

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
**PROPOSED  
HIGHWAY PLANS**

F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1) FAP 397 2) FAU 1609	2020-230-BP	COOK	20	1
ILLINOIS			CONTRACT NO. 62M89	

\* 20 + 1 = 21 TOTAL SHEETS

FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS IMPROVEMENT IS LOCATED  
IN THE CITIES OF CALUMET CITY & COUNTRY CLUB HILLS

**TRAFFIC DATA**

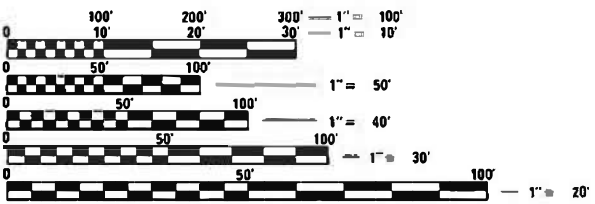
I-94 (BISHOP FORD)  
2019 ADT = 137400  
POSTED SPEED LIMIT = 55 MPH

I-57  
2019 ADT = 118800  
POSTED SPEED LIMIT = 55 MPH

IL-83 (SIBLEY BLVD)  
2019 ADT = 27100  
POSTED SPEED LIMIT = 35 MPH

167TH STREET  
2018 ADT = 16000  
POSTED SPEED LIMIT = 35 MPH

1) FAP ROUTE 397: IL-83 (SIBLEY BLVD)  
OVER I-94 (BISHOP FORD EXPY)  
2) FAU ROUTE 1609: 167TH STREET  
OVER I-57  
SECTION  
2020-230-BP  
BRIDGE PAINTING  
COOK COUNTY  
C-91-016-21

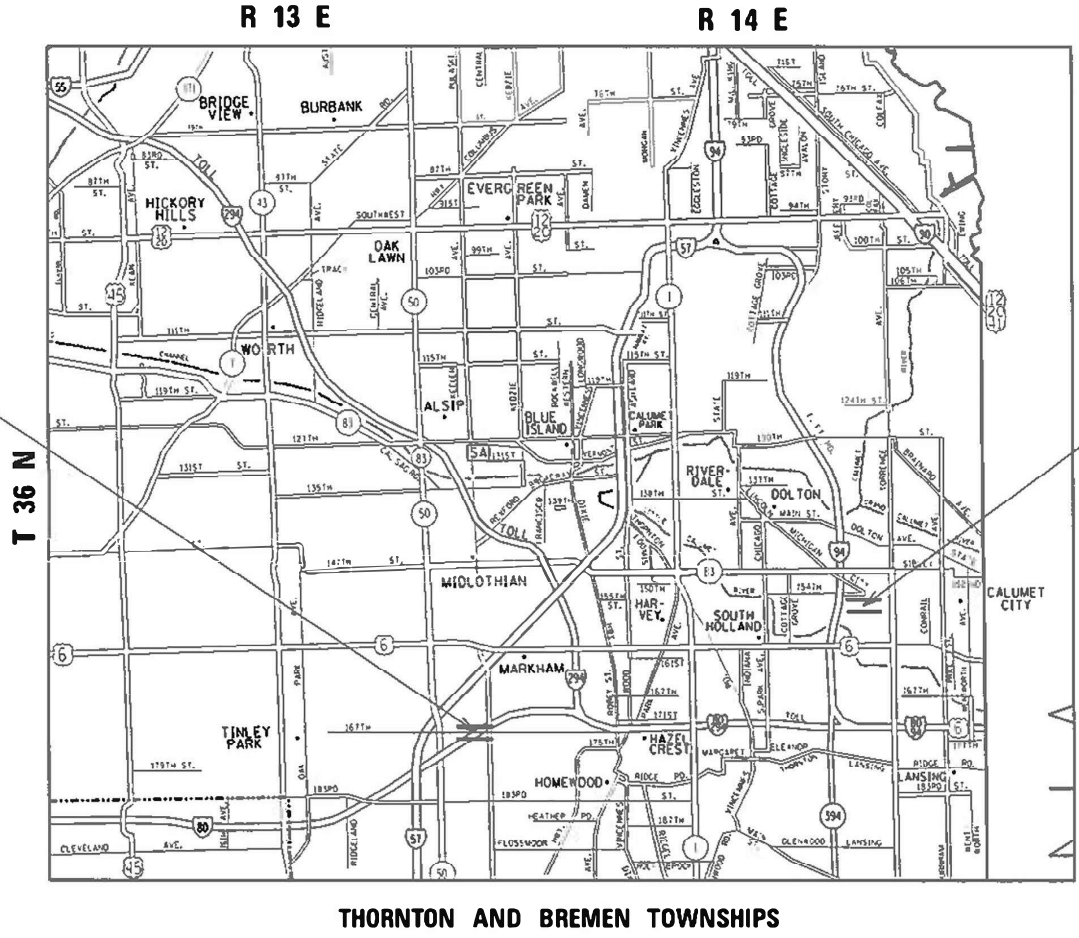


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS  
1-800-892-0123  
OR 811

PROJECT MANAGER: ALAIN MIDY (847) 221-3056

CONTRACT NO. 62M89



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 21, 2020  
Anthony J. Danzig / ORS REGIONAL ENGINEER

October 2, 2020  
Scott A. Elk  
ENGINEER OF DESIGN AND ENVIRONMENT

October 2, 2020  
James J. Gu  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

MODEL Default  
FILE Name: p:\publansoon.d\alllinks.gov\PWIDOT\Documents\DOT Office\Bldgctc 1\Project\01721\COData\Design\01721-sh-generate.dgn

INDEX OF SHEETS

1	COVER SHEET
2	INDEX OF SHEETS AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-10	BRIDGE DETAILS SN-016-0956
11-16	BRIDGE DETAILS SN-016-2125
17	FREEWAY ENTRANCE AND EXISTING RAMP CLOSURE DETAILS (TC-08)
18	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE AND MULTI-LANE WEAVE (TC-09)
19	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
20	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC-17)

STATE STANDARDS

STANDARD NO.	DESCRIPTION
701101-05	OFF-RD OPERATIONS, MULTILANE, 15’ (4.5m) TO 24’’ (600mm) FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15’ (4.5m) AWAY
701400-09	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411-09	LANE CLOSURE, MUL TILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS > 45 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY / EXPRESSWAY
701446-10	TWO LANE CLOSURE, FREEWAY / EXPRESSWAY
701901-08	TRAFFIC CONTROL DEVICES

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL •C. U. A. N.• AT (312) 744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE CITIES OF CALUMET CITY & COUNTRY CLUB HILLS.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED AT THE UNIT PRICE BID FOR THE WORK.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR FOR EXPRESSWAYS AT (847)705-4151 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTENANCE BRIDGE INSPECTORS.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

IT SHALL BE THE CONTRACTOR’S RESPONSIBILITY TO PROTECT AND MAINTAIN THE EXISTING BRIDGE LIGHTING AT ANY LOCATIONS THAT LIGHTING IS ENCOUNTERED ADJACENT TO AN AREA TO BE CLEANED AND PAINTED.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHTTIME OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE OUTMOST PRECAUTIONS PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJACENT RESIDENTIAL AREAS.

THE CONTRACTOR SHALL REQUEST AND GAIN THE APPROVAL FROM THE ILLINOIS DEPARTMENT OF TRANSPORTATION’S EXPRESSWAY TRAFFIC OPERATIONS ENGINEER AT WWW.IDOTLCS.COM TWENTY FOUR ( 24 ) HOURS IN ADVANCE OF ALL DA IL Y LANE, RAMP AND SHOULDER CLOSURES. THIS ADVANCE NOTIFICATION IS CALCULATED BASED ON WORKWEEK OF MONDAY THROUGH FRIDAY AND SHALL NOT INCLUDE WEEKENDS OR HOLIDAYS.

THE CONTRACTOR SHALL CLOSE LANES ON THE EXPRESSWAY IN ACCORDANCE WITH THE “KEEPING THE EXPRESSWAY OPEN TO TRAFFIC” CONTRACT SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CONTACT DISTRICT 1 TRAFFIC CONTROL SUPERVISOR AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV FOR ARTERIALS A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

GENERAL PAINT NOTES

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR “CLEANING AND PAINTING EXISTING STEEL STRUCTURES”.

ALL ITEMS (SUCH AS, BUT NOT LIMITED TO: CONDUITS, BRACKETS AND DECK DRAINS) ATTACHED TO OUTSIDE OF THE FASCIA BEAMS SHOULD BE CLEANED AND PAINTED.

ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING SSPC-SPIO.

THE AREAS SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 -OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO 5B 7/1, THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE REDDISH BROWN, MUNSELL NO 2. 5YR 3/4.

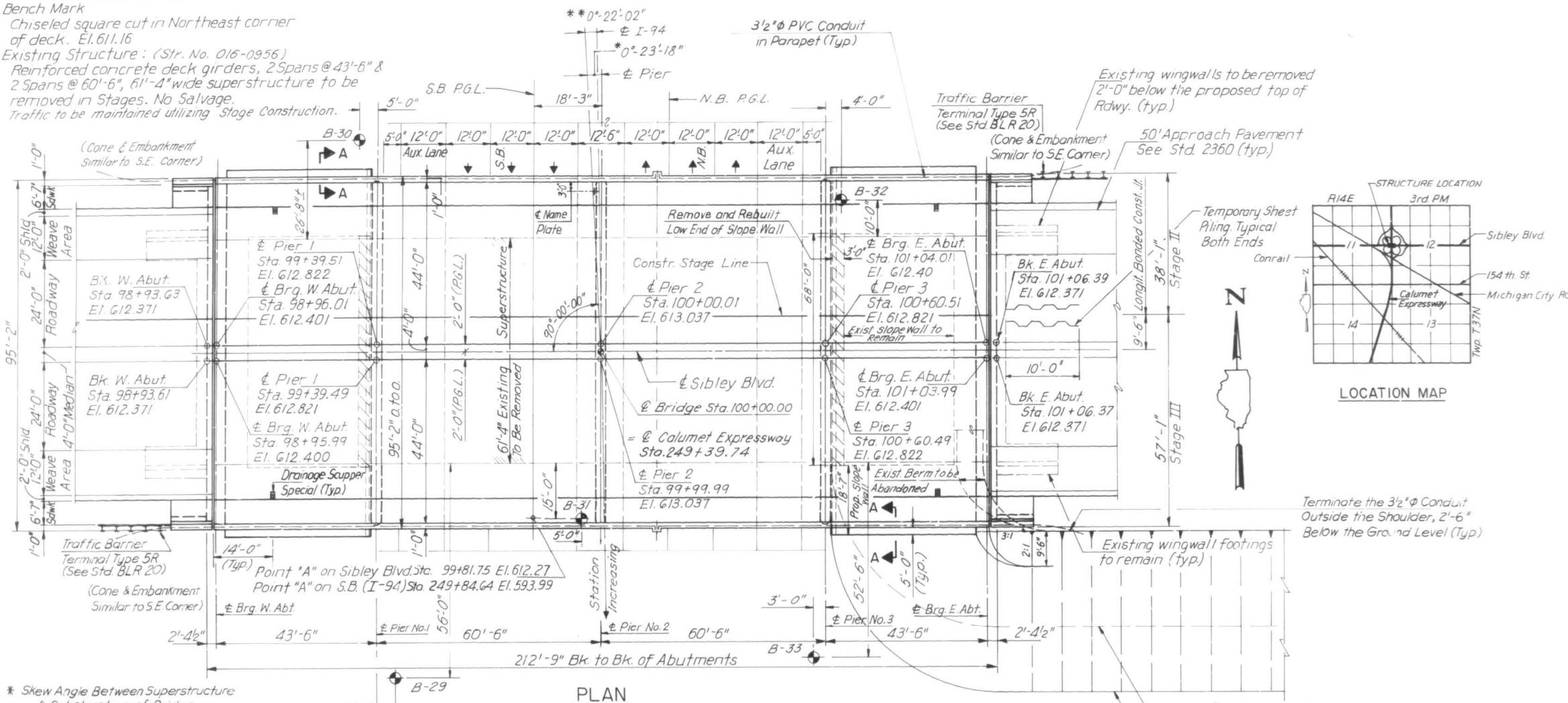
A MINIMUM OF 2 AIR MONITORS FOR STRUCTURE (SN-016-2125) WILL BE REQUIRED TO MONITOR ABRASIVE BLASTING OPERATIONS AT THESE SITES. SEE SPECIAL PROVISION FOR “CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES”.

	USER NAME = dumachia	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES GENERAL PAINT NOTES				RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -							2020-030-BP	COOK	20	2
	PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -						CONTRACT NO. 62M89				
	PLOT DATE = 9/18/2020	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS	FED. AID PROJECT

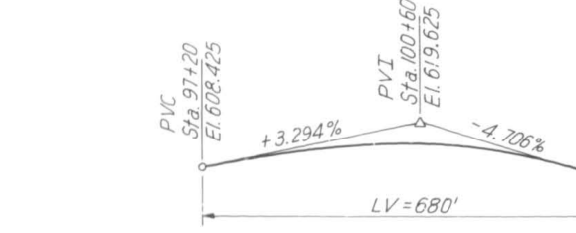
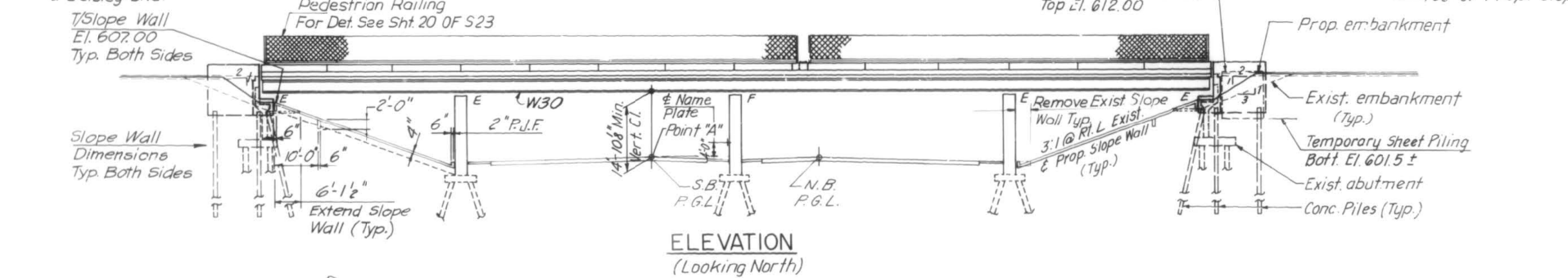


[illegible]

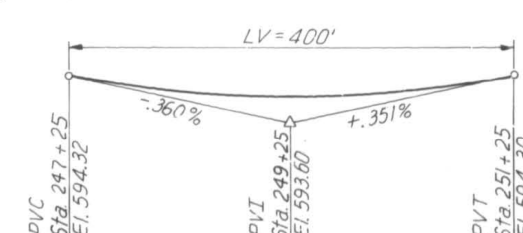
Bench Mark  
Chiseled square cut in Northeast corner  
of deck. El. 611.16  
Existing Structure: (Str. No. 016-0956)  
Reinforced concrete deck girders, 2 Spans @ 43'-6" &  
2 Spans @ 60'-6", 6'-4" wide superstructure to be  
removed in Stages. No Salvage.  
Traffic to be maintained utilizing Stage Construction.



