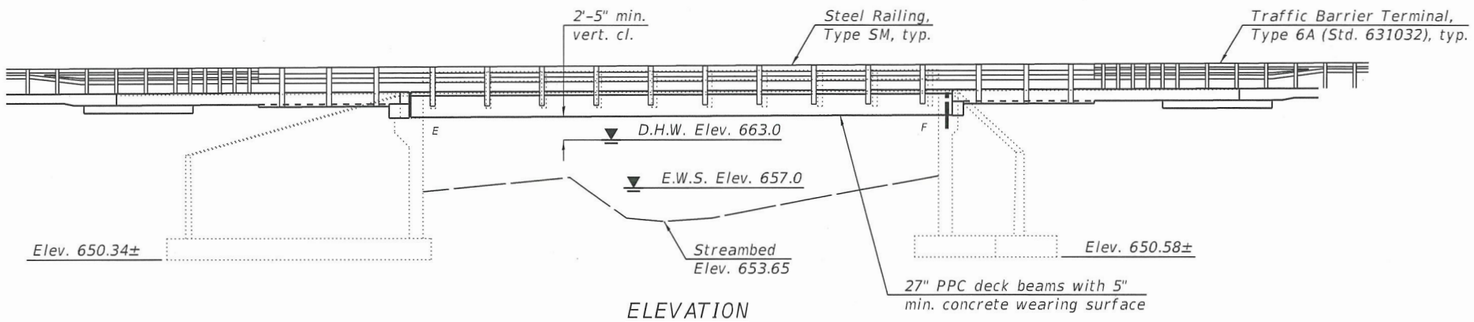
Benchmark: Chiseled square on Northwest wingwall. Station 728+74. 17' left. Elev. 667.92

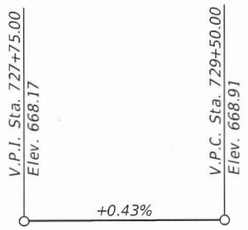
Existing Structure: Structure No. 070-0036 was originally constructed in 1980 as F.A. Rte. 770, Section 115BR. The existing structure consists of a single span precast prestressed concrete deck beam superstructure supported on closed abutments with timber piles. Back-to-back of abutment length is 57'-8" and out-to-out width of deck is 33'-0". In 2009, 2 of the precast prestressed concrete deck beams were replaced as a repair contract. The existing superstructure is to be removed and replaced. Traffic to be detoured during construction.

No Salvage.

