11-5-2021 LETTING ITEM 064

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

D-98-134-20

ST. CLAIR 18 1

ALUNOIS CONTRACT NO. 76P05

82-2-1HVB-BJR-1

FOR INDEX OF SHEETS, SEE SHEET NO. 2

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# PROPOSED HIGHWAY PLANS

FAI ROUTE 70A (I-70)
SECTION 82-2-1HVB-BJR-1
PROJECT NHPP-7V05(086)
BRIDGE JOINT REPAIR
ST. CLAIR COUNTY

C-98-144-20

R 10W

PROJECT LOCATION I-70 EB SN 082-0318 LAT: 38.64871 LONG: -90.16127

GROSS/NET LENGTH = 1268.8 FT. = 0.24 MILE

0 100' 200' 300' 1''= 100'
0 10' 20' 30' 1''= 10'
0 50' 1100' 1''= 50'
0 50' 100' 1''= 40'
0 56' 100' 1''= 30'

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 ENGINEER: CHERYL KEPLAR (618) 346-3123 PROJECT MANAGER: TONI MANN (618) 346-3189

CONTRACT NO. 76P05

LOCATION OF SECTION INDICATED THUS: -

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV. - MS

#### **INDEX OF SHEETS**

- COVER SHEET
- INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, COMMITMENTS, AND ADT
- SUMMARY OF QUANTITIES
- CHANGEABLE MESSAGE SIGN PROPOSED LOCATIONS 4A
- SMART TRAFFIC MONITORING SYSTEM PROPOSED LOCATIONS
- 5-6 BARRIER LAYOUT STAGE 1
- BARRIER LAYOUT STAGE 2
- STRUCTURE SHEETS

#### **GENERAL NOTES**

1. UTILITIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

AMEREN ILLINOIS - GAS AND ELECTRIC AT&T ILLINOIS - COMMUNICATIONS MEDIACOM - CABLE TV

- 2. NO SURVEY WAS PERFORMED FOR THIS PROJECT AND THE PLANS WERE CREATED USING MICROFILM AND FIELD MEASUREMENTS.
- THE DEPARTMENT STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATIONS, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE
- FOUR (4) CHANGEABLE MESSAGE BOARD SHALL BE REQUIRED FOR THIS PROJECT. THEY SHALL BE PLACED TWO (2) WEEKS PRIOR TO ANY LANE CLOSURE. THE CHANGEABLE MESSAGE BOARDS SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER. A PROPOSED LAYOUT IS INCLUDED FOR REFERENCE.
- 5. A QUANTITY OF 62,675 SQ FT OF BRIDGE DECK CONCRETE SEALER IS INCLUDED IN THE PLANS. THIS QUANTITY IS FOR SEALING THE BRIDGE DECK SURFACE AND THE INSIDE FACES OF BOTH PARAPETS. THIS WORK SHALL BE COMPLETED AFTER THE JOINT REPLACEMENT IS DONE.

#### **HIGHWAY STANDARDS**

STANDARD SYMBOLS ABBREVIATIONS AND PATTERNS
AREAS OF REINFORCEMENT BARS
DECIMAL OF AN INCH AND OF A FOOT
APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
LANE CLOSURE, FREEWAY/EXPRESSWAY
LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
TRAFFIC CONTROL DEVICES
TEMPORARY CONCRETE BARRIER
GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

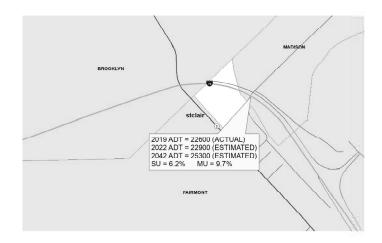
#### **COMMITMENTS**

NONE

#### **ADT**

SCALE:

SHEET



REV. - MS

USER NAME = challandeske	DESIGNED	REVISED =
	DRAWN	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED	REVISED -
PLOT DATE = 8/12/2021	DATE	REVISED 4

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

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ī	INDEX OF SHEETS, HIGHWAY STANDARDS GENERAL NOTES, COMMITMENTS, AND ADT					F.A.I. SECTION COUNTY				SHEET NO.
G						70A	82-2-1HVB-BJR-1	ST. CLAIR	18	2
- 0	GENERAL NOTES, COMMINITIVIENTS, AND ADT							CONTRACT	NO. 76	5P05
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# 90% FED 10% STATE

				CONSTR. CODE
				URBAN
		1		MINOR STRUCTURES
CODE			TOTAL	0047
NO.	ITEM	UNIT	QUANTITY	082-0318
42001300	PROTECTIVE COAT	SQ YD	58	58
50102400	CONCRETE REMOVAL	CU YD	29.5	29.5
50200255	CONCRETE CURERCTURE	GH VE	20.5	20.5
50300255	CONCRETE SUPERSTRUCTURE	CU YD	29.5	29.5
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1930	1930
		,		
50800515	BAR SPLICERS	EACH	35	35
,				
67100100	MOBILIZATION	L SUM	1	1
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	1	1
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	100	100
,				
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	360	360
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	1
		1		
70300220	TEMPORARY PAVEMENT MARKING = LINE 4"	FOOT	3445	3445
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1050	1050
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1050	1050
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
70000200	IMPROL ATTENDATORS, TEMPORART (FULL) REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	

REV. - MS

REV-SEP

USER NAME = challandeske	DESIGNED	REVISED =	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES					F.A.I.	SECTION	COUNTY	TOTAL SHEET	
	DRAWN	REVISED -							70A	82-2-1HVB-BJR-1	ST. CLAIR	18 3	
PLOT SCALE = 100.0000 / in.	CHECKED	REVISED -										CONTRACT	NO. 76P05
PLOT DATE = 8/12/2021	DATE	REVISED +		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. AI	D PROJECT	

