03/11/2022 Letting Item 154

T.R.	SECTION NUMBER	COUNTY	TOTAL SHEETS	SHEET NO.
112	18-06117-00-BR	SHELBY	17	1
	ILLINOIS	CONTRACT NO. 95910		

INDEX OF SHEETS

HIGWAY STANDARDS

000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07 TEMPORARY EROSION CONTROL SYSTEMS
515001-04 NAME PLATE FOR BRIDGES
630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-09 TRAFFIC BARRIER TERMINAL, TYPE 6A
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: CIPSSA AMEREN CIPS – (SOUTH)
(618) 301-5327

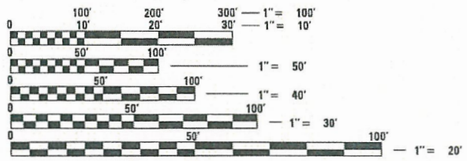
WATER: VILLAGE OF DIETERICH
108 S MAIN ST
DIETERICH, IL 62424
217-925-5516

PHONE: WABASH COMMUNICATIONS
210 CHURCH ST
LOUISVILLE, IL 62858
(618) 665-3311

FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR

DESIGN SPEED = 50 MPH

DESIGN TRAFFIC = 803 ADT (2032)



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

PROJECT ENGINEER
PROJECT MANAGER

CONTRACT NO. 95910

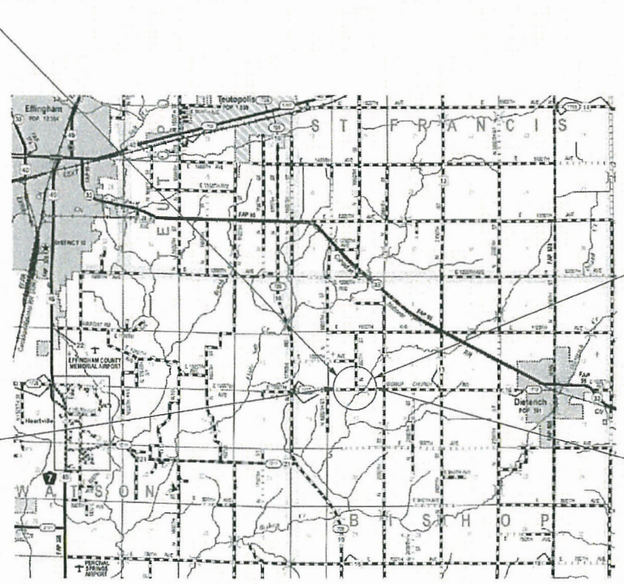
CDI
CIVIL DESIGN, INC.
WBE / DBE
LICENSE #184.003222

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

PROJECT NO. ESWG(850)
FAS-1712 (CH-16)
SECTION 17-00098-00-BR
EFFINGHAM COUNTY
PROPOSED STRUCTURE No. 025-3334
C-97-012-22

EXISTING STRUCTURE NO. 025-3024
THREE-SPAN PRECAST CONCRETE DECK BEAM STRUCTURE. THE STRUCTURE IS ON CLOSED TIMBER ABUTMENTS WITH TIMBER PILES. THE EXISTING PIERS ARE CONCRETE. THE BRIDGE IS CONSTRUCTED ON A 43° SKEW AND HAS SPAN LENGTHS OF 23'-20'-23'.
LENGTH = 74'-0" WIDTH = 26'-0"



LOCATION MAP
NET LENGTH OF SECTION = 400.00 FEET = 0.076 MILES

LOCATION OF SECTION INDICATED THUS: –■–

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED _____
EFFINGHAM COUNTY ENGINEER

PASSED Jan 20, 2022
DISTRICT SEVEN ENGINEER OF LOCAL ROADS AND STREETS

Released for Bid Based on Limited Review 01/21/22
REGION FOUR ENGINEER

STATE OF ILLINOIS
ROBERT HANFLAND
NUMBER 062.064104
PROFESSIONAL ENGINEER

SIGNED: 1-12-2021

SHEETS 1-4, 15-17
ROBERT HANFLAND, PE
STATE OF ILLINOIS NO. 062-064104
EXPIRES 11-30-2023

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY
* ^	20100500	TREE REMOVAL, ACRES	ACRE	0.3
	20200100	EARTH EXCAVATION	CU YD	307
	20300100	CHANNEL EXCAVATION	CU YD	561
	28000305	TEMPORARY DITCH CHECKS	FOOT	16
	28100807	STONE DUMPED RIPRAP, CLASS A4	TON	791
	35101400	AGGREGATE BASE COURSE, TYPE B	TON	495
	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	1,516
	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	152
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	94
	40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	57
	48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	245
^	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50200100	STRUCTURE EXCAVATION	CU YD	127
	50200300	COFFERDAM EXCAVATION	CU YD	250
	50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1
	50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1
	50300225	CONCRETE STRUCTURES	CU YD	222.0
	50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	3,665
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	18,440
*	50901050	STEEL RAILING, TYPE SM	FOOT	250
	51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	966
	51202305	DRIVING PILES	FOOT	966
	51203200	TEST PILE METAL SHELLS	EACH	4
	51204650	PILE SHOES	EACH	30
^	51500100	NAME PLATES	EACH	1
	59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	58
*	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
	67100100	MOBILIZATION	L SUM	1
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
^	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3

^ 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 13+00.00 TO 14+37.50	150					113	478	-365
STA 14+37.500 TO 15+62.50		127	561	206	482	362		362
STA 15+62.50 TO 17+00.00	157					118	59	59
TOTAL	307	127	561	206	482	593	537	56

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	SUITABLE POTASSIUM FERTILIZER NUTRIENT (90 LBS/ACRE) POUND	MULCH METHOD 2 ACRE
STA 12+99.40 TO 14+37.50	0.2	18	18	18	0.2
STA 15+62.50 TO 17+00.63	0.1	9	9	9	0.1
TOTAL	0.3	27	27	27	0.3

FERTILIZER AND MULCH QUANTITIES SHOWN FOR INFORMATION ONLY, SEE SPECIAL PROVISIONS

TEMPORARY DITCH CHECKS

LOCATION	FEET
STA 15+75 RT	8
STA 16+75 RT	8
TOTAL	16

TRAFFIC BARRIER TERMINAL TYPE 1 (TANGENT)

LOCATION	EACH
STA 13+33 RT TO STA 13+83 RT	1
STA 16+16 LT TO STA 16+66 RT	1
TOTAL	2

TRAFFIC BARRIER TERMINAL TYPE 6A

LOCATION	EACH
STA 13+83 RT TO STA 14+22 RT	1
STA 15+77 LT TO STA 16+16 RT	1
TOTAL	2

TREE REMOVAL

LOCATION	ACRE
STA 12+99.40 LT TO STA 17+00.63 LT	0.1
STA 12+99.40 RT TO STA 17+00.63 RT	0.2
TOTAL	0.3

TERMINAL MARKER - DIRECT APPLIED

LOCATION	EACH
STA 13+33 RT	1
STA 16+66 RT	1
TOTAL	2

SEE STRUCTURE PLANS FOR ADDITIONAL TERMINAL MARKERS

PAVING SCHEDULE

LOCATION	BIT. MATLS (PRIME COAT) POUND	BIT. MATLS (TACK COAT) POUND	HMA BC IL-19.0, N50 TON	HMA SC IL-9.5, MIX C, N50 TON	AGG SHLDRS TYPE B 6" SQ YD
STA 12+99.40 TO 13+23.40	131.6	13.2	8.2	4.9	21.3
STA 13+23.40 TO 14+37.50	627.5	62.8	39.0	23.4	101.4
STA 15+62.50 TO 16+76.63	627.8	62.8	39.1	23.4	101.3
STA 16+76.63 TO 17+00.63	129.2	12.9	8.0	4.8	21.3
TOTAL	1,516	152	94	57	245

AGGREGATE BASE COURSE, TYPE B

LOCATION	THICKNESS	WIDTH	LENGTH	TONS
STA 12+99.40 TO 13+23.40	12"	VARIES	24	44.1
STA 13+23.40 TO 14+37.50	12"	24	114	204.5
STA 15+62.50 TO 16+76.63	12"	24	114	204.3
STA 16+76.63 TO 17+00.63	12"	VARIES	24	42.1
			TOTAL	495

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

USER NAME = rhanfland	DESIGNED - DMM	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - RLH	REVISED -	
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES & SCHEDULES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1712	17-00098-00-BR	EFFINGHAM	17	2
		CONTRACT NO. 95910		
	ILLINOIS FED. AID PROJECT			

MODEL: Default
FILE NAME: P:\Effingham\3649 - Effingham Co - CH 16 over Bishop Ck\CADD\GM\Sheet\Sheet R3649 Quantities_schedules.dgn

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2022, THESE PLANS, AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2. 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.

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.

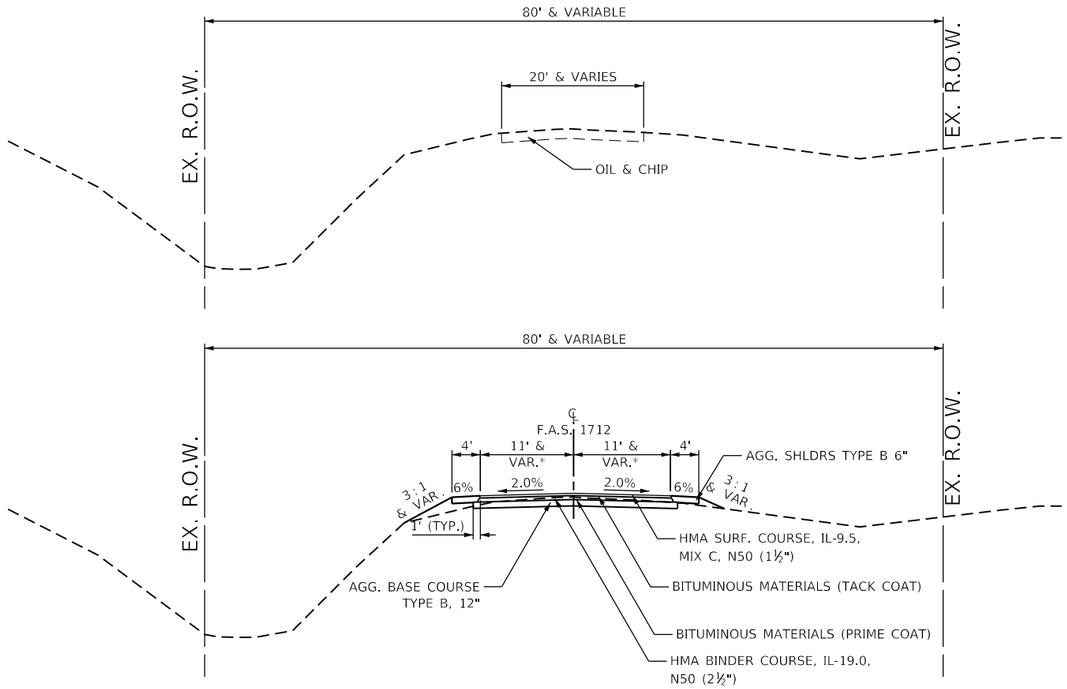
6. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE. HOWEVER, THE EXACT LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY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

7. TREES WITHIN THE R.OW. WHICH INTERFERE WITH CONSTRUCTION ACTIVITIES SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.

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



* SEE PLAN FOR TAPER RATES FOR VARIABLE WIDTH

PROPOSED TYPICAL

STA. 13+00.00 TO 14+37.50
STA. 15+62.50 TO 17+00.00

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

LOCATION	FAS 1712 (CH 16)	FAS 1712 (CH 16)
MIXTURE USES:	HMA SURFACE COURSE	HMA BINDER COURSE
PG:	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ 50 GYR	4% @ 50 GYR
MIXTURE COMPOSITION (MIXTURE GRADATION)	IL 9.5 627.8	IL 19.0
FRICTION AGGREGATE	MIXTURE C	NONE
DENSITY TEST METHOD	CORES	CORES
MIXTURE WEIGHT	112 LBS/SY/INCH THICKNESS	112 LBS/SY/INCH THICKNESS
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA

COMMITMENTS

TREES THREE (3) INCHES OR GREATER IN DIAMETER AT BREAST HEIGHT SHALL NOT BE CLEARED BETWEEN APRIL 1 AND SEPTEMBER 30 OF ANY GIVEN YEAR.

