STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

SURFACE TRANSPORTATION PROGRAM - BRIDGE

DETAIL PLANS FOR TR 56 (HOOVER ROAD) **OVER ARCHIE CREEK** SECTION 18-11122-00-BR **PROJECT NO. L008(774) WASHINGTON COUNTY** OAKDALE ROAD DISTRICT

JOB NO. C-98-010-22

PROJECT ENDS STA 14+00 PROJECT LOCATION PROPOSED STRUCTURE NO. 095-3273 STATION 10+00.00 SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAMS (21") ON SPILL THRU PILE BENT ABUTMENTS. SCALE IN MILES THE PROPOSED STRUCTURE MEASURES 53'-0" BACK TO BACK OF ABIITMENTS WITH A 24'-0" CLEAR ROADWAY WIDTH STA 7+50

LOCATION MAP

GROSS LENGTH = 650 FT. = 0.123 MILE NET LENGTH = 650 FT. = 0.123 MILE

INDEX OF SHEETS

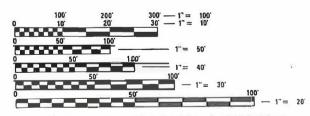
COVER SHEET

0

- GENERAL NOTES, IIIGIIWAY STANDARDS, COMMITMENTS AND SUMMARY OF QUANITIES
- TYPICAL ROADWAY CROSS SECTIONS AND DETAILS
- SCHEDULES OF QUANTITIES
- ALIGNMENT, TIES AND BENCHMARK
- PLAN & PROFILE EXISTING & PROPOSED ROADWAY
- **EROSION CONTROL PLAN**
- GENERAL PLAN AND ELEVATION
- GENERAL DATA
- PPC DECK BEAM SUPERSTRUCTURE
- 21" x 48" PPC DECK BEAM
- 21" x 48" PPC DECK BEAM DETAILS
- SOUTH PILE BENT ABUTMENT
- NORTH PILE BENT ABUTMENT
- 15. STEEL RAILING, TYPE S-1
- 16. HP PILE DETAILS
- 17. SOIL BORING LOGS
- 18-19. CROSS SECTIONS EXISTING & PROPOSED ROADWAY

FUNCTIONAL CLASSIFICATION

50 (2020) **EXISTING ADT:** DESIGN ADT: 50 (2032) DESIGN SPEED: 30 MPH



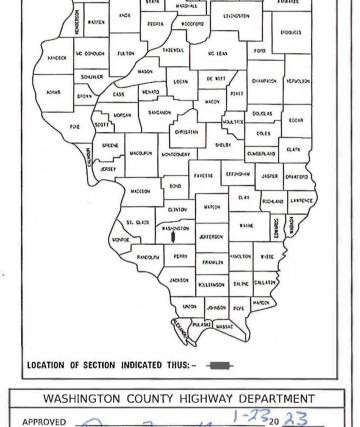
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION 1-800-892-0123 OR 811

PREPARED BY:



PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS



ROAD COMMISSIONER

2/22

2/22

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

VIASHINGTON COUNTY ENGINEER

DISTRICT 8 ENGINEER OF LOCAL ROADS AND STREETS

23EP

212

RELEASING FOR BID BASED UPON LIMITED

REGISTERED PROFESSIONAL ENGINEER

IN ILLINOIS NO DES DESCEN

18-11122-00-BR

VASHERGTON 19 1 CONTRACT NO. 97782

EXPIDES. MOVEMBER 20 2022

GENERAL NOTES

- 1. ALL ELEVATIONS IN THE PLANS ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY HAVE BEEN CAUSED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE ANY AND ALL EXISTING UNDERGROUND UTILITIES. THE APPROXIMATE LOCATIONS OF THE KNOWN UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN.
- 3. THE CONTRACTOR SHALL GIVE AT LEAST TWO WEEKS NOTICE BEFORE BEGINNING CONSTRUCTION SO THE ENGINEER MAY GIVE ADEQUATE NOTICE TO ALL EMERGENCY, SCHOOL AND POSTAL SERVICES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING POSITIVE DRAINAGE IN THE DISTURBED AREAS, TO THE SATISFACTION OF THE ENGINEER. ANY GRADING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 5. GRADING SHALL BE DONE BY HAND AROUND LIGHT POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES OR OTHER NATURAL OR MAN-MADE OBJECTS WHERE FILLS OR CUTS ARE ADJACENT TO THESE ITEMS. IT IS THE INTENT THAT THE LIMITS OF CONSTRUCTION BE SUCH AS TO PRESERVE, IN THE ORIGINAL STATE, AS MUCH AREA AS POSSIBLE. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARTELY, BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 6. ALL ENTRANCES WITHIN THE PROJECT LIMITS SHALL REMAIN ACCESSIBLE, AS DIRECTED BY THE ENGINEER, THROUGHOUT THE TIME OF CONSTRUCTION.
- 7. ANY TREE REMOVAL OPERATIONS SHALL BE CONDUCTED BETWEEN OCTOBER 1 AND MARCH 31.
- 8. AGGREGATE BASE COURSE SHALL BE PROOF ROLLED TO SATISFACTION OF ENGINEER.
- 9. NO WORK SHALL BE STARTED ON THIS PROJECT UNTIL JULY 5, 2023, SEE SPECIAL PROVISIONS.
- 10. THE FOLLOWING APPLICATION RATES HAVE BEEN USED IN THE CALCULATION OF THE PLAN QUANTITIES:

AGGREGATE BASE COURSE
TEMPORARY DITCH CHECKS
AGGREGATE DITCH CHECKS
TEMPORARY EROSION CONTROL SEEDING

2.05 TONS/CY 11 FT/DITCH CHECK 8 TONS/DITCH CHECK

2 APPLICATIONS OVER SEEDING AREA

HIGHWAY STANDARDS

STD NO STD TITLE

000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

001001-02 AREAS OF REINFORCEMENT BARS

280001-07 TEMPORARY EROSION CONTROL SYSTEMS

515001-04 NAME PLATE FOR BRIDGES 701901-08 TRAFFIC CONTROL DEVICES

BLR 21-9

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

BLR 22-7

TYP. APPL. OF T.C.D. FOR RURAL LOC. HWYS. (2-LANE 2 WAY RURAL TRAFF.) (RD. CLOSED TO THRU TRAFF.)

COMMITMENTS

THE COUNTY HAS MADE THE FOLLOWING COMMITMENTS FOR THE PROJECT. COMMITMENTS ARE NOT TO BE ALTERED WITHOUT THE WRITTEN APPROVAL OF ALL PARTIES TO WHICH THE COMMITMENT WAS MADE. THE FOLLOWING IS A GENERAL SUMMARY AND DOES NOT CONTAIN FULL DETAILS. THE CONTRACTOR SHALL ADHERE TO THESE CONDITIONS.

 TREES THREE (3) INCHES OR GREATER IN DIAMETER AT BREAST HEIGHT SHALL NOT BE CLEARED FROM APRIL 1 THROUGH SEPTEMBER 30.

