

| T.R. | SECTION        | COUNTY   | TOTAL SHEETS       | SHEET NO. |
|------|----------------|----------|--------------------|-----------|
| 235  | 18-20122-00-BR | SHELBY   | 17                 | 1         |
|      |                | ILLINOIS | CONTRACT NO. 95914 |           |

INDEX OF SHEETS

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- 3 SCHEDULES
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- 5 EROSION CONTROL PLAN
- 6-15 BRIDGE PLANS
- 16-17 CROSS SECTIONS

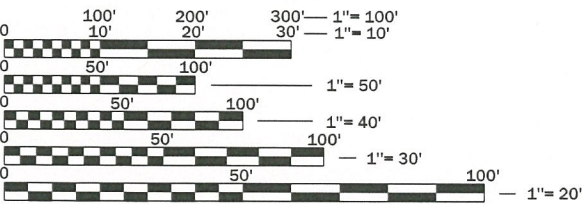
HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-04 NAME PLATE FOR BRIDGES
- 542401-04 METAL FLARED END SECTIONS FOR PIPE CULVERTS
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- 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: SHELBY ELECTRIC CO-OP  
1355 IL-218  
SHELBYVILLE, IL 62565  
(217) 774-3986
- PHONE: CONSOLIDATED COMMUNICATIONS  
1321 CHARLESTON AVE  
MATTOON, IL 61938  
(217) 238-9220
- WATER: E J WATER COOPERATIVE, INC.  
108 SOUTH MAIN STREET  
DIETERICH, IL 62424  
(217) 925-5566

FUNCTIONAL CLASSIFICATION = LOCAL ROAD (NON-URBAN)  
DESIGN SPEED = 30 MPH  
DESIGN TRAFFIC = 150 ADT (2018)



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.

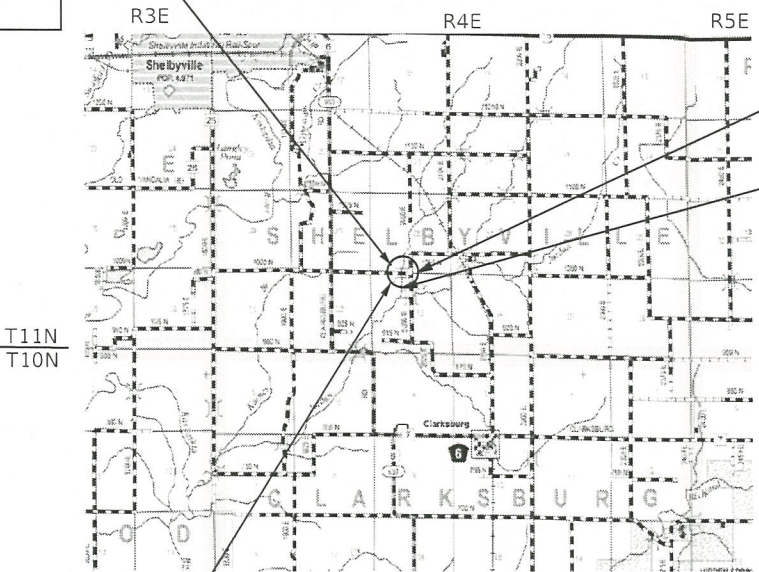
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
BRIDGE REPLACEMENT  
STP-OFF SYSTEM

TR 235 OVER JORDAN CREEK  
SECTION 18-20122-00-BR  
PROJECT 6HIL(452)  
SHELBYVILLE TOWNSHIP  
SHELBY COUNTY  
C-97-010-22

STA. 15+00.50  
SINGLE SPAN 27" PPC DECK BEAM BRIDGE  
70'-0" BK TO BK ABUTMENTS  
67'-0" SPAN, 24' CLEAR WIDTH  
PILE BENT ABUTMENTS, 0 DEGREE SKEW  
STRUCTURE NO. 087-3596



END IMPROVEMENTS  
STA. 18+95.00

BEGINNING IMPROVEMENTS  
STA. 12+90.00

LOCATION MAP (NOT TO SCALE)

GROSS LENGTH = 605.0 FT. = 0.11 MILE  
NET LENGTH = 605.0 FT. = 0.11 MILE

EXISTING STRUCTURE NO. 087-3337  
SINGLE SPAN STEEL GIRDER BRIDGE ON  
TIMBER ABUTMENTS  
LENGTH=36.0' WIDTH=19.1'



CIVIL DESIGN, INC.  
WBE / DBE  
LICENSE #184.003222



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

APPROVED 2/14/22  
SHELBY COUNTY ENGINEER

PASSED 02/22/22  
DISTRICT SEVEN ENGINEER OF LOCAL ROADS AND STREETS

Released for Bid Based on Limited Review 02/23/22  
REGION FOUR ENGINEER



SIGNED: 2/9/2022

SHEETS 1-5, 16-17  
ROBERT HANFLAND, PE  
STATE OF ILLINOIS NO. 062-064104  
EXPIRES 11-30-2023

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

CONTRACT NO. 95914

|                        |                    |    |      |
|------------------------|--------------------|----|------|
| PLAN                   | SURVEYED           | BY | DATE |
|                        | PLOTTED            |    |      |
| NOTE BOOK<br>NO. _____ | ALIGNMENT CHECKED  |    |      |
|                        | RT. OF WAY CHECKED |    |      |
|                        | CADD FILE NAME     |    |      |

|                 | SURVEYED                  | BY | DATE |
|-----------------|---------------------------|----|------|
| PROFILE _____   |                           |    |      |
| NOTE BOOK _____ | GRADES CHECKED            |    |      |
| NO. _____       | B.I.M. NOTED              |    |      |
|                 | STRUCTURE NOTATIONS CHK'D |    |      |

MODEL: Default  
TITLE NAME: PaC(H)ingham3733 - Shelby Co - TR 235 over Jordan CHICAGO.DGNSheet\$Sheet\_R3733 Quantities Typelects.dgn

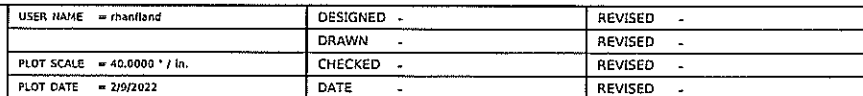


Diagram illustrating the cross-section of a 6" AGGREGATE BASE COURSE, TYPE B. The diagram shows a trapezoidal shape representing the base course. The top edge is labeled "EDGE OF PAVEMENT". The bottom edge is labeled "EXISTING ROW LINE". The sides are labeled "1:1 TAPER". The width of the base course at the existing row line is indicated as "14' & 16'". The text "6" AGGREGATE BASE COURSE, TYPE B" is written at the bottom left.

40' & VARIABLE

VARIES

OIL & CHIP

EXISTING R.O.W.

EXISTING R.O.W.

EXISTING TYPICAL

67' AND VARIABLE

C.R. 235

6.00% SLOPE (TYP. SHOULDER)

2.00% SLOPE (TYP. PAVEMENT)

31' & VARIES

2' & VARIES

8" AGGREGATE BASE COURSE

R.O.W.

R.O.W.

\* SEE PLAN FOR TAPER RATES FOR VARIABLE WIDTH

STA. 12+90.00 TO 14+65.50  
STA. 15+35.50 TO 18+95.00

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. NO PAYMENT FOR OVERHAUL WILL BE MADE FOR THIS SECTION.
5. 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.
6. TREES WITHIN THE R.O.W. WHICH INTERFERE WITH CONSTRUCTION ACTIVITIES SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.
7. 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.
8. 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 |

|                                                      |       |    |        |      |                           |                |        |                 |              |
|------------------------------------------------------|-------|----|--------|------|---------------------------|----------------|--------|-----------------|--------------|
| SUMMARY OF QUANTITIES, TYPICALS<br>AND GENERAL NOTES |       |    |        |      | TR                        | SECTION        | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
|                                                      |       |    |        |      | 235                       | 18-20122-00-BR | SHELBY | 17              | 2            |
|                                                      |       |    |        |      | CONTRACT NO. 95914        |                |        |                 |              |
| SCALE:                                               | SHEET | OF | SHEETS | STA. | TO STA.                   |                |        |                 |              |
|                                                      |       |    |        |      | ILLINOIS FED. AID PROJECT |                |        |                 |              |

PLAN

NO.

NOTE BOOK

SURVEYED

PLOTTED

ALIGNMENT CHECKED

GRADES CHECKED

CADD FILE NAME

BY

DATE

PROFILE

NO.

NOTE BOOK

SURVEYED

PLOTTED

GRADES CHECKED

STRUCTURE NOTATIONS CHNGD

BY

DATE

EARTHWORK SCHEDULE

| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2                         | 3                             | 4                           | 5                                      | 6                                    | 7                                                          | 8                   | 9                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------|-----------------------------|----------------------------------------|--------------------------------------|------------------------------------------------------------|---------------------|---------------------------------------------------------|
| LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EARTH EXCAVATION<br>CU YD | STRUCTURE EXCAVATION<br>CU YD | CHANNEL EXCAVATION<br>CU YD | ESTIMATED UNSUITABLE MATERIAL<br>CU YD | ESTIMATED SUITABLE MATERIAL<br>CU YD | ESTIMATE SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE<br>CU YD | EMBANKMENT<br>CU YD | EARTHWORK BALANCE<br>WASTE (+) OR SHORTAGE (-)<br>CU YD |
| STA 12+90 TO 14+65.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10                        |                               |                             |                                        | 10                                   | 8                                                          | 309                 | -301                                                    |
| STA 14+65.50 TO 15+35.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           | 42                            | 233                         | 83                                     | 192                                  | 144                                                        |                     | 144                                                     |
| STA 15+35.50 TO 18+95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 13                        |                               |                             |                                        | 13                                   | 10                                                         | 764                 | -754                                                    |
| TOTAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 23                        | 42                            | 233                         | 83                                     | 215                                  | 162                                                        | 1,073               | -911                                                    |
| COLUMN 1, 2, & 8 - LOCATION AND QUANTITIES FROM CROSS SECTIONS,<br>CUT = EARTH EXCAVATION FILL = EMBANKMENT<br>COLUMN 3 - QUANTITIES FOR STRUCTURAL EXCAVATION (CUT) FROM BRIDGE PLANS<br>COLUMN 4 - QUANTITY OF CHANNEL EXCAVATION (CUT) FROM BRIDGE PLANS<br>COLUMN 5 - ESTIMATED UNSUITABLE MATERIAL (ESTIMATED AT 30% OF STRUCTURE AND CHANNEL EXCAVATION)<br>COLUMN 6 - ESTIMATED SUITABLE EARTH EXCAVATION (ESTIMATED AT 70% OF STRUCTURE AND CHANNEL EXCAVATION)<br>COLUMN 7 - QUANTITY OF SUITABLE EARTH EXCAVATION (CUT) ADJUSTED FOR A SHRINKAGE FACTOR OF 25%<br>COLUMN 9 - EARTHWORK BALANCE<br>(-) = QUANTITY OF FURNISHED EXCAVATION NEEDED EARTHWORK BALANCE<br>(+) = QUANTITY OF EARTH EXCAVATION ADJUSTED FOR SHRINKAGE TO BE WASTED |                           |                               |                             |                                        |                                      |                                                            |                     |                                                         |

SEEDING SCHEDULE

| LOCATION           | SEEDING CLASS 2<br>ACRE | NITROGEN FERTILIZER NUTRIENT<br>(90 LBS/ACRE)<br>POUND | PHOSPHORUS FERTILIZER NUTRIENT<br>(90 LBS/ACRE)<br>POUND | POTASSIUM FERTILIZER NUTRIENT<br>(90 LBS/ACRE)<br>POUND | MULCH METHOD 2<br>ACRE | TEMPORARY EROSION CONTROL SEEDING (2 @ 100)<br>LBS/ACRE<br>POUND |
|--------------------|-------------------------|--------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|------------------------|------------------------------------------------------------------|
| STA 12+00 TO 14+70 | 0.1                     | 9                                                      | 9                                                        | 9                                                       | 0.1                    | 20                                                               |
| STA 15+30 TO 18+50 | 0.2                     | 18                                                     | 18                                                       | 18                                                      | 0.2                    | 40                                                               |
| TOTAL              | 0.3                     | 27                                                     | 27                                                       | 27                                                      | 0.3                    | 60                                                               |

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 | WIDTH  | LENGTH | AREA  | TONS |
|--------------------|-----------|--------|--------|-------|------|
| STA 12+90 TO 13+40 | 8"        | VARIES | 50'    |       | 43   |
| STA 13+40 TO 14+65 | 8"        | 20'    | 125'   |       | 127  |
| STA 14+26.21 RT    | 6"        | VARIES | VARIES | 724   | 27   |
| STA 15+35 TO 18+45 | 8"        | 20'    | 310'   |       | 314  |
| STA 17+52.07 RT    | 6"        | VARIES | VARIES | 392   | 15   |
| STA 18+45 TO 18+95 | 8"        | VARIES | 50'    |       | 43   |
|                    |           |        |        | TOTAL | 569  |

TREE REMOVAL

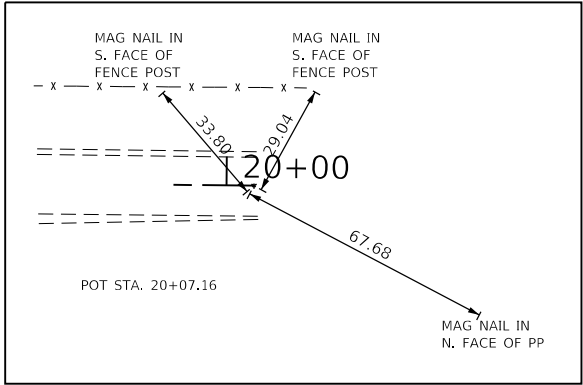
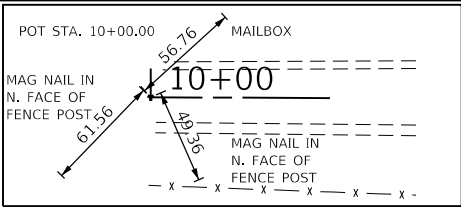
| LOCATION                     | ACRE |
|------------------------------|------|
| STA 12+90 RT TO STA 14+20 RT | 0.1  |

TEMPORARY DITCH CHECKS

| LOCATION     | FEET |
|--------------|------|
| STA 13+76 RT | 8    |
| STA 14+57 RT | 8    |
| STA 18+00 RT | 8    |
| STA 18+00 LT | 8    |
| TOTAL        | 32   |