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

USER NAME = rhanfland	DESIGNED - DMM	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - RLH	REVISED -	
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & TYPICAL SECTIONS

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1712	17-00098-00-BR	EFFINGHAM	17	3
		CONTRACT NO. 95910		
	ILLINOIS	FED. AID PROJECT		

PHILIP & STEPHANIE NIEMERG

ROGER & KATHERINE WALDHOFF

ROBERT & CYNTHIA NIEMERG

LEE & ANGELA BECKMAN

STEVEN & SANDRA ESKER

STA. 15+00, PR SN 025-3334
THREE-SPAN PPC DECK BEAM STRUCTURE,
125'-0" BACK TO BACK ABUTMENTS
ON 45° SKEW LT. FWD, 30' CLEAR
WIDTH ON PILE BENT ABUTMENTS

STA. 15+00, EX SN 025-3024
THREE-SPAN PRECAST CONCRETE
DECK BEAM STRUCTURE,
74'-0" BACK TO BACK ABUTMENTS
ON 43° SKEW

℄ E 1000TH ST. (FAS 1712)
OIL & CHIP

APPROXIMATE ℄

APPROXIMATE ℄

106 BISHOP CREEK

EXIST. ROW

LIMIT OF CONSTRUCTION

TRAFFIC BARRIER TERMINAL,
TYPE 6A

STA. 16+21.96
43.60' LT

STA. 16+21.95
38.60' LT

STA. 17+00.00
38.45' LT

TRAFFIC BARRIER TERMINAL,
TYPE 1 (TANGENT)

STA. 13+00.00
44.21' LT

24' TRANSITION

SAW CUT (NO
DIRECT PAY)

12" CONC

30" CONC

POT Sta 10+00.00

POT Sta 20+06.40

10+00

20+00

BEGIN PROJECT
STA. 13+00

STA. 13+00
45.79' RT

STA. 13+21.79
45.83' RT

STA. 15+21.78
51.21' RT

TRAFFIC BARRIER TERMINAL,
TYPE 1 (TANGENT)

TRAFFIC BARRIER
TERMINAL, TYPE 6A

STA. 15+21.78
51.21' RT

STA. 15+21.76
61.21' RT

LIMIT OF CONSTRUCTION

EXIST. ROW

24' TRANSITION

SAW CUT (NO
DIRECT PAY)
END PROJECT
STA. 17+00

STA. 18+21.80
41.78' RT

STA. 18+21.76
61.78' RT

+37.50

+62.50

+76.63

104

103

102

109

108

107

POT STA. 20+06.40
IRON PIN

6" PVC

45.50'

46.57'

20+00

45.05'

℄ NAIL IN WOOD POST
WARNING SIGN

VINYL FENCE POST

POT STA. 10+00
IRON PIN

NAIL IN PP

53.73'

10+00

N

0 50 100 150
SCALE IN FEET

POINT	STATION	NORTHING	EASTING
POT	10+00.00	871687.9798	952357.7320
POT	20+06.40	871700.7200	953364.0520

BM
LOCATED ON RR SPIKES. FACE P.P.
APPROX. 130' E. CTR BRIDGE
ELEV = 556.02'

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

565 560 555 550 545 540 535 530 525

559.85 559.79 559.82 559.81 559.88 559.85 559.85 559.84 559.86 559.85 559.85 559.83 559.85 540.61 559.85 559.85 559.91 559.89 560.01 560.10 560.22 560.24 560.68 561.26 562.15 563.43 565.02

559.86 559.85 559.93 560.26

-0.01% -0.00% -0.00% +0.16% +0.41%

VPI STA. 13+75.00
ELEVATION 559.85

VPI STA. 15+75.00
ELEVATION 559.85

VPI STA. 16+25.00
ELEVATION 559.93

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00

MODEL: Default
FILE NAME: P:\Effingham\3649 - Effingham Co - CH 16 over Bishop Ck\CADD\GDN\SheetSheet_R3649_P&P.dgn

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

USER NAME = rhanfland	DESIGNED - DMM	REVISED -
	DRAWN - DMM	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - RLH	REVISED -
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

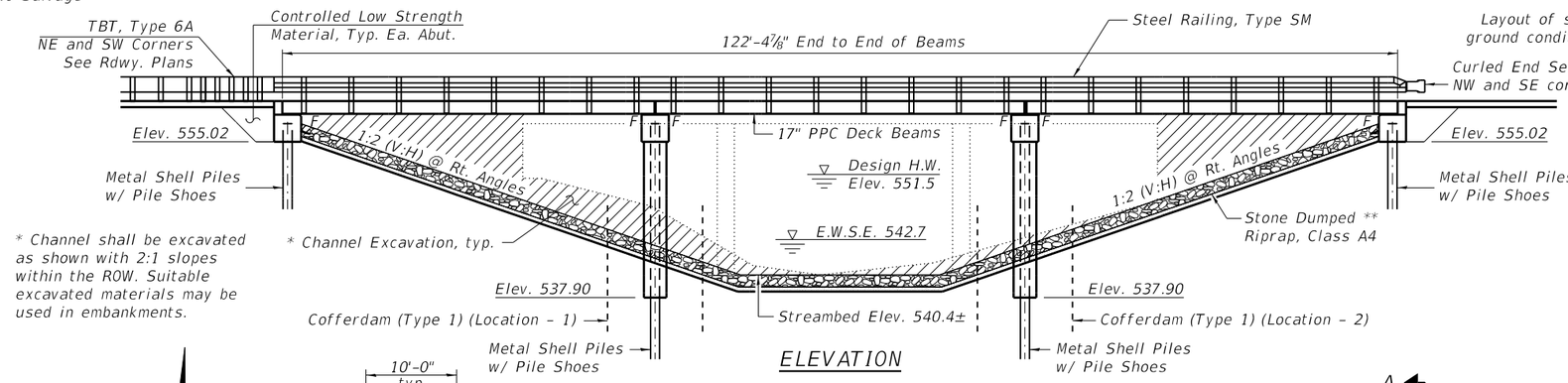
SCALE: | SHEET 1 OF 1 SHEETS | STA. 10+00 | TO STA. 20+00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1712	17-00098-00-BR	EFFINGHAM	17	4
		CONTRACT NO. 95910		
	ILLINOIS FED. AID PROJECT			

Bench Mark: R.R. spike on South face of P.P. approx. 125 ft. East of center of bridge. Elev. 556.02.

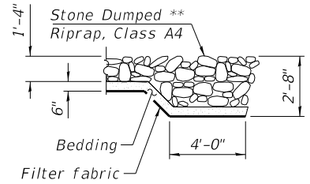
Existing Structure: S.N. 025-3024, built in 1960, is a three-span precast concrete deck beam bridge supported on timber piles with concrete cap abutments and multi-column concrete pier bents. 74'-0" back to back abutments, 26'-0" out to out of deck. Road to be closed during construction.

No Salvage



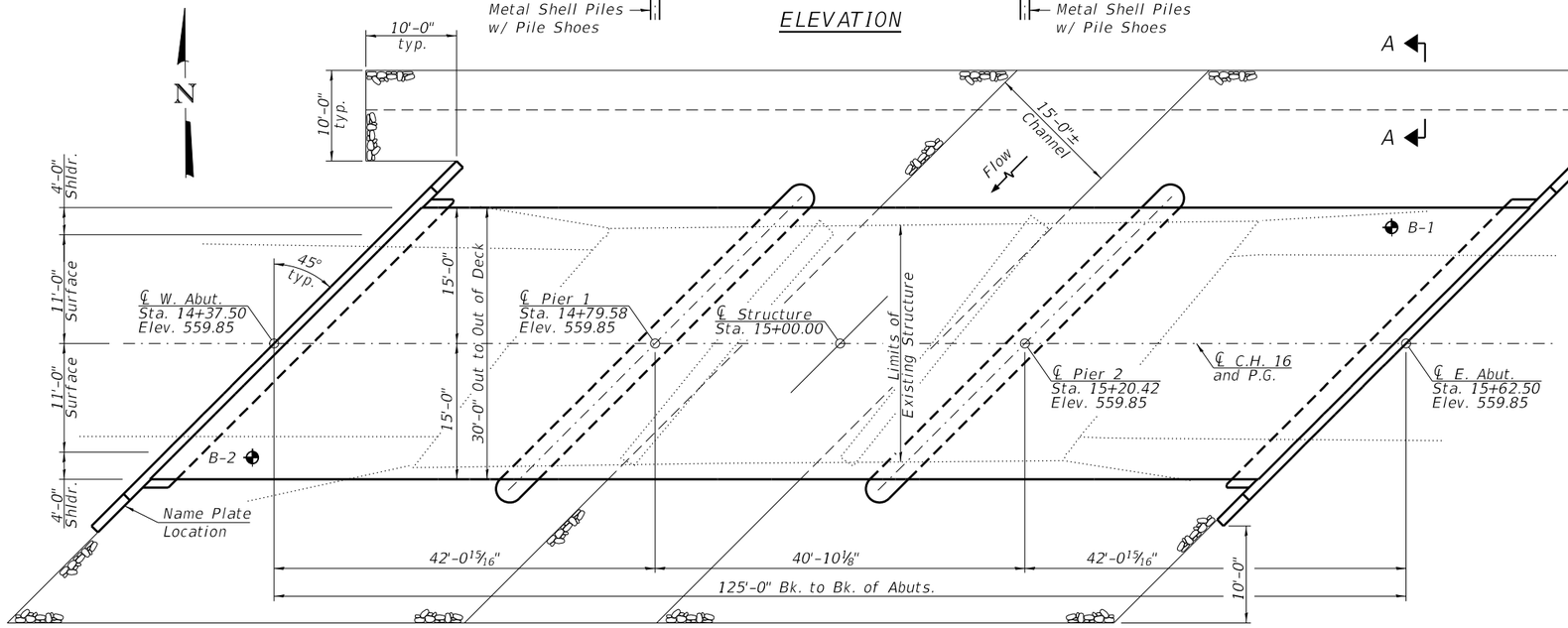
ELEVATION

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



SECTION A-A

** See Special Provisions



PLAN

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.

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) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) =0.153g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.372g
Soil Site Class = C

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		561	561
Stone Dumped Riprap, Class A4	Ton		791	791
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		127	127
Cofferdam Excavation	Cu. Yd.		250	250
Cofferdam (Type 1) (Location - 1)	Each		1	1
Cofferdam (Type 1) (Location - 2)	Each		1	1
Concrete Structures	Cu. Yd.		222.0	222.0
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	3,665		3,665
Reinforcement Bars, Epoxy Coated	Pound		18,440	18,440
Steel Railing, Type SM	Foot	250		250
Furnishing Metal Shell Piles 12" x 0.250"	Foot		966	966
Driving Piles	Foot		966	966
Test Pile Metal Shells	Each		4	4
Pile Shoes	Each		30	30
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.		58	58
Terminal Marker - Direct Applied	Each	2		2

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)				Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	-	530.1	530.1	-	5
Q200	-	529.5	529.5	-	
Design	555.0	530.1	530.1	555.0	
Check	555.0	529.5	529.5	555.0	

WATERWAY INFORMATION TABLE

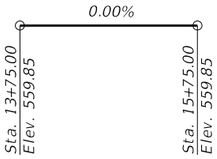
Drainage Area = 6.71 mi^2

Exist. Low Grade Elev. 559.79 @ Sta. 11+00
Prop. Low Grade Elev. 559.79 @ Sta. 11+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	1,766	273	330	551.5	0.7	0.6	552.2	552.1
Base	100	2,370	305	366	552.2	1.3	1.0	553.5	553.2
Max Calc.	500	3,190	333	399	552.9	2.1	1.4	555.0	554.3

BISHOP CREEK
BUILT 20 BY
EFFINGHAM COUNTY
SEC. 17-00098-00-BR
CH 16 STA. 15+00.00
STR. NO. 025-3334 LOADING HL-93

NAME PLATE
See Std. 515001

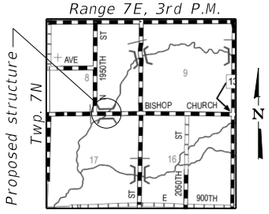


PROFILE GRADE
(along ℄ roadway)

1-12-2022
TYLER ZIEGLER Date
Licensed Structural Engineer
State of Illinois No. 081-007505
Expires 11-30-2022

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

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.