KNOWN UTILITY COMPANIES

EGYPTIAN TELEPHONE COOP, MATT BOLLINGER (618) 774-1000 WASHINGTON COUNTY WATER
STEVE FLETCHER
(618) 327-4454

TRI-COUNTY ELECTRIC COOP.
DENNIS IVERS
(618) 237-5193

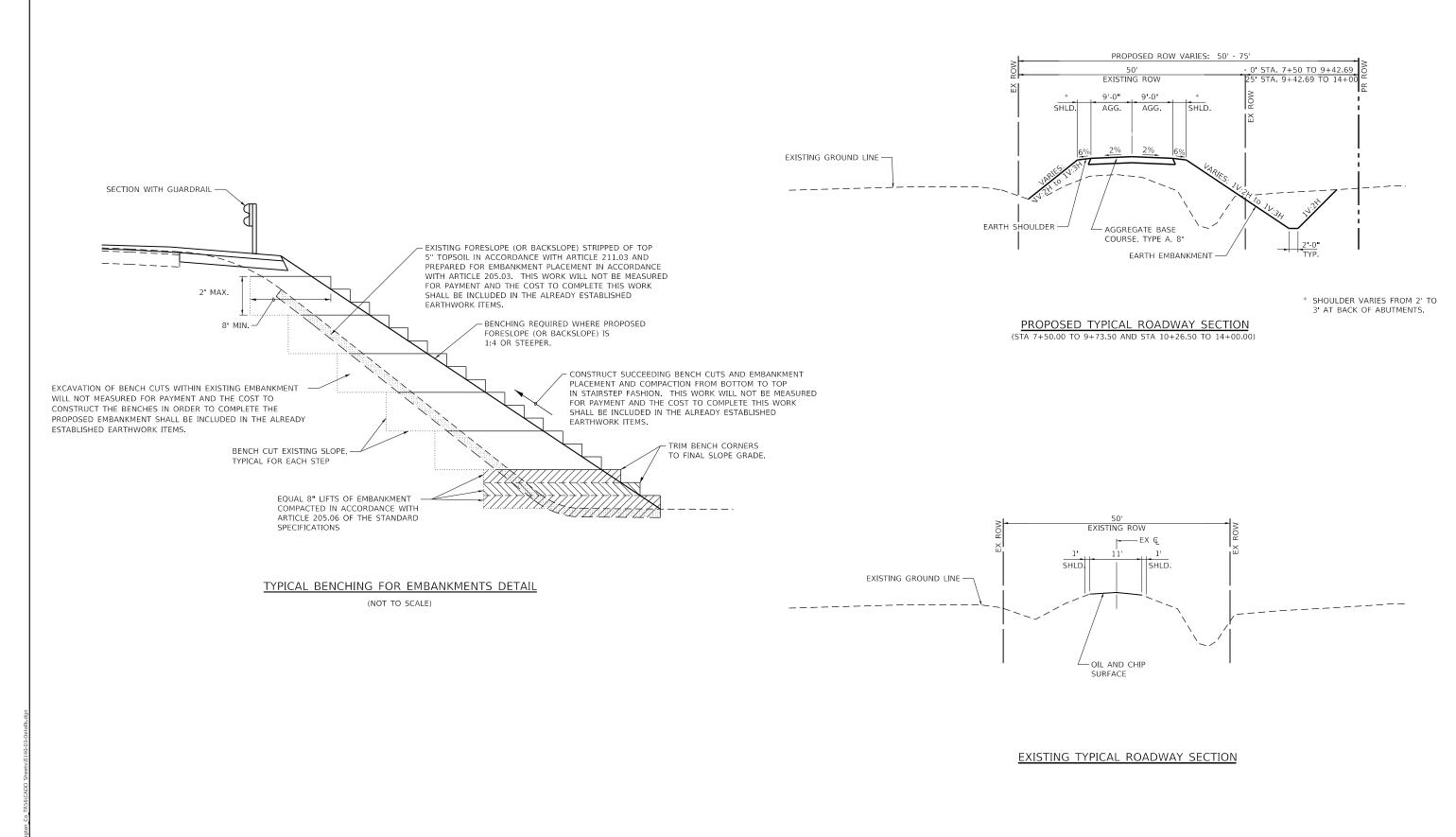
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

GENERAL NOTES, HIGHWAY STANDARDS, COMMITMENTS AND SUMMARY OF QUANTITIES	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.
AND SHMMARY OF CHANTITIES	56	18-11122-00-BR	WASHINGTON	19	2
AND SOMMAN OF GOANTILES			CONTRACT	NO. 9	7782
SHEET 1 OF 1 SHEETS STA TO STA					

SPEC. PROV.	SPECIALTY ITEM	CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
	#	20100500	TREE REMOVAL, ACRES	ACRE	0.1
*		20200100	EARTH EXCAVATION	CU YD	210
*		20300100	CHANNEL EXCAVATION	CU YD	365
*		20400800	FURNISHED EXCAVATION	CU YD	555
		25000200	SEEDING, CLASS 2	ACRE	0.25
		25000400	NITROGEN FERTILIZER NUTRIENT	POUND	25
		25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	25
		25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	25
		25100115	MULCH, METHOD 2	ACRE	0.25
		28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50
		28000305	TEMPORARY DITCH CHECKS	FOOT	22
		28000315	AGGREGATE DITCH CHECKS	TON	8
		28000400	PERIMETER EROSION BARRIER	FOOT	1,200
*		35100100	AGGREGATE BASE COURSE, TYPE A	TON	544
		50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
		50200100	STRUCTURE EXCAVATION	CU YD	67
		50300225	CONCRETE STRUCTURES	CU YD	23.0
		50300280	CONCRETE ENCASEMENT	CU YD	3.6
		50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,240
		50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,400
*	#	50900205	STEEL RAILING, TYPE S1	FOOT	106
		51201400	FURNISHING STEEL PILES HP10x42	FOOT	200
*		51265001	DRILLING AND SETTING PILES (IN SOIL)	CU FT	298
*		51265002	DRILLING AND SETTING PILES (IN ROCK)	CU FT	158
		51500100	NAME PLATES	EACH	1
		58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	259
		59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	28.1
		67100100	MOBILIZATION	L SUM	1
	#	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
*		X0320050	CONSTRUCTION LAYOUT (SPECIAL)	L SUM	1
*		X2810708	STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)	SQ YD	177
*		X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1



MODEL: Default

HMG ENGINEERS, INC.
9360 HOLY CROSS LANE
BREESE, ILLINOIS 62230
888.HMG.ENGR

 USER NAME
 = klaux
 DESIGNED
 REVISED

 DRAWN
 REVISED

 PLOT SCALE
 = 19.9999 ' / in.
 CHECKED
 REVISED

 PLOT DATE
 = 9/19/2022
 DATE
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

 TYPICAL ROADWAY
 SECTIONS AND DETAILS
 T.R. SECTION
 COUNTY SHEETS NO.
 SHEET SHEETS NO.

 SHEET
 OF SHEETS STA.
 TO STA.
 18-11122-00-BR
 WASHINGTON 19 3
 3

 CONTRACT NO. 97782
 NO. 9782
 NO. 9782
 NO. 9782
 NO. 9782

EARTHWORK SCHEDULE

						А	В	С	D	E = C - D
LOCATION						CHANNEL EXCAVATION	EARTH EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE/LOSS	REQUIRED FILL	BALANCE: WASTE (+) OR SHORTAGE (-)
						CU YD	CU YD	CU YD	CU YD	CU YD
TR 56 / HOOVER RD.										
STA 7+50.00	ТО	STA	9+73.50				38.9	29.2	99.1	-69.9
STA 9+73.50	ТО	STA	10+26.50	BRIDGE		365.0		205.3		205.3
STA 10+26.50	TO	STA	14+00.00				359.2	269.4	773.4	-504.0
					TOTAL	365.0	398.1	503.9	872.5	-368.6
					USE	365	400	505	875	-365

NOTES:

QUANTITIES ESTIMATED FROM COMPARISON OF THE EXISTING SURFACE MODEL. TO THE PROPOSED SURFACE MODEL.

SCHEDULE ASSUMES A 25% SHRINKAGE/LOSS FACTOR FOR EARTH EXCAVATION.

SCHEDULE ASSUMES 25% WASTE FOR CHANNEL EXCAVATION.

COLUMN "A" - CUT MATERIAL FROM THE CHANNEL (CHANNEL EXCAVATION)

COLUMN "B" - CUT MATERIAL OUTSIDE THE CHANNEL (EARTH EXCAVATION)

COLUMN "C" - CUT MATERIAL ADJUSTED FOR SHRINKAGE/LOSS AND IS SUITABLE FOR EMBANKMENT (NOT A PAY ITEM)

COLUMN "D" - REQUIRED FILL MATERIAL (NOT A PAY ITEM)

COLUMN "E" - BALANCE OF ADJUSTED CUT MATERIAL AND FILL MATERIAL (FURNISHED EXCAVATION)

PAVING SCHEDULE

	LOCATION									
					TON					
TR 56 / HOOVER RD										
STA 7+50.00	TO	STA	9+73.50		203.6					
BRIDGE OMISSIC	N									
STA 10+26.50	ТО	STA	14+00.00		340.3					
				TOTAL	543.9					
				USE	544					

TREE REMOVAL SCHEDULE

			LOCAT	ION			TREE REMOVAL, ACRES
							ACRE
STA	7+50.00	LT	TO	STA	9+73.50	LT	
STA	7+50.00	RT	TO	STA	9+73.50	RT	
STA	10+26.50	LT	TO	STA	14+00.00	LT	
STA	10+26.50	RT	TO	STA	14+00.00	RT	0.11
						TOTAL	0.11
						USE	0.1