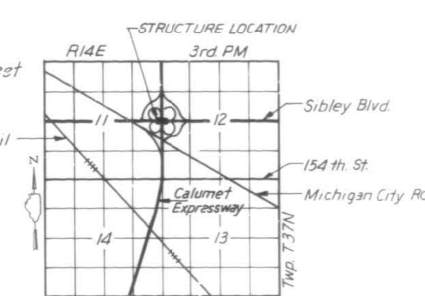
\* Skew Angle Between Superstructure  
& Substructure of Bridge  
\*\* Skew Angle Between F.A.I. - 94  
& Sibley Blvd.



PROPOSED PROFILE - SIBLEY BLVD.

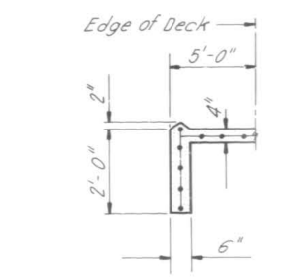


PROPOSED PROFILE - I-94



LOCATION MAP

Terminate the 3/2" PVC Conduit  
Outside the Shoulder, 2'-6"  
Below the Ground Level (Typ.)



SECTION A-A

DESIGN SPECIFICATIONS:  
A.A.S.H.T.O. 1983 Standard Specifications for  
Highway Bridges, 1984, Thru 1988 Interims.

DESIGN CRITERIA:  
Live Load: HS 20-44  
Allow 25 p.s.f. for future wearing surface

DESIGN STRESSES:  
Reinforced Concrete  
f'c = 3500 psi - Superstructure  
fc = 1400 psi - Substructure

REINFORCEMENT:  
fy = 60,000 psi - Superstructure  
fs = 24,000 psi - Substructure  
STRUCTURAL STEEL:  
fy = 50,000 psi (M 223 Gr. 50),  
fy = 36,000 psi (M 183).

STATION 100+00.00  
RE-BUILT 199 BY  
STATE OF ILLINOIS  
SIBLEY BLVD. OVER F.A.I. RTE. 94  
SECT. 0606.1HB-R(36)  
F.A. PROJECT ACIR-94-3(283)71  
LOADING HS 20  
STR. NO. 016-0956

NAME PLATE  
SEE STANDARD 2113

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
PLAN AND ELEVATION  
SIBLEY BLVD., IL. 83 OVER F.A.I. RTE. 94  
SECTION STA. 100+00.00 COOK COUNTY SN 016-0956  
SCALE: NO SCALE DRAWN BY K.C.  
DATE: MARCH 16, 1988 CHECKED BY L.M.

FOR INFORMATION ONLY

USER NAME = dumachia	DESIGNED -	REVISED -
PLOT SCALE = 100,000' / in.	DRAWN -	REVISED -
PLOT DATE = 8/25/2020	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (SN-016-0956)	SCALE:	SHEET 1 OF 7 SHEETS	STA.	TO STA.
IL-83 (SIBLEY BLVD.) OVER I-94 (BISHOP FORD EXPY)				

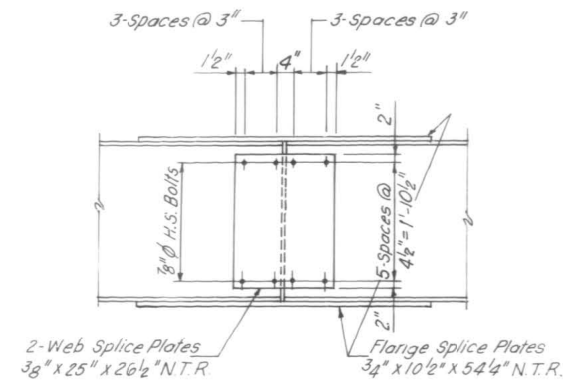
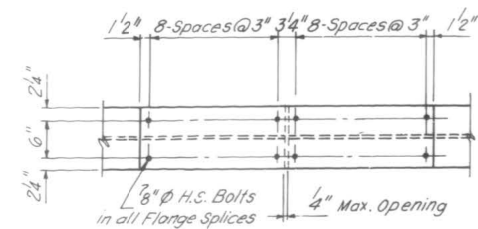
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	4
CONTRACT NO. 62M89				
ILLINOIS		FED. AID PROJECT		



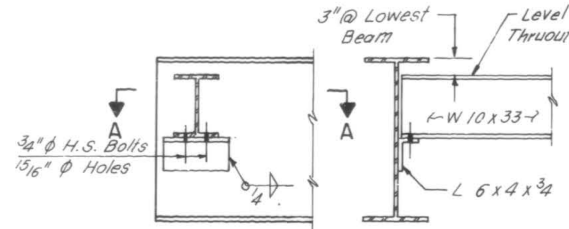
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	5
		CONTRACT NO. 62M89		
		ILLINOIS	FED. AID PROJECT	



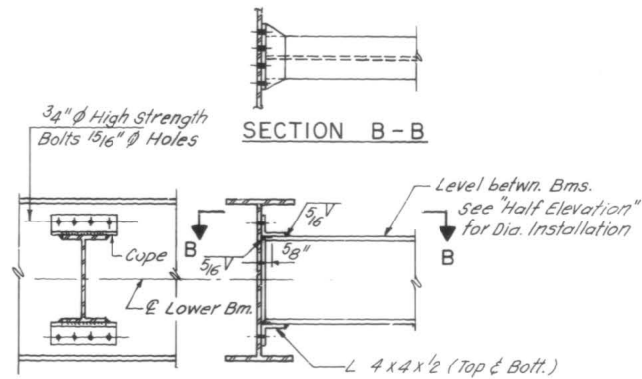


**SPLICE WITH OUTSIDE FLANGE PLATE ONLY**  
All Splice Plates are M223 Gr 50

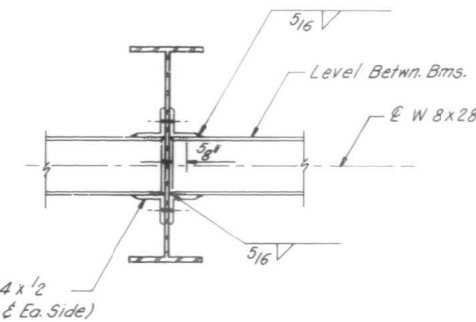
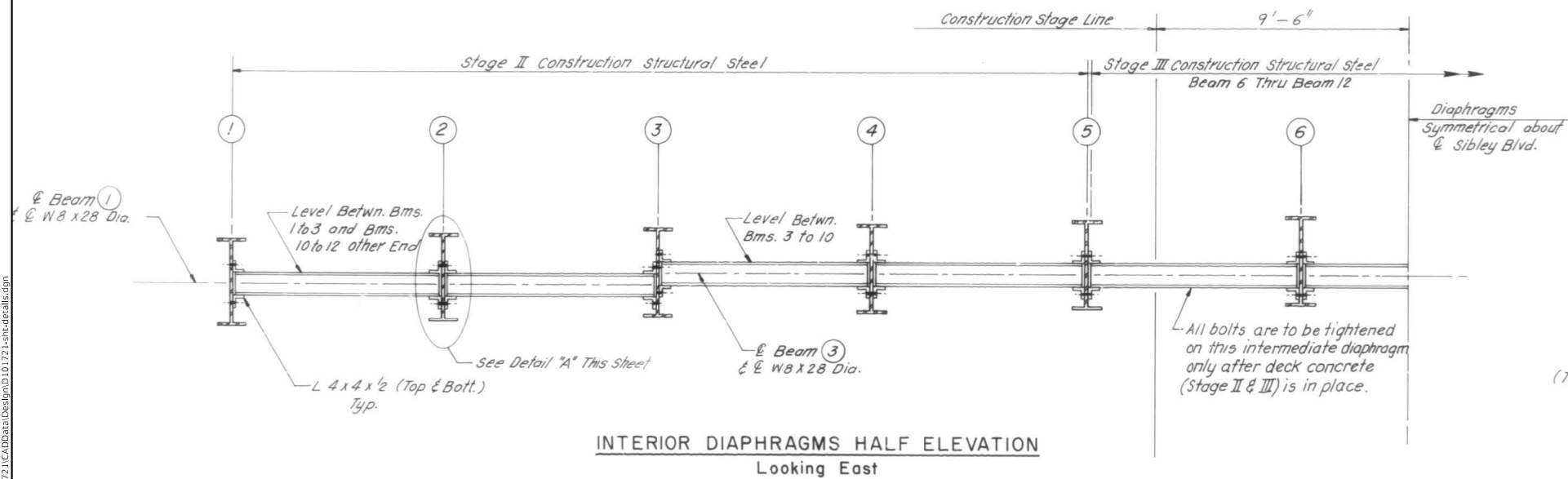


Note: Hardened washers shall be required over all 1 5/16\"/>

**END DIAPHRAGM D**



**INTERIOR DIAPHRAGM D1**



**DETAIL "A"**

FOR INFORMATION ONLY

MODEL Default  
FILE Name: s:\pub\lancom.d\all\hds.sou\p\WIDOT\Documents\DOT Office\Diagct 1\Projects\031721\031721-sh-detailed.dgn

USER NAME = dumachia	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/25/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

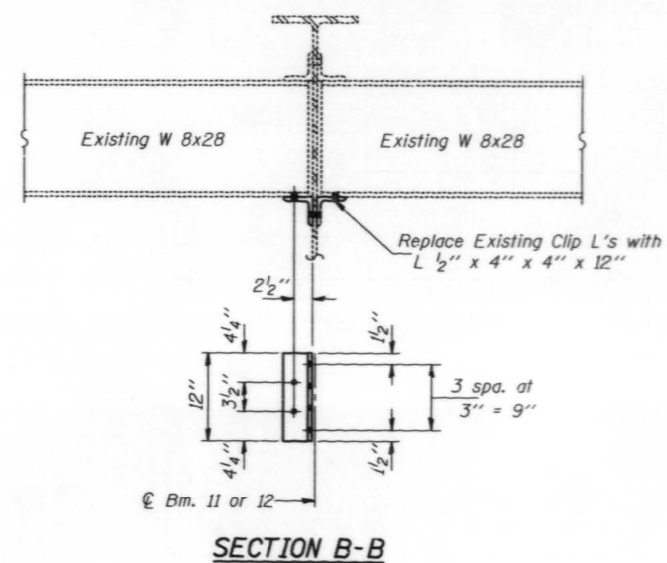
**EXISTING BRIDGE PLANS (SN-016-0956)  
IL-83 (SIBLEY BLVD.) OVER I-94 (BISHOP FORD EXPY)**

SCALE: SHEET 4 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	6
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
374 397 343	1998 1137	COOK	23	13	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

3 SHEETS



$\frac{5}{16}$ " holes for new  $\frac{3}{4}$ " H.S. Bolts shall be used for diaphragm connections. Two hardened washers shall be required at diaphragm connections.

