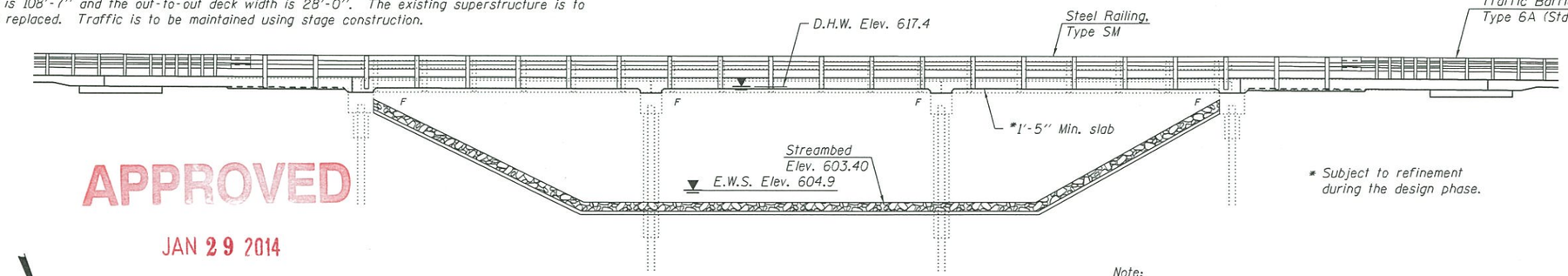
Benchmark: Chiseled "□" on NW wingwall; 14.889' Rt. Sta. 49+53; Elev. 618.307.

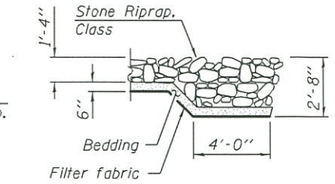
Existing Structure: S.N. 053-0157 built in 1989 as F.A.S. Route 370, Section 102BR at Sta. 48+96.77. The existing structure consists of a three-span precast, prestressed concrete deck beams with bituminous wearing surface by concrete abutments and piers founded on steel H-piles. The back-to-back abutment length is 108'-7" and the out-to-out deck width is 28'-0". The existing superstructure is to be removed and replaced. Traffic is to be maintained using stage construction.

Salvage: None



ELEVATION

* Subject to refinement during the design phase.