EROSION CONTROL AND SEEDING SCHEDULE

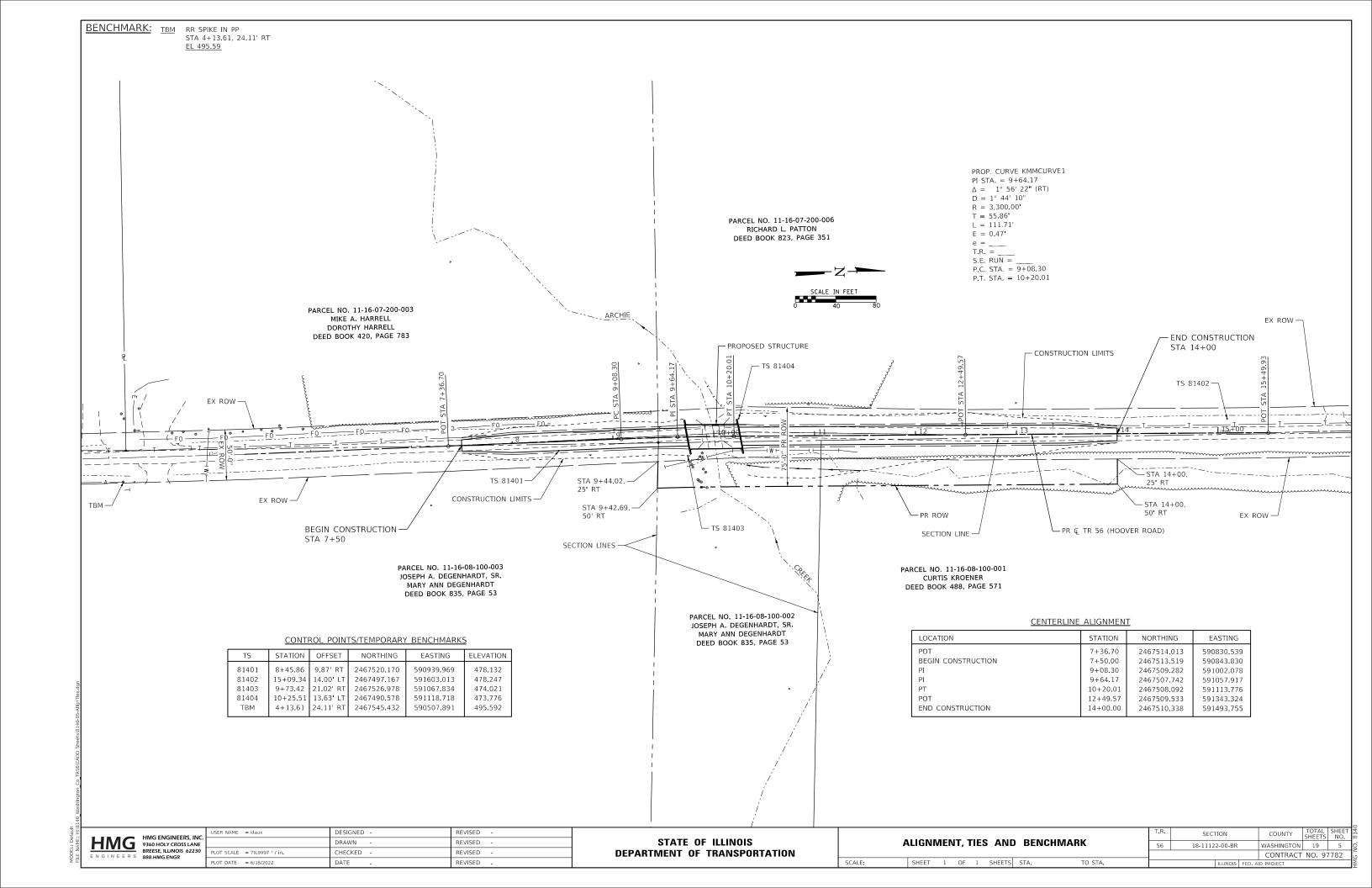
	LOCATION					SEEDING, CLASS	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	MULCH, METHOD 2	TEMPORARY EROSION CONTROL SEEDING	TEMPORARY DITCH CHECKS	AGGREGATE DITCH CHECKS	PERIMETER EROSION BARRIER	STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)	
							ACRE	POUND	POUND	POUND	ACRE	POUND	FOOT	TON	FOOT	SQ YD
STA	7+50.00	LT	TO	STA	9+73.50	LT	0.02	1.8	1.8	1.8	0.02	4.0			221.8	
STA	7+50.00	RT	TO	STA	9+73.50	RT	0.03	2.7	2.7	2.7	0.03	6.0			227.3	
STA	9+73.50		TO	STA	10+26.50											177.0
STA	10+26.50	LT	TO	STA	14+00.00	LT	0.07	6.3	6.3	6.3	0.07	14.0			379.3	
STA	10+26.50	RT	TO	STA	14+00.00	RT	0.14	12.6	12.6	12.6	0.14	28.0	22.0	8.0	372.6	
					TC	TAL	0.26	23.4	23.4	23.4	0.26	52.0	22.0	8.0	1201.0	177.0
						USE	0.25	25	25	25	0.25	50	22	8	1200	177

