

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM-BRIDGE
F.A.S. 2821
WAYNE COUNTY
SECTION 13-16123-00-BR
STRUCTURE NO. 096-3470
PROJECT NO. U1YY(878)
JOB NO. C-97-005-19

INDEX OF SHEETS

| | |
|------|----------------|
| 1 | COVER SHEET |
| 2 | PLAN & PROFILE |
| 3-4 | CROSS SECTIONS |
| 5-13 | BRIDGE PLANS |
| 14 | BORINGS |

STANDARDS:

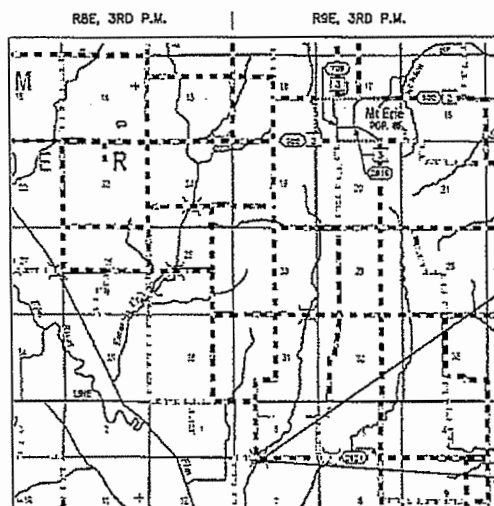
| | |
|-----------|---------------------------------------|
| 280001-07 | - EROSION CONTROL |
| 515001-03 | - NAME PLATE |
| 725001-01 | - REFLECTOR & TERMINAL MKR. PLACEMENT |
| 701901-08 | - TRAFFIC |
| BLR 21-9 | - TRAFFIC |

SUMMARY OF QUANTITIES

| QUANTITY | UNIT | ITEM | CODE NO. |
|----------|-------|--|------------|
| 0.5 | ACRE | SEEDING, CLASS 2 (SPECIAL) | X2501000 |
| 90 | TON | AGGREGATE DITCH (SPECIAL) | X2830495 |
| 420 | FOOT | WOVEN WIRE FENCE REMOVAL AND REPLACEMENT | X6650208 |
| 1 | L SUM | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | X7010218 |
| 0.08 | ACRE | TREE REMOVAL, ACRES | 20100500 |
| 563 | CU YD | EARTH EXCAVATION | 20200100 |
| 135 | CU YD | CHANNEL EXCAVATION | 20300100 |
| 49 | CU YD | FURNISHED EXCAVATION | 20400800 |
| 115 | TON | POROUS GRANULAR EMBANKMENT | 20700110 |
| 11 | CU YD | TRENCH BACKFILL | 20800150 |
| 60 | FOOT | PERIMETER EROSION BARRIER | 28000400 |
| 280 | TON | STONE DUMPED RIPRAP, CLASS A4 | 28100807 |
| 550 | TON | AGGREGATE BASE COURSE, TYPE B | 35101400 |
| 1 | EACH | REMOVAL OF EXISTING STRUCTURES | 50100100 |
| 36.3 | CU YD | CONCRETE STRUCTURES | 50300225 |
| 63.1 | CU YD | CONCRETE SUPERSTRUCTURE | 50300255 |
| 8.1 | CU YD | CONCRETE ENCASEMENT | 50300280 |
| 230 | SQ YD | PROTECTIVE COAT | 50300300 |
| 40,620 | POUND | REINFORCEMENT BARS, EPOXY COATED | 50800205 |
| 121 | FOOT | STEEL RAILING, TYPE S-1 | 50900205 * |
| 560 | FOOT | FURNISHING STEEL PILES HP 10X42 | 51201400 |
| 560 | FOOT | DRIVING PILES | 51202305 |
| 2 | EACH | TEST PILE STEEL HP 10X42 | 51203400 |
| 1 | EACH | NAME PLATES | 51500100 |
| 46 | FOOT | PIPE CULVERTS, CLASS A, TYPE 1, EQUIVALENT ROUND-SIZE 36" | 542A5481 |
| 74 | FOOT | PIPE CULVERTS, CLASS D, TYPE 1 18" | 542D0223 |
| 2 | EACH | PRECAST REINFORCED CONCRETE FLARED END SECTION EQUIVALENT ROUND-SIZE 36" | 54214521 |
| 1 | L SUM | MOBILIZATION | 67100100 |
| 4 | EACH | TERMINAL MARKER - DIRECT APPLIED | 72501000 * |