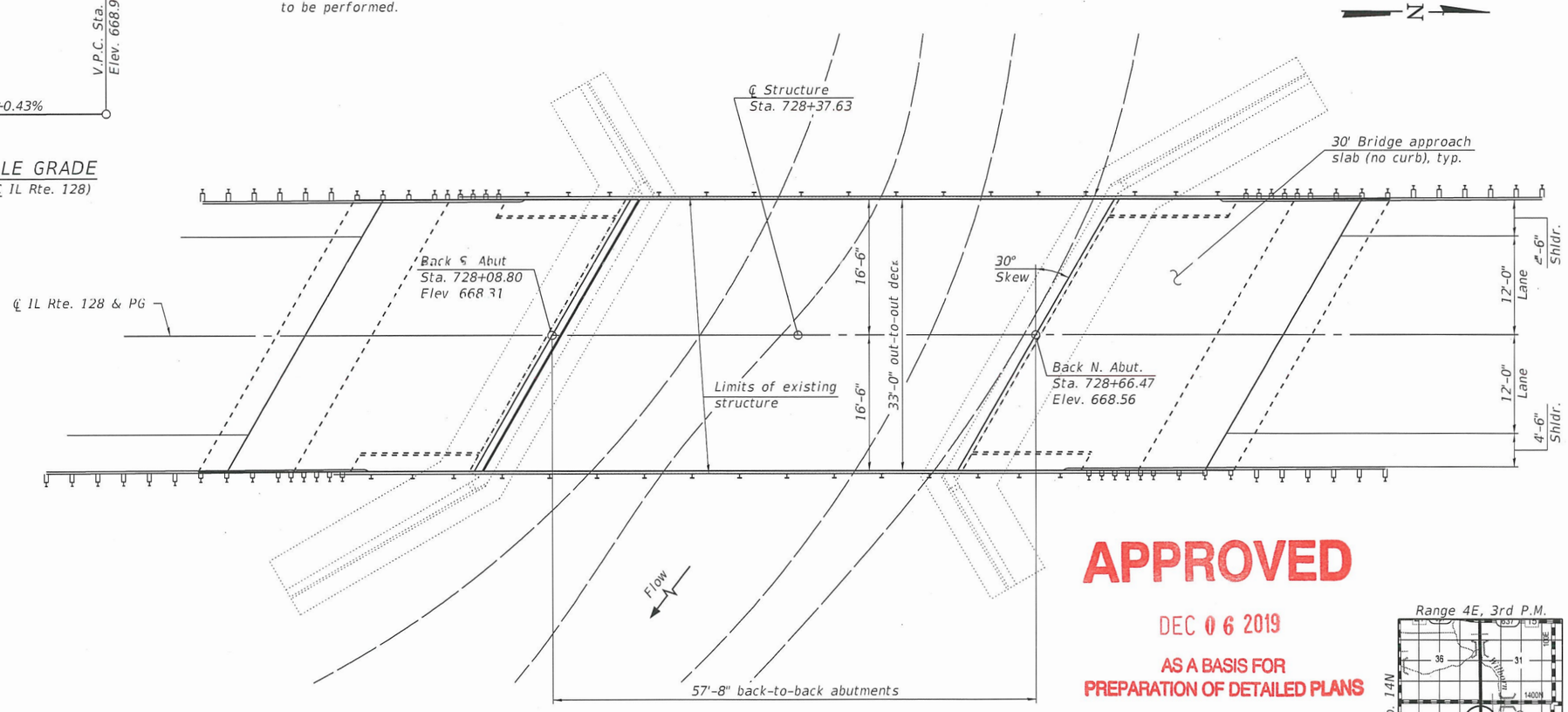


ELEVATION

Note:
Concrete repair of substructure to be performed.



PROFILE GRADE
(Along ℄ IL Rte. 128)



PLAN

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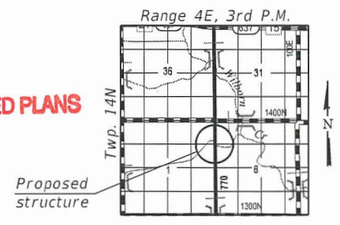

LOCATION SKETCH

HIGHWAY CLASSIFICATION

F.A.P. Rte. 770 - IL Rte. 128
Functional Class: Minor Arterial
ADT: 2,800 (2020); 3,350 (2040)
ADTT: 451 (2020); 540 (2040)
DHV: 336 (2020); 402 (2040)
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 51:49

DESIGN STRESSES

FIELD UNITS (EXISTING)
f'c = 3,500 psi
fy = 60,000 psi (reinforcement)

FIELD UNITS (PROPOSED)
f'c = 3,500 psi
f'c = 5,000 psi (concrete wearing surface)
f'c = 4,000 psi (approach slab concrete)
fy = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½" Ø low lax strands)
fpbt = 201,960 psi (½" Ø low lax strands)

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05
Site Coefficient (S) = 1.2

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 128 OVER WILBORN CREEK
F.A.P. RTE 770 - SEC. 115BR-1
MOULTRIE COUNTY
STATION 728+37.63
STRUCTURE NO. 070-0036

DESIGNED -	JUSTIN T. BELUE		
CHECKED -	RICHARD J. CHAPUT		
DRAWN -	MICHAEL B. MOSSMAN		
CHECKED -	J.T.B. / R.J.C.		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
770	115BR-1	MOULTRIE		
		CONTRACT NO. 74326		
		ILLINOIS	FED. AID PROJECT	

MODEL: 0700036-74326-TSL-001
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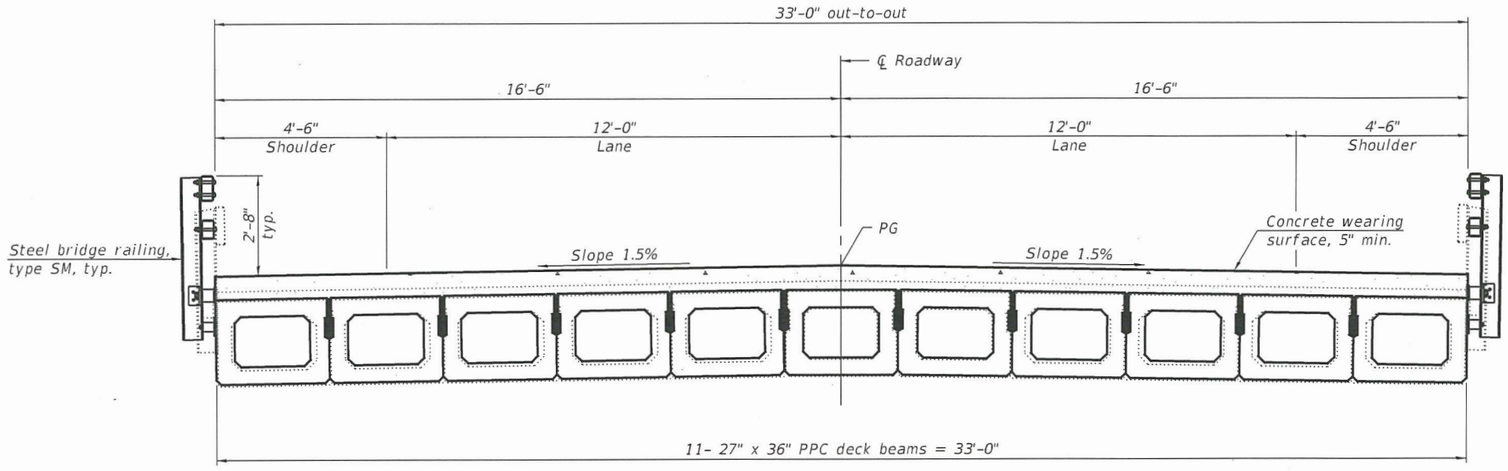