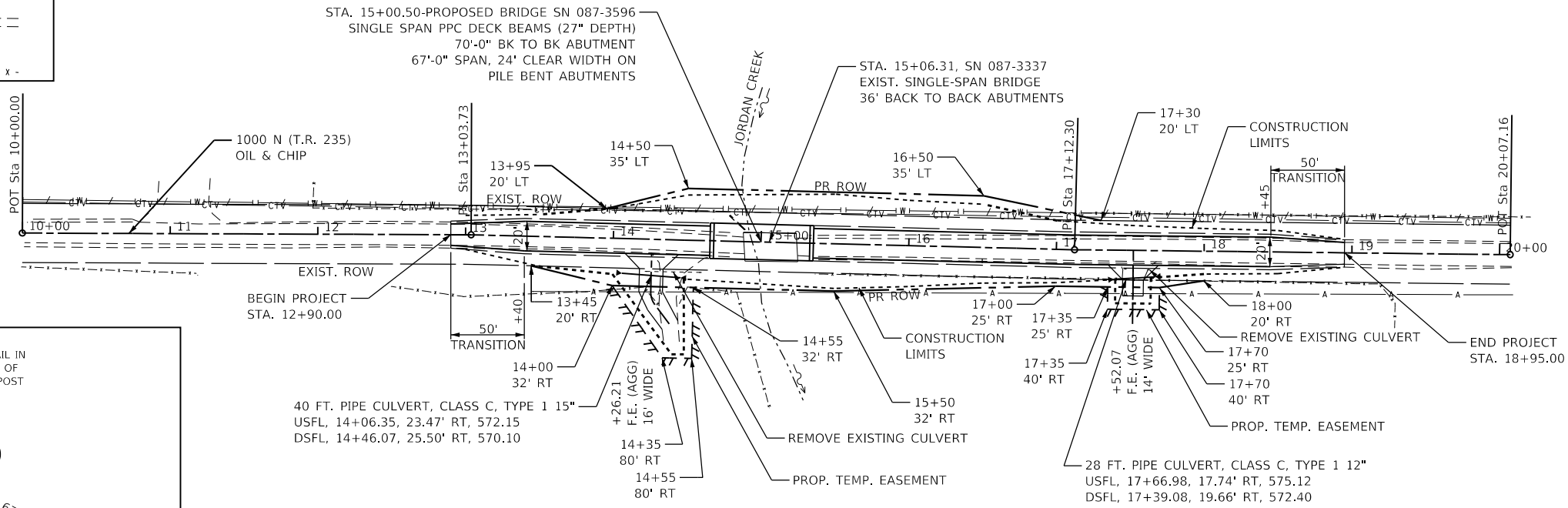
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|------|-------------------------------------------------------|----|------|
|      |                                                       |    |      |
|      | NOTE BOOK<br>NO.                                      |    |      |



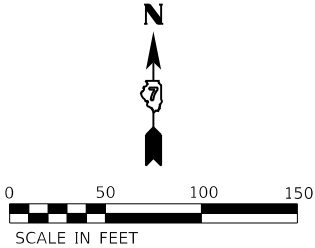
| POINT | STATION  | NORTHING     | EASTING     |
|-------|----------|--------------|-------------|
| POT   | 10+00.00 | 981,671.9410 | 862,415.498 |
| PI    | 13+03.73 | 981,670.7461 | 862,719.225 |
| PI    | 17+12.30 | 981,660.6261 | 863,127.674 |
| POT   | 20+07.16 | 981,657.2970 | 863,422.509 |

FREDERICK & MARSHA SUMMERS

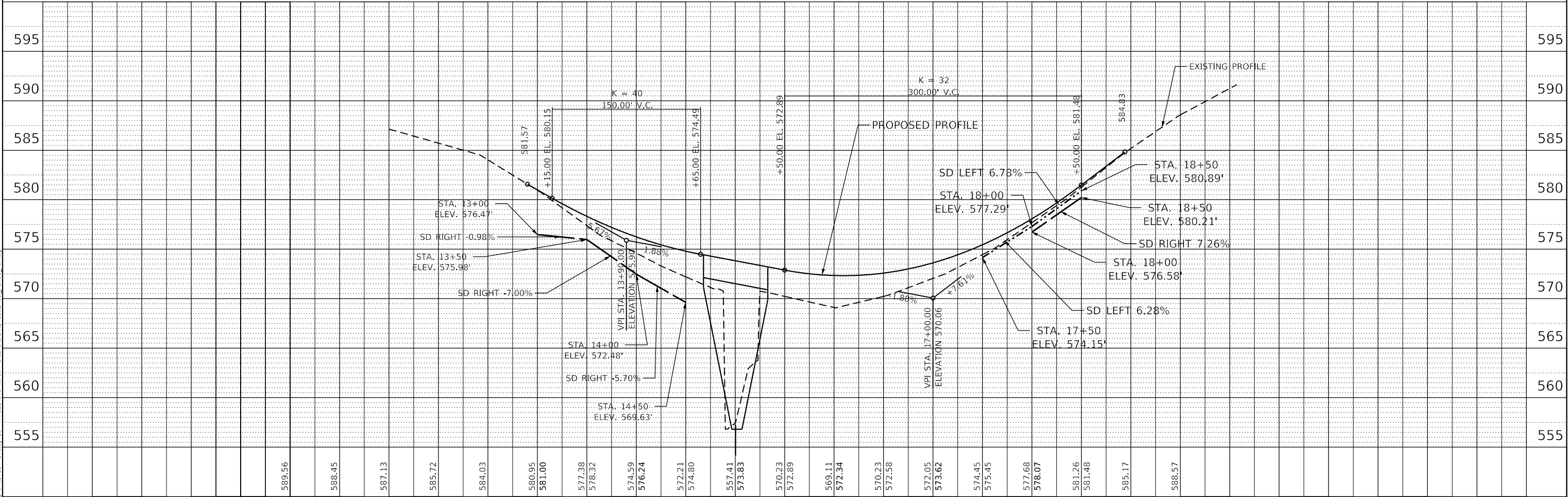


CURTIS & PAMELA RINCKER, TRUSTEES

BENCHMARK: RR SPIKE IN PP APPROX. 200' E  
OF BRIDGE IN S. ROW  
ELEV. = 570.16



| PROFILE | SURVEYED<br>PLOTTED<br>GRADES CHECKED<br>STRUCTURE NOTATIONS CHNG | BY | DATE |
|---------|-------------------------------------------------------------------|----|------|
|         |                                                                   |    |      |
|         | NOTE BOOK<br>NO.                                                  |    |      |



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

| TR                 | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|--------------|-----------|
| 235                | 18-20122-00-BR | SHELBY | 17           | 4         |
| CONTRACT NO. 95914 |                |        |              |           |

SCALE: SHEET OF SHEETS STA. TO STA.

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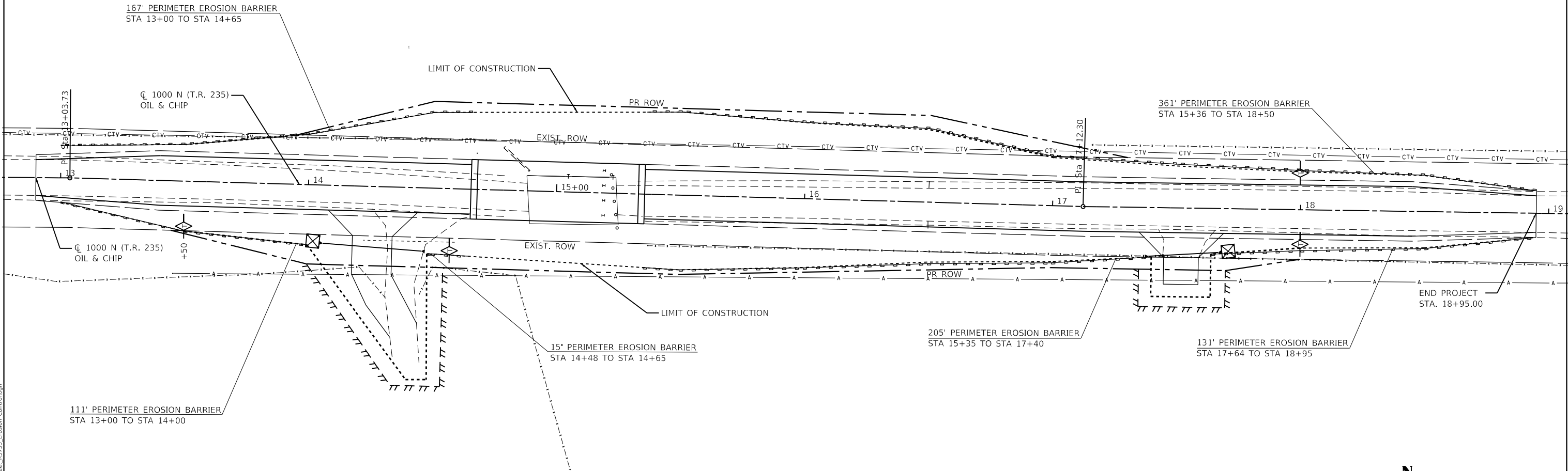


|                               |            |           |
|-------------------------------|------------|-----------|
| USER NAME = dmammoser         | DESIGNED - | REVISED - |
|                               | DRAWN -    | REVISED - |
| PLOT SCALE = 100,0000 ' / in. | CHECKED -  | REVISED - |
| PLOT DATE = 2/7/2022          | DATE -     | REVISED - |

| PLAN          | SURVEYED | PLOTTED | ALIGNMENT CHECKED | BY | DATE |
|---------------|----------|---------|-------------------|----|------|
|               |          |         |                   |    |      |
| NOTE BOOK NO. |          |         |                   |    |      |
|               |          |         |                   |    |      |

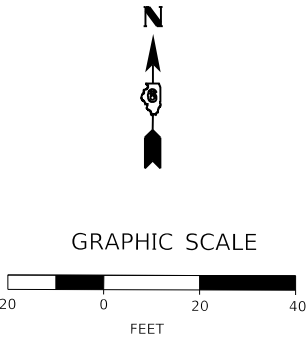
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|               |          |         |                |    |      |

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LEGEND

- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK

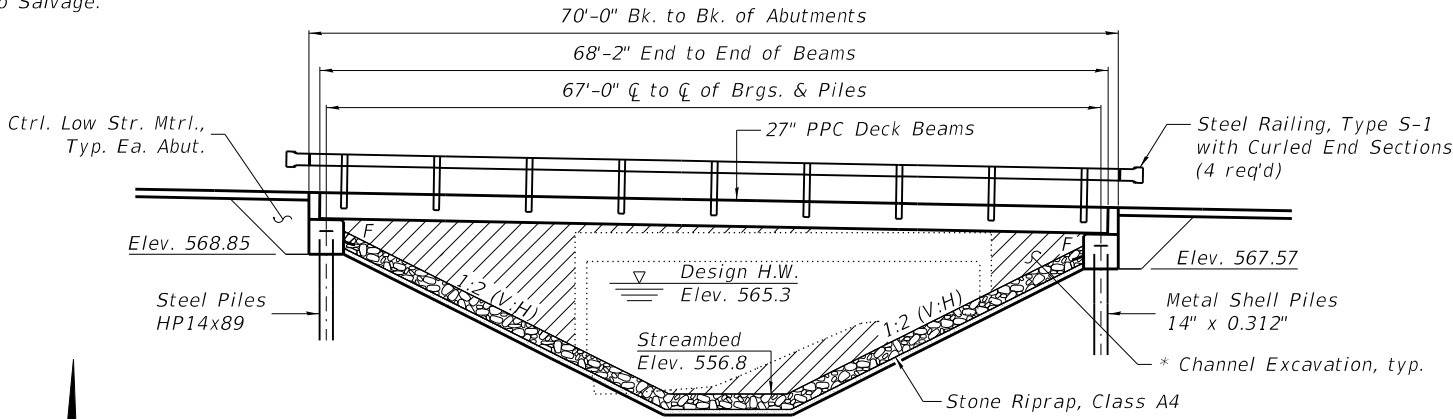


|                                                                         |                              |  |            |           |                                                   |                                     |  |  |                           |                |        |              |           |
|-------------------------------------------------------------------------|------------------------------|--|------------|-----------|---------------------------------------------------|-------------------------------------|--|--|---------------------------|----------------|--------|--------------|-----------|
| CIVIL DESIGN, INC.<br>WBE / DBE<br>EFFINGHAM, IL<br>LICENSE #184.003222 | USER NAME = dmammoser        |  | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | EROSION CONTROL PLAN                |  |  | TR                        | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|                                                                         | DRAWN -                      |  | REVIS      | ED -      |                                                   |                                     |  |  | 235                       | 18-20122-00-BR | SHELBY | 17           | 5         |
|                                                                         | PLOT SCALE = 40,0000 ' / in. |  | CHECKED -  | REVISED - |                                                   | SCALE: SHEET OF SHEETS STA. TO STA. |  |  | CONTRACT NO. 95914        |                |        |              |           |
|                                                                         | PLOT DATE = 2/7/2022         |  | DATE -     | REVISED - |                                                   |                                     |  |  | ILLINOIS FED. AID PROJECT |                |        |              |           |

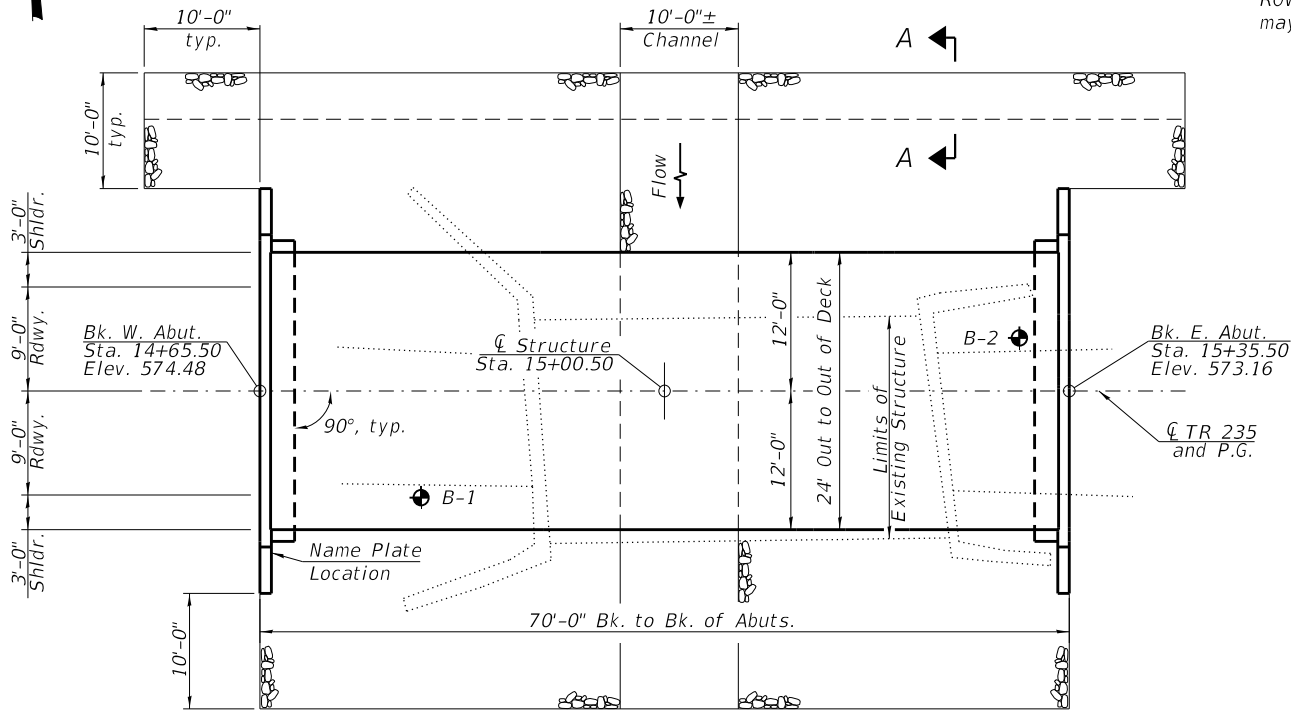
Bench Mark: RR Spike in PP SE of bridge. Sta. 17+05, 29' RT. Elev. 570.167.