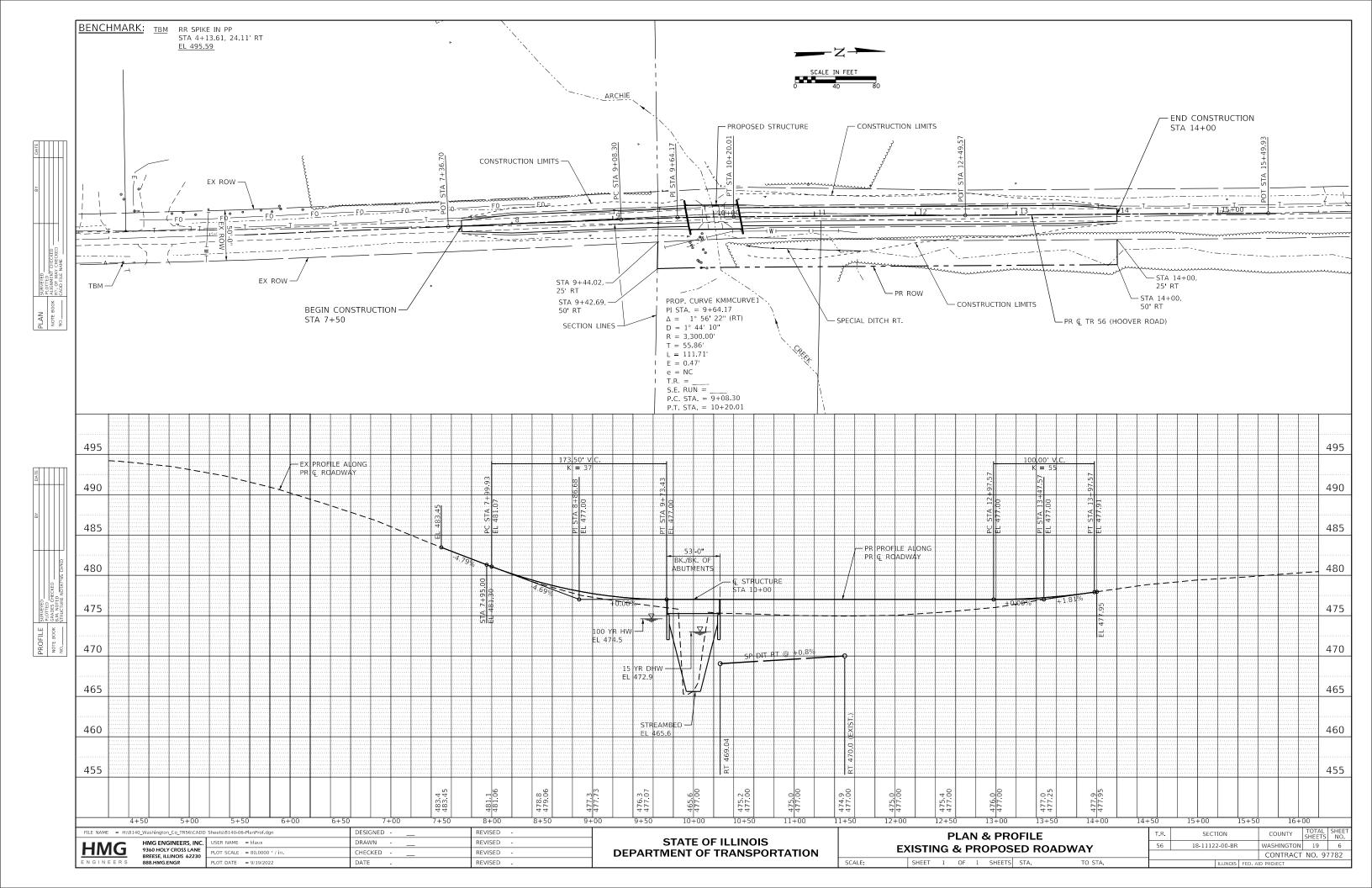
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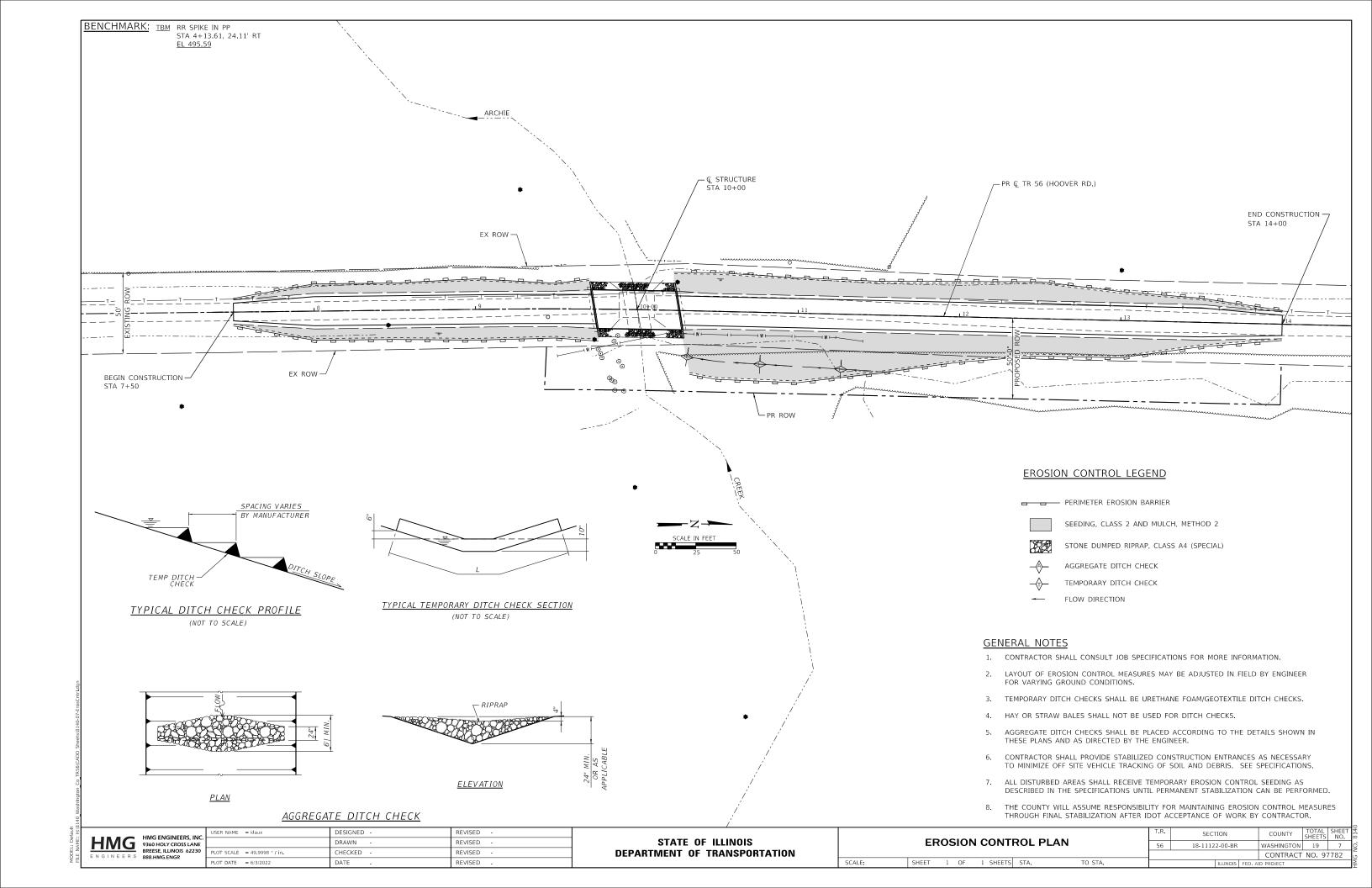
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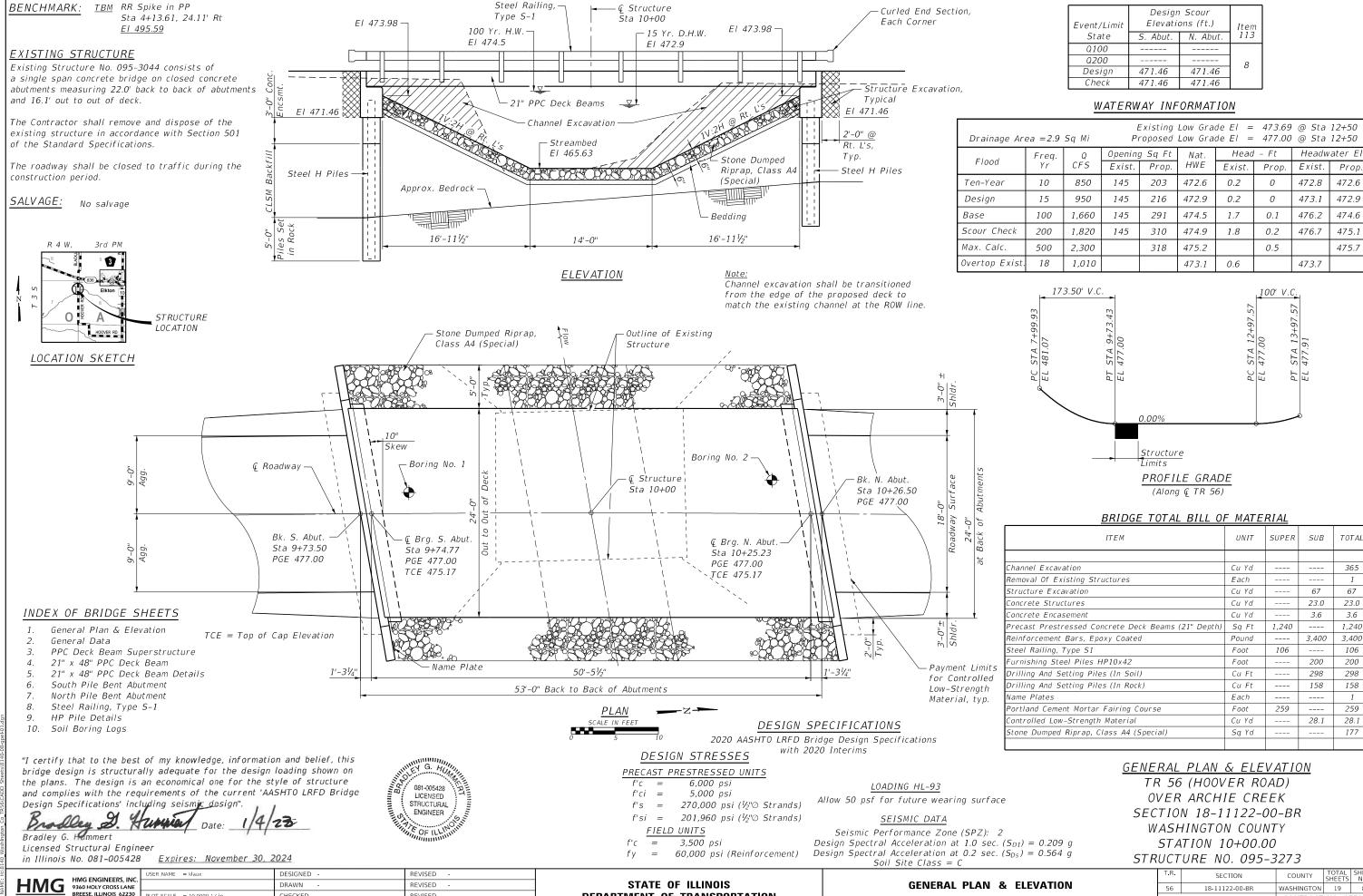
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

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				CONTRACT NO. 9778	82
SCALE:	SHEET 1 OF 1 SHEETS STA. TO STA.		ILLINOIS FEE	. AID PROJECT	









DEPARTMENT OF TRANSPORTATION

18-11122-00-BR

SHEET 1 OF 10 SHEETS STA.

TO STA.

WASHINGTON

19

CONTRACT NO. 97782

BREESE, ILLINOIS 62230

INEERS 888.HMG.ENGR

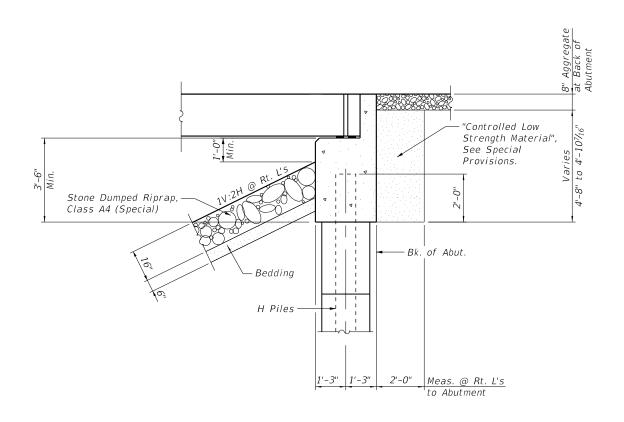
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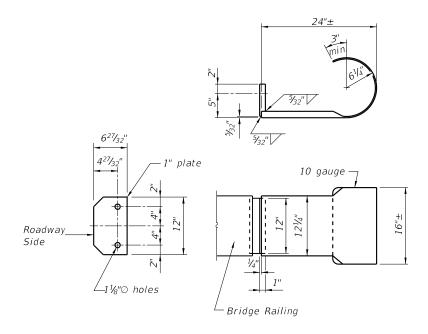
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SECTION THRU ABUTMENT



CURLED END SECTION DETAILS

Note:

The Railing End Section shall be included in the cost of "Steel Railing, Type S-1", and no additional compensation will be allowed.

