Bench Mark: Square cut on middle step of SE wingwall of bridge over Richards WB roadway. Elev. = 558.98

Existing Structure: S.N. 099-0059 (EB) and S.N. 099-0058 (WB) were built in 1967 under Federal Aid Interstate Route 80 Project I-80-4(31)134 Section 99-4HB. The structures were repaired in 1990 under Federal Aid Interstate Route I-80 Project C-91-801-94 Section 99-4RS-2 & 99 (3B, 4B-1, 4HB, 4HB-1, 4VB) BR-88. The structures were repaired in 1998 under Federal Aid Interstate Route 80 Project C-91-822-63 Section 99-4-1RS-3 and 99-4-1VB-1. The structures were repaired in 2001 under Federal Aid Interstate Route 80 Project C-91-620-82 Section (99 (1, 2, 3, 4) & 4-1) RS-7. The dual structures consist of 3 simple spans measuring 179'-7" back to back of abutments. Out to out deck width varying from 61'-5" to 65'-3" at 07°-46'-20" skew (right forward) that is supported by two W36 beams (exterior) and nine W30 and W27 beams (interior) at the end spans, and eleven plate girder beams at the middle span. Spans are supported on concrete stub abutments and wing walls founded on spread footings, and two hammerhead piers founded on spread footings. The deck and parapets will be removed and replaced.

Traffic to be maintained utilizing Staged Construction.

No salvage.

SCOPE OF WORK

1. Remove and replace existing bridge deck and approach slabs.
2. Remove and replace expansion joints.
3. Rehabilitate existing piers and abutments with "Structural Repair of Concrete" and "Epoxy Crack Injection".
4. Install Shear Studs to create a composite deck.
5. Remove and replace all Pier caps.
6. Remove and replace Pier 2 columns.
7. Replace Pier bearings with elastomerics and fixed.
8. Paint existing beams (Zone Painting).

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Hightway Bridges, 17th Edition

LOADING HS-20-44

Allow 25 psf for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Horizontal Bedrock
Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

DESIGN STRESSES

FIELD UNITS-NEW CONSTRUCTION

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS-EXISTING CONSTRUCTION

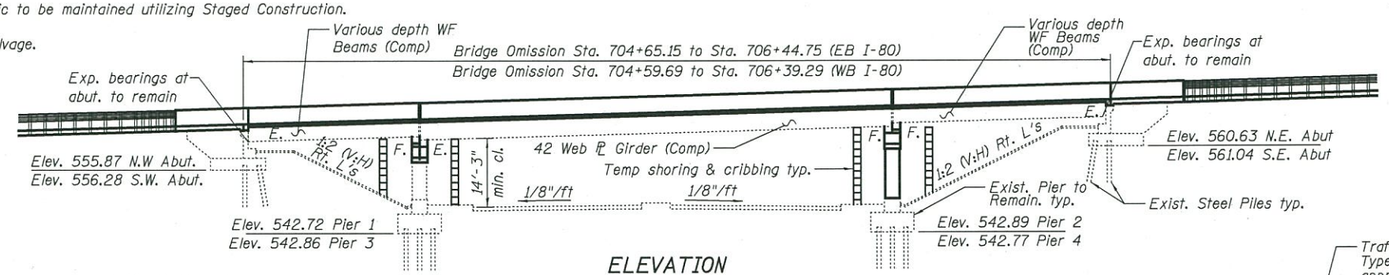
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

