04-29-2022 LETTING ITEM 153

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	CHRISTIAN	15	1
	ILLINOIS	CONTRACT NO. 93781		

INDEX OF SHEETS

HIGWAY STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-04	NAME PLATE FOR BRIDGES
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITIES

POWER: AMEREN CIPS – (SOUTH)
799 S 9TH STREET
MATTOON, IL 61938
(800) 755–5000

PHONE: IL CONSOLIDATED TELEPHONE
121 S. 17TH STREET
MATTOON, IL 61938
(217) 235–3311

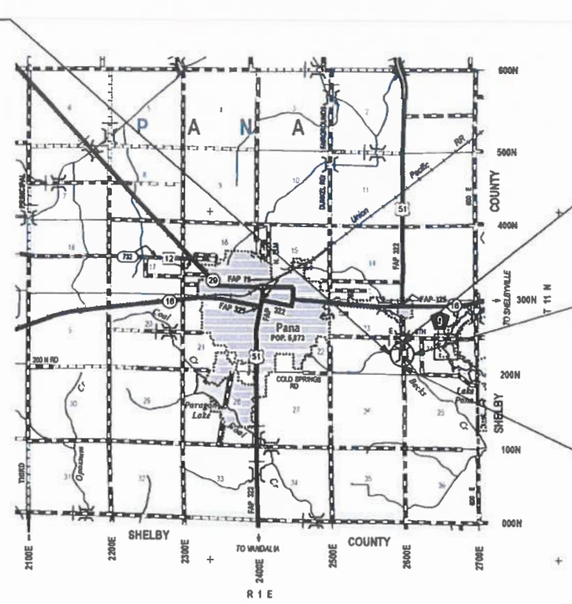
WATER: CITY OF PANA
120 E. THIRD STREET
PANA, IL 62557
(217) 562–3626

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED BRIDGE REPLACEMENT STP–OFF SYSTEM

TR 302 OVER BECKS CREEK
SECTION 19-11115-00-BR
PROJECT 5FM7(562)
PANA TOWNSHIP
CHRISTIAN COUNTY
C–96–062–21

STA. 14+92.00
SINGLE SPAN 27" PPC DECK BEAMS
65'-0" BK TO BK ABUTMENT
58'-11" SPAN, 28' CLEAR WIDTH
PILE BENT ABUTMENTS
STEEL RAIL, TYPE S-1, 10 DEGREE SKEW
STRUCTURE NO. 011-3428



END IMPROVEMENTS
STA. 17+50.00

EXISTING STRUCTURE NO. 011-3034
TWO SPAN STEEL GIRDER BRIDGE
CONTINUOUS STEEL SPAN
CONCRETE ABUTMENTS AND WINGWALLS
LENGTH=36.0" WIDTH=25.7'

BEGINNING IMPROVEMENTS
STA. 12+50.00

LOCATION OF SECTION INDICATED THUS: -

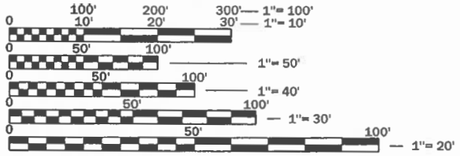
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 12/8/2021
CHRISTIAN COUNTY ENGINEER

PASSED 12/8/21
DISTRICT SIX ENGINEER OF LOCAL ROADS AND STREETS

Released for Bid Based on Limited Review 12/8/21
REGION FOUR ENGINEER

FUNCTIONAL CLASSIFICATION = LOCAL ROAD (NON–URBAN)
DESIGN SPEED = 30 MPH
DESIGN TRAFFIC = 475 ADT (2016)



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

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

CIVIL DESIGN, INC.
WBE / DBE
LICENSE #184.003222

LOCATION MAP
GROSS LENGTH = 500.0 FT. = 0.095 MILE
NET LENGTH = 500.0 FT. = 0.095 MILE

N

STATE OF ILLINOIS
ROBERT HANFLAND
NUMBER 062.064104
PROFESSIONAL ENGINEER

11-30-2021
Robert Hanfland Date
Licensed Professional Engineer
State of Illinois No. 062-064104
Expires 02-28-2022

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

CONTRACT NO. 93781

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY
^	20100500	TREE REMOVAL, ACRES	ACRE	0.25
	20200100	EARTH EXCAVATION	CU YD	96
	20300100	CHANNEL EXCAVATION	CU YD	338
	20400800	FURNISHED EXCAVATION	CU YD	524
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	40
	28000305	TEMPORARY DITCH CHECKS	FOOT	12
	28000400	PERIMETER EROSION BARRIER	FOOT	352
	28100207	STONE RIPRAP, CLASS A4	TON	341
	28200200	FILTER FABRIC	SQ YD	439
	35101400	AGGREGATE BASE COURSE, TYPE B	TON	492
^	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50105220	PIPE CULVERT REMOVAL	FOOT	80
	50200100	STRUCTURE EXCAVATION	CU YD	90
	50300225	CONCRETE STRUCTURES	CU YD	29.4
	50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,768
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,980
*	50900205	STEEL RAILING, TYPE S1	FOOT	130
	51200958	FURNISHING METAL SHELL PILES 14" X 0.250"	FOOT	372
	51202305	DRIVING PILES	FOOT	372
	51203200	TEST PILE METAL SHELLS	EACH	2
	51204650	PILE SHOES	EACH	10
^	51500100	NAME PLATES	EACH	1
	542C0217	PIPE CULVERTS, CLASS C, TYPE 1 12"	FOOT	75
	59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	50
	67100100	MOBILIZATION	L SUM	1
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
	LR403200	BITUMINOUS MATERIALS (PRIME COAT)	TON	1
	LR403400	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	TON	5
	LR403500	COVER COAT AGGREGATE	TON	24
	LR403600	SEAL COAT AGGREGATE	TON	12
^	X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
^	Z0013798	CONSTRUCTION LAYOUT	L SUM	1

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

EARTHWORK SCHEDULE

1	2	3	4	5	6	7	8	9
LOCATION	EARTH EXCAVATION CU YD	STRUCTURE EXCAVATION CU YD	CHANNEL EXCAVATION CU YD	ESTIMATED UNSUITABLE MATERIAL CU YD	ESTIMATED SUITABLE MATERIAL CU YD	ESTIMATE SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE CU YD	EMBANKMENT CU YD	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CU YD
STA 12+50 TO STA. 14+59.27	46				46	35	203	-168
STA 14+59.27 TO STA. 15+24.27		90	338	128	300	225		225
STA 15+24.27 TO STA. 17+50	50				50	38	619	-581
TOTAL	96	90	338	128	396	298	822	-524

COLUMN 1, 2, & 8 - LOCATION AND QUANTITIES FROM CROSS SECTIONS,
CUT = EARTH EXCAVATION FILL = EMBANKMENT
COLUMN 3 - QUANTITIES FOR STRUCTURAL EXCAVATION (CUT) FROM BRIDGE PLANS
COLUMN 4 - QUANITY OF CHANNEL EXCAVATION (CUT) FROM BRIDGE PLANS
COLUMN 5 - ESTIMATED UNSUITABLE MATERIAL (ESTIMATED AT 30% OF STRUCTURE AND CHANNEL EXCAVATION)
COLUMN 6 - ESTIMATED SUITABLE EARTH EXCAVATION (ESTIMATED AT 70% OF STRUCTURE AND CHANNEL EXCAVATION)
COLUMN 7 - QUANITITY OF SUITABLE EARTH EXCAVATION (CUT) ADJUSTED FOR A SHRINKAGE FACTOR OF 25%
COLUMN 9 - EARTHWORK BALANCE
(-) = QUANTITY OF FURNISHED EXCAVATION NEEDED EARTHWORK BALANCE
(+) = QUANTITY OF EARTH EXCAVATION ADJUSTED FOR SHRINKAGE TO BE WASTED

SEEDING SCHEDULE

LOCATION	SEEDING CLASS 2 ACRE	NITROGEN FERTILIZER NUTRIENT (90 LBS/ACRE) POUND	PHOSPHORUS FERTILIZER NUTRIENT (90 LBS/ACRE) POUND	POTASSIUM FERTILIZER NUTRIENT (90 LBS/ACRE) POUND	MULCH METHOD 2 ACRE	TEMPORARY EROSION CONTROL SEEDING (2 @ 100) LBS/ACRE POUND
STA 12+50 TO STA. 14+59.27	0.1	9	9	9	0.1	20
STA 15+24.27 TO STA. 17+50	0.1	9	9	9	0.1	20
TOTAL	0.2	18	18	18	0.2	40

SEEDING SCHEDULE CONTAINS ESTIMATED QUANTITIES FOR INFORMATIONAL PURPOSES ONLY.
COST OF SEEDING SHALL BE INCLUDED IN EARTH EXCAVATION. SEE SPECIAL PROVISIONS

AGGREGATE BASE COURSE, TYPE B

LOCATION	THICKNESS (IN)	WIDTH	LENGTH (FT)	TONS
STA 12+50 TO 13+50	8	VARIES	100.0	102
STA 13+50 TO 14+59.27	8	26'	109.3	122
STA 15+24.27 TO 16+50	8	26'	125.7	140
STA 16+50 TO 17+50	8	VARIES	100.0	102
STA 12+85 RT	6	VARIES	VARIES	10
STA 16+70 RT	6	VARIES	VARIES	16
			TOTAL	492

BITUMINOUS MATERIALS (PRIME COAT)

LOCATION	WIDTH	LENGTH (FT)	TONS
STA 12+50 TO 13+50	VARIES	100.0	0.3
STA 13+50 TO 14+59.27	26'	109.3	0.3
STA 15+24.27 TO 16+50	26'	125.7	0.3
STA 16+50 TO 17+50	VARIES	100.0	0.3
		TOTAL	1

BITUMINOUS MATERIALS (COVER AND SEAL COATS)

LOCATION	WIDTH	LENGTH (FT)	TONS
STA 12+50 TO 13+50	VARIES	100.0	1.0
STA 13+50 TO 14+59.27	26'	109.3	1.2
STA 15+24.27 TO 16+50	26'	125.7	1.4
STA 16+50 TO 17+50	VARIES	100.0	1.0
		TOTAL	5

PERIMETER EROSION BARRIER

LOCATION	FEET
14+00 RT TO 14+50 RT	50
15+50 LT TO 17+50 LT	202
15+50 RT TO 16+50 RT	100
TOTAL	352

COVER COAT AGGREGATE

LOCATION	WIDTH	LENGTH (FT)	TONS
STA 12+50 TO 13+50	VARIES	100.0	5.2
STA 13+50 TO 14+59.27	26'	109.3	6.1
STA 15+24.27 TO 16+50	26'	125.7	7.1
STA 16+50 TO 17+50	VARIES	100.0	5.2
		TOTAL	24

TEMPORARY DITCH CHECKS

LOCATION	FEET
14+00 RT	6
15+50 RT	6
TOTAL	12

SEAL COAT AGGREGATE

LOCATION	WIDTH	LENGTH (FT)	TONS
STA 12+50 TO 13+50	VARIES	100.0	2.6
STA 13+50 TO 14+59.27	26'	109.3	3.1
STA 15+24.27 TO 16+50	26'	125.7	3.5
STA 16+50 TO 17+50	VARIES	100.0	2.6
		TOTAL	12

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EFFINGHAM, IL
LICENSE #184.003222

USER NAME = rhanfland	DESIGNED - DMM	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - RLH	REVISED -	
PLOT DATE = 2/25/2022	DATE - 11-19-2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
SCHEDULES

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

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	CHRISTIAN	15	2
		CONTRACT NO. 93781		
		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

1. ALL CLEARING AND GRUBBING, FENCE REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL AND DISPOSAL OF EXISTING BUTUMINOUS AND AGGREGATE PAVEMENT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

2. TEMPORARY EROSION CONTROL TO BE IMPLEMENT PER THE PLANS AND AS DIRECTED BY THE ENGINEER.

3. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS AND PREVENT DRAINAGE OR PONDING OF WATER ONTO PRIVATE PROPERTY.

4. ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE R.O.W. AND EASEMENTS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER.

5. NO PAYMENT FOR OVERHAUL WILL BE MADE FOR THIS SECTION.

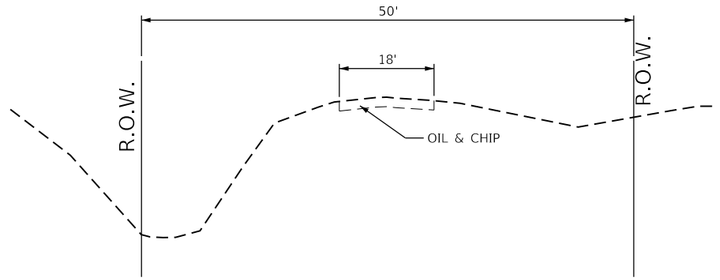
6. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE. HOWEVER, THE EXACT LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

7. TREES WITHIN THE R.OW. WHICH INTERFERE WITH CONSTRUCTION ACTIVITIES SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER. ANY TREES GREATER THAN 3" DIAMETER AT 4' HEIGHT SHALL NOT BE CLEARED FROM APRIL 1 THROUGH SEPTEMBER 30.

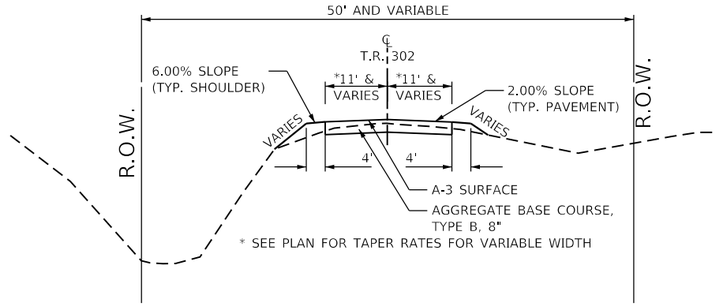
8. ELEVATIONS ARE BASED ON NAVD88. THE PROPOSED GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEET AND STATION CROSS SECTIONS ARE THE ELEVATIONS FOR THE FINISHED SURFACE AT THE LOCATIONS INDICATED.

9. THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

AGGREGATE BASE COURSE	2.05 TON/CU YD
STONE RIP RAP	1.75 TON/CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.25 LB/SQ FT
BITUMINOUS MATERIALS (COVER AND SEAL COAT)	0.25 LB/SQ FT
COVER COAT & SEAL COAT AGGREGATE	23 LB/SQ YD

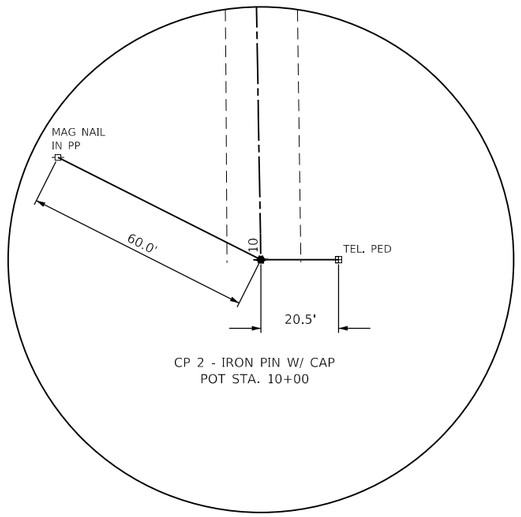


EXISTING TYPICAL

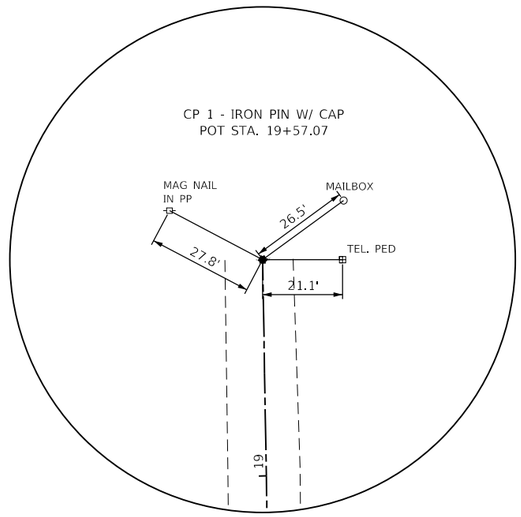


PROPOSED TYPICAL

STA. 12+50.00 TO 14+59.50
STA. 15+24.50 TO 17+50.00



CP 2 - IRON PIN W/ CAP
POT STA. 10+00



POINT	STATION	NORTHING	EASTING
POT	10+00.00	989246.5030	2613863.4270
POT	19+57.07	990203.4310	2613847.1470

BENCHMARK: RR SPIKE IN W FACE OF PP ON E SIDE OF RD NEAR SE COR OF BRIDGE
ELEV. = 630.10

MODEL: Default
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CIVIL DESIGN, INC.
WBE | DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = tziegler	DESIGNED - DMM	REVISED -
	DRAWN - DMM	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED - RLH	REVISED -
PLOT DATE = 11/30/2021	DATE - 11-19-2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES,
TYPICALS, AND TIES

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

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	CHRISTIAN	15	3
		CONTRACT NO. 93781		
	ILLINOIS	FED. AID PROJECT		

KENT & JENNIFER HOLTHAUS

ALFONS & JOANNE LEONARD

GREGORY & BETH HOLTHAUS

ERIC & RICHARD WARREN

J GREGORY & PATRICIA HOLTHAUS

STA. 14+75, STRUCTURE 011-3034
EXIST. TWO SPAN STEEL GIRDER BRIDGE
CONTINUOUS STEEL SPAN
CONCRETE ABUTMENTS AND WINGWALLS
36' BACK TO BACK ABUTMENTS

STA. 14+92.00 - PROPOSED BRIDGE (011-3428)
SINGLE SPAN PPC DECK BEAMS (27" DEPTH)
65'-0" BK TO BK ABUTMENT 10° LT FRWD
58'-11" SPAN LENGTH - 28' CLEAR WIDTH
ON PILE BENT ABUTMENTS
STEEL RAILING, TYPE S-1

GRAPHIC SCALE
20 0 20 40
FEET

100' TRANSITION

BEGIN PROJECT
STA. 12+50

LIMIT OF CONSTRUCTION

STA. 14+25
25' LT

STA. 14+75
35' LT

PR ROW

STA. 15+50
35' LT

STA. 16+25
25' LT

EX ROW

100' TRANSITION

END PROJECT
STA. 17+50

PR ℄ T.R. 302

12 13 14 15+00 16 17

CS

111.11

111.11

R 15

R 15

REMOVE EXISTING 12" CMP - 28'

PIPE CULVERT, CLASS C, TYPE 1 12" - 28'
USFL = 629.33
DSFL = 629.26

+85 P.E. (AGG)
12' WIDE

STA. 13+54.93
25' RT

REMOVE EXISTING 12" CMP - 16'

STA. 14+50
35' RT

+59.50

BECKS CREEK

+24.50

EX ROW

PR ROW

STA. 16+00
25' LT

LIMIT OF CONSTRUCTION

STA. 16+50
35' RT

R 15

+70 P.E. (AGG)
17' WIDE

REMOVE EXISTING 12" CMP - 36'

PIPE CULVERT, CLASS C, TYPE 1 12" - 47'
USFL = 628.25
DSFL = 628.03

PROPOSED T.R. 302 PROFILE

EXISTING T.R. 302 PROFILE

DESIGN HWE = 628.0

K = 67
125.00' V.C.

631.16 +81.50 EL. 631.84

+06.50 EL. 631.25

VPI STA. 13+44.00
ELEVATION 630.79

-1.10%

+0.78%

+0.78%

VPI STA. 14+34.00
ELEVATION 631.46

+0.00%

+09.00 EL. 631.16

K = 64
50.00' V.C.

+59.00 EL. 631.46

+23.80 EL. 631.40

K = 49
80.00' V.C.

+0.00%

VPI STA. 15+63.00
ELEVATION 631.46

-1.64%

+05.00 EL. 630.77

K = 66
120.00' V.C.