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r			-		URBAN MINOR STRUCTURES
	CODE		1	TOTAL	0047
		ITEM	LINIT		082-0318
ŀ	NO.	I I EM	UNIT	QUANTITY	082-0318
,	70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
	X5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	62675	62675
ŀ	X7010208	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL)	EACH	1	1
	X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SQ FT	1191	1191
ŀ	X8570000	SMART TRAFFIC MONITORING SYSTEM	L SUM	1	1
	Z0034393	MODULAR EXPANSION JOINT 9"	FOOT	43	43
ŀ	Z0034700	MODULAR EXPANSION JOINT 24"	FOOT	43	43
_	70076600	TRAINIFFE		500	
Ø	Z0076600	TRAINEES	HOUR	500	500
ø	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500
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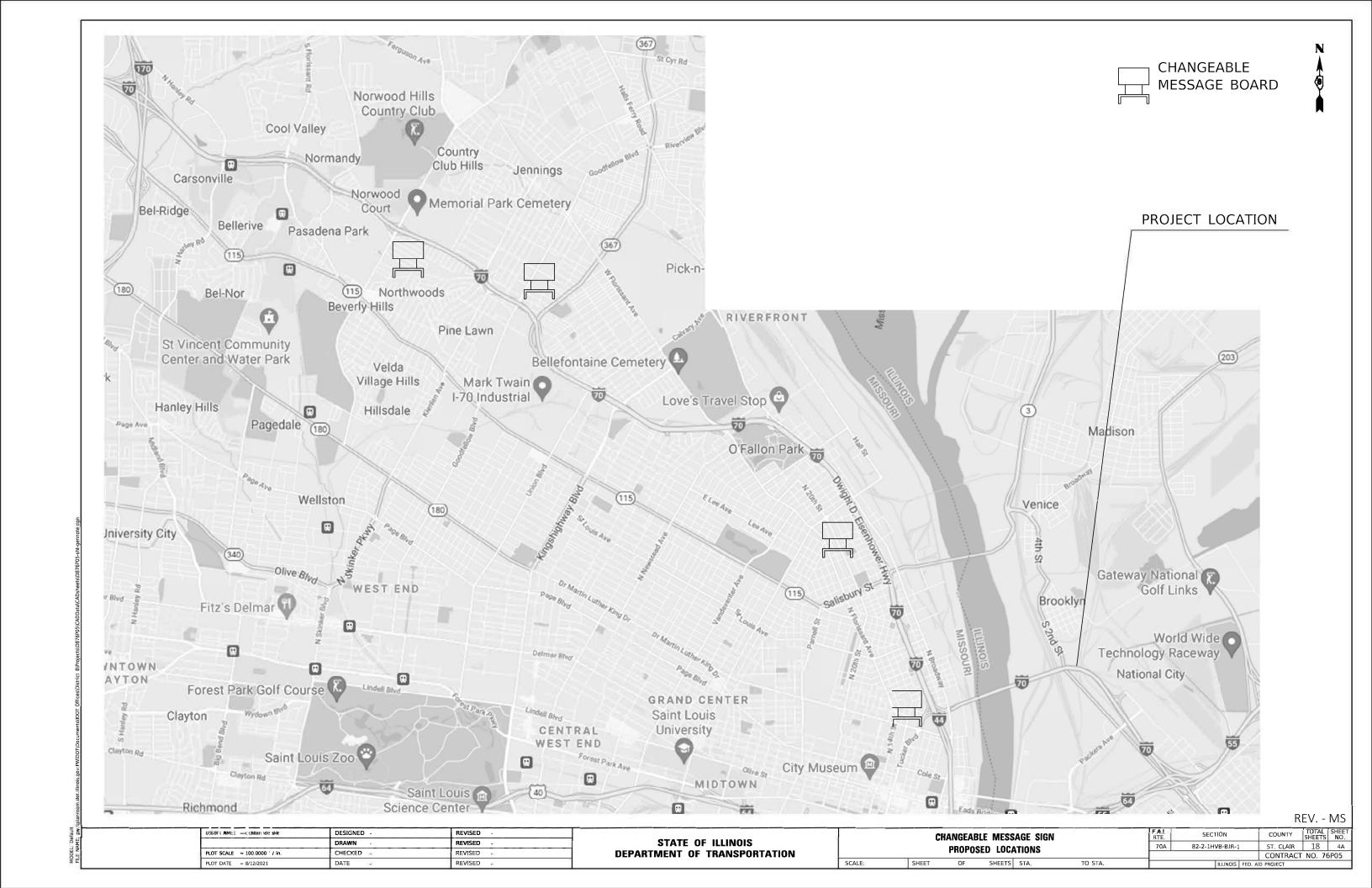
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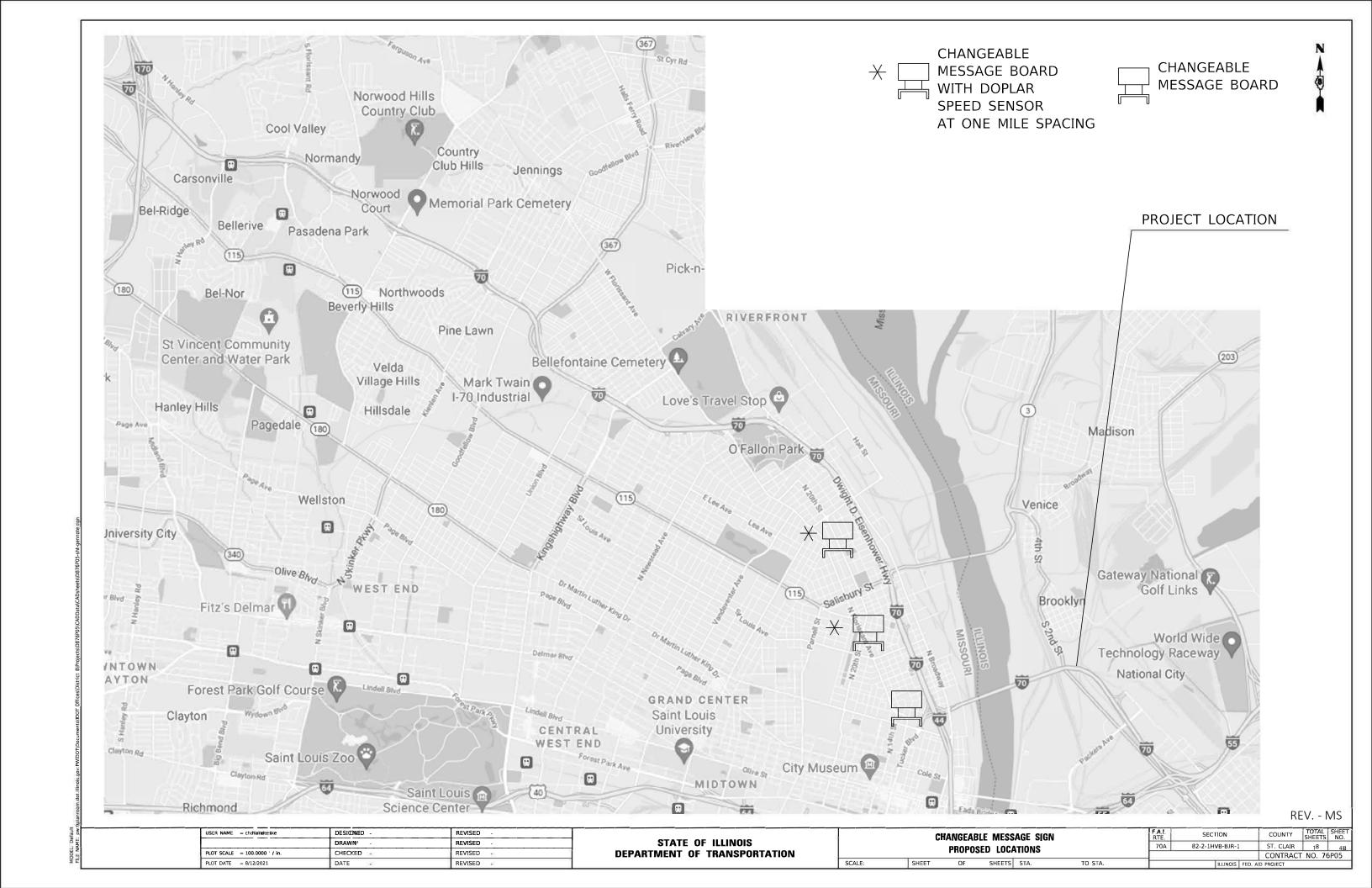
REV. - MS