* SPECIALTY ITEMS

SCALES
PLAN 1 INCH = 50 FEET
PROFILE HORZ. 1 INCH = 50 FEET
PROFILE VERT. 1 INCH = 10 FEET



LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH = 500.00 L.F. = 0.095 MILES

FUNCTIONAL CLASS: MINOR COLLECTOR
ADT = 75
DESIGN SPEED = 40 MPH

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (A.U.L.L.E.)
TELEPHONE NO. 1-800-892-0123 OR 811

JOHN A. STONE
 062-055012
 LICENSED
 PROFESSIONAL
 ENGINEER
 STATE OF ILLINOIS
 ILLINOIS REGISTERED PROFESSIONAL ENGINEER #55012
 LICENSE EXPIRES NOVEMBER 30, 2019
 PROFESSIONAL DESIGN FIRM #184-000832
 01/14/2019

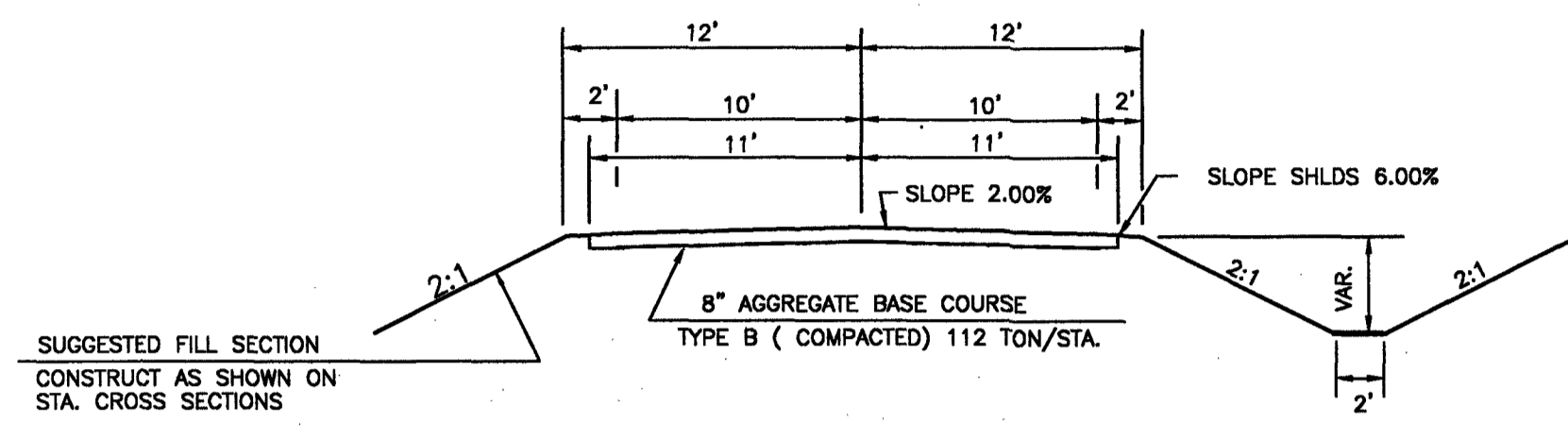
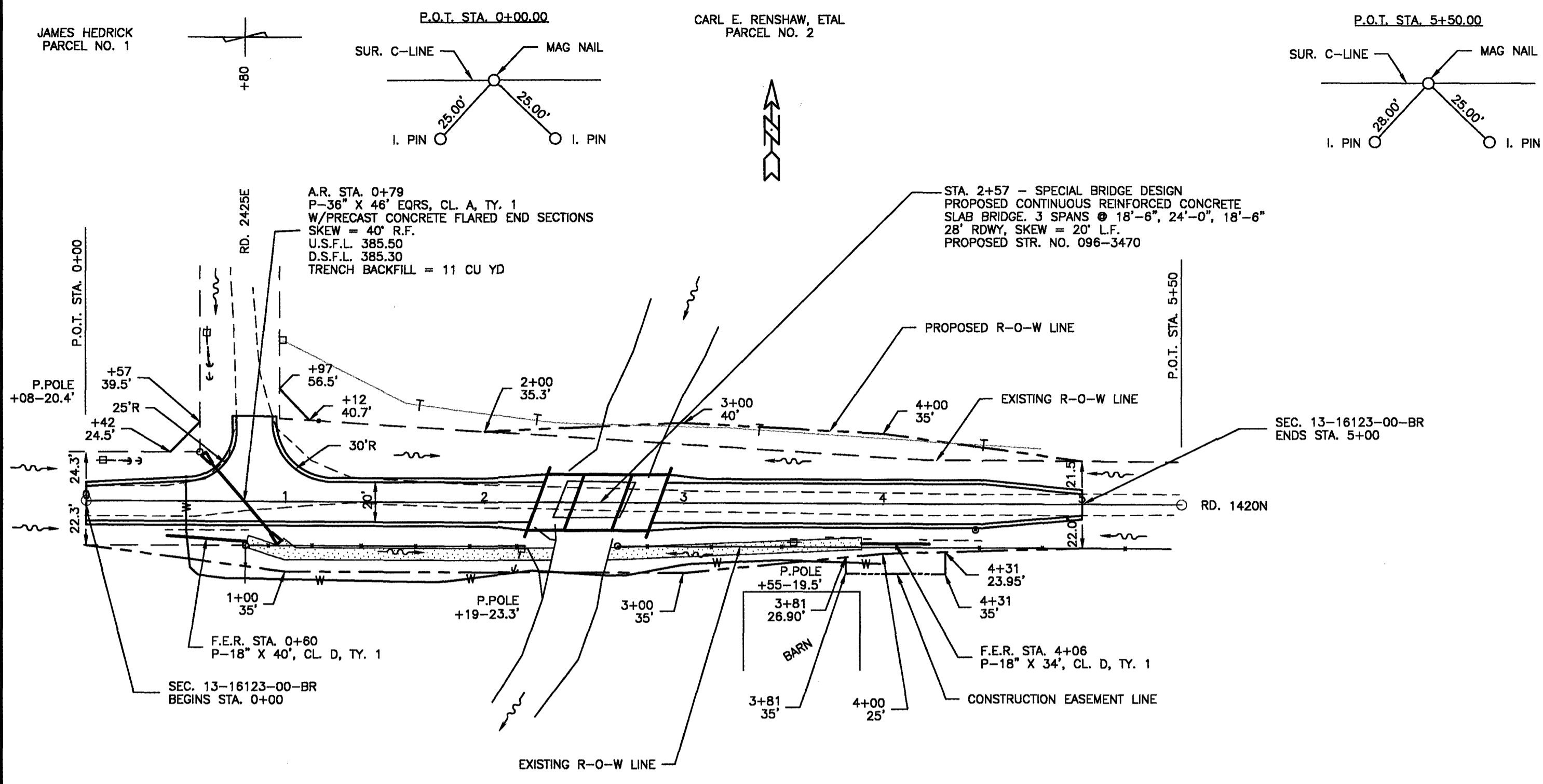
SECTION 13-16123-00-BR
ENDS STA. 5+00