-6.1%

+0.18%

VPI STA. 16+65.00
ELEVATION 629.79

+25.00 EL. 629.90

629.90

633.48 632.09 631.13 631.27 630.34 631.04 630.10 631.20 630.54 631.45 630.66 631.46 629.92 631.39 629.20 630.85 629.20 630.19 629.66 629.90 630.20

650 645 640 635 630 625 620 615

12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50 16+00 16+50 17+00 17+50

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PROFILES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

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EFFINGHAM, IL
LICENSE #184.003222

USER NAME = tziegler	DESIGNED - DMM	REVISED -
	DRAWN - DMM	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED - RLH	REVISED -
PLOT DATE = 11/30/2021	DATE - 11-19-2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

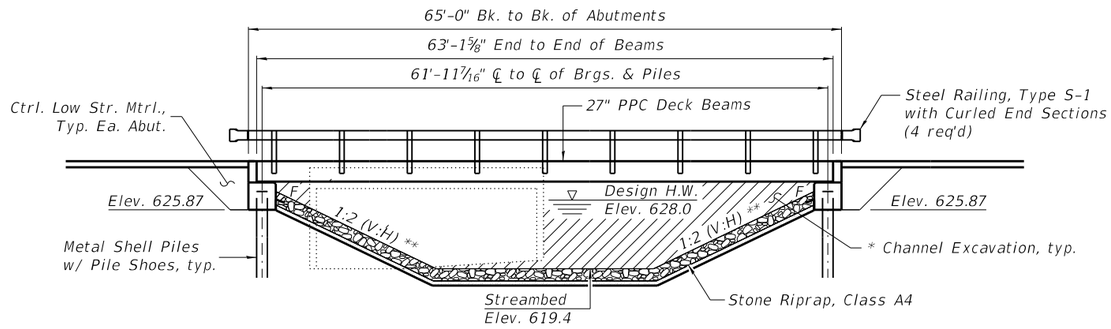
SCALE: SHEET OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	CHRISTIAN	15	4
		CONTRACT NO. 93781		
		ILLINOIS FED. AID PROJECT		

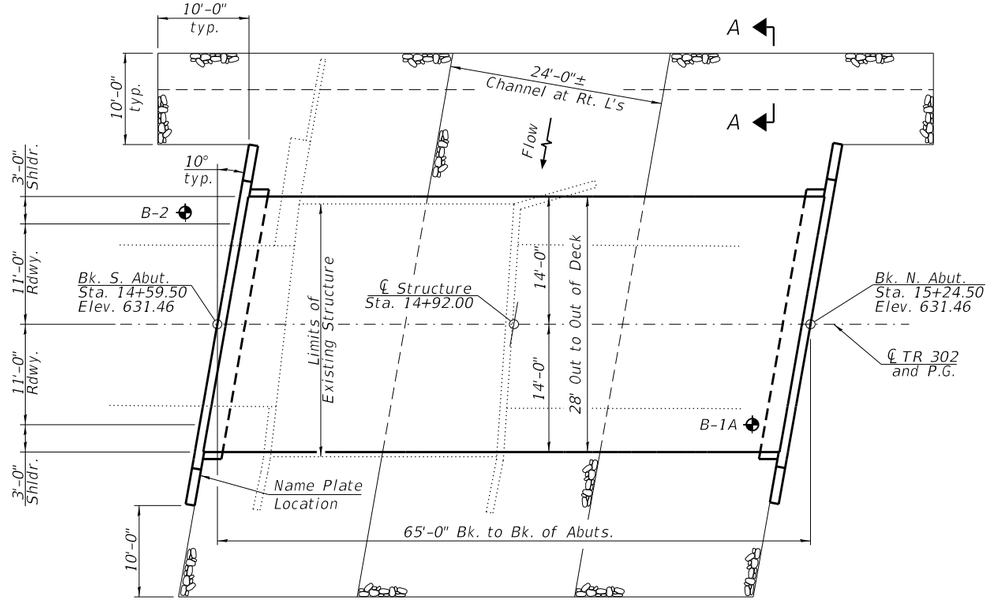
Bench Mark: RR Spike in W Face of PP SE of bridge. Sta. 14+36, 15' RT. Elev. 630.10.

Existing Structure: S.N. 011-3034 was built in 1939 and reconstructed in 1975. Existing structure is a two-span steel girder bridge on closed concrete abutments. 26'-7" back to back abutments, 25'-8" out to out of deck.

No Salvage.



ELEVATION



PLAN

* Channel shall be excavated as shown with 2:1 slopes within the ROW. Suitable excavated materials may be used in embankments.

** @ Right Angles

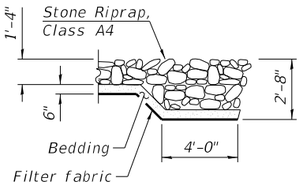
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			338
Stone Riprap, Class A4	Ton		341	341
Filter Fabric	Sq. Yd.		439	439
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		90	90
Concrete Structures	Cu. Yd.		29.4	29.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,768		1,768
Reinforcement Bars, Epoxy Coated	Pound		3,980	3,980
Steel Railing, Type S1	Foot	130		130
Furnishing Metal Shell Piles 14" x 0.250"	Foot		372	372
Driving Piles	Foot		372	372
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		10	10
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.		50	50
Terminal Marker - Direct Applied	Each	4		4

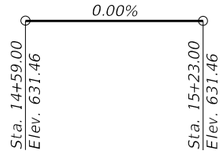
GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

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



SECTION A-A



PROFILE GRADE

(along ℄ roadway)

INDEX OF SHEETS

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f_{pu} = 270,000 psi (½" dia. low lax. strands)
f_{pbt} = 201,960 psi (½" dia. low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) =0.134g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.299g
Soil Site Class = C

LICENSED STRUCTURAL ENGINEER ★ TYLER J. ZIEGLER 081-007505 ★ STATE OF ILLINOIS

11/30/21

TYLER ZIEGLER Date
Licensed Structural Engineer
State of Illinois No. 081-007505
Expires 11-30-2022

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

WATERWAY INFORMATION

Drainage Area = 4.9 mi^2 — Exist. Low Grade Elev. 629.20 @ Sta. 16+00; Prop. Low Grade Elev. 629.90 @ Sta. 17+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	1573	182	376	628.0	1.8	0.2	629.8	628.2
Ex. Overtop.	25	1640	188	-	628.2	1.9	-	630.1	-
Base	100	2470	188	435	629.6	1.8	0.5	631.4	630.1
Pr. Overtop.	370	3100	-	435	630.3	-	0.9	-	631.2

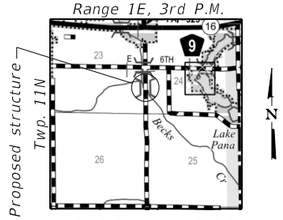
DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elev. (ft.) S. Abut.	Design Scour Elev. (ft.) N. Abut.	Item 113
Q100	625.9	625.9	8
Q200	625.9	625.9	
Design	625.9	625.9	
Check	625.9	625.9	

BECKS CREEK
BUILT 20 BY
CHRISTIAN COUNTY
SEC. 19-11115-00-BR
TR 302 STA. 14+92.00
STR. NO. 011-3428 LOADING HL-93

NAME PLATE

See Std. 515001



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
T.R. 302 OVER BECKS CREEK
SEC. 19-11115-00-BR
CHRISTIAN COUNTY
STATION 14+92.00
STRUCTURE NO. 011-3428

CIVIL DESIGN, INC. WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = tziegler | PLOT SCALE = 0.1660 ' / in. | PLOT DATE = 11/30/2021
DESIGNED - TJZ | DRAWN - TJZ | CHECKED - ADB | DATE - 11/30/2021
REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 011-3428
SHEET 1 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	5
		CONTRACT NO. 93781		
	ILLINOIS	FED. AID PROJECT		

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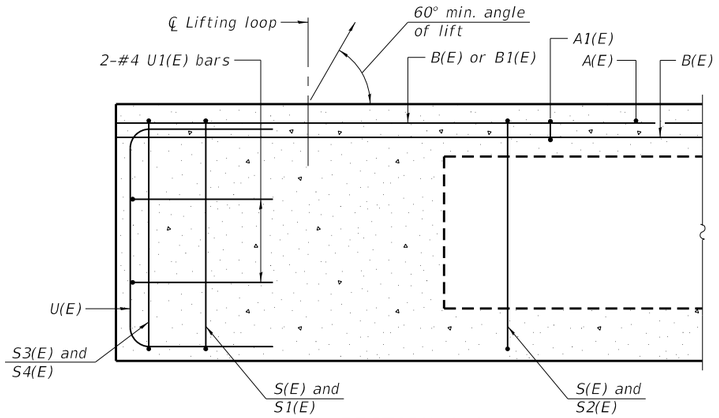
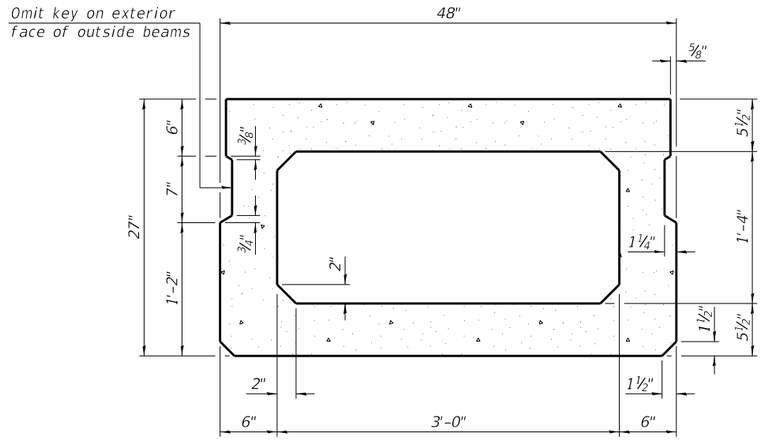
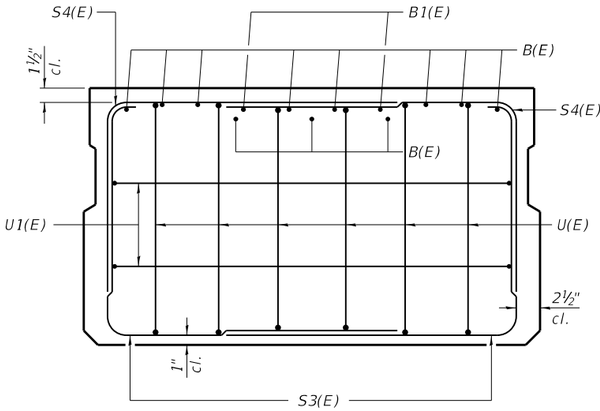


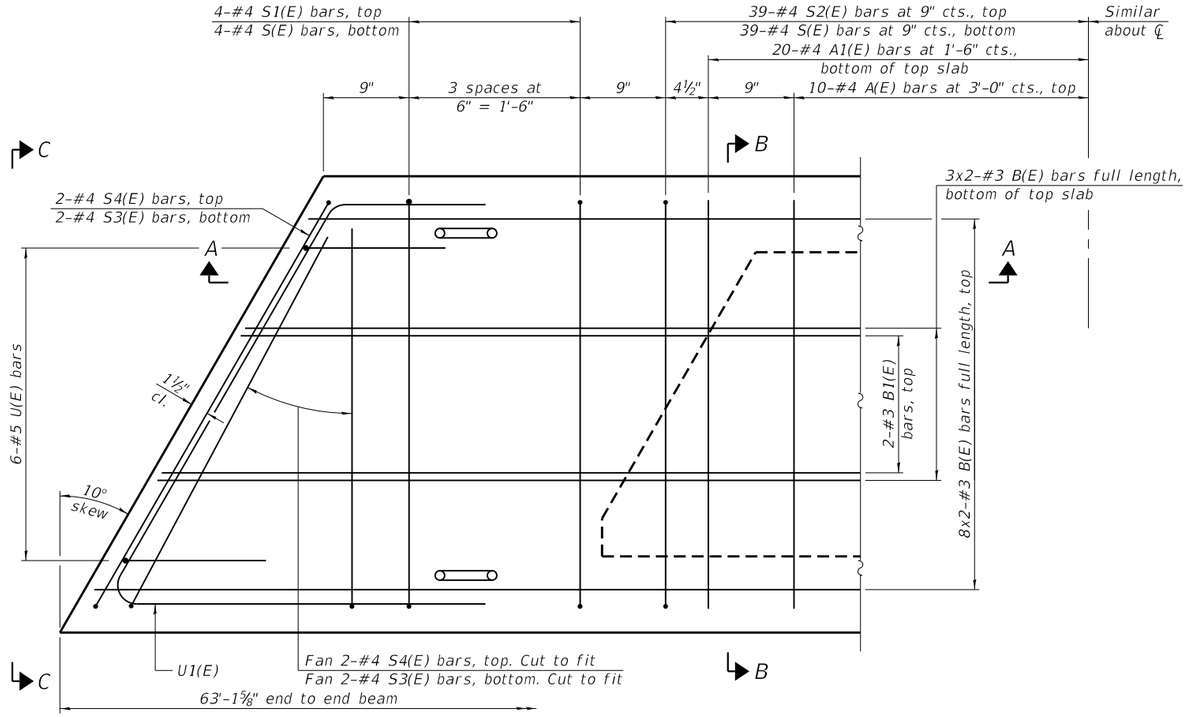
SECTION A-A



SECTION B-B
(Showing dimensions)

