

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	1
GCL JOB NO. 21-6027			CONTRACT NO. 95953	

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES, TYPICAL SECTIONS, GENERAL NOTES, AND COMMITMENTS
- 3 PLAN AND PROFILE OF ROADWAY
- 4 GENERAL PLAN AND ELEVATION
- 5-6 PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
- 7 STEEL RAILING, TYPE S1
- 8 ABUTMENT DETAILS
- 9 HP PILE DETAILS
- 10-12 CROSS SECTIONS OF ROADWAY

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLANS FOR PROPOSED  
STP BRIDGE PROGRAM**

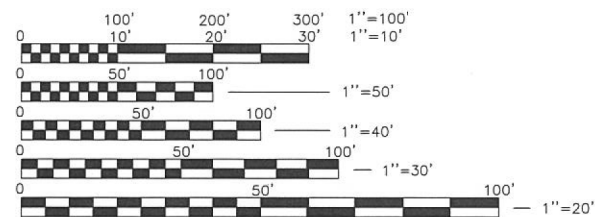
**CH 19 (CAMPGROUND LANE) BRIDGE OVER BRUSH CREEK  
SECTION 19-00096-00-BR  
PROJECT NO. 56HK(088)  
CLAY COUNTY  
JOB NO. C-97-147-21**

SEE SPECIFICATIONS FOR APPLICABLE HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 515001-04 NAME PLATE FOR BRIDGES
- 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 701901-08 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAILS
- 720006-04 SIGN PANEL ERECTION DETAILS
- 725001-01 OBJECT AND TERMINAL MARKERS
- 728001-01 TELESCOPING STEEL SIGN SUPPORT
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 27-1 TRAFFIC BARRIER TERMINAL, TYPE 5A

SOIL BORINGS (SEE SPECIFICATIONS)

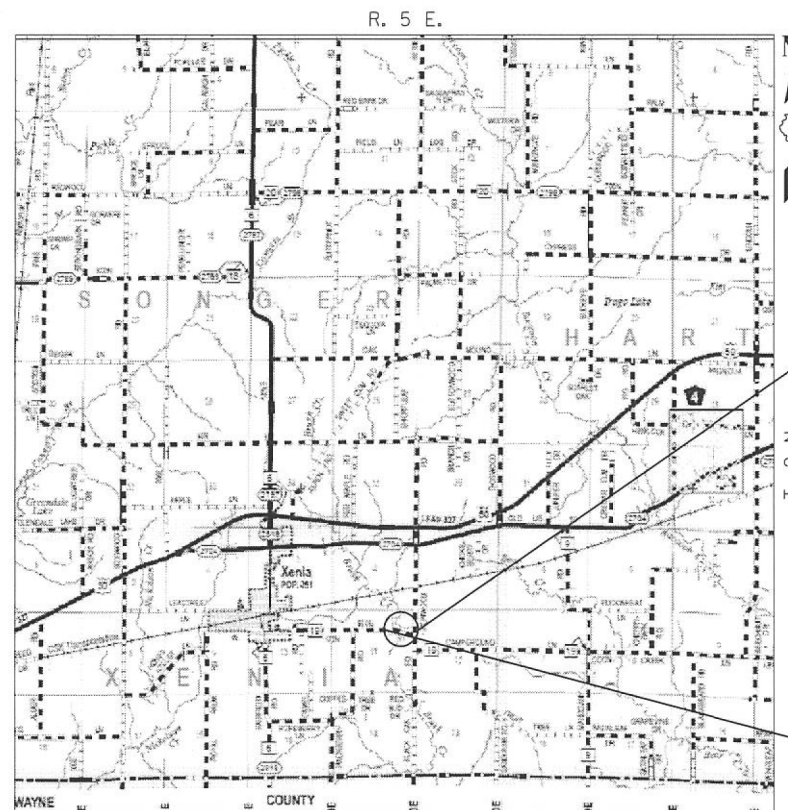
DESIGN CLASSIFICATION: RURAL MINOR COLLECTOR  
ADT DESIGN : 100  
DESIGN SPEED: 30 MPH



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 LOCATING INFORMATION FOR EXCAVATORS  
1-800-892-0123 OR 811 WWW.Illinois1call.com



NOT TO SCALE  
LOCATION: NEAR THE SW CORNER, NE ¼, NE ¼, SECTION 11, T2N, R5E, 3RD P.M.  
NET LENGTH OF PROJECT: 595.00 FT = 0.113 MI

SECTION ENDS  
STA. 53+00.00

SECTION 19-00096-00-BR  
INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING CH 19 OVER BRUSH CREEK 70'-0" BK. TO BK. ABUTMENTS x 24' WIDE 0 DEGREE SKEW  
EXISTING STRUCTURE NO. 013-3153  
PROPOSED STRUCTURE NO. 013-3254

SECTION BEGINS  
STA. 47+05.00



**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

APPROVED FEBRUARY 13<sup>TH</sup> 2024  
[Signature]  
CLAY COUNTY ENGINEER

PASSED 02/22/24  
[Signature]  
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID  
BASED ON LIMITED  
REVIEW 02/22/24  
[Signature]  
REGISTERED ENGINEER



SIGNED: [Signature] 02/13/2024  
BRENT L. TAYLOR  
SALEM, ILLINOIS  
ILLINOIS LICENSED PROFESSIONAL  
ENGINEER NO. 062-066114  
LIC. EXPIRES NOV. 30, 2025

**UTILITIES**

J.U.L.I.E. DESIGN PHASE LOCATE  
DIG NO.: A230030602-00A (01/03/2023)

ELECTRIC:  
CLAY ELECTRIC COOP  
PHONE: 618-662-2171  
JAMESW@CECI.COOP

WATER:  
CLAY COUNTY WATER INC.  
ADAM MCNIGHT  
PHONE: 618-572-8683  
ADAMM@CECI.COOP

COMMUNICATION:  
WABASH COMMUNICATIONS  
STEVE HOSSELTON  
PHONE: 618-665-3311/618-843-6748  
SHOSSELTON@WABASH.NET

COUNTRYMARK REFINING & LOGIST  
JAMIE MARQUES  
PHONE: 812-270-2107  
JAMIE.MARQUES@COUNTRYMARK.COM

**GENERAL NOTES**

- THIS SECTION SHALL BE CONSTRUCTED ACCORDING TO THE PLANS, THE SPECIAL PROVISIONS, AND THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2022.
- ROADWAY CENTERLINE PROFILES REFER TO THE FINISHED SURFACE.
- EXISTING UTILITIES SHOWN ARE LOCATED FROM SURFACE OBSERVATIONS OR INFORMATION PROVIDED BY THE RESPECTIVE UTILITIES AND MUST BE CONSIDERED APPROXIMATE AND ARE ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. THERE MAY BE OTHERS, THE EXACT LOCATION OF WHICH ARE UNKNOWN AND NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE RESPECTIVE UTILITIES BEFORE WORK IS BEGUN. FIELD MARKING OF UNDERGROUND UTILITIES MAY BE OBTAINED BY PROVIDING A MINIMUM OF 48 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 1-800-892-0123, 811, OR BY DIRECT CONTACT WITH NON-MEMBERS OF J.U.L.I.E.
- FACTORS USED FOR QUANTITY CALCULATIONS ARE AS FOLLOWS:
 

STONE RIPRAP	130 POUNDS/CU FT
AGGREGATE	2.1 TON/CU YD
POROUS GRANULAR EMBANKMENT	2.1 TON/CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.35 GAL/SQ. YD.
BITUMINOUS MATERIALS (COVER AND SEAL COAT)	0.25 GAL/SQ. YD.
COVER AND SEAL COAT AGGREGATES	25 LBS/SQ. YD.
BITUMINOUS MATERIALS	8.3 LBS/GAL
- THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE AREA LOCATED WITHIN THE CONSTRUCTION LIMIT LINES AS SHOWN PER PLANS. ANY AREA DISTURBED BEYOND THESE LIMITS SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- AREAS TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY AS DIRECTED BY THE ENGINEER.
- ACCESS MUST BE MAINTAINED TO ALL PROPERTIES DURING CONSTRUCTION, UNLESS ARRANGEMENTS ARE MADE IN WRITING BY THE CONTRACTOR WITH THE PROPERTY OWNERS, WITH A COPY TO THE ENGINEER FOR SHORT-TERM CLOSURE.
- SAW CUTS WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST PER CUBIC YARD OF EARTH EXCAVATION.

**COMMITMENTS**

NO TREE CLEARING WILL BE ALLOWED OR PERFORMED FROM APRIL 1 THROUGH SEPTEMBER 30, IN AN EFFORT TO CONSERVE THE NORTHERN LONG-EARED BAT AND THE INDIANA BAT.

EXISTING FENCE REPLACEMENT WITHIN THE LIMITS OF CONSTRUCTION WILL BE DONE BY OTHERS PRIOR TO THE START OF CONSTRUCTION.

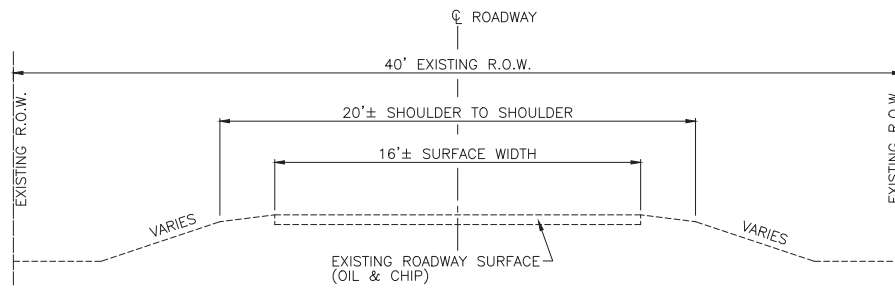
THE COUNTY WILL NOTIFY PUBLIC SERVICE (EMERGENCY, SCHOOL, AND POSTAL SERVICE) PROVIDERS PRIOR TO THE START OF CONSTRUCTION.

TREE REMOVAL, ACRES			
LOCATION		TREE REMOVAL, ACRES	
(CL RD TO ROW) EXCLUDE WETLAND AREAS			
STA. RT. 47+75.00	TO	STA. 53+00.00	0.6
STA. LT. 47+75.00	TO	STA. 48+90.00	0.1
STA. LT. 50+05.00	TO	STA. 53+00.00	0.3
<b>TOTALS:</b>			<b>1.0</b>

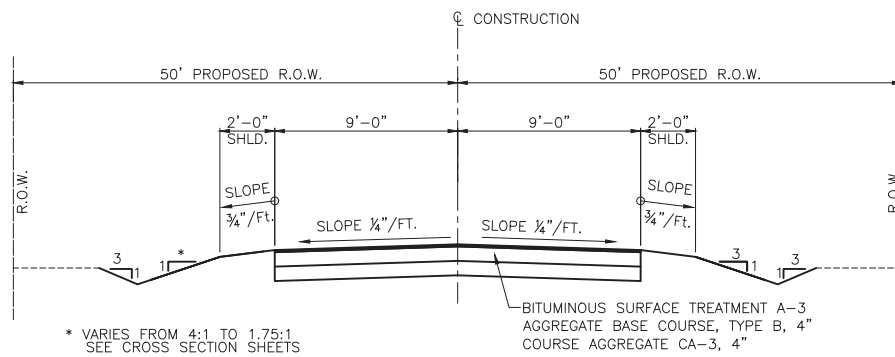
**EARTHWORK SCHEDULE**

LOCATION	EARTH EXCAVATION (CUT)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE FACTOR (25%)	EMBANKMENT (FILL)	EARTHWORK BALANCE***	
				WASTE (+) OR SHORTAGE (-)	
	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.
STA. 47+05.00 TO STA. 46+69.49	166	125	911	-786	
STA. 50+39.51 TO STA. 53+00.00	460	345	918	-573	
<b>TOTALS:</b>	<b>626</b>	<b>470</b>	<b>1829</b>	<b>-1359</b>	

\*\*\* FURNISHED EXCAVATION



**EXISTING TYPICAL SECTION**



**PROPOSED TYPICAL SECTION**

**HORIZONTAL AND VERTICAL CONTROL DATA**

POINT	DESCRIPTION	N. COOR.	E. COOR.	ELEV.
HC#1	IRON PIN, 0.16' RT., STA. 48+35.21	715992.35	906193.03	-
HC#2	IRON PIN, 1.25' RT., STA. 51+65.76	715796.49	906498.04	-
TBM#1	R.R. SPIKE IN POWER POLE, 27.8' LT., STA. 48+54.84	-	-	491.11
TBM#2	R.R. SPIKE IN 6" TREE, 25.0' RT., STA. 50+74.02	-	-	490.20

**LEGEND**

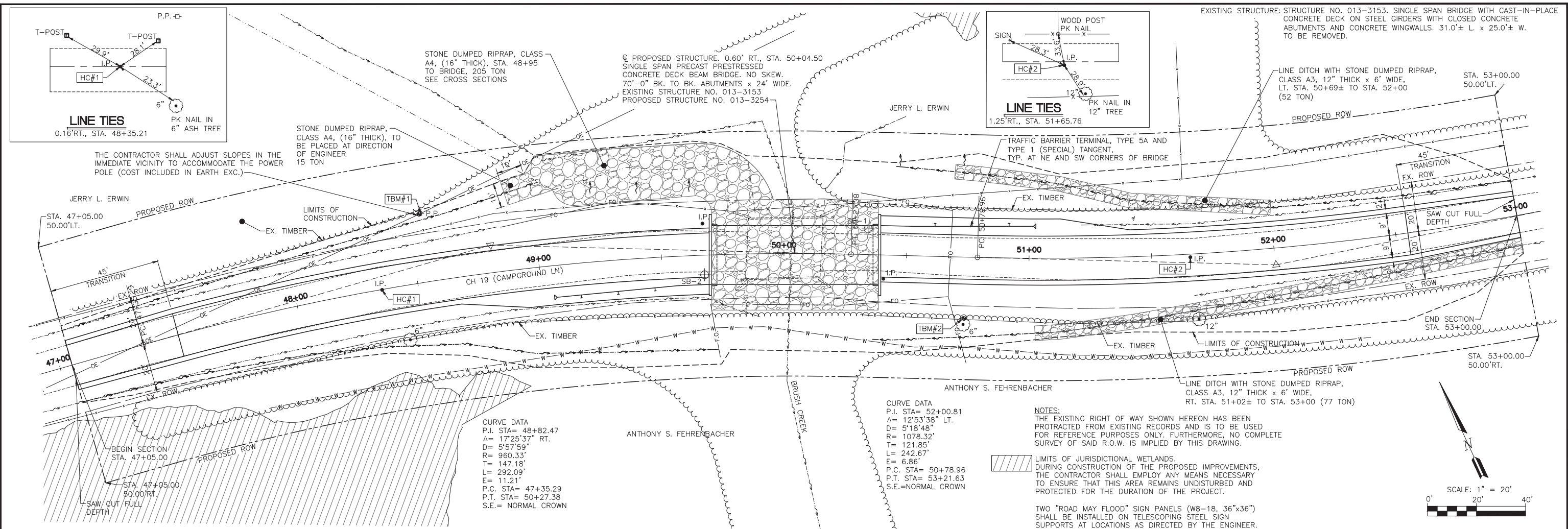
- P.P. - □ - EXISTING POWER POLE
- — — — — EXISTING GUY WIRE
- OE — OE — OE — OE — EXISTING OVERHEAD ELECTRIC LINE
- W — W — W — W — W — EXISTING WATER LINE
- T.PED. □ EXISTING COMMUNICATION PEDESTAL
- ~ ~ ~ ~ ~ EXISTING TREE LINE
- EXISTING TREE
- SB-# □ EXISTING SOIL BORING
- I.P. ● EXISTING IRON PIN
- — — — — EXISTING SURFACE DRAINAGE
- — — — — EXISTING FENCE
- FO — EXISTING UNDERGROUND COMMUNICATION LINE
- EXISTING SIGN
- HC#1 □ HORIZONTAL CONTROL POINT
- TBM#1 □ VERTICAL CONTROL POINT
- NEW RIPRAP
- — — — — NEW SURFACE DRAINAGE

