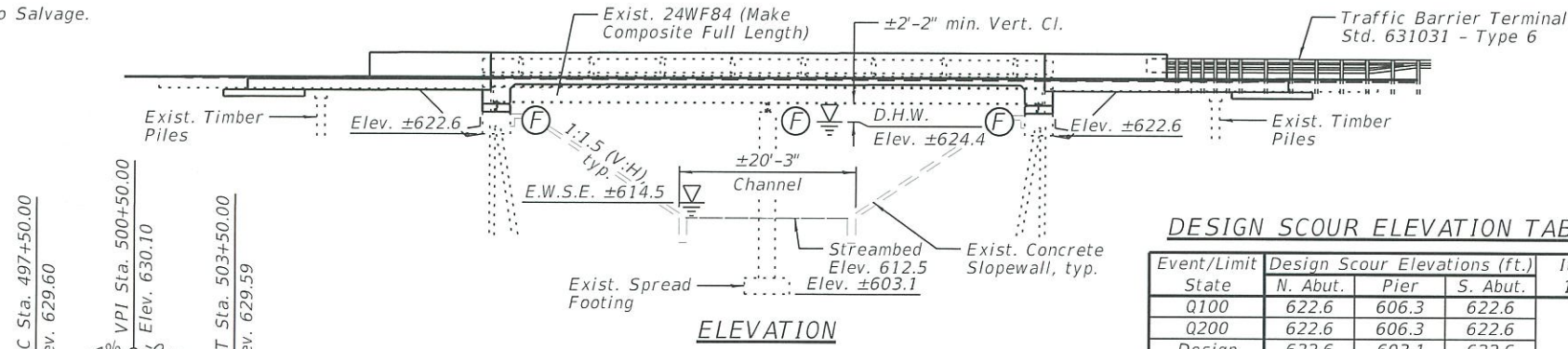


Benchmarks: BM 51, Cut "□" in SE corner of hubguard at South Abutment of SN 046-0001. Elevation = 629.99, FAI 57 Baseline Station 500+76.13, 59.39' LT.

Existing Structure: Structure No. 046-0001 was originally constructed in 1967 as Section 46-4B. In 1976, deck expansion joints were repaired and a bituminous overlay was constructed. Prior to 2001, the original concrete bridge rail was replaced with tubular thrie-beam rail. In 2001, deck repairs, a microsilica concrete overlay, expansion joint reconstruction, abutment bearing replacement, and deck drain plugging were completed. The structural steel was painted in 2008. The superstructure consists of two-span continuous, non-composite rolled steel beams with a 6 3/4" cast-in-place concrete deck and a 3 1/4" microsilica concrete overlay. The substructure consists of stub abutments supported by driven steel piles and a solid wall pier supported by a spread footing bearing on bedrock. Wood piles are present at the original approach slab bents. The back-to-back of abutments length measures 70'-2" and the out-to-out of deck width measures 44'-4". The span lengths are each 33'-4". The structure is not skewed. One lane of traffic will be maintained utilizing stage construction.

No Salvage.