STA. 2+57 -- SPECIAL BRIDGE DESIGN
PROPOSED CONTINUOUS REINFORCED
CONCRETE SLAB BRIDGE.
3 SPANS @ 18'-6", 24'-0", 18'-6", 28' RDWY., SKEW = 20' L.F.
PROP. STR. NO. 096-3470
EXIST. STR. NO. 096-3119

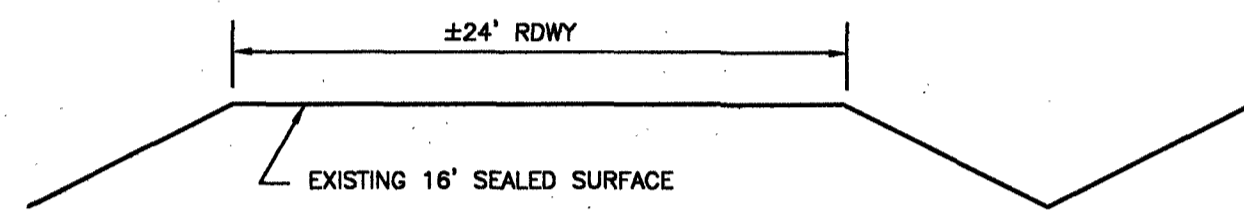
SECTION 13-16123-00-BR
BEGINS STA. 0+00

| | |
|---|------------------|
| ILLINOIS DEPARTMENT OF TRANSPORTATION | |
| APPROVED | January 15, 2019 |
| <i>D. S. Sol</i> WAYNE COUNTY ENGINEER | |
| PASSED | 2/21/19 |
| <i>sgphill</i> DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS | |
| RELEASING FOR BID BASED ON LIMITED REVIEW | |
| 2/21/19 <i>Jeffery M. Smith</i> REGION FOUR ENGINEER | |

| | | | | | |
|---------|----------------|--------------|----------|-----------|--------------|
| SECTION | 13-16123-00-BR | TOTAL SHEETS | 14 | SHEET NO. | 2 |
| COUNTY | WAYNE | ROAD DIST. | MASSILON | STA. 0+00 | TO STA. 5+50 |



