



IBMITTED MARCH 3	20 Z/ ny P Myn/G REGIONAL ENGIN	EER
May 7, 2021	REGIONAL ENGIN	EER
May 7, 2021	-11-1	
		1
ENGINEER	OF DESIGN AND ENVIRONMENT	5-
May 7, 2021		
Ye	mr. yu	12
DIRECTOR OF HIGH	AYS PROJECT IMPLEMENTATION	13

GENERAL NOTES

THE WORK INCLUDED IN SECTION D7 BRIDGE REPAIRS 2021-8 CONSISTS OF HMA SURFACE REMOVAL, EXPANSION JOINT REPAIR, BRIDGE DECK PATCHING, TACK COAT, HMA SURFACE COURSE, BRIDGE RAIL REPLACEMENT, PAVEMENT MARKING AND OTHER WORK NECESSARY TO COMPLETE THIS SECTION. THE WORK SHALL BE COMPLETED UTILIZING STAGE CONSTRUCTION WITH TEMPORARY CONCRETE BARRIERS AND TEMPORARY TRAFFIC SIGNALS. THE EXISTING STRUCTURE CARRIES IL ROUTE 1 OVER THE CSX RAILROAD AND IS LOCATED 0.5 MILE NORTH OF MARSHALL ON IL ROUTE 1.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

PAINT PAVEMENT MARKING LINE - 4" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS, AS SHOWN IN THE PLANS, AND AS DETERMINED BY THE ENGINEER. THE TOTAL QUANTITY CALCULATED CONSISTS OF 728 FEET OF YELLOW AND 1820 FEET OF WHITE.

MATERIAL REQUIREMENTS												
APPLICATION	AC/PG	DESIGN AIR	MIXTURE	FRICTION	QUALITY							
AFFEICATION		VOIDS	COMPOSITION	AGGREGATE	MANAGEMENT							
POLYMERIZED HMA SURFACE COURSE, MIX "D", N90 (2")	SBS PG 70-22	4.0% @ N=90	IL - 9.5	MIXTURE D	QC/QA							

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS & GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
5	TYPICAL SECTION
6	PLAN SHEET
7	STAGING SUGGESTED SEQUENCE OF OPER/
8	STAGE CONSTRUCTION I
9	STAGE CONSTRUCTION II
10-13	PAVEMENT MARKING DETAILS
14-28	BRIDGE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

STD. NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AN
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
515001-04	NAME PLATE FOR BRIDGES
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE TH
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24'
701301-04	LANE CLOSURE, 2L 2W, SHORT TIME OPERA
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATION
701316-13	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR \geq 4
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WI
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTO
643001-02	SAND MODULE IMPACT ATTENUATORS

USER NAME = steffenmk	DESIGNED	REVISED =				GEN	FRAI	NOTE	s		F.A.P. BTE	SECTION	С	OUNTY	TOTAL SHEETS	HEET NO.
	DRAWN	REVISED -	STATE OF ILLINOIS		INDEX OF					IDARDS	332 D	7 BRIDGE REPAIRS 202	1-8	CLARK	28	2
PLOT SCALE = 40.0000 ' / in.	CHECKED	REVISED -	DEPARTMENT OF TRANSPORTATION		INDEX OF	SUCCI	αп	GRVVF	11 21AN	IDARDS			CC	ONTRACT	r NO. 744	54
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RATIONS & CONSTRUCT NOTES

ND PATTERNS

HAN 15' AWAY 4" FROM PAVEMENT EDGE ATIONS 'IONS - DAY ONLY 45 MPH /ITH BARRIER

OR MOUNTING DETAILS

REV. - MS

	SUMMARY OF QUANTITIES			CONSTRUCTION	TYPE CODE		SUMMARY OF QUANTITIES	~			RUCTION TYPE CODE
DE NO		UNIT	TOTAL QUANTITIES	0047 100% STATE		CODE NO			TOTAL QUANTITIES	0047 100% STATE	
0600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	230	230		70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	1	1	
							701316				
40604164	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE.	TON	92	92							
	IL-9.5, MIX "D", N90					70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	1	1	
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	909	909			701321				
						70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
50102400	CONCRETE REMOVAL	CU YD	33.4	33.4							
						70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	1942	1942	
50104000	BRIDGE RAIL REMOVAL	FOOT	363	363		70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28	
50157300	PROTECTIVE SHIELD	SQ YD	270	270							
						70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	810	810	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	61.5	61.5							
50300300	PROTECTIVE COAT	SQ YD	100	100		70400100	TEMPORARY CONCRETE BARRIER	FOOT	525	525	
						70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	525	525	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	10510	10510							
						70600250	IMPACT ATTENUATORS, TEMPORARY (NON-	EACH	2	2	
50800515	BAR SPLICERS	EACH	56	56			REDIRECTIVE), TEST LEVEL 3				
50900305	STEEL RAILING, TYPE TI	FOOT	363	363		70600350	IMPACT ATTENUATORS, RELOCATE (NON-	EACH	2	2	
							REDIRECTIVE), TEST LEVEL 3				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	3							
67100100	MOBILIZATION	L SUM	1			* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2548	2548	
			•			×5080525	BAR SPLICERS, SPECIAL	EACH	6	6	