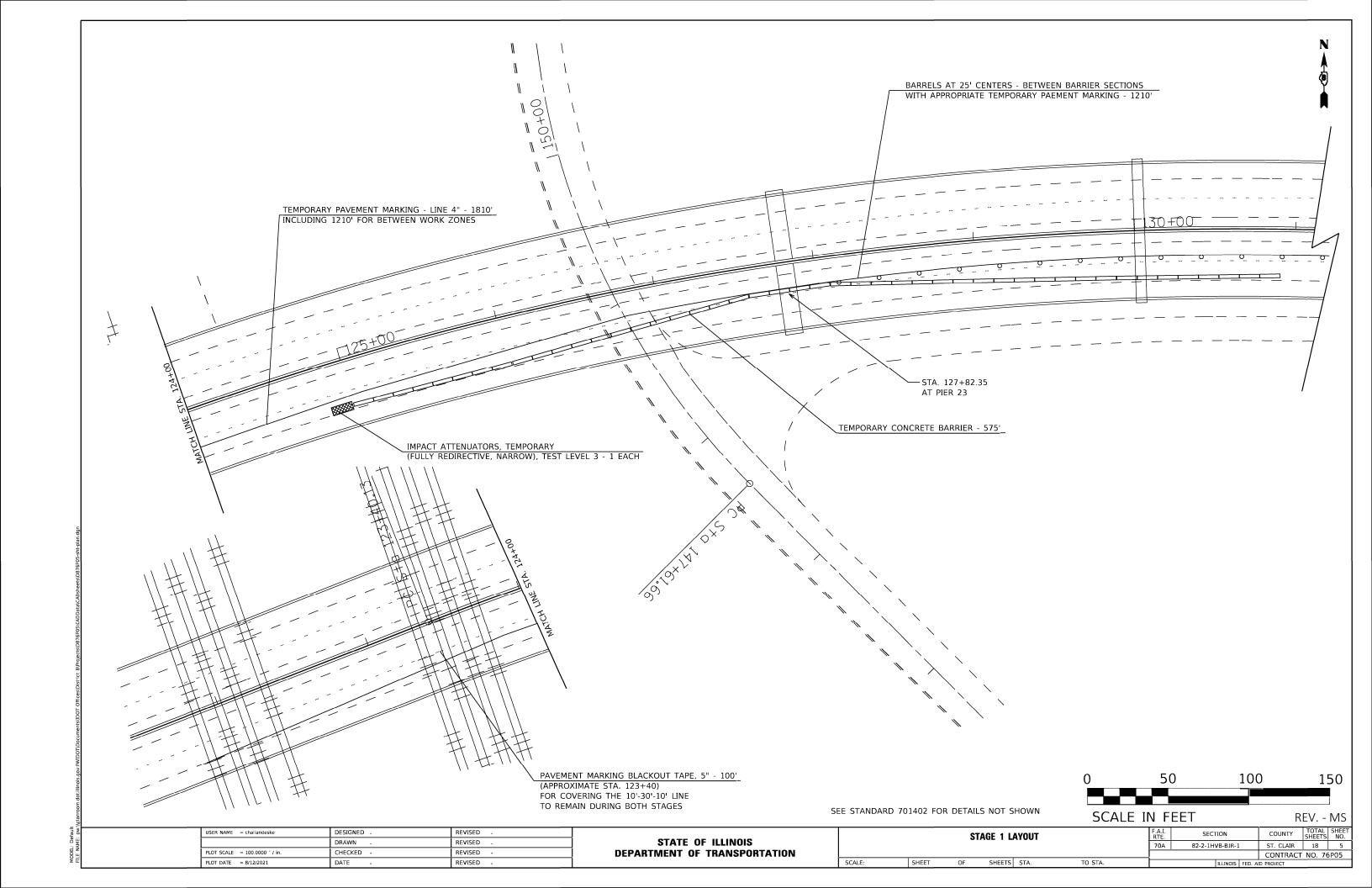
USER NAME = challandeske	DESIGNED	REVISED =
	DRAWN	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED	REVISED -
PLOT DATE = 8/12/2021	DATE	REVISED 4