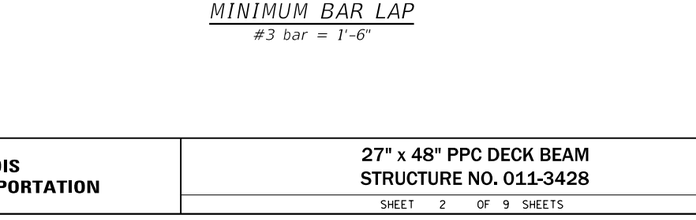


VIEW C-C



PLAN VIEW

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.



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.

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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	20	#4	3'-7"	—
A1(E)	39	#4	3'-10"	⌒
B(E)	22	#3	32'-3"	—
B1(E)	4	#3	10'-0"	—
S(E)	86	#4	8'-5"	⊔
S1(E)	8	#4	6'-11"	⊓
S2(E)	78	#4	7'-2"	⊓
S3(E)	8	#4	6'-0"	⌟
S4(E)	8	#4	5'-3"	⌟
U(E)	12	#5	4'-6"	⊏
U1(E)	4	#4	6'-8"	⊏

Note:
See sheet 3 of 9 for additional details and Bill of Material.

PD-2748-L 1-1-2020

CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

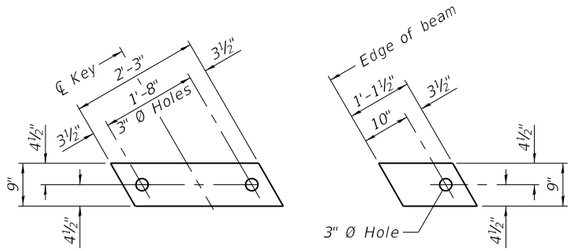
USER NAME = tziegler	DESIGNED - TJZ	REVISED -	
	DRAWN - TJZ	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 11/30/2021	DATE - 11/30/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

27" x 48" PPC DECK BEAM
STRUCTURE NO. 011-3428
SHEET 2 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	6
		CONTRACT NO. 93781		
	ILLINOIS FED. AID PROJECT			

MODEL: 02_Deck Beam
FILE NAME: P:\Effingham\4059 - Christian Co - TR 302 over Becks Ck\CAD\DGN\Sheet\Sheet_011-3428.dgn

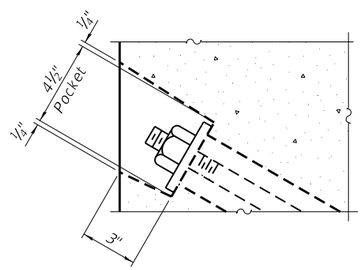


FABRIC BEARING PAD (Interior)

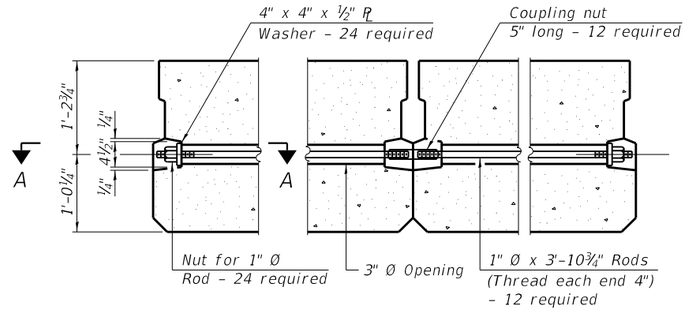
FABRIC BEARING PAD (Exterior)

FIXED

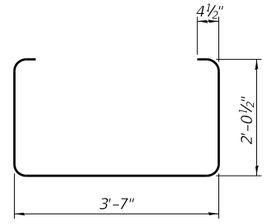
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pads shall be bonded to the substructure.



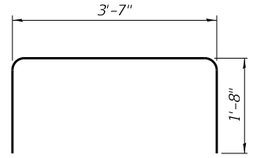
SECTION A-A



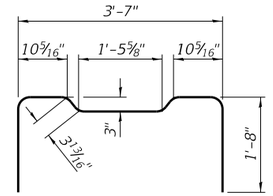
TYPICAL TRANSVERSE TIE ASSEMBLY



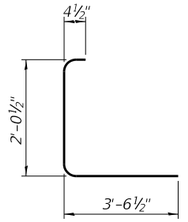
BAR S(E)



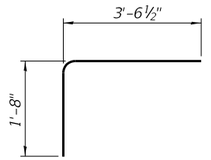
BAR S1(E)



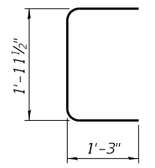
BAR S2(E)



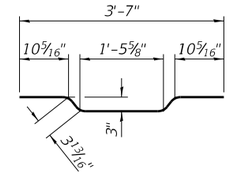
BAR S3(E)



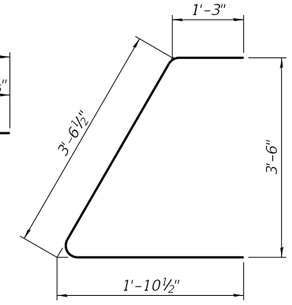
BAR S4(E)



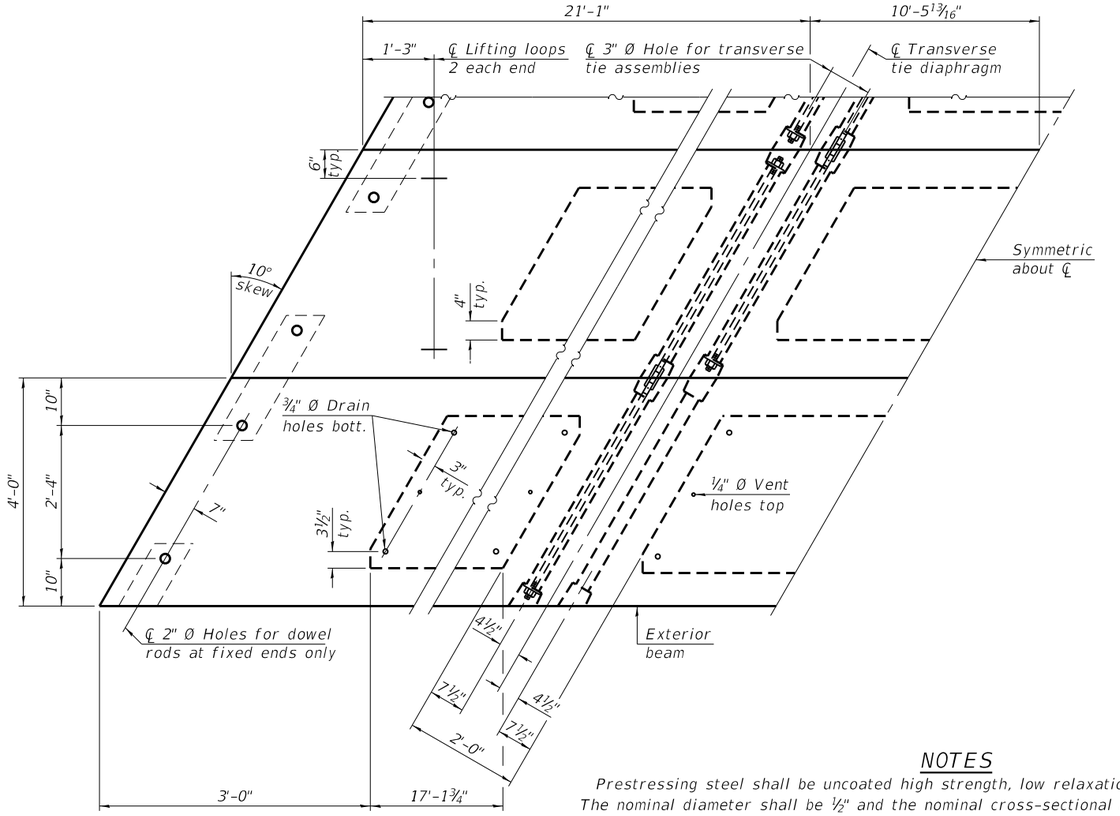
BAR U(E)



BAR A1(E)



BAR U1(E)



PLAN VIEW

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 ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" Ø 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.