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	1.0
20200100	EARTH EXCAVATION	CU YD	626
20300100	CHANNEL EXCAVATION	CU YD	370
20400800	FURNISHED EXCAVATION	CU YD	1359
20700110	POROUS GRANULAR EMBANKMENT	TON	100
28100805	STONE DUMPED RIPRAP, CLASS A3	TON	129
35101400	AGGREGATE BASE COURSE, TYPE B	TON	243
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	29.2
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1632
50800105	REINFORCEMENT BARS	POUND	4440
50900205	STEEL RAILING, TYPE S1	FOOT	138
51201600	FURNISHING STEEL PILES HP12x53	FOOT	294
51202305	DRIVING PILES	FOOT	294
51203600	TEST PILE STEEL HP12x53	EACH	1
51500100	NAME PLATES	EACH	1
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
67100100	MOBILIZATION	L SUM	1
72000100	SIGN PANEL - TYPE 1	SQ FT	18
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
72800100	TELESCOPING STEEL SIGN SUPPORT	FOOT	28
LR403200	BITUMINOUS MATERIALS (PRIME COAT)	TON	1.7
LR403400	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	TON	3.5
LR403500	COVER COAT AGGREGATE	TON	26
LR403600	SEAL COAT AGGREGATE	TON	15
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.75
X2810808	STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)	TON	526
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
XX006730	COURSE AGGREGATE CA-3	TON	243

\*\* STONE DUMPED RIPRAP, CLASS A4 CALLED OUT IN THE PLANS REFERS TO STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)

\* SPECIALTY ITEM

S:\Projects\2021\21-627-City County - Camground Lane over Bush Creek\20 Design\CADD\002-500-TYPSEC-NOTE.dwg, Plotted on: 2/13/2024 4:35 PM



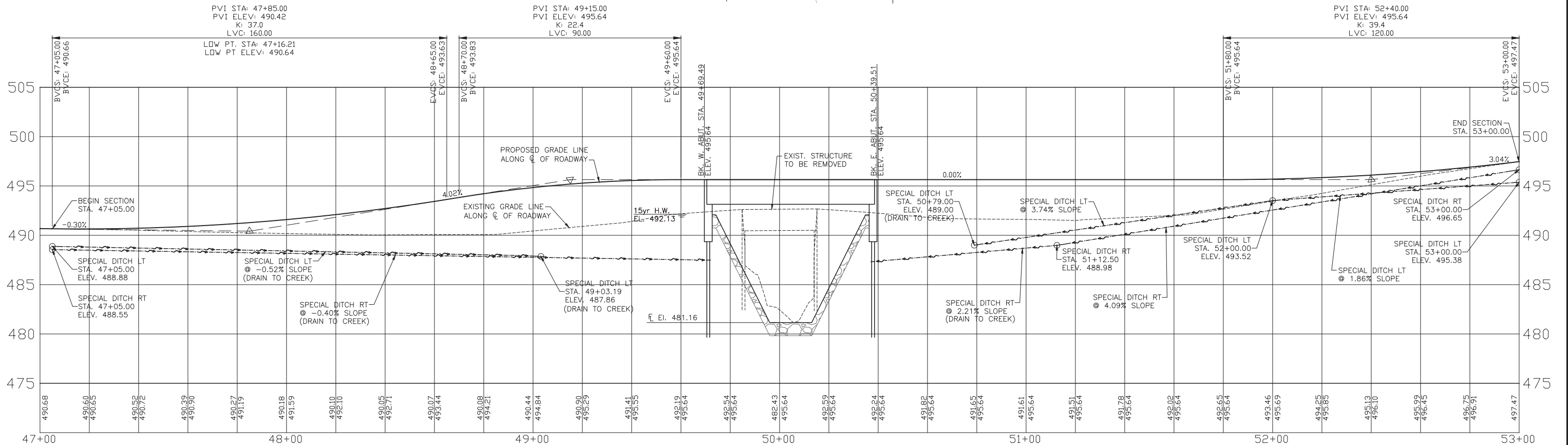
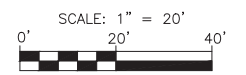
**CURVE DATA**  
 P.I. STA= 48+82.47  
 $\Delta = 17'25'37''$  RT.  
 $D = 5'57'59''$   
 $R = 960.33'$   
 $T = 147.18'$   
 $L = 292.09'$   
 $E = 11.21'$   
 P.C. STA= 47+35.29  
 P.T. STA= 50+27.38  
 S.E.= NORMAL CROWN

**CURVE DATA**  
 P.I. STA= 52+00.81  
 $\Delta = 12'53'38''$  LT.  
 $D = 5'18'48''$   
 $R = 1078.32'$   
 $T = 121.85'$   
 $L = 242.67'$   
 $E = 6.86'$   
 P.C. STA= 50+78.96  
 P.T. STA= 53+21.63  
 S.E.= NORMAL CROWN

**NOTES:**  
 THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.

LIMITS OF JURISDICTIONAL WETLANDS. DURING CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, THE CONTRACTOR SHALL EMPLOY ANY MEANS NECESSARY TO ENSURE THAT THIS AREA REMAINS UNDISTURBED AND PROTECTED FOR THE DURATION OF THE PROJECT.

TWO "ROAD MAY FLOOD" SIGN PANELS (W8-18, 36"x36") SHALL BE INSTALLED ON TELESCOPING STEEL SIGN SUPPORTS AT LOCATIONS AS DIRECTED BY THE ENGINEER.



S:\Projects\2021\21-627 Clay County - Campground Lane over Brush Creek\20 Design\20-003-XTDPO-7627.DWG, Plotted on: 2/13/2024 4:01 PM

<p>GONZALEZ COMPANIES, LLC        7 CARPENTER DRIVE        SALEM, IL 62881        PHONE (618) 222-2221        www.gonzalezcs.com        ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564</p>	DESIGNED - BLT	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PLAN AND PROFILE OF ROADWAY</b> <b>STA. 47+00 TO STA. 53+00</b>	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - JMW	REVISED -			CH 19	19-00096-00-BR	CLAY	12	3
	CHECKED - BLT	REVISED -			CONTRACT NO. 95953				
	DATE - 02/13/2024	REVISED -			GCI JOB NO. 21-6027				

TBM#1 - R.R. Spike in power pole, 27.8' Lt., Sta. 48+54.8±, El. 491.11

TBM#2 - R.R. Spike in 6" tree in fence, 25.0' Rt., Sta. 50+74.0±, El. 490.20

Existing Structure: Structure No. 013-3153. Single span bridge with concrete deck on steel girders supported on closed concrete abutments and concrete wingwalls. 31.0± L. x 25± W. To be removed.

**BILL OF MATERIALS (BRIDGE ONLY)**

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	370
Porous Granular Embankment	Ton	100
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	29.2
Concrete Encasement	Cu Yd	2.8
PPCDB (27" Depth)	Sq Ft	1632
Reinforcement Bars	Pound	4440
Steel Railing, Type S1	Foot	138
Furnishing Steel Piles HP12x53	Foot	294
Driving Piles	Foot	294
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1
Terminal Marker - Direct Applied	Each	4
Bituminous Materials (Cover & Seal Coats)	Ton	0.2
Seal Coat Aggregate	Ton	2
* Stone Dumped Riprap, Class A4 (Special)	Ton	306

\* See Roadway Plans for Additional Riprap Areas

**GENERAL NOTES**

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel 40' Lt. and Rt. of C. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

See Specifications for Soil Borings.

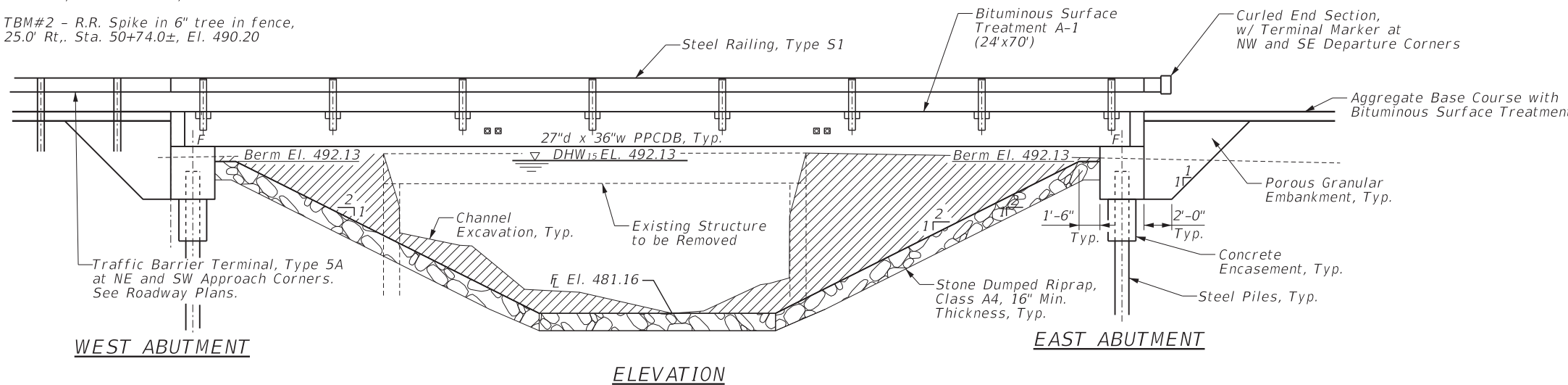
See Section 502 of the Standard Specifications for Structure Excavation.

Do not scale these drawings.

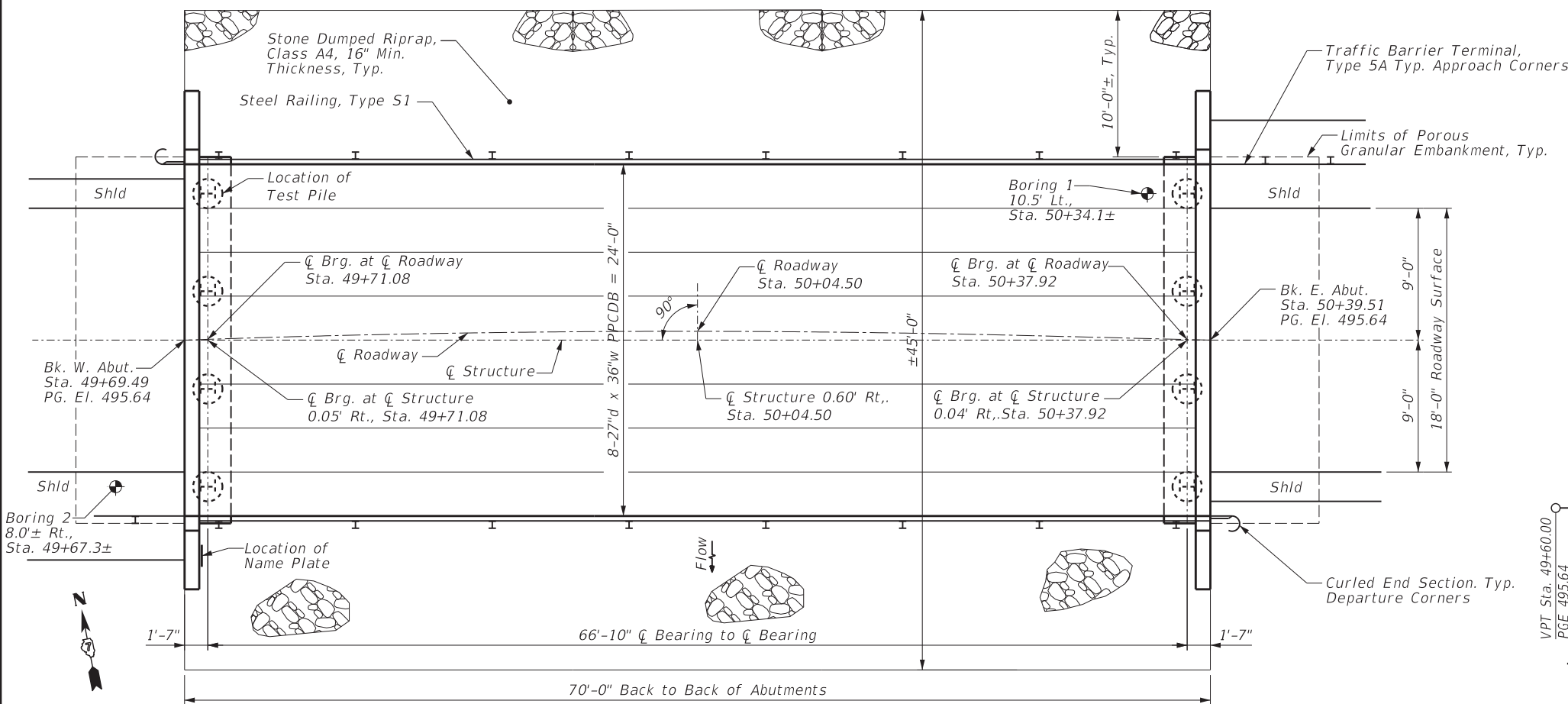
The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

The bituminous material shall be SC-3000 applied at a rate of 0.25 gal / Sq Yd.

The seal coat aggregate shall be CA16 applied at a rate of 25 lb / Sq Yd.



**ELEVATION**



**PLAN**

**WATERWAY INFORMATION**

Drainage Area = 5.29 sq. mi. Exist. Low Grade Elev. 490.04 @ Sta. 48+34±  
Prop. Low Grade Elev. 490.64 @ Sta. 47+16±

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	15	1870	201	428	492.13	0.24	0.24	492.37	492.37	
Base	100	3030	201	492	493.47	0.14	0.26	493.61	493.73	
Max. Calc.	500	4200	201	492	494.48	0.11	0.28	494.59	494.76	

**LOADING HL-93**

50#/sq. ft. included for future wearing surface.

**DESIGN SPECIFICATIONS**

AASHTO LRFD Bridge Design Specifications, 2020 (9th Edition)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
Soil Site Classification = D  
S<sub>D1</sub> = 0.267 S<sub>D5</sub> = 0.638

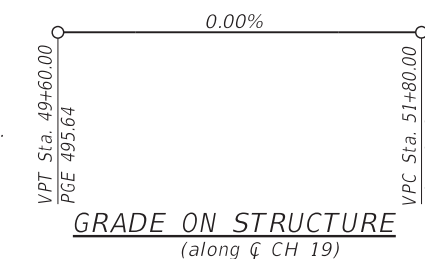
**DESIGN STRESSES**

**FIELD UNITS**

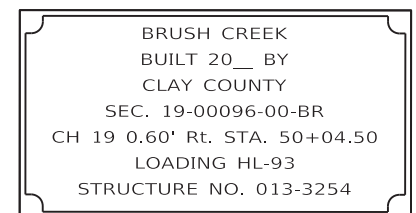
f'<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)

**PRECAST PRESTRESSED UNITS**

f'<sub>c</sub> = 6,000 psi  
f'<sub>ci</sub> = 5,000 psi  
f<sub>pu</sub> = 270,000 psi (1/2" low lax. strands)  
f<sub>pbt</sub> = 201,960 psi (1/2" low lax. strands)  
f<sub>y</sub> = 60,000 psi (reinforcement)



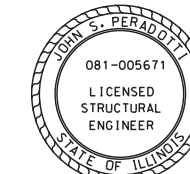
**GRADE ON STRUCTURE**  
(along C CH 19)



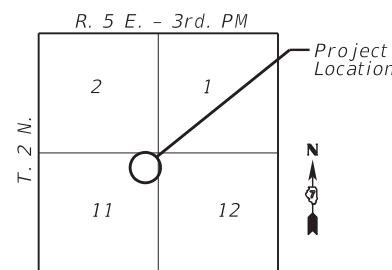
**NAME PLATE**

See Std. 515001

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.



