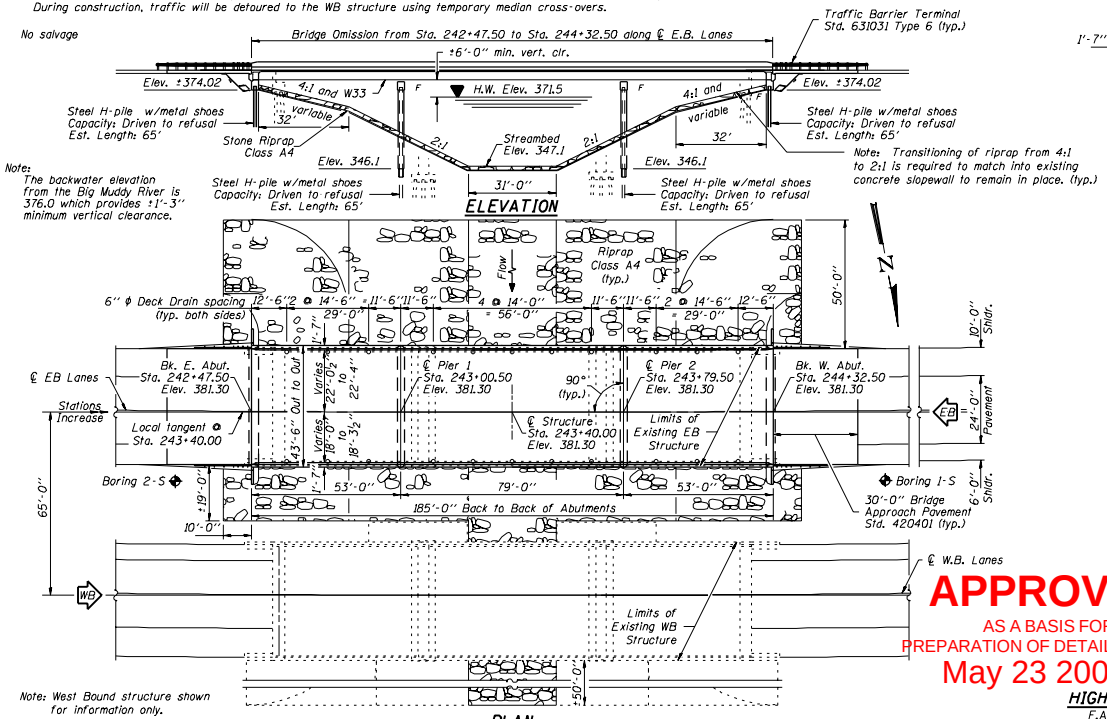
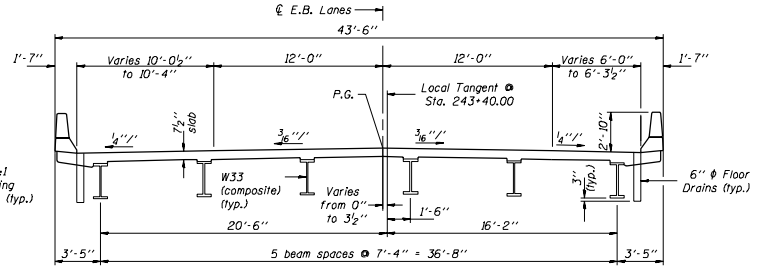
Bench Mark: Square cut on S.E. corner of headwall of East Bound Lane bridge S.N. 039-0014 Sta. 242+45.00 Elevation 380.74