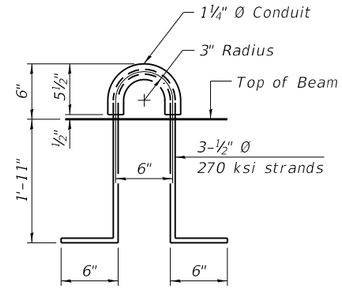
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" Ø 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.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,768

PDD-2748-L 1-1-2020

CIVIL DESIGN, INC. WBE | DBE
EFFINGHAM, IL
LICENSE #184.003222

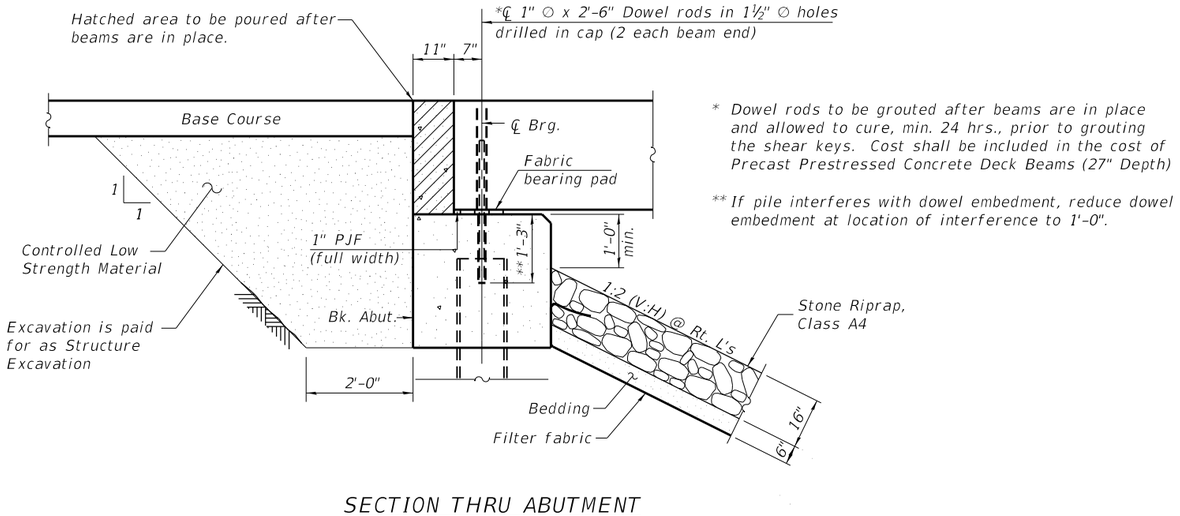
USER NAME = tziegler	DESIGNED - TJZ	REVISED -	
	DRAWN - TJZ	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 11/30/2021	DATE - 11/30/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

27" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 011-3428
SHEET 3 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	7
		CONTRACT NO. 93781		
	ILLINOIS FED. AID PROJECT			

MODEL: 03_Deck Beam Details
FILE NAME: P:\Effingham\4059 - Christian Co. - TR 302 over Beck's Cr\CADD\GEN\Sheet\011-3428.dgn



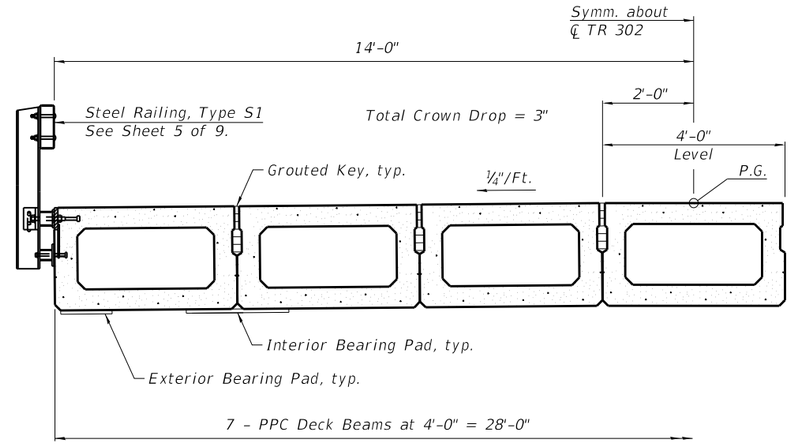
* Dowel rods to be grouted after beams are in place and allowed to cure, min. 24 hrs., prior to grouting the shear keys. Cost shall be included in the cost of Precast Prestressed Concrete Deck Beams (27" Depth)

** If pile interferes with dowel embedment, reduce dowel embedment at location of interference to 1'-0".

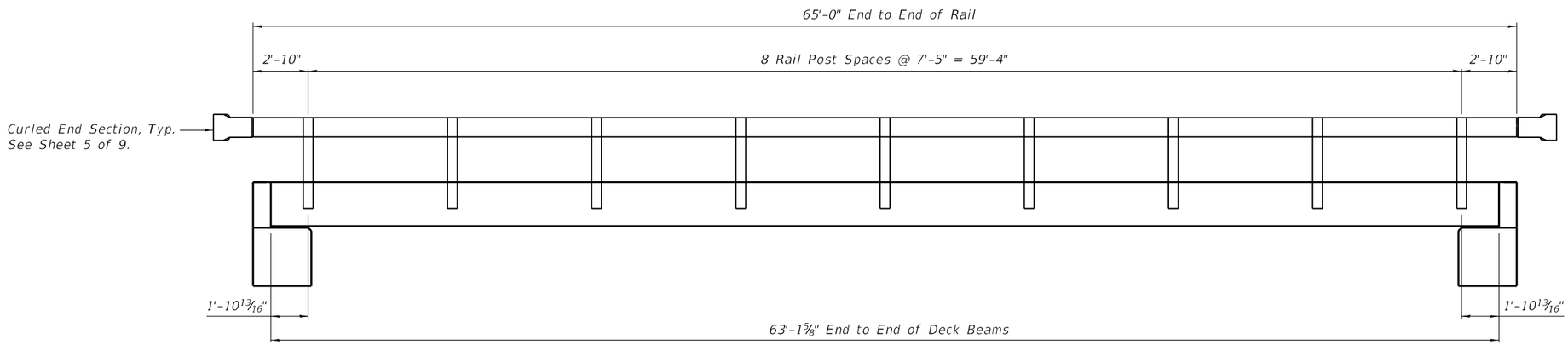
SECTION THRU ABUTMENT

Pay limits of Controlled Low Strength Material shall extend from end to end of abutment.
Place up to the bottom of Aggregate Base Course.

(Dimensions shown at Rt. L's)



HALF CROSS SECTION



RAIL ELEVATION

MODEL: 04_Superstructure Details
FILE NAME: P:\Effingham\4059 - Christian Co - TR 302 over Beck's CK\CADD\GIN\Sheet\Sheet_011-3428.dgn

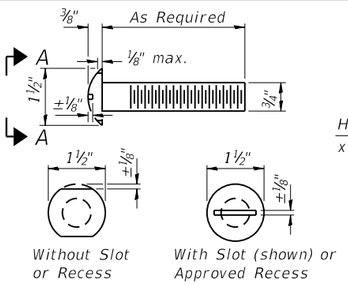
CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = tziegler	DESIGNED - TJZ	REVISED -
	DRAWN - TJZ	REVISED -
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -
PLOT DATE = 11/30/2021	DATE - 11/30/2021	REVISED -

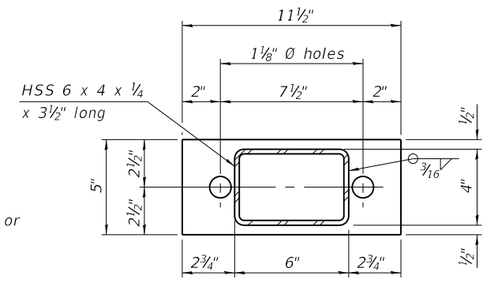
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 011-3428
SHEET 4 OF 9 SHEETS

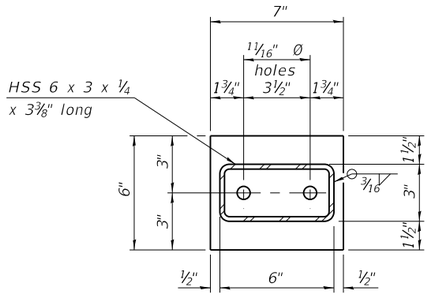
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	8
		CONTRACT NO. 93781		
	ILLINOIS	FED. AID PROJECT		



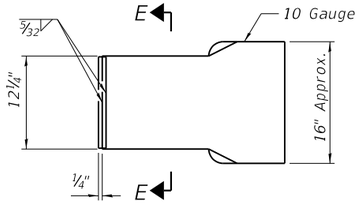
VIEW A–A
ROUND HEAD BOLT



PL 1/2" x 11 1/2" x 5"

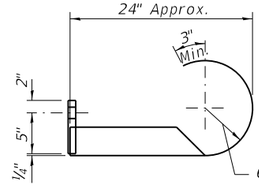


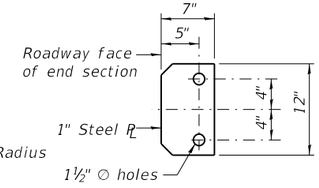
PL 1/2" x 7" x 6"



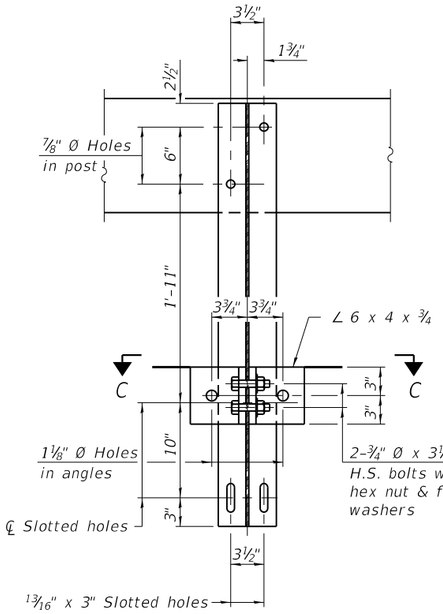
CURLED END SECTION DETAIL

Note:
Cost of Curled End Sections shall be included in the cost of Steel Railing, Type S-1. (4 Required)

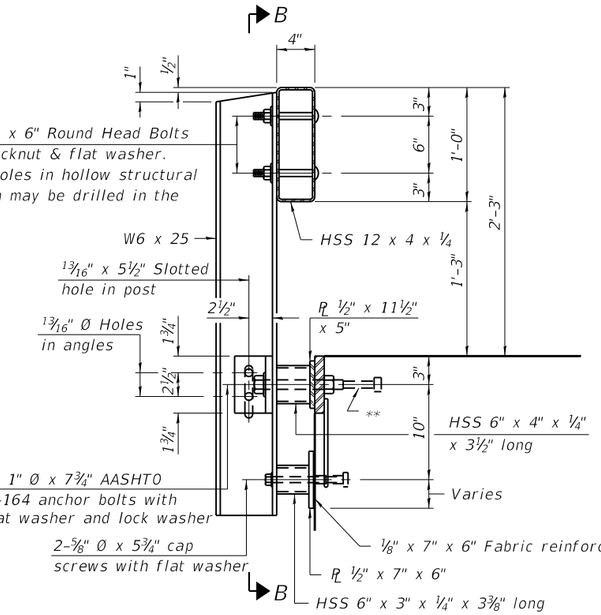




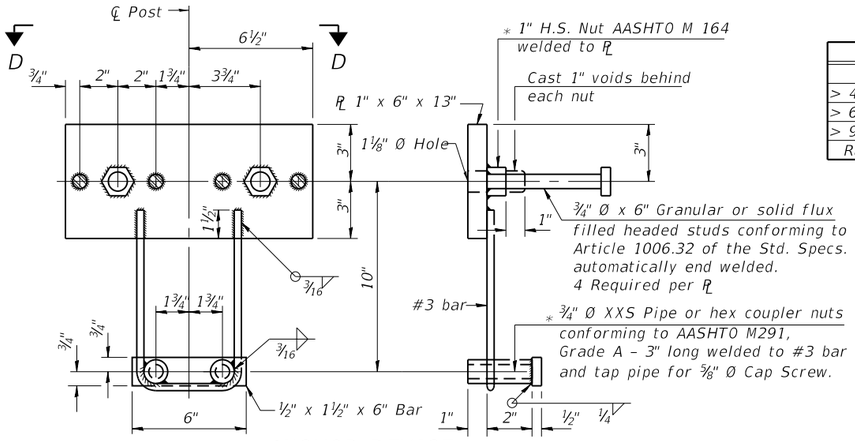
SECTION E–E



SECTION B–B



SECTION AT RAILING POST



ANCHOR DEVICE

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

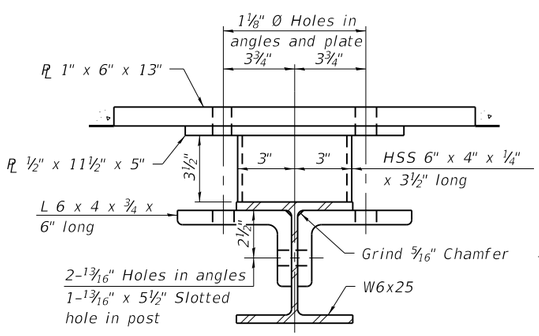
SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	——