BRIDGE REPAIRS  
SIBLEY BLVD. (IL.83) OVER F.A.I. 94 (CALUMET)  
SEC. 0606.1 HB-R(86)  
COOK COUNTY  
S.N. 016-0956

FOR INFORMATION ONLY

USER NAME = dumachia	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/25/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

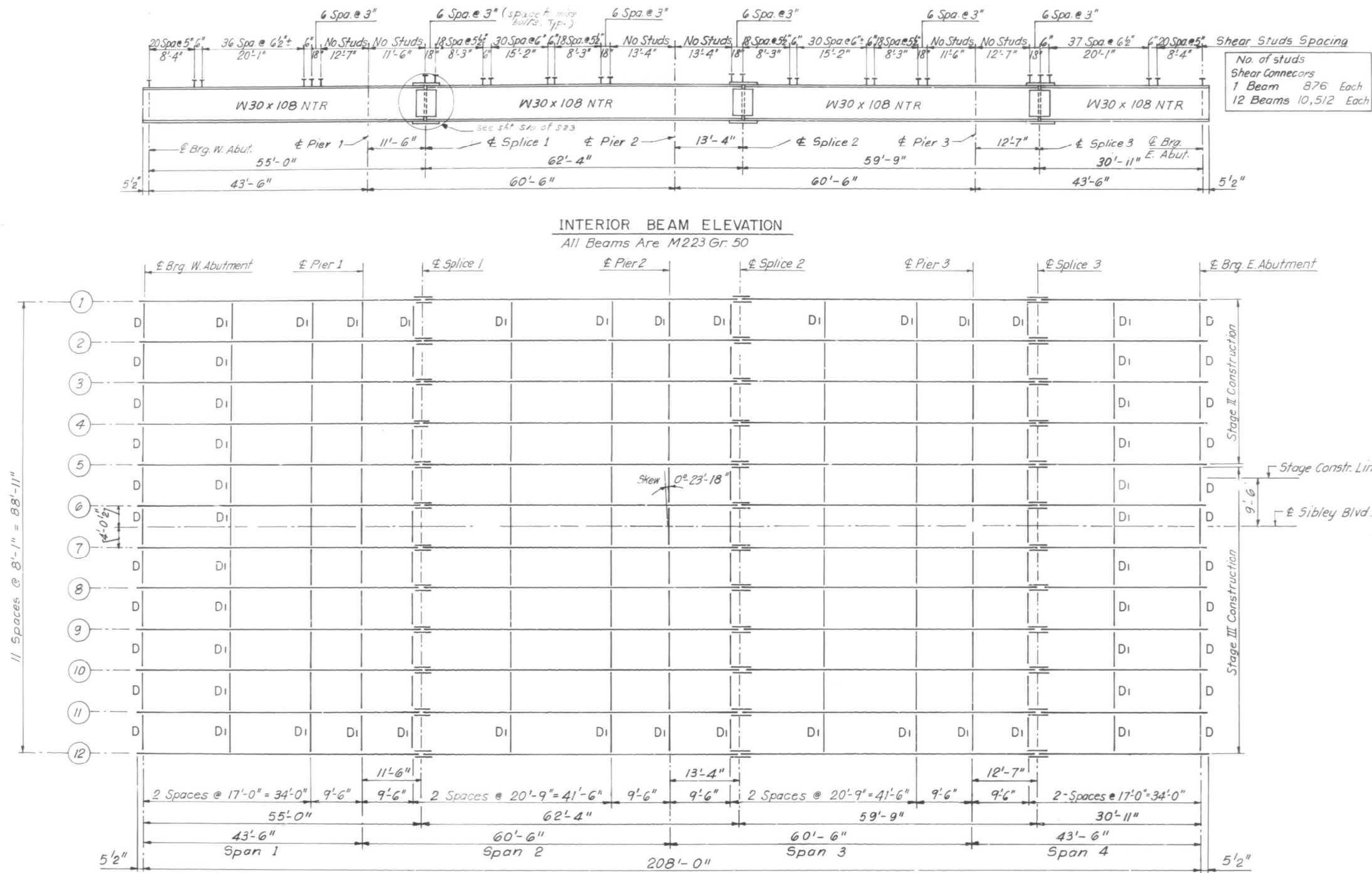
EXISTING BRIDGE PLANS (SN-016-0956)  
IL-83 (SIBLEY BLVD.) OVER I-94 (BISHOP FORD EXPY)

SCALE:	SHEET 5	OF 7	SHEETS	STA.	TO STA.
--------	---------	------	--------	------	---------

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	7
		CONTRACT NO. 62M89		
		ILLINOIS	FED. AID PROJECT	

MODEL: Default  
FILE NAME: pw:\planroom.dot\Illinois.gov:PWIDOT\Documents\DOT Offices\District\_1\Projects\ID101721\CADData\Design\ID101721-sht-details.dgn

MODEL: Default  
FILE: \\nrcs-prod\planroom\dotall\links\gov\WID\DOT\Documents\DOT Office\District 1\Projects\01721\00Data\Design\01721-sh-details.dgn



INTERIOR BEAM MOMENT TABLE				
	0.4 sp 1	PIER 1 or 3	0.5 sp 2	PIER 2
Is (in <sup>4</sup> )	4470	4470	4470	4470
Ic (in <sup>4</sup> )	12707	12707	12707	12707
Ss (in <sup>3</sup> )	299	299	299	299
Sc (in <sup>3</sup> )	452.1	—	452.1	—
Z (in <sup>3</sup> )	—	346	—	346
ML (K/ft)	.88	1.173	.88	1.173
ME (K)	104.1	304.9	141.5	362.9
SD (K/ft)	.293	—	.293	—
MS (K)	40.0	—	61.0	—
M (K)	319.2	205.3	432.1	233.0
MIMP (K)	92.6	57.5	116.7	63
5/8 (ME+I)	686.3	438.0	914.7	493.3
Ma (K)	1079.6	965.9	1452.3	1113.1
Mu (K)	2550	1441.7	2550	1441.7
fs (NON-COMP) (KSI)	4.2	12.2	5.7	14.6
fs (COMP) (KSI)	1.1	—	1.6	—
fs (5/8 (L+I)) (KSI)	18.2	17.6	24.3	19.1
fs (OVERLOAD) (KSI)	23.5	29.8	31.6	27.7
fs (TOTAL) (KSI)	30.6	38.7	41.1	36
Vr (K)	57.7	—	62.3	—

$M_a = (\text{Applied Moment}) 1.3 [M_E + M_S + 5/8 (M_L + I)]$   
 $M_u = \text{Full Plastic Moment Capacity For Compact, Braced Section.}$   
 $f_s (\text{Overload})$  is the Sum of the Stresses Due to  $M_E + M_S + 5/8 (M_L + I)$ .  
 $I_s$  and  $S_s$  are the Moment of Inertia and Section Modulus of the steel section used in computing  $f_s$  (Total and Overload).  
 $I_c$  and  $S_c$  are the Moment of Inertia and Section Modulus of composite Section used in computing  $f_s$  (Total and Overload).  
\*\*  $V_r$  is the Maximum  $L + \text{Impact}$  Shear Range in Span.  
 $Z$  is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.  
The Fully Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.4.8.1 & 10.50.1.1.  
 $M_E$  - Moment due to dead loads on non-composite section.  
 $M_S$  - Moment due to dead loads on composite section.  
 $M_L$  - Moment due to live load on non-composite or composite section.  
 $I$  - Live load impact.  
 $f_s (\text{Total})$  is the sum of the stresses due to  $1.3 [M_E + M_S + 5/8 (M_L + I)]$   
\*\*  $V_r$  used for computing Shear Conn.  
NTR denotes Notch Toughness Requirements.

INTERIOR BEAM REACTION TABLE			
	ABUTMENT	PIER 1	PIER 2
R <sub>D</sub> (K)	18.5	67	72.8
R <sub>L</sub> (K)	40.2	49.6	50.2
IMP (K)	11.7	13.9	13.5
R <sub>TOT</sub> (K)	70.4	130.5	136.5

FOR INFORMATION ONLY

USER NAME = dumachia	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/25/2020	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (SN-016-0956)  
IL-83 (SIBLEY BLVD.) OVER I-94 (BISHOP FORD EXPY)

SCALE: SHEET 6 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	8
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				



ELEVATION AT ABUT.

SECTION A-A

ELEVATION AT PIER #2

SECTION B-B

TYPE II TFE ELASTOMERIC EXP. BRG.  
AT EAST & WEST ABUTMENT

\* Notes: Anchor bolts at fixed bearings may be built into the masonry.  
See sheet # 518 for Anchor Bolt Installation.

FIXED BEARING  
12 REQUIRED

TOP BEARING ASSEMBLY

PLAN-TFE SURFACE

SECTION THRU TFE

SIDE . RETAINER

*Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates:*

Note: The  $\frac{1}{8}$ " TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification, WW-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

SETTING ANCHOR BOLTS AT EXP. BRG.

$D = \frac{1}{8}''$  per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

PINTLE

### BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	24

FOR INFORMATION ONLY

USER NAME = dumachia	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/25/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

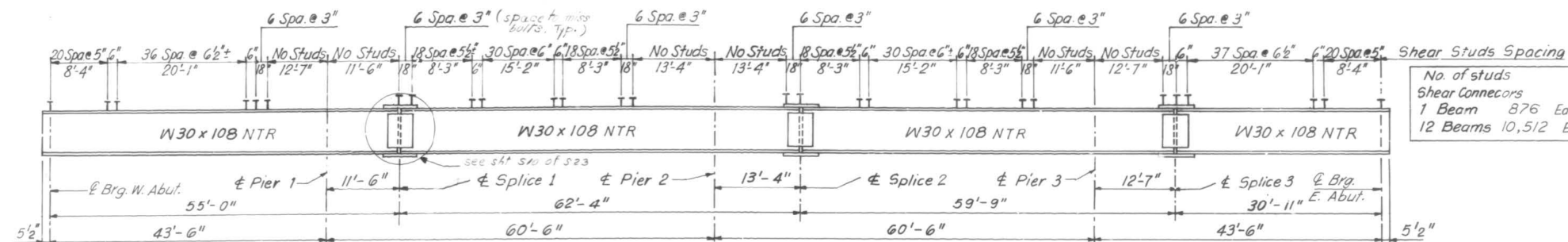
EXISTING BRIDGE PLANS (SN-016-0956)  
IL-83 (SIBLEY BLVD.) OVER I-94 (BISHOP FORD EXPY)

SCALE:	SHEET 7	OF 7	SHEETS	STA.	TO STA.
--------	---------	------	--------	------	---------

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	9
		CONTRACT NO. 62M89		
		ILLINOIS	FED. AID PROJECT	

F.A.P. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-94		COOK	141	97
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS FEDERAL AID PROJECT			

SHT. S9 OF S23

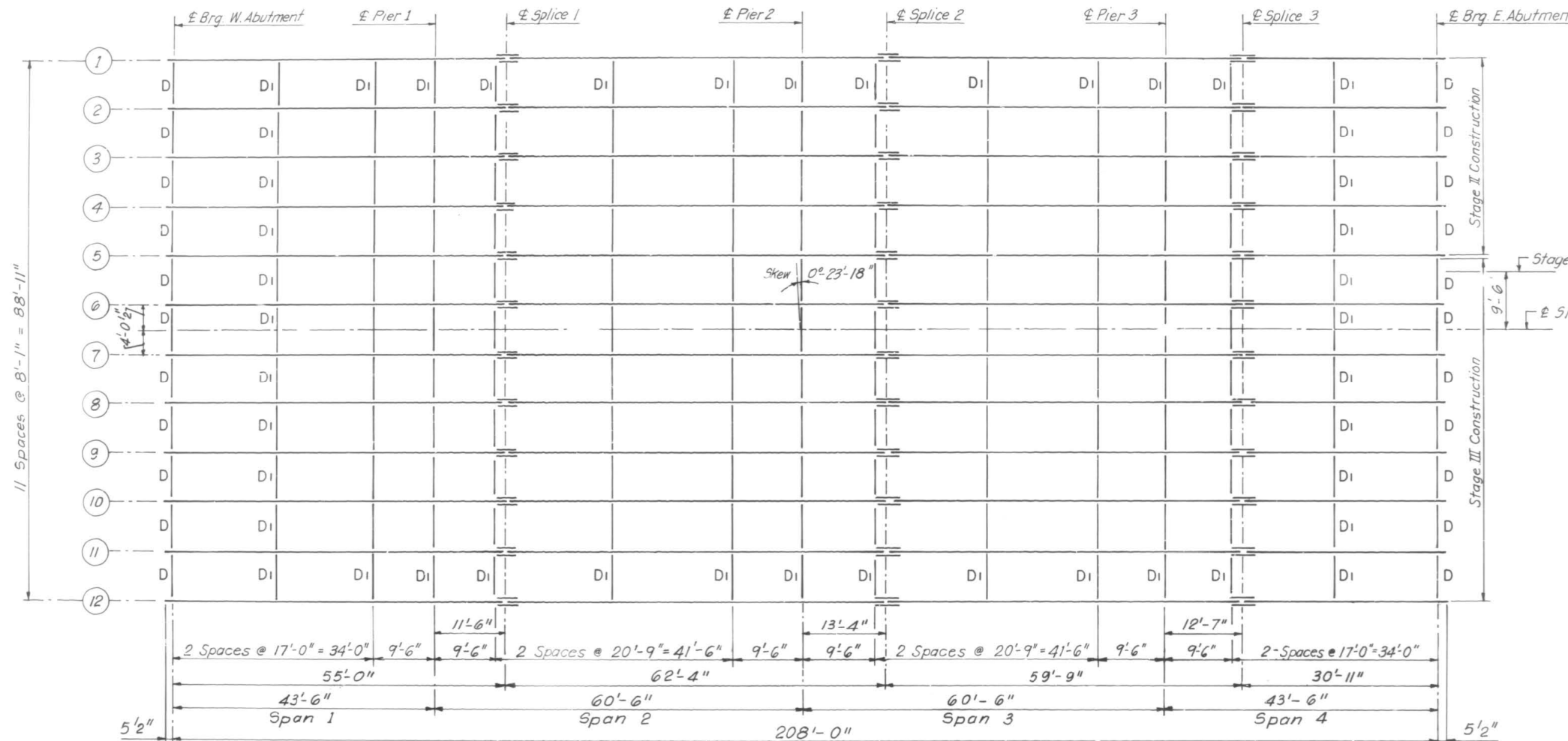


INTERIOR BEAM ELEVATION

All Beams Are M223 Gr. 50

INTERIOR BEAM MOMENT TABLE				
	0.4 sp 1	PIER 1 or 3	0.5 sp 2	PIER 2
$I_s$ (in <sup>4</sup> )	4470	4470	4470	4470
$I_c$ (in <sup>4</sup> )	12707	12707	12707	12707
$S_s$ (in <sup>3</sup> )	299	299	299	299
$S_c$ (in <sup>3</sup> )	452.1	—	452.1	—
$Z$ (in <sup>3</sup> )	—	346	—	346
$DL$ (K/ft)	.88	1.173	.88	1.173
$M\phi$ (K)	104.1	304.9	141.5	362.9
$S\phi$ (K/ft)	.293	—	.293	—
$M_s\phi$ (K)	40.0	—	61.0	—
$M\phi$ (K)	319.2	205.3	432.1	233.0
$M_{imp}$ (K)	92.6	57.5	116.7	63
$\frac{5}{8}(M\phi + I)$	686.3	438.0	914.7	493.3
$M_a$ (K)	1079.6	965.9	1452.3	1113.1
$M_u$ (K)	2550	1441.7	2550	1441.7
$f_s\phi$ NON-COMP (KSI)	4.2	12.2	5.7	14.6
$f_s\phi$ COMP (KSI)	1.1	—	1.6	—
$f_s\phi$ (KSI)	18.2	17.6	24.3	13.1
$f_s$ (OVERLOAD) (KSI)	23.5	29.8	31.6	27.7
$f_s$ (TOTAL) (KSI)	30.6	38.7	41.1	36
$V_r$ (K)	57.7	—	62.3	—