SPECIALIYITEM

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	DRAWN -	REVISED -	STATE OF ILLINOIS		-			204
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_ 0	UANTITIES			F.A.P. RTE	SECT	TION		COUNTY	TOTAL SHEETS	SHEET NO.			
			-	332	D7 BRIDGE RE	PAIRS 20)21-8	CLARK	28	3			
_								CONTRACT	CONTRACT NO. 74A54				
5	STA.	TO STA.				ILLINOIS	FED. AI	D PROJECT					

SUMM			JANTITIES				STRUCTION TYPE	CODE		SUMMAI			IFC				TION TYPE (CODE
			JANTITES		TOTAL	0047								TOTAL	004			
CODE NO		ITEM		UNIT	QUANTITIES	100% STATE			CODE NO		ITEM		10	UANTITIES	100% ST	AIE		
Z0001903 STRUCTUR	AL STEEL R	EMOVAL		POUND	3400	3400												
Z0016001 DECK SLA	B REPAIR (FULL DEPTH	, TYPE I)	SQ YD	5	5												
Z0016002 DECK SLA	B REPAIR (FULL DEPTH	, TYPE II)	SQ YD	40	40												
Z0016200 DECK SLA	B REPAIR (PARTIAL)		SQ YD	50	50												
Z0048665 RAILROAD	PROTECTIV	E LIABILIT	Y INSURANCE	L SUM	1	1												
					-	-												
	USER NAME = stel	fenmk	DESIGNED -		REVISED -			07475 05				SUMMARY (OF QUANTITIES		F.A.P. RTE	SECTION	COUN	JULIE NO.
			DRAWN -		REVISED -			STATE OF	ILLINUIS						332 D7 BR	DGE REPAIRS 2	021-8 CLAR	< 28 4

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 STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION			SUMMAF	IY OF C	UANTITIES
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C	UANTITIES	5	F.A.P. RTE		SECT	ION		COUNTY	TOTAL SHEETS	SHEET NO.
			332	D7	BRIDGE RE	PAIRS 2	021-8	CLARK	28	4
_								CONTRACT	F NO. 74	4A54
5	STA.	TO STA.				ILLINOIS	FED. AI	ID PROJECT		



ADJACENT TYPICAL SECTION

STATION 161+90TO STATION 167+94.89STATION 170+40.65TO STATION 176+00

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SHEET		SECT	ΓΙΟΝ		COUNTY	TOTAL SHEETS	SHEET NO.
		D7 BRIDGE RE	PAIRS 2	021-8	CLARK	28	6
					CONTRACT NO. 74A54		
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STAGING SUGGESTED SEQUENCE OF OPERATIONS

PRESTAGE

1. ERECT SIGNS, TRAFFIC SIGNALS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 701316 AND THE DETAILS IN THE PLANS.

- 2. CONSTRUCT BRIDGE RAIL ON EAST SIDE OF STRUCTURE.
- 3. CONSTRUCT PROTECTIVE SHIELD OVER RAILROAD.

STAGE I

- 1. CONSTRUCT HMA SURFACE REMOVAL.
- 2. PLACE TEMPORARY CONCRETE BARRIER WALL ACCORDING TO TRAFFIC CONTROL STANDARD 701321.
- 3. CONSTRUCT EXPANSION JOINT REPAIR.
- 4. CONSTRUCT BRIDGE DECK PATCHING.
- 5. REMOVE TEMPORARY CONCRETE BARRIER WALL AND USE TRAFFIC CONTROL STANDARD 701316.
- 6. CONSTRUCT TACK COAT AND HMA SURFACE COURSE, MIX D, N90 (2").
- 7. CONSTRUCT BRIDGE RAIL REPLACEMENT.