TYPICAL CROSS SECTION OF PROPOSED IMPROVEMENT



TYPICAL CROSS SECTION OF EXISTING ROADWAY

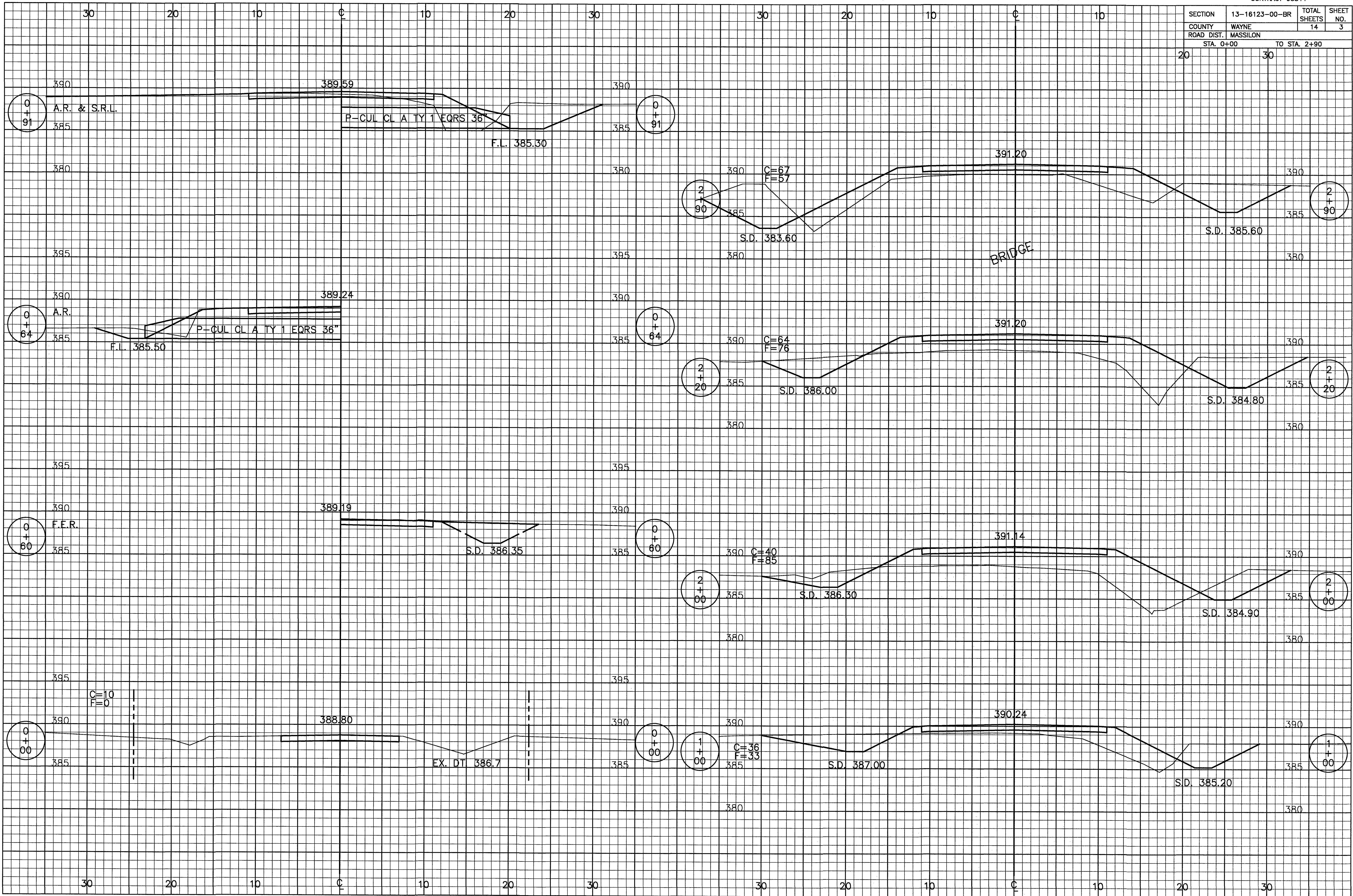
NOTE: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE CRAWFORD COUNTY HIGHWAY DEPARTMENT AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER.