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
C.H. 16 OVER BISHOP CREEK
SEC. 17-00098-00-BR
EFFINGHAM COUNTY
STATION 15+00.00
STRUCTURE NO. 025-3334

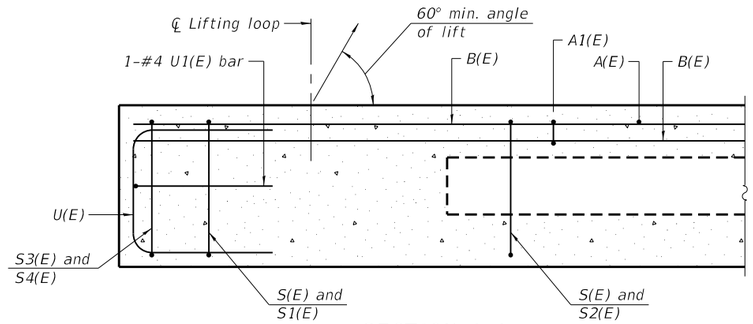
CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = rhanfland	DESIGNED - TJZ	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -	

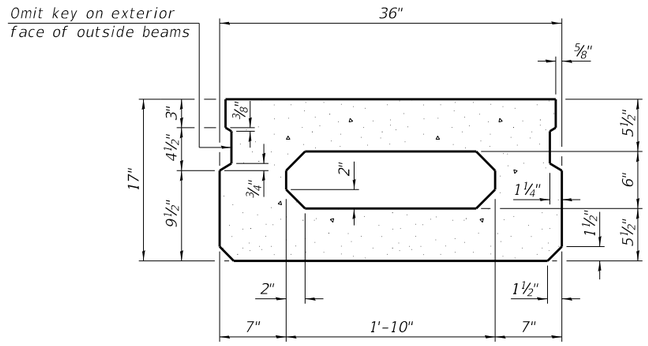
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 025-3334
SHEET 1 OF 10 SHEETS

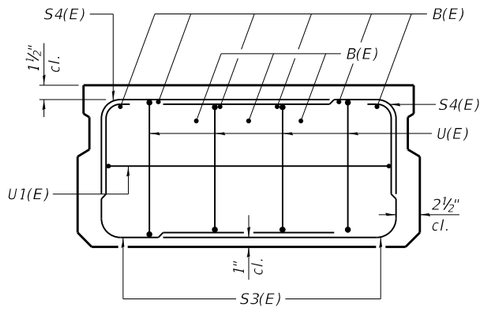
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	17-00098-00-BR	EFFINGHAM	17	5
		CONTRACT NO. 95910		
	ILLINOIS FED. AID PROJECT			



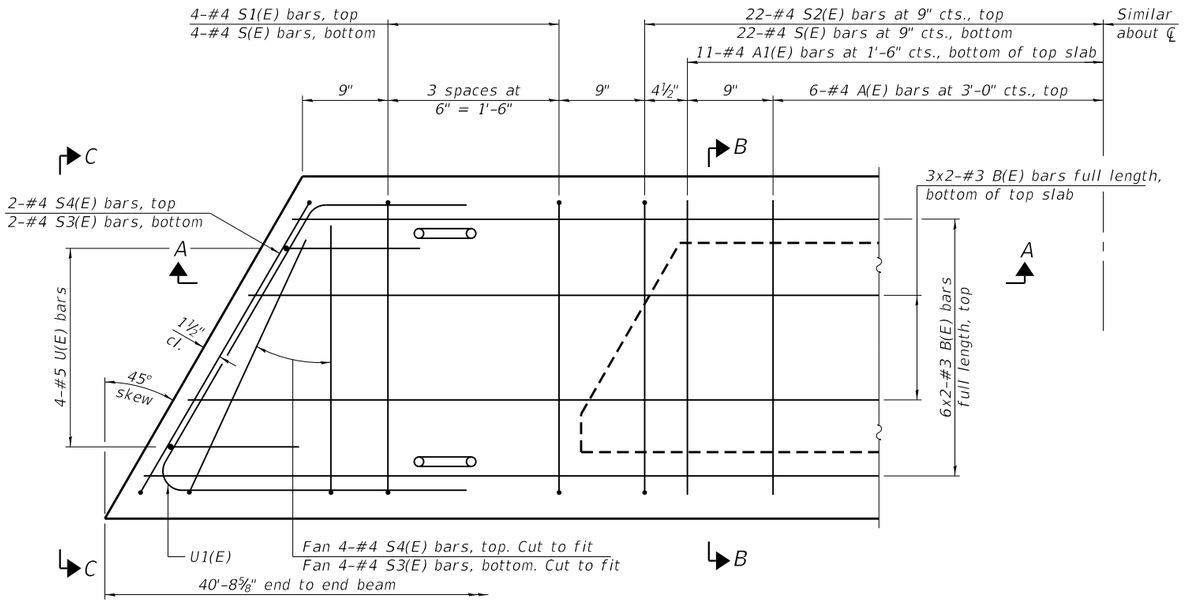
SECTION A-A



SECTION B-B
(Showing dimensions)

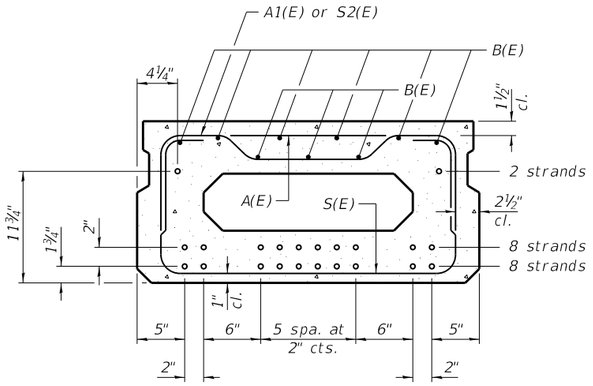


VIEW C-C



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)	12	#4	2'-7"	—
A1(E)	22	#4	2'-10"	⌒
B(E)	18	#3	21'-0"	—
S(E)	52	#4	5'-9"	⊔
S1(E)	8	#4	4'-3"	⊓
S2(E)	44	#4	4'-6"	⊓
S3(E)	12	#4	4'-4"	⌟
S4(E)	12	#4	3'-7"	⌟
U(E)	8	#5	3'-8"	⊏
U1(E)	2	#4	8'-7"	⊏

Bars indicated 3x2-#3 etc. indicates 3 line of bars with 2 lengths per line.

Note:
See sheet 3 of 10 for additional details and Bill of Material.

PD-1736-L 1-1-2020

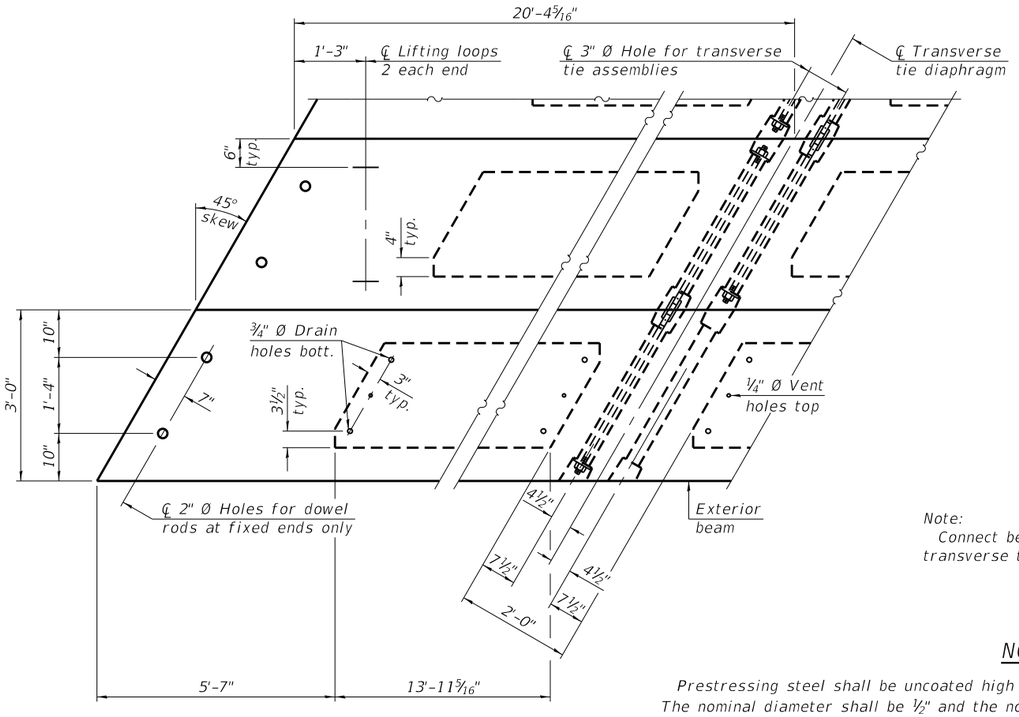
CDI CIVIL DESIGN, INC. WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = rhanfland	DESIGNED - TJZ	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -	

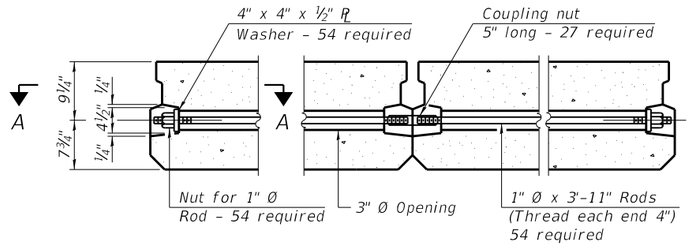
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

17" x 36" PPC DECK BEAM
STRUCTURE NO. 025-3334
SHEET 2 OF 10 SHEETS

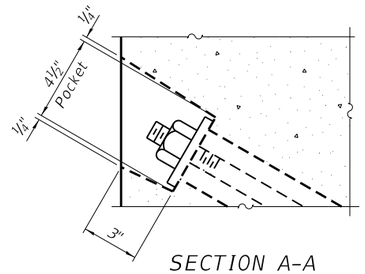
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	17-00098-00-BR	EFFINGHAM	17	6
		CONTRACT NO. 95910		
		ILLINOIS FED. AID PROJECT		



PLAN VIEW



TYPICAL TRANSVERSE TIE ASSEMBLY



SECTION A-A

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.

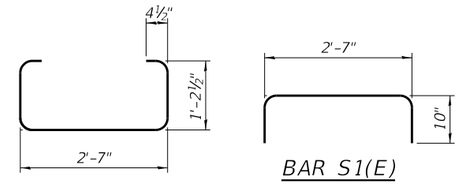
A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

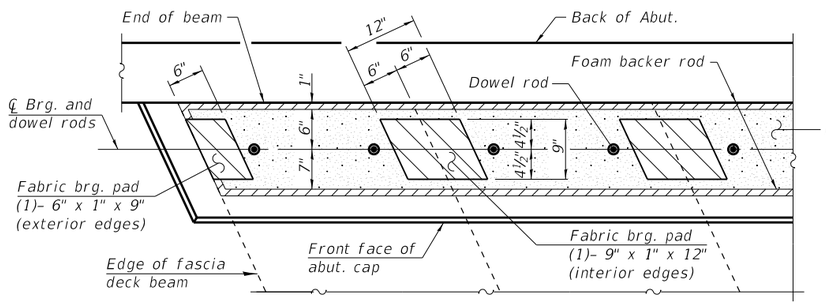
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

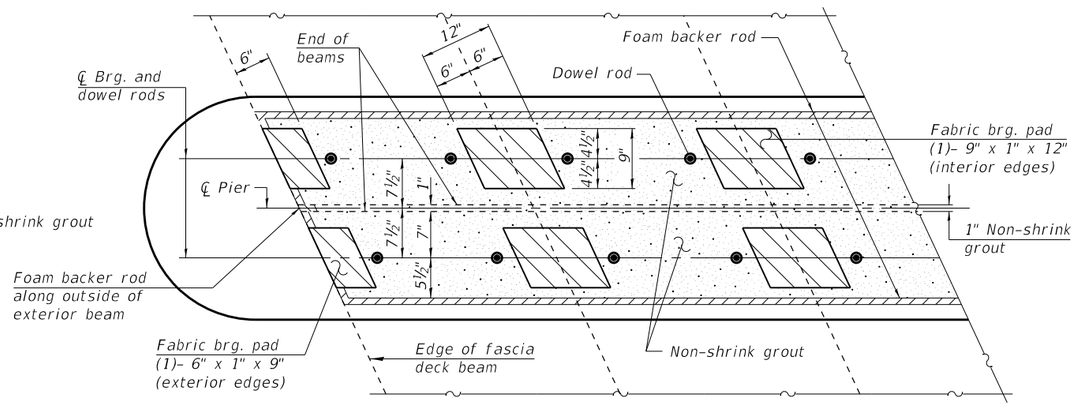
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

Bearing Notes:
The bearing seat surfaces shall be adjusted by shimming the bearing to assure firm and even bearing prior to placement of grout. 2-⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shown shall be provided for each bearing.
See Sheet 4 of 10 for Section thru Abutment and Section thru Pier.