Signed: *John S. Peradotti* 02/13/2024  
John S. Peradotti  
Salem, Illinois  
Illinois Licensed Structural Engineer No. 081-005671  
Lic. Expires Nov. 30, 2024



**LOCATION SKETCH**

**gonzalez**  
GONZALEZ COMPANIES, LLC  
7 CARPENTER DRIVE  
SALEM, IL 62881  
PHONE (618) 222-2221  
www.gonzalezcos.com  
ILLINOIS PROFESSIONAL DESIGN FIRM 184,004564

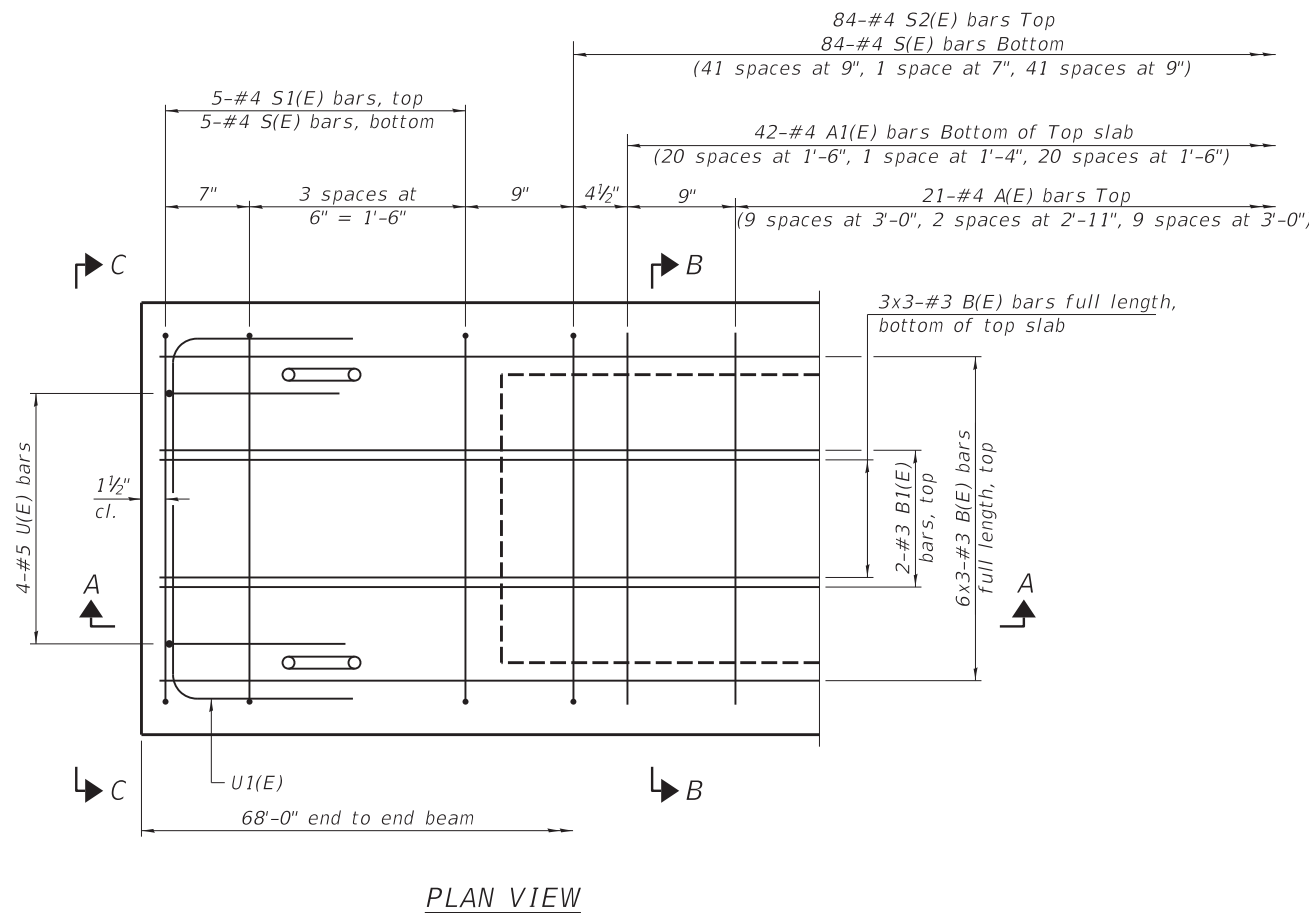
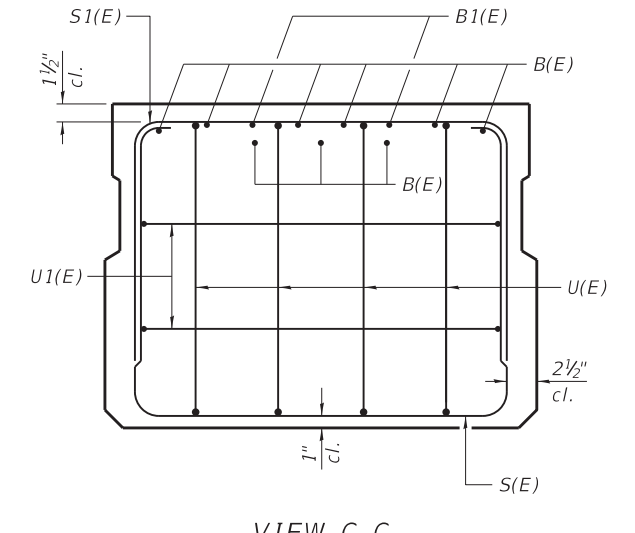
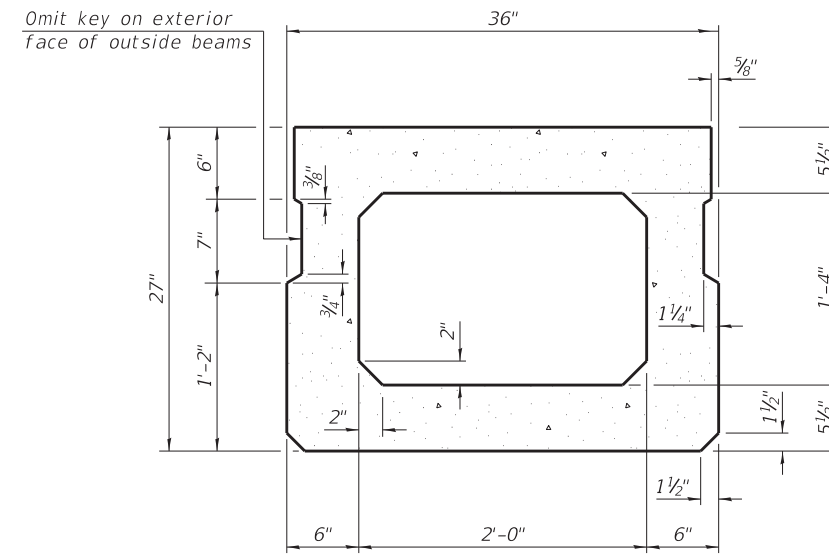
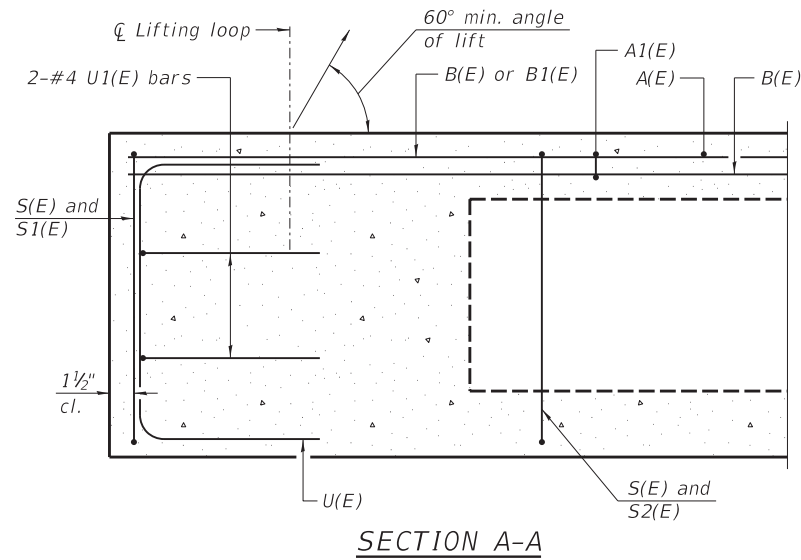
DESIGNED - JSP	REVISED -
DRAWN - JMW	REVISED -
CHECKED - BLT	REVISED -
DATE - 02/13/2024	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

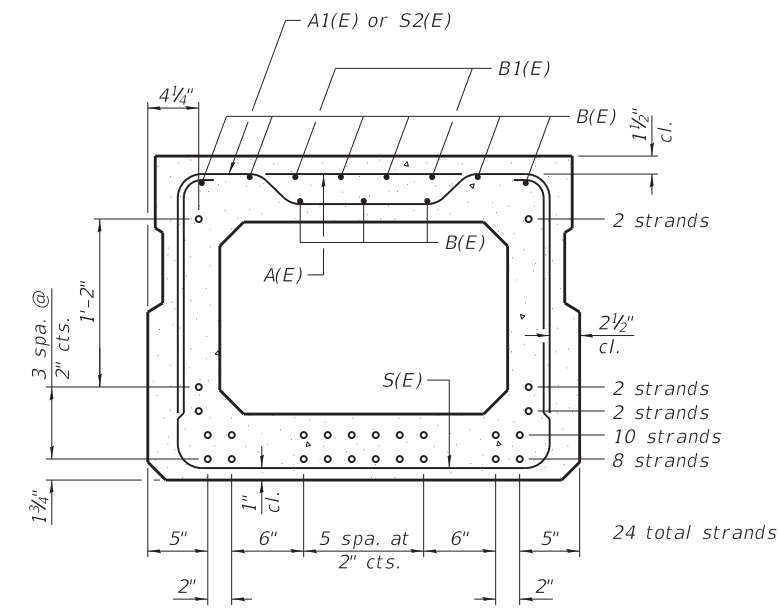
GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 013-3254

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	4
CONTRACT NO. 95953				

GCL JOB NO. 21-6027



Similar about  $\bar{C}$



**SECTION B-B**  
(Showing reinforcement and permissible strand locations)

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

**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	21	#4	2'-7"	—
A1(E)	42	#4	2'-10"	—
B(E)	27	#3	23'-7"	—
B1(E)	4	#3	10'-0"	—
S(E)	94	#4	7'-5"	⌊
S1(E)	10	#4	5'-11"	⌊
S2(E)	84	#4	6'-2"	⌊
U(E)	8	#5	4'-6"	⌊
U1(E)	4	#4	5'-0"	⌊

Note:  
See sheet 6 for additional details and Bill of Material.

Note:  
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.

Bars Indicated thus: 6x3-#3 etc. indicate 6 lines of bars with 3 lengths per line.

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



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ILLINOIS PROFESSIONAL DESIGN FIRM 184,004564

DESIGNED - JSP  
DRAWN - JMW  
CHECKED - BLT  
DATE - 02/13/2024

REVISED -  
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REVISED -  
REVISED -

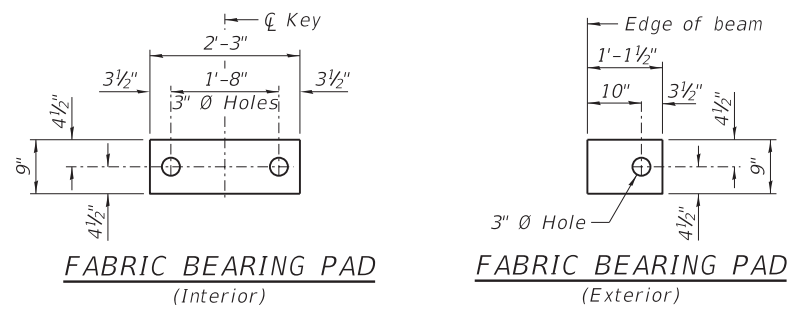
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	5

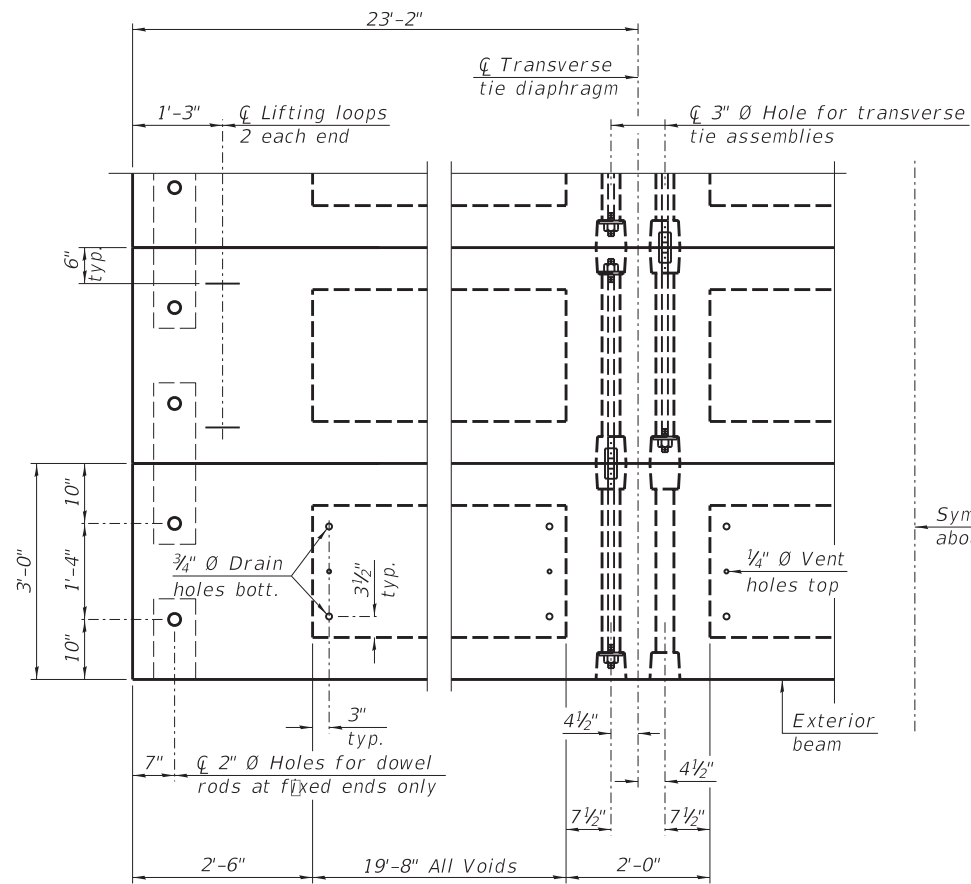
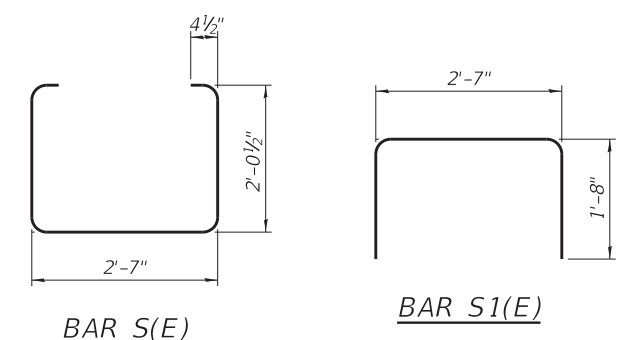
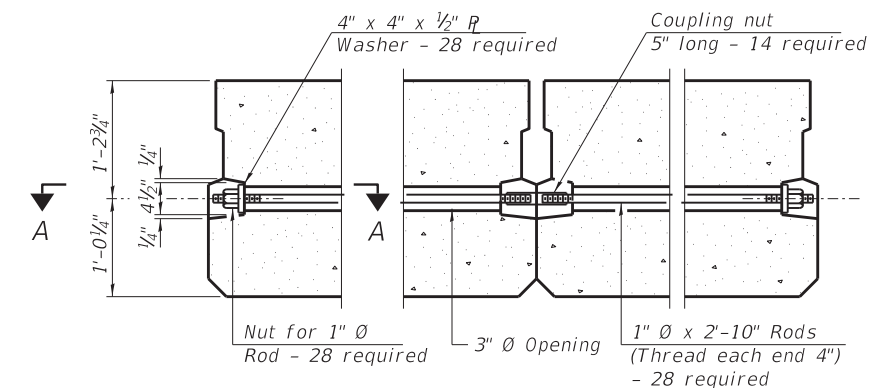
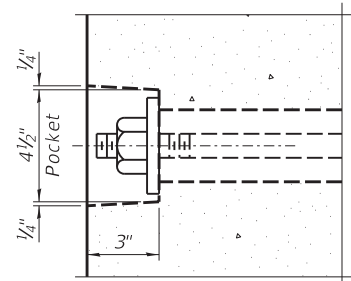
CONTRACT NO. 95953

GCL JOB NO. 21-6027

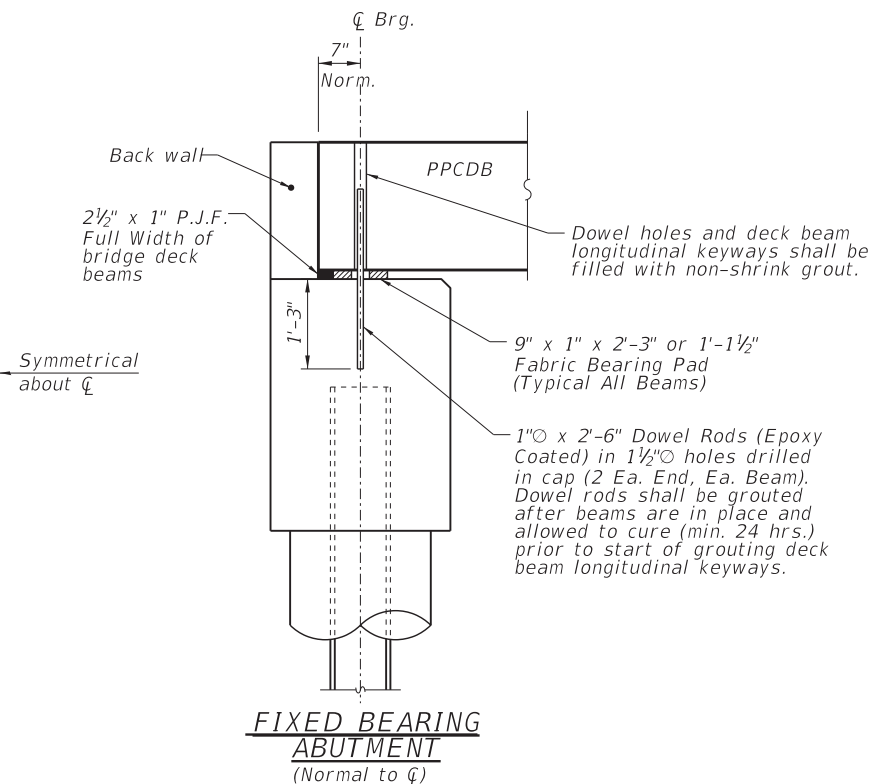


**FIXED**

Notes: All bearing pads shall be 1" thick.