Existing Structure: S.N. 087-3337 was built in 1977. Existing structure is a single-span steel girder bridge on closed timber abutments. 36'-0" back to back abutments, 19'-1" out to out of deck.

No Salvage.



ELEVATION



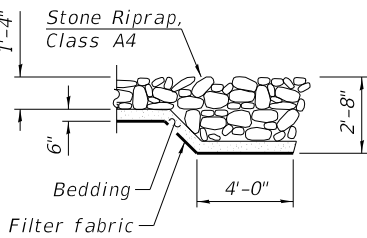
PLAN

WATERWAY INFORMATION

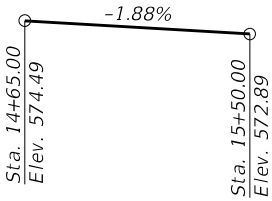
| Exist. Low Grade Elev. 569.09 @ Sta. 16+00                                     |           |          |                 |       |             |     |            |       |               |
|--------------------------------------------------------------------------------|-----------|----------|-----------------|-------|-------------|-----|------------|-------|---------------|
| Drainage Area = 3.22 mi <sup>2</sup> Prop. Low Grade Elev. 572.39 @ Sta. 16+00 |           |          |                 |       |             |     |            |       |               |
| Flood                                                                          | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. |       | Nat. H.W.E. |     | Head - Ft. |       | Headwater El. |
|                                                                                |           |          | Exist.          | Prop. |             |     | Exist.     | Prop. |               |
| Design                                                                         | 15        | 1170     | 175             | 231   | 565.3       | 1.0 | 0.1        | 566.3 | 565.4         |
| Base                                                                           | 100       | 2140     | 241             | 322   | 567.2       | 2.3 | 0.5        | 569.5 | 567.7         |
| Ex. Overtop.                                                                   | 300       | 2610     | 262             | -     | 567.8       | 2.4 | -          | 570.2 | -             |
| Max Calc.                                                                      | 500       | 2980     | 279             | 381   | 568.3       | 2.2 | 0.7        | 570.5 | 569.0         |

DESIGN SCOUR ELEVATION TABLE

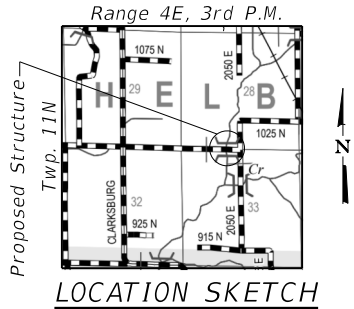
| Event/Limit State | Design Scour Elev. (ft.) |          | Item 113 |
|-------------------|--------------------------|----------|----------|
|                   | W. Abut.                 | E. Abut. |          |
| Q100              | 568.9                    | 567.6    | 8        |
| Q200              | 568.9                    | 567.6    |          |
| Design            | 568.9                    | 567.6    |          |
| Check             | 568.9                    | 567.6    |          |



SECTION A-A



PROFILE GRADE  
(along  $\phi$  roadway)



LOCATION SKETCH

JORDAN CREEK  
BUILT 20 BY  
SHELBY COUNTY  
SEC. 18-20122-00-BR  
TR 235 STA. 15+00.05  
STR. NO. 087-3596 LOADING HL-93

NAME PLATE  
See Std. 515001

TOTAL BILL OF MATERIAL

| ITEM                                                | UNIT    | SUPER | SUB   | TOTAL |
|-----------------------------------------------------|---------|-------|-------|-------|
| Channel Excavation                                  | Cu. Yd. |       |       | 233   |
| Stone Riprap, Class A4                              | Ton     |       | 351   | 351   |
| Filter Fabric                                       | Sq. Yd. |       | 450   | 450   |
| Removal of Existing Structures                      | Each    |       |       | 1     |
| Structure Excavation                                | Cu. Yd. |       | 42    | 42    |
| Concrete Structures                                 | Cu. Yd. |       | 25.6  | 25.6  |
| Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 1,636 |       | 1,636 |
| Reinforcement Bars, Epoxy Coated                    | Pound   |       | 3,500 | 3,500 |
| Steel Railing, Type S1                              | Foot    | 140   |       | 140   |
| Furnishing Metal Shell Piles 14" x 0.312"           | Foot    |       | 124   | 124   |
| Furnishing Steel Piles HP14x89                      | Foot    |       | 112   | 112   |
| Driving Piles                                       | Foot    |       | 236   | 236   |
| Test Pile Metal Shells                              | Each    |       | 1     | 1     |
| Test Pile Steel HP14x89                             | Each    |       | 1     | 1     |
| Pile Shoes                                          | Each    |       | 5     | 5     |
| Name Plates                                         | Each    |       | 1     | 1     |
| Controlled Low-Strength Material                    | Cu. Yd. |       | 44    | 44    |
| 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.

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2-3 PPC Deck Beam Details
- 4 Superstructure Details
- 5 Steel Railing, Type S-1
- 6 West Abutment
- 7 East Abutment
- 8 HP Pile Details
- 9 Metal Shell Pile Details
- 10 Soil Boring Logs

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

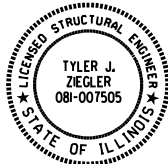
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$  psi  
 $f'_{ci} = 5,000$  psi  
 $f_{pu} = 270,000$  psi ( $\frac{1}{2}$ " dia. low lax. strands)  
 $f_{pbt} = 201,960$  psi ( $\frac{1}{2}$ " dia. low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.133g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.300g  
Soil Site Class = C



2/10/22  
TYLER J. 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.

GENERAL PLAN AND ELEVATION  
T.R. 235 OVER JORDAN CREEK  
SEC. 18-20122-00-BR  
SHELBY COUNTY  
STATION 15+00.50  
STRUCTURE NO. 087-3596



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

USER NAME = tziegler  
PLOT SCALE = 0.1660' / in.  
PLOT DATE = 2/10/2022

DESIGNED - TJZ  
DRAWN - TJZ  
CHECKED - ADB  
DATE - 2/10/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

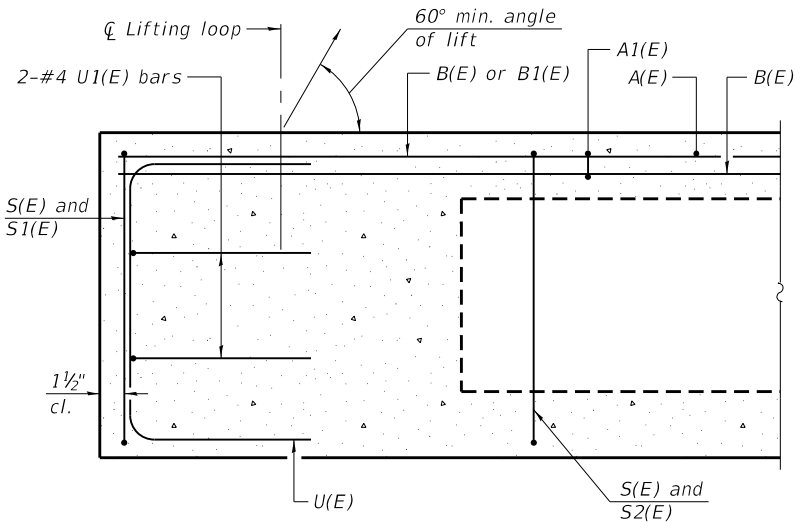
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION  
STRUCTURE NO. 087-3596

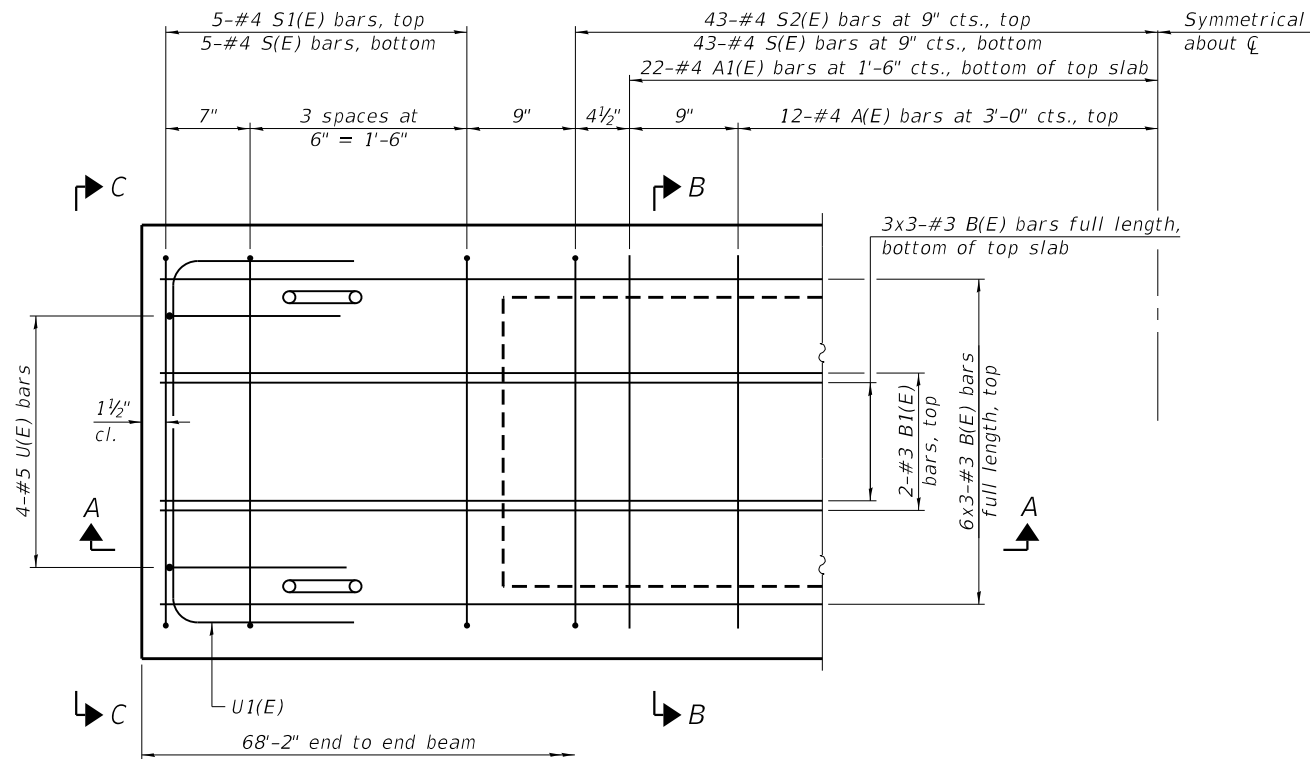
SHEET 1 OF 10 SHEETS

| T.R.                      | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 235                       | 18-20122-00-BR | SHELBY | 17           | 6         |
| CONTRACT NO. 95914        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |

MODEL 03 Deck Beam  
FILE NAME: 20170101.dgn  
C:\CAD\DWG\Sheet\087-3596.dgn

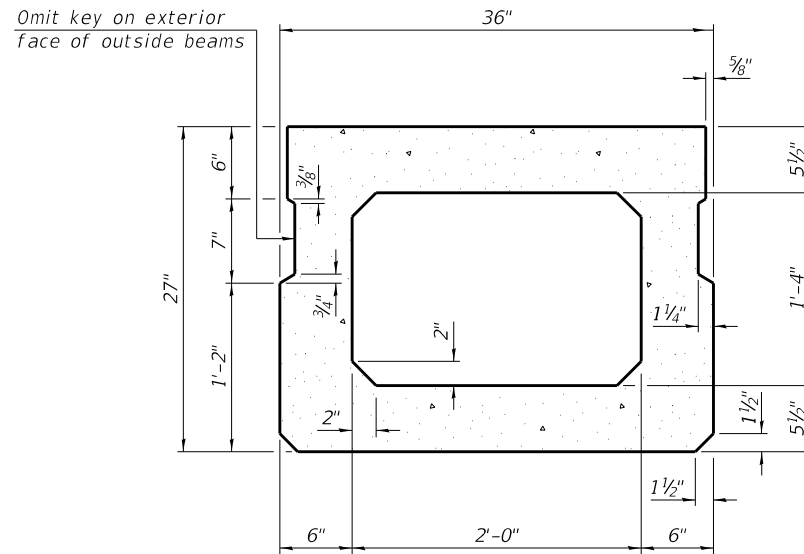


SECTION A-A

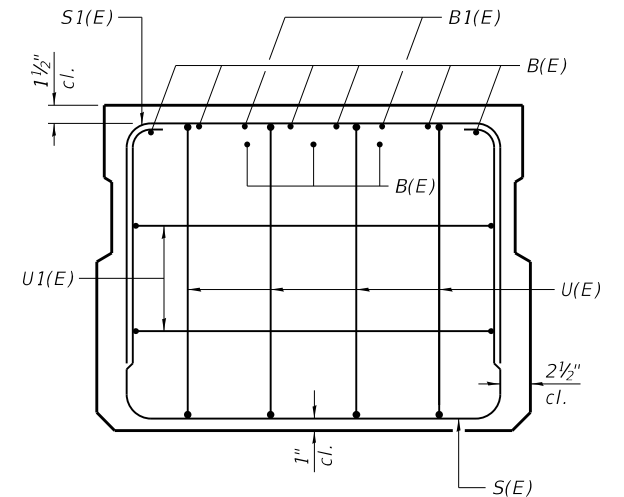


PLAN VIEW

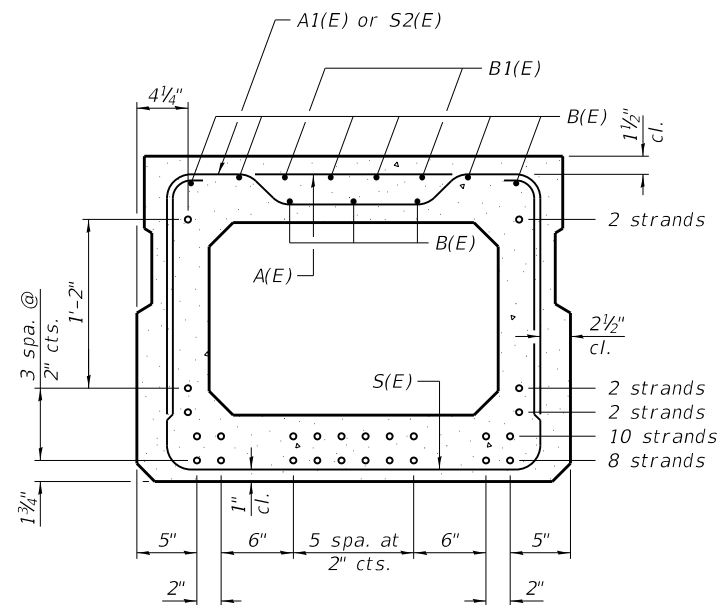
Note:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION B-B  
(Showing dimensions)



VIEW C-C



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

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

BAR LIST  
ONE BEAM ONLY  
(For information only)

| Bar   | No. | Size | Length | Shape |
|-------|-----|------|--------|-------|
| A(E)  | 23  | #4   | 2'-7"  | —     |
| A1(E) | 43  | #4   | 2'-10" | —     |
| B(E)  | 27  | #3   | 23'-8" | —     |
| B1(E) | 4   | #3   | 10'-0" | —     |
| S(E)  | 95  | #4   | 7'-5"  | ⌌     |
| S1(E) | 10  | #4   | 5'-11" | ⌌     |
| S2(E) | 85  | #4   | 6'-2"  | ⌌     |
| U(E)  | 8   | #5   | 4'-6"  | ⌌     |
| U1(E) | 4   | #4   | 5'-0"  | ⌌     |

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

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

PD-2736-0

1-1-2020



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

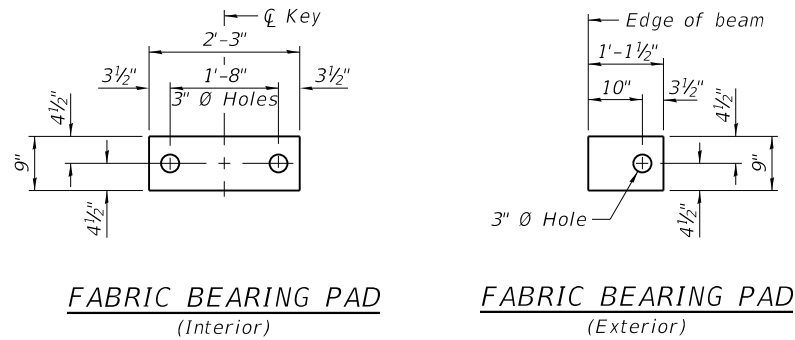
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|----------------------------|------------------|-----------|
| USER NAME = tziegler       | DESIGNED - TJZ   | REVISED - |
| PLOT SCALE = 0.1660' / in. | DRAWN - TJZ      | REVISED - |
| PLOT DATE = 2/10/2022      | CHECKED - ADB    | REVISED - |
|                            | DATE - 2/10/2022 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

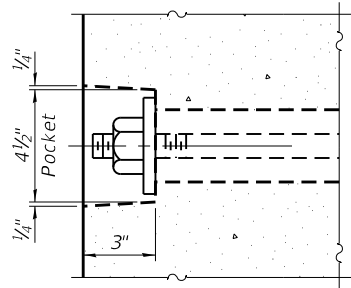
27" x 36" PPC DECK BEAM  
STRUCTURE NO. 087-3596

SHEET 2 OF 10 SHEETS

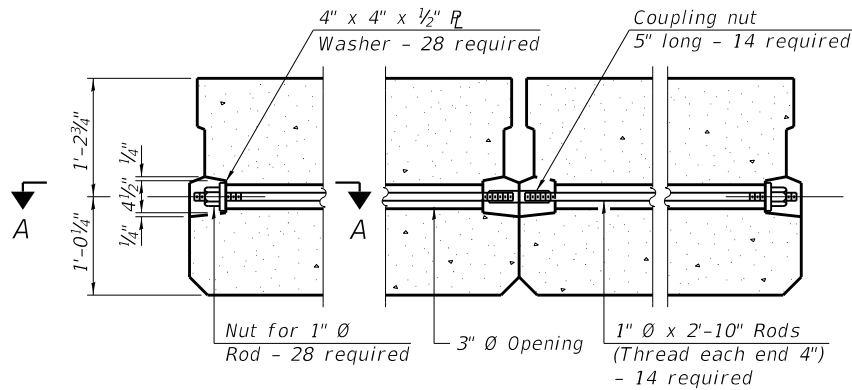
| T.R.                      | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 235                       | 18-20122-00-BR | SHELBY | 17           | 7         |
| CONTRACT NO. 95914        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |



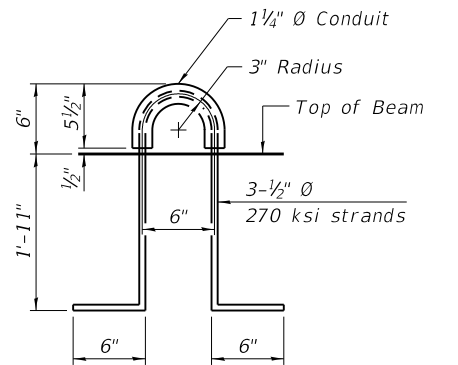
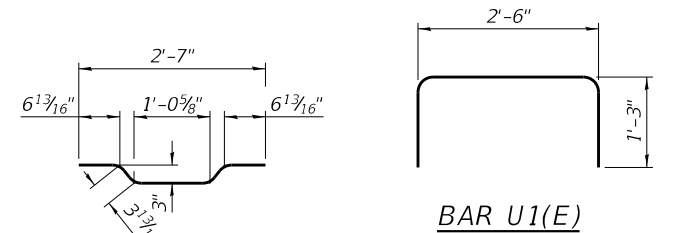
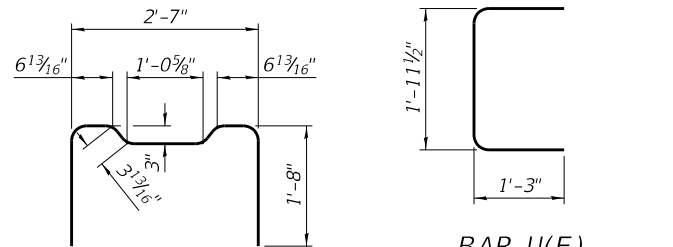
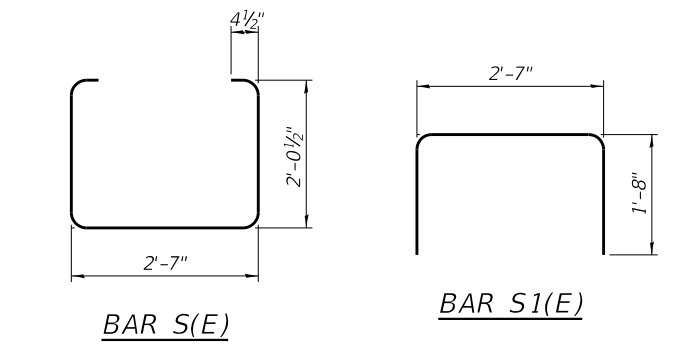
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pads shall be bonded to the substructure.



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



LIFTING LOOP DETAIL

BILL OF MATERIAL

|                                                 |         |       |
|-------------------------------------------------|---------|-------|
| Precast Prestressed Conc. Deck Bms. (27" depth) | Sq. Ft. | 1,636 |
|-------------------------------------------------|---------|-------|

PDD-2736-0 1-1-2020



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

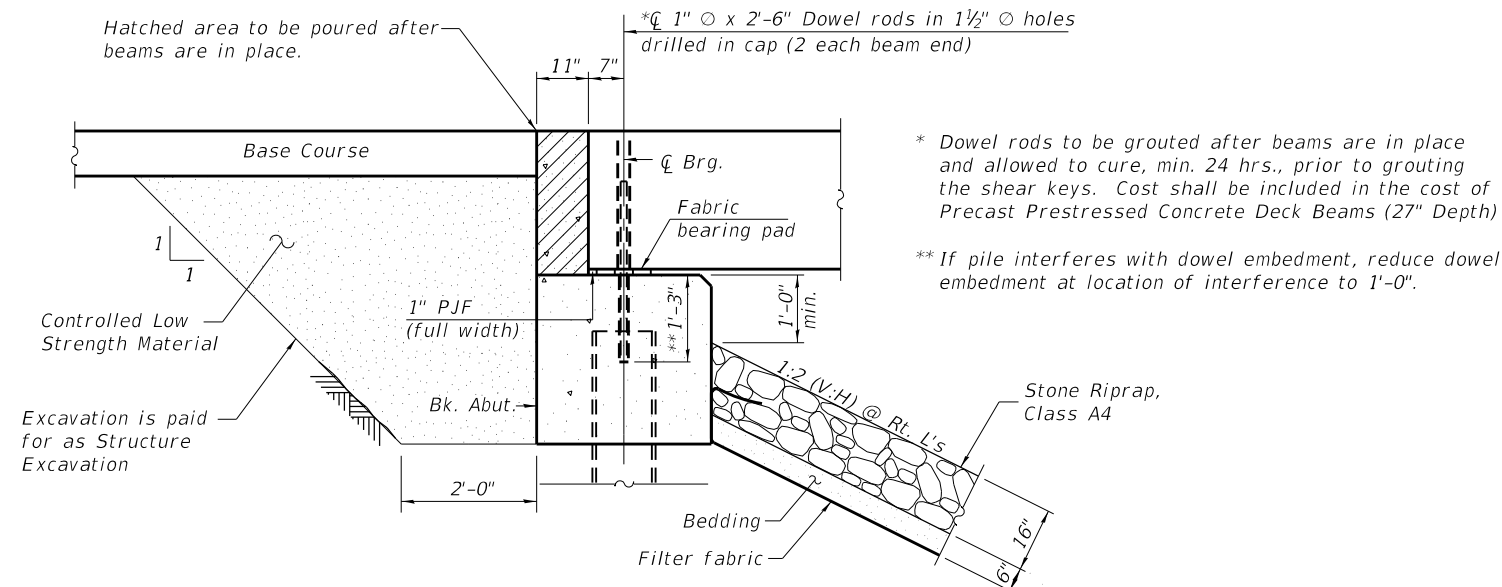
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|----------------------------|------------------|-----------|
| USER NAME = tziegler       | DESIGNED - TJZ   | REVISED - |
|                            | DRAWN - TJZ      | REVISED - |
| PLOT SCALE = 0.1660' / in. | CHECKED - ADB    | REVISED - |
| PLOT DATE = 2/10/2022      | DATE - 2/10/2022 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

27" x 36" PPC DECK BEAM DETAILS  
STRUCTURE NO. 087-3596

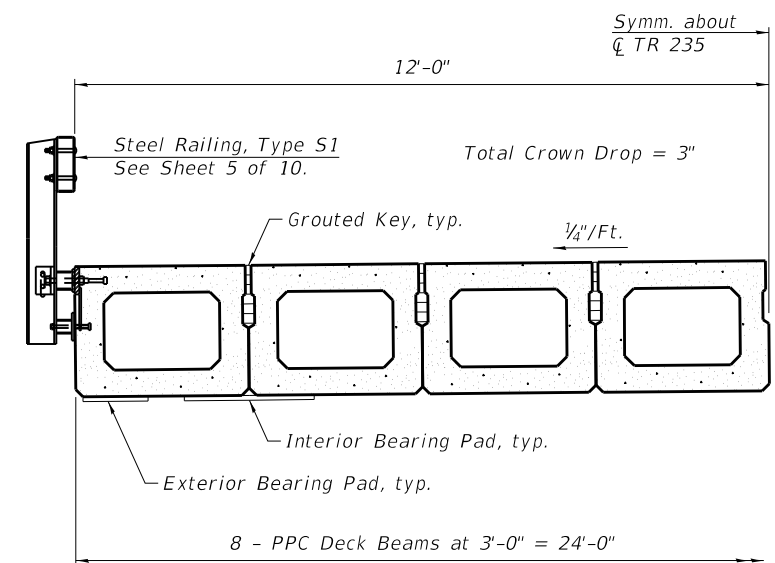
SHEET 3 OF 10 SHEETS

|                           |                |        |              |           |
|---------------------------|----------------|--------|--------------|-----------|
| T.R.                      | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
| 235                       | 18-20122-00-BR | SHELBY | 17           | 8         |
| CONTRACT NO. 95914        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |