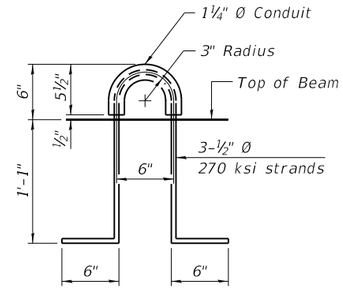




ABUTMENT BEARING DETAILS



PIER BEARING DETAILS



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	3,665

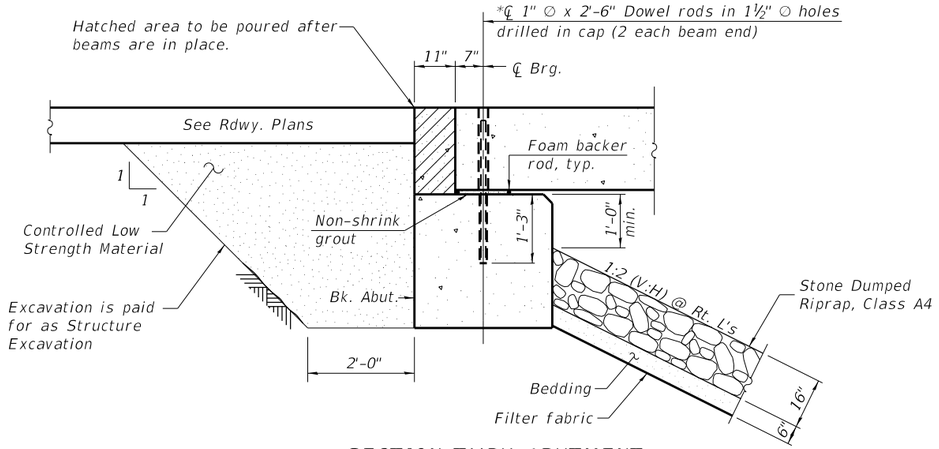
CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME = rhenfland	DESIGNED - TJZ	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

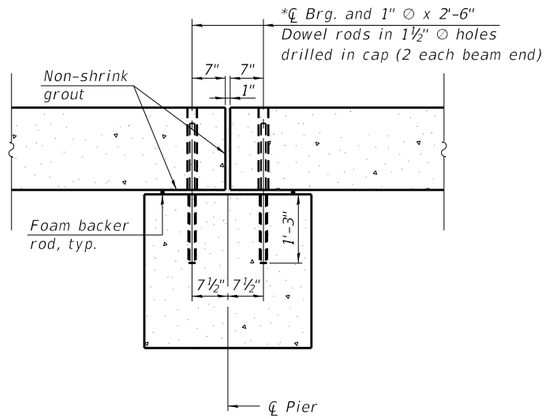
17" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 025-3334
SHEET 3 OF 10 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	17-00098-00-BR	EFFINGHAM	17	7
		CONTRACT NO. 95910		
	ILLINOIS FED. AID PROJECT			



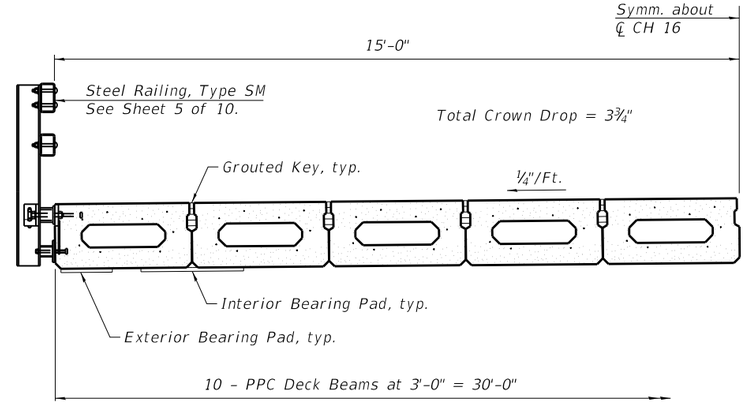
SECTION THRU ABUTMENT

(Dimensions shown at Rt. L's)



SECTION THRU PIER

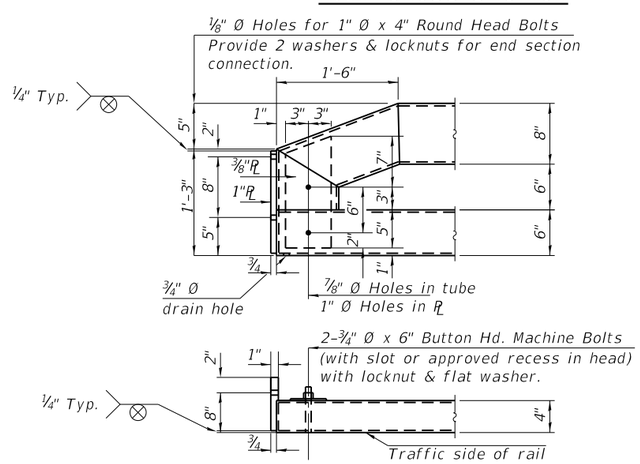
(Dimensions shown at Rt. L's)



HALF CROSS SECTION

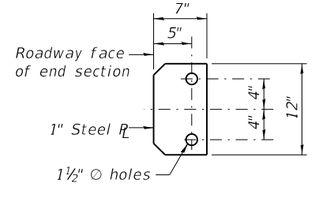
Pay limits of Controlled Low Strength Material shall extend from end to end of abutment. Place up to the bottom of Base Course.

* 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 (17" Depth)

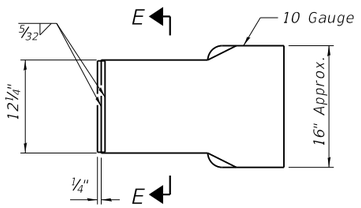


END OF RAIL DETAIL

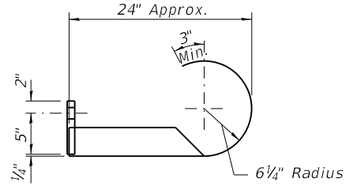
Note: Cost of Curled End Sections shall be included in the cost of Steel Railing, Type SM. (2 Required)

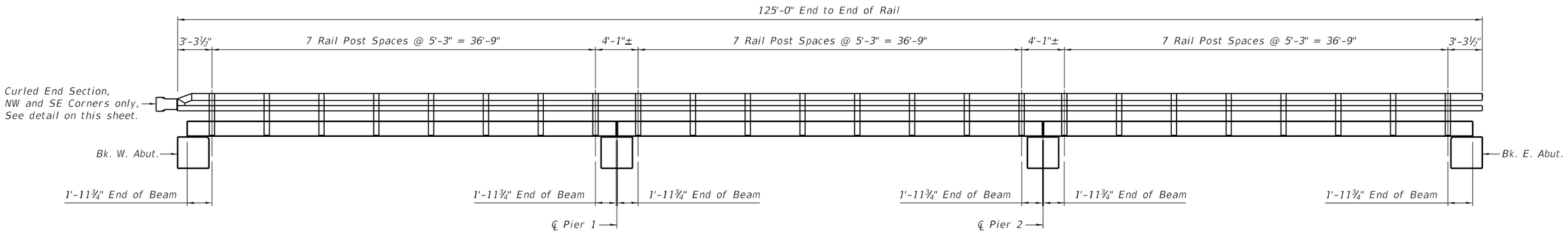


SECTION E-E



CURLED END SECTION DETAIL

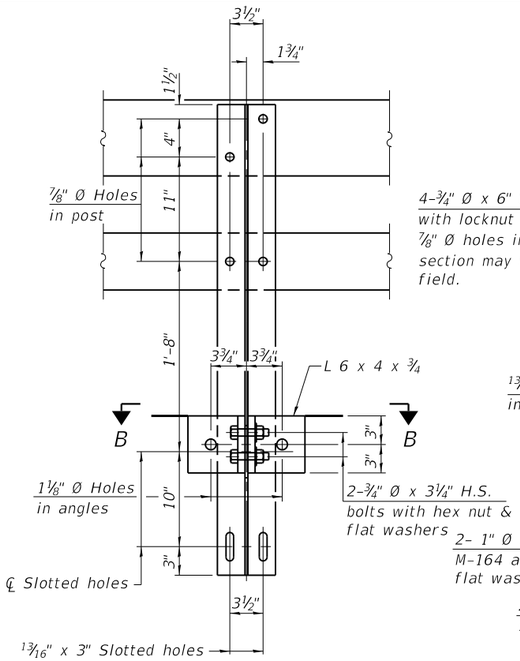




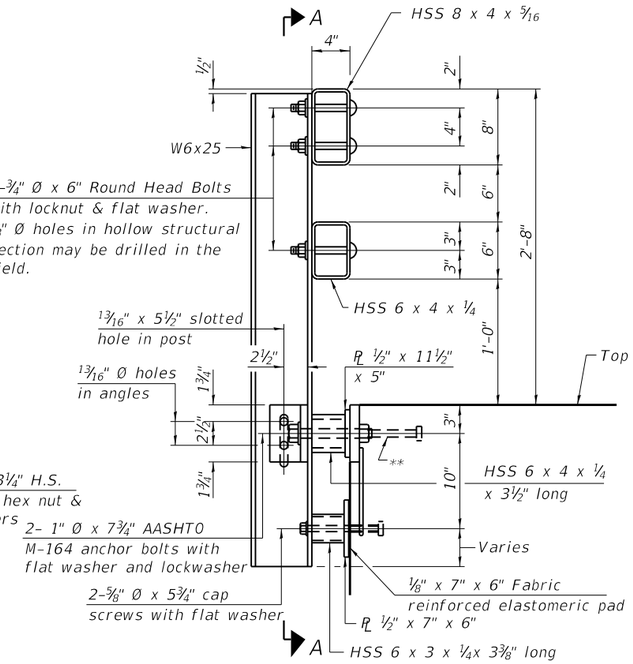
RAIL ELEVATION

CIVIL DESIGN, INC. WBE / DBE EFFINGHAM, IL LICENSE #184.003222	USER NAME = rhanfland	DESIGNED - TJZ	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SUPERSTRUCTURE DETAILS STRUCTURE NO. 025-3334**
		DRAWN - DMM	REVISED -		
	PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -		SHEET 4 OF 10 SHEETS
	PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -		

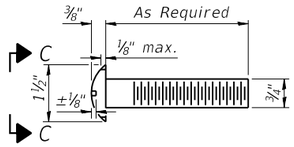
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	17-00098-00-BR	EFFINGHAM	17	8
		CONTRACT NO. 95910		
		ILLINOIS FED. AID PROJECT		



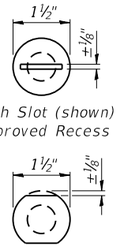
SECTION A–A



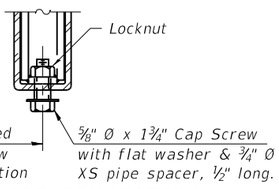
SECTION AT RAIL POST



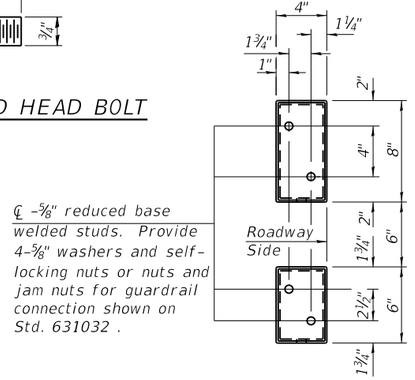
DETAIL OF ¾" Ø ROUND HEAD BOLT



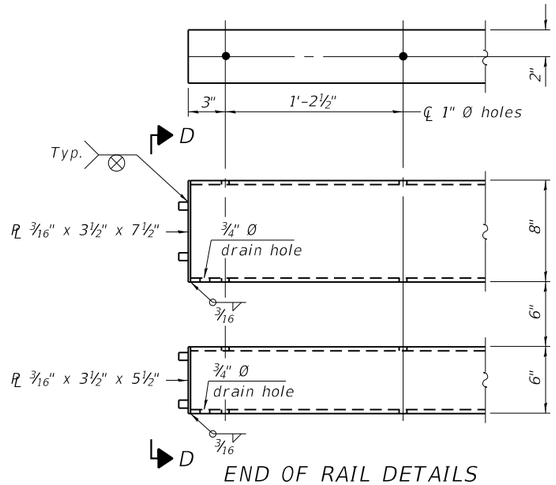
VIEW C–C



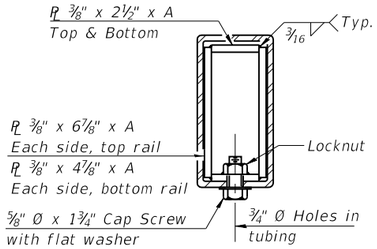
RAIL SPLICE CONNECTION AT EXPANSION JT.



