Bench Mark: Chiseled "□" on southeast corner of concrete handrail of SN 084-0171. Elev. 627.74.

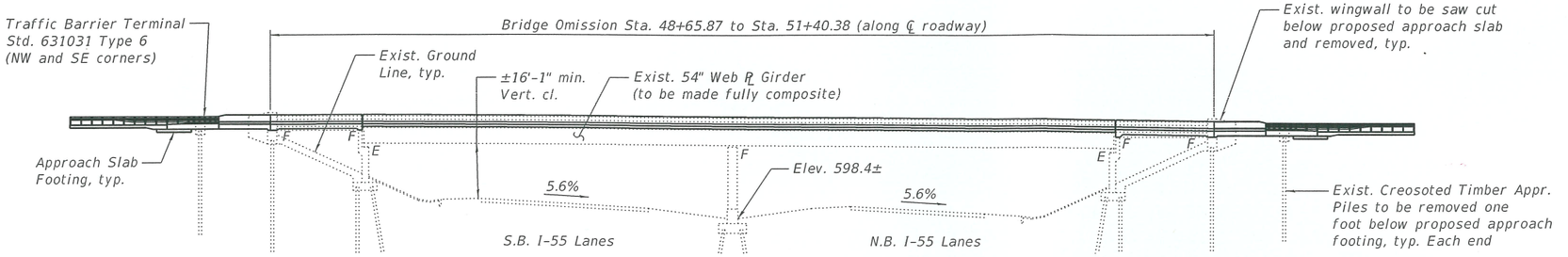
Existing Structure: S.N. 084-0171, built in 1974 as FAI Route 55, Section 84-1HB at Station 324+97.95. The structure is a two span continuous steel girder bridge composite in positive moment regions, supported on sand-filled vaulted abutments and a multi-column pier. 275'-7" back to back approach bents and 68'-0" out to out deck. Concrete deck and slab over vaulted abutment to be removed and replaced using Stage Construction, while maintaining one lane of traffic in each direction at all times.

No Salvage.

SCOPE OF WORK

1. Remove and replace existing concrete deck utilizing stage construction, while providing protective shield over live traffic.
2. Provide new expansion joints at abutments.
3. Make new deck composite full length.
4. Remove and replace each vaulted span slab.
5. Remove and replace bridge approach slabs.
6. Perform concrete repair at each abutment and pier as required.
7. Repair damaged sections of concrete slope walls as required.
8. Raise existing pier crash wall to 5'-0" above ground elevation.
9. Remove and replace existing approach guardrails.
10. Clean and paint existing structural steel under separate "Paint Only" contract.

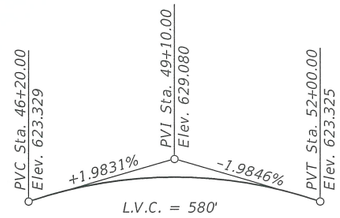
ELEVATION



I-55 CURVE DATA

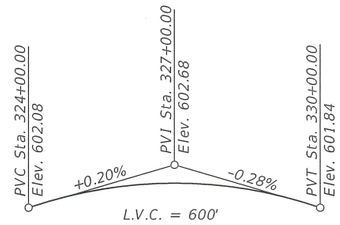
(Exist. Curve 320)

P.I. Sta. = 320+70.63
Δ = 60°-00'-17" (Rt)
D = 2°-00'-01"
R = 2,864.52'
T = 1,653.99'
L = 2,999.96'
E = 443.22'
P.C. Sta. = 304+16.64
P.T. Sta. = 334+16.59