CROSS SECTION
(Looking North)

DESIGN SCOUR ELEVATION TABLE

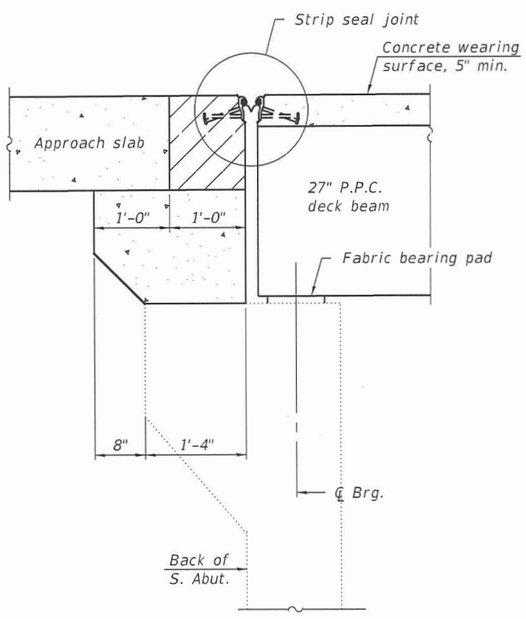
Event / Limit State	Design Scour Elevations (ft.)		
	S. Abut.	N. Abut.	Item 113
Q100	650.34	650.58	
Q200	650.34	650.58	8
Design	650.34	650.58	

WATERWAY INFORMATION

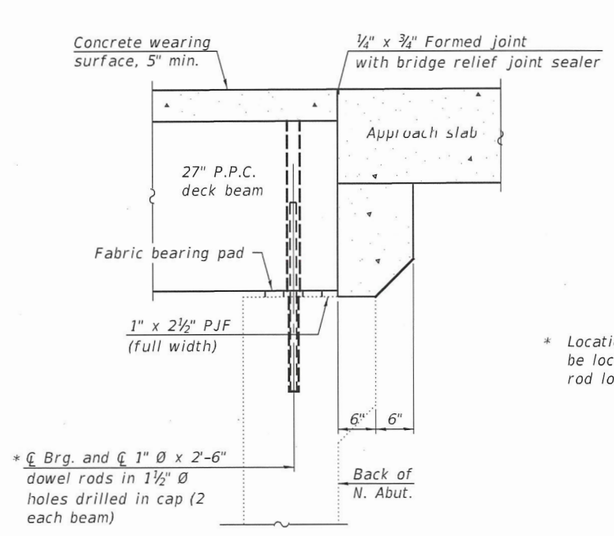
Drainage Area = 3.66 mi.² Existing Low Grade Elev. 667.60 @ Sta. 727+00

Flood	Freq. Yr.	Q C.F.S.	Opening Ft²		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	702	257	257	661.7	0.0	0.0	661.7	661.7
Design	50	1,150	318	318	663.0	0.1	0.1	663.1	663.1
Base	100	1,360	338	338	663.4	0.1	0.1	663.5	663.5
Overtopping	–	–	–	–	–	–	–	–	–
Max. Calc.	500	1,860	380	380	664.3	0.2	0.2	664.5	664.5

10 Year velocity through existing bridge = 2.73 ft./s.



SECTION THRU SOUTH ABUTMENT
(Horizontal dimensions are at Rt. ∠'s)



SECTION THRU NORTH ABUTMENT
(Horizontal dimensions are at Rt. ∠'s)

* Location of new dowel rods shall be located to miss existing dowel rod locations.

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AS A BASIS FOR PREPARATION OF DETAILED PLANS

DETAILS
ILLINOIS ROUTE 128 OVER WILBORN CREEK
F.A.P. RTE 770 - SEC. 115BR-1
MOULTRIE COUNTY
STATION 728+37.63
STRUCTURE NO. 070-0036

DESIGNED -	JUSTIN T. BELUE
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
770	115BR-1	MOULTRIE	---	---
		CONTRACT NO. 74326		
	ILLINOIS	FED. AID PROJECT		

MODEL: 0700036-74326-TSL-002
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