrete deck. Traffic to be maintained utilizing stage construction.

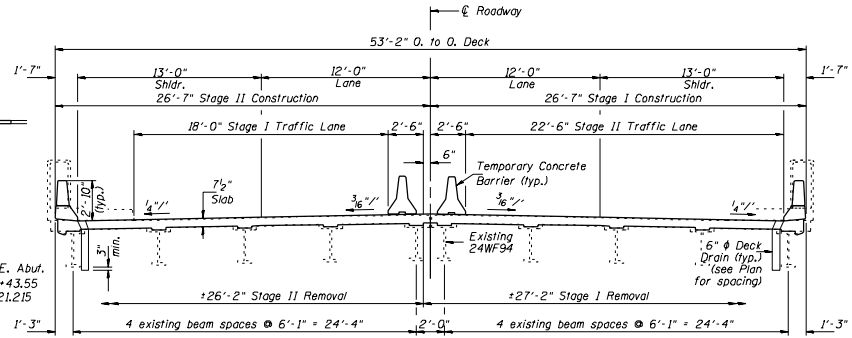
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1
2 SHEETS

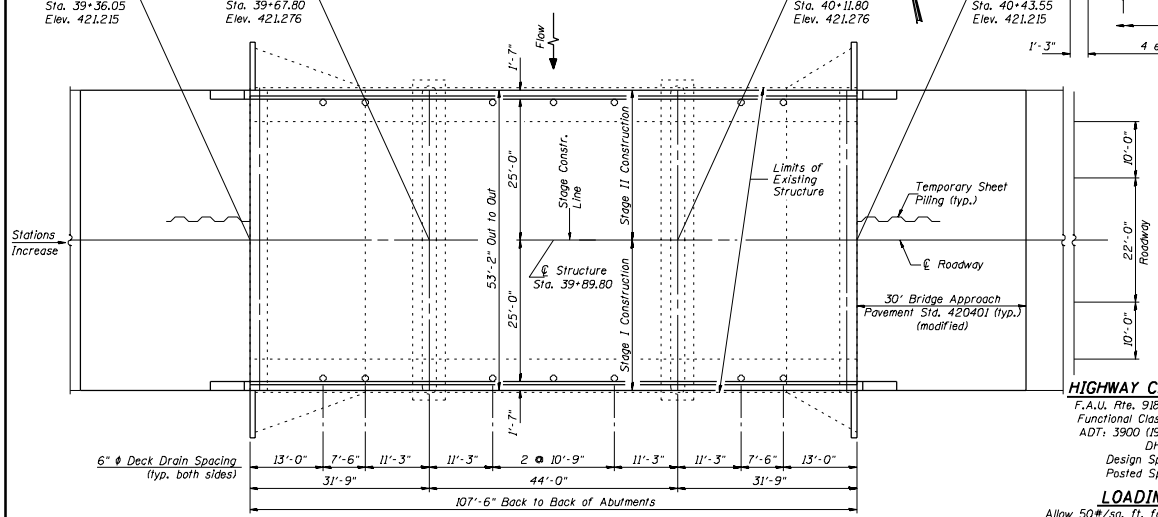
No salvage



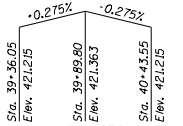
ELEVATION



CROSS SECTION

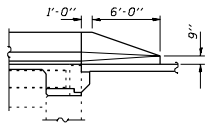


PLAN



PROFILE GRADE
(along ℄ roadway)

APPROVED
AS A BASIS FOR
PREPARATION OF DETAILED PLANS
JAN 11 2001



TRANSITION BARRIER DETAIL

HIGHWAY CLASSIFICATION

F.A.U. Rte. 9181 - Summit Avenue
Functional Class: Collector - Urban
ADT: 3900 (1993); 5040 (2008)
DHV: 390
Design Speed: 45 m.p.h.
Posted Speed: 45 m.p.h.

LOADING HS20-44

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

DESIGN SPECIFICATIONS

1996 AASHTO with 1997, 1998 and 1999 Interims
1995 Seismic Retrofitting Manual for Highway Bridges
FHWA RD-94-052

DESIGN STRESSES

FIELD UNITS (Existing)

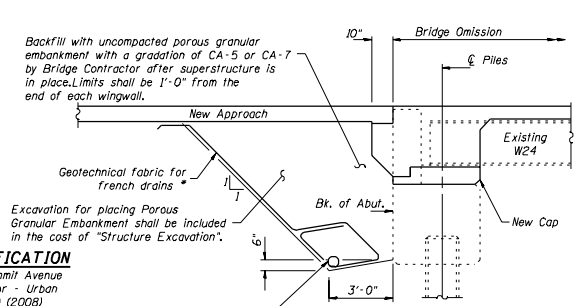
f'_c = 1,200 psi (Superstructure)
f'_c = 800 psi (Substructure)
f_s = 20,000 psi (reinforcement)
f_s = 18,000 psi (structural steel)

FIELD UNITS (New)

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 11.2 %g
Site Coefficient (S) = 1.3



SECTION THRU ABUTMENT
(@ Rt. L's)

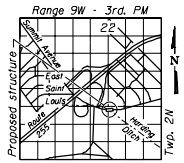
* - Included in the cost of "Porous Granular Embankment".

WATERWAY INFORMATION

Drainage Area = 42.1 sq. mi. Low Grade Elev. 420.42* @ Sta. 39+14

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.
Design	50	2,550	592	592	420.46	0.26	0.26	470.72	470.72
Base	100	2,550	592	592	420.46	0.26	0.26	470.72	470.72
Overtopping	5	2,550	592	592	420.46	0.26	0.26	470.72	470.72
Max. Calc.	500	—	—	—	—	—	—	—	—

*Existing and proposed low grade between levees.



LOCATION SKETCH

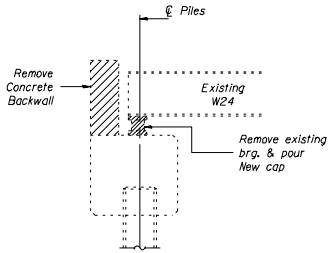
GENERAL PLAN
SUMMIT AVENUE OVER
HARDING DITCH
F.A.U. ROUTE 9181 - SECTION 52BR
ST. CLAIR COUNTY
STATION 39+89.80
STRUCTURE NO. 082-0136

DESIGNED	R.J. Chaput
CHECKED	M.D. Copp
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

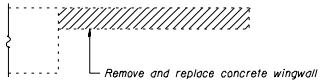
EXAMINED 20
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

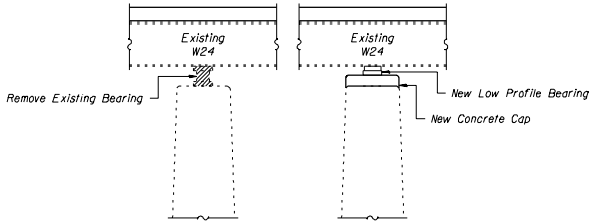
SHEET NO. 2
2 SHEETS



ABUTMENT DETAIL



WINGWALL DETAIL



PIER 2 DETAILS

DESIGNED	R.J. Chaput
CHECKED	M.D. Copp
DRAWN	W.D. Collins
CHECKED	M.K. Christensen

20

EXAMINED

ENGINEER OF BRIDGE DESIGN

PASSED

ENGINEER OF BRIDGES AND STRUCTURES

DETAILS
SUMMIT AVENUE OVER
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F.A.U. ROUTE 9181 - SECTION 52BR
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