STAGE II

1. PLACE BARRELS, SIGNS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 701316 AND THE DETAILS IN THE PLANS.

- 2. CONSTRUCT HMA SURFACE REMOVAL.
- 3. PLACE TEMPORARY CONCRETE BARRIER WALL AND USE TRAFFIC CONTROL AND PROTECTION 701321.
- 4. CONSTRUCT EXPANSION JOINT REPAIR.
- 5. CONSTRUCT BRIDGE DECK PATCHING.
- 6. REMOVE TEMPORARY CONCRETE BARRIER WALL AND USE TRAFFIC CONTROL AND PROTECTION 701316.
- 7. CONSTRUCT TACK COAT AND HMA SURFACE COURSE, MIX D, N90 (2").
- 8. REMOVE TRAFFIC CONTROL STANDARD 701316.
- 9. CONSTRUCT PAVEMENT MARKING, AND ANY OTHER WORK NECESSARY TO COMPLETE THE PROJECT.

TEMPORARY CONCRETE BARRIER								
STAGE 1								
166+56	то	171+84	525.0	FOOT				

IMPACT ATTENUATORS, TEMP (NON-REDIRECTIVE) TL 3								
STAGE 1								
166+56		1	EACH					
171+84		1	EACH					
	TOTALS	2	EACH					

	F	RESURFAC	ING SC	HE	DULE				
			HOT-MIX ASPHALT	SURFACE REMOVAL, 2"	BITUMINOUS MATERIALS (TACK COAT)	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D",			
STAGE 1			SQ YE)	POUND	(TON)			
STATION	то	STATION							
167+91		168+28.5		45	20	5.0			
169+95		170+45.0		65	29	7.2			
STAGE 2									
167+91		168+28.5		54	24	6.0			
170+09		170+45.0		36	16	4.0			
		TOTAL	1	99	90	22.3			
NOTE: R	DADV	VAY QUAN	TITIES	ON	ILY				
SEE STRU	NOTE: ROADWAY QUANTITIES ONLY SEE STRUCTURE PLANS FOR ADDITIONAL QUANTITY								

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PLOT DATE = 4/14/2021	DATE -	REVISED -			SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

RELOCATE TEMPORARY CONCRETE BARRIER								
STAGE 2								
166+56	ТО	171+84	525.0	FOOT				

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE) TL 3									
STAGE 2									
166+56			1	EACH					
171+84			1	EACH					
TOTALS			2	EACH					

	PAVE	MENT MA	RKING S	CHEDULE	
			PAVEMENT MARKING BLACKOUT TAPE,5"	SHORT TERM PAVEMENT MARKING REMOVAL	PAINT PAVEMENT MARKING - LINE 4"
STATION	то	STATION	FOOT	SQ FT	FOOT
STAGE 1					
164+37		173+47	1,022	426	
STAGE 2					
164+27		173+47	92	384	
FINAL ST	AGE				
166+91		170+45			2548
TOTALS			1114	810	2548







-	-					
			NOT T Note: All dimensions (millimeters) unless o		CHES	
		D	STRICT 7 DETAI	L NO. 78	0000	01
EFLECTIVE PAVEMENT MARKERS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
٨I	PPLICATIONS)	332	D7 BRIDGE REPAIRS 2021-8	CLARK	28	10
~1	,			CONTRACT	NO. 7	4454
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STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

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MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(RURAL & URBAN APPLICATIONS)	332	D7 BRIDGE REPAIRS 2021-8	CLARK	28	12
			CONTRACT	NO.	74A54
SHEET NO. 3 OF 4 SHEETS STA. TO STA.		ILLINOIS FED. AI	D PROJECT		



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PAVEMENT MARKING LEGEND



GENERAL NOTES

1. SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.

2. EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.

			Note: All dimensions (millimeters) unless o		CHES	
		D	STRICT 7 DETAI	L NO. 78	0000	01
EFLECTIVE PAVEMENT MARKERS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Δ1	PPLICATIONS)	332	D7 BRIDGE REPAIRS 2021-8	CLARK	28	13
-	,			CONTRACT	NO. 1	74A54
,	STA. TO STA.		ILLINOIS FED. AI	D PROJECT		

BENCHMARK.