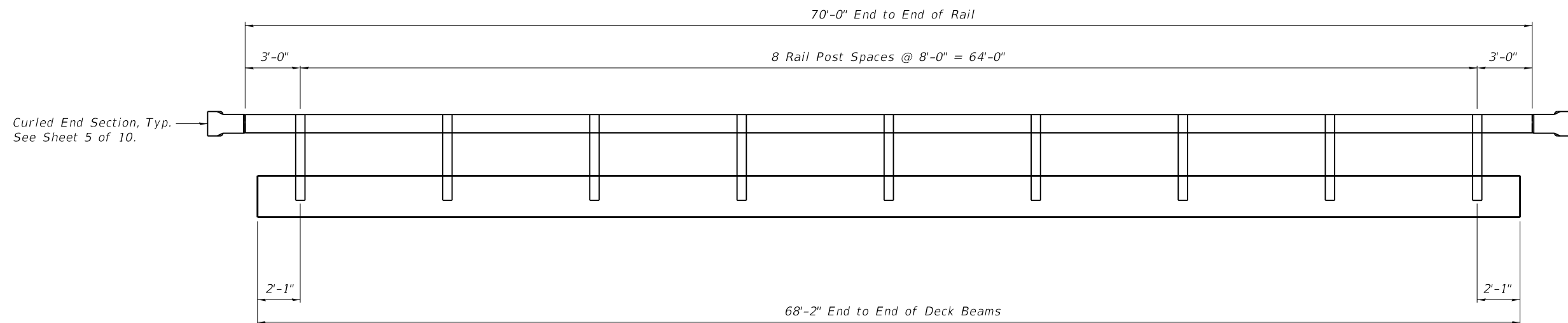


### SECTION THRU ABUTMENT

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



### HALF CROSS SECTION



### RAIL ELEVATION

MODEL 04 Superstructure Details  
FILE NAME: Effingham0223 - Shelby Co. - TR 235 over Jordan CIVCAD.DGN Sheet 087-3596.dgn



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

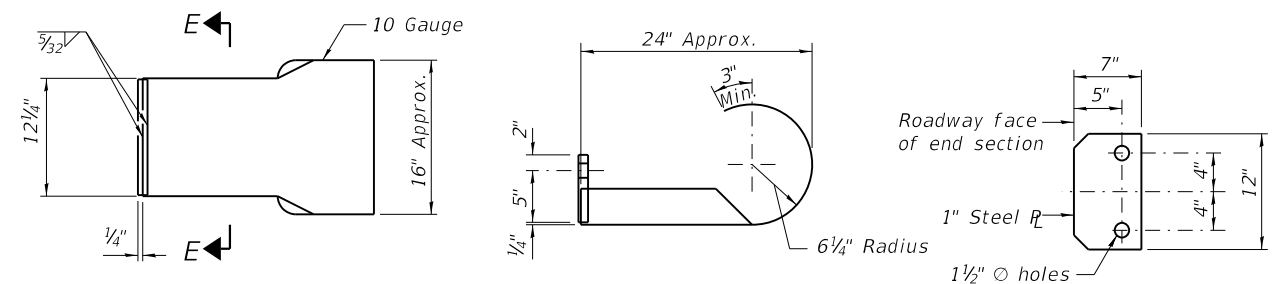
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|---------------------------|------------------|-----------|
| USER NAME = tziegler      | DESIGNED - TJZ   | REVISED - |
|                           | DRAWN - TJZ      | REVISED - |
| PLOT SCALE = 0.1660' / 1" | CHECKED - ADB    | REVISED - |
| PLOT DATE = 2/10/2022     | DATE - 2/10/2022 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 087-3596

SHEET 4 OF 10 SHEETS

| T.R.                      | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 235                       | 18-20122-00-BR | SHELBY | 17           | 9         |
| CONTRACT NO. 95914        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |



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



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

| <i>T</i>           | <i>D</i> | <i>A</i> | <i>B</i> | <i>C</i> | <i>E</i> |
|--------------------|----------|----------|----------|----------|----------|
| ≤ 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"      |
| <i>Rail Splice</i> | ½"       | 1'-8"    | 2"       | 4"       | —        |

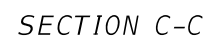
*T = Total movement at expansion joint  
as shown on the design plans.*

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.

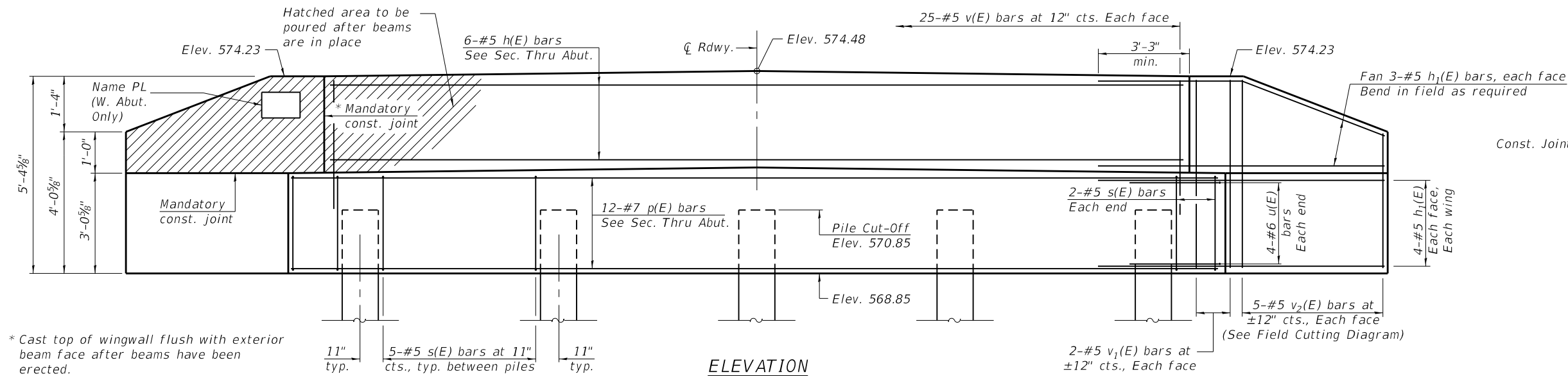
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

**\*\* 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  $\frac{1}{2}$ " to accommodate the top reinforcement bar placement.**



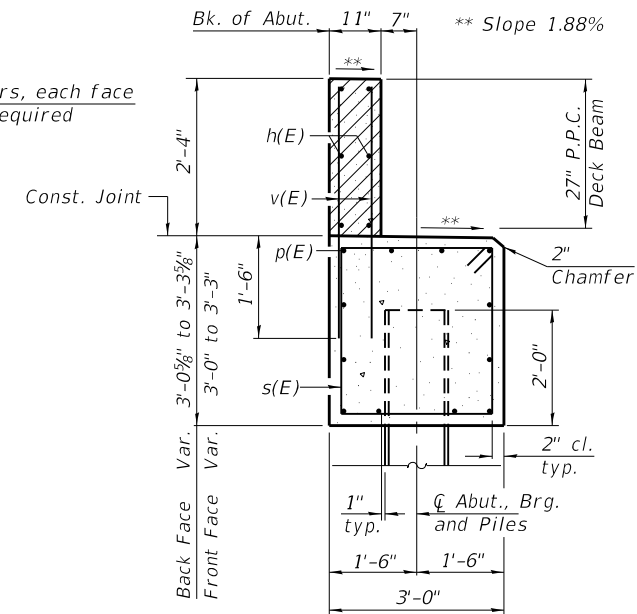
### BILL OF MATERIAL

| Item                    | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 140      |

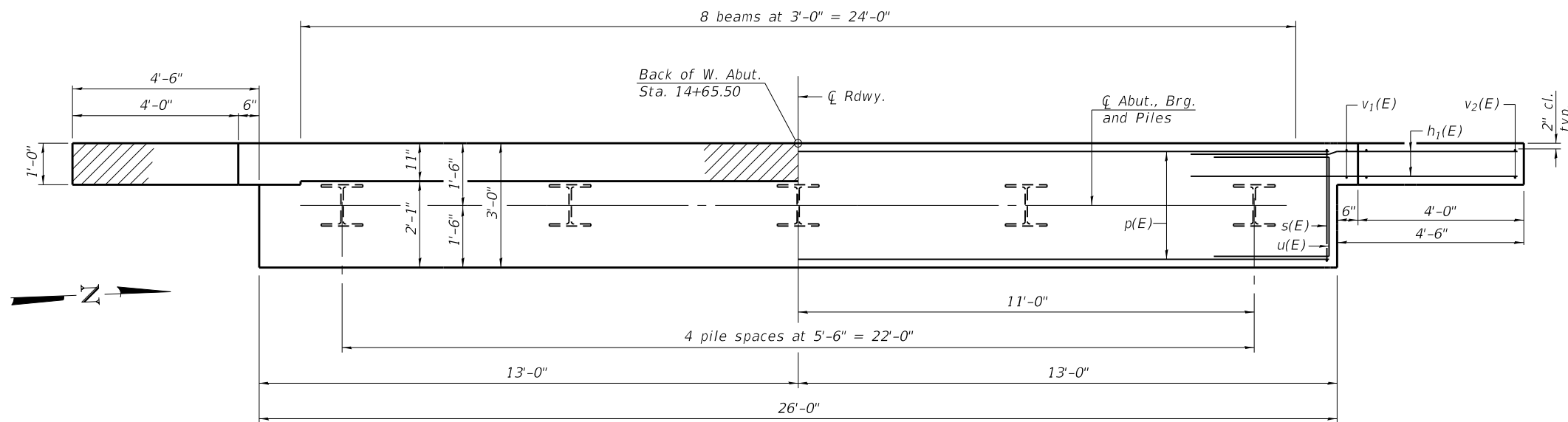


\* Cast top of wingwall flush with exterior beam face after beams have been erected.

ELEVATION



SECTION THRU ABUTMENT



PLAN

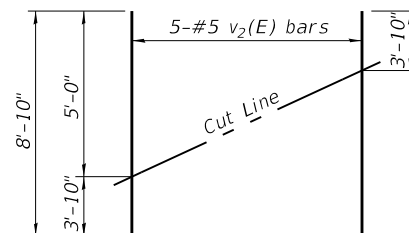
BILL OF MATERIAL

| Bar                              | No. | Size | Length | Shape        |
|----------------------------------|-----|------|--------|--------------|
| h(E)                             | 6   | #5   | 23'-9" |              |
| h <sub>1</sub> (E)               | 28  | #5   | 8'-9"  |              |
| p(E)                             | 12  | #7   | 25'-9" |              |
| s(E)                             | 24  | #5   | 11'-7" |              |
| u(E)                             | 8   | #6   | 7'-8"  |              |
| v(E)                             | 50  | #5   | 3'-8"  |              |
| v <sub>1</sub> (E)               | 8   | #5   | 5'-0"  |              |
| v <sub>2</sub> (E)               | 10  | #5   | 8'-10" |              |
| Structure Excavation             |     |      |        | Cu. Yd. 14   |
| Concrete Structures              |     |      |        | Cu. Yd. 12.8 |
| Reinforcement Bars, Epoxy Coated |     |      |        | Pound 1,750  |
| Furnishing Steel Piles HP14x89   |     |      |        | Foot 112     |
| Driving Piles                    |     |      |        | Foot 112     |
| Test Pile Steel HP14x89          |     |      |        | Each 1       |

Note:  
For details of HP piles, see sheet 8 of 10.

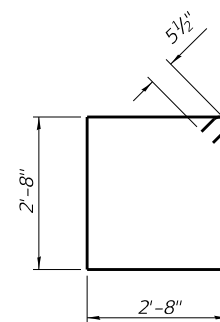
W. ABUT. PILE DATA

Type: HP14x89  
Nominal Required Bearing: 291 kips  
Factored Resistance Available: 160 kips  
Est. Length: 28 ft./pile  
No. Production Piles: 4  
No. Test Piles: 1

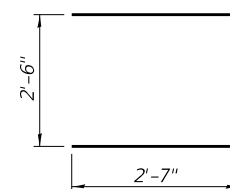


FIELD CUTTING DIAGRAM

Order v<sub>2</sub>(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E)

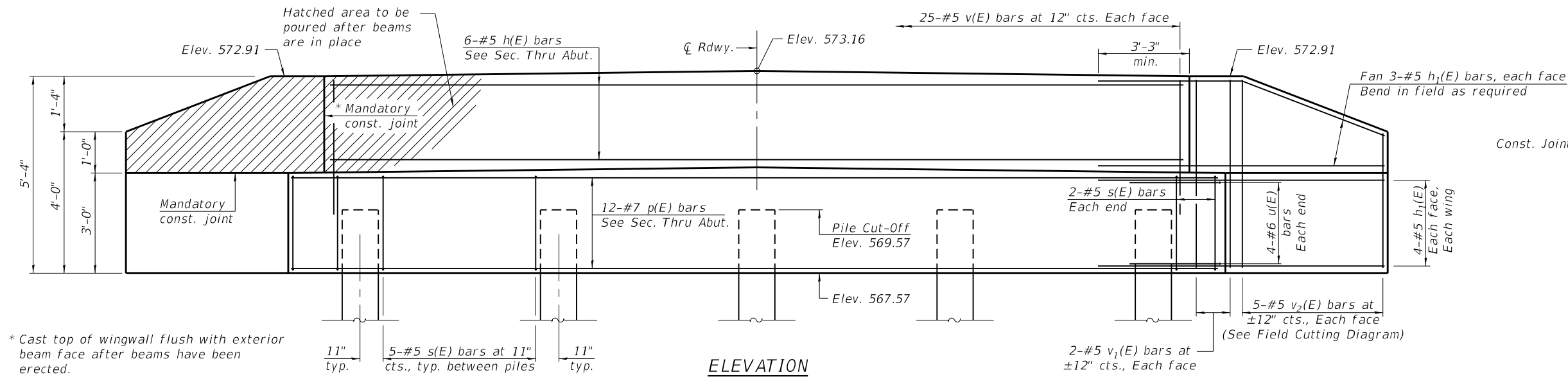


BAR u(E)