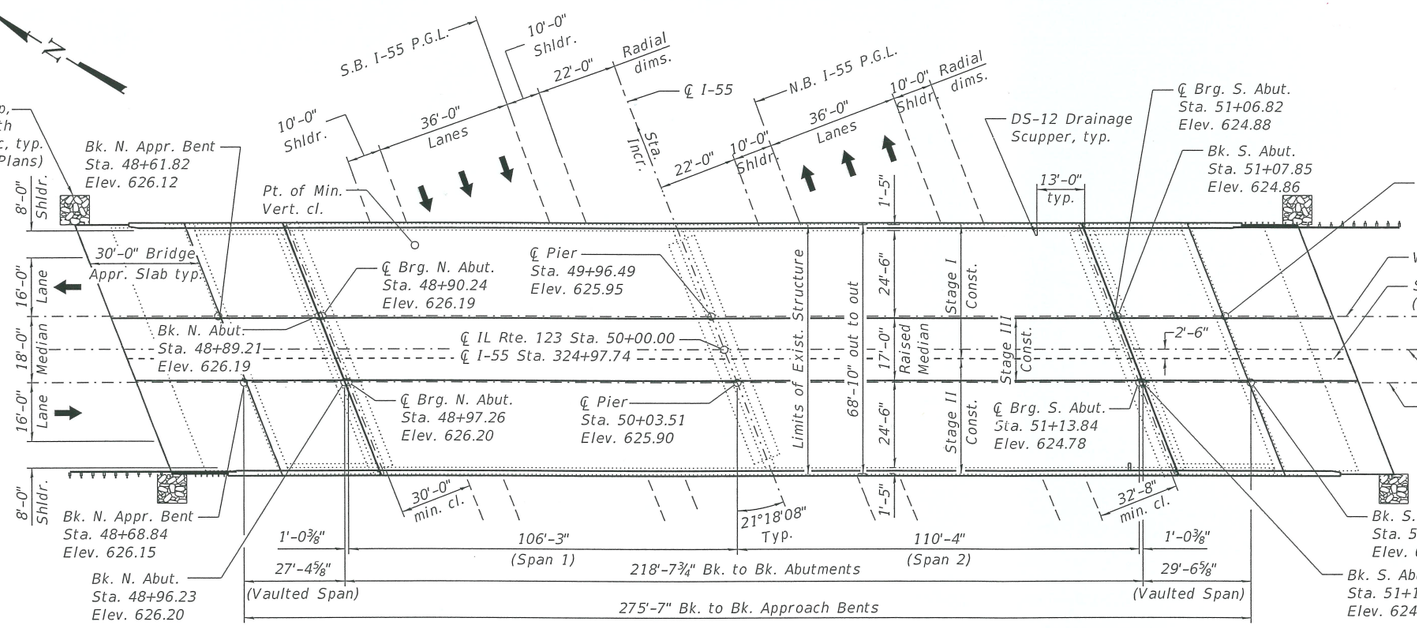
IL RTE. 123 PROFILE GRADE

(along edge of median)



I-55 PROFILE GRADE

(along median edge of pavement)



PLAN

DESIGN SPECIFICATIONS

(New Construction)

2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS20-44

(New Construction)

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

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.047g
Site Coefficient (S) = 1.0

HIGHWAY CLASSIFICATION

	IL Rte. 123	I-55
Functional Class:	Major Collector	Interstate
ADT:	5,650 (2017); 8,040 (2032)	35,300 (2017); 30,874 (2032)
ADTT:	1,074 (2017); 1,528 (2032)	7,413 (2017); 6,484 (2032)
DHV:	804 (2032)	3,087 (2032)
Design Speed:	50 m.p.h.	75 m.p.h.
Posted Speed:	45 m.p.h.	70 m.p.h.
Directional Distribution:	Two-Way Traffic 50:50	Two-Way Traffic 50:50

APPROVED

MAR 28 2019

AS A BASIS FOR PREPARATION OF DETAILED PLANS

LOCATION SKETCH

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50) (Bearings)

FIELD UNITS (Exist. Construction)

f'c = 3,000 psi (Deck Slab Spans 2 & 3)
f'c = 3,500 psi (All other concrete)
fy = 36,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 123 OVER I-55
F.A.I. RTE. 55 - SEC. (84-1)D
SANGAMON COUNTY
STATION 324+97.74
STRUCTURE NO. 084-0171

LIN ENGINEERING,LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - MTH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED - VPT	REVISED -	
	PLOT SCALE =	DRAWN - CGY	REVISED -	
	PLOT DATE = 3/23/2019	CHECKED - MTH	REVISED -	

SHEET 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(84-1)D	SANGAMON		
		CONTRACT NO. 72K07		
	ILLINOIS	FED. AID PROJECT		