BM #402: Chiseled """ on the top of curb at the northwest corner of SN 012-0014, Sta. 169+94, 17' left, Elev. 651.65

EXISTING STRUCTURE:

SN 012-0014 was originally constructed in 1940 as S.B.I. Route 1, Section FX-VB. In 1973, the concrete deck was replaced and steel railings were added as F.A. Route 1, Section FX-VBR. The existing structure consists of a concrete deck supported on composite (positive moment areas only) continuous 30WF108 steel beams supported by stub abutments and multi-column piers with crashwalls. Abutments are founded on concrete piles and piers are founded on spread footings on rock. The structure is 182'-11/2" back-to-back of abutments and skewed 45°-50' right forward. Out-to-out deck width is 35'-0".

NOTES:

Vehicular traffic to be maintained utilizing stage construction. Rail traffic to be maintained on both tracks without interruption. This project consists of removal of expansion joints, deck ends and approach ends, and replacement with solid concrete diaphragms. The project also includes bridge deck repairs, replacement of steel bridge rails and hot-mix asphalt wearing surface.



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STRUCTURE INDEX OF SHEETS

General Plan & Elevation General Data Stage Construction and HMA Surfacing Temporary Concrete Barrier for Stage Construction Bridge Deck Patching (1 of 2) Bridge Deck Patching (2 of 2) Removal Details (1 of 2) Removal Details (2 of 2) Superstructure Superstructure Details (1 of 2) Superstructure Details (2 of 2) Diaphragm Details Bridge Approach Details	Sheet No. 1 of 15 Sheet No. 2 of 15 Sheet No. 3 of 15 Sheet No. 4 of 15 Sheet No. 5 of 15 Sheet No. 6 of 15 Sheet No. 7 of 15 Sheet No. 8 of 15 Sheet No. 10 of 15 Sheet No. 11 of 15 Sheet No. 12 of 15 Sheet No. 13 of 15
Diaphragm Details Bridge Approach Details Steel Railing, Type T1 Bar Splicer Assembly and Mechanical Splicer Details	Sheet No. 13 of 15 Sheet No. 14 of 15

LOADING HS20-44 (new const.) No allowance for future wearing surface

DESIGN SPECIFICATIONS (new const.)

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS (new const.) f'c = 4,000 psi (concrete)fy = 60,000 psi (reinforcement) FIELD UNITS (exist. const.)

fc = 1,200 psi (concrete deck) fc = 1,400 psi (concrete curb) fs = 20,000 psi (reinforcement) n = 10



GENERAL PLAN & ELEVATION IL 1 OVER CSX RAILROAD F.A.P. ROUTE 332 - SECTION D7 BRIDGE REPAIRS 2021-8 CLARK COUNTY STATION 169+18.17 STRUCTURE NO. 012-0014

	F.A.P. RTE.	SEC	TION		COUNTY	TOTAL SHEETS	SHEET NO.
	332	D7 BRIDGE R	EPAIRS 2	2021-8	CLARK	28	14
					CONTRACT	F NO. 74	1A54
5 SHEETS			ILLINOIS	FED. All	D PROJECT		

GENERAL NOTES

- 1. No field welding is permitted except as specified in the contract documents.
- 2. Reinforcement bars designated (E) shall be epoxy coated.
- 3. Prior to pouring the new concrete deck and end diaphragms, 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.
- 4. 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.
- 5. Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front face and top of curbs and the portion of the new concrete deck and approach that is not covered by HMA surface course at each end of the bridge.
- 6. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 7. Existing reinforcement bars extending into removal areas shall be cleaned, straightened and incorporated into the new construction, unless noted otherwise. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- 8. Areas of deck slab repairs shown are estimated. The Engineer shall show actual locations of deck slab repairs on as-built plans.
- 9. The portion of the new concrete deck and approach at each end of the bridge that is not covered by HMA surface course shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.



(Along © roadway)

Note:

P.G. elevations shown are approximate and are provided as information only. Proposed work shall be constructed to match existing elevations in the field.



EXISTING NAME PLATE

Note:

7+21.32 625.11

Sta. Elev

7+22. 625.

Sta. Elev

6+63.39 625.17

Sta.

6+67. 625.

Sta. Elev

Existing Name Plate shall be cleaned and re-installed on the new steel railing. Cost included in Steel Railing, Type T1. See Standard 515001 for additional details.