SCALE:

GENERAL NOTES

- 1. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- 2. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60 (IL Modified).
- 3. Reinforcement bars designated (E) shall be epoxy coated.

Archie Creek
Built 20 by
Washington County
Section 18-11122-00-BR
Project No. L008(774)
Station 10+00.00
S.N. 095-3273 Loading HL-93

NAME PLATE

See Std. 515001

Locate Name Plate as shown in Plan View.

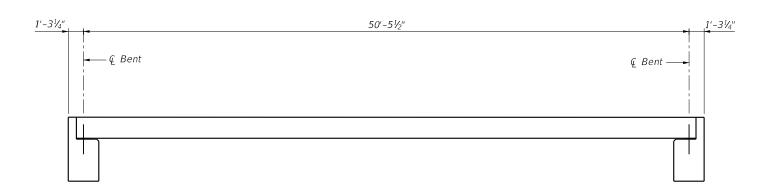
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9360 HOLY CROSS LANE
BREESE, ILLINOIS 62230
888.HMG.ENGR

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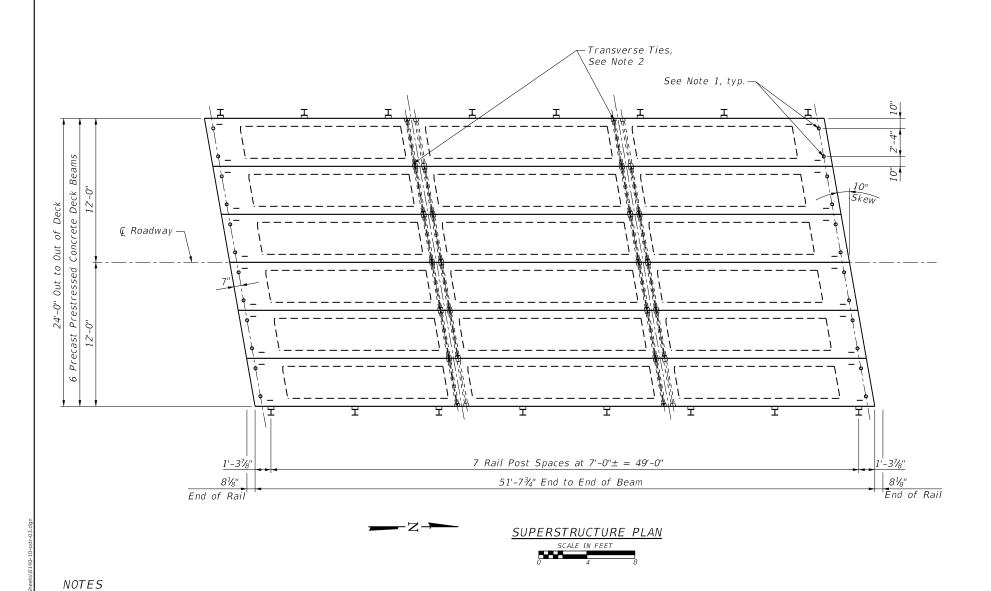
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

	GENERAL DATA STRUCTURE NO. 095-3273								
	31NOCIONE NO. 033-3273								
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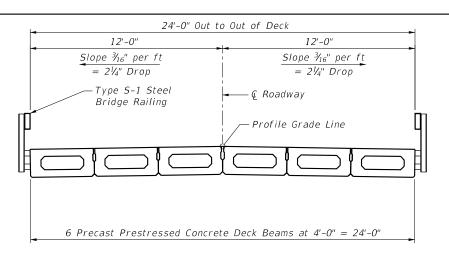
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_				CONTRACT	NO. 97	7782	
			ILLINOIS	ID PROJECT			



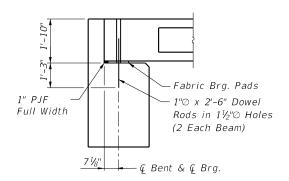
SUPERSTRUCTURE ELEVATION



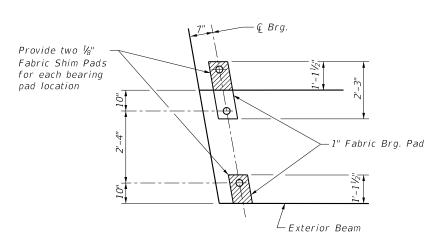
- 1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- 2. The 1"O rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bars outside shall be filled with grout after transverse tie assembly is in place.



CROSS SECTION



SECTION AT ABUTS. (Along & Beams)



1" FABRIC BRG. PAD DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Portland Cement Mortar Fairing Course	Foot	259



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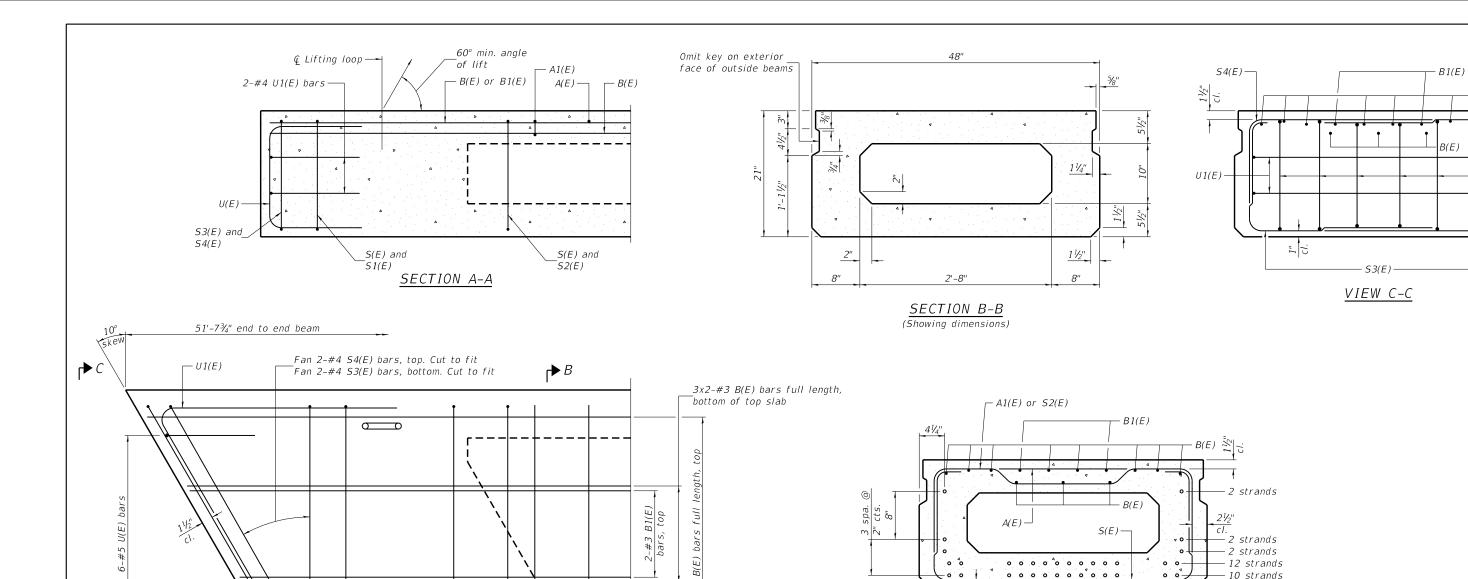
DEPARTMENT OF TRANSPORTATION

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	SHEE	T 3	OF	10	SHEETS	STA.	TO STA.	

SCALE:

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.	
56	18-11122-00-BR	WASHINGTON	19	10	
			CONTRACT	NO. 97	7782
	ILLINOIS	FED. Al	ID PROJECT		

STATE OF ILLINOIS



SECTION B-B

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

9 spa. at 2" cts.

(Showing reinforcement and permissible strand locations)

(10 Strands $1\frac{3}{4}$ " up, 12 Strands $3\frac{3}{4}$ " up, 2 Strands $5\frac{3}{4}$ " up, 2 Strands $7\frac{3}{4}$ " up and 2 Strands $15\frac{3}{4}$ " up)

5"

Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

MINIMUM BAR LAP #3 bar = 1'-6"

BAR LIST ONE BEAM ONLY (For information only)

- B(E)

- S4(E)

- U(E)

21/2"

Bar No. Size Length Shape #4 3'-7" #4 3'-10" A(E) 16 31 A1(E) 22 4 #3 26'-5" B1(E) #3 10'-0" 69 #4 #4 5'-11" #4 6'-2" S2(E) 61 S3(E) 8 #4 5'-6" #4 4'-9" U(E) 12 #5 4'-0"

— 12 strands

- 10 strands

TO STA.

