APPROVED

JUN 0 7 2006

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

Bench Mark: Square cut on N.E. wingwall of S.N. 028-0023, Elev. 409.29

Existing Structure: S.N. 028-0023 Built in 1924 as Rt. 14 Section 6B at Station 149+75 as a 1-span concrete slab superstructure, with a length of 30' Bk. to Bk. closed Abutments, supported on timber pile footings. Bridge rail replacement in 1986 with 2" bituminous overlay. Existing bridge to be removed & replaced. Traffic to be maintained utilizing stage construction. No salvage

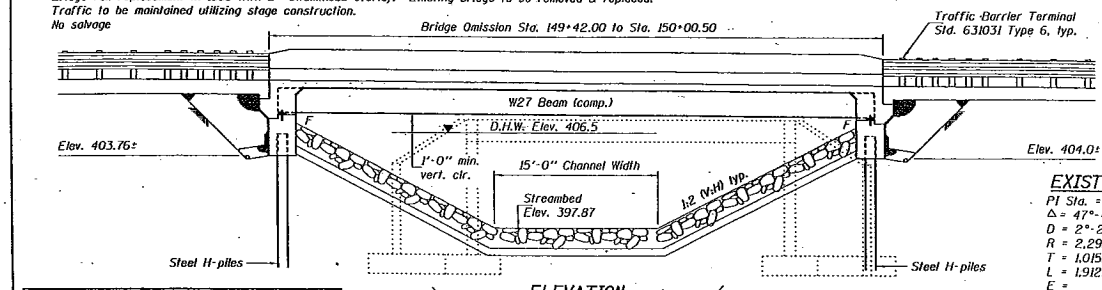
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Note: Temporary brace or excavate behind existing abutments during removal of existing superstructure and substructure.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				1
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		1 SHEETS

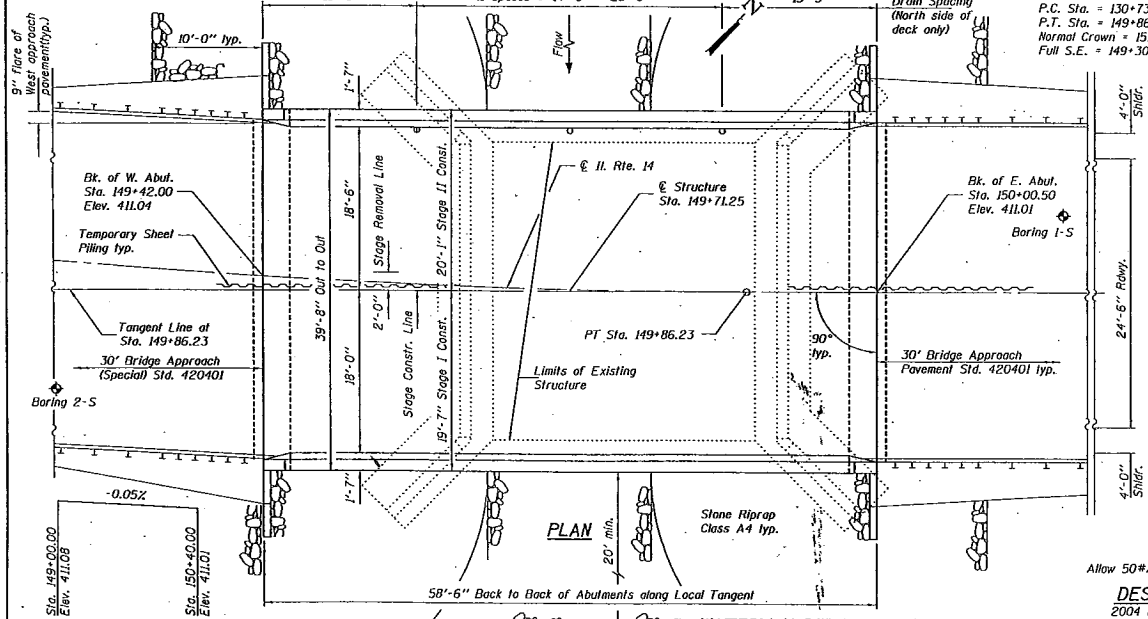
Contract #

Note: Dimensions measured along tangent unless noted.