SCALES:
1" = 50' HOR
1" = 10' VER

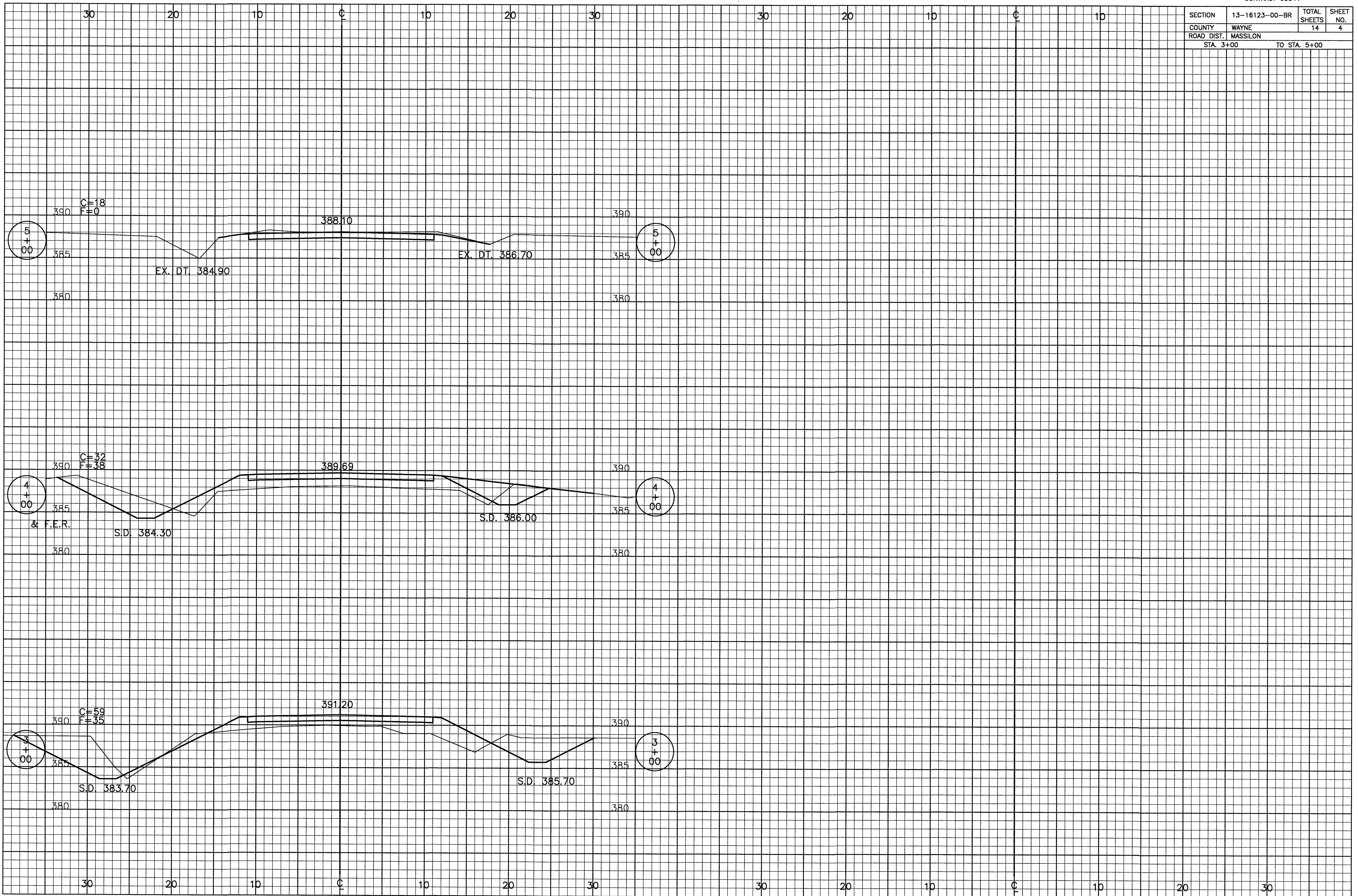
EXISTING STRUCTURE 096-3119
STA. 2+54 - EXISTING I-BEAM BRIDGE W/CONC. DECK WITH CLOSED CONCRETE ABUTMENTS AND WINGS. 1 SPAN @ 29' 13" RDWY. SKEW = 20° 1 EACH REMOVAL OF EXISTING STRUCTURES