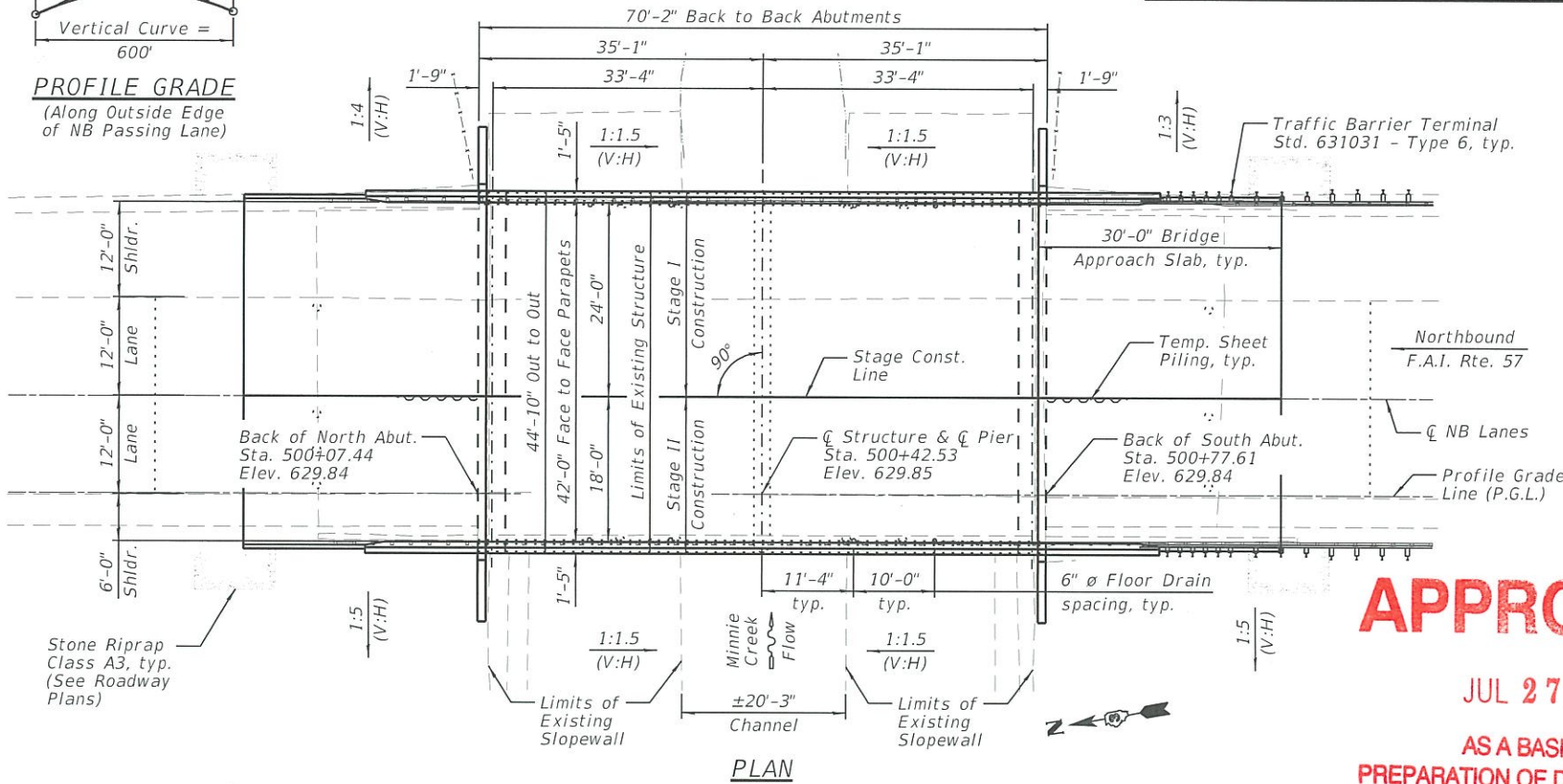


DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)			Item 113
	N. Abut.	Pier	S. Abut.	
Q100	622.6	606.3	622.6	8
Q200	622.6	606.3	622.6	
Design	622.6	603.1	622.6	
Check	622.6	603.1	622.6	

PROFILE GRADE

(Along Outside Edge of NB Passing Lane)



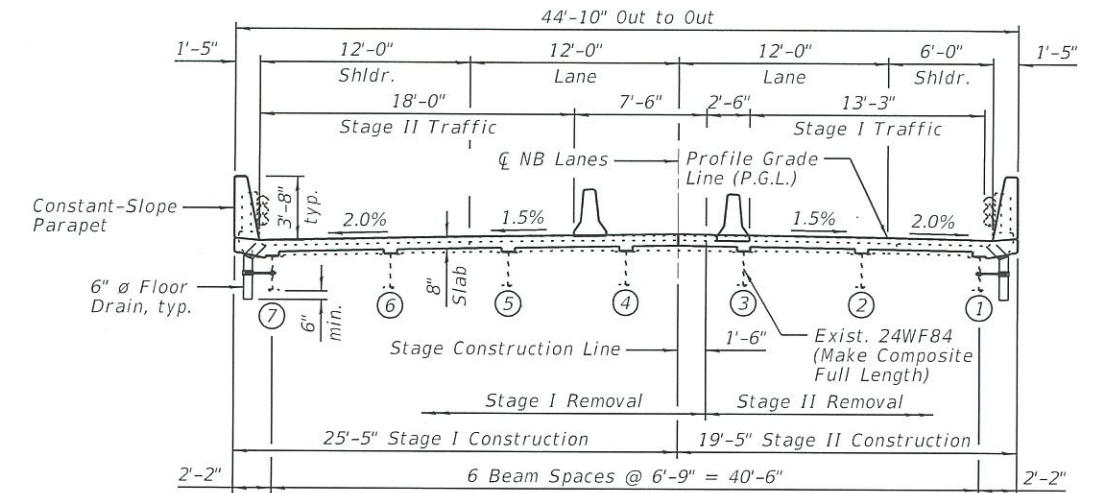
PLAN

SCOPE OF WORK

- 1.) Maintain one lane of northbound traffic utilizing stage construction.
- 2.) Remove and replace the existing concrete deck.
- 3.) Remove and replace the existing concrete approach slab.
- 4.) Jack and remove the existing bearings at the abutments.
- 5.) Convert the existing abutment to integral, keeping the existing cap and piles.
- 6.) Zone clean and paint the existing fascia beams.
- 7.) Install stud shear connectors in order to make the existing steel beams composite with the cast-in-place, reinforced concrete deck.
- 8.) Repair the existing concrete slope wall.