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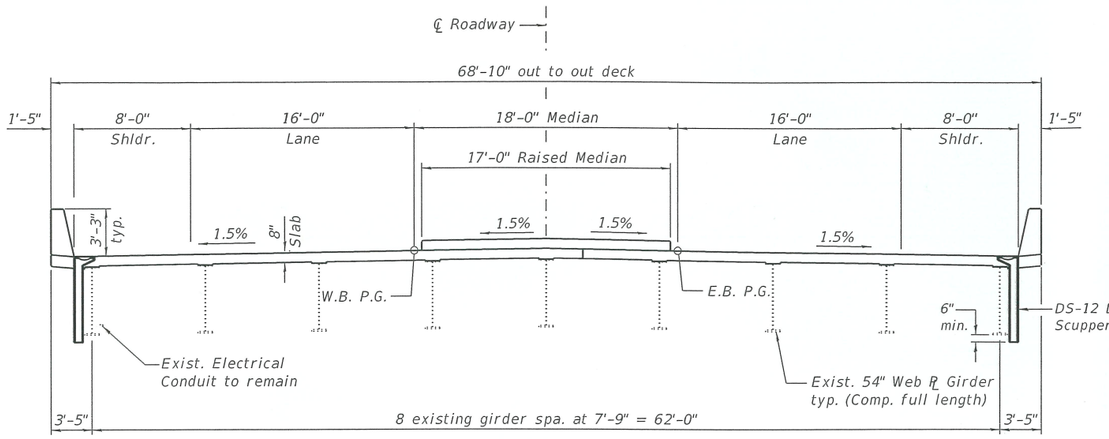
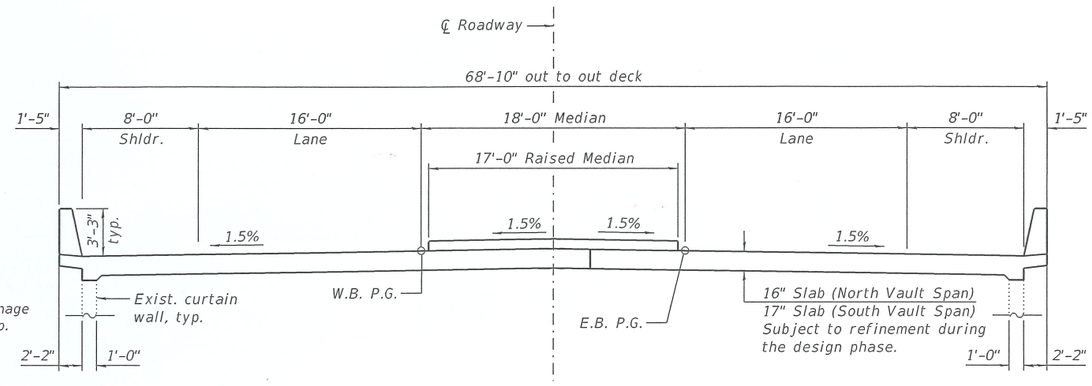


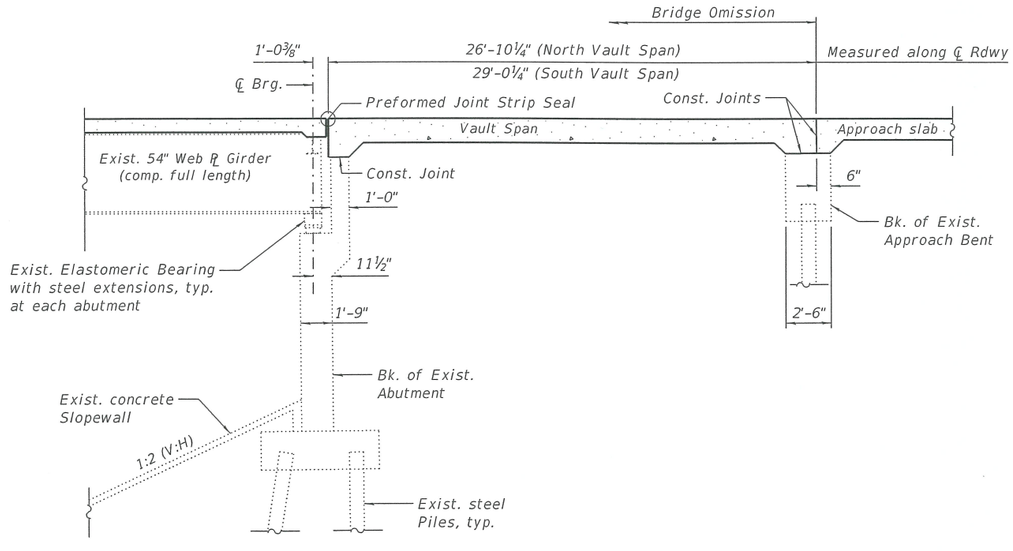
PROPOSED CROSS SECTION THRU BRIDGE

(Looking South)



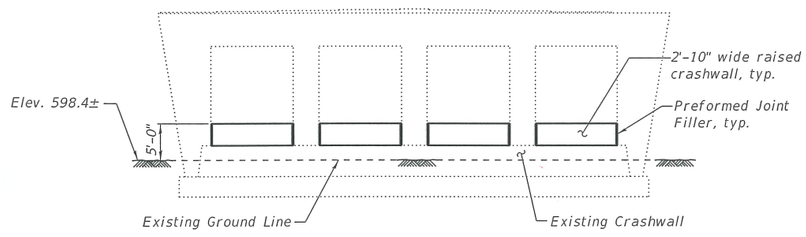
PROPOSED CROSS SECTION THRU VAULT SLAB

(Looking South)