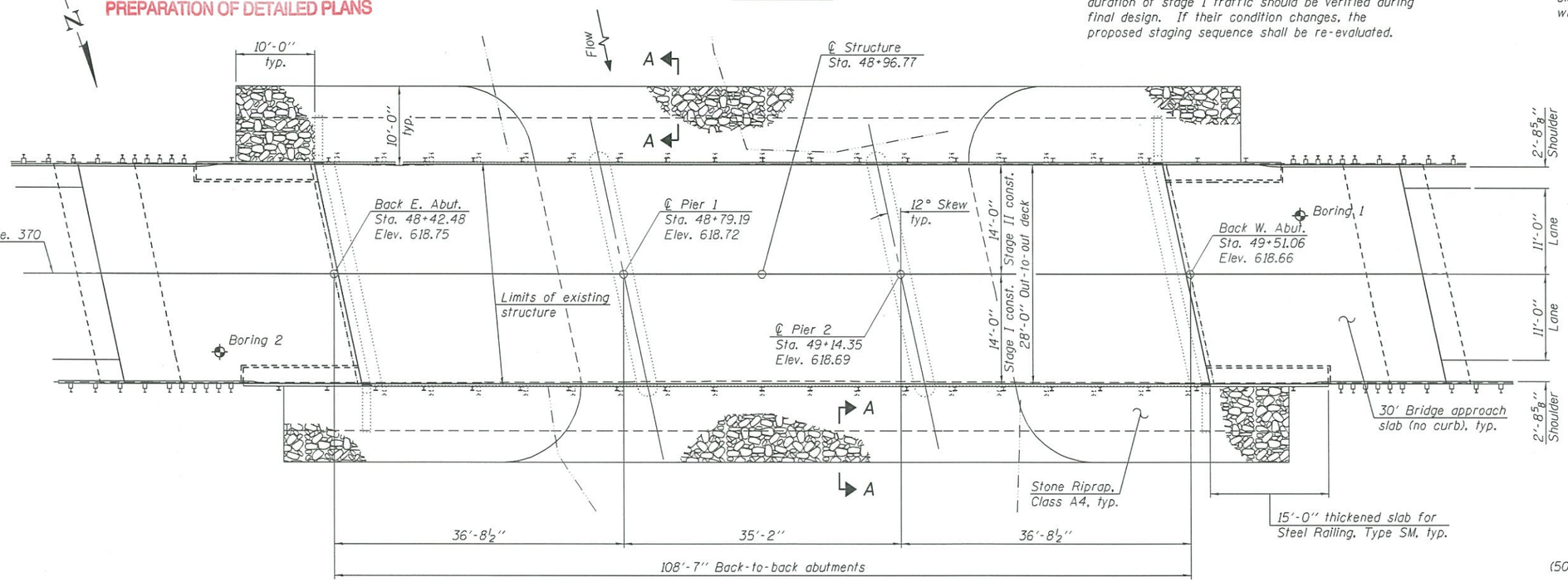
SECTION A-A

APPROVED
JAN 29 2014
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

Note:
The condition of the existing deck beams for the duration of stage I traffic should be verified during final design. If their condition changes, the proposed staging sequence shall be re-evaluated.

SCOPE OF WORK

1. Remove and replace existing 17" PPC deck beams with new reinforced concrete slab, re-using the existing substructure.
2. Formed concrete repair at piers according to district sketches. Repair detail and quantity to be included with structure plans.



PLAN

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims
1995 Seismic Retrofitting Manual for Highway Bridges FHWA-RD-94/052

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

HIGHWAY CLASSIFICATION

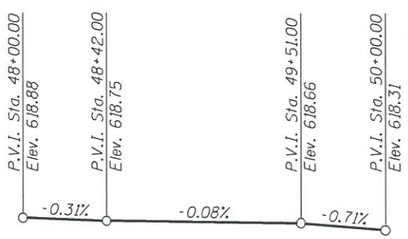
F.A.S. Rte. 370 - Long Point Road
Functional Class: Major Arterial (Non-Urban)
ADT: 475 (2014); 600 (2026)
ADTT: 32 (2014)
DHV: 63 (2017)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

LOADING HL-93

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

SEISMIC DATA

(500 Year return per AASHTO Standard Specifications)
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.041g
Site Coefficient (S) = 1.0



PROFILE GRADE
(Along F.A.S. Rte. 370)

DESIGN SCOUR ELEVATION TABLE

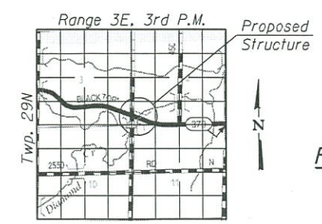
Design Scour Elevations (ft.)				
	E. Abut.	Pier 1	Pier 2	W. Abut.
0100	614.1	595.1	595.1	614.0
0500	614.1	594.8	594.8	614.0

WATERWAY INFORMATION

Drainage Area = 55.6 mi.² — Existing Low Grade Elev. 618.32 @ Sta. 50+00; Proposed Low Grade Elev. 618.39 @ Sta. 50+50

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	3390	848	848	618.5	0.2	0.2	618.7	618.7
Design	50	5330	913	913	617.4	0.6	0.6	618.0	618.0
Exist. Overtopping	65	5670	913	913	617.6	0.7	0.8	618.3	618.4
Prop. Overtopping	68	5720	913	913	617.7	0.7	0.7	618.4	618.4
Base	100	6170	913	913	618.0	0.8	0.8	618.7	618.8
Max. Calc.	500	8210	913	913	619.2	0.7	0.7	619.9	619.9

10 Year velocity through existing bridge = 4.0 ft/s.
10 Year velocity through proposed bridge = 4.0 ft/s.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
LONG POINT ROAD OVER
LONG POINT CREEK
F.A.S. RTE. 370 - SEC. (102BR)BR
LIVINGSTON COUNTY
STATION 48+96.77
STRUCTURE NO. 053-0157

DESIGNED -	JEFFREY S. BURKE
CHECKED -	DEREK G. VERHULST
DRAWN -	MICHAEL B. MOSSMAN
CHECKED -	J.S.B. / D.G.V.