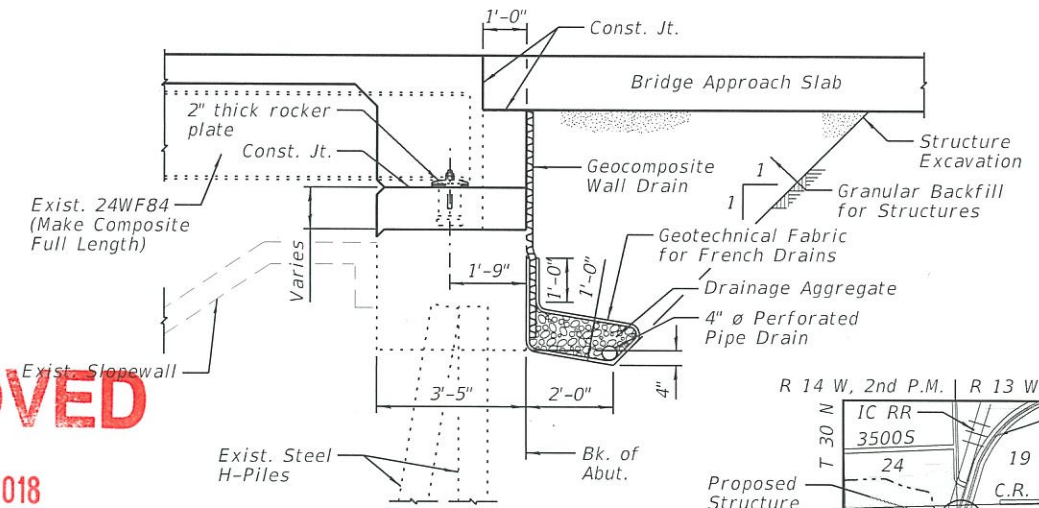
HIGHWAY CLASSIFICATION

F.A.I. Route 57 (I-57 NB)
 Functional Class: Interstate
 A.D.T.: 10,300 (2020), 12,360 (2040)
 D.H.V.: 979 (2020), 1,174 (2040)
 A.D.T.T.: 4,150 (2020), 4,980 (2040)
 Design Speed: 70 M.P.H.
 Posted Speed: 70 M.P.H.
 One Way Traffic

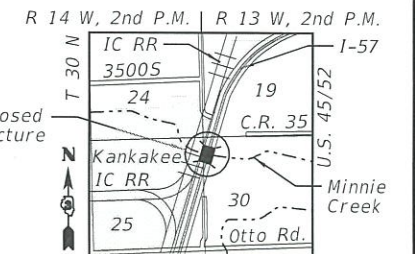


CROSS SECTION

(Looking South)



SECTION THRU ABUTMENT



LOCATION SKETCH

APPROVED

JUL 27 2018

AS A BASIS FOR PREPARATION OF DETAILED PLANS

WATERWAY INFORMATION

Existing Low Grade Elev. 629.70 @ Sta. 501+00
 Proposed Low Grade Elev. 629.70 @ Sta. 501+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Hydraulic Design	10	1,550	381	381	623.7	0.3	0.3	624.0	624.0
Base/Scour Design	50	2,520	418	418	624.4	0.5	0.5	624.8	624.8
Scour Check	100	2,960	429	429	624.6	0.6	0.6	625.1	625.1
Max. Calc.	200	3,430	437	437	624.7	0.7	0.7	625.4	625.4
	500	4,040	443	443	624.8	1.0	1.0	625.8	625.8

10-Yr. Velocity = 4.0 ft./sec. (Exist.)
 10-Yr. Velocity = 4.0 ft./sec. (Prop.)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS20-44 & ALT.

Allow 25#/sq. ft. for future wearing surface

SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.042
 Site Coefficient (S) = 1.0

EXISTING DESIGN STRESSES

FIELD UNITS:

$f_c = 1,400$ psi (Superstructure and Substructure)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel, A-36)
 $f_c = 75$ psi (Footings)
 $n = 10$

PROPOSED DESIGN STRESSES

FIELD UNITS:

$f_c = 3,500$ psi
 $f_c = 4,000$ psi (Superstructure Concrete)
 $f_y = 60,000$ psi (Reinforcement)



DESIGNED - JCZ
 CHECKED - JML
 DRAWN - SRL
 DATE - 07/26/18
 CHECKED - DJM

REVISED
 REVISED
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
 STRUCTURE NO. 046-0001

SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	46-(3,4)RS-4 & I-1	KANKAKEE	1	1

CONTRACT NO. 66F09
 ILLINOIS FED. AID PROJECT