ELEVATION

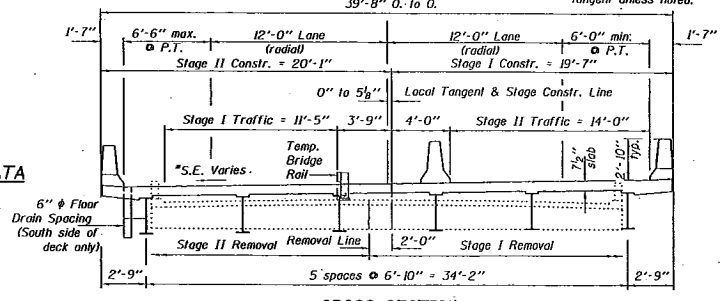
Design Scour Elevation (feet)	W. Abutment	E. Abutment
	403.76	404.00



PLAN

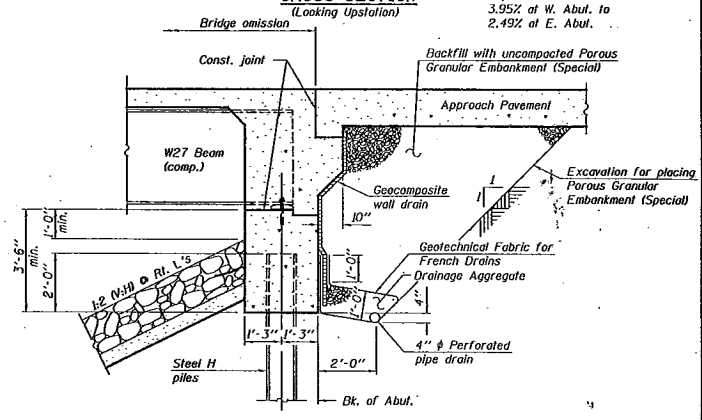
EXIST. CURVE DATA

PI Sta. = 140+89.72
Δ = 47°-48'-09" (LT)
D = 2°-29'-59"
R = 2,292.01'
T = 1,015.74'
L = 1,912.25'
E =
e = 4.25%
T.R. = 60'
S.E. RUN = 170'
P.C. Sta. = 130+73.98
P.T. Sta. = 149+86.23
Normal Crown = 151+60.00
Full S.E. = 149+30.00



CROSS SECTION
(Looking Upstation)

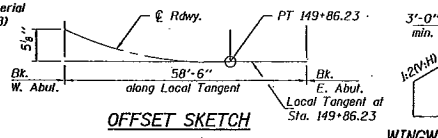
*Superelevation varies from 3.95% at W. Abut. to 2.49% at E. Abut.



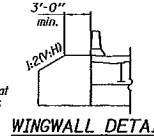
SECTION THRU INTEGRAL ABUTMENT

HIGHWAY CLASSIFICATION

F.A.P. Rte. 853 - Il. Rte. 14
Functional Class: Other Minor Arterial
ADT: 2,800 (2008); 3,590 (2028)
DHV: 280
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.



OFFSET SKETCH



WINGWALL DETAIL

LOADING HL-93

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

DESIGN SPECIFICATIONS

2004 LRFD AASHTO w/2005 Interims

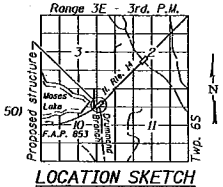
DESIGN STRESSES

FIELD UNITS

f = 3,500 psi
f = 60,000 psi (reinforcement)
f = 50,000 psi (structural steel M270 Grade 50)

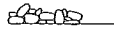
SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Bedrock Acceleration Coefficient (A) = 0.10g
Site Coefficient (S) = 1.0



LOCATION SKETCH

PROFILE GRADE
(Il. Rte. 14)



WATERWAY INFORMATION

Exist. Low Grade Elev. 409.83 ft. @ Sta. 151+00

Drainage Area = 4.59 sq. mi. Prop. Low Grade Elev. 410.12 ft. @ Sta. 146+00

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	640	182.2	258.8	406.1	0.2	0.0	406.3	406.1
Design	50	930	192.7	278.3	406.5	0.7	0.4	407.2	406.9
Base	100	1,050	198.0	288.2	406.7	0.9	0.5	407.6	407.2
Overlapping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	1,320	200.6	293.2	406.8	1.5	1.0	408.3	407.8

10-Year velocity through existing bridge = 3.5 fps 10-Year velocity through proposed bridge 2.5 fps

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

200

EXAMINED
ENGINEER OF BRIDGE DESIGN

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN
ILLINOIS ROUTE 14 OVER
DRUMMOND BRANCH
F.A.P. ROUTE 853 - SECTION 6B-1
FRANKLIN COUNTY
STATION 149+71.25
STRUCTURE NO. 028-0075

5-30-06

D-99-030-99

...\projects\wdc00014\0280075.dgn 5/30/2006 8:08:09 AM