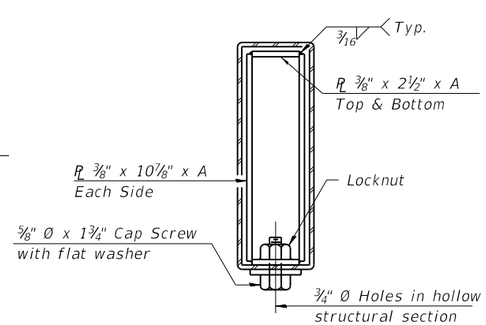
T = Total movement at expansion joint as shown on the design plans.

Notes:
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

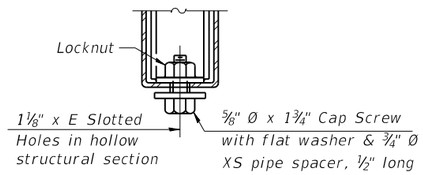
** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



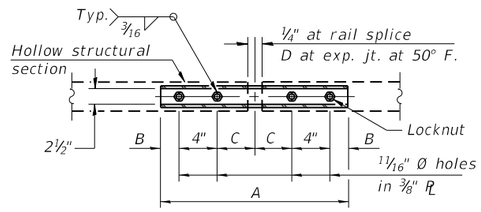
SECTION C–C



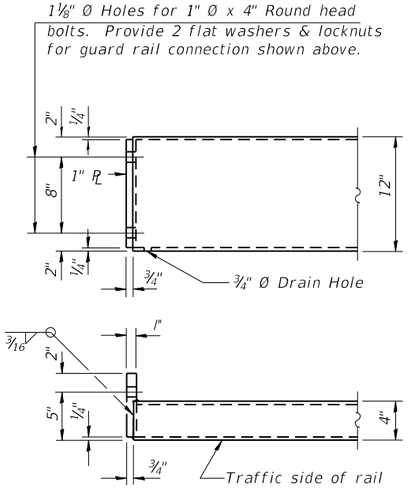
SECTIONS AT RAIL SPLICE



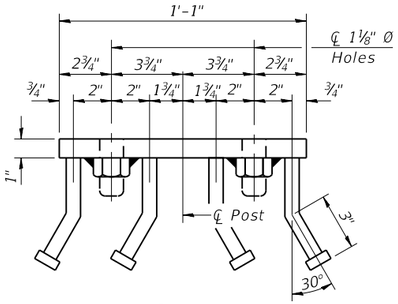
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE PL TYPICAL



END OF RAIL DETAILS



VIEW D–D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	130

R-23A

2-17-2017 (10'-9" Maximum Post Spacing)

CIVIL DESIGN, INC. WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

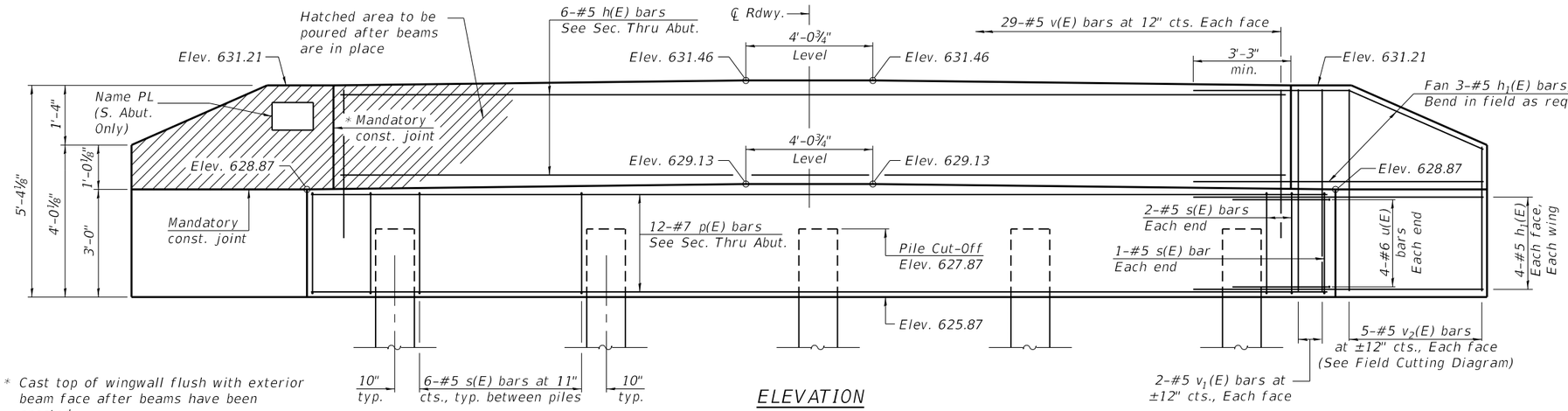
USER NAME = tziegler	DESIGNED - TJZ	REVISED -	
	DRAWN - TJZ	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 11/30/2021	DATE - 11/30/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE S-1
STRUCTURE NO. 011-3428
SHEET 5 OF 9 SHEETS

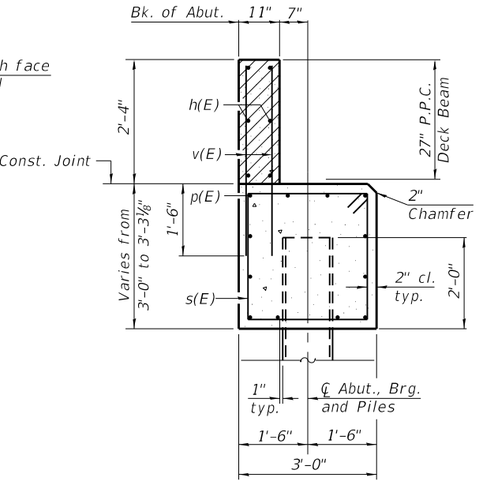
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	9
		CONTRACT NO. 93781		
	ILLINOIS FED. AID PROJECT			

MODEL: 05_Steel Railing
FILE NAME: P:\Effingham\4059 - Christian Co - TR 302 over Beck's Cr\CADD\GEN\Sheet\011-3428.dgn



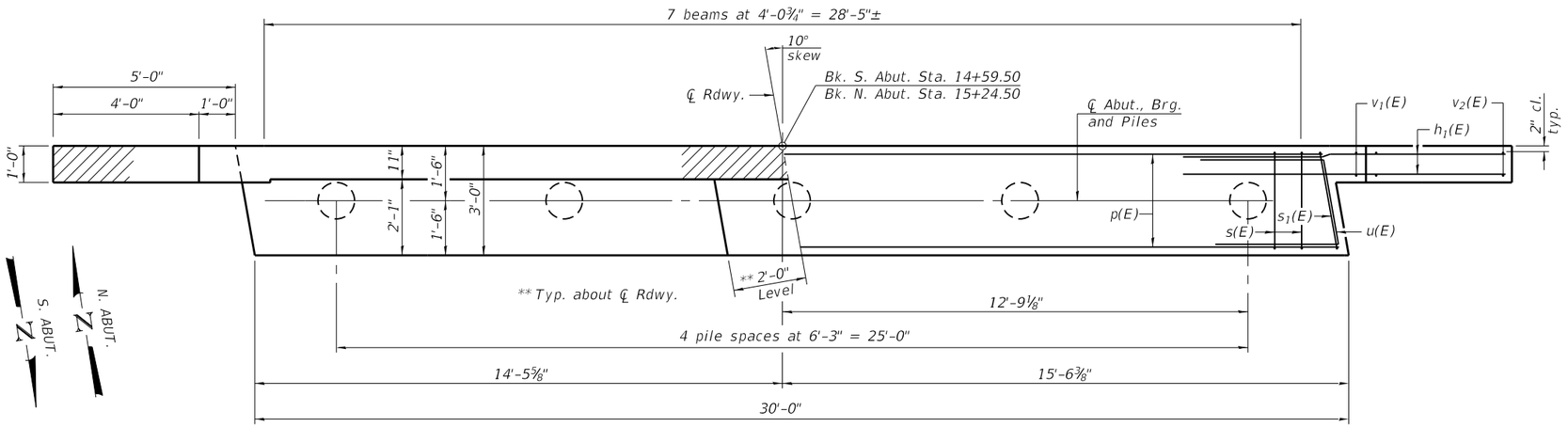
* Cast top of wingwall flush with exterior beam face after beams have been erected.

ELEVATION



SECTION THRU ABUTMENT

(Dimensions shown at Rt. L's)



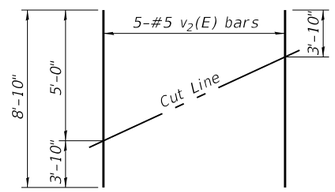
PLAN

S. ABUT. PILE DATA

Type: Metal Shell 14" ∅ x 0.250"
Nominal Required Bearing: 300 kips
Factored Resistance Available: 165 kips
Est. Length: 43 ft./pile
No. Production Piles: 4
No. Test Piles: 1
No. Pile Shoes: 5

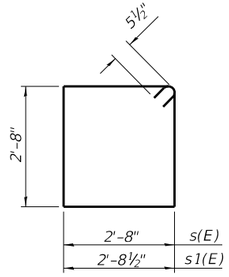
N. ABUT. PILE DATA

Type: Metal Shell 14" ∅ x 0.250"
Nominal Required Bearing: 300 kips
Factored Resistance Available: 165 kips
Est. Length: 50 ft./pile
No. Production Piles: 4
No. Test Piles: 1
No. Pile Shoes: 5

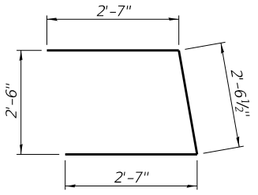


FIELD CUTTING DIAGRAM

Order v_2(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s1(E)



BAR u(E)

BILL OF MATERIAL TWO ABUTMENTS

Bar	No.	Size	Length	Shape
h(E)	12	#5	28'-2"	——
h_1(E)	56	#5	9'-3"	——
p(E)	24	#7	29'-9"	——
s(E)	56	#5	11'-7"	⌐
s_1(E)	4	#5	11'-8"	⌐
u(E)	16	#6	7'-9"	⌐
v(E)	116	#5	3'-8"	——
v_1(E)	16	#5	5'-0"	——
v_2(E)	20	#5	8'-10"	——
Structure Excavation		Cu. Yd.	90	
Concrete Structures		Cu. Yd.	29.4	
Reinforcement Bars, Epoxy Coated		Pound	3,980	
Furnishing Metal Shell Piles 14"x0.250"		Foot	372	
Driving Piles		Foot	372	
Test Pile Metal Shells		Each	2	
Pile Shoes		Each	10	

Notes:

For details of piles, see sheet 7 of 9.