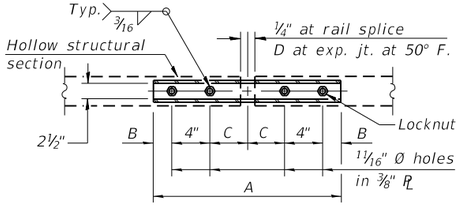
VIEW D–D



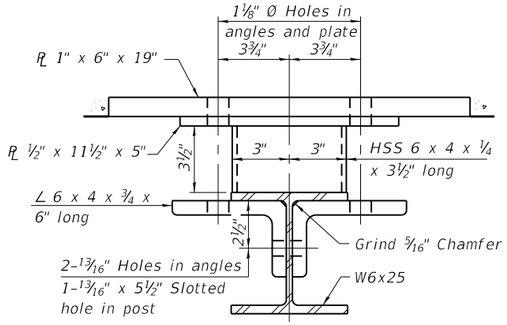
END OF RAIL DETAILS



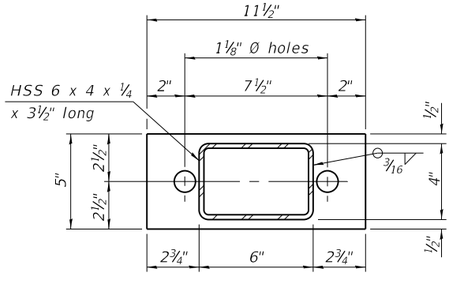
SECTION AT RAIL SPLICE



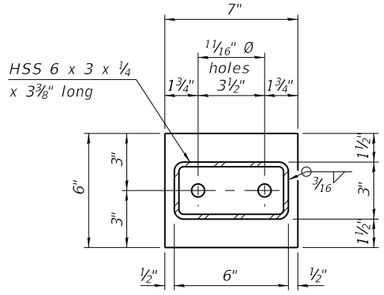
PLAN–BOTT. SPLICE PL TYPICAL



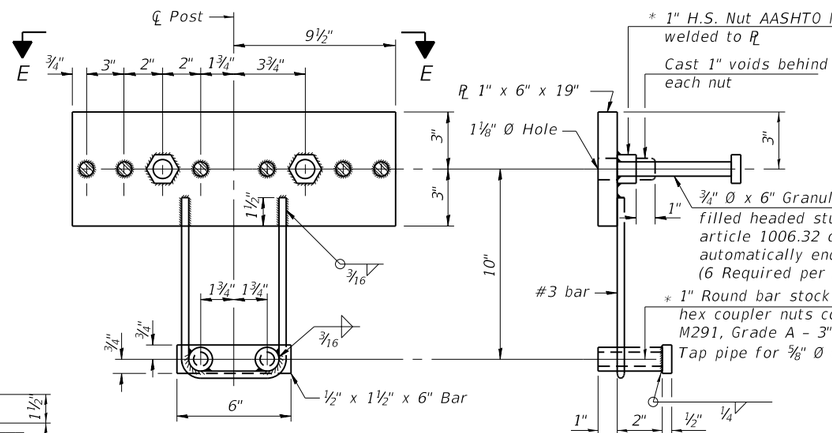
SECTION B–B



PL ½" x 11½" x 5"



PL ½" x 7" x 6"



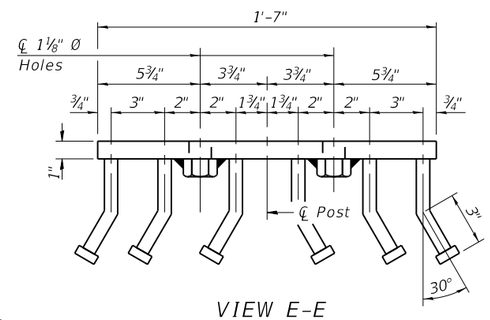
ANCHOR DEVICE

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

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2½"	1'-8"	2"	4"	2½"
> 4" ≤ 6½"	3¾"	2'-0"	2½"	5½"	3½"
> 6½" ≤ 9"	5"	2'-4"	3½"	6½"	9"
> 9" ≤ 13"	7"	2'-10"	4½"	8½"	11"
Rail Splice	¼"	1'-8"	2"	4"	——

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



VIEW E–E

Notes:

For multi-span bridges, sufficient ¼" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.

All steel rail members 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 ½" to accommodate the top reinforcement bar placement.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	250

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

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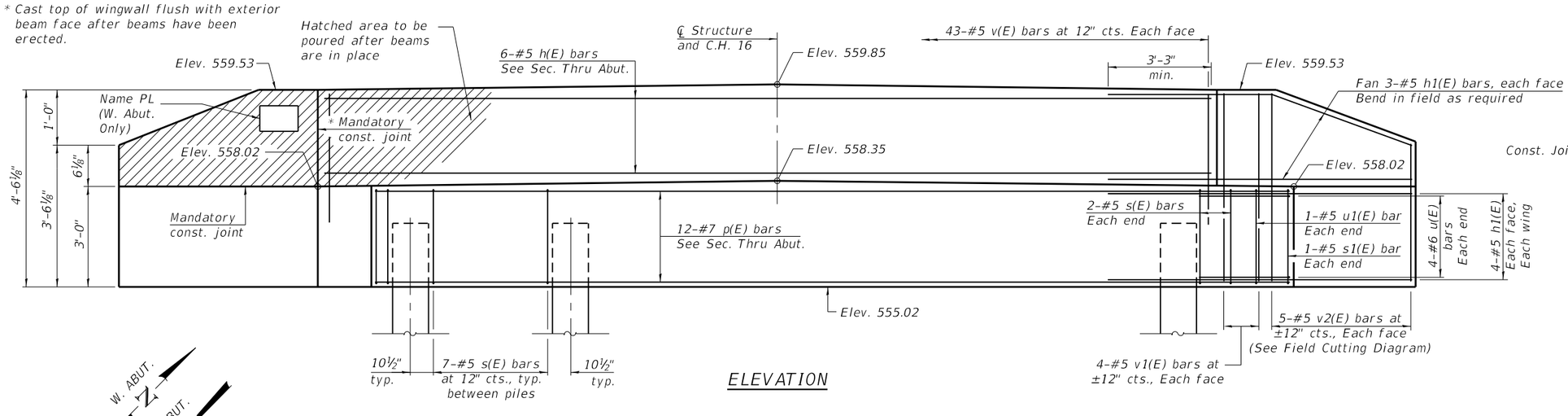
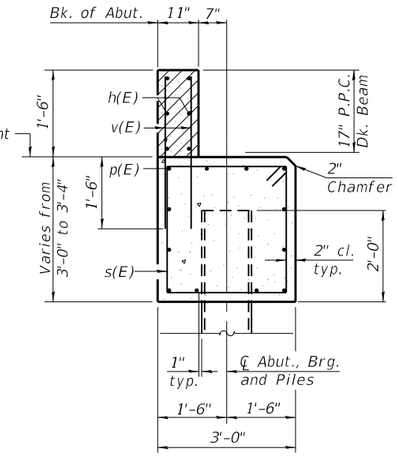
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE SM
STRUCTURE NO. 025-3334
SHEET 5 OF 10 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	17-00098-00-BR	EFFINGHAM	17	9
		CONTRACT NO. 95910		
	ILLINOIS FED. AID PROJECT			

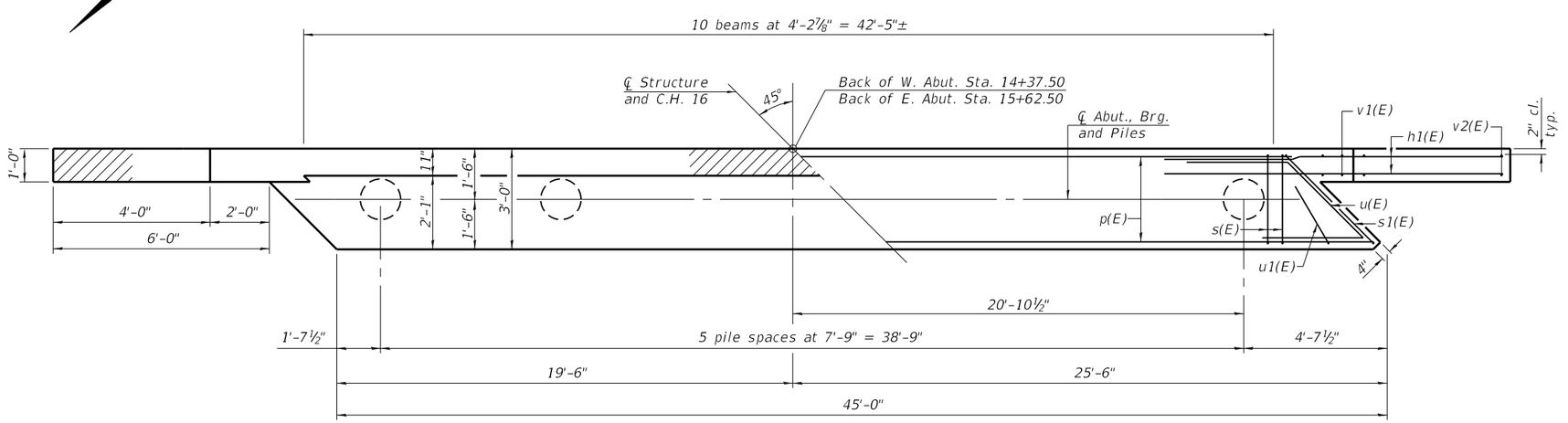


ELEVATION



SECTION THRU ABUTMENT

(Dimensions shown at Rt. L's)



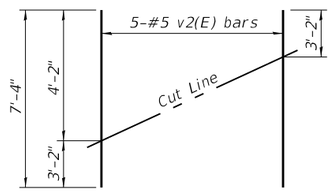
PLAN

W. ABUT. PILE DATA

Type: Metal Shell 12" ∅ x 0.250"
Nominal Required Bearing: 241 kips
Factored Resistance Available: 132 kips
Est. Length: 31 ft.
No. Production Piles: 5
No. Test Piles: 1
Pile Shoes: 6

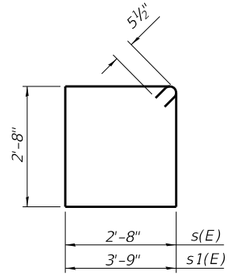
E. ABUT. PILE DATA

Type: Metal Shell 12" ∅ x 0.250"
Nominal Required Bearing: 234 kips
Factored Resistance Available: 129 kips
Est. Length: 31 ft.
No. Production Piles: 5
No. Test Piles: 1
Pile Shoes: 6

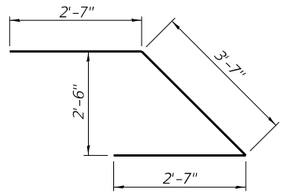


FIELD CUTTING DIAGRAM

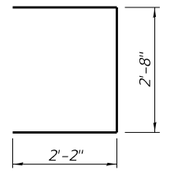
Order v2(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s1(E)



BAR u(E)



BAR u1(E)

BILL OF MATERIAL - 2 ABUT.