JANUARY 28, 2014

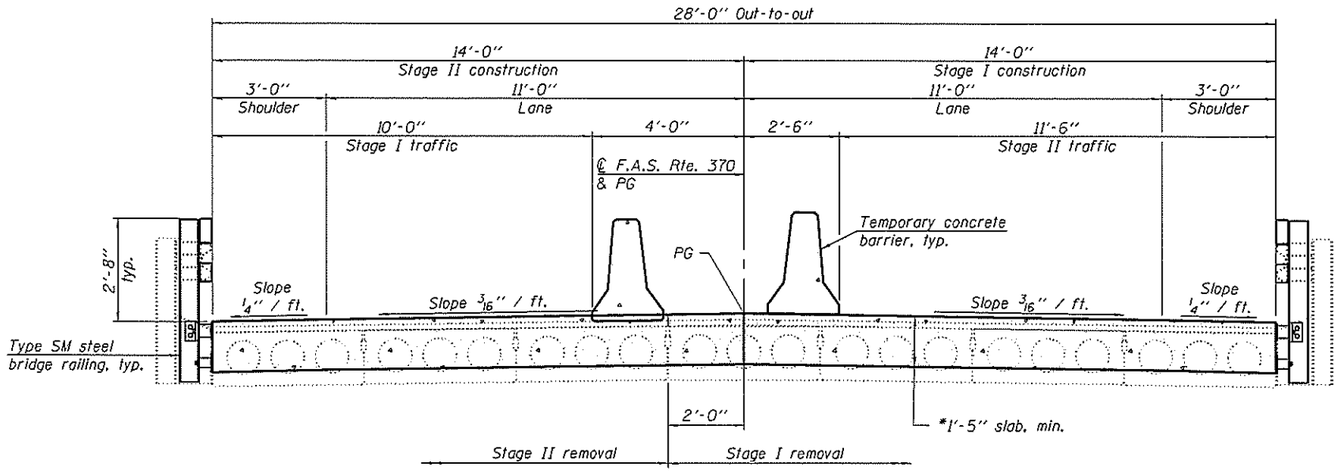
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
370	(102BR)BR	LIVINGSTON		

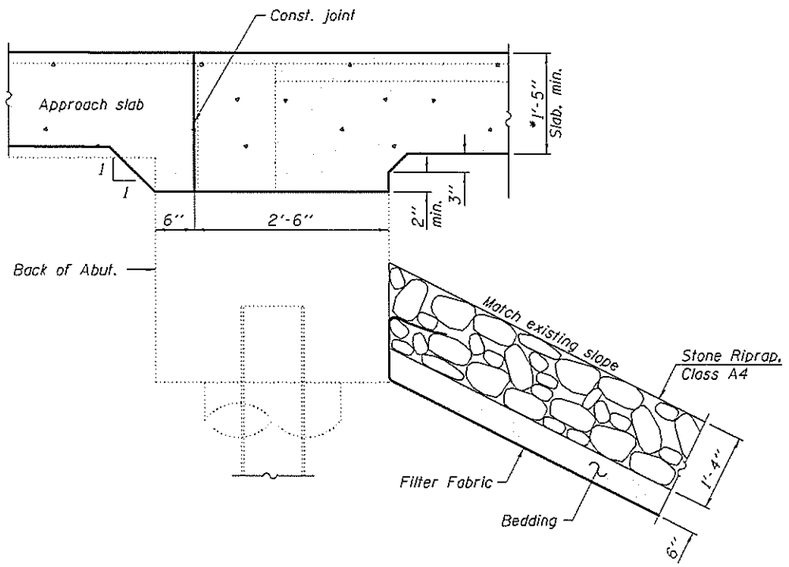
CONTRACT NO. 66A18

ILLINOIS FED. AID PROJECT

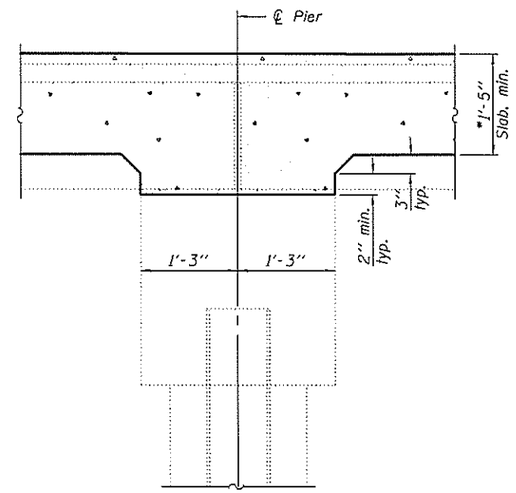


CROSS SECTION
(Looking West)

*Subject to refinement
in final design.



SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. L's)



SECTION THRU PIER
(Horiz. dim. @ Rt. L's)

DETAILS
LONG POINT ROAD OVER
LONG POINT CREEK
F.A.S. RTE. 370 - SEC. (102BR)BR
LIVINGSTON COUNTY
STATION 48+96.77
STRUCTURE NO. 053-0157

DESIGNED	-	JEFFREY S. BURKE
CHECKED	-	DEREK G. VERHULST
DRAWN	-	MICHAEL B. MOSSMAN
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JANUARY 28, 2014

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
370	(102BR)BR	LIVINGSTON		
		CONTRACT NO. 66A18		
		ILLINOIS FED. AID PROJECT		