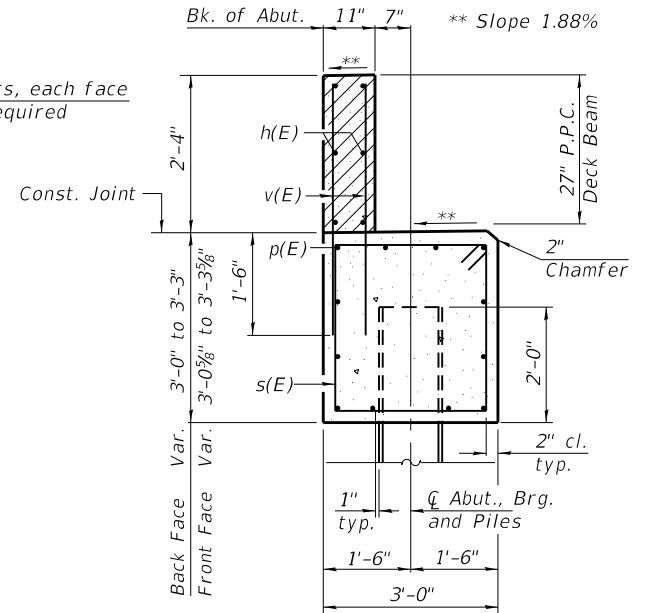


|                           |                  |           |
|---------------------------|------------------|-----------|
| USER NAME = tziegler      | DESIGNED - TJZ   | REVISED - |
| DRAWN - TJZ               | REVISED -        |           |
| PLOT SCALE = 0.1660' / 1" | CHECKED - ADB    | REVISED - |
| PLOT DATE = 2/10/2022     | DATE - 2/10/2022 | REVISED - |

| T.R.                      | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 235                       | 18-20122-00-BR | SHELBY | 17           | 11        |
| CONTRACT NO. 95914        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |



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



SECTION THRU ABUTMENT

BILL OF MATERIAL

| Bar                                     | No. | Size | Length | Shape        |
|-----------------------------------------|-----|------|--------|--------------|
| h(E)                                    | 6   | #5   | 23'-9" | —            |
| h <sub>1</sub> (E)                      | 28  | #5   | 8'-9"  | —            |
| p(E)                                    | 12  | #7   | 25'-9" | —            |
| s(E)                                    | 24  | #5   | 11'-7" | □            |
| u(E)                                    | 8   | #6   | 7'-8"  | ▮            |
| v(E)                                    | 50  | #5   | 3'-8"  | —            |
| v <sub>1</sub> (E)                      | 8   | #5   | 5'-0"  | —            |
| v <sub>2</sub> (E)                      | 10  | #5   | 8'-10" | —            |
| Structure Excavation                    |     |      |        | Cu. Yd. 28   |
| Concrete Structures                     |     |      |        | Cu. Yd. 12.8 |
| Reinforcement Bars, Epoxy Coated        |     |      |        | Pound 1,750  |
| Furnishing Metal Shell Piles 14"x0.312" |     |      |        | Foot 124     |
| Driving Piles                           |     |      |        | Foot 124     |
| Test Pile Metal Shells                  |     |      |        | Each 1       |
| Pile Shoes                              |     |      |        | Each 5       |

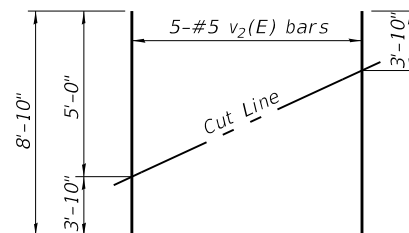
Notes:

For details of MS piles, see sheet 9 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.

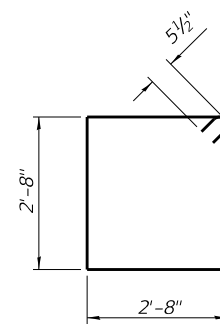
E. ABUT. PILE DATA

Type: Metal Shell 14"  $\odot$  x 0.312"  
Nominal Required Bearing: 291 kips  
Factored Resistance Available: 160 kips  
Est. Length: 31 ft./pile  
No. Production Piles: 4  
No. Test Piles: 1  
No. Pile Shoes: 5

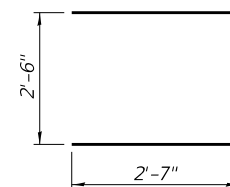


FIELD CUTTING DIAGRAM

Order v<sub>2</sub>(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E)



BAR u(E)

PLAN

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT  
STRUCTURE NO. 087-3596

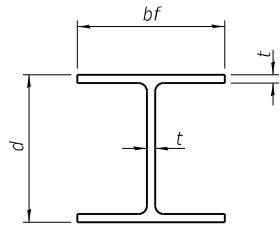
SHEET 7 OF 10 SHEETS

| T.R.                      | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 235                       | 18-20122-00-BR | SHELBY | 17           | 12        |
| CONTRACT NO. 95914        |                |        |              |           |
| ILLINOIS FED. AID PROJECT |                |        |              |           |



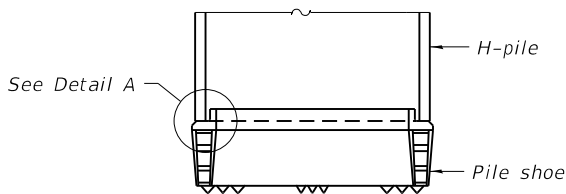
CIVIL DESIGN, INC.  
WBE / DBE  
EFFINGHAM, IL  
LICENSE #184.003222

|                           |                  |           |
|---------------------------|------------------|-----------|
| USER NAME = tziegler      | DESIGNED - TJZ   | REVISED - |
| DRAWN - TJZ               | REVISED -        |           |
| PLOT SCALE = 0.1660' / 1" | CHECKED - ADB    | REVISED - |
| PLOT DATE = 2/10/2022     | DATE - 2/10/2022 | REVISED - |

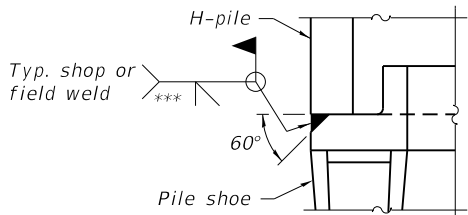


STEEL PILE TABLE

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



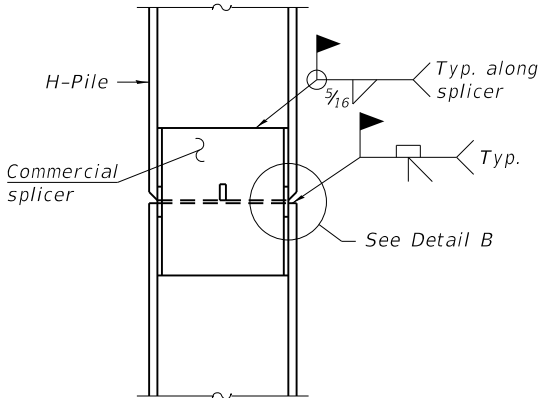
ELEVATION



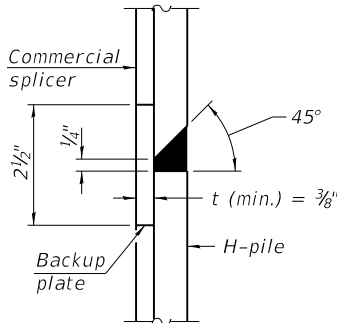
DETAIL A

SHOE ATTACHMENT

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

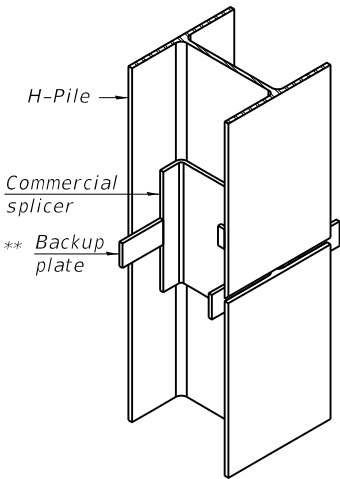


ELEVATION

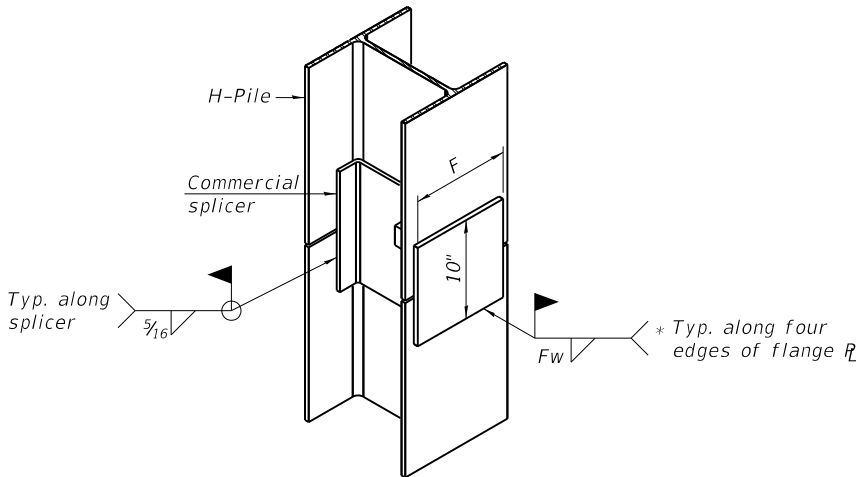


DETAIL "B"

WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW



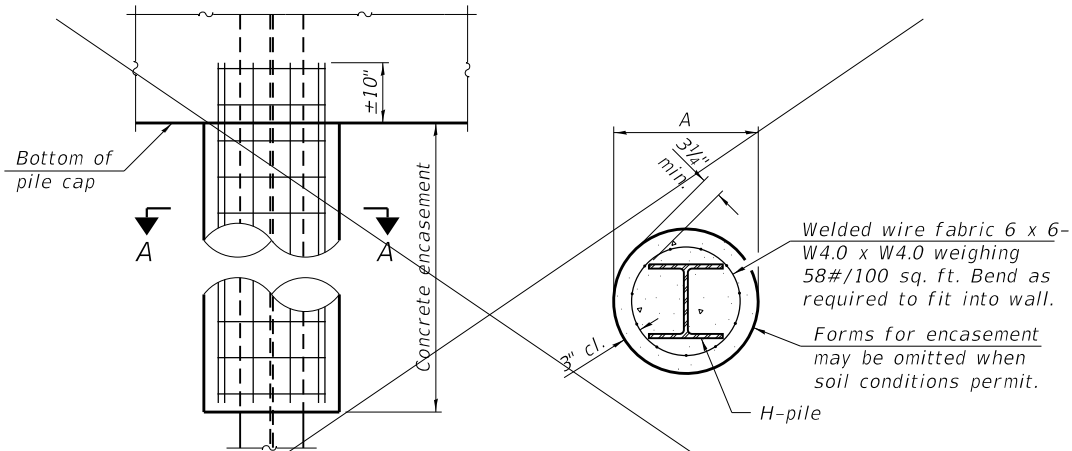
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

\* Interrupt welds 1/4" from end of web and/or each flange.

\*\* Remove portions of backup plates that extend outside the flanges.

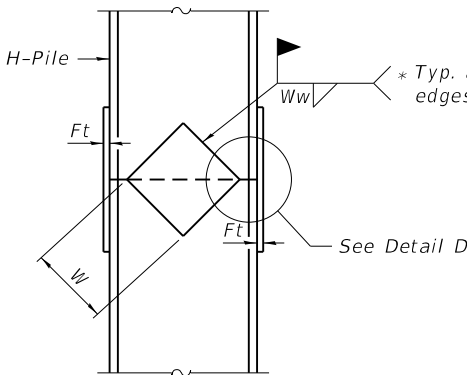
\*\*\* Weld size per pile shoe manufacturer (5/16" min.).



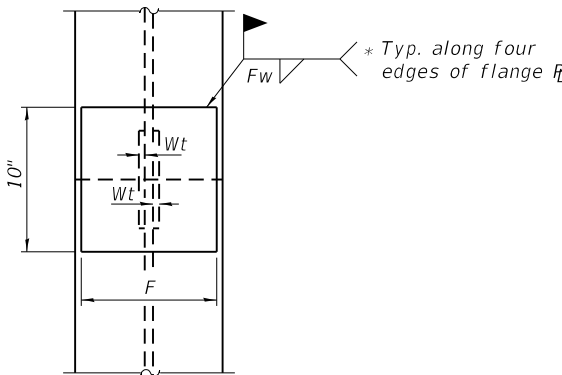
ELEVATION

SECTION A-A

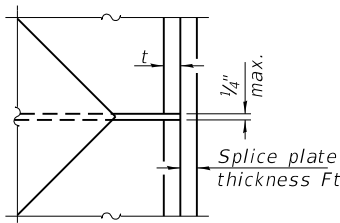
INDIVIDUAL PILE  
CONCRETE ENCASEMENT  
(when specified)



ELEVATION



END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

F-HP

1-1-2020



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

USER NAME = tziegler  
DESIGNED - TJZ  
DRAWN - TJZ  
PLOT SCALE = 0.1660' / 1"  
CHECKED - ADB  
PLOT DATE = 2/10/2022  
DATE - 2/10/2022  
REVISED -

DESIGNED - TJZ  
DRAWN - TJZ  
CHECKED - ADB  
DATE - 2/10/2022  
REVISED -

DESIGNED - TJZ  
DRAWN - TJZ  
CHECKED - ADB  
DATE - 2/10/2022  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

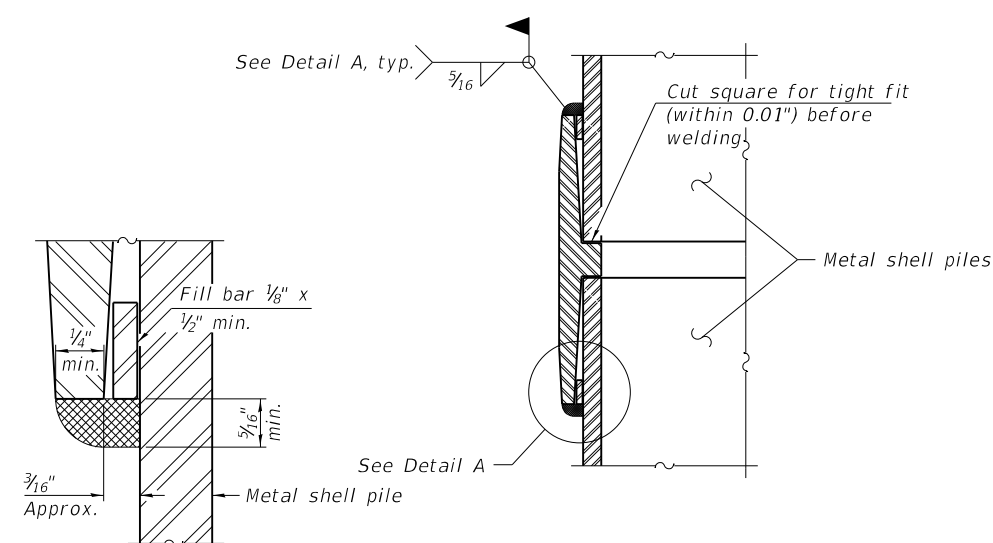
HP PILE DETAILS  
STRUCTURE NO. 087-3596