2"

See sheet 12 of 19 for additional details and Bill of Material.

U1(E) 4 #4 6'-9"

PLAN VIEW

 $\triangleright B$

Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

16-#4 A(E) bars at 3'-0" cts., top

31-#4 A1(E) bars at 1'-6" cts., bottom of top slab

61-#4 S2(E) bars at 9" cts., top

61-#4 S(E) bars at 9" cts., bottom

PD-2148-R

 \downarrow C

1-1-2020

4-#4 S1(E) bars, top

4-#4 S(E) bars, bottom

HMG ENGINEERS, INC.
9360 HOLY CROSS LANE
BREESE, ILLINOIS 62230 NGINEERS 888.HMG.ENGR

2-#4 S4(E) bars, top

2-#4 S3(E) bars, bottom

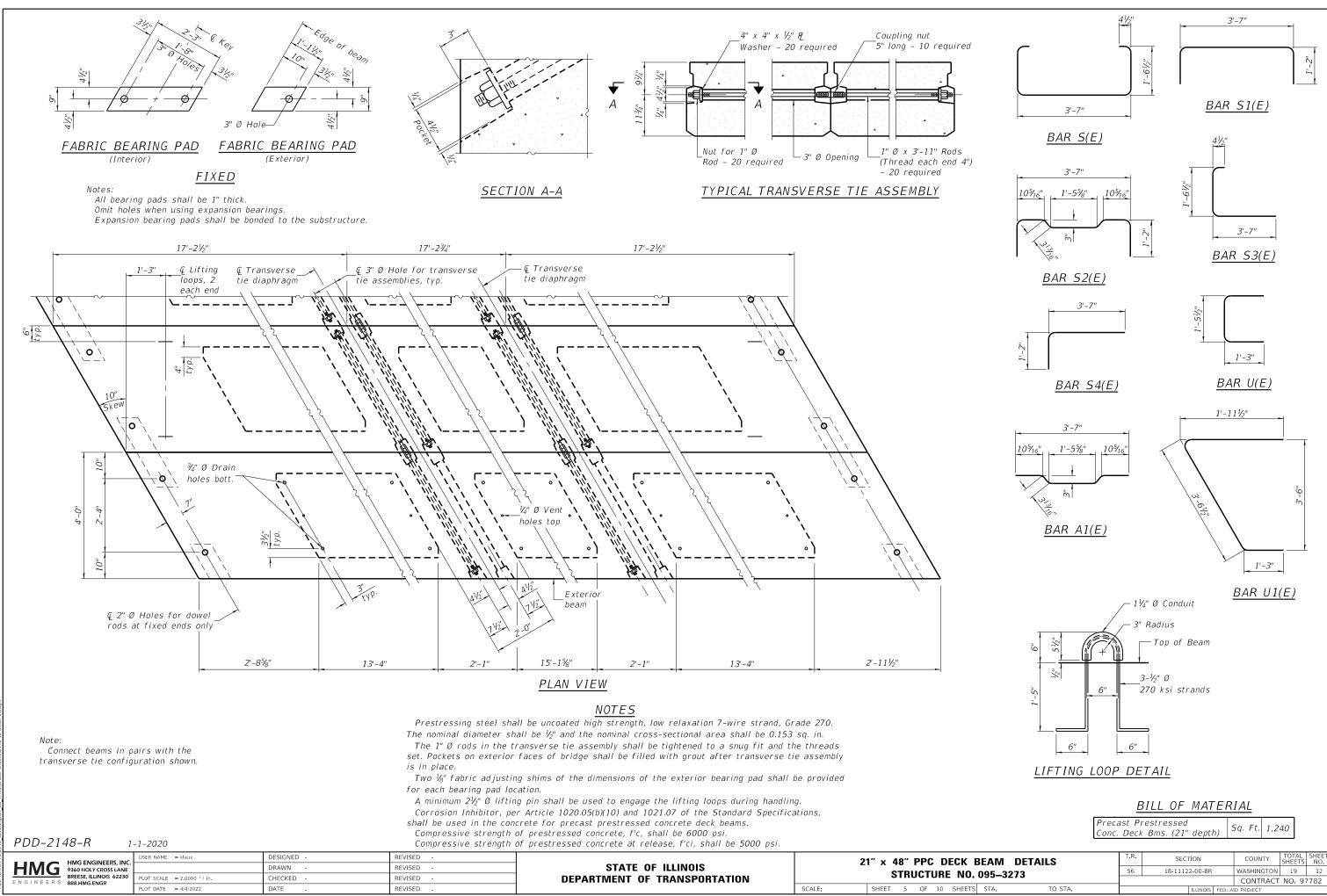
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	PLOT DATE = 4/4/2022	DATE -	REVISED -

3 spaces at

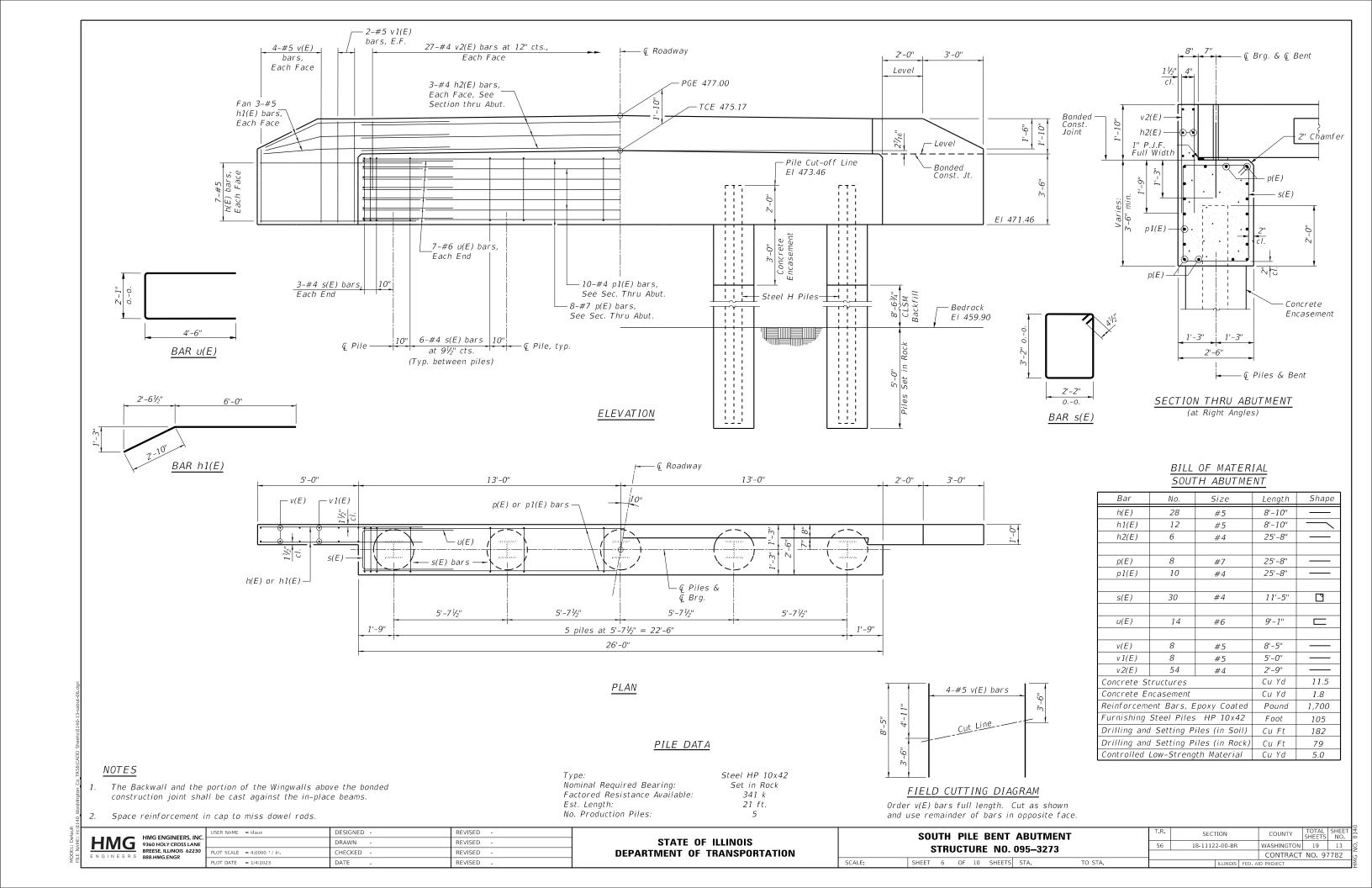
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