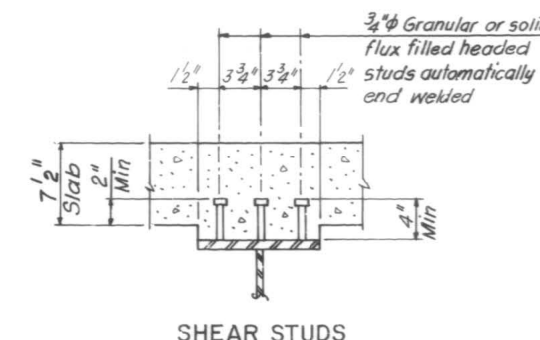
$M_a$  = (Applied Moment)  $1.3[(M\phi + M_s\phi + \frac{5}{8}(M\phi + I))]$   
 $M_u$  = Full Plastic Moment Capacity For Compact, Braced Section.  
 $f_s$  (Overload) is the Sum of the Stresses Due to  $M\phi + M_s\phi + \frac{5}{8}(M\phi + I)$ .  
 $I_s$  and  $S_s$  are the Moment of Inertia and Section Modulus of the steel section used in computing  $f_s$  (Total and Overload).  
 $I_c$  and  $S_c$  are the Moment of Inertia and Section Modulus of composite Section used in computing  $f_s$  (Total and Overload).  
 $V_r$  is the Maximum  $\frac{1}{2}$  + Impact Shear Range in Span.  
 $Z$  is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.  
The Fully Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 & 10.50.1.1.  
 $M\phi$  - Moment due to dead loads on non-composite section.  
 $M_s\phi$  - Moment due to dead loads on composite section.  
 $M\phi$  - Moment due to live load on non-composite or composite section.  
 $I$  - Live load impact.  
 $f_s$  (Total) is the sum of the stresses due to  $1.3[M\phi + M_s\phi + \frac{5}{8}(M\phi + I)]$   
 $V_r$  used for computing Shear Conn.  
NTR denotes Notch Toughness Requirements.



FRAMING PLAN

TOP OF BEAM ELEVATIONS (FOR FABRICATION ONLY)												
LOCATION	1	2	3	4	5	6	7	8	9	10	11	12
± Brg W Abut	610.984	611.152	611.319	611.451	611.576	611.702	611.701	611.574	611.447	611.315	611.145	610.976
± Pier 1	611.292	611.460	611.627	611.759	611.885	612.011	612.010	611.884	611.757	611.625	611.456	611.287
± Splice 1	611.373	611.541	611.709	611.841	611.967	612.093	612.092	611.966	611.839	611.707	611.538	611.369
± Pier 2	611.474	611.642	611.810	611.943	612.065	612.195	612.195	612.069	611.943	611.811	611.643	611.474
± Splice 2	611.501	611.670	611.838	611.971	612.092	612.223	612.223	612.097	611.971	611.839	611.671	611.502
± Pier 3	611.260	611.428	611.597	611.730	611.856	611.983	611.984	611.858	611.732	611.601	611.433	611.264
± Splice 3	611.196	611.364	611.533	611.666	611.793	611.919	611.920	611.794	611.668	611.537	611.369	611.201
± Brg E Abut	610.976	611.145	611.315	611.447	611.574	611.701	611.702	611.576	611.451	611.319	611.151	610.984

INTERIOR BEAM REACTION TABLE			
	ABUTMENT	PIER 1	PIER 2
$R\phi$ (K)	18.5	67	72.8
$R\phi$ (K)	40.2	49.6	50.2
$IMP$ (K)	11.7	13.9	13.5
$R_{tot}$ (K)	70.4	130.5	136.5



SHEAR STUDS

STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	
STEEL DETAILS - I	
SIBLEY BLVD., IL. 83 OVER F.A.I. RTE. 94	
SECTION	COOK COUNTY
STA. 100 + 00.00	SN 016 - 0956
SCALE: NO SCALE	DRAWN BY S.P.
DATE: MARCH 16, 1988	CHECKED BY L.M.

FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

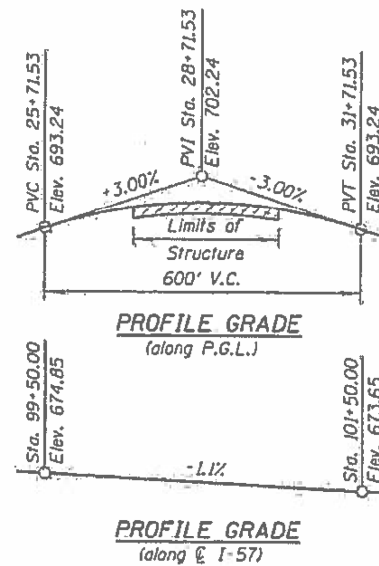
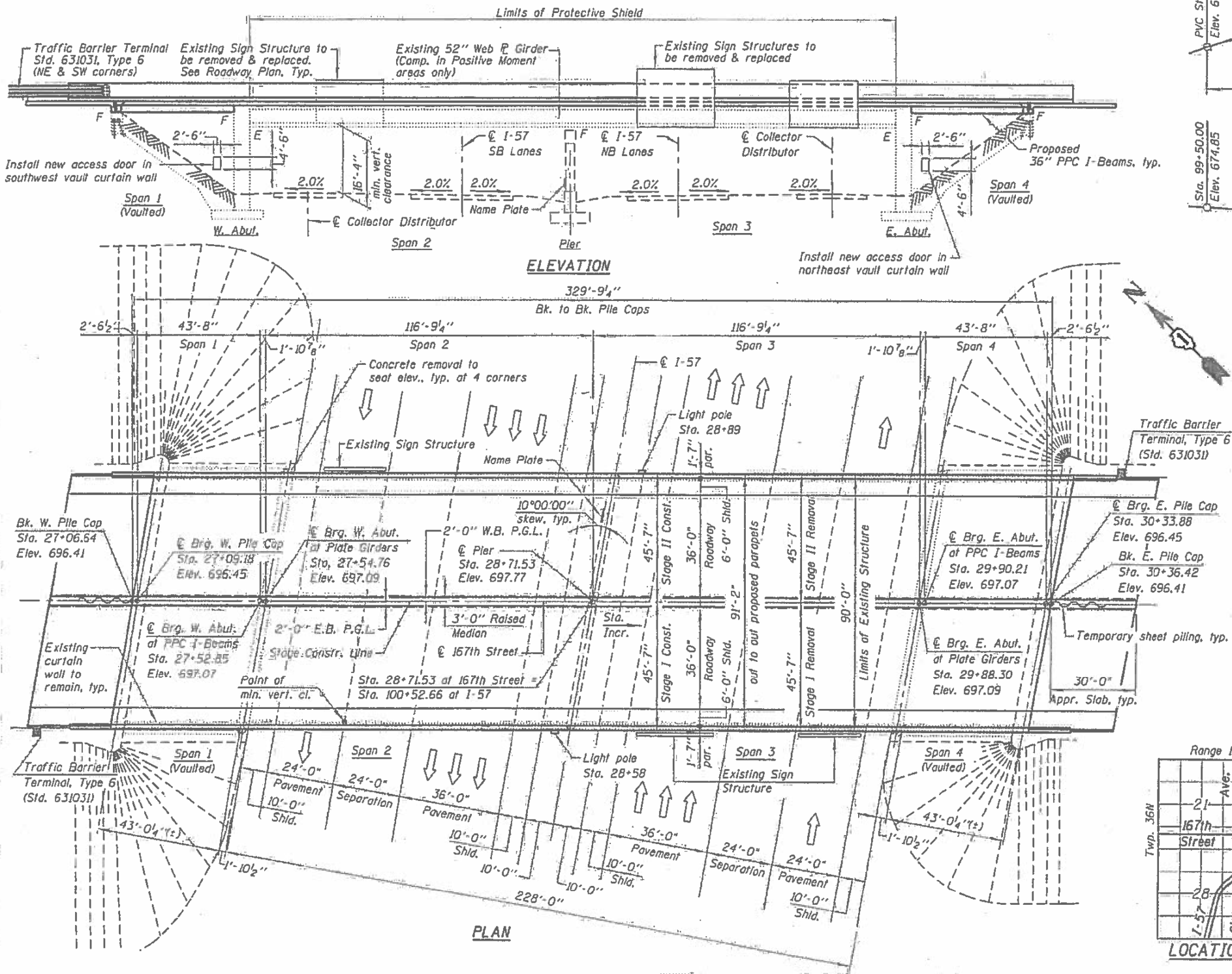
EXISTING BRIDGE PLANS  
IL-83 (SIBLEY BLVD.) OVER I-94 (BISHOP FORD EXPY)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
397	2020-030-BP	COOK	20	10
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				

USER NAME = dumachia	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/25/2020	DATE -	REVISED -

SCALE: SHEET 2 OF 7 SHEETS STA. TO STA.

**BENCHMARK:**  
TBM-3 cut [ ] on the west end of the NW vaulted wall of the West Abutment, Elev. 699.66  
Existing Structure: S.N. 016-2125 carrying 167th Street over I-57 was built in 1968 as part of F.A.I. Rte. 57 Project I-57-7-162-348, I-57 West Leg Section 068-1011.3-CF. The four span structure consists of two 116'-9 1/4" continuous steel plate girder interior spans and two 43'-8", 36" Precast Prestressed Concrete I-Beams vaulted approach spans. The structure is skewed 10°-00'-00" and is 329'-9 1/4" back to back of pile caps and 90'-0" wide. In 2008 the overlay and the expansion joints were replaced and repairs were made to the deck slab, the parapets and the abutments.  
The existing bridge has underpass lighting and sign lighting. The underpass lighting will need to be maintained during rehabilitation and new underpass lighting will need to be installed when the repairs are completed. There are large signs attached to the bridge, these are lighted and they will need to be reinstalled and lighted after construction.  
Traffic will be maintained utilizing Stage Construction.  
Salvage: Aluminum handrails and posts will be sent to the District Bridge Yard in Elk Grove Village.



**DESIGN SPECIFICATIONS**  
2002 AASHTO Bridge Standard Specifications,  
1995 FHWA Seismic Retrofitting Manual for  
Highway Bridges

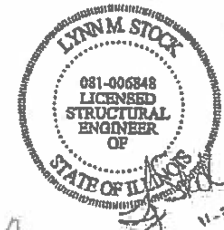
**DESIGN STRESSES**  
**FIELD UNITS**  
(NEW CONSTRUCTION)  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)  
fy = 36,000 psi (AASHTO M270, Gr. 36)

**PRECAST PRESTRESSED UNITS**  
f'c = 5,000 psi  
f'cl = 4,000 psi  
f's = 270,000 psi, (1/2" low lax strands)  
fsl = 201,960 psi, (1/2" low lax strands)

**DESIGN STRESSES**  
**FIELD UNITS**  
(EXISTING CONSTRUCTION)  
f'c = 3,500 psi  
fy = 40,000 psi (Reinforcement)  
fy = 36,000 psi (Structural Steel A36, Gr. 36)  
fy = 50,000 psi (Structural Steel A441, Gr. 50)

**LOADING HS20-44**  
Allow 50#/sq. ft. for future wearing surface

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

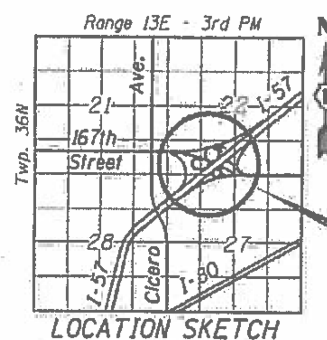


EXPIRES: 11-30-18 Shts S26 & 27

**APPROVED**  
For Structural Adequacy Only  
*[Signature]*  
Engineer of Bridges & Structures



EXPIRES: 11-30-18 Shts S1 to S25 and S28 to S43



**GENERAL PLAN & ELEVATION**  
**167TH STREET OVER I-57**  
F.A.I. RTE. 57  
SEC. 1011.3-BR  
COOK COUNTY  
STATION 28+71.53  
STRUCTURE NO. 016-2125

FOR INFORMATION ONLY

USER NAME = dumachia	DESIGNED -	REVISED -
PLOT SCALE = 100,000' / in.	DRAWN -	REVISED -
PLOT DATE = 8/25/2020	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