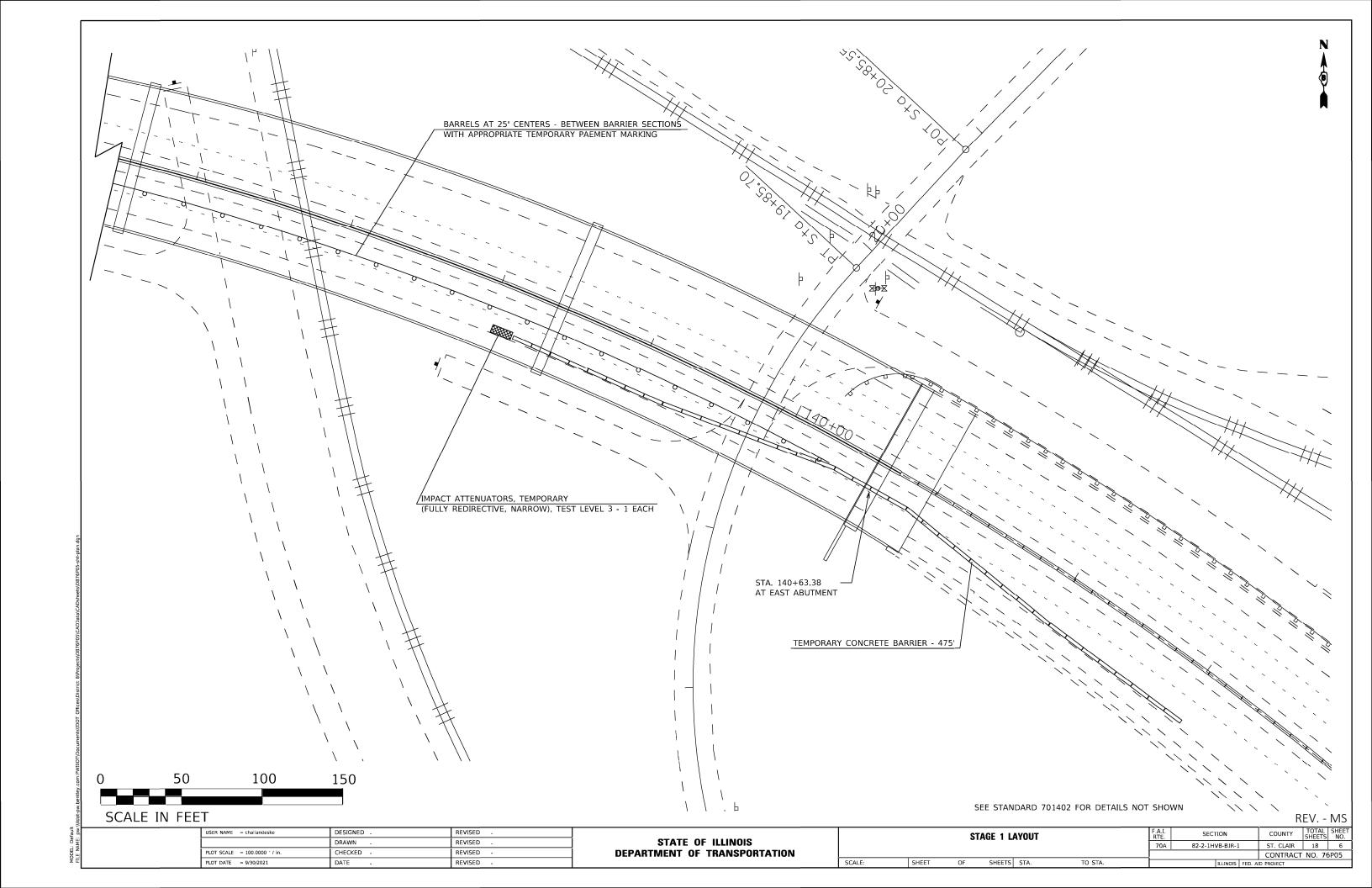
STATE OF	ILLINOIS
DEPARTMENT OF	TRANSPORTATION

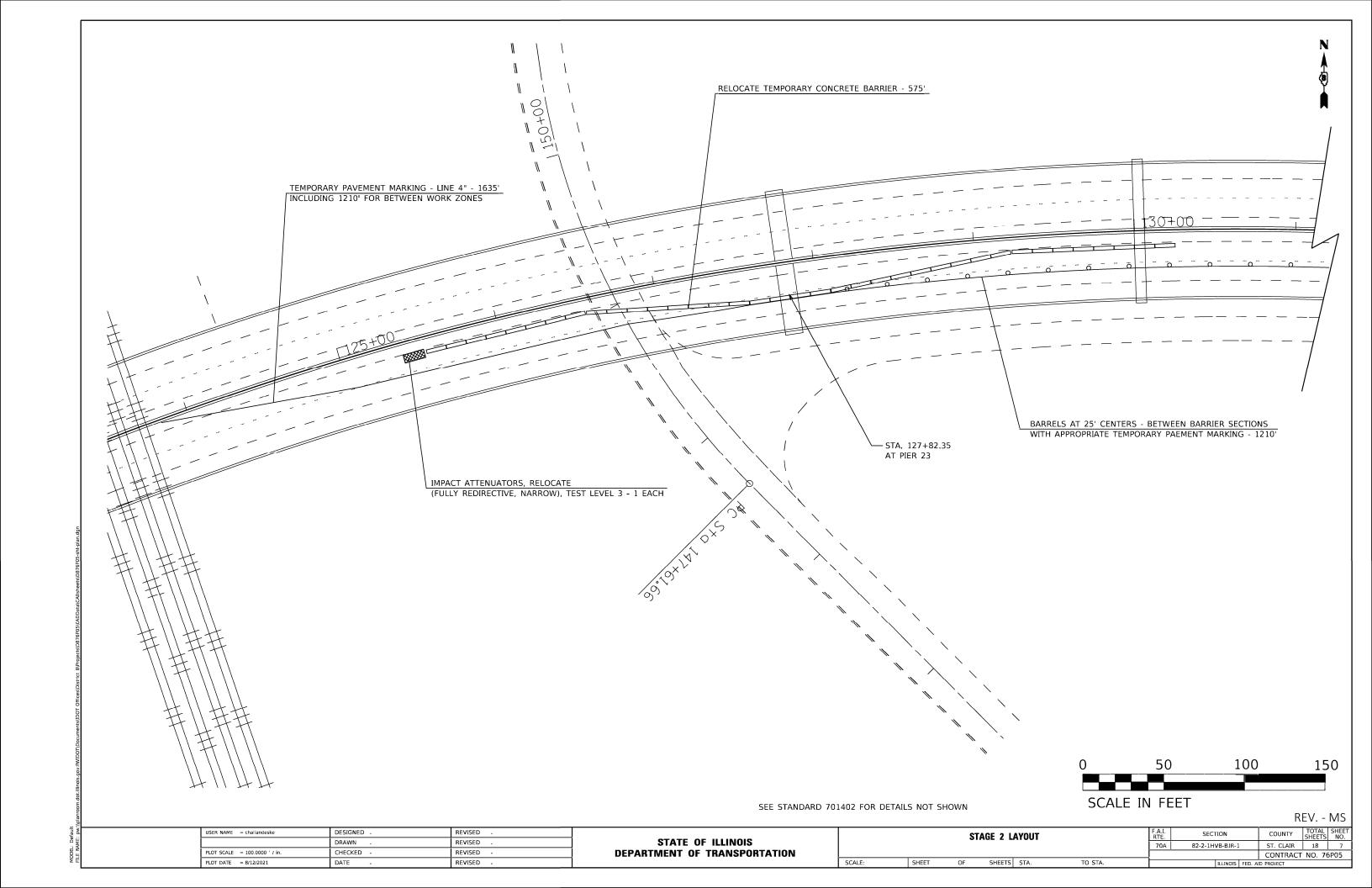
ľ						RTE.	SECTION	COUNTY	SHEETS		
							70A	82-2-1HVB-BJR-1	ST. CLAIR	18	4
									CONTRACT	NO. 70	5P05
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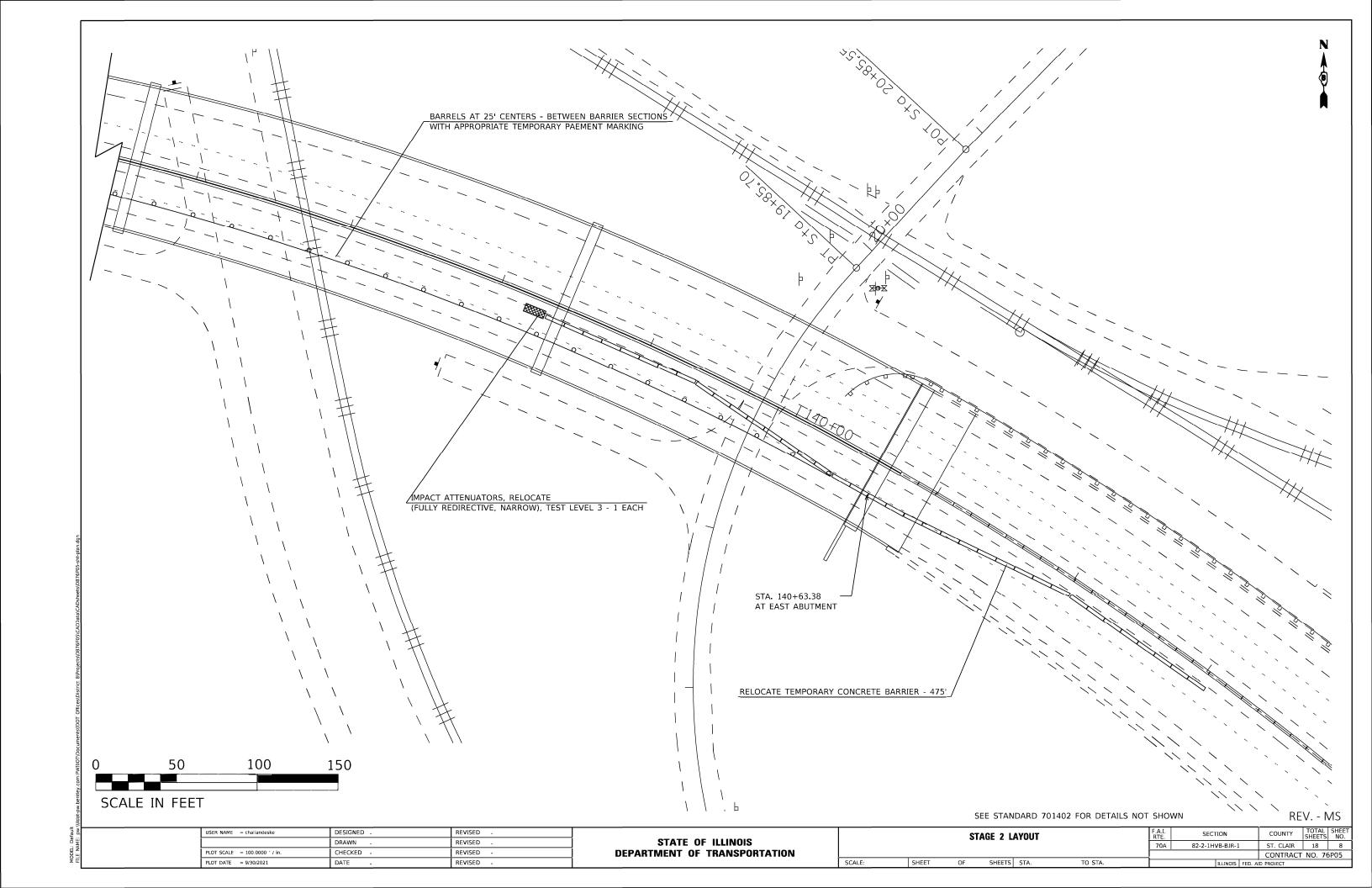