HIGHWAY CLASSIFICATION

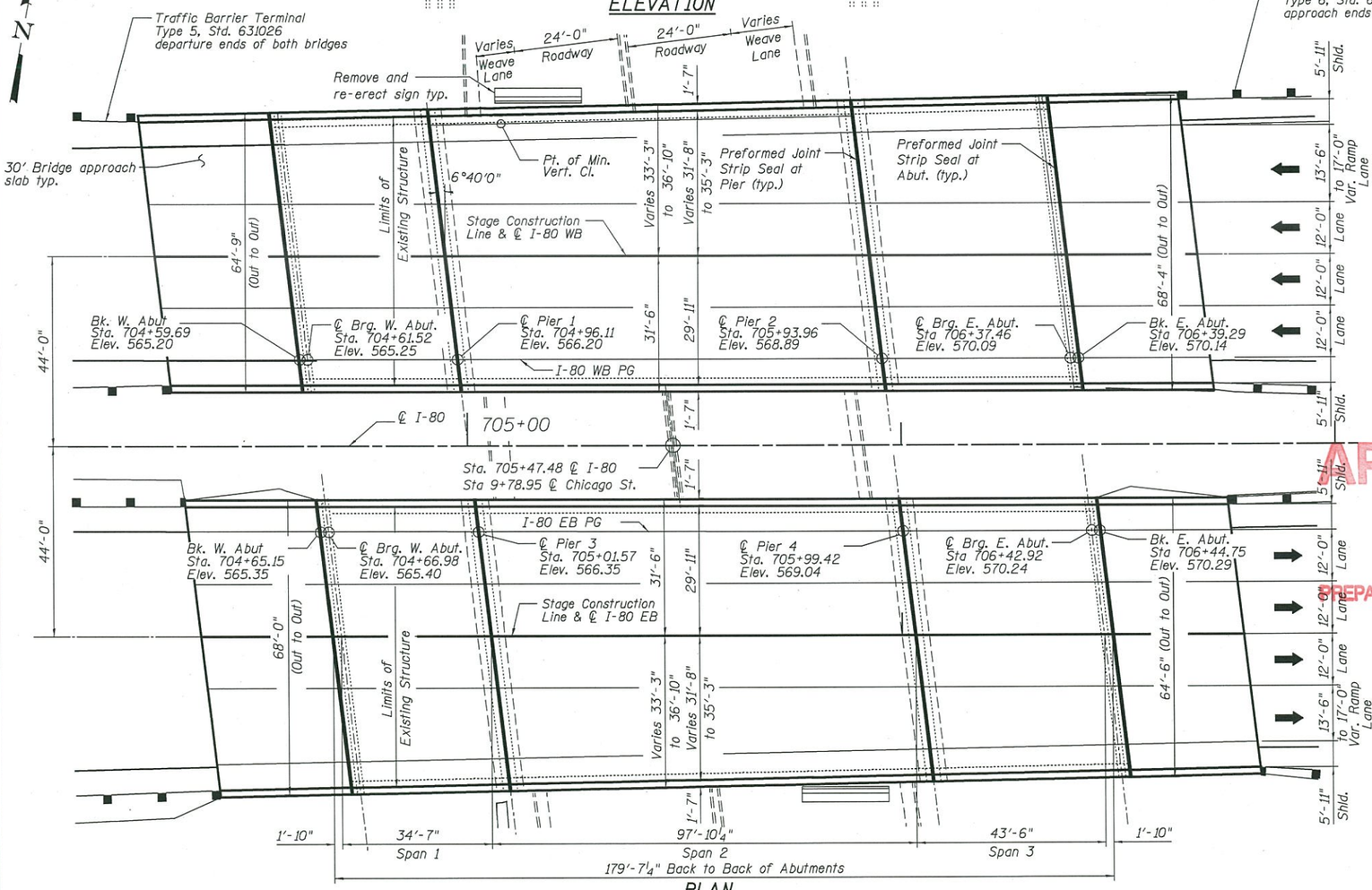
F.A.I. Rte. 80 WB
Functional Class: Interstate
ADT: 45,600 (2010); 49,700 (2030 no-build)
DHV: 3,420 (2030 no-build)
ADTT: 9,710 (2010)
Design Speed: 60 m.p.h.
Posted Speed: 45 m.p.h.
One-Way Traffic

F.A.I. Rte. 80 EB
Functional Class: Interstate
ADT: 52,000 (2010); 56,600 (2030 no-build)
DHV: 4,040 (2030 no-build)
ADTT: 9,570 (2010)
Design Speed: 60 m.p.h.
Posted Speed: 45 m.p.h.
One-Way Traffic