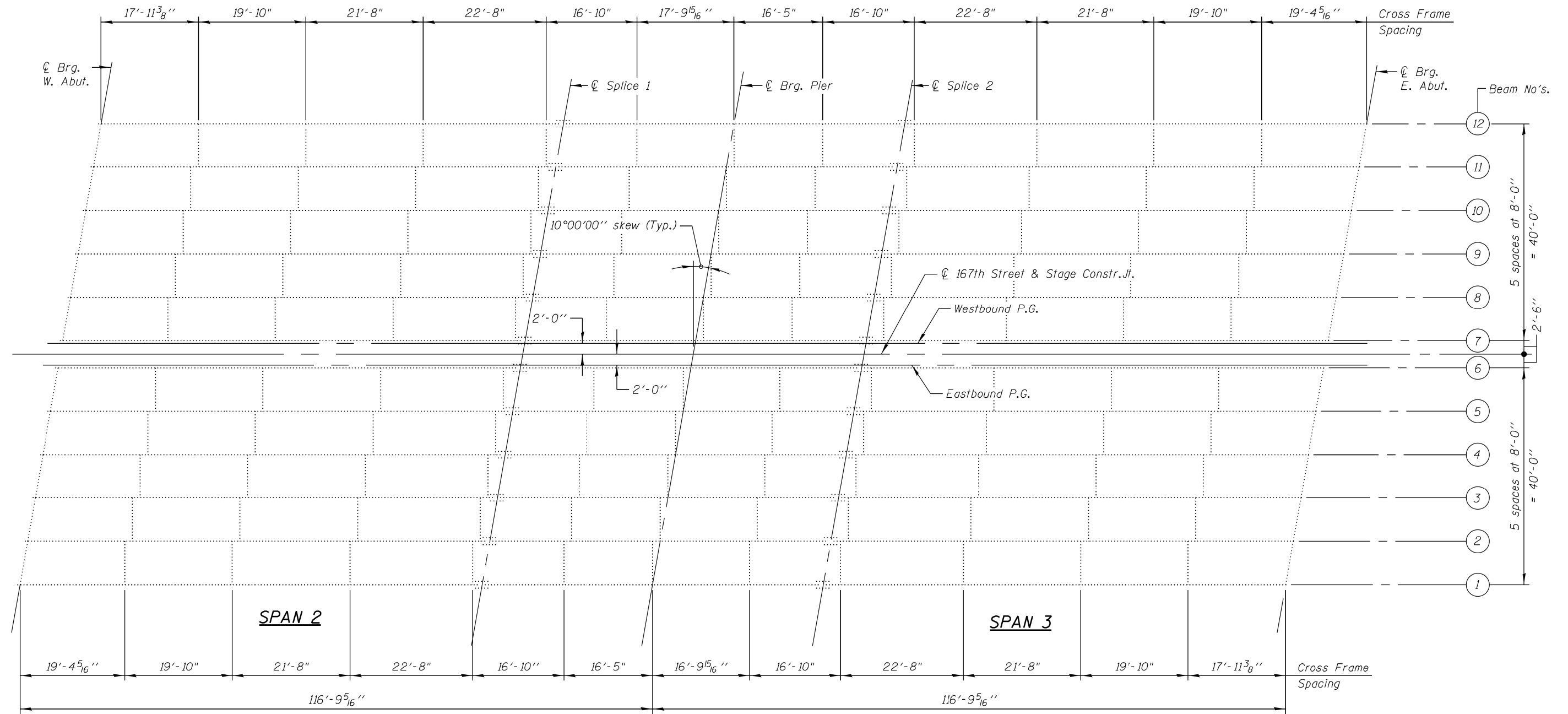
EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 1 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	20	11
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				



MODEL: Default  
FILE: \\nrcs-prod\planroom\dot\illinois\gov\p\WIDOT\Documents\DOT\_Offices\District 1\Projects\DD.01721\COBData\Design\DD.01721-shf-details.dgn



EXISTING FRAMING PLAN

STRUCTURAL STEEL FRAMING PLANS - SPANS 2 & 3

FOR INFORMATION ONLY

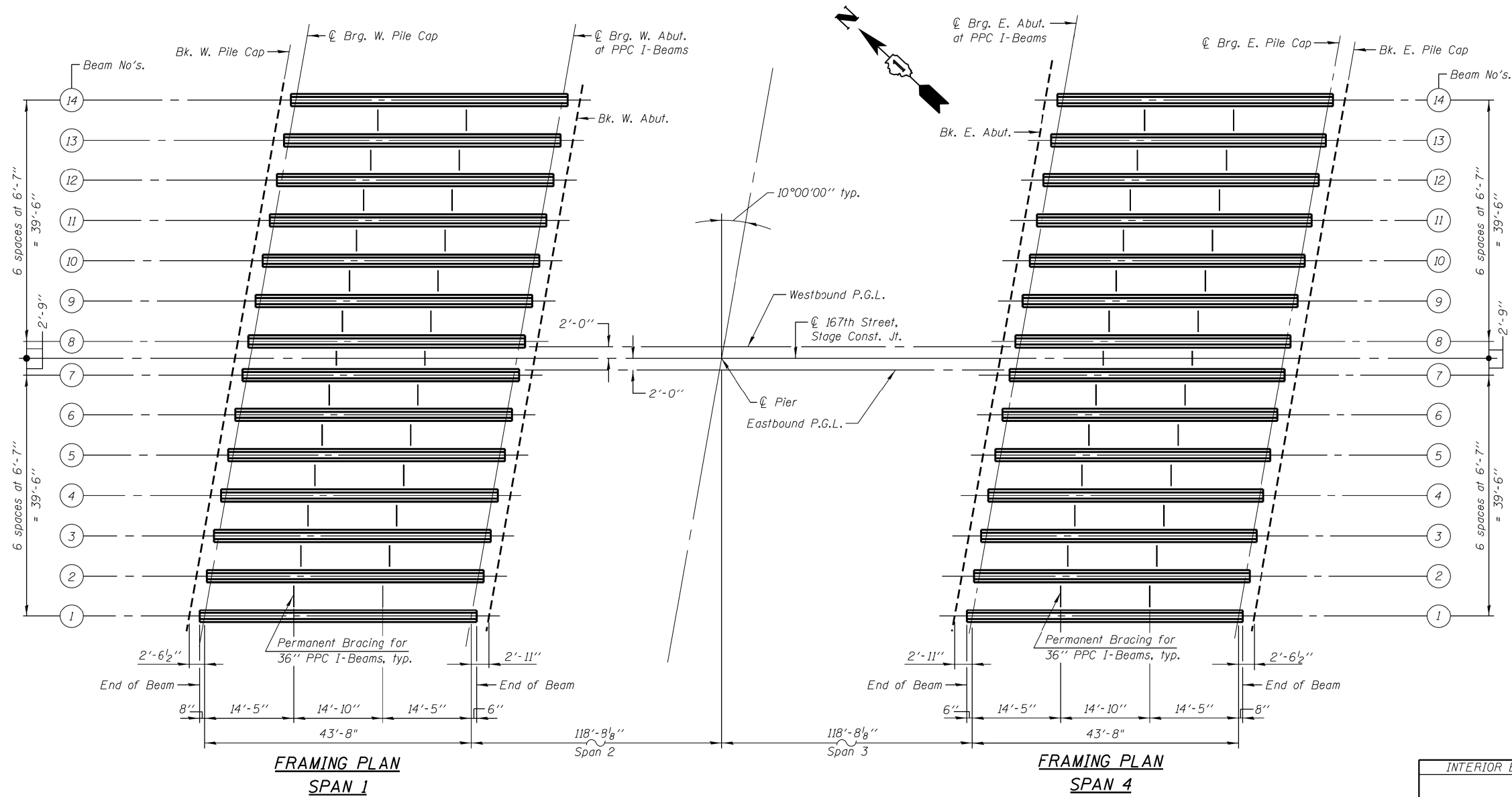
USER NAME = dumachia	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/25/2020	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 2 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	20	12
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				



- \*Fabricator shall locate to miss strands within permissible tolerances.
- \*\*Alternate C12x30 channels are permitted to facilitate material acquisition.

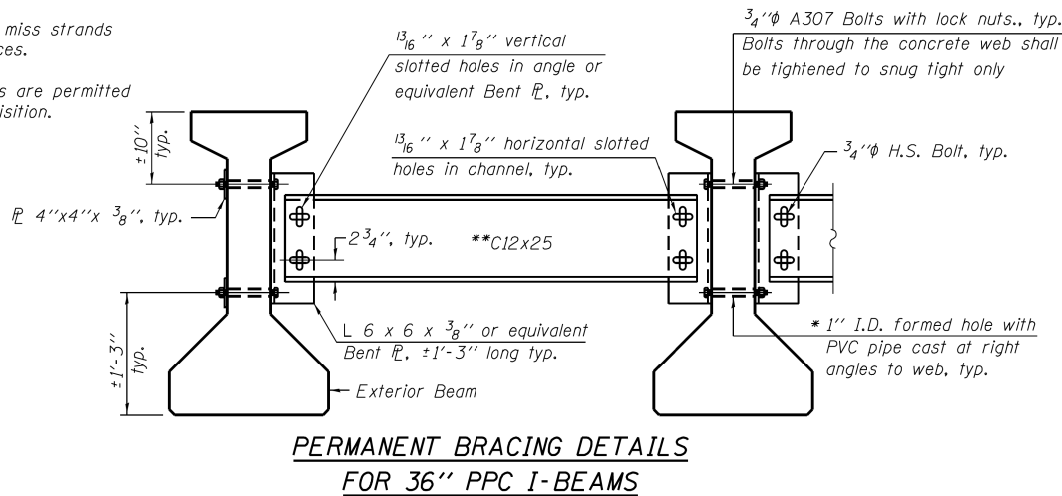
Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes.

All holes shall be  $\frac{1}{16}$ "  $\phi$  unless otherwise noted.  $\frac{5}{16}$ " x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.



- $I$ : Non-composite moment of inertia of beam section ( $\text{in}^4$ ).  
 $I'$ : Composite moment of inertia of beam section ( $\text{in}^4$ ).  
 $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam ( $\text{in}^3$ ).  
 $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam ( $\text{in}^3$ ).  
 $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam ( $\text{in}^3$ ).  
 $S_t'$ : Composite section modulus for the top fiber of the prestressed beam ( $\text{in}^3$ ).  
 $Q$ : Un-factored non-composite dead load (kips/ft.).  
 $M_Q$ : Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).  
 $sQ$ : Un-factored long-term composite (superimposed) dead load (kips/ft.).  
 $M_sQ$ : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).  
 $M_L$ : Un-factored live load moment on the composite section (kip-ft.).  
 $M_I$ : Un-factored moment due to impact on the composite section (kip-ft.).

INTERIOR BEAM MOMENT TABLE		
		0.5 Span
$I$	( $\text{in}^4$ )	48,648
$I'$	( $\text{in}^4$ )	191,465
$S_b$	( $\text{in}^3$ )	3,165
$S_b'$	( $\text{in}^3$ )	6,243
$S_t$	( $\text{in}^3$ )	2,358
$S_t'$	( $\text{in}^3$ )	35,922
$Q$	( $\text{k}/\text{ft}$ )	1.042
$M_Q$	( $\text{k}$ )	249
$sQ$	( $\text{k}/\text{ft}$ )	0.400
$M_sQ$	( $\text{k}$ )	96
$M_L$	( $\text{k}$ )	303
$M_I$	( $\text{k}$ )	91

INTERIOR BEAM REACTION TABLE		
		Abutment
$R_Q$	( $\text{k}$ )	22.8
$R_sQ$	( $\text{k}$ )	8.7
$R_L$	( $\text{k}$ )	34.0
$R_I$	( $\text{k}$ )	11.1
$R_{Total}$	( $\text{k}$ )	76.6

FOR INFORMATION ONLY

MODEL: Default  
FILE: \Admin\proj\planroom\adallinks\gov\HWIDOT\Documents\DOT Offices\District 1\Projects\0101721\00Data\Design\0101721-sh-drawings.dgn

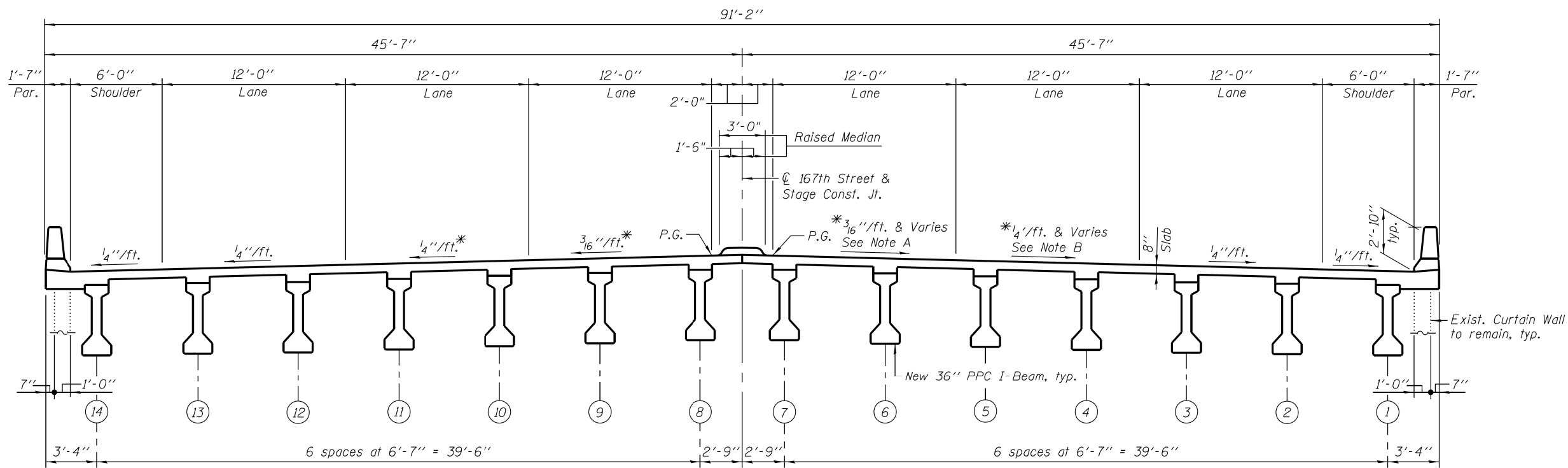
USER NAME	= dumachia	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	= 100,0000 ' / in.	CHECKED	-	REVISED	-
PLOT DATE	= 8/25/2020	DATE	-	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

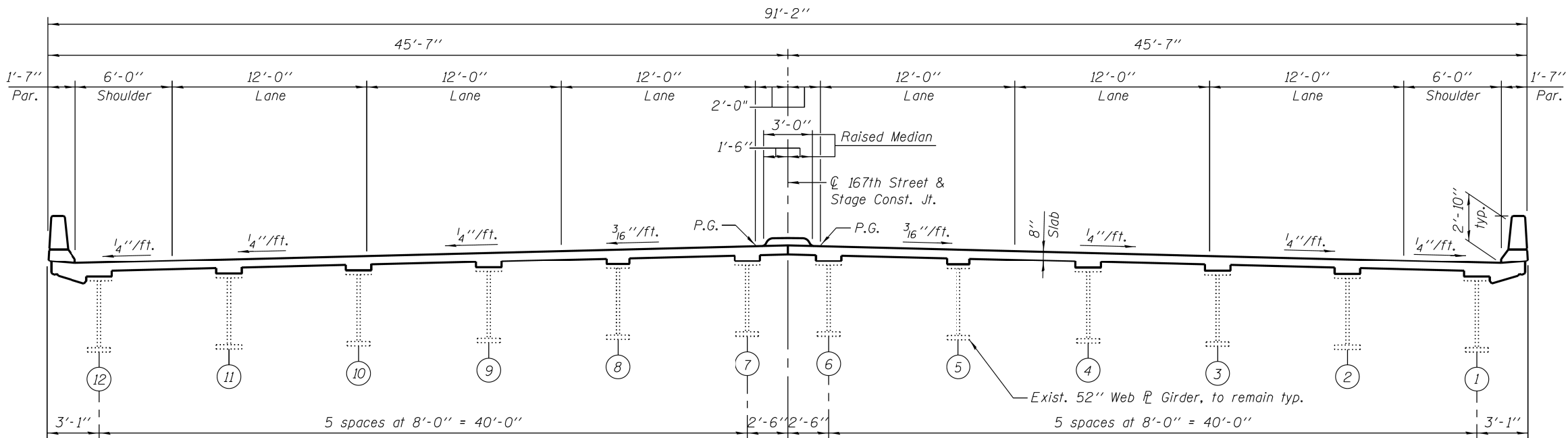
EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 3 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	20	13
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				



**PROPOSED CROSS SECTION**  
(Spans 1 & 4)



**PROPOSED CROSS SECTION**  
(Spans 2 & 3)

Note A:  
Westbound varies from 1.5% to -0.9%  
from Sta. 27+54.00 to Sta. 27+07.50  
to match existing roadway.  
Eastbound varies from 1.5% to 0.1%  
from Sta. 29+89.00 to Sta. 30+36.00  
to match existing roadway.