SECTION THRU FILLED VAULTED ABUTMENT

(Horiz. dim. @ Rt. ℄'s except as noted)



PIER SKETCH

APPROVED

MAR 28 2019

AS A BASIS FOR PREPARATION OF DETAILED PLANS

GENERAL DATA

ILLINOIS ROUTE 123 OVER I-55

F.A.I. RTE. 55 - SEC. (84-1)D

SANGAMON COUNTY

STATION 324+97.74

STRUCTURE NO. 084-0171

LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

USER NAME =		DESIGNED - MTH	REVISED -
		CHECKED - VPT	REVISED -
PLOT SCALE =		DRAWN - CGY	REVISED -
PLOT DATE =	3/23/2019	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(84-1)D	SANGAMON		
		CONTRACT NO. 72K07		
	ILLINOIS	FED. AID PROJECT		

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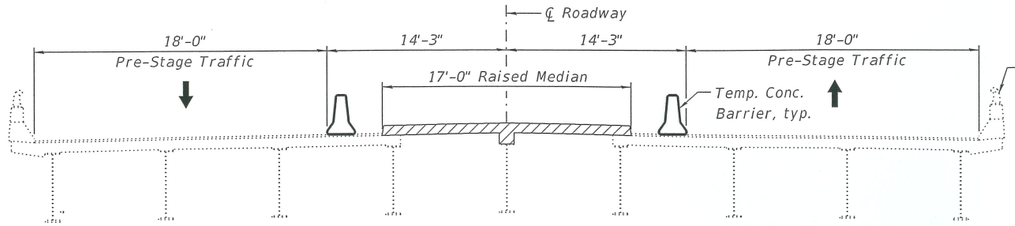
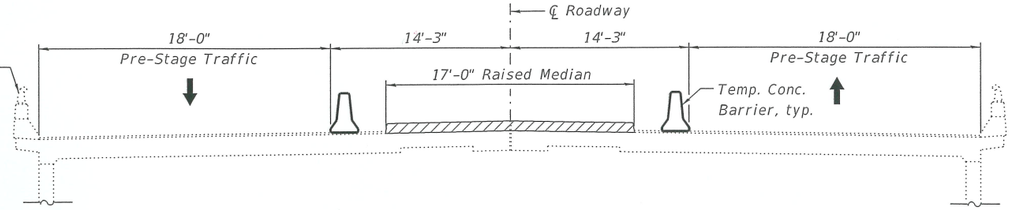
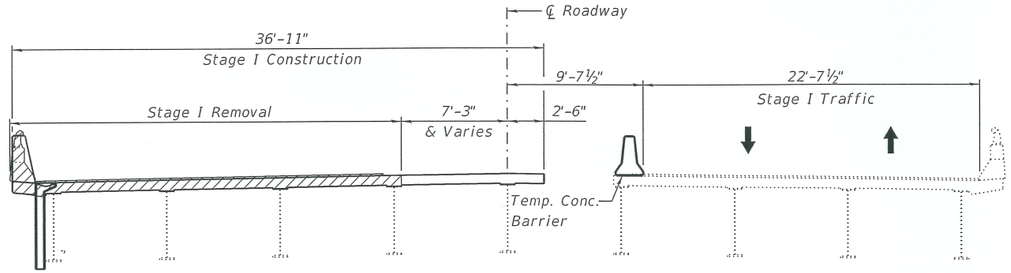