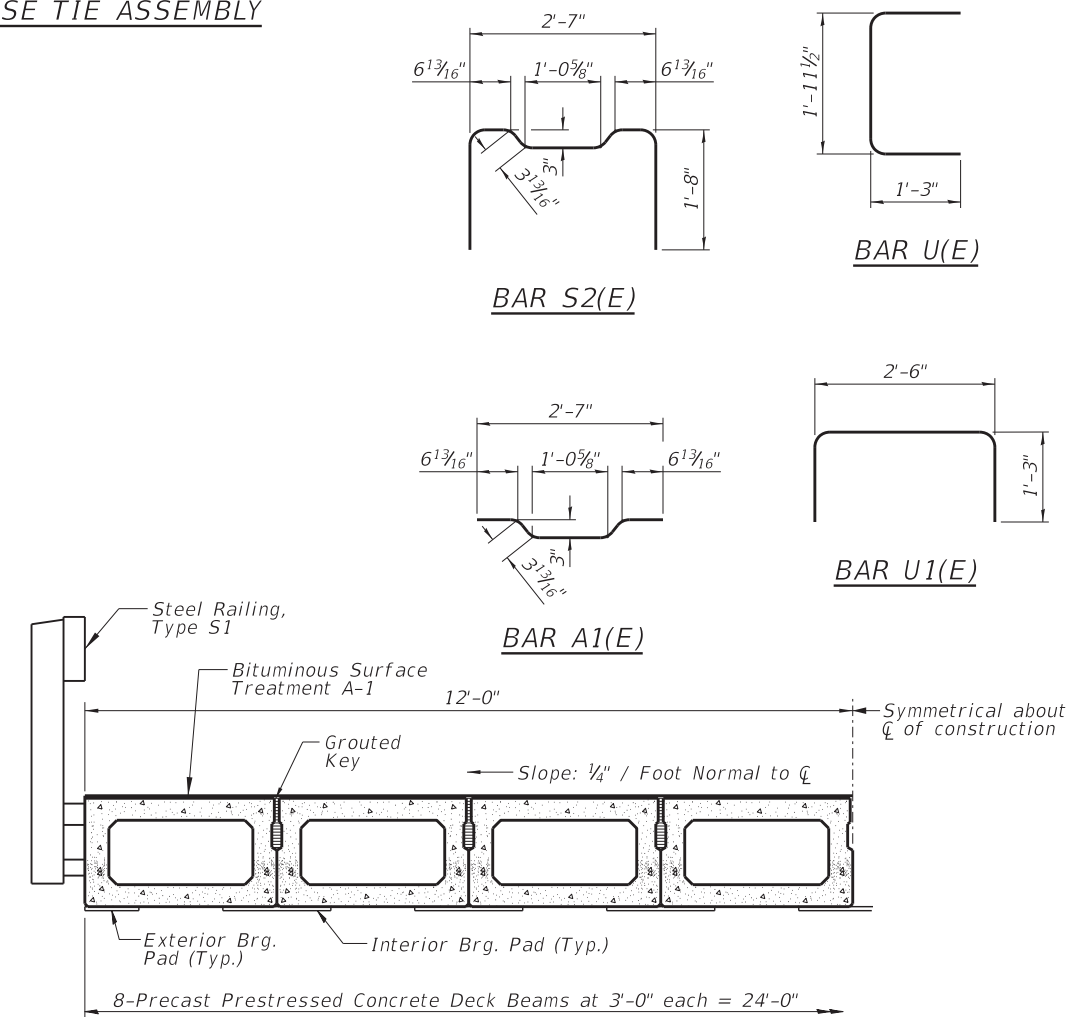


Note: Connect beams in pairs with the transverse tie configuration shown.



**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.  
 The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
 Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60 (1L Modified).  
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
 A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
 Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
 Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
 Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



See Sheet 7 for the details showing the spacing and mounting of posts and rails to the PPCDB.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1632
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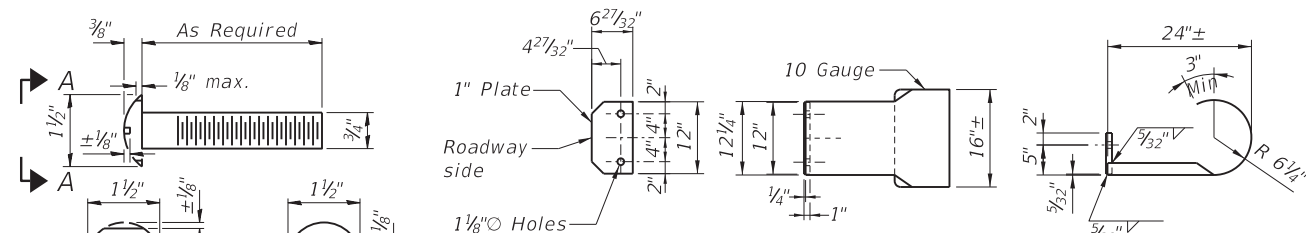
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS**

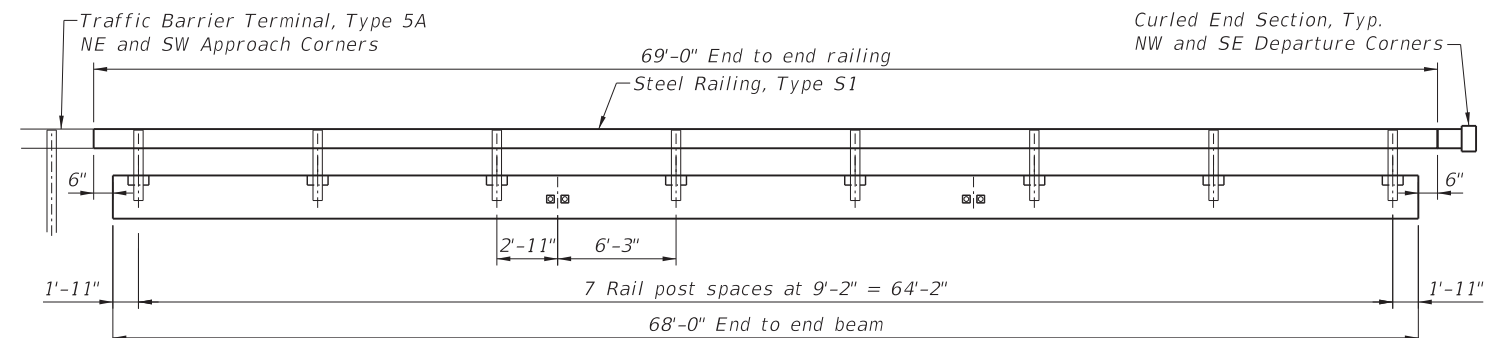
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	6
CONTRACT NO. 95953				

GCL JOB NO. 21-6027



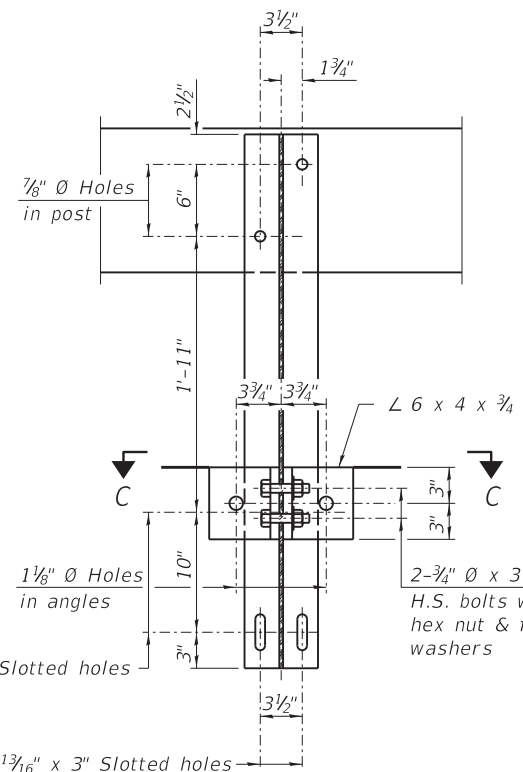
**CURLLED END SECTION DETAILS**  
2 Each Req'd

**VIEW A-A**  
**ROUND HEAD BOLT**



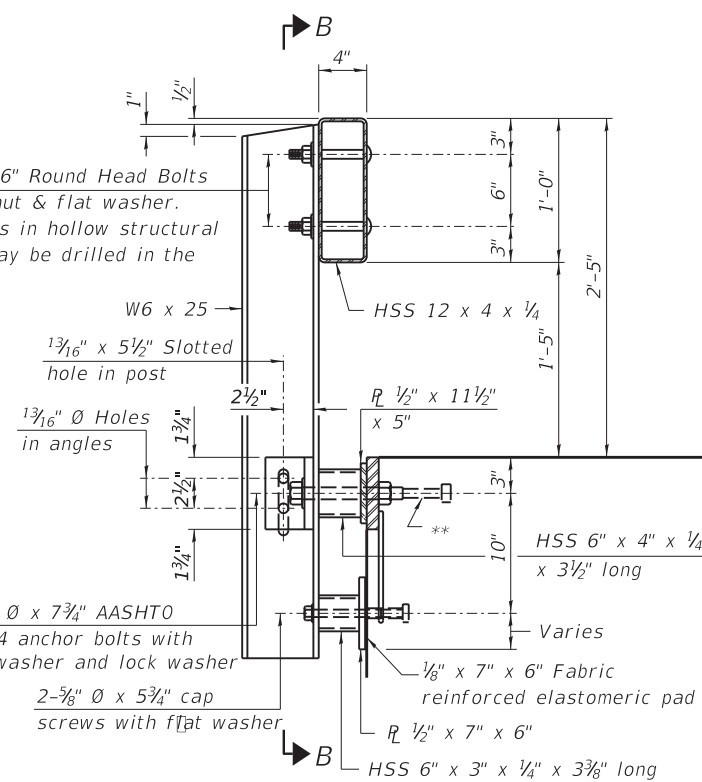
**ELEVATION**

Note: The cost of the Curled End Sections shall be included in the contract unit price per foot for "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.

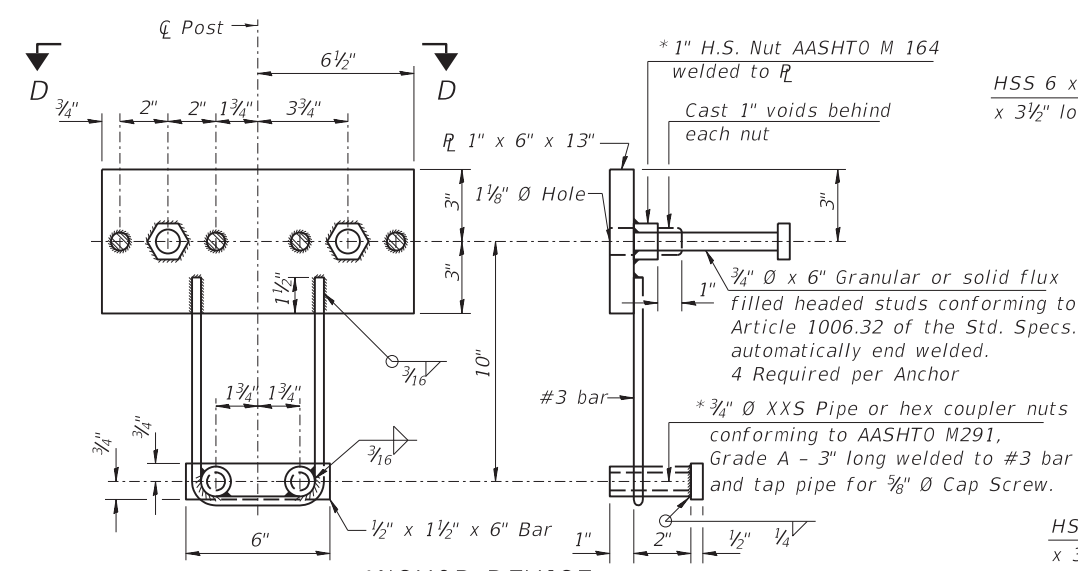


**SECTION B-B**

2-3/4" Ø x 6" Round Head Bolts with locknut & flat washer. 7/8" Ø holes in hollow structural section may be drilled in the field.

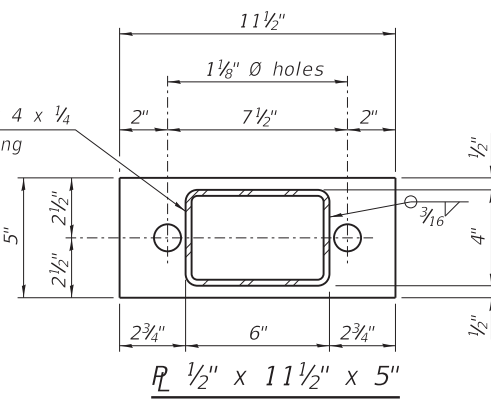


**SECTION AT RAILING POST**

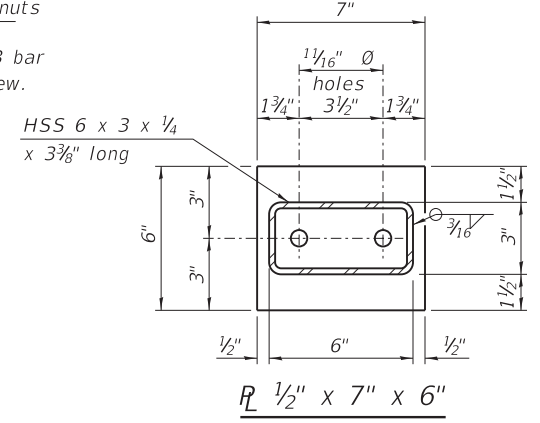


**ANCHOR DEVICE**

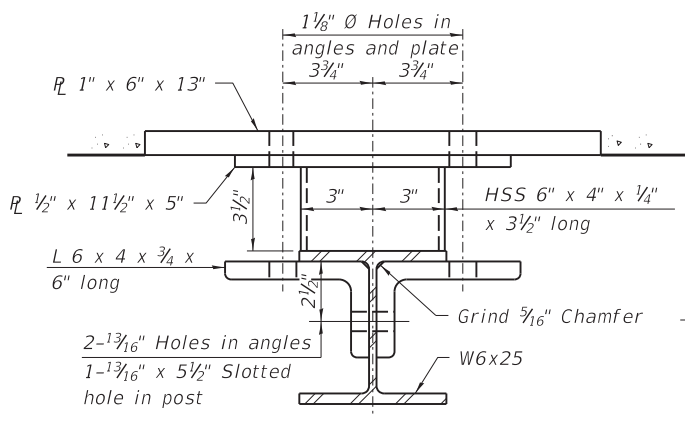
\* Threaded areas shall be plugged or blocked off during casting of beam.