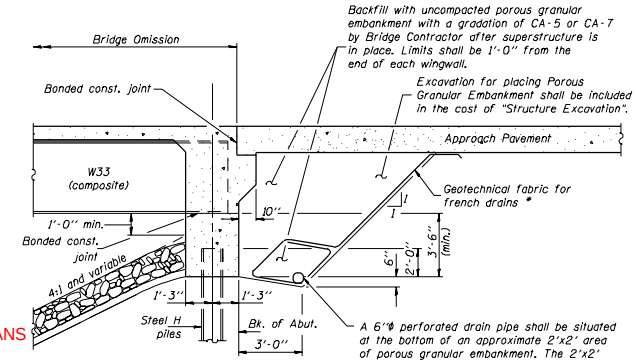
Existing Structure: S.N. 039-0014 (EB) built in 1954 under F.A. Route 14, section 12-1B-1. Reconstructed in 1980 under F.A. Route 107, section 12-1BY-1. S.N. 039-0050 (WB) built in 1974. The existing EB superstructure consists of a three span continuous steel wide flange beam, supporting a concrete deck and the substructure consists of pile bent abutments and solid wall piers. The back to back of abutments length is 173'-11" and the out to out width of the deck is 33'-8". The existing EB structure is to be replaced. During construction, traffic will be detoured to the WB structure using temporary median cross-overs.

# STATE OF ILLINOIS
# DEPARTMENT OF TRANSPORTATION

SHEET NO. 1
1 SHEET




APPROVED
AS A BASIS FOR
PREPARATION OF DETAILED PLANS
May 23 2001

## HIGHWAY CLASSIFICATION

F.A.P. Rte. 331 - Il. Rte. 13
Functional Class: Other Principal Arterial
ADT: 8250 (2000); 12300 (2020)
DHV: 83
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.

## LOADING HS20-44

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

## DESIGN SPECIFICATIONS

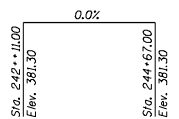
1996 AASHTO with 1997 thru 1999 Interims

## DESIGN STRESSES

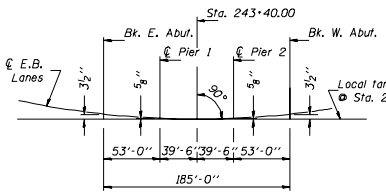
FIELD UNITS
$f'_c$ = 3,500 psi
$f_y$ = 60,000 psi (reinforcement)
$f_y$ = 50,000 psi (structural steel AASHTO M270, Gr. 50)

## SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 13%g
Site Coefficient (S) = 1.2



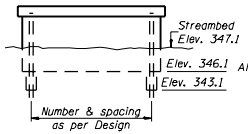

## PROFILE GRADE
(along ℄ E.B. lanes)




## OFFSET SKETCH

## CURVE DATA

P.I. Sta. = 214+91.234
Δ = 59°-31'-14"
D = 0°-23'-54"
R = 14,379.082'
T = 8,221.743'
L = 14,937.415'
E = 2,184.565'
P.C. Sta. = 132+69.491
P.T. Sta. = 282+06.906

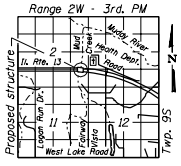



## PIER SKETCH

## WATERWAY INFORMATION

Drainage Area = 9.7 mi.$^2$ Low Grade Elev. 380.9 ft. @ Sta. 243+71.3

| 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 | 2820 | 1688 | 1822 | 371.5 | 0.1 | 0.1 | 371.6 | 371.6 |
| Base | 100 | 3210 | 1688 | 1822 | 371.5 | 0.1 | 0.1 | 371.6 | 371.6 |
| Overtopping | - | - | - | - | - | - | - | - | - |
| Max. Calc. | 500 | 4100 | 1688 | 1822 | 371.5 | 0.2 | 0.1 | 371.7 | 371.6 |




## LOCATION SKETCH

GENERAL PLAN
ILLINOIS ROUTE 13 (EB) OVER
MUD CREEK
F.A.P. ROUTE 331 - SEC. (12-BY-1)-1
JACKSON COUNTY
STATION 243+40.00
STRUCTURE NO. 039-0070 (EB)

| | |
|---|---|
| DESIGNED | D.G. Verhulst |
| CHECKED | M.D. Copp |
| DRAWN | W.D. Collins |
| CHECKED | M.K. Christensen |

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

5-23-01

D-99-056-00