Bar	No.	Size	Length	Shape
h(E)	12	#5	42'-2"	
h1(E)	56	#5	10'-7"	
p(E)	24	#7	44'-9"	
s(E)	78	#5	11'-7"	
s1(E)	4	#5	13'-9"	
u(E)	16	#6	8'-9"	
u1(E)	4	#5	7'-0"	
v(E)	172	#5	2'-10"	
v1(E)	32	#5	4'-2"	
v2(E)	20	#5	7'-4"	
Structure Excavation		Cu. Yd.	127	
Concrete Structures		Cu. Yd.	39.8	
Reinforcement Bars, Epoxy Coated		Pound	5,390	
Furnishing Metal Shell Piles 12" x 0.250"		Foot	310	
Driving Piles		Foot	310	
Test Pile Metal Shells		Each	2	
Pile Shoes		Each	12	

Notes:

If pile interferes with dowel embedment, reduce dowel embedment so dowel is at the top of the pile (Min. embedment = 1'-0").

For details of piles, see sheet 8 of 10.

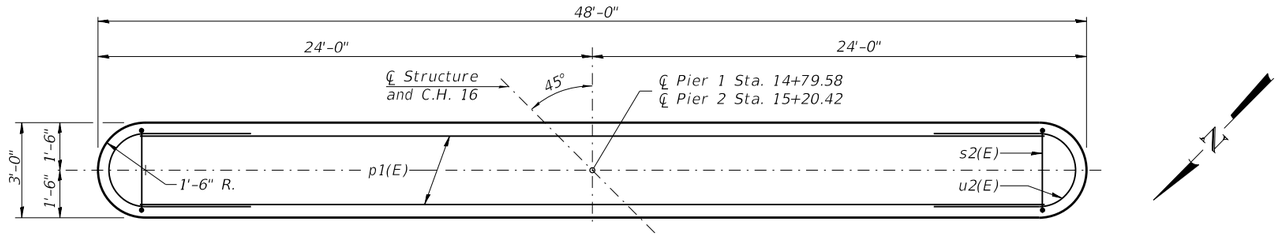
To prevent damage to piles during driving in hard till, the Contractor may be required to operate the hammer at or near the lower minimum hammer energy as determined in the Standard Specifications.

Notes:

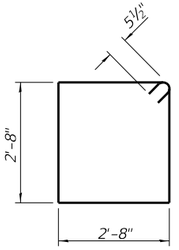
If pile interferes with dowel embedment, reduce dowel embedment so dowel is at the top of the pile (Min. embedment = 1'-0").

For details of piles, see sheet 8 of 10.

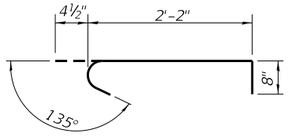
To prevent damage to piles during driving in hard till, the Contractor may be required to operate the hammer at or near the lower minimum hammer energy as determined in the Standard Specifications.



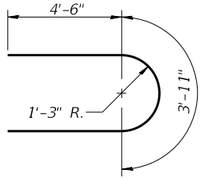
TOP PLAN



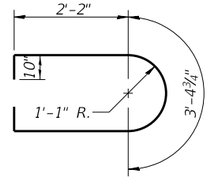
BAR s2(E)



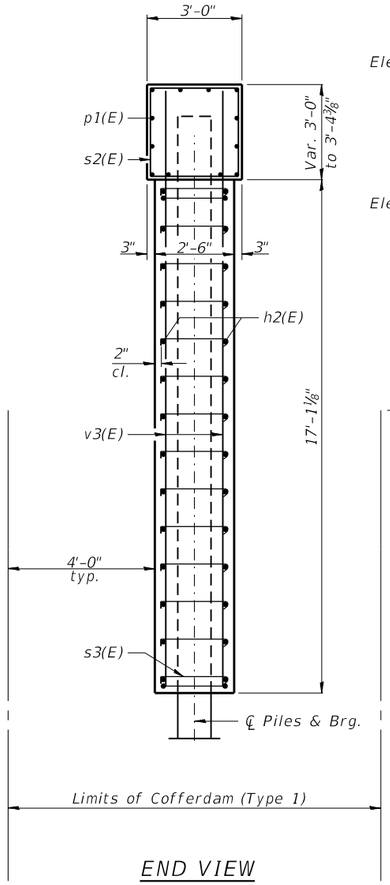
BAR s3(E)



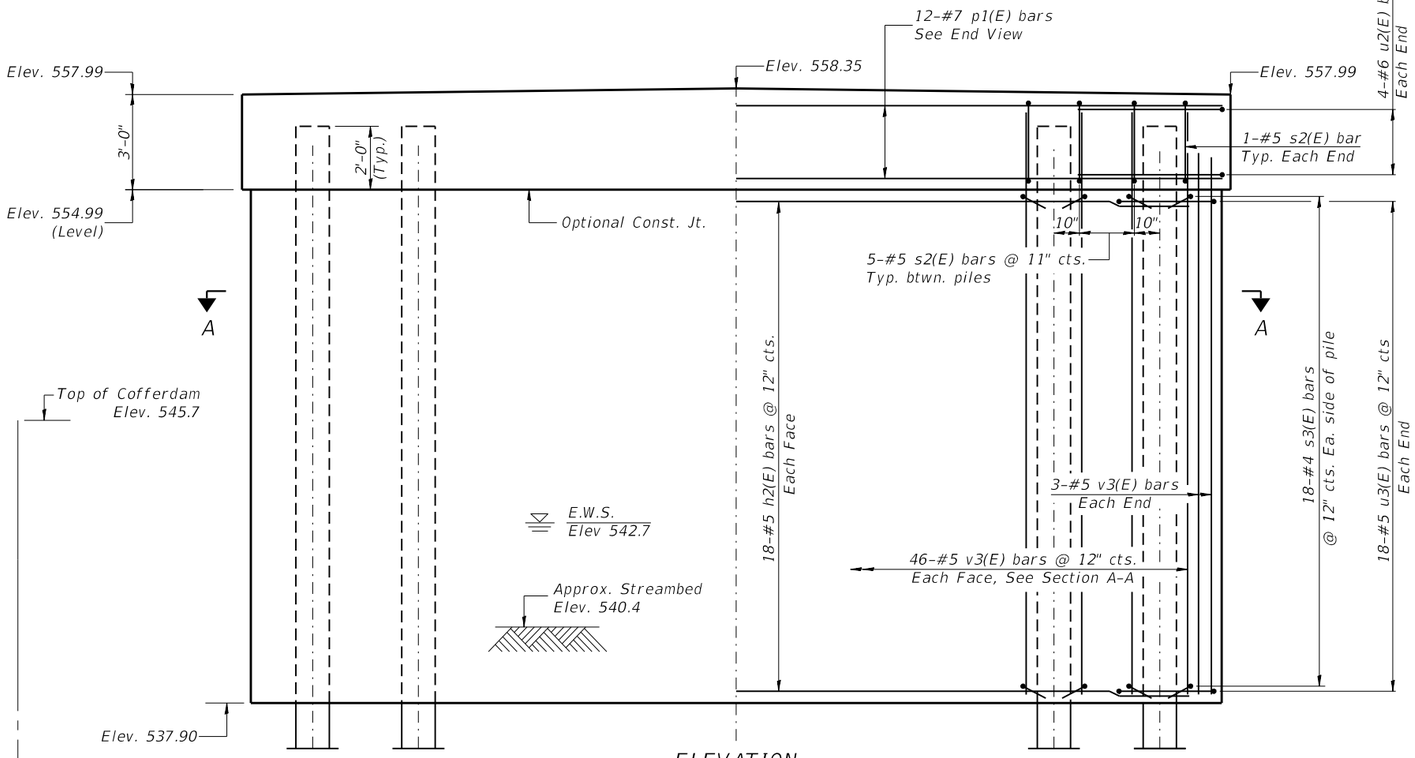
BAR u2(E)



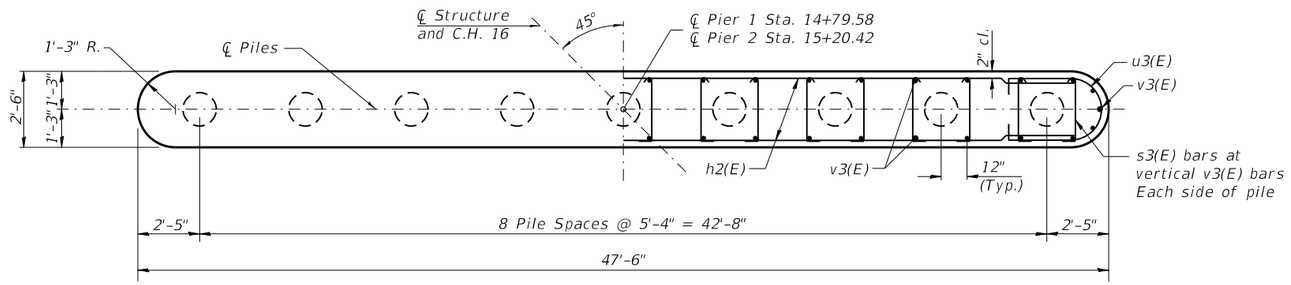
BAR u3(E)



END VIEW



ELEVATION
(Looking East)



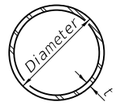
SECTION A-A

PILE DATA

Type: Metal Shell 12" ○ x 0.250"
Nominal Required Bearing: 309 kips
Factored Resistance Available: 170 kips
Est. Length: 41 ft.
No. Production Piles: 16
No. Test Piles: 2 (1 at Ea. Pier)
Pile Shoes: 18

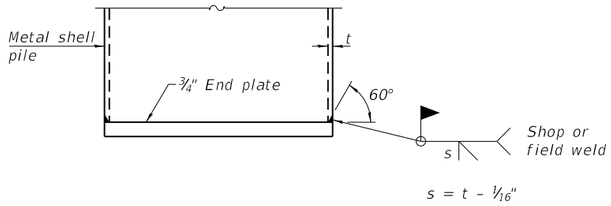
BILL OF MATERIAL
2 PIERS

Bar	No.	Size	Length	Shape
h2(E)	72	#5	45'-0"	
p1(E)	24	#7	45'-0"	
s2(E)	84	#5	11'-7"	
s3(E)	648	#4	3'-3"	
u2(E)	16	#6	12'-11"	
u3(E)	72	#5	9'-5"	
v3(E)	196	#5	19'-8"	
Cofferdam Excavation		Cu. Yd.	250	
Cofferdam (Type 1) (Location-1)		Each	1	
Cofferdam (Type 1) (Location-2)		Each	1	
Concrete Structures		Cu. Yd.	182.2	
Reinforcement Bars, Epoxy Coated		Pound	13,050	
Furnishing Metal Shell Piles 12" x 0.250"		Foot	656	
Driving Piles		Foot	656	
Test Pile Metal Shells		Each	2	
Pile Shoes		Each	18	



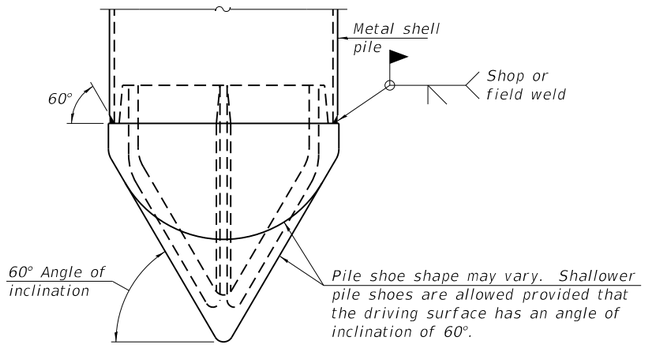
METAL SHELL PILE TABLE

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



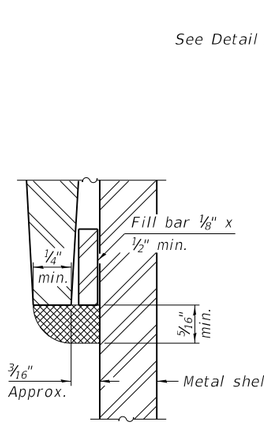
$s = t - 1/16"$

END PLATE ATTACHMENT

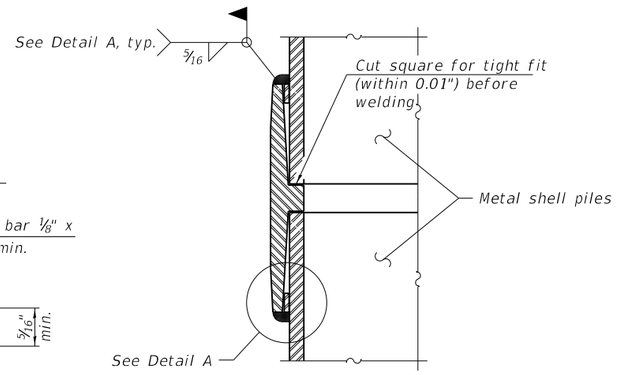


PILE SHOE ATTACHMENT

(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).