To prevent damage to piles during driving in hard till, the Contractor may be required to operate the hammer at or near the lower minimum hammer energy as determined in the Standard Specifications.

CIVIL DESIGN, INC. WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = tziegler	DESIGNED - TJZ	REVISED -	
	DRAWN - TJZ	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 11/30/2021	DATE - 11/30/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 011-3428
SHEET 6 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	10
		CONTRACT NO. 93781		
	ILLINOIS FED. AID PROJECT			

MODEL: 05_Abutment Details
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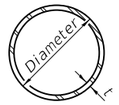
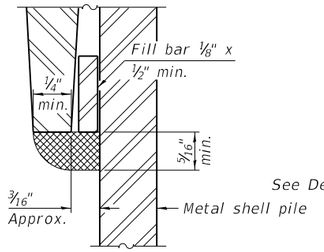
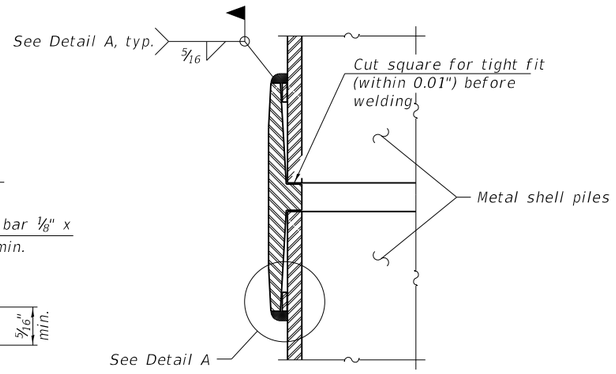


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd.³/ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470

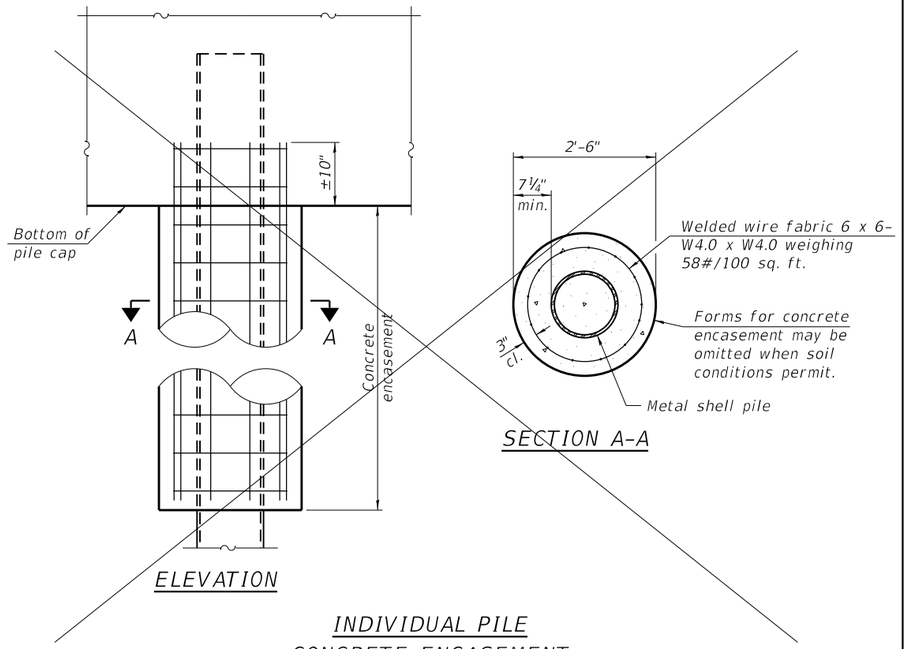


DETAIL A



WELDED COMMERCIAL SPLICE

Notes:
The ⅛" x ½" min. fill bar may be constructed of 2 bars with a ⅛" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

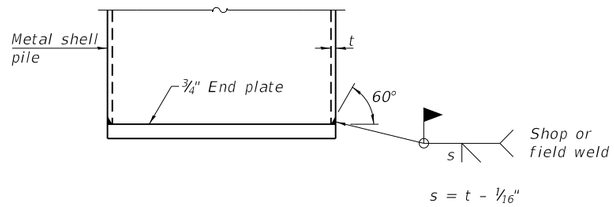


ELEVATION

SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

(When specified)



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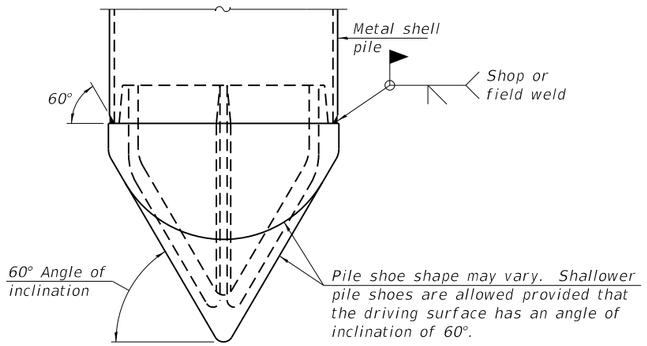
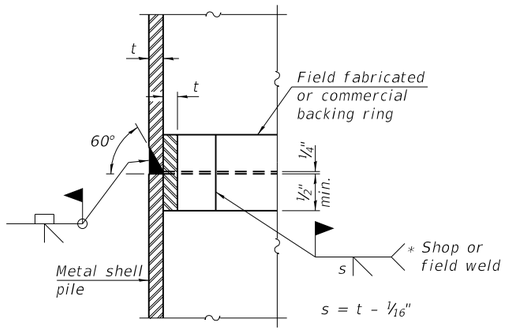
END PLATE ATTACHMENT



PILE SHOE ATTACHMENT

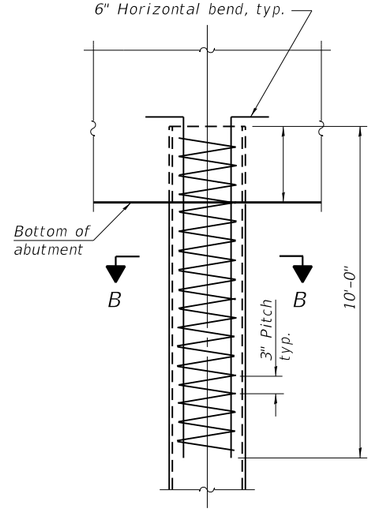
(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).



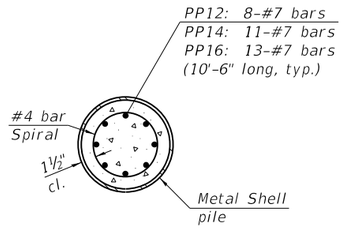
$s = t - \frac{1}{16}"$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

REINFORCEMENT AT ABUTMENTS

(Omit when concrete encasement is specified)

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

F-MS 1-1-2020

MODEL: 07_MS Pile Details
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CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = tziegler	DESIGNED - TJZ	REVISED -	
	DRAWN - TJZ	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 11/30/2021	DATE - 11/30/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 011-3428
SHEET 7 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	Christian	15	11
		CONTRACT NO. 93781		
	ILLINOIS	FED. AID PROJECT		

Township Road 302 over Beck's Creek
Pana Township
Section 19-1115-00-BR
Christian County, Illinois
Project # 181-2739

HURST-ROSCHE, INC.
HILLSBORO, ILLINOIS
PHONE 217/532-3959

DATE: October 25, 2019
BORING TECH.: M. Emken
DRILLING TECH.: K. Lemon

FOUNDATION BORING LOG

BORING NO.: 1A COORDINATES: 27 ft. N. of N. Abutment, 11 ft. E. of Centerline SURFACE ELEV.: 98.0 ft.	N Value	Qu (tsf)	W (%)	REC (%)
0				
SILTY CLAY LOAM (CL), Dark Brown, Dry to Moist, Medium Stiff		P		
	5	1.5	16.3	55
Moist		P		
5	4	1.25	20.8	85
Soft, Trace of Sand		P		
	3	0.75	26.0	90
89.5 ft.				
SILTY CLAY (CL), Gray, Brown, Mottled, Moist, Soft		P		
10	3	1.5	22.4	90
87.0 ft.				
SILTY CLAY LOAM TILL (CL), Brown, Dry to Moist, Very Stiff, Trace of Sand and Gravel		P		
	15	>4.5	14.4	70
Gray		P		
15	22	>4.5	11.7	95
Dry		P		
	24	>4.5	10.4	100
		P		
20	25	>4.5	11.6	100

GROUNDWATER ELEV. COMP.: - - AFTER 3 DAYS.: -8.5 ft.; Bridge at -13.2 ft.	N Value	Qu (tsf)	W (%)	REC (%)
20		P		
	23	>4.5	12.7	90
		P		
25	15	>4.5	15.6	95
		P		
	20	>4.5	14.1	100
		P		
30	17	>4.5	13.0	100
		P		
35	26	>4.5	13.1	85
		P		
40	21	>4.5	17.1	100

N: Blows per ft. to Drive 2" O.D. Split Spoon Sampler 12" with 140 lb. Hammer falling 30" (Standard Penetration Test)

Qu: Unconfined Compression Strength
NP: Non-Plastic
ST: Shelby Tube
W: Water Content

Type Failure:
B: Bulge Failure
S: Shear Failure
NS: No Sample
P: Penetrometer

RQD: Rock Quality Determination

Township Road 302 over Beck's Creek
Pana Township
Section 19-1115-00-BR
Christian County, Illinois
Project # 181-2739