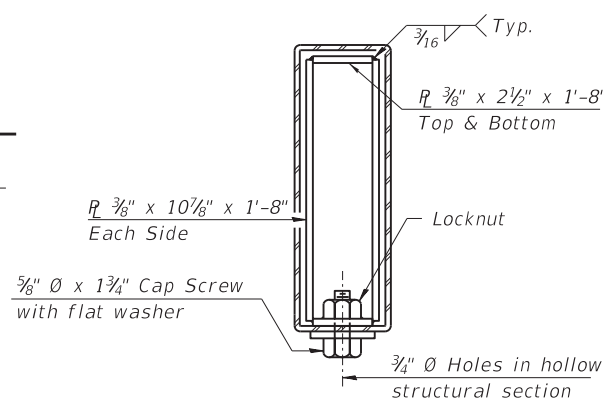
**R 1/2" x 11 1/2" x 5"**



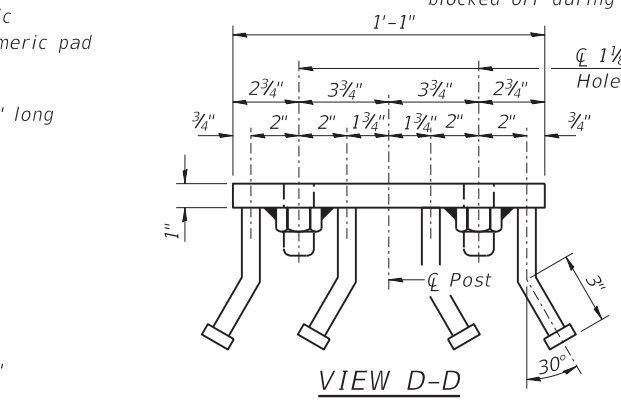
**R 1/2" x 7" x 6"**



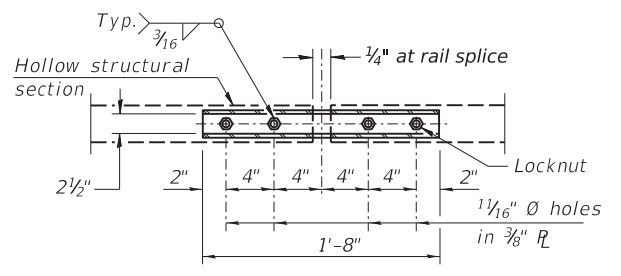
**SECTION C-C**



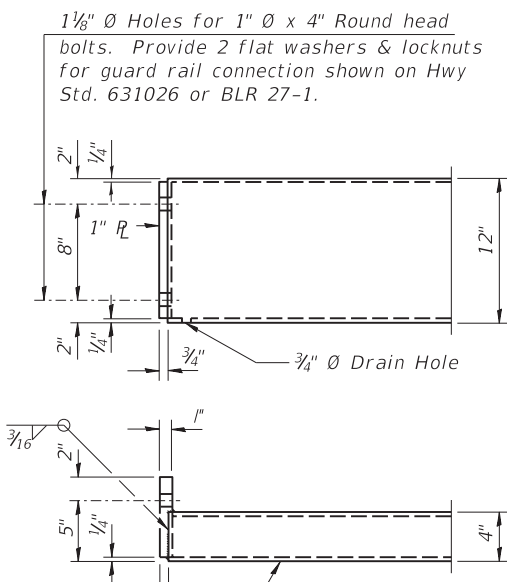
**SECTIONS AT RAIL SPLICE**



**VIEW D-D**



**PLAN-BOTT. SPLICE R TYPICAL**



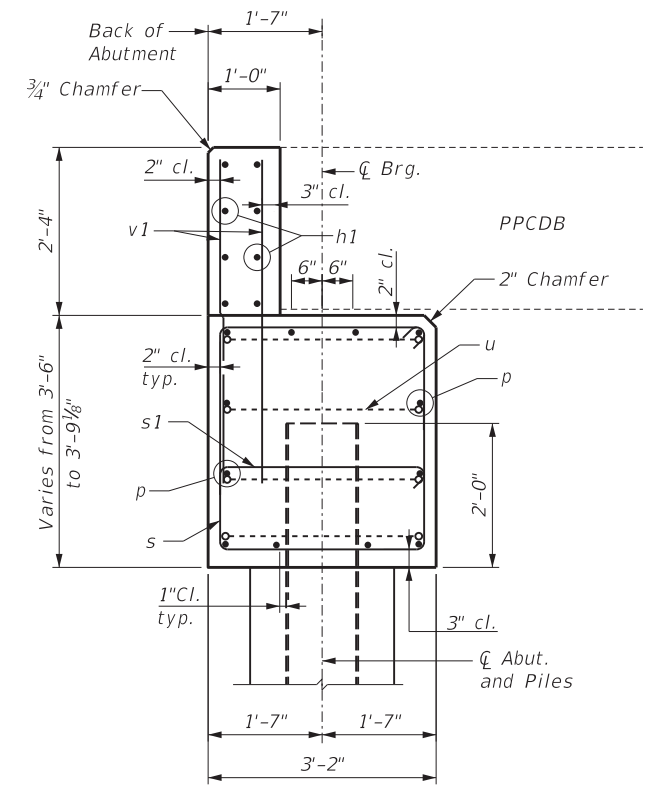
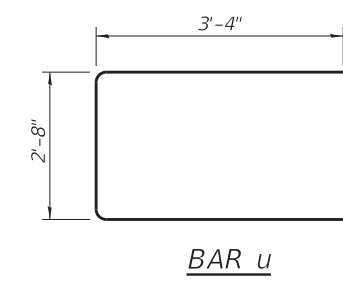
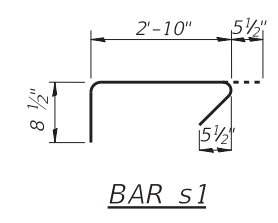
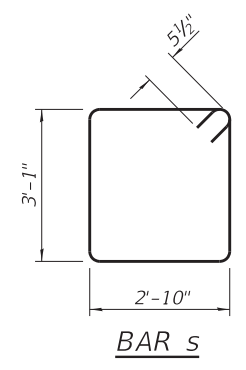
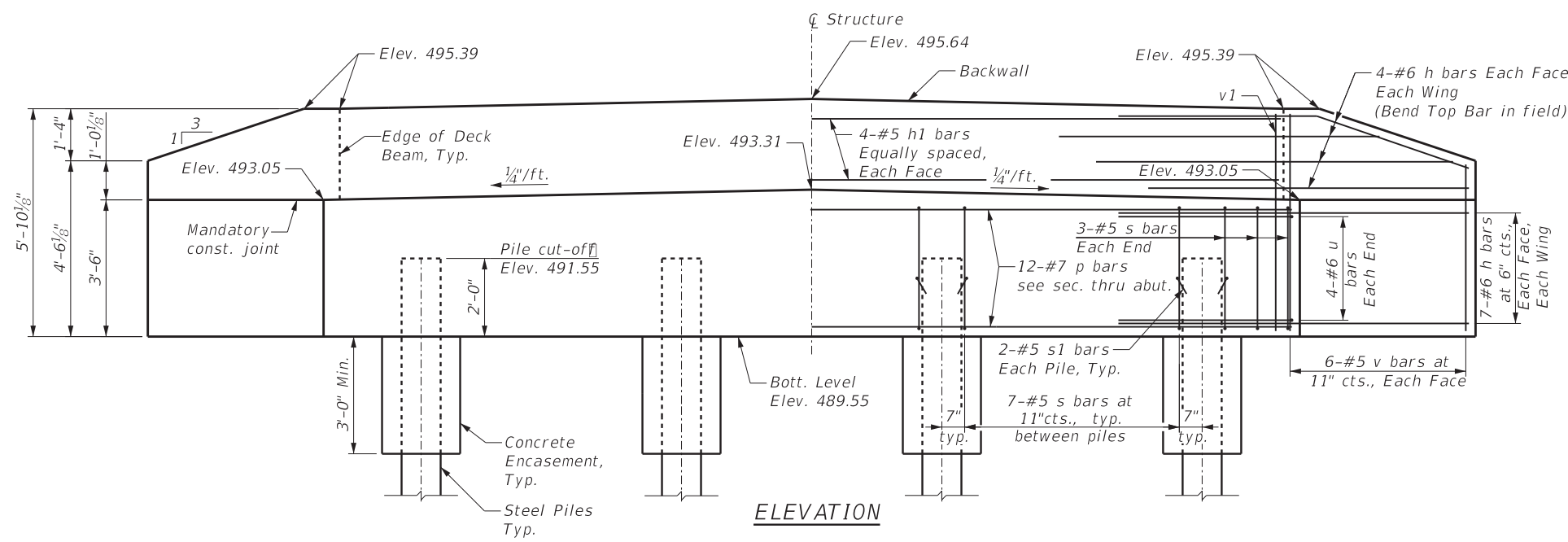
**END OF RAIL DETAILS**

Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.

**BILL OF MATERIAL**

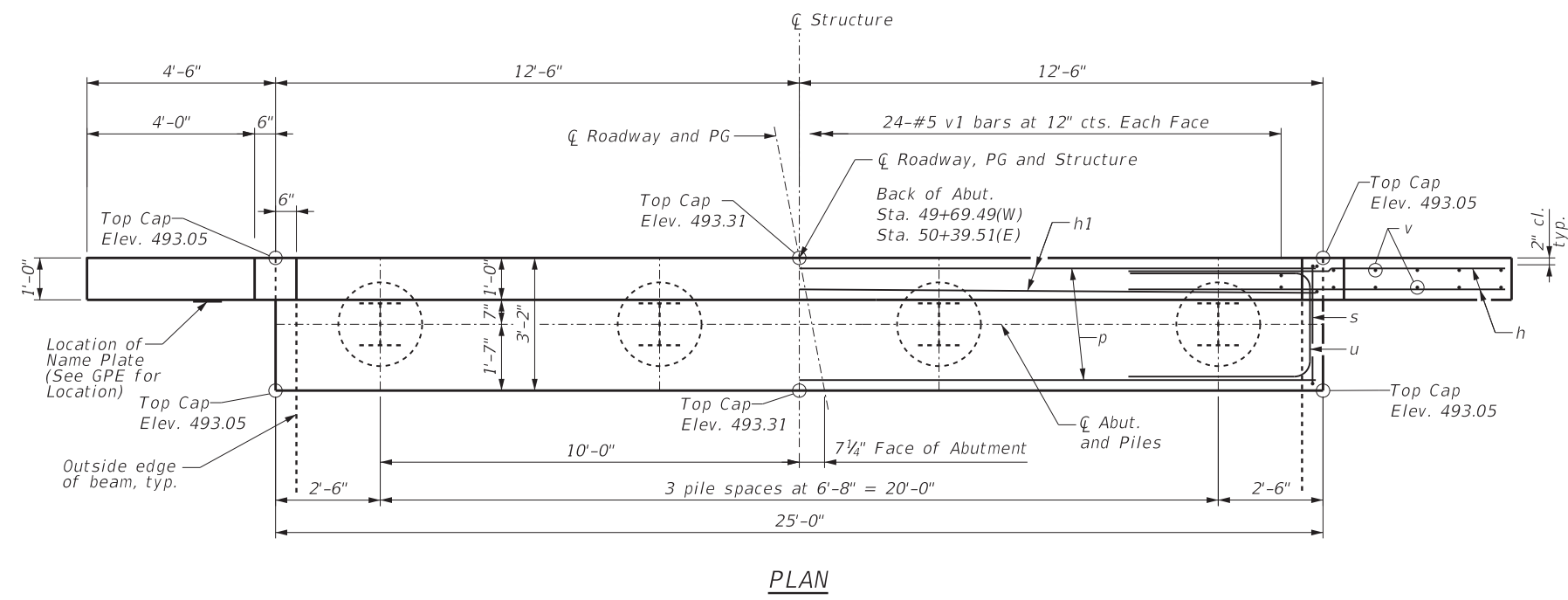
Item	Unit	Quantity
Steel Railing, Type S1	Foot	138



**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	44	#6	8'-6"	
h1	8	#5	23'-8"	
p	12	#7	24'-8"	
s	27	#5	12'-9"	□
s1	8	#5	4'-0"	┌
u	8	#6	9'-4"	┌
v	24	#5	5'-5"	Cut in Field
v1	48	#5	4'-4"	
Concrete Structures			Cu Yd	14.6
Concrete Encasement			Cu Yd	1.4
Reinforcement Bars			Pound	2220
Furnishing Steel Piles HP12x53		Foot	W. Abut.	126
			E. Abut.	168
Driving Piles		Foot	W. Abut.	126
			E. Abut.	168
Test Pile Steel HP12x53		Each	W. Abut.	1
			E. Abut.	0

Notes:  
For details of piles and Concrete Encasement, see sheet 9.



**GENERAL NOTES**

- Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified).
- All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.
- All clearances between rebar and form surface shall be 2", unless otherwise noted.
- Space reinforcement in cap to miss PPCDB dowel rods.
- The Steel H-piles shall be according to AASHTO M270 Grade 50.
- The Contractor shall drive one (1) Test Pile of the size indicated in a permanent location as shown on the plans or as directed by the Engineer before ordering the remainder of the piles.
- The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.
- The back wall and portion of the wingwalls above the construction joint shall be cast after the deck beams are in place.
- The position of the 90° & 135° hooked ends of the s1 bar shall be alternated between adjacent bars.