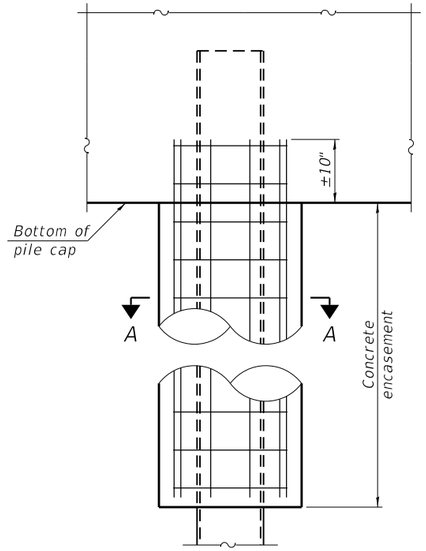


DETAIL A

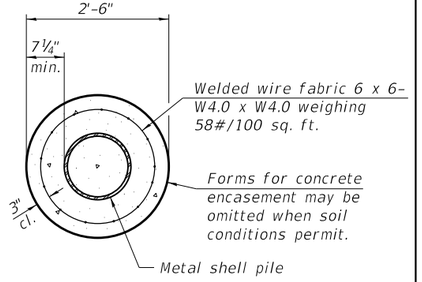


WELDED COMMERCIAL SPLICE

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.



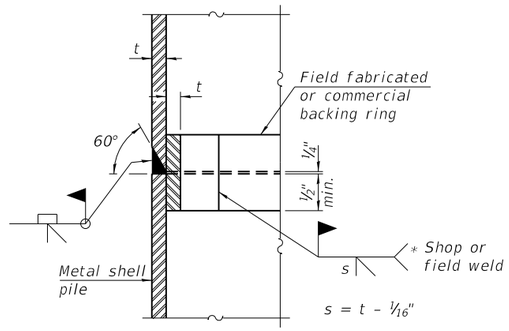
ELEVATION



SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

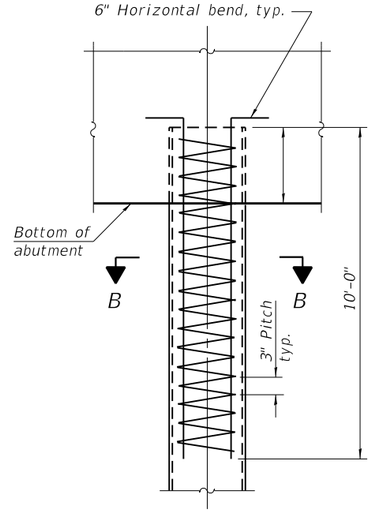
(When specified)



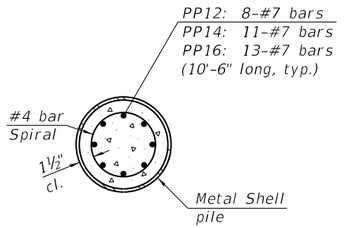
$s = t - 1/16"$

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

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

USER NAME = rhanfland	DESIGNED - TJZ	REVISED -	
	DRAWN - DMM	REVISED -	
PLOT SCALE = 0.1660 ' / in.	CHECKED - ADB	REVISED -	
PLOT DATE = 1/12/2022	DATE - 1/12/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 025-3334
SHEET 8 OF 10 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	17-00098-00-BR	EFFINGHAM	17	12
		CONTRACT NO. 95910		
	ILLINOIS	FED. AID PROJECT		

NOBLE

ENGINEERING CONSULTANTS	County: Effingham, IL	Sheet No. 1 of 2	1st encounter: 23'
Client: Effingham County Hwy. Dept.	Weather: Sunny	Temperature: 80's	**water level reading**
Driller: Noble Engineering Consultants	Date Start: 9-19-19	Surface Elevation: 100**	At Completion / Dry Cave
Location:97-00098-00-BR	Date Finished: 9-19-19	Driller: Tony Schocker	Backfill: / Soil cuttings

BORING No. B-1

Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	Moisture %	USC Class.	Elev.**
1							**0.0'-0.4' Topsoil**			98
2	SS-1	1.0'-2.5'	5	3-2-3	20				FILL	97
3										96
4	SS-2	3.5'-5.0'	6	2-2-4	50		**0.4'-8.0' Silt, Sand, Gravel, Clay, Etc. FILL**		FILL	95
5										94
6	SS-3	6.0'-7.5'	7	3-4-3	30				FILL	93
7										92
8										91
9	SS-4	8.5'-10.0'	8	3-4-4	100	0.7		12.2	CL	90
10										89
11										88
12										87
13										86
14	SS-5	13.5'-15.0'	8	3-3-5	100	0.9	**8.0'-18.5' Silty Clay, some sand, medium stiff, gray mottled brown**	20.0	CL	85
15										84
16										83
17										82
18										81
19	SS-6	18.5'-20.0'	22	7-9-13	100	4.5		21.6	CL-ML	80
20										79
21										78
22										77
23										76
24	SS-7	23.5'-25.0'	30	9-13-16	100	4.5+	**18.5'-50.0' CLAYEY SILT (TILL), trace to some sand, occ. silt seams, occ. cobbles, hard, gray**	19.6	CL-ML	75
25										74
26										73
27										72
28										71
29										70
30	SS-8	28.5'-30.0'	34	12-16-18	100	4.5+		15.2	CL-ML	69

Drilling Method: HSA (2-1/4" id)
Depth: 0' to 50'
Drill Rig: Mobile B-47
Sampling: split-spoon (SS)

comments: * Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder

** ground surface elevation at boring location is estimated from bridge deck as 100 and is not surveyed

NOBLE

ENGINEERING CONSULTANTS	County: Effingham, IL	Sheet No. 2 of 2	1st encounter: 23'
Client: Effingham County Hwy. Dept.	Weather: Sunny	Temperature: 80's	**water level reading**
Driller: Noble Engineering Consultants	Date Start: 9-19-19	Surface Elevation: ~100**	At completion / Dry Cave
Location: 97-00098-00-BR	Date Finished: 9-19-19	Driller: Tony Schocker	Backfill: / Soil cuttings

BORING No. B-1

Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	Moisture %	USC Class.	Elev.**
31										68
32										67
33										66
34	SS-9	33.5'-35.0'	41	17-19-22	100	4.5+		14.1	CL-ML	65
35										64
36										63
37										62
38										61
39	SS-10	38.5'-40.0'	37	15-17-20	100	4.5+	**18.5'-50.0' CLAYEY SILT (TILL), trace to some sand, occ. cobbles, occ. silt seams, hard, gray**	11.3	CL-ML	60
40										59
41										58
42										57
43										56
44	SS-11	43.5'-45.0'	50+	19-50/4****	100	4.5+		9.9	CL-ML	55
45										54
46										53
47										52
48										51
49	SS-12	48.5'-50.0'	63	19-30-33	70	4.5+		10.4	CL-ML	50
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

Drilling Method: HSA (2-1/4" id)
Depth: 0' to 50'
Drill Rig: Mobile B-47
Sampling: split-spoon (SS)

comments: * Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder

** ground surface elevation at boring location is estimated and is not surveyed

***rock in shoe

Boring Log Surface Elev. 559.5

NOBLE

ENGINEERING CONSULTANTS	County: Effingham, IL	Sheet No. 1 of 2	1st encounter: Dry
Client: Effingham County Hwy. Dept.	Weather: Sunny	Temperature: 80's	**water level reading**
Driller: Noble Engineering Consultants	Date Start: 9-19-19	Surface Elevation: 100**	At Completion / Dry Cave
Location:97-00098-00-BR	Date Finished: 9-19-19	Driller: Tony Schocker	Backfill: / Soil cuttings

BORING No. B-2

Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	Moisture %	USC Class.	Elev.**
1							**0.0'-0.4' Topsoil**			98
2	SS-1	1.0'-2.5'	9	3-4-5	20				FILL	97
3										96
4	SS-2	3.5'-5.0'	8	4-4-4	70		**0.4'-10.5' Silt, Sand, Gravel, Clay, Etc. FILL**		FILL	95
5										94
6	SS-3	6.0'-7.5'	8	3-4-4	80				FILL	93
7										92
8										91
9	SS-4	8.5'-10.0'	31	14-17-14	100			12.7	CL	90
10										89
11										88
12										87
13										86
14	SS-5	13.5'-15.0'	7	3-3-4	100	0.7	**10.5'-19.5' Silty Clay, some sand, medium stiff, gray mottled brown**	16.1	CL	85
15										84
16										83
17										82
18										81
19	SS-6	18.5'-20.0'	14	2-5-9	100	4.0		11.1	CL-ML	80
20										79
21										78
22										77
23										76
24	SS-7	23.5'-25.0'	30	8-11-19	100	4.5+	**19.5'-50.0' CLAYEY SILT (TILL), trace to some sand, occ. silt seams below 23', occ. cobbles, hard, gray**	8.7	CL-ML	75
25										74
26										73
27										72
28										71
29										70
30	SS-8	28.5'-30.0'	30	11-15-15	100	4.5+		15.2	CL-ML	69

Drilling Method: HSA (2-1/4" id)
Depth: 0' to 50'
Drill Rig: Mobile B-47
Sampling: split-spoon (SS)

comments
* Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder
** ground surface elevation at boring location is estimated from bridge deck as 100 and is not surveyed

NOBLE

ENGINEERING CONSULTANTS	County: Effingham, IL	Sheet No. 2 of 2	1st encounter: Dry
Client: Effingham County Hwy. Dept.	Weather: Sunny	Temperature: 80's	**water level reading**
Driller: Noble Engineering Consultants	Date Start: 9-19-19	Surface Elevation: ~100**	At completion / Dry Cave
Location: 97-00098-00-BR	Date Finished: 9-19-19	Driller: Tony Schocker	Backfill: / Soil cuttings

BORING No. B-2

Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	Moisture %	USC Class.	Elev.**
31										68
32										67
33										66
34	SS-9	33.5'-35.0'	38	14-18-20	100	4.5+		16.2	CL-ML	65
35										64
36										63
37										62
38										61
39	SS-10	38.5'-40.0'	34	15-18-16	100	4.5+	**19.5'-50.0' CLAYEY SILT (TILL), trace to some sand, occ. cobbles, occ. silt seams below 23', hard, gray**	8.9	CL-ML	60
40										59
41										58
42										57
43										56
44	SS-11	43.5'-45.0'	51	19-24-27	100	4.5+		10.1	CL-ML	55
45										54
46										53
47										52
48										51
49	SS-12	48.5'-50.0'	49	16-21-28	100	4.5+		10.3	CL-ML	50
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