HURST-ROSCHE, INC.
HILLSBORO, ILLINOIS
PHONE 217/532-3959

DATE: October 25, 2019
BORING TECH.: M. Emken
DRILLING TECH.: K. Lemon

FOUNDATION BORING LOG

BORING NO.: 1A (Continued) COORDINATES: 27 ft. N. of N. Abutment, 11 ft. E. of Centerline SURFACE ELEV.: 98.0 ft.	N Value	Qu (tsf)	W (%)	REC (%)
40				
SILTY CLAY LOAM TILL (CL), Gray, Dry, Very Stiff, Trace of Sand and Gravel		P		
	18	4.5	21.9	100
		P		
50	17	>4.5	17.2	100
		P		
55	20	>4.5	11.9	100
End of Exploration at -55.0 ft.				
60				

GROUNDWATER ELEV. COMP.: - - AFTER 3 DAYS.: -8.5 ft.; Bridge at -13.2 ft.	N Value	Qu (tsf)	W (%)	REC (%)
60				
NOTES: 1) Borehole backfilled with soil cuttings upon final groundwater measurement. 2) Boring elevation determined utilizing a local benchmark (painted "x" on southwest parapet) set to an elevation of 100.0 ft.				
65				
70				
75				
80				

N: Blows per ft. to Drive 2" O.D. Split Spoon Sampler 12" with 140 lb. Hammer falling 30" (Standard Penetration Test)

Qu: Unconfined Compression Strength
NP: Non-Plastic
ST: Shelby Tube
W: Water Content

Type Failure:
B: Bulge Failure
S: Shear Failure
NS: No Sample
P: Penetrometer

RQD: Rock Quality Determination

Boring Log Surface Elev. 629.8

Township Road 302 over Beck's Creek
Pana Township
Section 19-1115-00-BR
Christian County, Illinois
Project # 181-2739

HURST-ROSCHE, INC.
HILLSBORO, ILLINOIS
PHONE 217/532-3959

DATE: October 24 & 25, 2019
BORING TECH.: M. Emken
DRILLING TECH.: K. Lemon

FOUNDATION BORING LOG

BORING NO.: 2 COORDINATES: 11 ft. S. of S. Abutment, 12 ft. W. of Centerline SURFACE ELEV.: 98.3 ft.	N Value	Qu (tsf)	W (%)	REC (%)
0				
SILTY LOAM (ML), Gray, Moist, Medium Stiff		P		
	4	2.5	22.4	40
Soft		P		
5	4	1.5	24.4	90
92.3 ft.		P		
SILTY CLAY LOAM (CL), Gray, Moist, Medium Stiff	4	1.5	18.9	95
89.8 ft.		P		
SILTY CLAY (CL), Gray, Moist, Medium Stiff				
10	5	1.75	22.1	95
87.3 ft.		P		
SILTY CLAY LOAM (CL), Brown, Moist to Wet, Medium Stiff, Trace of Sand	8	1.0	21.8	95
84.8 ft.		P		
SILTY CLAY LOAM TILL (CL), Gray, Moist, Very Stiff, Trace of Sand				
15	26	>4.5	19.8	95
Dry to Moist		P		
	25	>4.5	12.3	100
		P		
20	25	>4.5	11.3	100

GROUNDWATER ELEV. COMP.: - - AFTER 3 DAYS: -2.5 ft.; Bridge at -8.0 ft.	N Value	Qu (tsf)	W (%)	REC (%)
20		P		
	25	>4.5	10.6	95
Trace of Gravel		P		
25	23	>4.5	10.5	95
		P		
	22	>4.5	10.8	95
		P		
30	22	>4.5	12.7	100
		P		
		P		
35	22	>4.5	12.9	100
		P		
Dark Gray		P		
40	21	4.0	13.8	100

N: Blows per ft. to Drive 2" O.D. Split Spoon Sampler 12" with 140 lb. Hammer falling 30" (Standard Penetration Test)

RQD: Rock Quality Determination

Qu: Unconfined Compression Strength
NP: Non-Plastic
ST: Shelby Tube
W: Water Content

Type Failure:
B: Bulge Failure
S: Shear Failure
NS: No Sample
P: Penetrometer

Township Road 302 over Beck's Creek
Pana Township
Section 19-1115-00-BR
Christian County, Illinois
Project # 181-2739

HURST-ROSCHE, INC.
HILLSBORO, ILLINOIS
PHONE 217/532-3959

DATE: October 24 & 25, 2019
BORING TECH.: M. Emken
DRILLING TECH.: K. Lemon

FOUNDATION BORING LOG

BORING NO.: 2 (Cont.) COORDINATES: 11 ft. S. of S. Abutment, 12 ft. W. of Centerline SURFACE ELEV.: 93.8 ft.	N Value	Qu (tsf)	W (%)	REC (%)
40				
SILTY CLAY LOAM (CL), Dark Gray, Dry to Moist, Very Stiff, Trace of Sand and Gravel				
Hard				
45	43	NS	NS	0
Very Stiff		P		
50	27	>4.5	15.1	100
		P		
Hard, Sandstone Nodules		P		
55	44	>4.5	12.6	100
		P		
Very Stiff, No Sandstone Nodules				
38.3 ft. 60	22	3.75	17.2	100
End of Exploration at -60.0 ft.				

GROUNDWATER ELEV. COMP.: - - AFTER 3 DAYS: -2.5 ft.; Bridge at -8.0 ft.	N Value	Qu (tsf)	W (%)	REC (%)
60				
NOTES: 1) Borehole backfilled with soil cuttings upon final groundwater measurement. 2) Boring elevation determined utilizing a local benchmark (painted "x" on southwest parapet) set to an elevation of 100.0 ft.				
65				
70				
75				
80				

N: Blows per ft. to Drive 2" O.D. Split Spoon Sampler 12" with 140 lb. Hammer falling 30" (Standard Penetration Test)

RQD: Rock Quality Determination

Qu: Unconfined Compression Strength
NP: Non-Plastic
ST: Shelby Tube
W: Water Content

Type Failure:
B: Bulge Failure
S: Shear Failure
NS: No Sample
P: Penetrometer

Boring Log Surface Elev. 630.1

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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CDI
CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = rhartland
PLOT SCALE = 20.0000 ' / in.
PLOT DATE = 11/20/2021

DESIGNED	-	DMM
DRAWN	-	DMM
CHECKED	-	RLH
DATE	-	11-19-2021

REVISED	-	-
REVISED	-	-
REVISED	-	-
REVISED	-	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

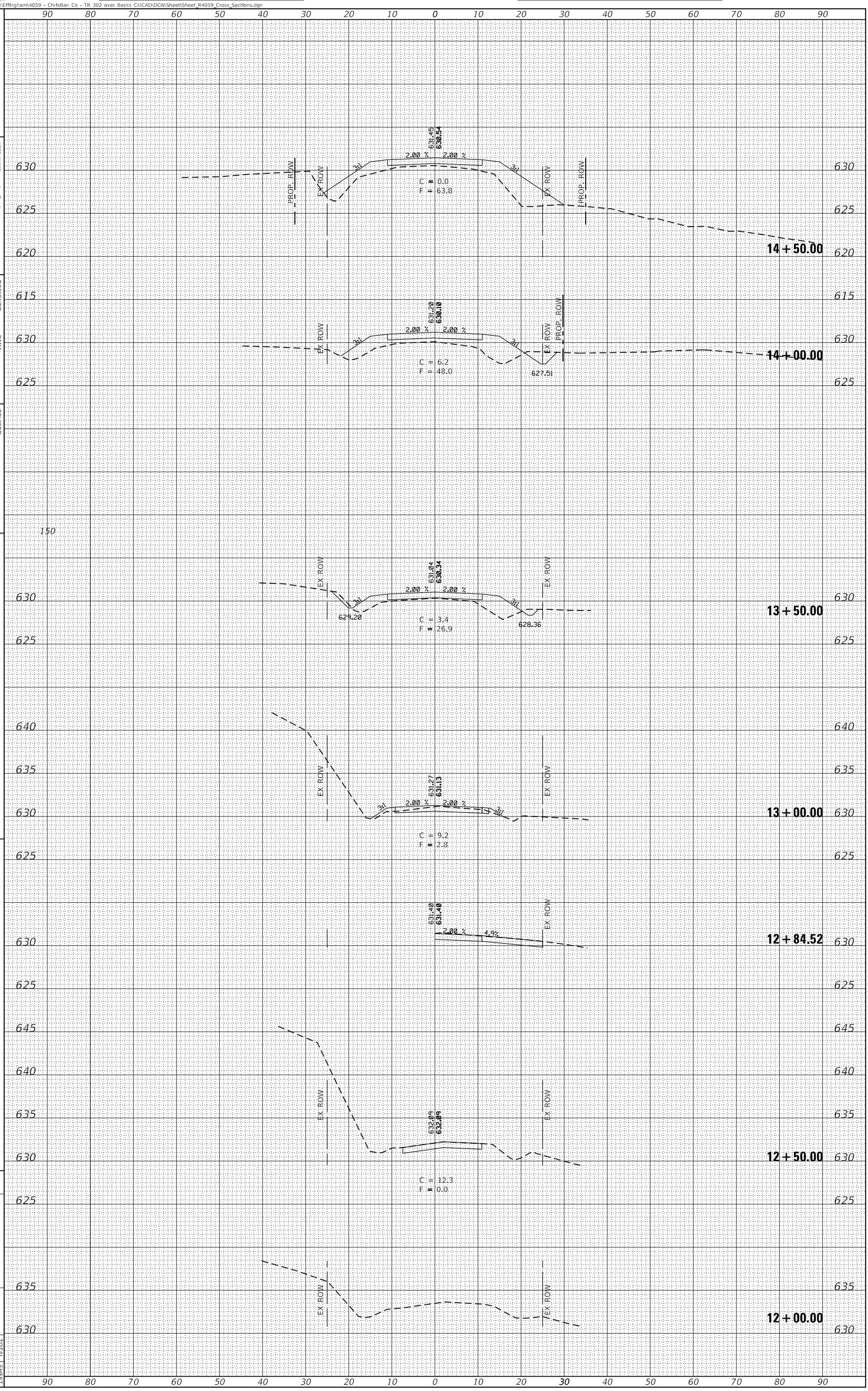
SHEET 1 OF 2 SHEETS | STA. 12+00.00 | TO STA. 14+50.00

SCALE:

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	CHRISTIAN	15	14

ILLINOIS FED. AID PROJECT

CONTRACT NO. 93781



ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

MODEL: Default
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CDI
CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = rhartland
PLOT SCALE = 20.0000 ' / in.
PLOT DATE = 11/20/2021

DESIGNED	-	DMM
DRAWN	-	DMM
CHECKED	-	RLH
DATE	-	11-19-2021

REVISED	-	
REVISED	-	
REVISED	-	
REVISED	-	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SHEET 2 OF 2 SHEETS | STA. 15+00.00 | TO STA. 17+50.00

SCALE:

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
302	19-11115-00-BR	CHRISTIAN	15	15

ILLINOIS FED. AID PROJECT

CONTRACT NO. 93781