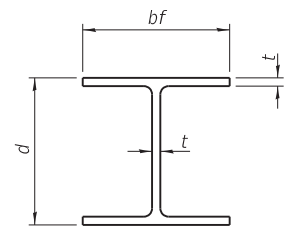
**PILE DATA WEST ABUTMENT**

Type: Steel HP12x53  
Nominal Required Bearing: 418 kips  
Factored Resistance Available: 230 kips  
Est. Length: 42'/pile  
No. Production Piles: 3  
No. Test Piles: 1

**PILE DATA EAST ABUTMENT**

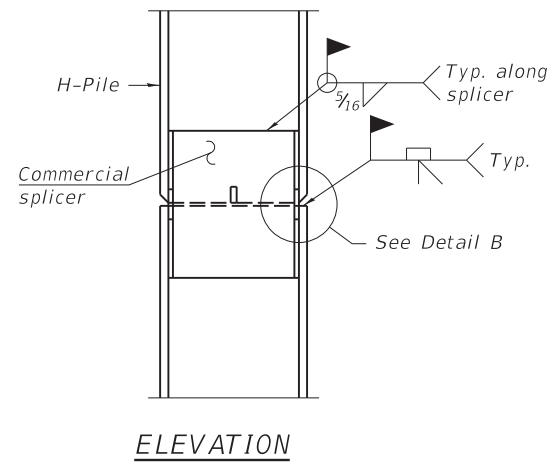
Type: Steel HP12x53  
Nominal Required Bearing: 418 kips  
Factored Resistance Available: 230 kips  
Est. Length: 42'/pile  
No. Production Piles: 4  
No. Test Piles: 0



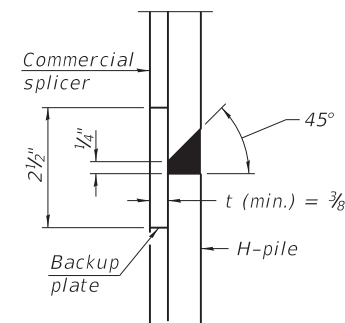


**STEEL PILE TABLE**

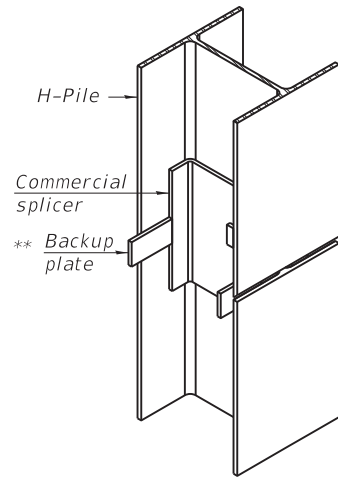
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

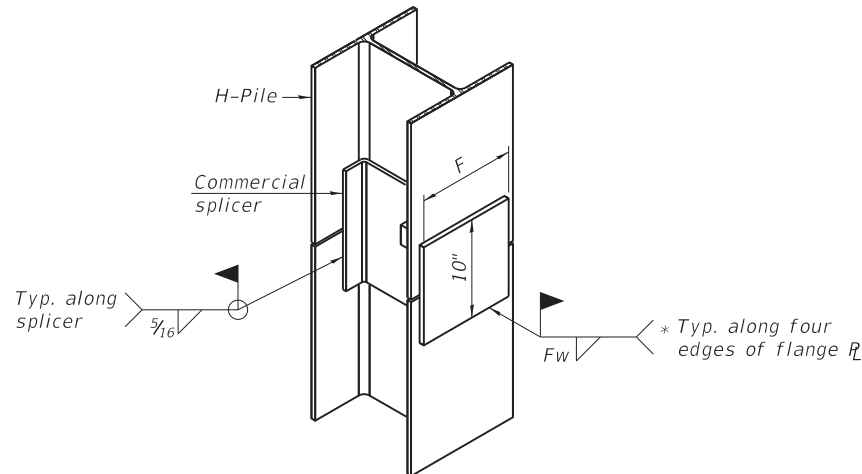


**DETAIL "B"**



**ISOMETRIC VIEW**

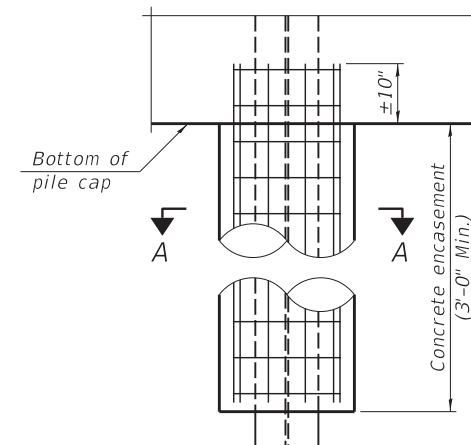
**WELDED COMMERCIAL SPLICE**



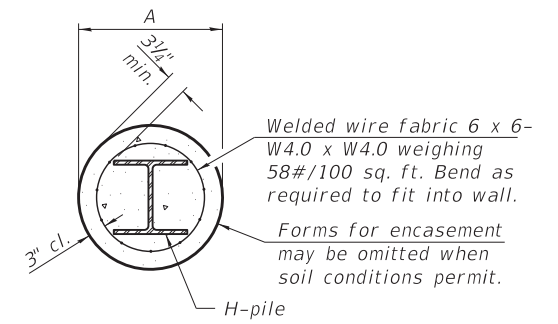
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 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.).

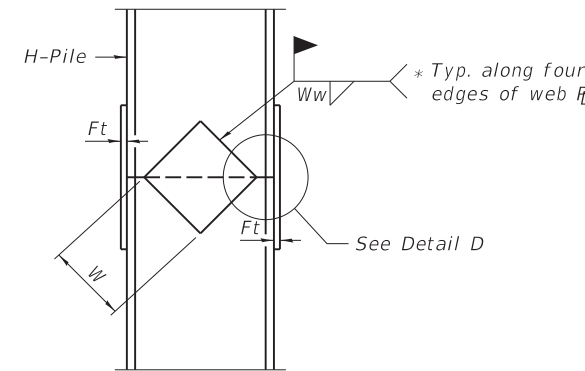


**ELEVATION**

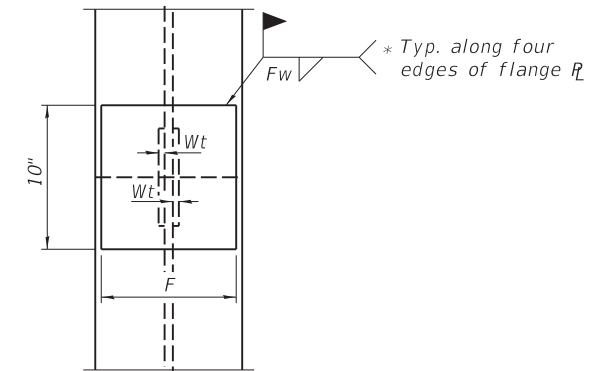


**SECTION A-A**

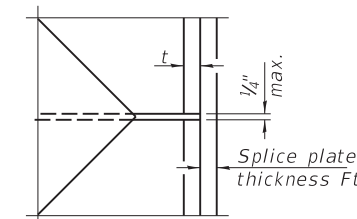
**INDIVIDUAL PILE CONCRETE ENCASEMENT**



**ELEVATION**



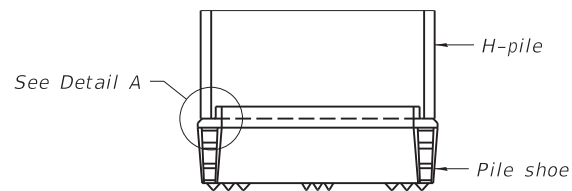
**END VIEW**



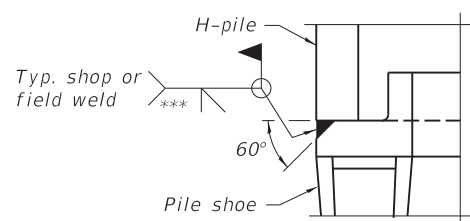
**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	3/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	3/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	3/8"	7/16"	4 1/4"	1/2"	3/8"



**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**

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



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CHECKED - BLT  
DATE - 02/13/2024

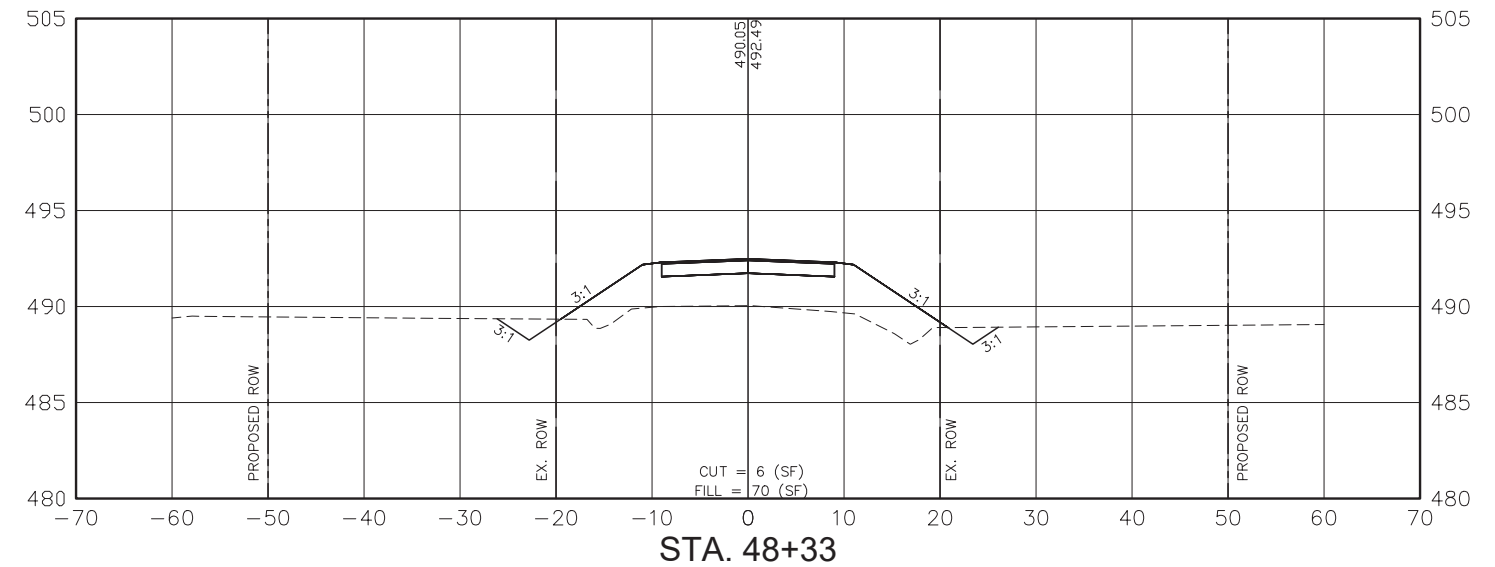
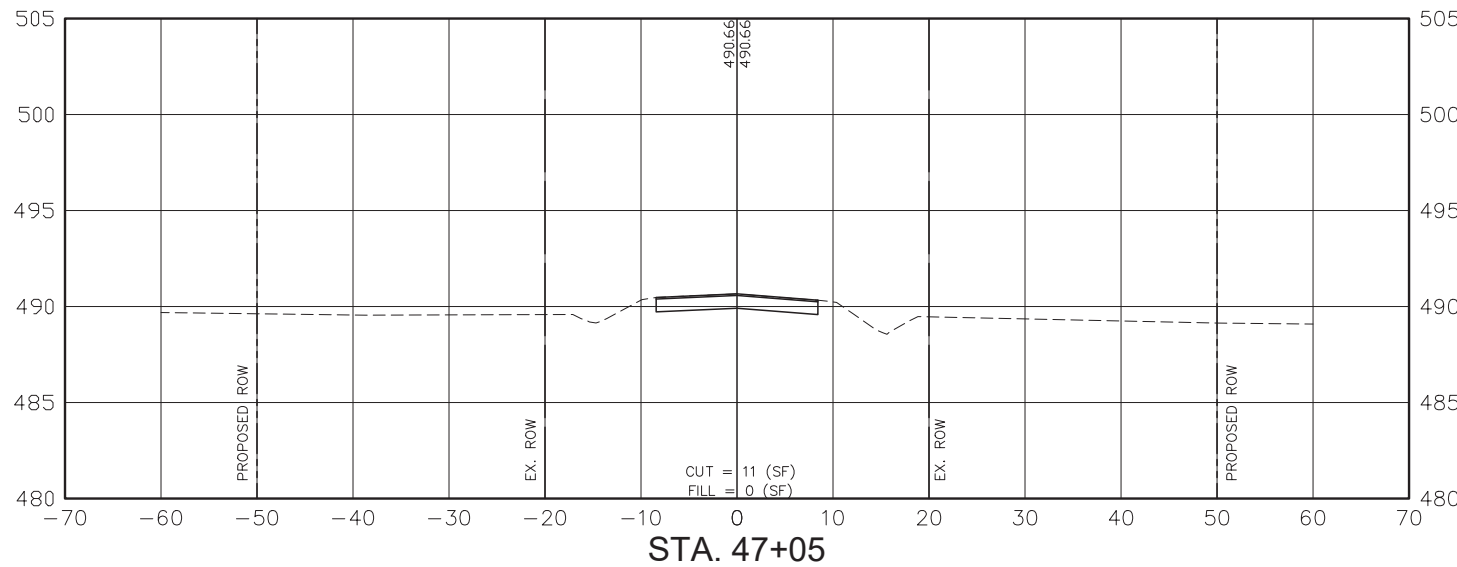
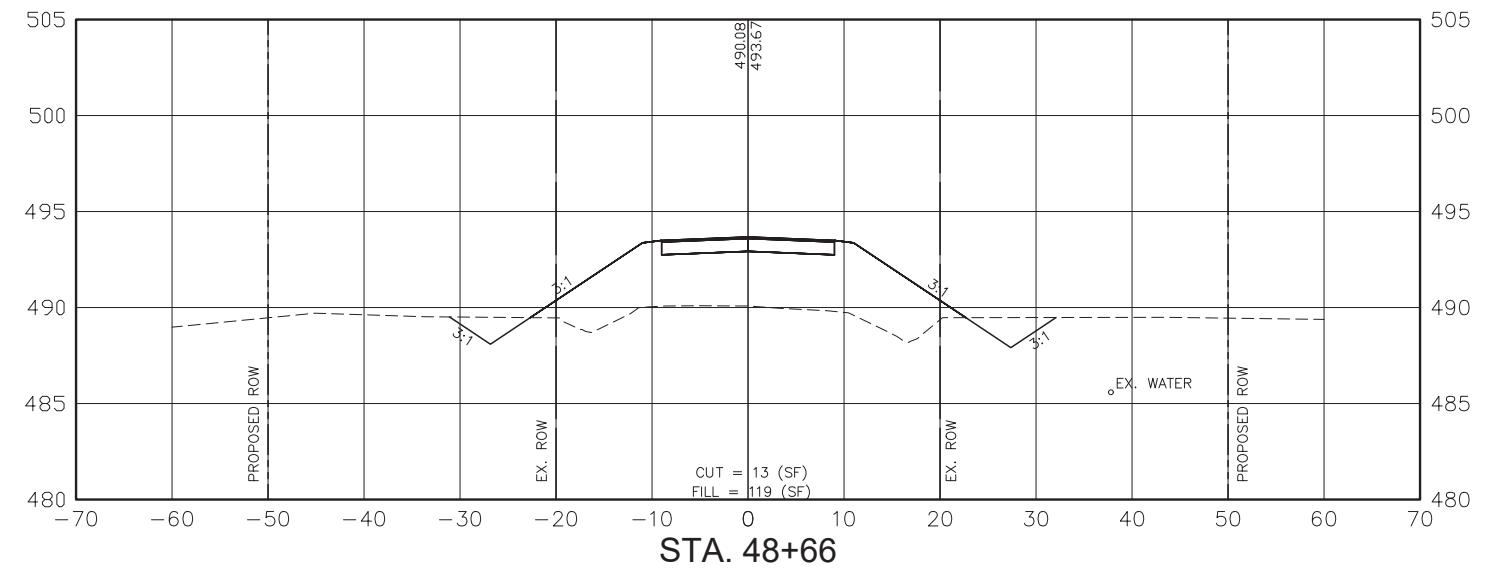
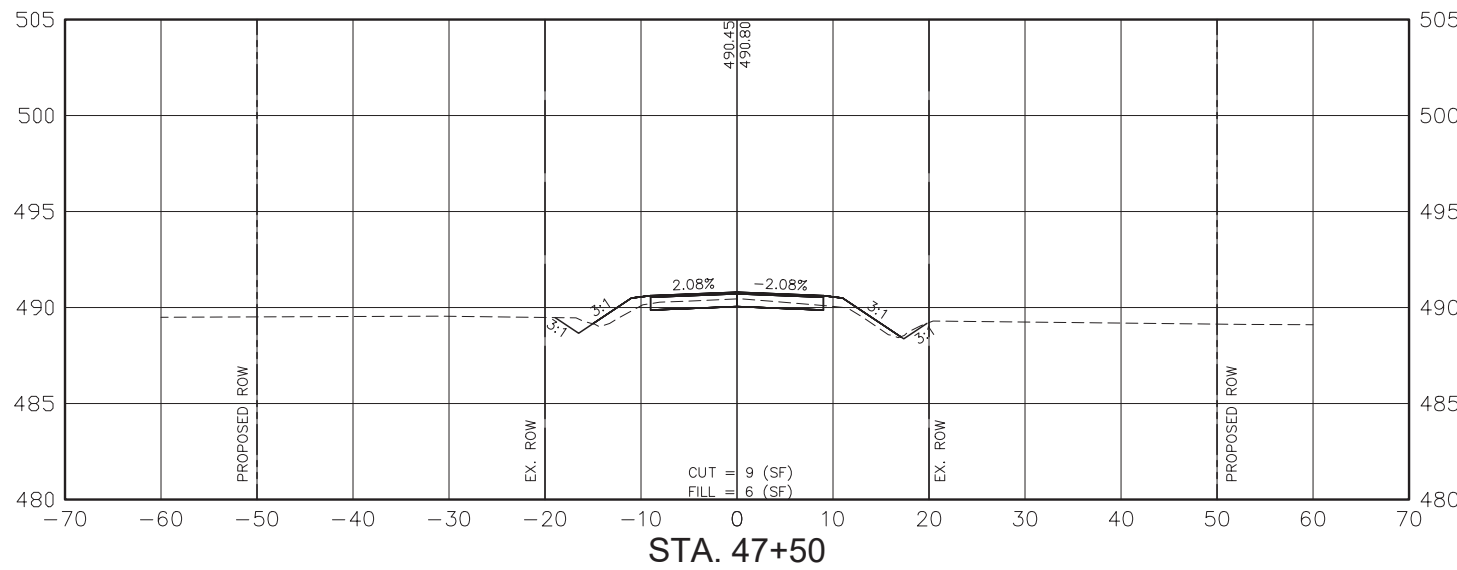
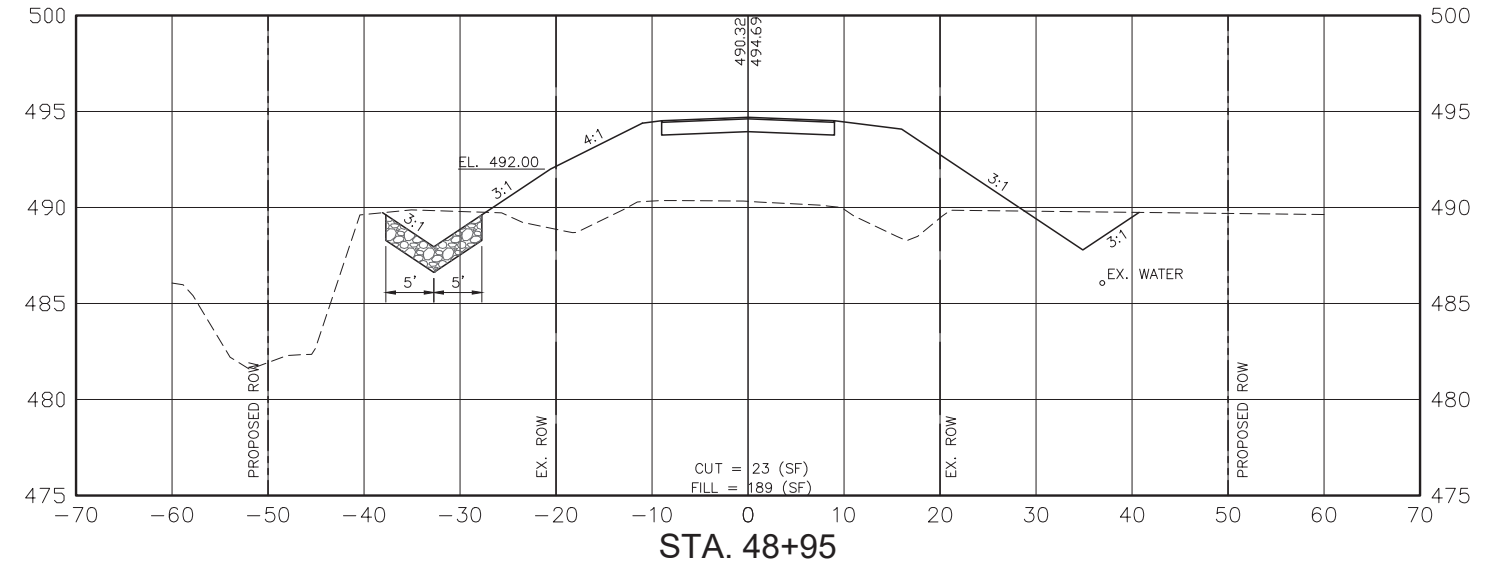
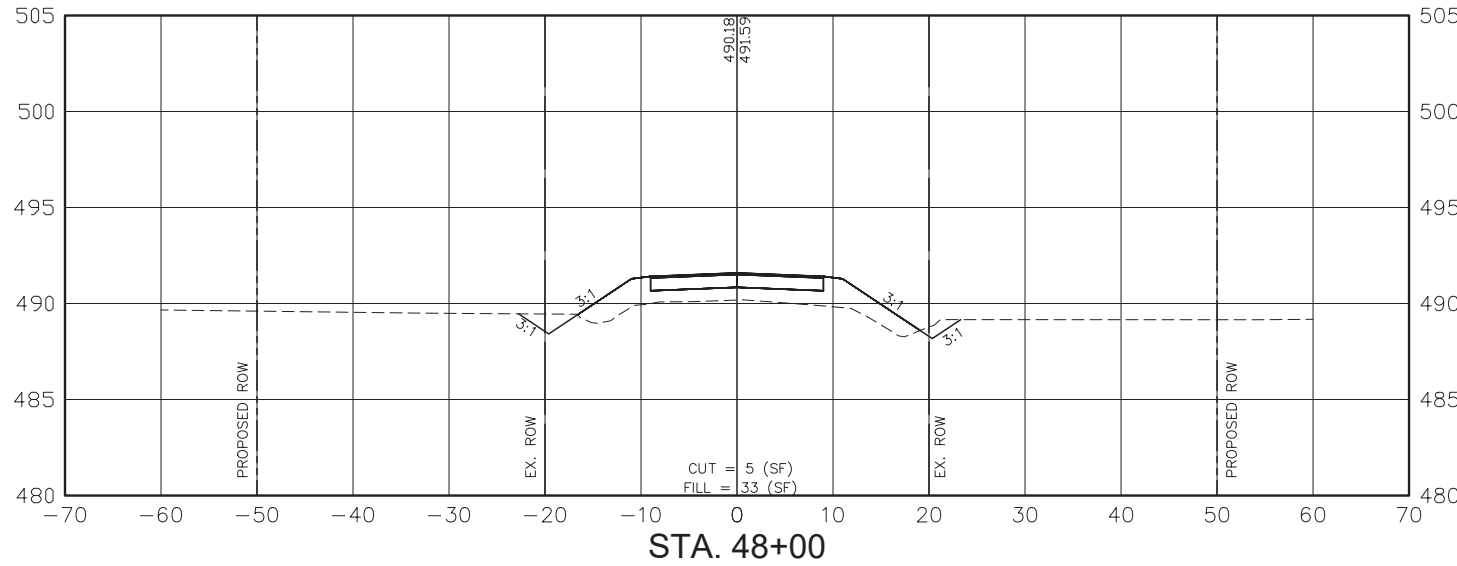
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS