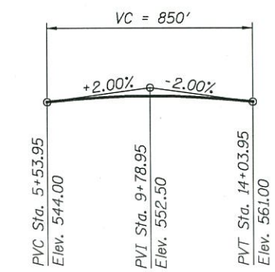
IL 53/US 52 (Chicago St.)
Functional Class: Other Principal Arterial
ADT: 31,505 (2010); 59,000 (2040 no-build)
DHV: 2,160 (2040 no-build)
ADTT: 3,742 (2010)
Design Speed: 40 m.p.h.
Posted Speed: 35 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50



ELEVATION

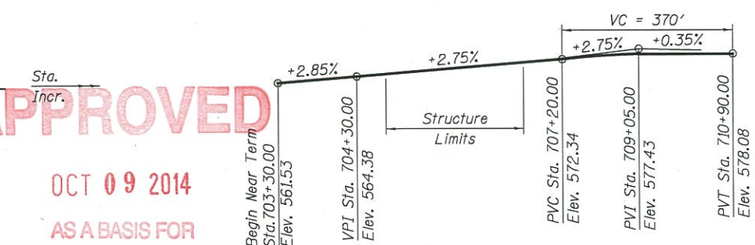


PLAN



PROFILE GRADE

(Along ℄ CHICAGO St.)



PROFILE GRADE

(Along PG EB & WB I-80)

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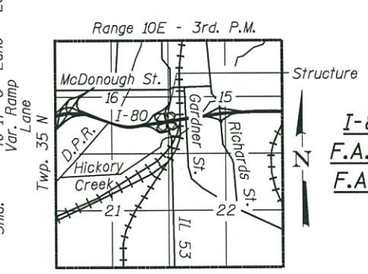
PREPARATION OF DETAILED PLANS



LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-80 OVER IL 53/US 52 (CHICAGO ST.)
F.A.I. RTE. 80 - SECTION 2013-008B(EB)
F.A.I RTE. 80 - SECTION 2013-009B(WB)
WILL COUNTY
STATION 705+47.48
STRUCTURE NO. 099-0059 (EB)
STRUCTURE NO. 099-0058 (WB)

HBP Illinois Partners

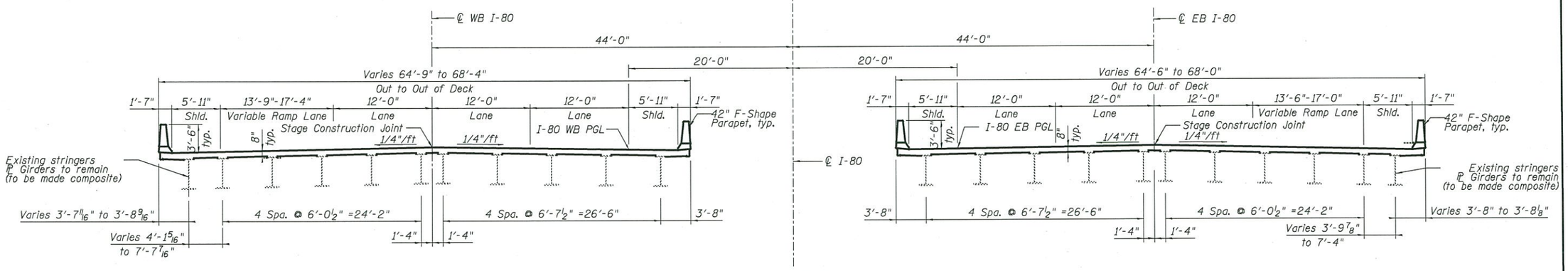
USER NAME = test	DESIGNED - JM	REVISED	
	CHECKED - BT	REVISED	
PLOT SCALE = 30.0000 ' / in.	DRAWN - JM	REVISED	
PLOT DATE = 9/24/2014	CHECKED - BT	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