SHEET 8 OF 10 SHEETS

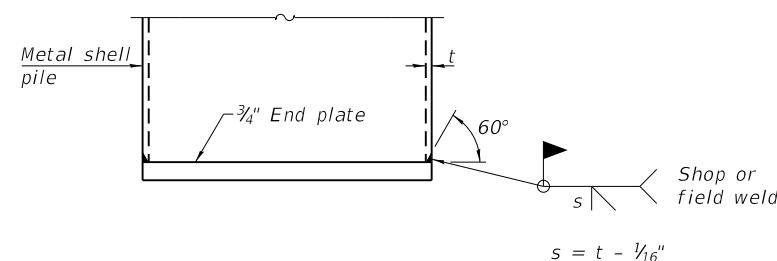
T.R. SECTION COUNTY TOTAL SHEETS SHEET NO.  
235 18-20122-00-BR SHELBY 17 13  
CONTRACT NO. 95914  
ILLINOIS FED. AID PROJECT



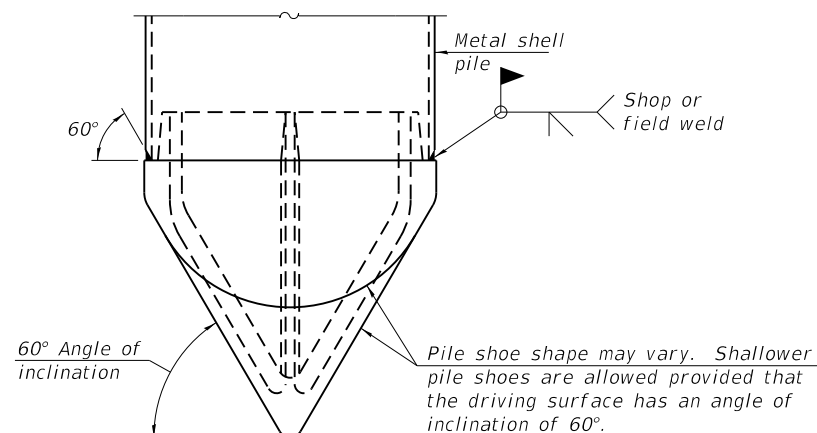
| Designation and outside diameter | Wall thickness<br>t | Weight per foot<br>(lbs./ft.) | Inside volume<br>(yd. <sup>3</sup> /ft.) |
|----------------------------------|---------------------|-------------------------------|------------------------------------------|
| PP12                             | 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



END PLATE ATTACHMENT



### PILE SHOE ATTACHMENT

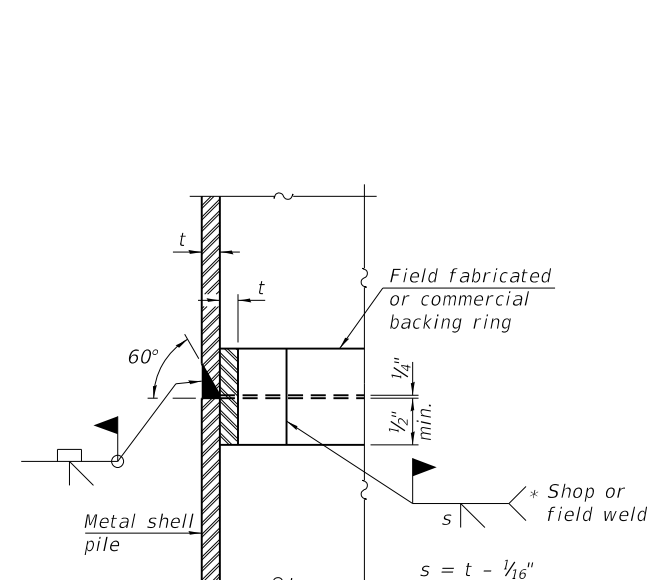
*(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the 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).*

### WELDED COMMERCIAL SPLICE

Notes:

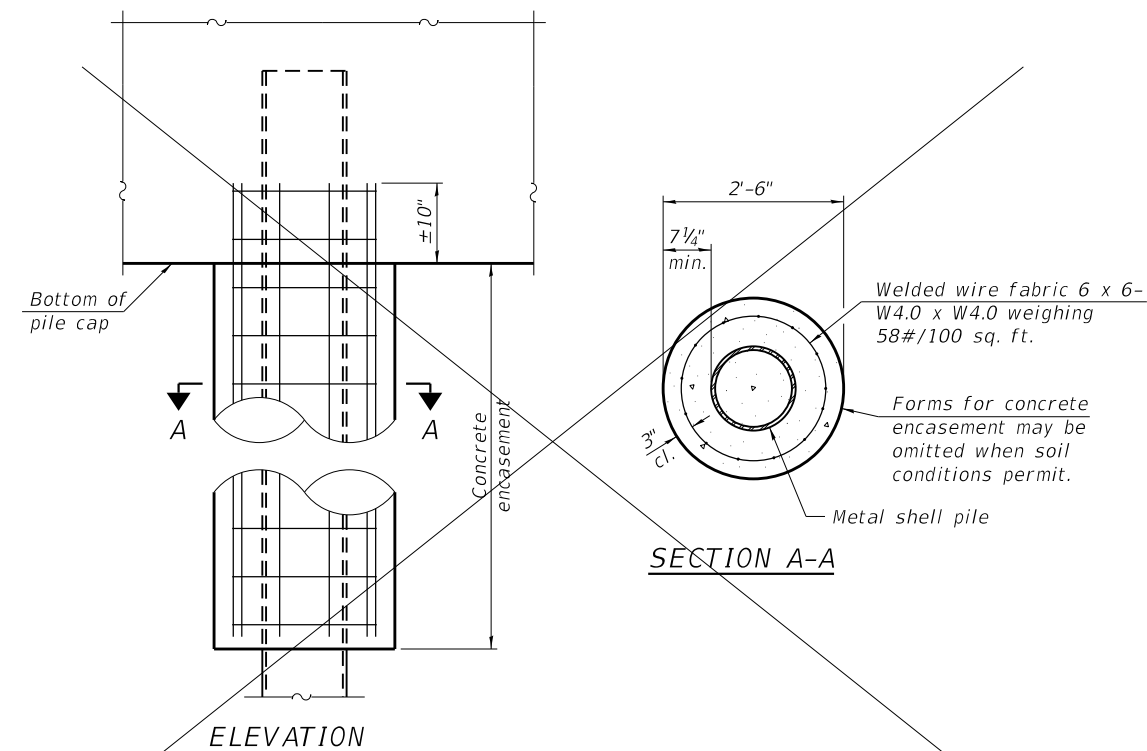
The  $\frac{1}{8}$ " x  $\frac{1}{2}$ " min. fill bar may be constructed of 2 bars with a  $\frac{1}{8}$ " max. gap between them.

Pile segments shall be driven to solid contact with splicer before welding.

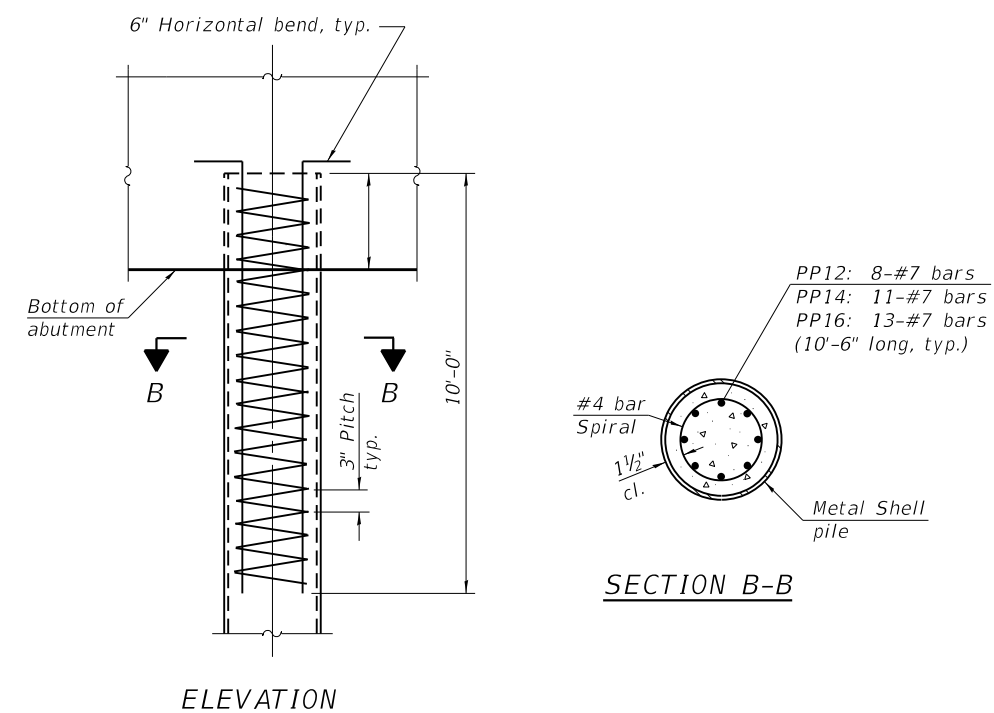


COMPLETE PENETRATION WELD SPLICE

\* 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.



INDIVIDUAL PILE  
CONCRETE ENCASEMENT  
(When specified)



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.

**MET** Midwest Engineering and Testing, Inc.

Route: County Road 1000 North (TR 235)  
 Section:  
 County: Shelby County  
 Structure No. 087-3337  
 Station: 99+74  
 Offset: 6' Rt.

Boring: B-1  
Page: Page 1 of 1  
Date of Boring: May 10, 2019  
Drilled By: Zach Wilcoxon  
Checked By: Nicholas D. Wendling, P.E.  
MET Project No: 93052

| Surface Water Elevation: 86.78 ft.<br>Ground Water Elevation:<br>when drilling: 87.2 ft.<br>at completion: | D<br>E<br>P<br>T<br>H<br><br>(ft.) | B<br>L<br>O<br>W<br>S<br><br>(6") | Q <sub>u</sub><br><br>(tsf) | MC<br><br>(%) | Centerline @ Center of Bridge =<br>STA 100+00, ELEV: 100.0 | D<br>E<br>P<br>T<br>H<br><br>(ft.) | B<br>L<br>O<br>W<br>S<br><br>(6") | Q <sub>u</sub><br><br>(tsf) | MC<br><br>(%) |
|------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------|-----------------------------|---------------|------------------------------------------------------------|------------------------------------|-----------------------------------|-----------------------------|---------------|
| Ground Surface Elevation: 99.7 ft.                                                                         |                                    | -                                 | -                           | 5             |                                                            |                                    |                                   |                             |               |
| 24" Oil and Chip                                                                                           |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 3                                 | 1.0S                        | 16            |                                                            | 30                                 |                                   |                             |               |
|                                                                                                            |                                    | 4                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 5                                 |                             |               |                                                            |                                    |                                   |                             |               |
| 5                                                                                                          |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 2                                 | 1.2S                        | 15            |                                                            |                                    |                                   |                             |               |
| Brown and dark brown mixed silty<br>CLAY (CL) with sand and gravel - Fill                                  |                                    | 3                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 6                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 2                                 | 1.3B                        | 23            |                                                            | 35                                 |                                   |                             |               |
|                                                                                                            |                                    | 2                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 2                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 3                                 |                             |               |                                                            |                                    |                                   |                             |               |
| 10                                                                                                         |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 2                                 | 1.5B                        | 22            |                                                            |                                    |                                   |                             |               |
| Brown mottled gray silty CLAY (CL)                                                                         |                                    | 3                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 4                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 2                                 | 4.5P                        | 9             |                                                            | 40                                 |                                   |                             |               |
| Brown silty CLAY (CL) with<br>sand and small gravel - Till                                                 |                                    | 5                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 15                                |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 28                                | 4.5P                        | 7             |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 50/4"                             |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | -                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 50/5"                             | 4.5P                        | 8             |                                                            | 45                                 |                                   |                             |               |
|                                                                                                            |                                    | -                                 |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | -                                 |                             |               |                                                            |                                    |                                   |                             |               |
| 20                                                                                                         |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 32                                | 4.6B                        | 8             |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | 50/3"                             |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    | -                                 |                             |               |                                                            |                                    |                                   |                             |               |
| Boring Terminated @ ELEV: 78.2 ft.                                                                         |                                    |                                   |                             |               |                                                            | 50                                 |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
| 25                                                                                                         |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |
|                                                                                                            |                                    |                                   |                             |               |                                                            |                                    |                                   |                             |               |

N - Standard Penetration Test (SPT) = Sum of last two blow values in sample  
MC- Moisture Content - Percent of dry weight  
Qu- Unconfined Compressive Strength- tons per square foot (tsf)

Type Failure  
Qu test

B-Bulge  
S-Shear  
P-Penetrometer

Boring Log B-1 Surface Elev. 570.5

**MET** Midwest Engineering and Testing, Inc.

Route: County Road 1000 North (TR 235)  
 Section:  
 County: Shelby County  
 Structure No. 087-3337  
 Station: 100+27  
 Offset: 6' Lt.