GCL JOB NO. 21-6027  
ROUTE SECTION COUNTY TOTAL SHEET SHEET NO.  
CH 19 19-00096-00-BR CLAY 12 9  
CONTRACT NO. 95953

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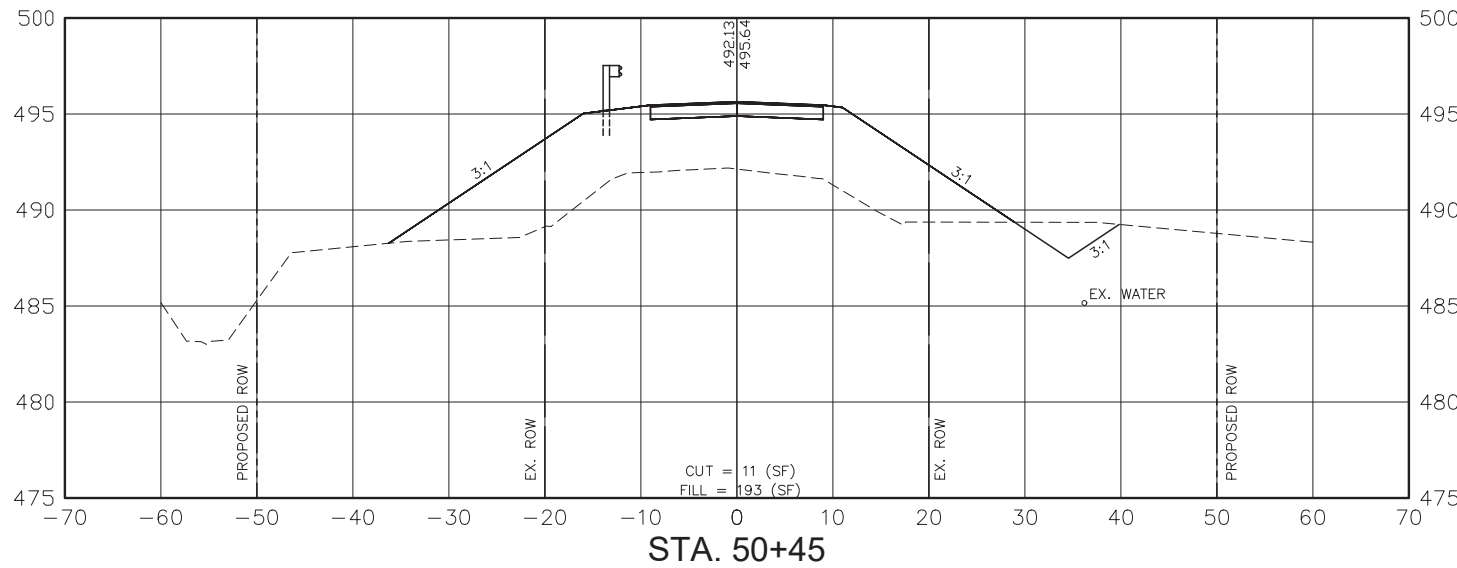
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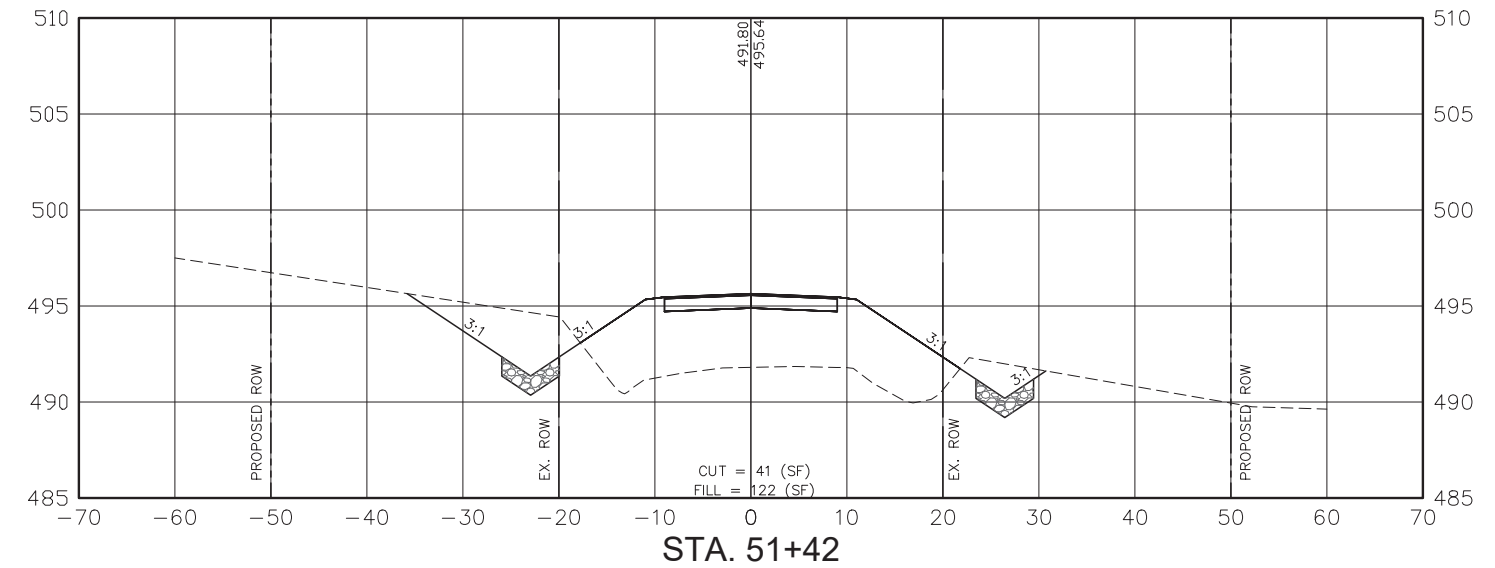
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**CROSS SECTIONS OF ROADWAY  
 STA. 47+05 TO STA. 48+95**