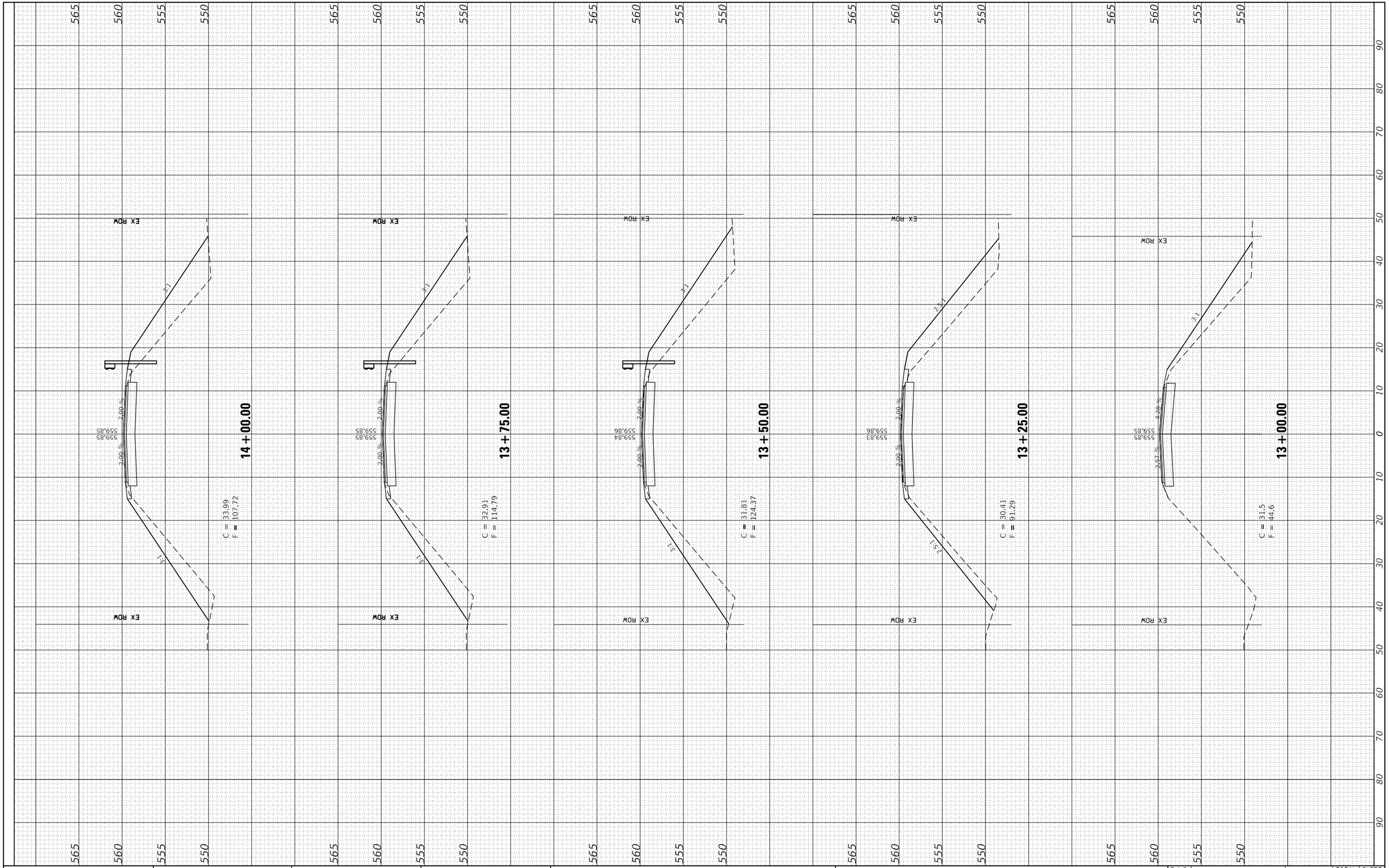
Drilling Method: HSA (2-1/4" id)
Depth: 0' to 50'
Drill Rig: Mobile B-47
Sampling: split-spoon (SS)

comments
* Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder
** ground surface elevation at boring location is estimated and is not surveyed

Boring Log Surface Elev. 559.7

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

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



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	PLOT SCALE = 20.0000 ' / in.	CHECKED - RLH	REVISED -
	PLOT DATE = 1/12/2022	DATE - $DATE$	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

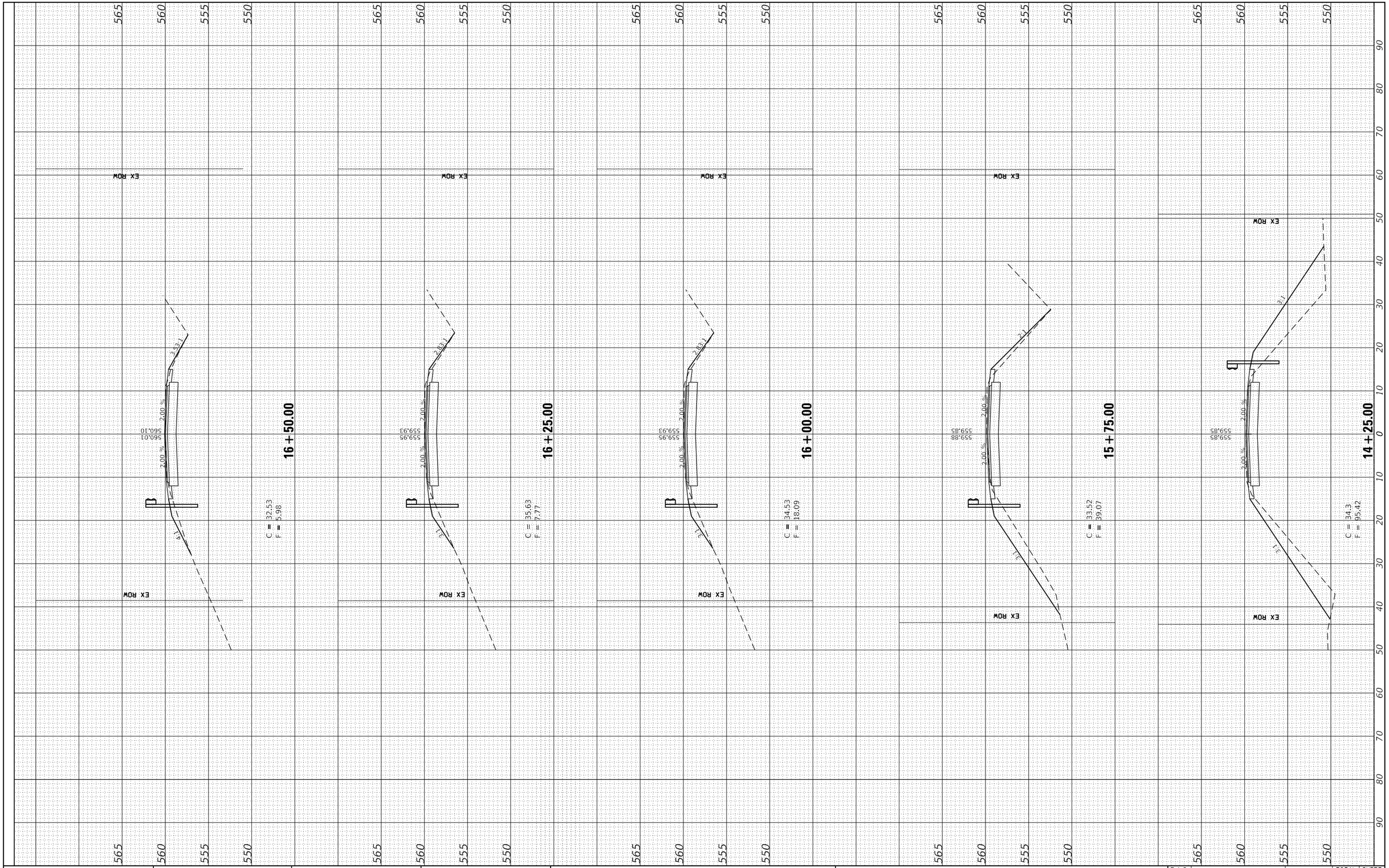
CROSS SECTIONS

SCALE | SHEET 1 OF 3 SHEETS | STA. 13+00 | TO STA. 14+00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1712	17-00098-00-BR	EFFINGHAM	17	15
		CONTRACT NO. 95910		
	ILLINOIS	FED. AID PROJECT		

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

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

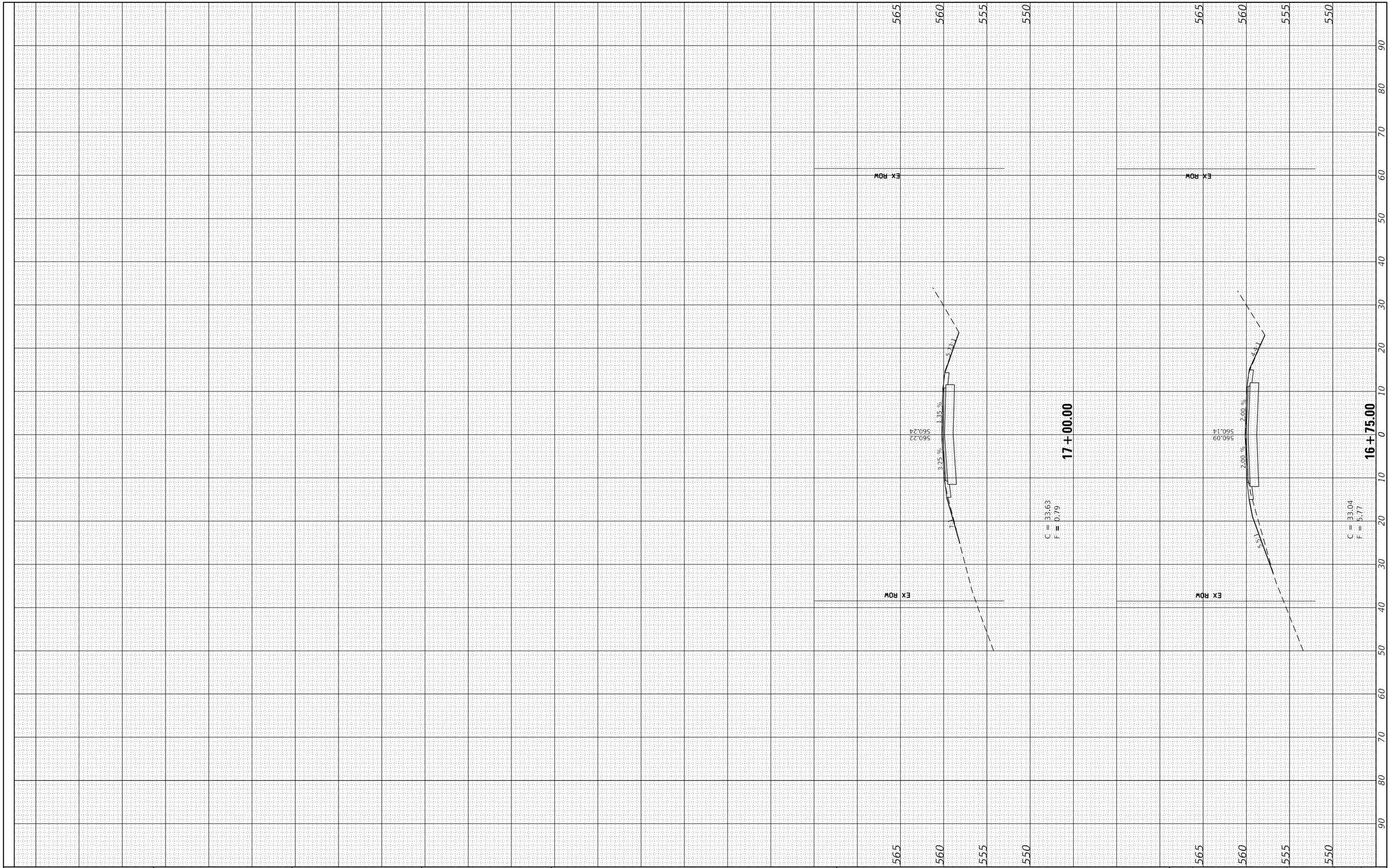


FILE NAME = P:\Effingham\3649 - Effingham Co - CH 16 over Default	USER NAME = rhanfland	DESIGNED - DMM	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**CROSS SECTIONS**
	Bishop Ck\CAD\DGN\Sheet\Sheet_R3549_Cross_Sections.dgn	DRAWN - DMM	REVISED -		
	PLOT SCALE = 20.0000 ' / in.	CHECKED - RLH	REVISED -		
	PLOT DATE = 1/12/2022	DATE - $DATE$	REVISED -		

SCALE	SHEET 2 OF 3 SHEETS	STA. 14+25	TO STA. 16+50

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1712	17-00098-00-BR	EFFINGHAM	17	16
		CONTRACT NO. 95910		
	ILLINOIS FED. AID PROJECT			

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



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

FILE NAME = P:\Effingham\3649 - Effingham Co - CH 16 over Default	USER NAME = rhanfland	DESIGNED - DMM	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
	Bishop Ck\CAD\DGN\Sheet\Sheet_R3549_Cross_Sections.dgn	DRAWN - DMM	REVISED -	
	PLOT SCALE = 20.0000 ' / in.	CHECKED - RLH	REVISED -	
	PLOT DATE = 1/12/2022	DATE - $DATE$	REVISED -	

CROSS SECTIONS

SCALE | SHEET 3 OF 3 SHEETS | STA. 16+75 | TO STA. 17+00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1712	17-00098-00-BR	EFFINGHAM	17	17
		CONTRACT NO. 95910		
	ILLINOIS	FED. AID PROJECT		