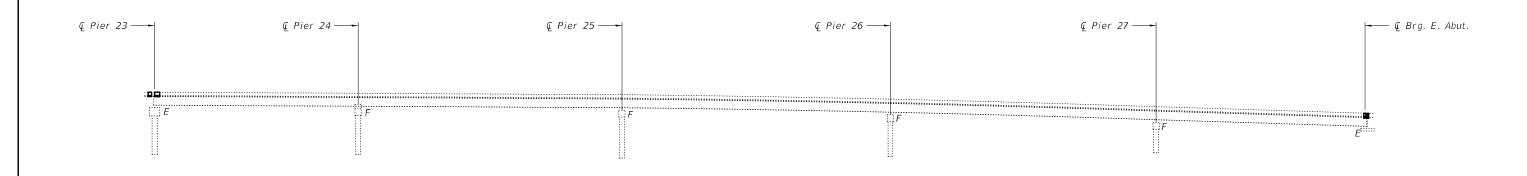




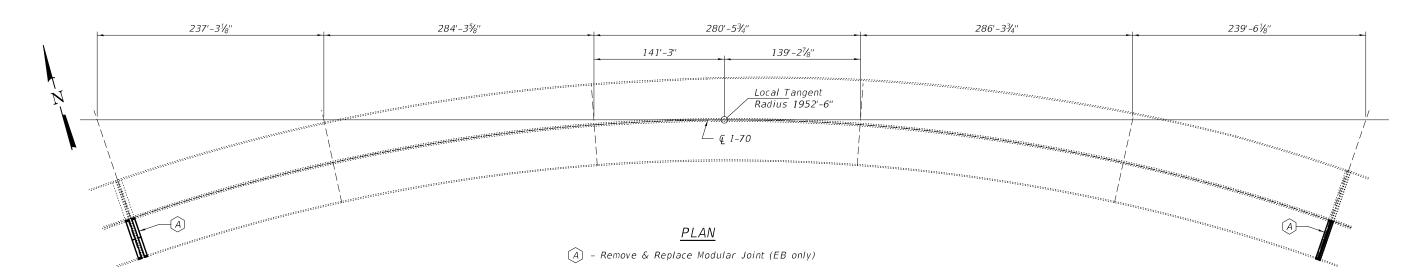








ELEVATION (Looking North)



#### GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or 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 at the unit price bid for the work.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.

Existing structure plans will be made available upon request.

The steel components for the Modular Expansion Joints shall be hot-dip galvanized according to Special Provision "Hot Dip Galvanizing for Structural Steel".

EXPIRES 11-30-2022

DESIGNED - Victor	H. Veliz	EXAMINED	Thing A. Alex	DATE	- SEPTEMBER 30, 2021
CHECKED - Chi-Ch	eung Chau		ENGINEER OF STRUCTURAL SERVICES		
DRAWN - dabura	ell	PASSED	In Carl Projey	REVISED	-
CHECKED - VHV	CCC	-	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	) -

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

## GENERAL PLAN AND ELEVATION FAI 70 OVER MISSISSIPPI RIVER SN 082-0318 (EB)

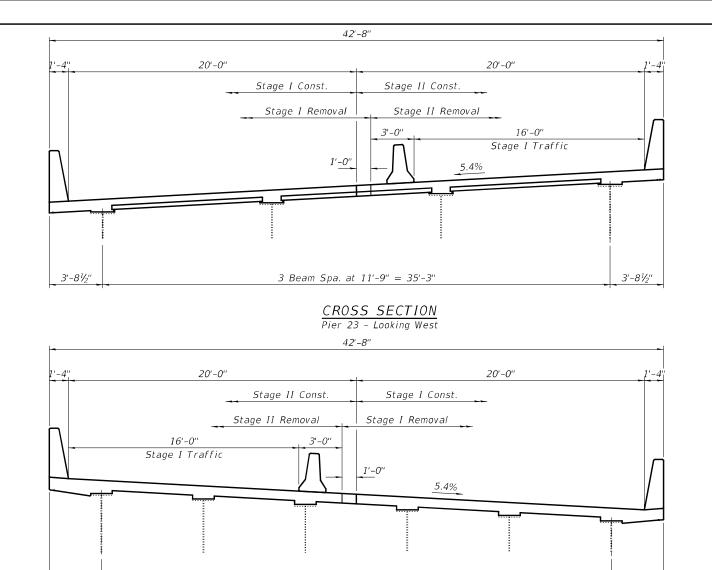
1	F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	70	82-2-1HVB-BJR-1	ST. CLAIR	18	9	
			CONTRACT	NO. 76F	P05	
ı		ILLINOIS FEE	). A	D PROJECT		

<u>DESIGN SPECIFICATIONS</u>

AASHTO LRFD Bridge Design Specifications

### TOTAL BILL OF MATERIAL

UNIT	QUANTITY
Cu. Yd.	29.5
Cu. Yd.	29.5
Pound	1930
Sq. Yd.	58
Each	35
Foot	43
Foot	43
Sq. Ft.	62675
	Cu. Yd. Cu. Yd. Pound Sq. Yd. Each Foot



CROSS SECTION

East Abut. & Pier 23 - Looking East

3'-71/2"

COUNTY TOTAL SHEETS NO.