Note B:  
Westbound varies from 2.0% to 0.3%  
from Sta. 27+54.00 to Sta. 27+07.50  
to match existing roadway.  
Eastbound varies from 2.0% to 0.6%  
from Sta. 29+89.00 to Sta. 30+36.00  
to match existing roadway.

- Notes:
- Cross Sections are looking East.
- \* 1. Spans 1 & 4 are in superelevation transitions  
and the cross slopes varies. See Sht's. S7 &  
S8 and S16 & S17 for proposed elevations.
2. Raised median to be built after Stage II.
3. For quantity of Temporary Concrete  
Barrier see Roadway plans.
4. For locations of flared loop inserts, See Sht's.  
LT-01 thru LT-04.

FOR INFORMATION ONLY

MODEL: Default  
FILE: \\nrc\pub\planroom\dotall\links\gov\p\WIDOT\Documents\DOT Office\Bldgct 1\Projects\01721\COBData\Design\01721-sh-drawings.dgn  
PLOT DATE: 8/25/2020

USER NAME	= dumachia	DESIGNED	-	REVISED	-
PLOT SCALE	= 100,0000' / in.	DRAWN	-	REVISED	-
PLOT DATE	= 8/25/2020	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

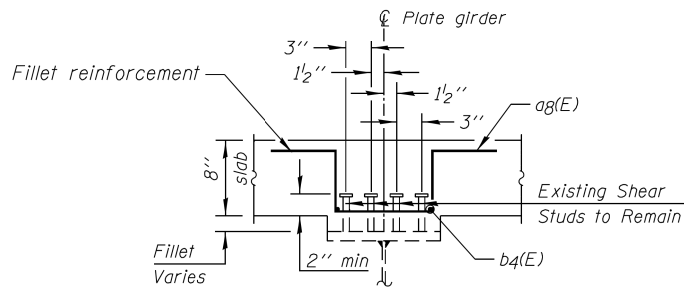
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 4 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	20	14
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				





SHEAR CONNECTOR DETAIL

INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 2 or 0.6 Sp. 3	Pier
$I_s$	(in <sup>4</sup> )	25,474	64,025
$I_c(n)$	(in <sup>4</sup> )	78,972	-
$I_c(3n)$	(in <sup>4</sup> )	55,434	-
$S_s$	(in <sup>3</sup> )	1,328	2,266
$S_c(n)$	(in <sup>3</sup> )	1,813	-
$S_c(3n)$	(in <sup>3</sup> )	1,686	-
$\bar{Q}$	(k/')	1.017	1.664
$M \bar{Q}$	('k)	814	2,889
$s \bar{Q}$	(k/')	0.467	-
$M_s \bar{Q}$	('k)	413	-
$M_L$	('k)	1,327	1,456
$M_I$	('k)	274	301
$^{5}_3[M_L + I]$	('k)	2,674	2,935
$M_o$	('k)	5,073	7,570
$M_u$	('k)	6,246	-
$f_s \bar{Q}$ non-comp	(ksi)	7.36	15.30
$f_s \bar{Q}$ (comp)	(ksi)	2.94	-
$f_s ^{5}_3[M_L + M_I]$	(ksi)	17.70	15.54
$f_s$ (Overload)	(ksi)	28.01	30.83
$f_s$ (Total)	(ksi)	-	40.08
$V_r$	(k)	62.56	65.39

INTERIOR GIRDER REACTION TABLE		
	Abutment	Pier
$R \bar{Q}$	(k) 62.10	223.10
$R_L$	(k) 47.30	85.10
$R_I$	(k) 9.78	17.60
$R_{Total}$	(k) 119.18	325.80

\* Compact section  
\*\* Braced non-compact and partially braced section

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$ (Total and Overload) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$ (Total and Overload) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$ (Total and Overload) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

$\bar{Q}$ : Un-factored non-composite dead load (kips/ft.).

$M \bar{Q}$ : Un-factored moment due to non-composite dead load (kip-ft.).

$s \bar{Q}$ : Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s \bar{Q}$ : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M_L$ : Un-factored live load moment (kip-ft.).

$M_I$ : Un-factored moment due to impact (kip-ft.).

$M_o$ : Factored design moment (kip-ft.).

$1.3 [M \bar{Q} + M_s \bar{Q} + \frac{5}{3} (M_L + M_I)]$

$M_u$ : Compact composite moment capacity according to AASHTO LFD 10.50 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

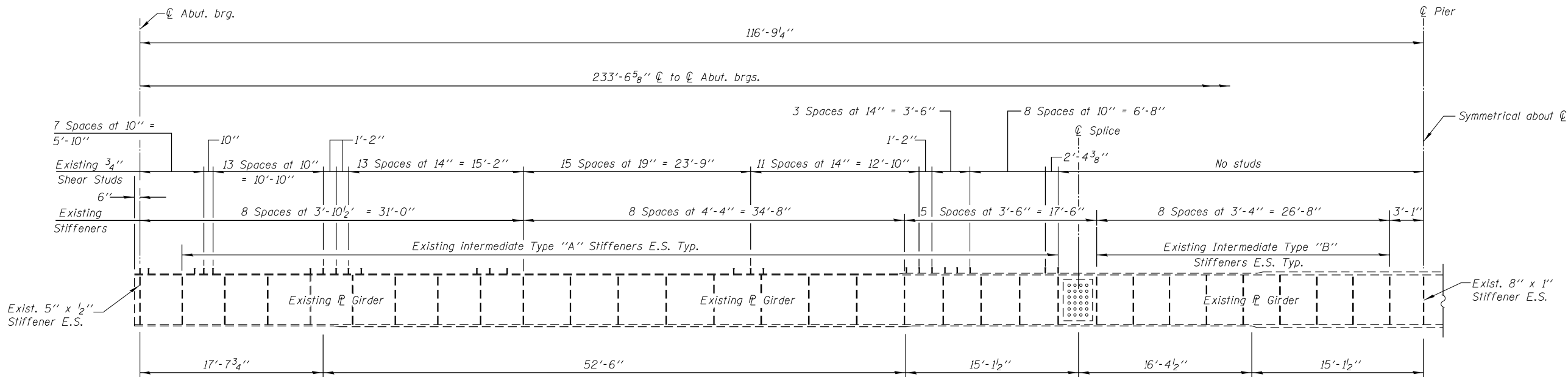
$f_s$  (Overload): Sum of stresses as computed from the moments below (ksi).

$M \bar{Q} + M_s \bar{Q} + \frac{5}{3} (M_L + M_I)$

$f_s$  (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).

$1.3 [M \bar{Q} + M_s \bar{Q} + \frac{5}{3} (M_L + M_I)]$

$V_r$ : Maximum  $L +$  impact shear range within the composite portion of the span for stud shear connector design (kips).



EXISTING PLATE GIRDER ELEVATION

Notes:  
Contractor to field verify all dimensions.  
For existing stiffener details see existing bridge plans.

FOR INFORMATION ONLY

MODEL: Default  
FILE: \Admin\paul\paulancom.d\alllinks\gov\p\w\DOT\Documents\DOT Office\District 1\Projects\0101721\00Data\Design\0101721-sh-detailed.dgn

USER NAME	= dumachia	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	= 100,0000 ' / in.	CHECKED	-	REVISED	-
PLOT DATE	= 8/25/2020	DATE	-	REVISED	-

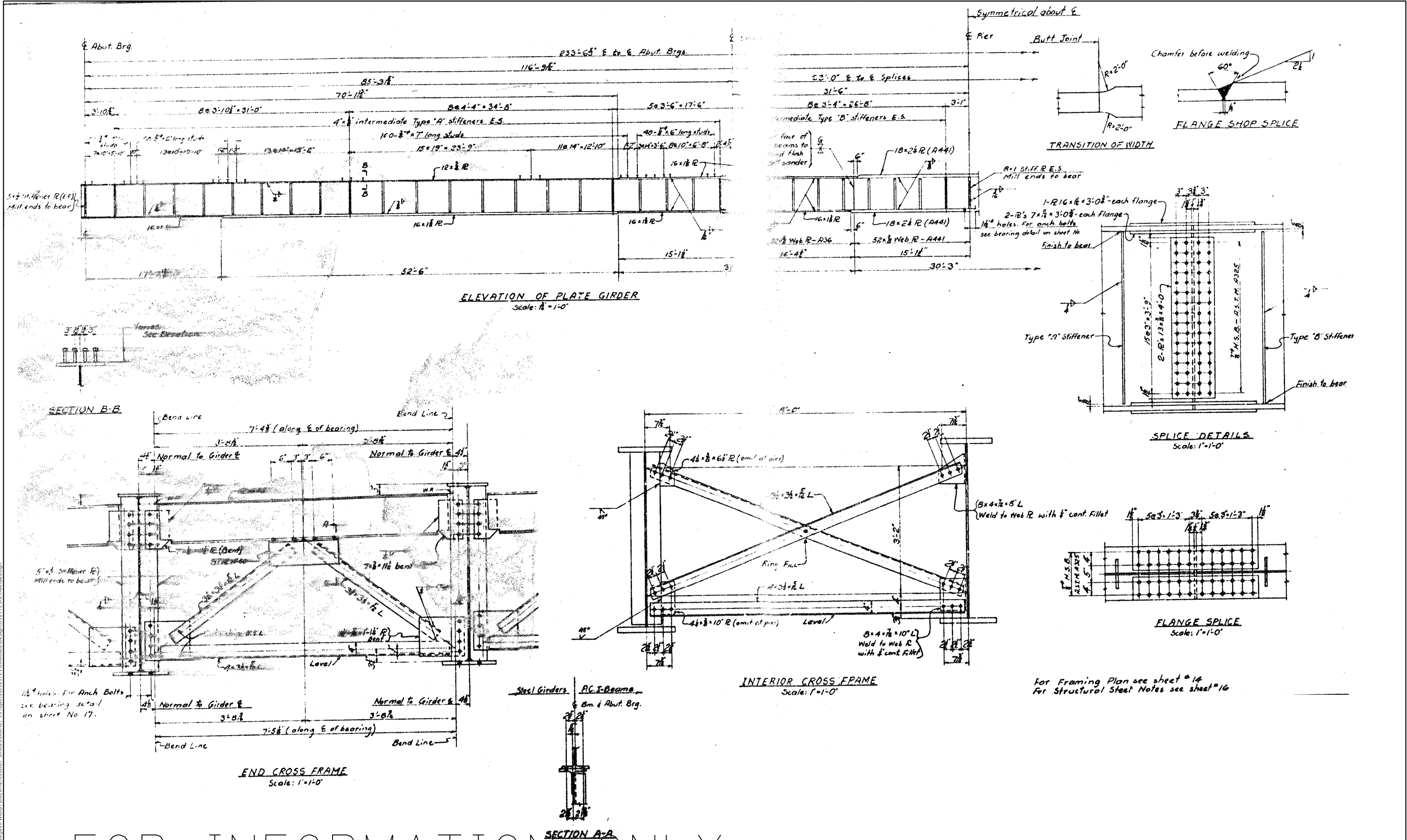
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 5 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	20	15
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				

MODEL: Default  
FILE: \\nrcs-prod\planroom\dotall\links\gov\PIWDOT\Documents\DOT Office\District 1\Project\01721\COBData\Design\01721-sh-drawings.dgn



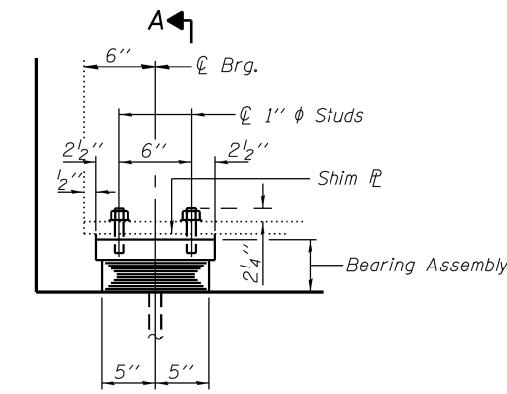
USER NAME = dumachia	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 9/18/2020	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

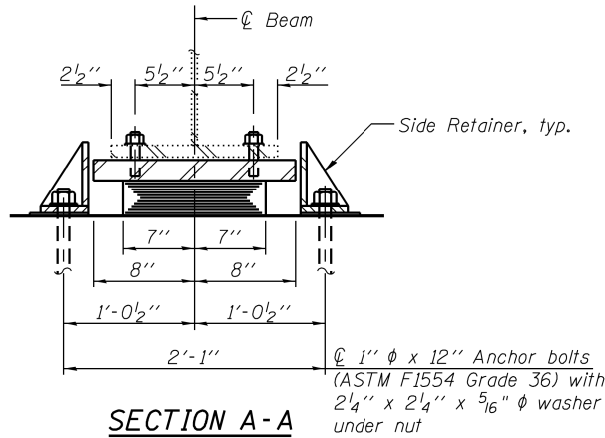
EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	15A	15A
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				

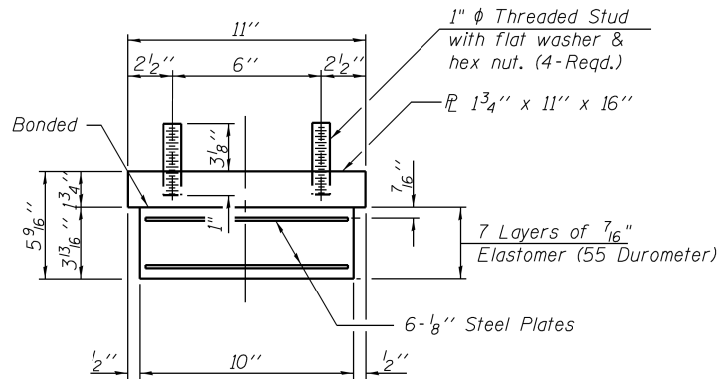


ELEVATION AT ABUT.