Boring: B-2  
Page: Page 1 of 1  
Date of Boring: May 10, 2019  
Drilled By: Zach Wilcoxon  
Checked By: Nicholas D. Wendling, P.E.  
MET Project No: 93052

| Surface Water Elevation:86.78 ft.<br>Ground Water Elevation:<br>when drilling:87.2 ft.<br>at completion:                                                                                       | D<br>E<br>P<br>T<br>H | B<br>L<br>O<br>W<br>S | Q <sub>u</sub> | MC                                 | Centerline @ Center of Bridge =<br>STA 100+00, ELEV: 100.0 | D<br>E<br>P<br>T<br>H   | B<br>L<br>O<br>W<br>S                | Q <sub>u</sub> | MC  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|----------------|------------------------------------|------------------------------------------------------------|-------------------------|--------------------------------------|----------------|-----|--|
| Ground Surface Elevation: 99.9 ft.                                                                                                                                                             | (ft.)                 | (6")                  | (tsf)          | (%)                                |                                                            | (ft.)                   | (6")                                 | (tsf)          | (%) |  |
| 10" Oil and Chip                                                                                                                                                                               | -                     | -                     | -              | 11                                 | Gray silty CLAY (CL) with<br>sand and small gravel - Till  | -                       | -                                    | -              | -   |  |
| Brown clayey SAND (SC) with gravel - Fill                                                                                                                                                      | -                     | -                     | -              | -                                  |                                                            | 12<br>20<br>26          | 5.8B                                 | 11             |     |  |
| Dark brown sandy CLAY (CL)<br>with gravel - Fill                                                                                                                                               | 2<br>3<br>4           | 0.4S                  | 14             | 30                                 |                                                            | 9<br>16<br>22           | 5.2S                                 | 11             |     |  |
| 5 Brown silty CLAY (CL) - Possible Fill                                                                                                                                                        | 2<br>2<br>3           | 1.0B                  | 23             | 35                                 |                                                            | 10<br>12<br>20          | 6.2B                                 | 12             |     |  |
| Brown sandy CLAY (CL) - Possible Fill                                                                                                                                                          | 2<br>1<br>3           | 0.6B                  | 15             | 40                                 |                                                            | 7<br>13<br>20           | 6.3B                                 | 14             |     |  |
| 15 Brown mottled gray silty<br>CLAY (CL) with sand                                                                                                                                             | 2<br>2<br>3           | 0.3S                  | 20             | 45                                 |                                                            | 15<br>20<br>25          | 11.3S                                | 8              |     |  |
| Gray clayey SILT (ML) with sand                                                                                                                                                                | 2<br>2<br>3           | 0.5P                  | 22             | 50                                 |                                                            | 19<br>26<br>29          | 5.6B                                 | 17             |     |  |
| 20                                                                                                                                                                                             | 2<br>3<br>4           | 0.4B                  | 24             |                                    |                                                            |                         |                                      |                |     |  |
| Gray silty CLAY (CL) with<br>sand and small gravel - Till                                                                                                                                      | 2<br>3<br>6           | 1.6B                  | 10             |                                    |                                                            |                         |                                      |                |     |  |
| 25                                                                                                                                                                                             | 8<br>9<br>11          | 4.3B                  | 10             | Boring Terminated @ ELEV: 48.4 ft. |                                                            |                         |                                      |                |     |  |
| N - Standard Penetration Test (SPT) = Sum of last two blow values in sample<br>MC- Moisture Content - Percent of dry weight<br>Qu- Unconfined Compressive Strength- tons per square foot (tsf) |                       |                       |                |                                    |                                                            | Type Failure<br>Qu test | B-Bulge<br>S-Shear<br>P-Penetrometer |                |     |  |

Boring Log B-2 Surface Elev. 570.7



CIVIL DESIGN, INC.  
WBE / DBE  
EFFINGHAM, IL  
CENSE #184.00322

|                             |                |           |
|-----------------------------|----------------|-----------|
| USER NAME = tziegler        | DESIGNED - TJZ | REVISED - |
|                             | DRAWN - TJZ    | REVISED - |
| PLOT SCALE = 0.1660 ' / in. | CHECKED - ADB  | REVISED - |
| PLOT DATE = 2/10/2022       | DATE 2/10/2022 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS**  
**STRUCTURE NO. 087-3596**

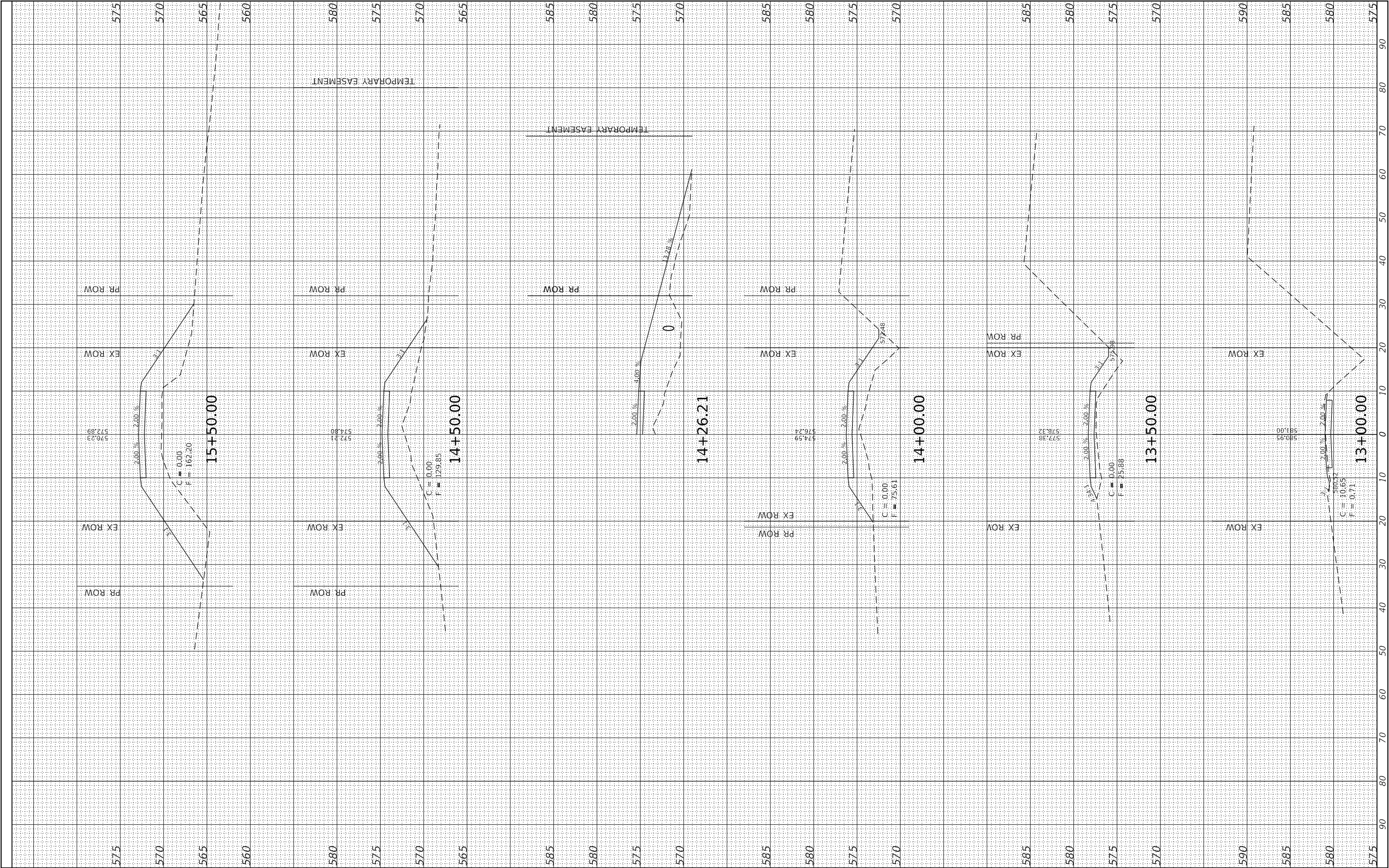
SHEET 10 OF 10 SHEETS

|      |                |                    |              |           |
|------|----------------|--------------------|--------------|-----------|
| T.R. | SECTION        | COUNTY             | TOTAL SHEETS | SHEET NO. |
| 235  | 18-20122-00-BR | SHELBY             | 17           | 15        |
|      |                | CONTRACT NO. 95914 |              |           |

| ORIGINAL SURVEY |               | BY  |               | DATE |               |
|-----------------|---------------|-----|---------------|------|---------------|
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |

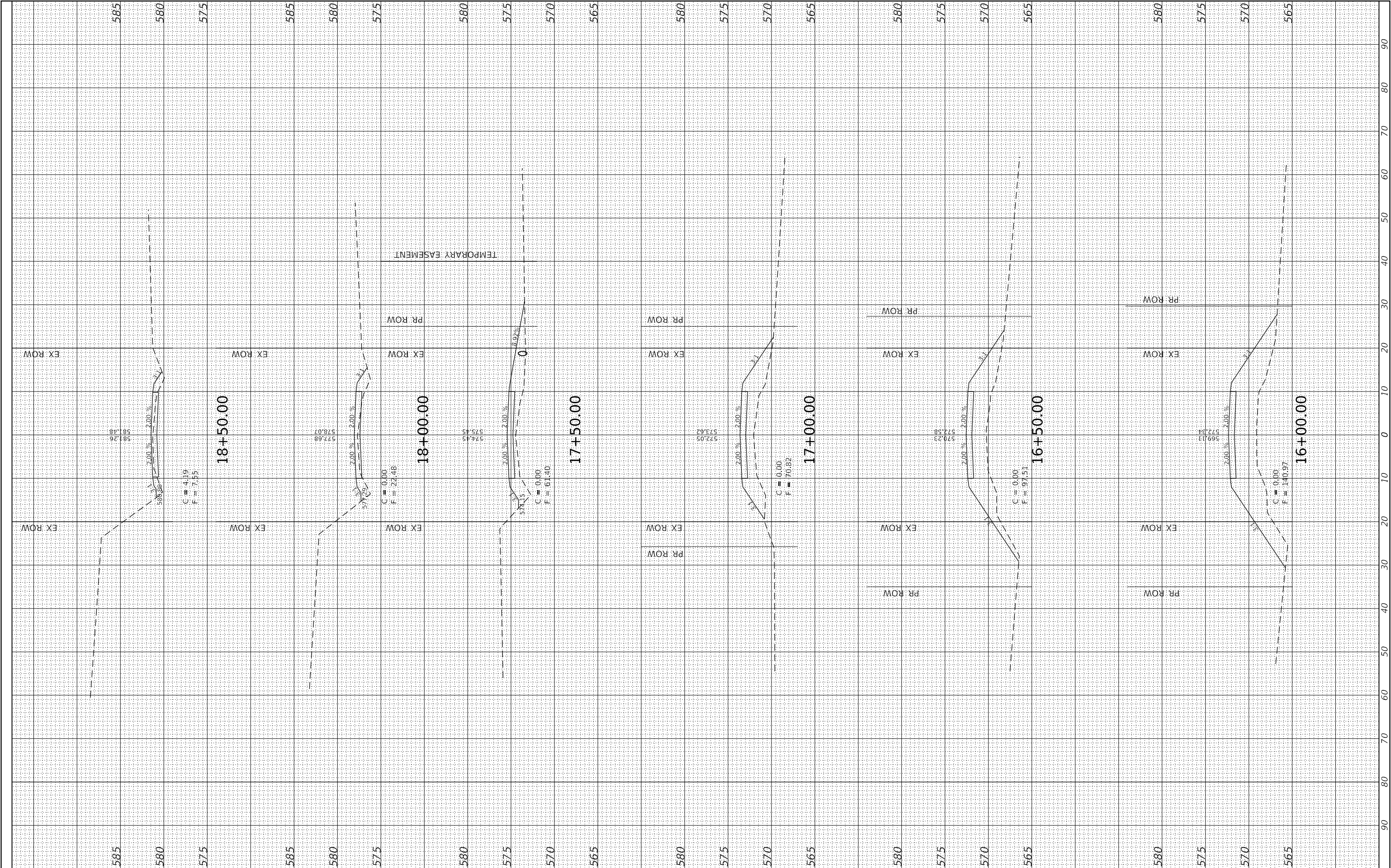
| ORIGINAL SURVEY |               | BY  |               | DATE |               |
|-----------------|---------------|-----|---------------|------|---------------|
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |
| NO.             | AREAS CHECKED | NO. | AREAS CHECKED | NO.  | AREAS CHECKED |

|                                                                                            |  |                       |            |           |                                                   |                    |                |             |               |                  |                           |        |              |           |
|--------------------------------------------------------------------------------------------|--|-----------------------|------------|-----------|---------------------------------------------------|--------------------|----------------|-------------|---------------|------------------|---------------------------|--------|--------------|-----------|
| FILE NAME =                                                                                |  | USER NAME = dmanmoser | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS     |                |             |               | TR               | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |
| P:\Effingham\3733 - Shelby Co - TR 235 over Jordan Ck\CAD\DWG\Sheet\Sheet_R3733_Cross_Sect |  | DRAWN -               | REVISED -  | REVISED - |                                                   | 235                | 18-20122-00-BR | SHELBY      | 17            | 16               |                           |        |              |           |
| PLOT SCALE = 20.0000 ' / in.                                                               |  | CHECKED -             | REVISED -  |           |                                                   | CONTRACT NO. 95914 |                |             |               |                  |                           |        |              |           |
| PLOT DATE = 2/7/2022                                                                       |  | DATE                  | REVISED -  |           |                                                   |                    |                |             |               |                  |                           |        |              |           |
| Default                                                                                    |  |                       |            |           |                                                   | SCALE:             | SHEET 1        | OF 2 SHEETS | STA. 13+00.00 | TO STA. 15+50.00 | ILLINOIS FED. AID PROJECT |        |              |           |



| FINAL<br>SURVEY | SURVEYED<br>PLOTTED<br>NOTE BOOK | BY | DATE |
|-----------------|----------------------------------|----|------|
|                 |                                  |    |      |
| NO.             | AREAS<br>CHECKED                 |    |      |

| ORIGINAL<br>SURVEY | SURVEYED<br>PLOTTED<br>NOTE BOOK | BY | DATE |
|--------------------|----------------------------------|----|------|
|                    |                                  |    |      |
| NO.                | AREAS<br>CHECKED                 |    |      |



|                                                    |                                                        |            |           |                                                   |                |         |                    |               |                  |                           |        |              |           |
|----------------------------------------------------|--------------------------------------------------------|------------|-----------|---------------------------------------------------|----------------|---------|--------------------|---------------|------------------|---------------------------|--------|--------------|-----------|
| FILE NAME =                                        | USER NAME = dmanmoser                                  | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS |         |                    |               | TR               | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |
| P:\Effingham\3733 - Shelby Co - TR 235 over Jordan | den Ck\CAD\Drawn\Sheet\Sheet_R3733_Cross_Section\Drawn | DRAWN -    | REVISED - |                                                   |                |         |                    |               | 235              | 18-20122-00-BR            | SHELBY | 17           | 17        |
|                                                    | PLOT SCALE = 20.0000 ' / in.                           | CHECKED -  | REVISED - |                                                   |                |         | CONTRACT NO. 95914 |               |                  |                           |        |              |           |
| Default                                            | PLOT DATE = 2/7/2022                                   | DATE -     | REVISED - |                                                   | SCALE:         | SHEET 2 | OF 2 SHEETS        | STA. 16+00.00 | TO STA. 18+50.00 | ILLINOIS FED. AID PROJECT |        |              |           |
|                                                    |                                                        |            |           |                                                   |                |         |                    |               |                  |                           |        |              |           |