Local tangent

€ Roadway -

101 	ESCA CONSULTANTS, INC.	USER NAME = mtd	DESIGNED - MTD	REVISED -		GENERAL DATA	FAP SECTION	COUNTY TOTAL SHEET
DEL: PI	CONSULTANTS, INC.	ESCA PROJECT NO. 1343.07	CHECKED - PR	REVISED -	STATE OF ILLINOIS	STRUCTURE NO. 012–0014	332 D7 BRIDGE REPAIRS 2021-8	8 CLARK 28 15
		PLOT SCALE = 0.1667 / in.	DRAWN - NHC	REVISED -	DEPARTMENT OF TRANSPORTATION	STRUCTURE NU, UTZ-UUT4		CONTRACT NO.74A54
MO		PLOT DATE = 4/14/2021	CHECKED - MTD	REVISED -		SHEET 2 OF 15 SHEETS	ILLINOIS FED.	AID PROJECT

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TUTAL BILL OF MATERIAL						
ITEM	UNIT	TOTAL				
Bituminous Materials (Tack Coat)	Pound	140				
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "D", N90	Ton	70				
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	710				
Concrete Removal	Cu. Yd.	33.4				
Bridge Rail Removal	Foot	363				
Protective Shield	Sq. Yd.	270				
Concrete Superstructure	Cu. Yd.	61.5				
Protective Coat	Sq. Yd.	100				
Reinforcement Bars, Epoxy Coated	Pound	10,510				
Bar Splicers	Each	56				
Steel Railing, Type T1	Foot	363				
Bar Splicers, Special	Each	6				
Structural Steel Removal	Pound	3,400				
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5				
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	40				
Deck Slab Repair (Partial)	Sq. Yd.	50				

TOTAL BILL OF MATERIAL



 $\Delta = 0^{\circ} - 54' - 21'' \text{ (right)}$ $D = 0^{\circ} - 03' - 40''$ R = 93,772.45'T = 741.30'L = 1482.56'E = 2.93'P.C. Sta. = 163+88.63 P.I. Sta. = 171+29.93 P.T. Sta. = 178+71.20 S.E. = Normal crown





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LOT DATE = 4/14/2021

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exist. <u>±2</u>" natch e

A tack coat, according to Section 406 of the Standard Specifications, with a residual asphalt rate of 0.025 lb./sg. ft. shall be applied to the top of the concrete deck before the hot-mix asphalt

Prior to applying the tack coat, the top of the existing concrete deck shall be cleaned according to Article 406.05(b)(1) of the Standard Specifications.

The quantity for Polymerized Hot-Mix Asphalt Surface Course is calculated based on 2" uniform thickness and a placement factor of 112 lb./sq. yd./inch.

All existing $\frac{1}{2}$ " diameter drain holes at curb joints shall be filled with polyurethane sealant prior to application of the tack coat. The polyurethane sealant shall be according to Article 1050.04 of the Standard Specifications and the color shall be gray. Cost included with Hot-Mix

The staging sequence shown is based on a Load Rating Inspection Report prepared by the Illinois Department of Transportation on 9/7/2017 and a March 2021 field check. Prior to construction, the Engineer will conduct additional field check(s) to confirm the staging sequence and/or initiate repairs necessary to facilitate the sequence shown.

The existing beam ends and end diaphragms are deteriorated, some with severe section loss. Several beam ends have been shored with timber posts and blocking. All existing shoring members shall remain in place, undisturbed, until removal is authorized by the Engineer. Cost of removal



BILL OF MATERIAL

Item	Unit	Quantity				
Bituminous Materials (Tack Coat)	Pound	140				
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "D", N90	Ton	70				
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	710				
See roadway plans for quantity of Temporary						

Concrete Barrier.

ND HMA SURFACING). 012–0014		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		D7 BRIDGE REPAIRS 2021-8	CLARK	28	16
			CONTRACT	NO.74	454
15 SHEETS	ILLINOIS FED AID PROJECT				



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SHEET 4 OF 1

beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart,

FOR STAGE CONSTRUCTION . 012–0014		.P. SECTION		COUNTY	TOTAL SHEETS	SHEET NO.	
		332 D7 BRIDGE REPAIRS 2021-8		021-8	CLARK	28	17
					CONTRACT	NO.74	454
15 SHEETS			ILLINOIS	FED. AI	D PROJECT		



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ME		CHECKED - T. Walk	REVISED -	STATE OF ILLINOIS	
Ž	PLOT SCALE = 0.1667 / in.	DRAWN - D. Macklin	REVISED -	DEPARTMENT OF TRANSPORTATION	STRUCTURE NO.
FILE	PLOT DATE = 4/14/2021	CHECKED - March 2021	REVISED -		SHEET 5 OF 1

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Item	Unit	Quantity
Concrete Removal	Cu. Yd.	33.4
Bridge Rail Removal	Foot	363
Structural Steel Removal	Pound	3,400