SECTION THRU BRIDGE



SECTION THRU VAULT SLAB

PRE-STAGE CONSTRUCTION



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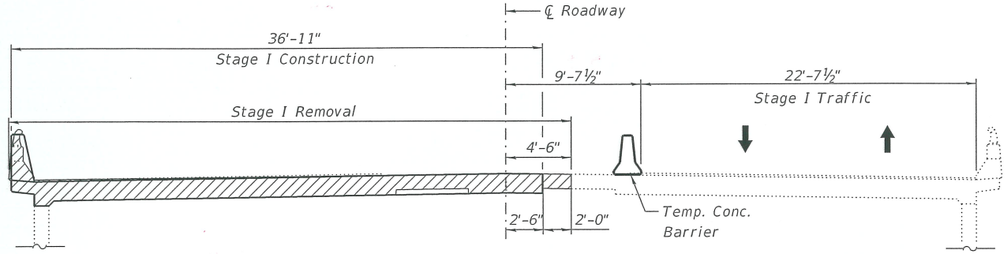
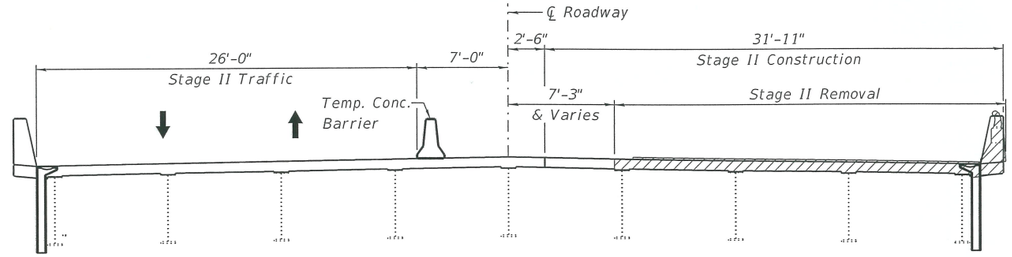


SECTION THRU VAULT SLAB

STAGE I CONSTRUCTION



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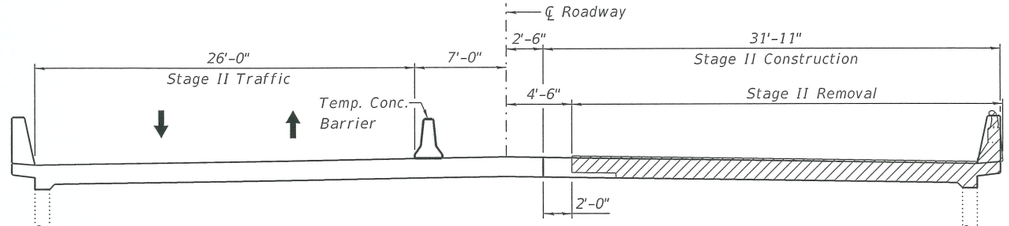
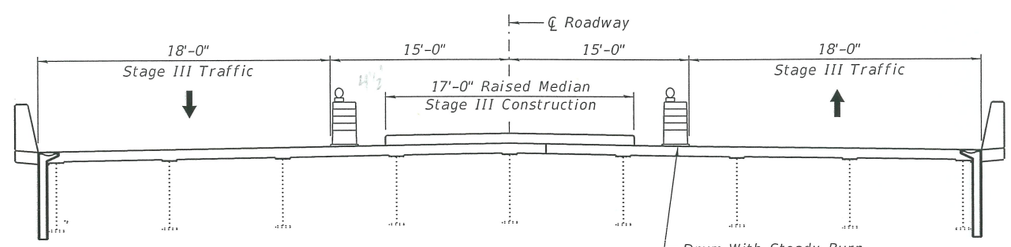


SECTION THRU VAULT SLAB

STAGE II CONSTRUCTION



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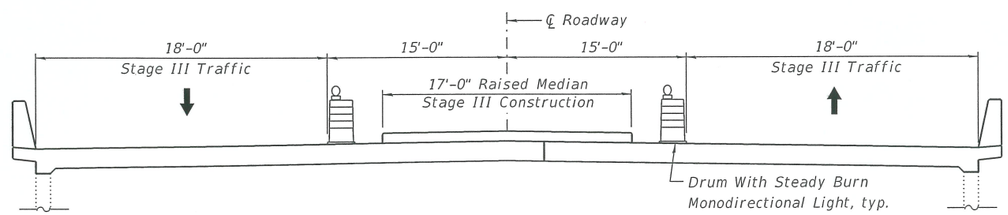

SECTION THRU VAULT SLAB

STAGE III CONSTRUCTION

Notes:
1. All sections are looking south.
2. Hatching represents limits of removal.

APPROVED

MAR 28 2019

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

STAGING DETAILS
ILLINOIS ROUTE 123 OVER I-55
F.A.I. RTE. 55 - SEC. (84-1)D
SANGAMON COUNTY
STATION 324+97.74
STRUCTURE NO. 084-0171

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LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, Illinois

USER NAME =		DESIGNED - MTH	REVISED -
		CHECKED - VPT	REVISED -
PLOT SCALE =		DRAWN - CGY	REVISED -
PLOT DATE =	3/23/2019	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(84-1)D	SANGAMON		
		CONTRACT NO. 72K07		
	ILLINOIS	FED. AID PROJECT		