ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 308	109BR-5	WHITESIDE	83	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
19 SHEETS

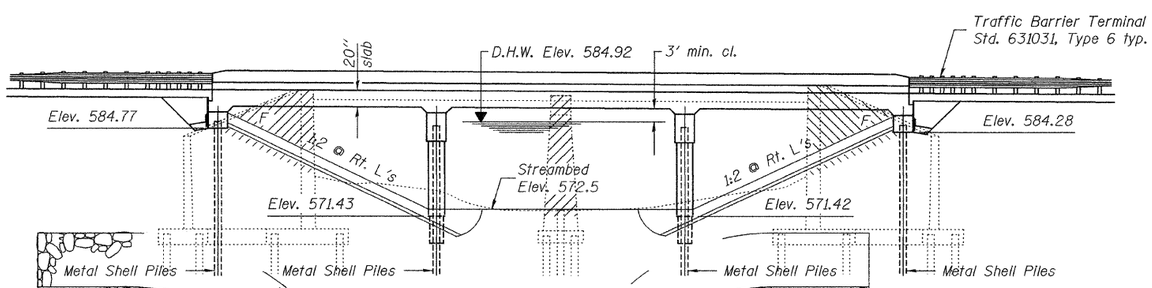
Contract #64C25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

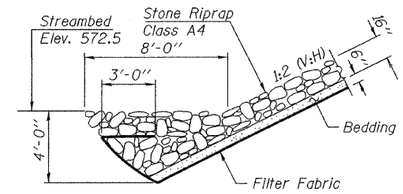
Bench Mark: Top of RR bridge pier. Sta. 344+13.00. O/S 83.97 LT., Elev. 586.45

Existing Structure: S.N. 098-0021 built in 1932 as S.B.I. Route 80, Section 109-B. Superstructure replaced and substructure widened in 1972 as S.B.I. Route 80, Section 109BR. Structure consists of two span PPC deck beams on closed abutments and a solid tapered pier. 77'-4" back-to-back abutments. 40'-0" out-to-out deck. Existing Structure is to be removed and replaced. One lane of traffic will be maintained utilizing Stage Construction.