ST. CLAIR 18 10

CONTRACT NO. 76P05

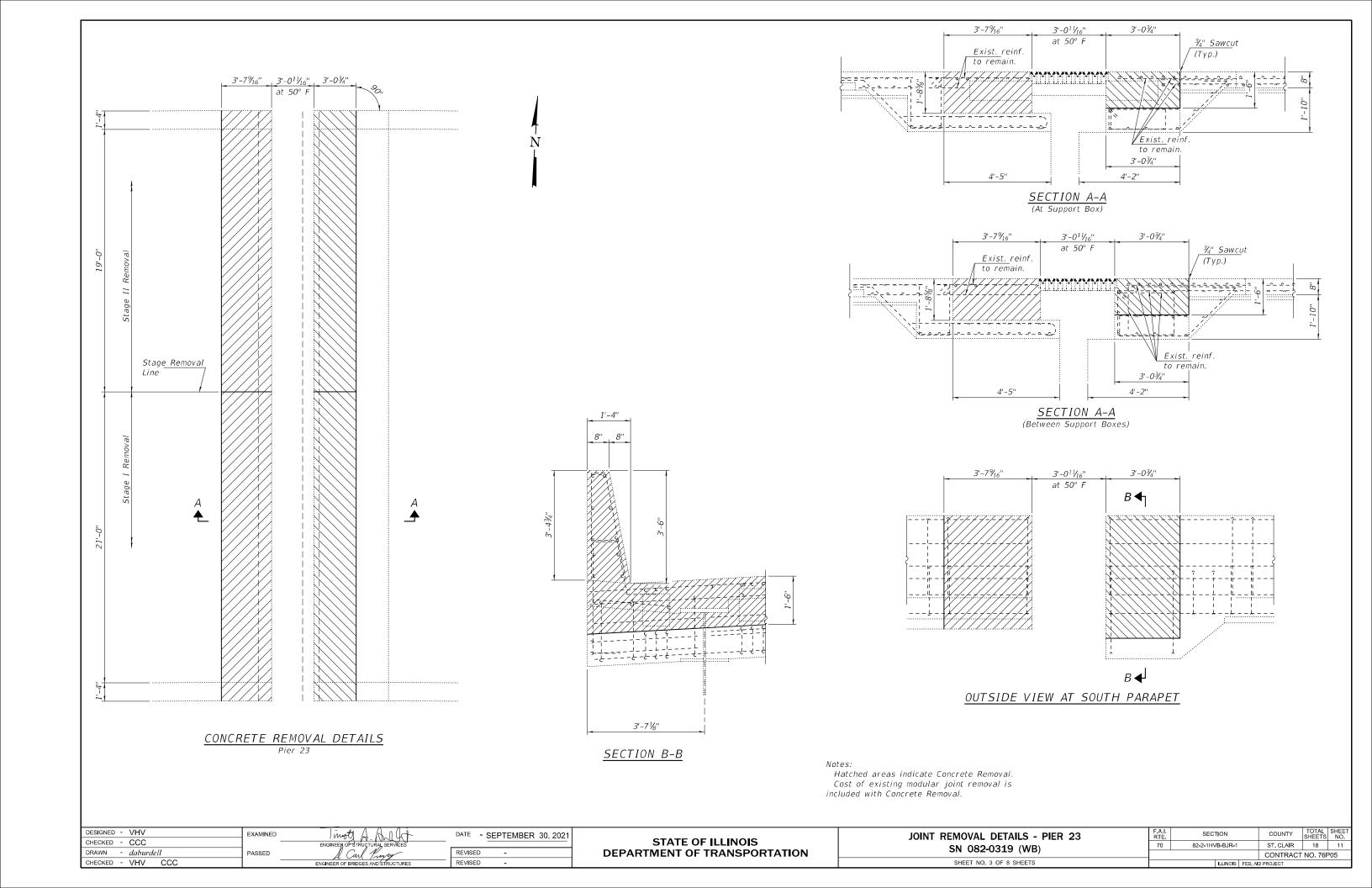
ILLINOIS FED. AID PROJECT

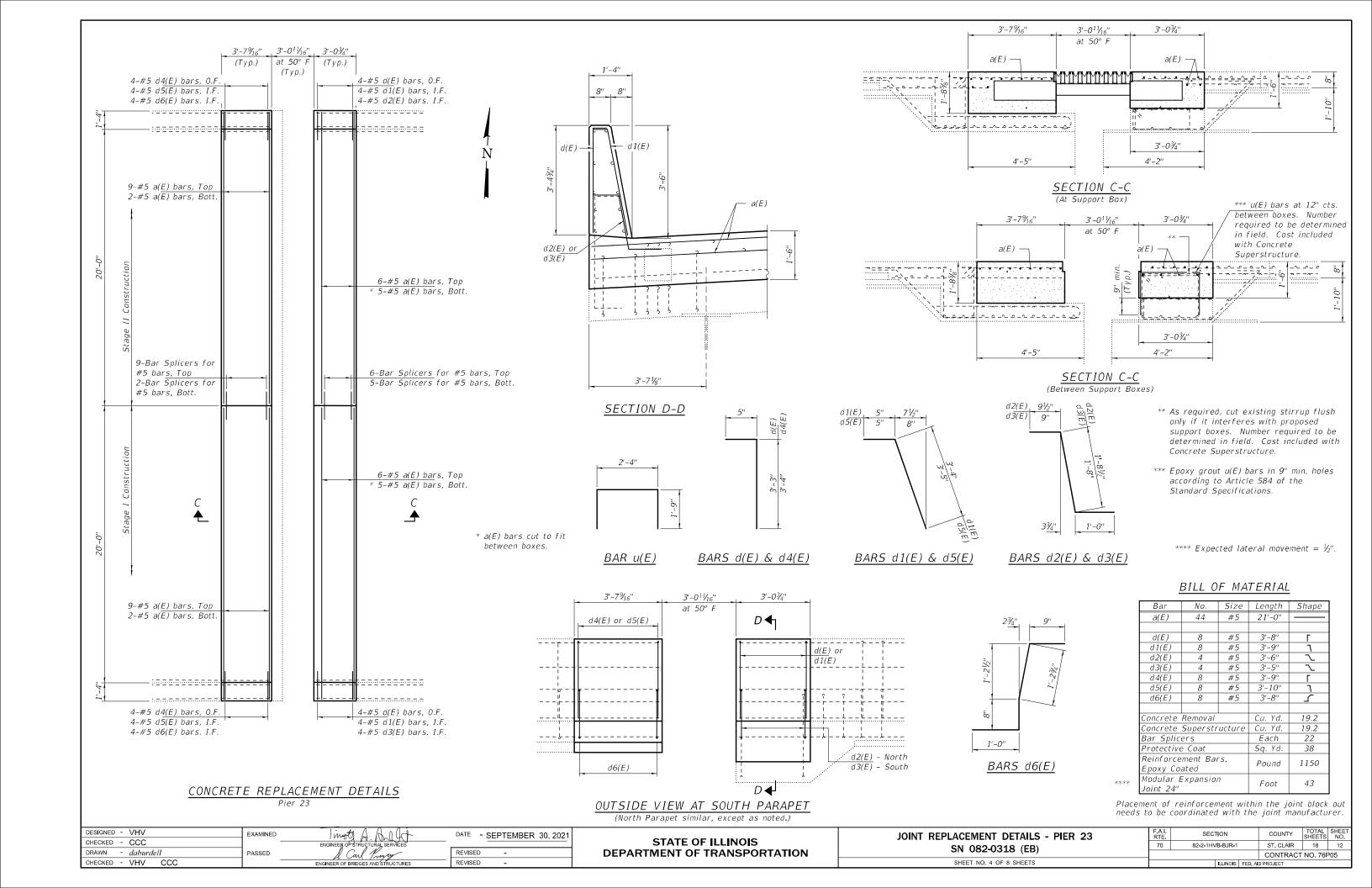
SECTION 82-2-1HVB-BJR-1

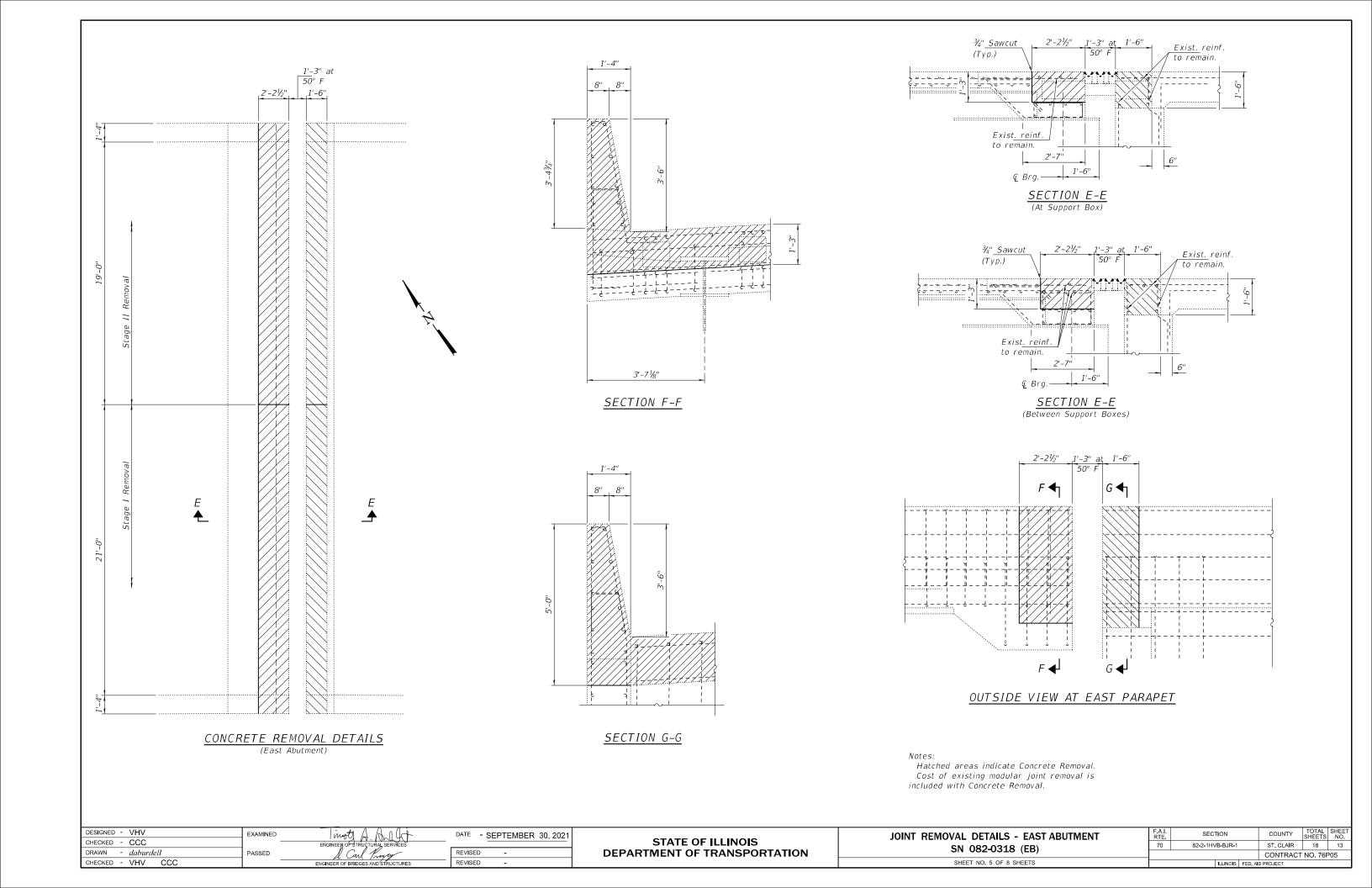
5 Beam Spa. at 7'-1" = 35'-5"

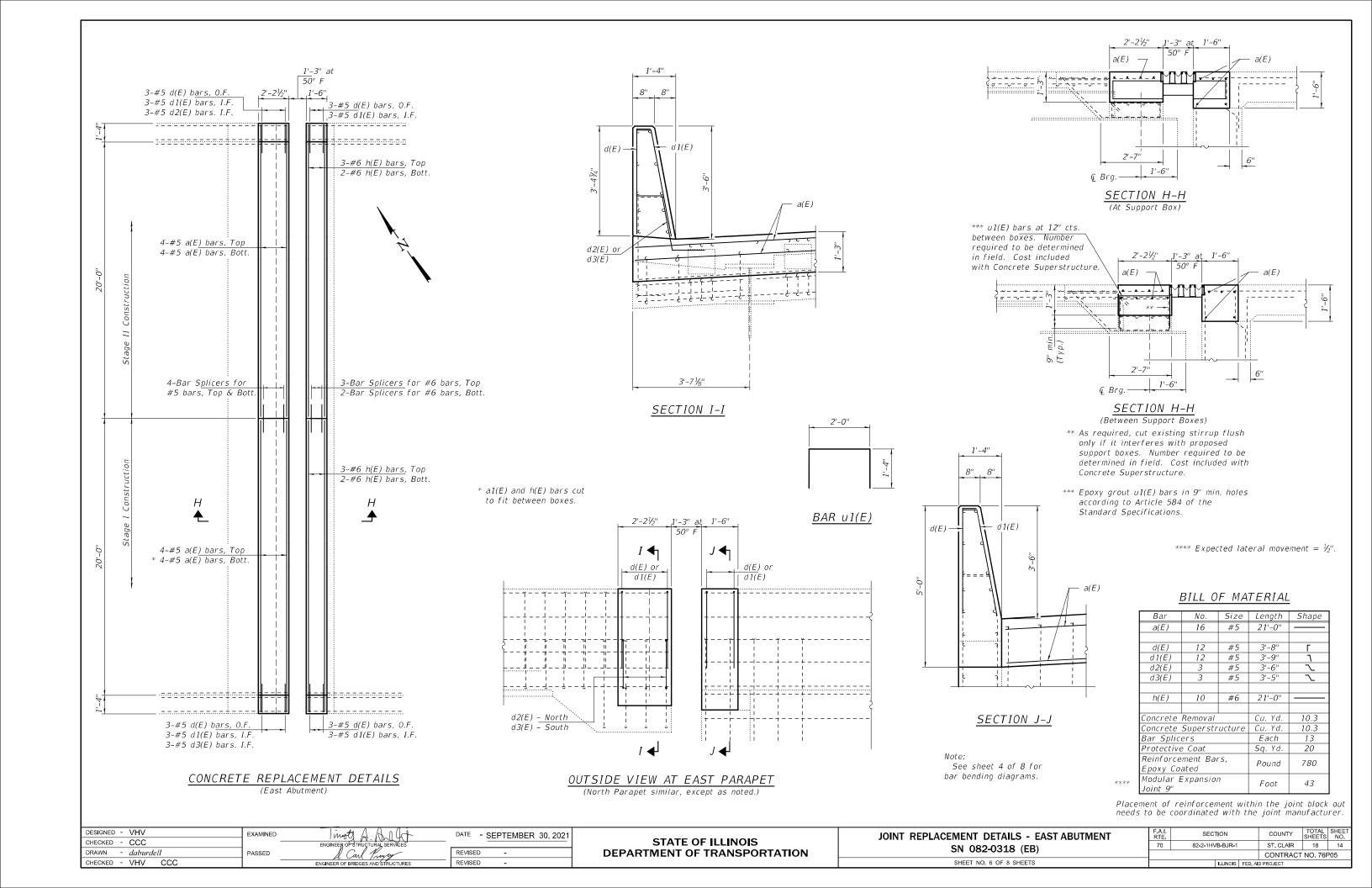
DESIGNED - VHV	EXAMINED	mat A MIL	DATE - SEPTEMBER 30, 2021		STAGE CONSTRUCTION DETAILS	PT
CHECKED - CCC	_	ENGINEER OF STRUCTURAL SERVICES		STATE OF ILLINOIS		70
DRAWN - daburdell	PASSED	d. Carl Prayer	REVISED -	DEPARTMENT OF TRANSPORTATION	SN 082-0318 (EB)	
CHECKED - VHV CCC	_	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 2 OF 8 SHEETS	