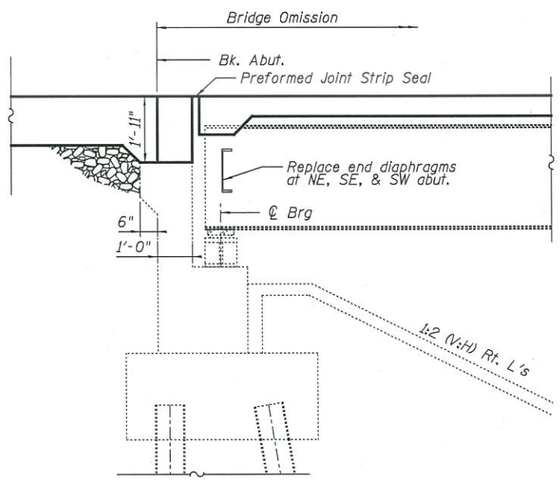
SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	2013-008B & 2013-009B	WILL		
CONTRACT NO. 60W34 & 60W35				
ILLINOIS FED. AID PROJECT				

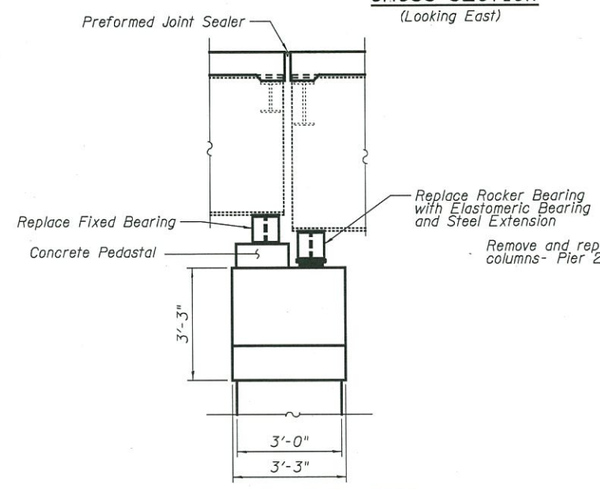
pw:\\hntbw356.hntb.org:PWGreat_Lakes\Documents\Chicago Projects\46314 I-80\Phase II- Near Term Improvement (Group A)\Design\CADD\Structure (TS&L) Sheets\0990058-0990059-60W34-60W35-TSL.dgn



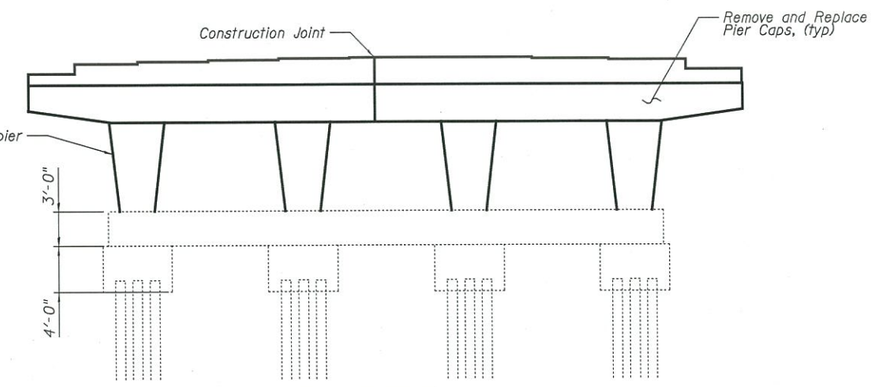
CROSS SECTION
(Looking East)



SECTION THRU ABUTMENT
Dim. @ Rt angles to ℄ Abut.