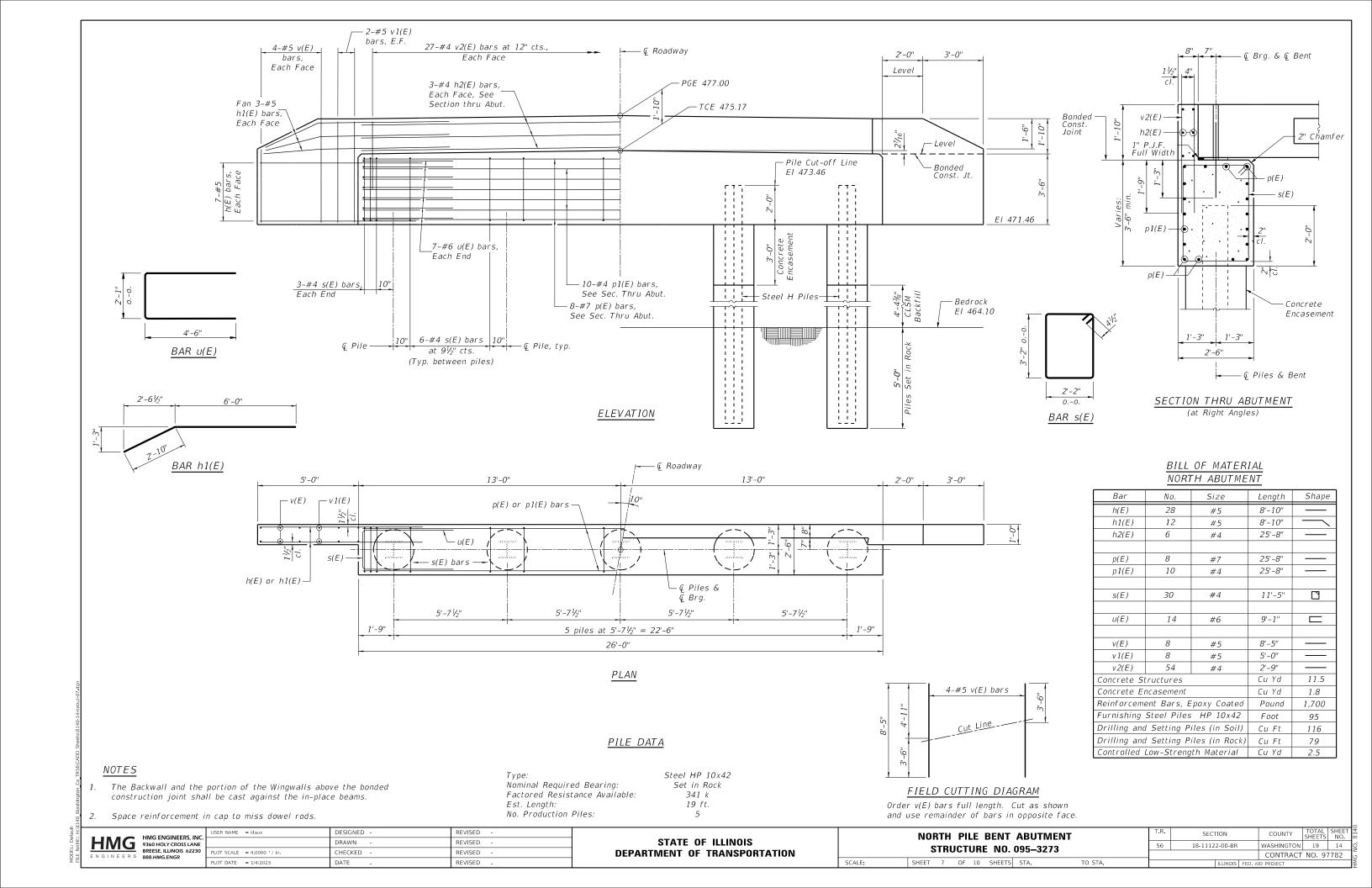
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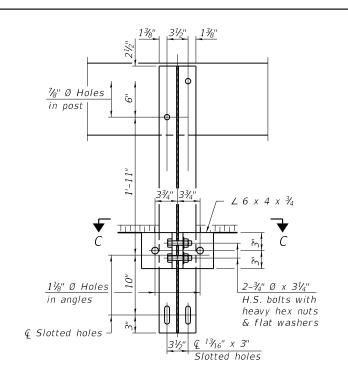
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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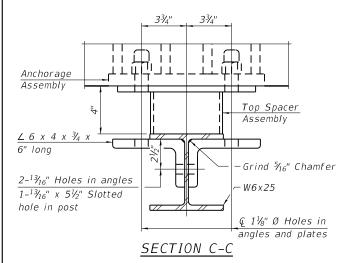
MODEL: Default

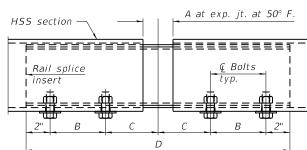




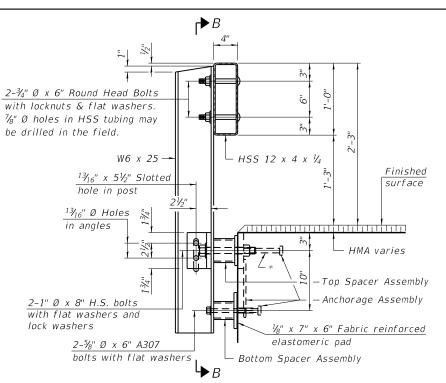


SECTION B-B



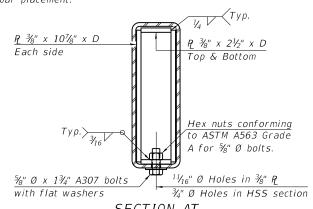


RAIL SPLICE ELEVATION

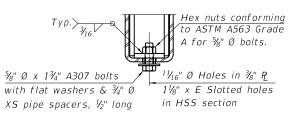


SECTION AT RAILING POST

* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



SECTION AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.

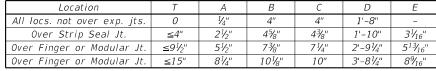
SPLICE DIMENSIONS

RAILING CRITERIA

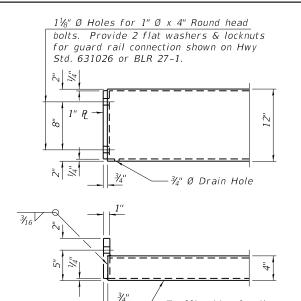
NCHRP 350 Test Level	2
Railing Weight (plf)	50
Max Post Spacing	10'-9"
HMA thickness range (in)	11/4 - 31/8

R-23A

10-12-2021



T =; total movement along centerline of roadway at expansion joint



END OF RAIL DETAILS

Q 11/8" Ø

Holes

ANCHORAGE ASSEMBLY

blocked off during casting of concrete.

** Threaded areas shall be plugged or

23/4"

1'-1"

71/5"

31/2"

VIEW D-D

61/2"

• () •

€ Post -

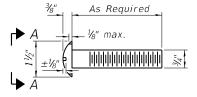
A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x $11\frac{1}{2}$ ", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than $\frac{1}{4}$ " (top) or $\frac{1}{2}$ " (bottom), longer bolts are required. Cost included with Steel Railing, Type S-1.

All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.

All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

Rail splice inserts may be built out of 2 -3%" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions

All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.



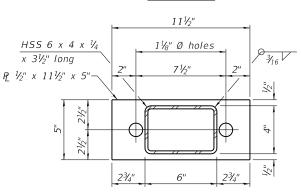
ROUND HEAD BOLT DETAIL



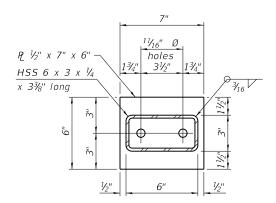
Without Slot or Recess

With Slot (shown) or Approved Recess

VIEW A-A



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	106

STATE	E OF	ILLINOIS	
DEPARTMENT	0F	TRANSPOR	TATIO

**Heavy hex nuts conforming

¾" Ø x 6" Granular or solid

1006.32 of the Std. Specs. automatically end welded. 4

TO STA.

flux filled headed studs

conforming to Article

**3" long hex coupling nuts conforming to ASTM A563

Required per P

<u>Gr</u>ade A for ⅓" Ø bolts.

to ASTM A563 Grade DH for

Cast 1" voids behind

1" Ø bolts.

each nut

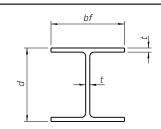
SECTION COUNTY 18-11122-00-BR WASHINGTON 19 15 CONTRACT NO. 97782