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ETAILS . 012–0014		SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
		D7 BRIDGE REPAIRS 202	1-8	CLARK	28	20
				CONTRACT	NO.74/	454
15 SHEETS	ILLINOIS FED AID PROJECT					



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		RTE SECTION		COUNTY	TOTAL SHEETS	SHEET NO.	
012–0014	332	D7 BRIDGE RE	EPAIRS 2	2021-8	CLARK	28	22
012-0014					CONTRACT	NO.74	454
5 SHEETS			ILLINOIS	FED. AI	D PROJECT		



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<u>SUPERSTRUCTURE</u> BILL OF MATERIAL

<u> </u>				
Bar	No.	Size	Length	Shape
a(E)	44	#5	23'-10"	
a1(E)	20	#6	3'-6"	
a2(E)	44	#5	25'-4"	
b(E)	72	#5	12'-4"	
b1(E)	144	#8	10'-0''	
b2(E)	20	#10	1'-6''	
b3(E)	8	#4	8'-4''	
b4(E)	8	#4	5'-5"	
d(E)	50	#4	3'-2"	
d1(E)	50	#5	2'-6"	
d2(E)	8	#5	9'-6"	
m(E)	24	#6	6'-0''	
m1(E)	12	#6	5'-5"	
m2(E)	6	#5	23'-0"	
m3(E)	6	#5	24'-5"	
m4(E)	6	#6	20'-10"	
m5(E)	6	#6	22'-4"	
m6(E)	24	#6	8'-0''	
m7(E)	12	#6	2'-1"	
s(E)	62	#5	10'-2"	U
s1(E)	12	#5	10'-6"	U
u(E)	8	#6	6'-6"	
u1(E)	8	#6	9'-1"	
v(E)	94	#8	1'-8''	
x(E)	50	#4	3'-11"	
Reinforc	ement l	Bars,	Pound	10,510
Ероху С	oated		Found	10,510
Concrete			Cu. Yd.	61.5
Superstr	ucture		<i>cu. rd.</i>	כ.וט

Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

SUPERSTRUCTURE DETAILS STRUCTURE NO. 012–0014		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		D7 BRIDGE REPAIRS 2021-8	CLARK	28	24
31RUCTURE NO. 012-0014			CONTRACT	NO.74	454
SHEET 11 OF 15 SHEETS		ILLINOIS FED. A	D PROJECT		



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	PLOT DATE = 4/14/2021	CHECKED - MTD	REVISED -		SHEET 12 OF 15
		PLOT SCALE = 0.1667 ' / in.	ESCA PROJECT NO. 1343.07 CHECKED - PR PLOT SCALE = 0.1667 ' / in. DRAWN - NHC	ESCA PROJECT NO. 1343.07 CHECKED - PR REVISED - PLOT SCALE = 0.1667 ' / in. DRAWN - NHC REVISED -	ESCA PROJECT NO. 1343.07 CHECKED - PR REVISED - STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

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		D7 BRIDGE RI	EPAIRS 2	021-8	CLARK	28	25
					CONTRACT	NO.74	454
OF 15 SHEETS			ILLINOIS	FED. AL	D PROJECT		



DEPARTMENT OF TRANSPORTATION

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). 012–0014		D7 BRIDGE REPAIRS 2021-8		021-8	CLARK	28	26
. 012-0014					CONTRACT	NO.74	454
15 SHEETS			ILLINOIS	FED. AI	D PROJECT		



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STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)



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.

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

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

Location	Bar size	No. assemblies required	Minimum Iap length
Approach slab & deck, top	#5	26	3'-4"
Approach slab & deck, bottom	#5	18	3'-4"
Diaphragm, back face	#5	6	3'-4"
Diaphragm, bottom	#6	6	4'-5''



- Stage construction line

SPECIAL BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Location	Bar size	No. assemblies required
Diaphragm, front face	#6	6

No	t
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	PLOT DATE = 4/14/2021	CHECKED - MTD	REVISED -		SHEET 15 OF 15 SHEETS	ILLINOIS FED. AID PROJECT
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STANDARD MECHANICAL SPLICER

Location	Bar	No. assemblies
Location	size	required

tes:

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

All reinforcement shall be lapped and tied to the splicer bars except no inforcement is lapped with special bar splicer assemblies.

Bar splicer assemblies shall be epoxy coated according to the requirements r reinforcement bars. See Section 508 of the Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for ternatives.

Special bar splicer assemblies will be paid for at the contract unit price per each for BAR SPLICERS, SPECIAL.