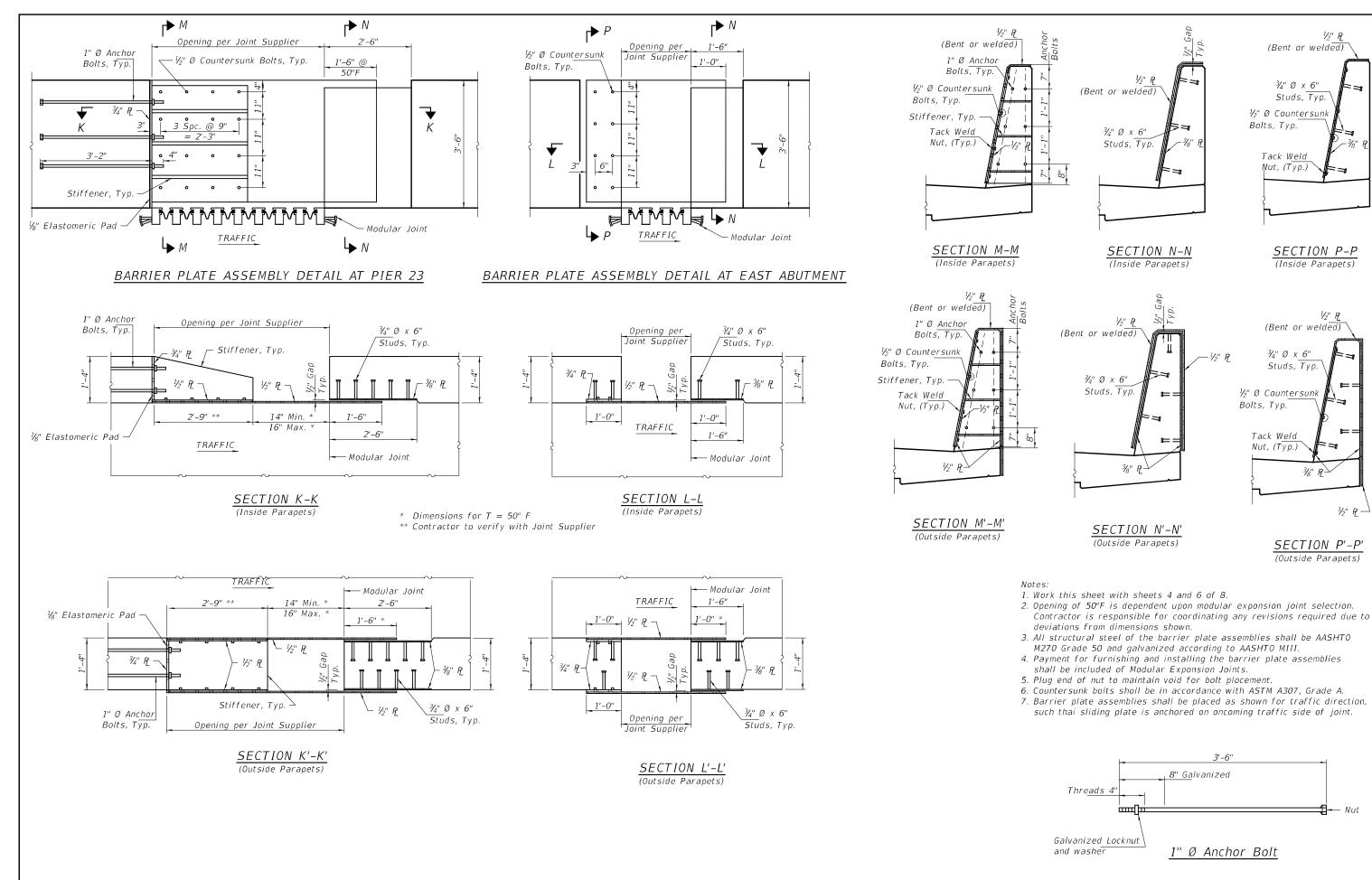
3'-71/2"











DATE - SEPTEMBER 30, 2021

REVISED

DESIGNED - VHV

CHECKED - CCC

DRAWN - daburdell

CHECKED - VHV CCC

EXAMINED

PASSED

SLIDING PLATE DETAILS SN 082-0318 (EB) SHEET NO. 7 OF 8 SHEETS

SECTION COUNTY 82-2-1HVB-BJR-1 ST. CLAIR 18 15 70 CONTRACT NO. 76P05

8" Galvanized

1" Ø Anchor Bolt

(Bent or welded)

3/4" Ø x 6"

½" Ø Countersunk

Tack Weld Ņut, (Typ.)

Bolts, Typ.

SECTION N-N

(Inside Parapets)

½" R

3/8" P

Studs, Typ.

SECTION P-P

(Inside Parapets)

(Bent or welded)

3/8" F}>

SECTION P'-P' (Outside Parapets)

1/2" P

¾" Ø x 6"

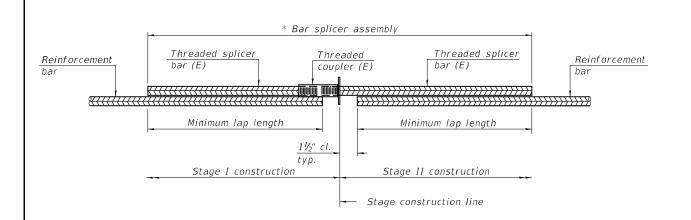
½" Ø Countersunk

Tack Weld

Nut, (Typ.)

Bolts, Typ.

Studs, Typ.



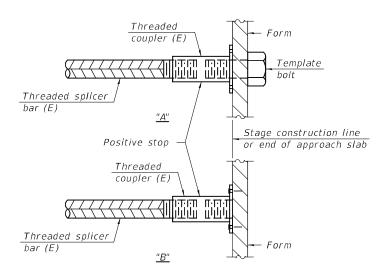
#### STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length +  $1\frac{1}{2}$ " + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

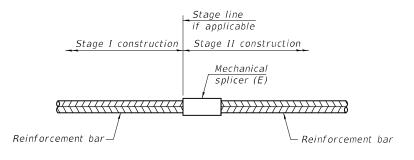
Location	Bar	No. assemblies	Minimum	
	size	required	lap length	
Deck	#5	30	3'-6''	
E. Abut.	#6	5	4'-0''	



#### INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



#### STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum  $60\ ksi$  yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements

for reinforcement bars. See Section 508 of the Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-1-2020

DESIGNED - VHV	EXAMINED	Timote A A O	DATE -	SEPTEMBER 30, 2021
CHECKED - CCC		ENGINEER OF STRUCTURAL SERVICES		
DRAWN - daburdell	PASSED	d. Carl Prayer	REVISED	-
CHECKED - VHV CCC		ENGINEER OF BRIDGES AND STRUCTURES	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

 BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 F.A.I. SECTION
 COUNTY
 TOTAL SHEET NO.
 SHEET NO.
 SHEET NO.
 SHEET NO.
 10 AUPPROJECT