SECTION THRU PIER
Dim. @ Rt angles to ℄ Pier.
Piers 1 & 3 shown Piers 2 & 4 similiar



PIER SKETCH

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OCT 09 2014
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

DETAILS 1
I-80 OVER IL 53/US 52 (CHICAGO ST.)
F.A.I. RTE. 80 - SECTION 2013-008B(EB)
F.A.I RTE. 80 - SECTION 2013-009B(WB)
WILL COUNTY
STATION 705+47.48
STRUCTURE NO. 099-0059 (EB)
STRUCTURE NO. 099-0058 (WB)

HBP Illinois Partners	USER NAME = dmachelaV8i(Rdwy_Lisle)	DESIGNED - JM	REVISED
		CHECKED - BT	REVISED
	PLOT SCALE = 12.5435 ' / in.	DRAWN - JM	REVISED
	PLOT DATE = 9/23/2014	CHECKED - BT	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	2013-008B & 2013-009B	WILL		
CONTRACT NO. 60W34 & 60W35				
ILLINOIS	FED. AID PROJECT			

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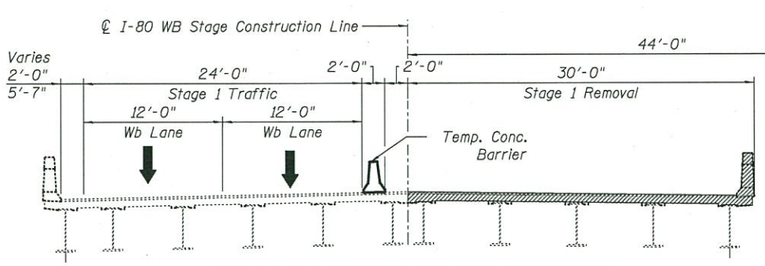
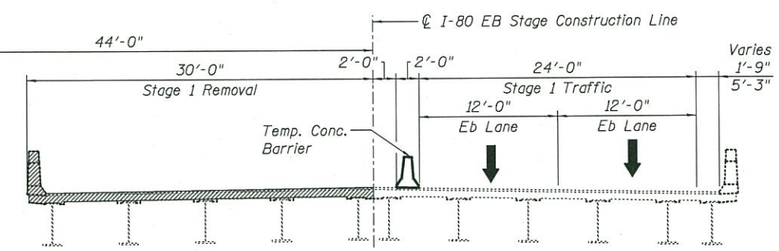
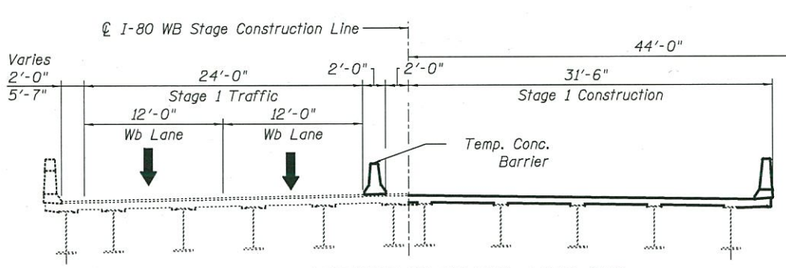


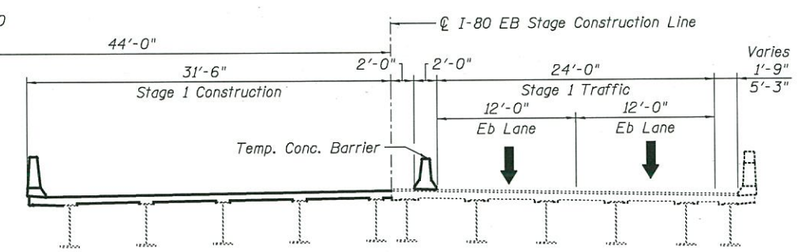
STAGE 1 REMOVAL SN 099-0058 (WB)



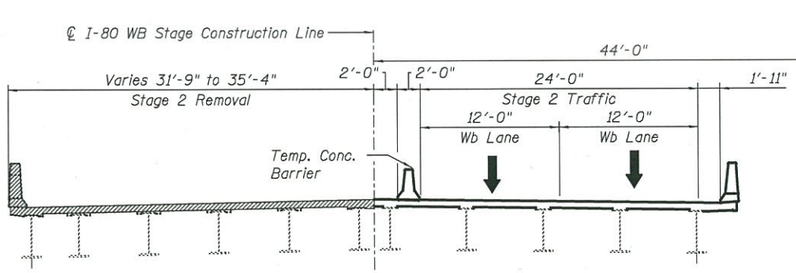
STAGE 1 REMOVAL SN 099-0059 (EB)