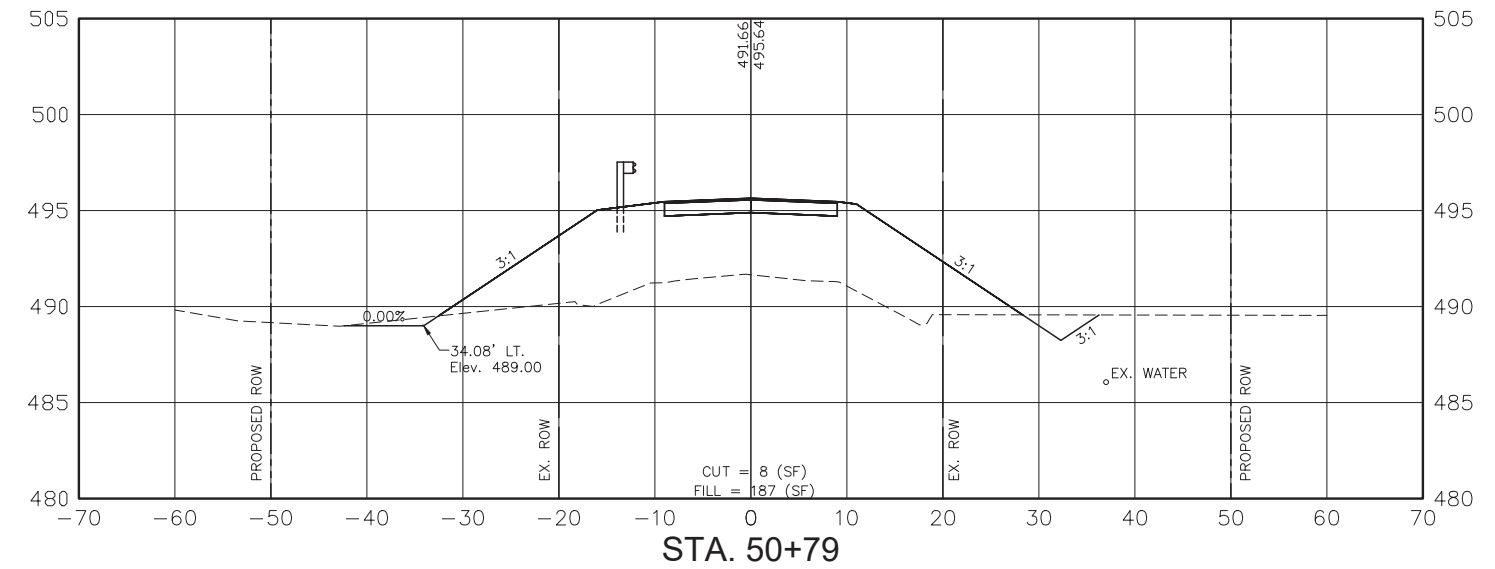
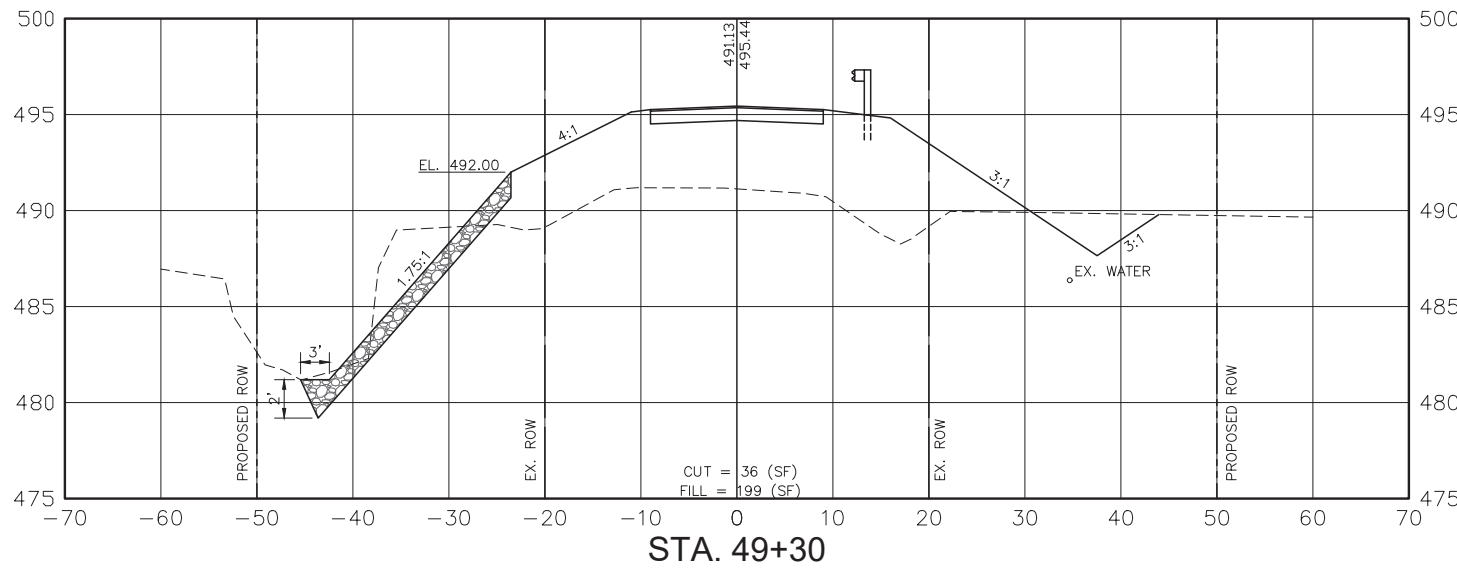
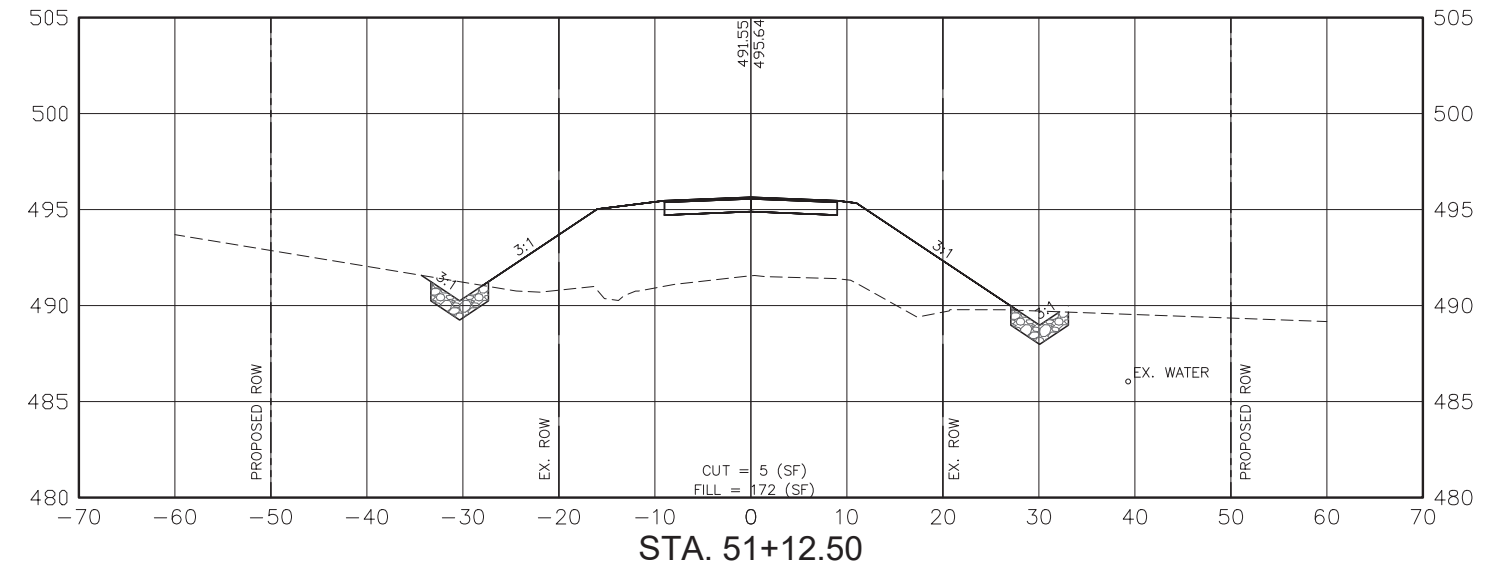
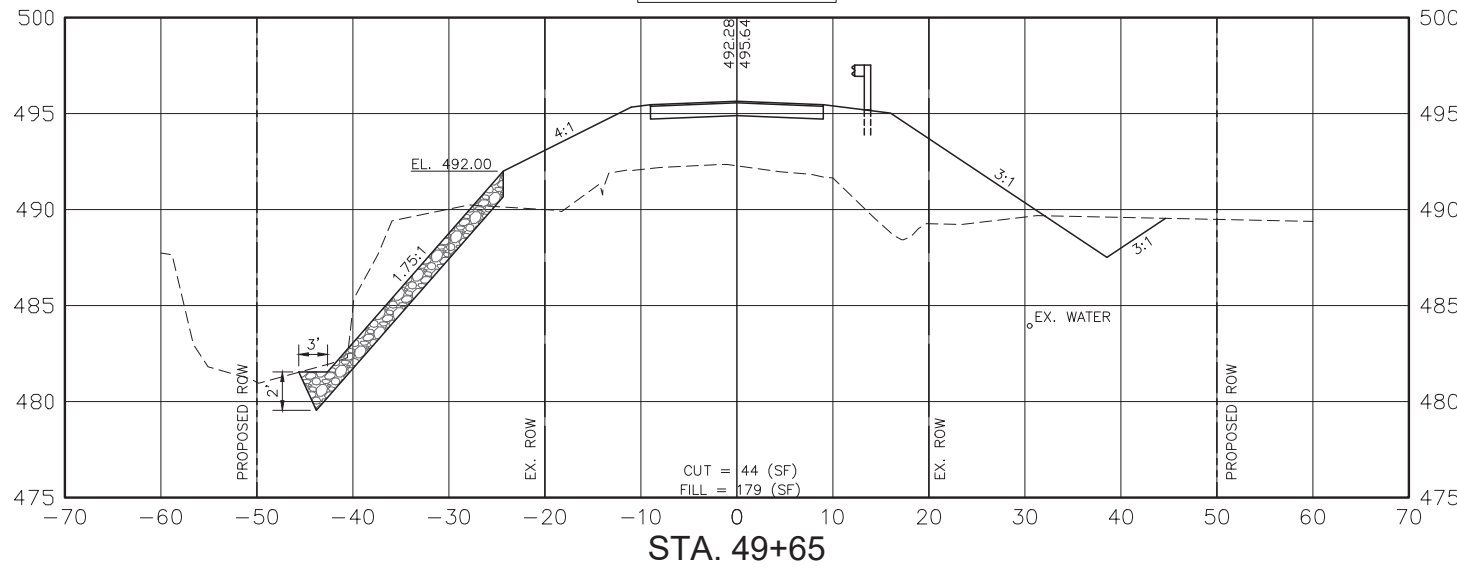
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	10
GCI JOB NO. 21-6027		CONTRACT NO. 95953		



**BRIDGE**



NOTE:  
SEE PLAN & PROFILE SHEET FOR  
RIPRAP DITCH LINING.



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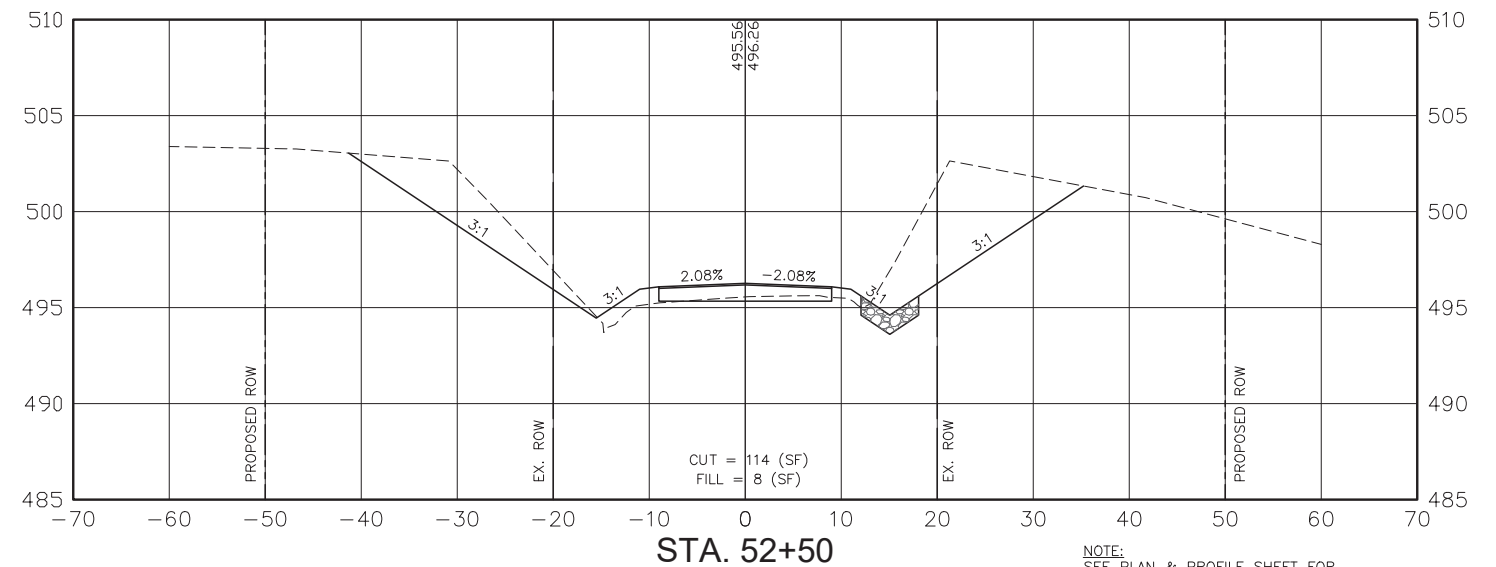
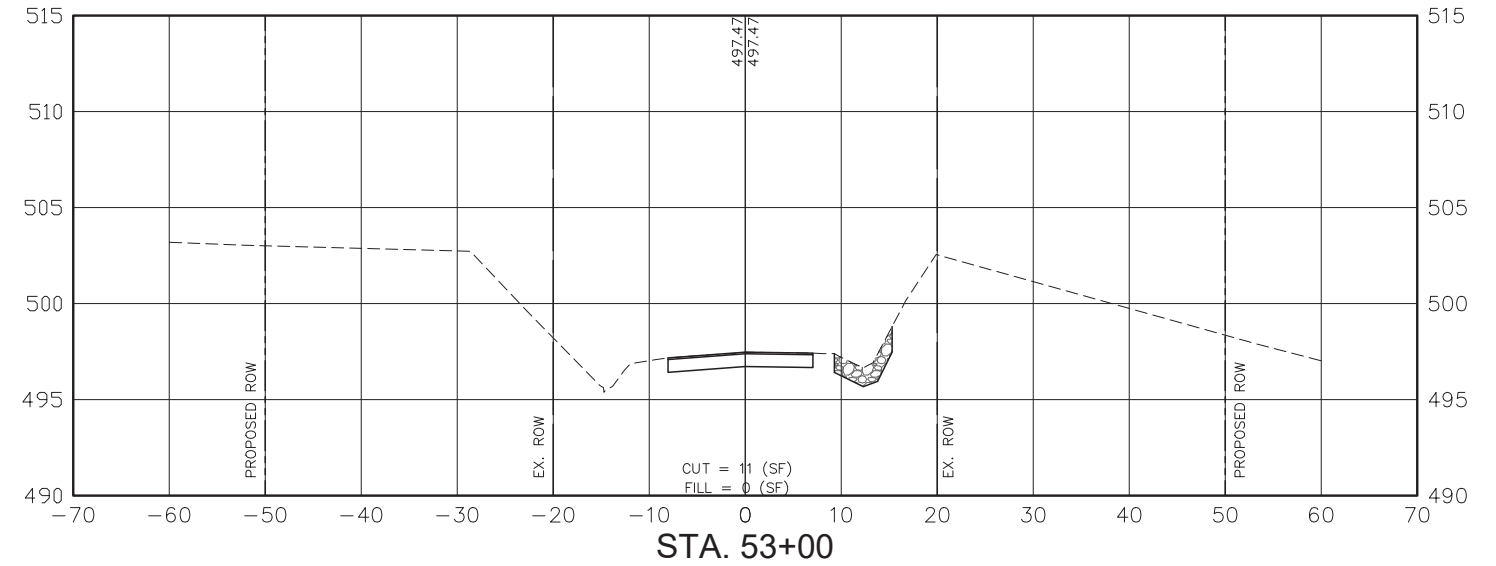
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

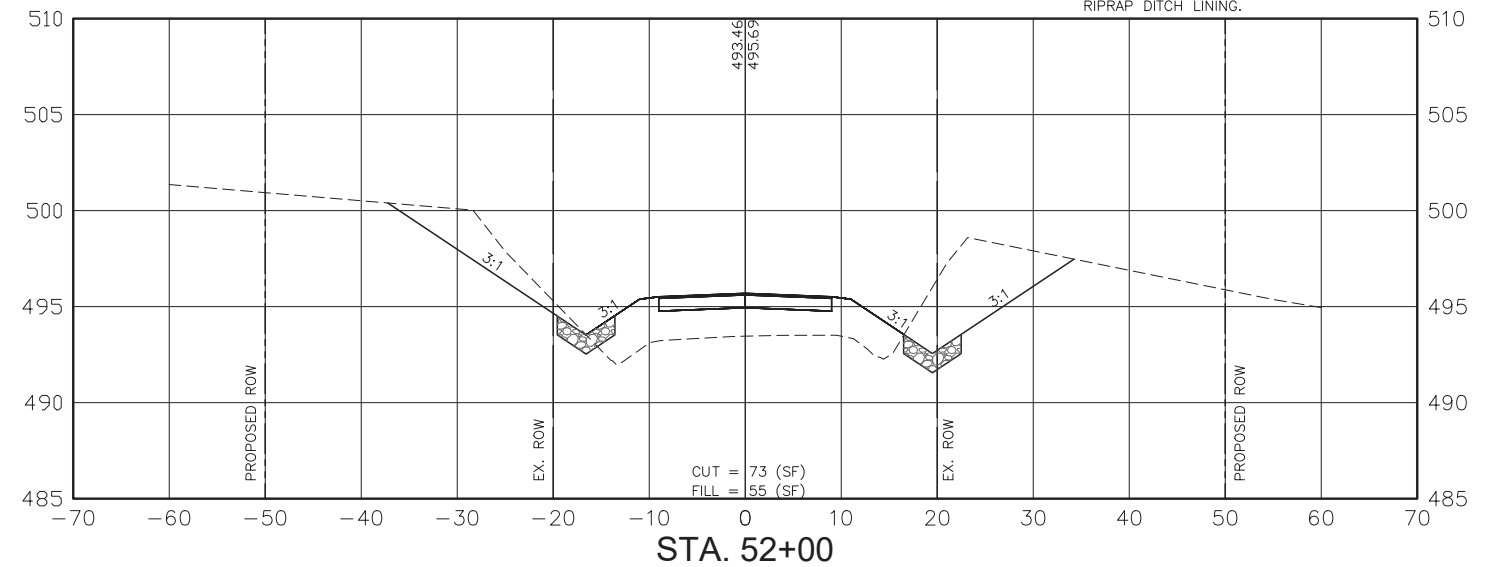
CROSS SECTIONS OF ROADWAY  
STA. 49+30 TO STA. 51+42

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	11
GCI JOB NO. 21-6027			CONTRACT NO. 95953	

S:\Projects\2021\21-627 City County - Camground Lane over Bush Creek\20 Design\CADD\003-XTDPO-71627.DWG, Plotted on: 2/13/2024 5:00 PM



NOTE:  
SEE PLAN & PROFILE SHEET FOR  
RIPRAP DITCH LINING.



**gonzalez**  
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SALEM, IL 62881  
PHONE (618) 222-2221  
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ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564

DESIGNED	- BLT	REVISED	-
DRAWN	- JMW	REVISED	-
CHECKED	- BLT	REVISED	-
DATE	- 02/13/2024	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**CROSS SECTIONS OF ROADWAY  
STA. 52+00 TO STA. 53+00**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	19-00096-00-BR	CLAY	12	12
GCI JOB NO. 21-6027		CONTRACT NO. 95953		