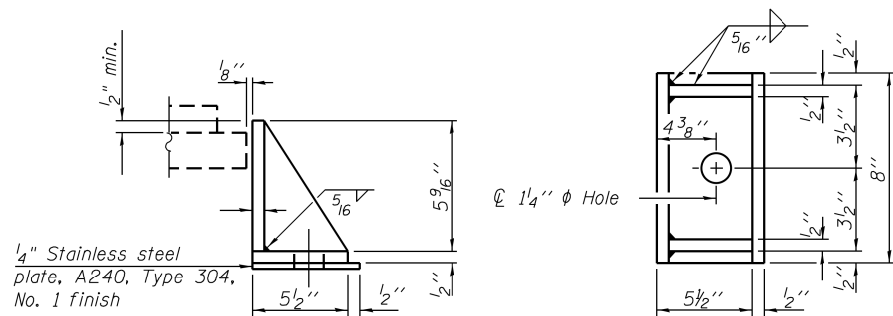
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



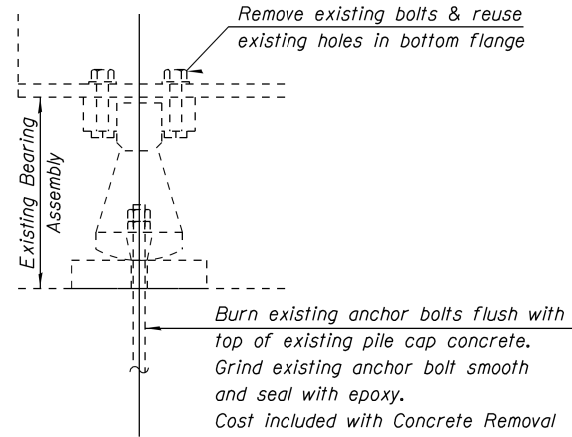
BEARING ASSEMBLY

Note:  
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



EXISTING BEARING REMOVAL DETAIL

Notes:  
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
Existing diaphragms shall not be used for jacking.  
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.  
Minimum jack capacity = 7.5 tons.  
Existing bearings shall be removed and replaced after the deck has been removed.  
Diaphragm removal and reinstallation may be required to facilitate removing bolts & reusing holes. Cost included with Jack and Remove Existing Bearing.  
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.  
Beam reactions at abutment = 9.47 kips (steel alone)

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearing	Each	24
Elastomeric Bearing Assembly Type I	Each	24
Anchor Bolts, 1"	Each	48

FOR INFORMATION ONLY

MODEL: Default  
FILE: \\nrcs-prod\pub\anrcs\dot\illinois\gov\p\WIDOT\Documents\DOT Office\District 1\Projects\01721\CO\Bdata\Design\01721-sh-details.dgn

USER NAME = dumachia	DESIGNED -	REVISED -
PLOT SCALE = 100.0000 ' / in.	DRAWN -	REVISED -
PLOT DATE = 8/25/2020	CHECKED -	REVISED -
	DATE -	REVISED -

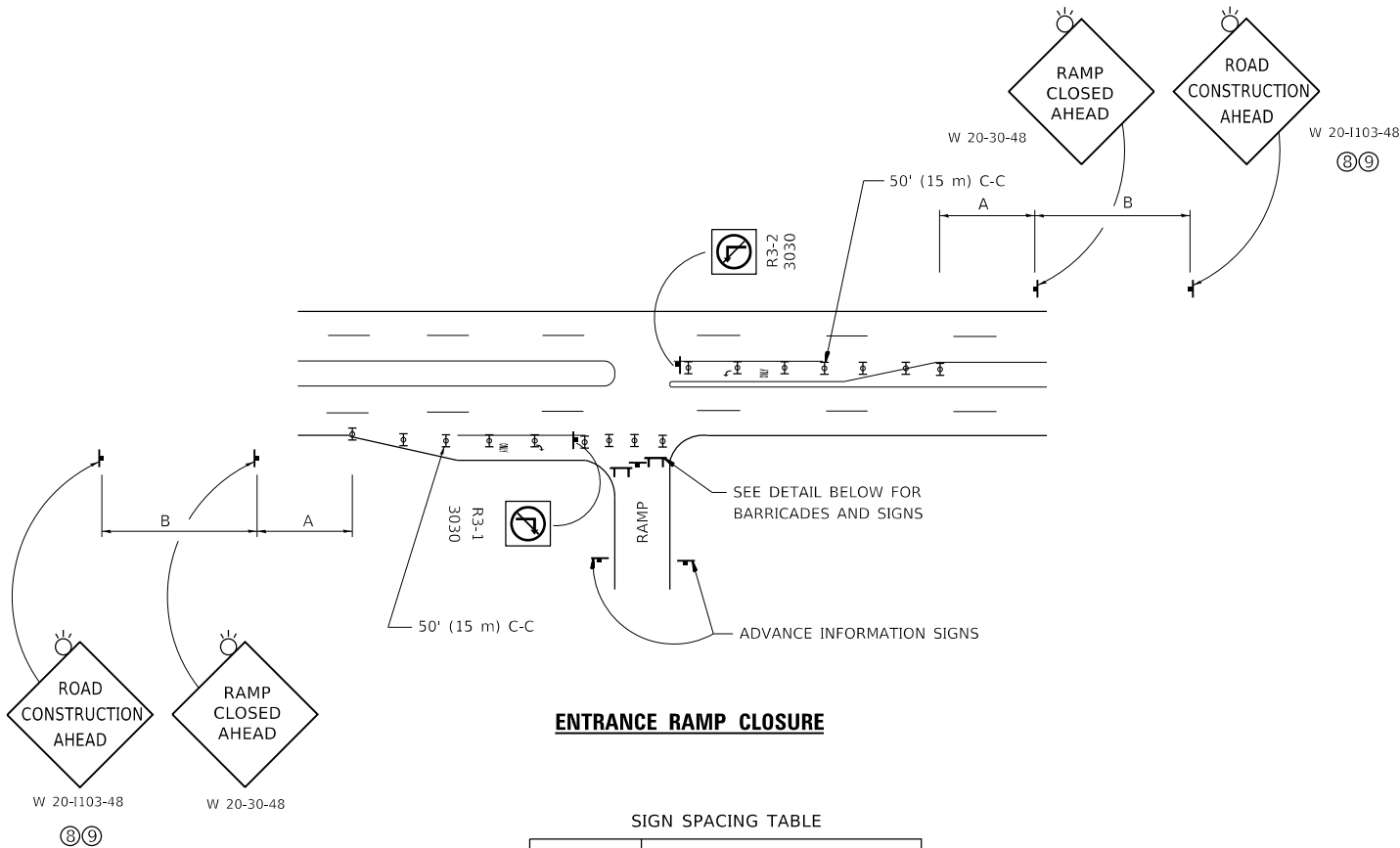
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (SN-016-2125)  
167TH STREET OVER I-57

SCALE: SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1609	2020-030-BP	COOK	20	16
CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				

MODEL Default  
FILE Name: p:\publanroom\datallinks\soi\PHUDOT\Documents\DOT Office\District 1\Projects\01721\COData\Design\Dis54.dgn

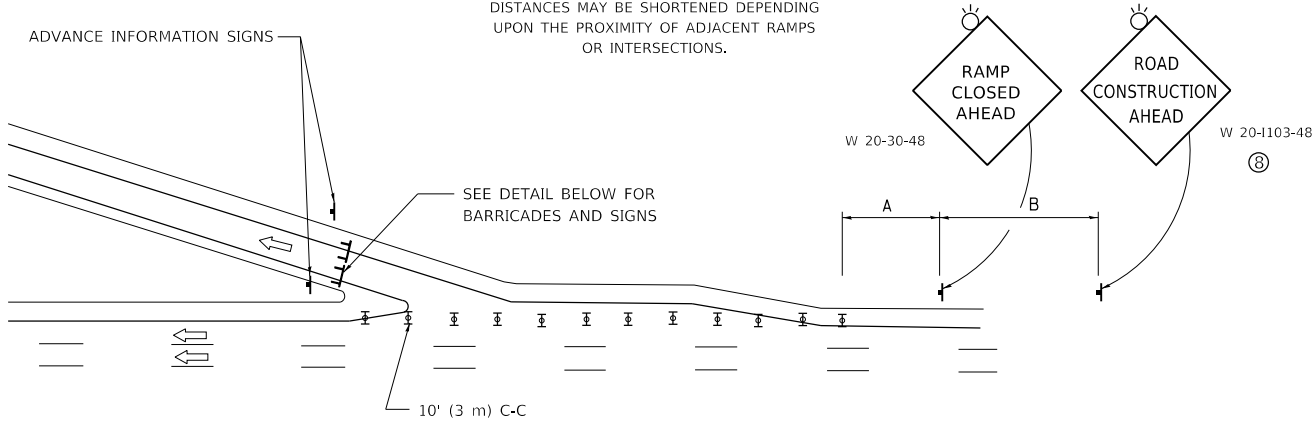


#### ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

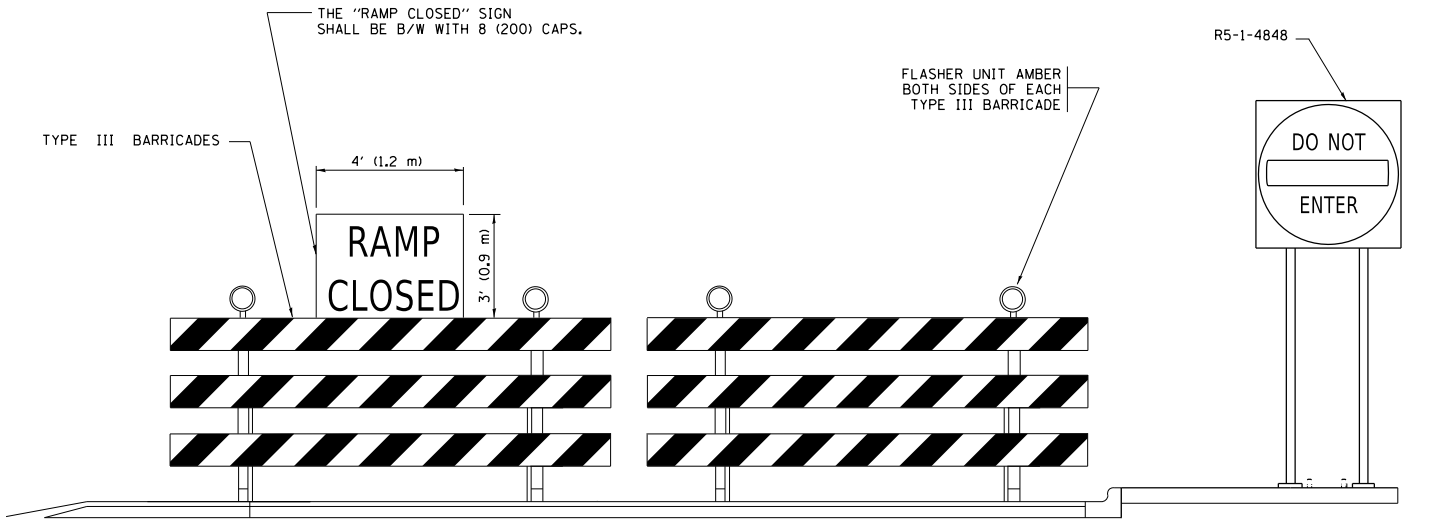
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



#### EXIT RAMP CLOSURE

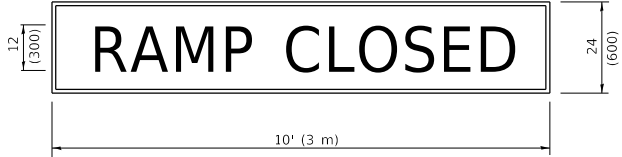
#### SYMBOLS

- TYPE II BARRICADE OR DRUM
- TYPE III BARRICADE WITH 2 FLASHING LIGHTS



#### DETAIL FOR REQUIRED BARRICADES & SIGNS

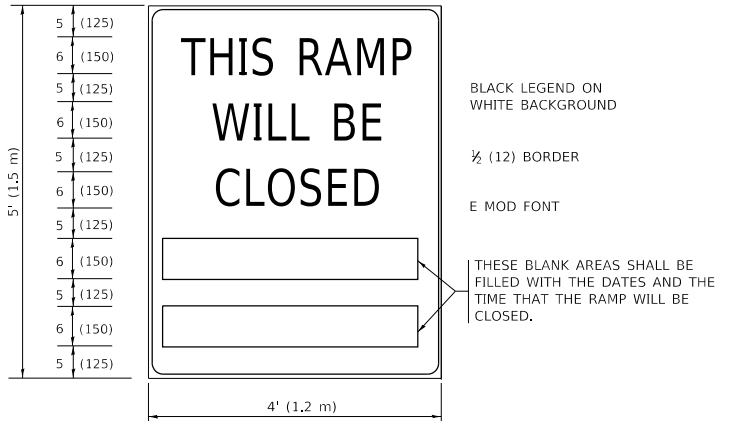
#### RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY  
E MOD FONT  
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

#### RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE BACKGROUND

½ (12) BORDER

E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

#### GENERAL NOTES:

- CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
- A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH.
- ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

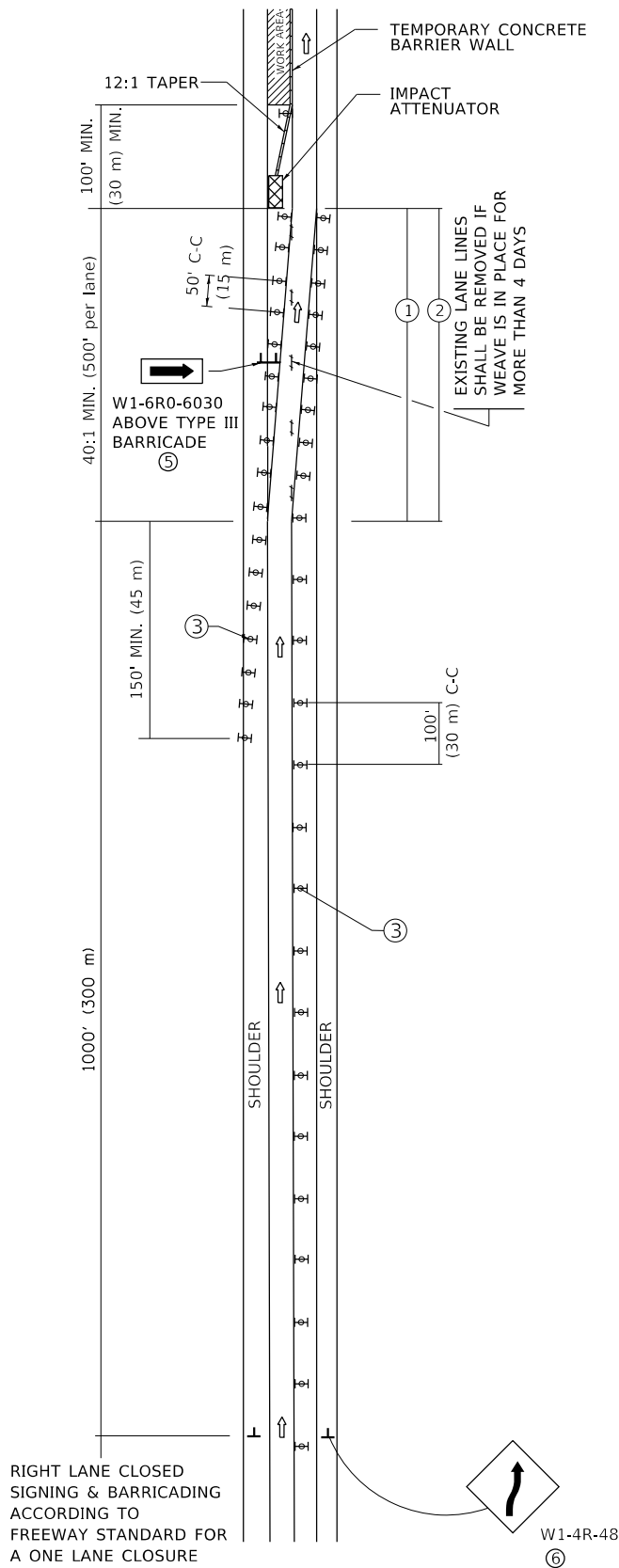
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ENTRANCE\_AND\_EXIT\_RAMP  
CLOSURE\_DETAILS

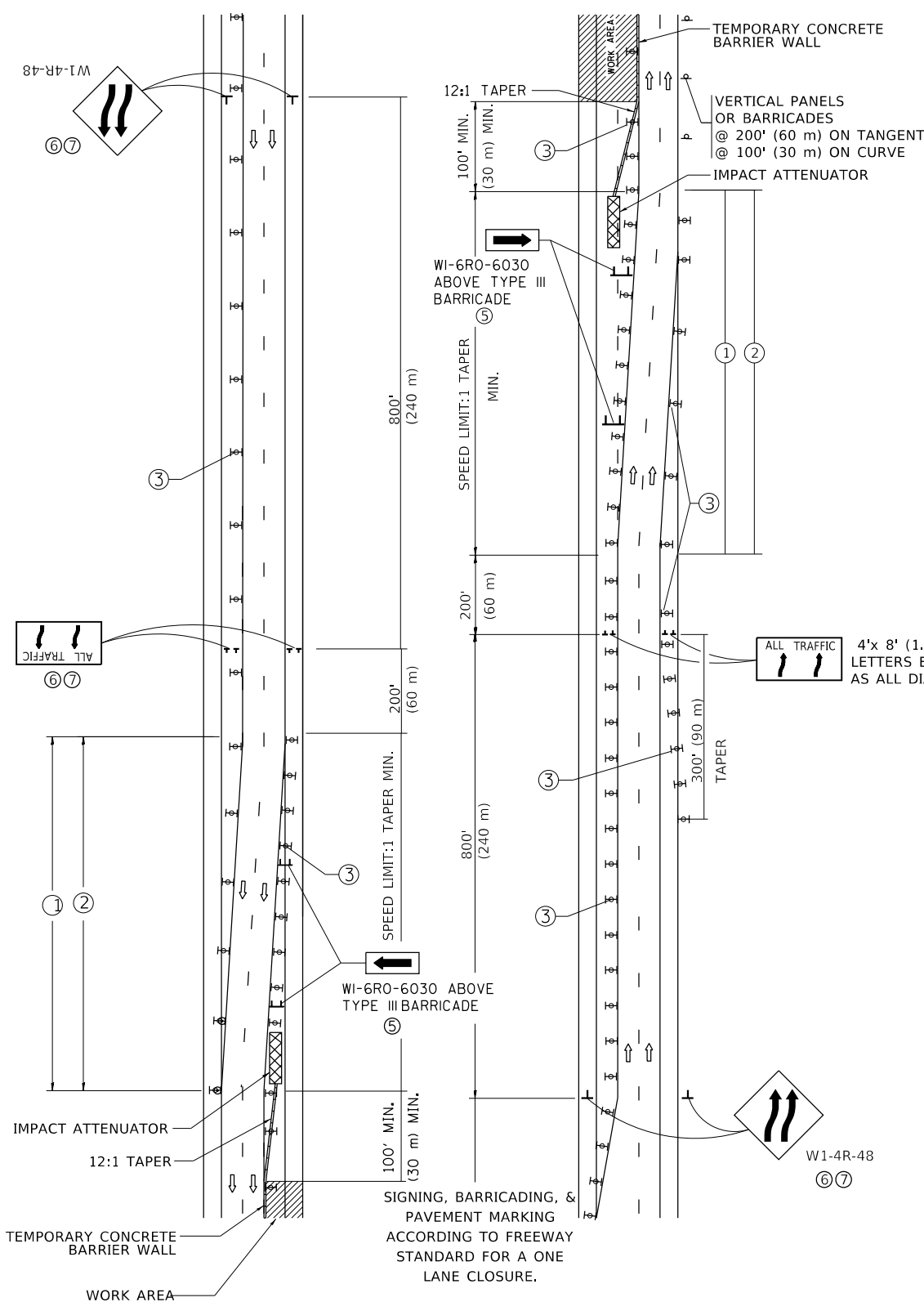
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2020-030-BP	COOK	20	17
TC-08		CONTRACT NO. 62M89		
		ILLINOIS FED. AID PROJECT		

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES:

- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
- CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
- WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
- THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W1-4R-48
- W24-1-48

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

MODEL: Default  
FILE: \\nrtc-pw\pub\anr\m\dot\ill\nd\sc\p\w\dot\Documents\DOT Office\District 1\Projects\01721\CO\DData\Design\Dis54.dgn

USER NAME = dumachia	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06
DRAWN -	REVISED - S.P.B. 01-07	
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 8/25/2020	DATE - 02-87	REVISED - M.D. 06-13

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR  
FREEWAY SINGLE & MULTI-LANE WEAVE

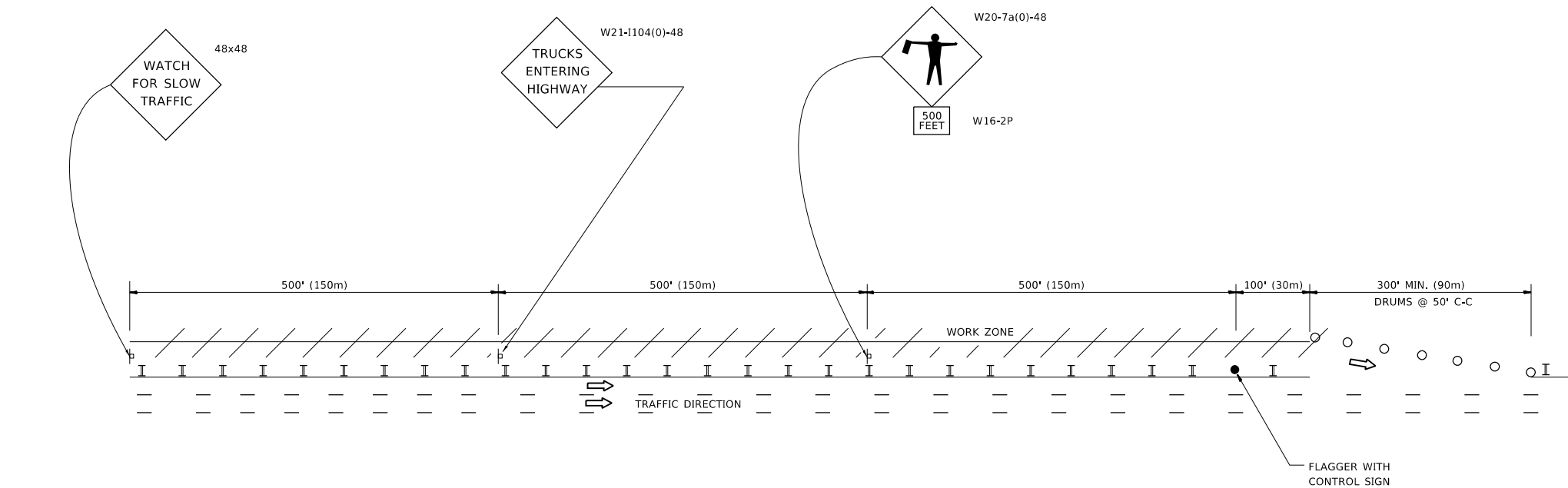
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2020-030-BP	COOK	20	18
TC-09		CONTRACT NO. 62M89		
ILLINOIS		FED. AID PROJECT		

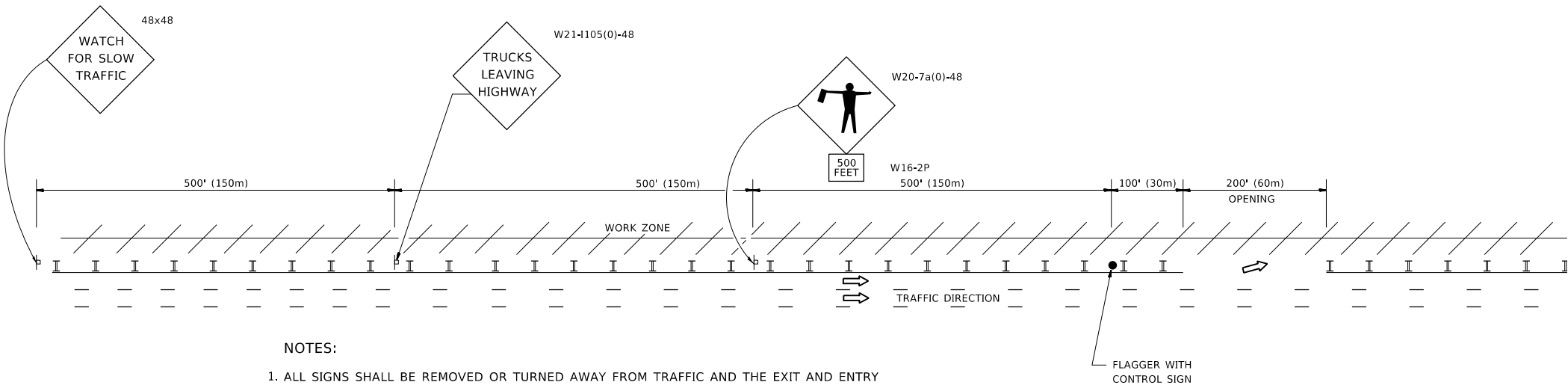


SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMP.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)  
UNLESS OTHERWISE SHOWN

MODEL: Default  
FILE: \\nrc-pc-proj\planroom\dot\illinois\gov\p\WIDOT\Documents\DOT\_Offices\Director\_1\Projects\DD 01721\Co\DData\Design\Dis54.dgn

USER NAME	= dumachia	DESIGNED	-
DRAWN	-	CHECKED	-
PLOT SCALE	= 100,0000 ' / in.	DATE	-
PLOT DATE	= 8/25/2020		

REVISED	-	J.A.F. 02-06
REVISED	-	S.P.B. 01-07
REVISED	-	S.P.B. 12-09
REVISED	-	M.D.06-13

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FREEWAY /EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS  
AT WORK ZONE OPENINGS ON FREEWAYS /EXPRESSWAYS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2020-030-BP	COOK	20	20
TC-18 CONTRACT NO. 62M89				
ILLINOIS FED. AID PROJECT				