DESIGNED DRAWN REVISED HECKED REVISED PLOT DATE = 11/29/2022 DATE

ION

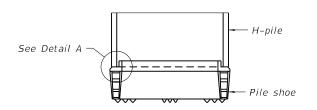
P_ 1" x 6" x 1'-1"-

HMG ENGINEERS, INC.
9360 HOLY CROSS LANE
BREESE, ILLINOIS 62230 INEERS 888.HMG.ENGR

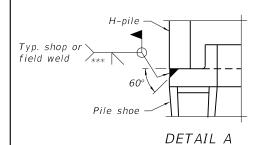


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14½"	14 ⁷ / ₈ "	13/ ₁₆ "	30"
x102	14"	14¾"	11/16"	30"
x89	137/8"	1 4 3/4"	5/8"	30"
x73	13%"	145/8"	1/2"	30"
HP 12x84	12½"	121/4"	11/ ₁₆ "	24"
x74	12½"	121/4"	5/8"	24"
x63	12"	121/8"	1/2"	24"
x53	1 1 3/4"	12"	⁷ / ₁₆ "	24"
HP 10x57	10"	101/4"	%16"	24"
x42	9¾"	101/8"	⁷ / ₁₆ "	24"
HP 8x36	8"	8½"	7∕ ₁₆ "	18"

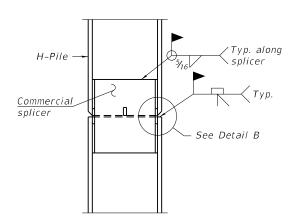


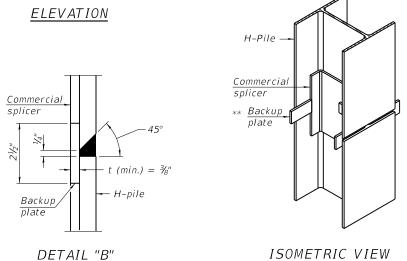
ELEVATION



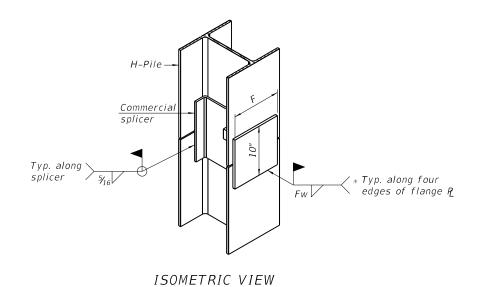
SHOE ATTACHMENT

The steel H-piles shall be according to AASHTO M270 Grade 50.





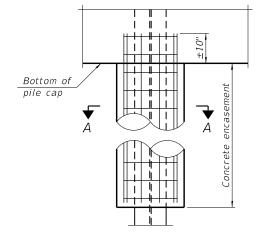
WELDED COMMERCIAL SPLICE



WELDED COMMERCIAL SPLICE ALTERNATE

- $_*$ Interrupt welds $\frac{1}{4}$ " from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



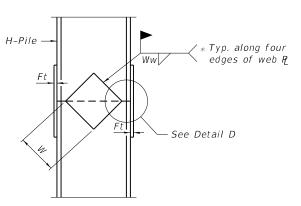
Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. Bend as required to fit into wall. Forms for encasement may be omitted when soil conditions permit.

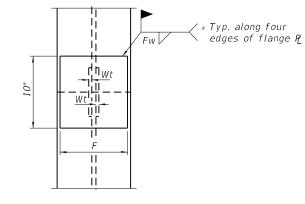
ELEVATION

SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

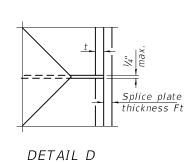
(when specified)





ELEVATION

END VIEW



Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	7/8"	73/4"	5/8"	1/2"
x102	12½"	7/8"	3/4"	73/4"	5/8"	1/2"
x89	12½"	3/4"	¹ ½ ₁₆ "	73/4"	5/8"	1/2"
x73	12½"	5/8"	%16"	73/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6½"	5/8"	1/2"
x74	10"	7/8"	¹ ½ ₁₆ "	6½"	5/8"	1/2"
x63	10"	5/8"	1/2"	6½"	1/2"	3/8"
x53	10"	5/8"	1/2"	6½"	1/2"	3/8"
HP 10x57	8"	3/4"	%16"	5½"	1/2"	3/8"
x42	8"	5/8"	%16"	5½"	1/2"	3/8"
HP 8x36	7"	5/8"	7/ ₁₆ "	41/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

F-HP

1-1-2020

HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 NGINEERS 888.HMG.ENGR

DESIGNED -REVISED DRAWN REVISED PLOT SCALE = 2.0000 / in. CHECKED REVISED PLOT DATE = 1/4/2023 DATE REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

HP PILE DETAILS SECTION WASHINGTON 19 16 18-11122-00-BR **STRUCTURE NO. 095-3273** CONTRACT NO. 97782 SHEET 9 OF 10 SHEETS STA. TO STA.

Carbondale, II. 62901		518-						
В	ridge) FC)U	ndo	at	ion Boring Log		
Project: <u>H-21092</u> Section: Structure: <u>095-3044</u> County: <u>Washington</u>	Bridge Station	Hoove	er F	Road	ov	er Archie Creek Date Bored by Checked By	/: <u>J. Carter</u>	
Boring No: 1 Station: Offset:		Elevation	z	Qu tsf	% w	Surface Water Elev. Ground Water Elev. During Drilling 455.9 Upon Completion 456.9	b	Qu tsf
Ground Surface 10" A-3 Surface	475.9	0				shale (continued)		
Brown Mottled Gray Silty	CLAY ((A-6)						1.2
			2	1.6S	15		-25	
							100	
		-5	3	0.6B	23	448.9 End of Boring @ -27.0'		_
Brown Mottled Gray Silty with gravel and sand	469.9 CLAY 467.4	(A- <u>6</u>)	6		25	, and the second	<u>-30</u>	
Gray Mottled Brown Silty with gravel and sand	464.9	(A-6) -10	4	0.95	23			
Gray Mottled Brown Silty		(A- <u>6)</u>		1.1B	20		<u>-35</u>	
Gray Mottled Brown to CLAY (A-6) with sand	462.4 Black and gr	avel	6	0.9B	19		-350 35 35 	
Gray to Brown SHALE	459.9		100		9		<u>-40</u>	
Gray SHALE	457.4		100		- 8	-		
			100		+			

Bridge	e Fo	O LI	ndo	nt.	ion Boring Log		_
					er Archie Creek Date: 6/2	24/202	1
Section: Statio					Bored by: <u>J. (</u>		Ė
Structure <u>: 095-3044</u> County: <u>Washington</u>			-		Checked By:		
Boring No: 2	_ E				Surface Water Elev	Τ_	Τ
Station:	Elevation		tsf	%	Ground Water Elev. Bry During Drilling Plugged 9	tsf	8
Offset:	Ele	z	ď	*	During Drilling Dry → Plugged ⊚ □ Upon Completion 454.1	z	
Ground Surface 475.1 10" A-3 Surface	0				shale (continued)		Ī
Brown Mottled Gray Silty CLAY	(A-6)					100 /5"	+
	_	9		12	<u>-25</u>		
					448.6	100 /6"	- 6
		9	0.85	12	End of Boring @ -26.5'	76 ==	+
469.1		1					
Gray Silty CLAY to Sandy CLAY with wood	(A-6 <u>)</u>	2		44			
		12		44	<u>–30</u>		
466.6 Gray Mottled Brown Silty CLAY]	١
with sand and gravel	<u>-10</u>	٦,	0.5B	27			
464.1	_	1			-		
Brown to Gray SHALE	_	10	0.9B	19			
461.6		+		H	-30 		
Gray to Brown SHALE		1	-	L		1	
	-15	74	5.15	12		1	
459.1 Gray SHALE	_	100		-		-	
ordy STIALE		/3		- 8	 		
		-]	
	_	100	0	- 7		1	
	<u>-20</u>					1	
		10		+		1	
N = Standard Penetration T Blows per foot to drive 2" Split Spoon Sampler 12" wi a 140 lbs. hammer falling		/3		- 7	onfined Compressive B = Bulge F. in tons/sq.ft. S = Shear F Content-percentage E = Estimate even dry weight-% P = Penetror	ــــــــــــــــــــــــــــــــــــــ	

HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 888.HMG.ENGR

USER NAME = klaux	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/4/2023	DATE -	REVISED -

STATE OF ILLINOIS								
DEPARTMENT	OF	TRANSPORTATION						

SCALE:

SOIL BORING LOGS STRUCTURE NO. 095-3273					T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
					56	18-11122-00-BR	WASHINGTON	19	17			
3111001011L 140: 033-3273						033-37	273		NO. 9	7782		
	SHEET	10	OF	10	SHEETS	STA.	TO STA.		ILLINOIS FE	D. AID PROJECT		