STAGE 1 CONSTRUCTION SN 099-0058 (WB)



STAGE 1 CONSTRUCTION SN 099-0059 (EB)



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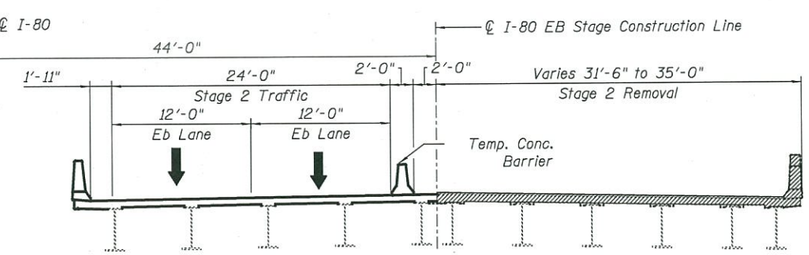

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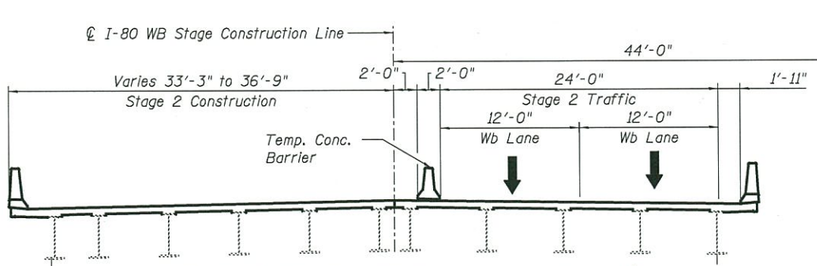
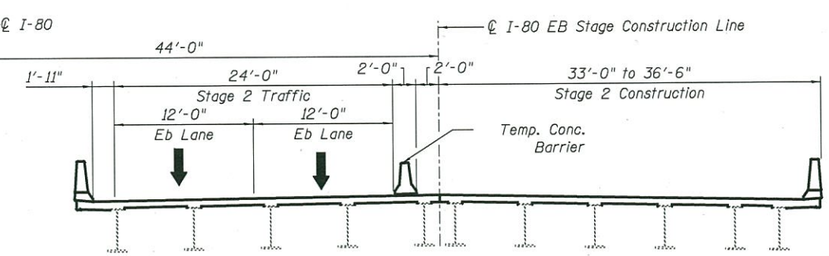


STAGE 2 CONSTRUCTION SN 099-0058 (WB)



STAGE 2 CONSTRUCTION SN 099-0059 (EB)

APPROVED

OCT 09 2014

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

LEGEND

Removal of Existing Concrete Deck

CONSTRUCTION STAGING
I-80 OVER IL 53/US 52 (CHICAGO ST.)
F.A.I. RTE. 80 - SECTION 2013-008B(EB)
F.A.I RTE. 80 - SECTION 2013-009B(WB)
WILL COUNTY
STATION 705+47.48
STRUCTURE NO. 099-0059 (EB)
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HBP Illinois Partners	USER NAME = dmachalaV8i(Rdwy_Lisle)	DESIGNED - JM	REVISED
		CHECKED - BT	REVISED
	PLOT SCALE = 12.5435 ' / in.	DRAWN - JM	REVISED
	PLOT DATE = 9/23/2014	CHECKED - BT	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	2013-008B & 2013-009B	WILL		

CONTRACT NO. 60W34 & 60W35

ILLINOIS FED. AID PROJECT

pw:\\hntbw35&hntb.org:PWGreat_Lakes\Documents\Chicago Projects\4634 I-80\Phase II- Near Term Improvement (Group A)\Design\CADD\Structure (TS&L) Sheets\0990058_0990059_TSL_001.dgn