No Salvage



ELEVATION

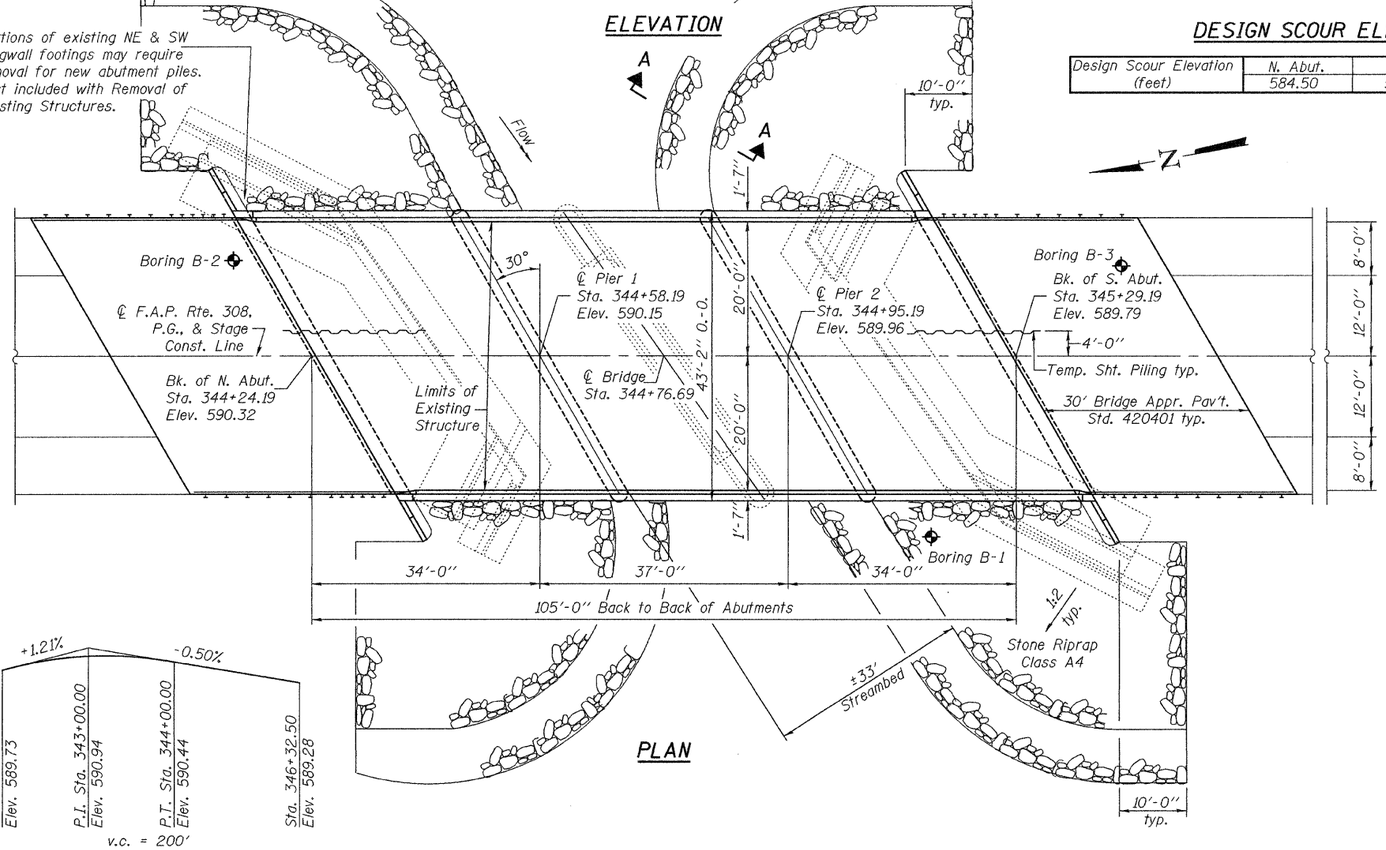


SECTION A-A

Portions of existing NE & SW wingwall footings may require removal for new abutment piles. Cost included with Removal of Existing Structures.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (feet)	N. Abut.	Pier 1	Pier 2	S. Abut.
	584.50	557.46	557.46	583.95



PLAN

PROFILE GRADE
(along ℄ Rdwy.)

INDEX OF SHEETS

1. General Plan and Elevation
2. General Data
3. Stage Construction Details
4. Temporary Concrete Barrier
5.-6. Top of Slab Elevations
7. North Approach Elevations
8. South Approach Elevations
9. Superstructure
10. Superstructure Details
11. North Abutment
12. South Abutment
13. Pier 1
14. Pier 2
15. Metal Shell Pile Details
16. Bar Splicer Assembly Details
17.-19. Boring Logs

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications, 4th. Edition

DESIGN STRESSES
FIELD UNITS

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

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 3.3%g
Site Coefficient (S) = 1.0

STATION 344+76.69
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. ROUTE 308 - SECTION 109BR-5
LOADING HL-93
STRUCTURE NO. 098-0114

NAME PLATE
See Std. 515001

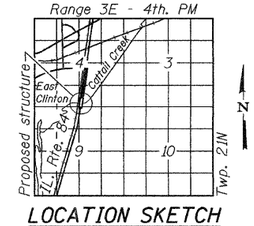
WATERWAY INFORMATION

Exist. Low Grade Elev. 587.7 ft. @ Sta. 339+65
Prop. Low Grade Elev. 587.7 ft. @ Sta. 339+65

Drainage Area = 36.4 sq. mi.

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.
Ten-Year	10	2308	482	539	584.91	0.73	0.69	585.6	585.6
Design	50	3393	483	540	584.92	1.47	1.41	586.4	586.3
Base	100	3836	484	540	584.93	1.83	1.76	586.8	586.7
Max. Calc.	500	4870	484	541	584.94	2.77	2.67	587.7	587.6

10 Year Velocity through Existing Bridge = 4.7 fps
10 Year Velocity through Prop. Bridge = 4.2 fps



LOCATION SKETCH

GENERAL PLAN
IL. ROUTE 84 OVER
CATTAIL CREEK
F.A.P. ROUTE 308 - SECTION 109BR-5
WHITESIDE COUNTY
STATION 344+76.69
STRUCTURE NO. 098-0114

DESIGNED	Denny H. Coultas
CHECKED	Stephen M. Ryan
DRAWN	W.D. Collins BML
CHECKED	DHC / SMR

September 2, 2008
EXAMINED Thomas J. Domholt
ENGINEER OF BRIDGE DESIGN
PASSED Rebecca S. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
WAYNE E. ANDERSON
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2008

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