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|--|--------|--|--------|---|--------|---|--------|---|--------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 400 | BENCHMARK #1 - ELEV. 389.31 MAG NAIL IN POWER POLE 84' LT. STA. 0+64 | | AGGREGATE BASE COURSE TYPE B 8" STA. 0+00 TO BRIDGE = 254 TON BRIDGE TO STA. 5+00 = 233 TON S.R.L. STA. 0+90 = 48 TON F.E.R. STA. 4+06 = 15 TON TOTAL = 550 TON | | EARTHWORK SCHEDULE 563 CU YD EARTH EXCAVATION 422 CU YD EARTH EXCAVATION ADJUSTED 25% 572 CU YD EMBANKMENT 135 CU YD CHANNEL EXCAVATION 101 CU YD CHANNEL EXCAVATION ADJUSTED 25% 49 CU YD FURNISHED EXCAVATION | | CONSTRUCT TRANSITIONS FROM EXISTING RDWY TO PROPOSED 24' RDWY FROM STA 0+00 TO STA 0+50 & FROM STA 4+50 TO STA 5+00 FROM PROPOSED 24' RDWY TO 28' BRIDGE FROM STA 2+02 TO STA 2+27 & FROM STA 2+92 TO STA 3+17 QUANTITIES INCLUDED IN THOSE LISTED | | SEEDING CLASS 2 (SPECIAL) STA. 0+00 TO STA. 5+00 = 0.5 ACRES | | UTILITIES TELEPHONE: WABASH TELEPHONE CO-OP. INC. 210 S. CHURCH STREET, P.O. BOX 299 LOUISVILLE, IL 62858 PH. 618-665-3311 ELECTRIC: WAYNE-WHITE ELECTRIC COOP. RT. 45 WEST FAIRFIELD, IL 62837 PH. 618-842-2196 WATER: JASPER WATER WORKS RTE 1 BOX 259 FAIRFIELD, IL 62837 PH. 618-842-2918 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WOVEN WIRE FENCE REMOVAL AND REPLACEMENT RT. STA. 0+80 TO 5+00 = 420 FEET SEE SPECIAL PROVISIONS | | AGGREGATE DITCH (SPECIAL) RT. STA. 0+80 TO 2+35 = 53 TON RT. STA. 2+62 TO 3+89 = 37 TON TOTAL = 90 TON | | TREE REMOVAL ACRES LT. STA. 2+00 TO 5+00 = 0.04 ACRES RT. STA. 0+80 TO 2+20 = 0.04 ACRES TOTAL = 0.08 ACRES | | PERIMETER EROSION BARRIER 15 FEET @ EACH CORNER OF BRIDGE ON TOE OF CHANNEL SLOPE = 60 FEET | | POROUS GRANULAR EMBANKMENT WEST ABUTMENT = 57.5 TON EAST ABUTMENT = 57.5 TON TOTAL = 115 TON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 380 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 385.8 | 0 | 386.80 | 387.10 | 387.37 | 387.64 | 387.91 | 388.18 | 388.45 | 388.72 | 388.99 | 389.26 | 389.53 | 389.80 | 390.07 | 390.34 | 390.61 | 390.88 | 391.15 | 391.42 | 391.69 | 391.96 | 392.23 | 392.50 | 392.77 | 393.04 | 393.31 | 393.58 | 393.85 | 394.12 | 394.39 | 394.66 | 394.93 | 395.20 | 395.47 | 395.74 | 396.01 | 396.28 | 396.55 | 396.82 | 397.09 | 397.36 | 397.63 | 397.90 | 398.17 | 398.44 | 398.71 | 398.98 | 399.25 | 399.52 | 399.79 | 400.06 | 400.33 | 400.60 | 400.87 | 401.14 | 401.41 | 401.68 | 401.95 | 402.22 | 402.49 | 402.76 | 403.03 | 403.30 | 403.57 | 403.84 | 404.11 | 404.38 | 404.65 | 404.92 | 405.19 | 405.46 | 405.73 | 406.00 | 406.27 | 406.54 | 406.81 | 407.08 | 407.35 | 407.62 | 407.89 | 408.16 | 408.43 | 408.70 | 408.97 | 409.24 | 409.51 | 409.78 | 410.05 | 410.32 | 410.59 | 410.86 | 411.13 | 411.40 | 411.67 | 411.94 | 412.21 | 412.48 | 412.75 | 413.02 | 413.29 | 413.56 | 413.83 | 414.10 | 414.37 | 414.64 | 414.91 | 415.18 | 415.45 | 415.72 | 415.99 | 416.26 | 416.53 | 416.80 | 417.07 | 417.34 | 417.61 | 417.88 | 418.15 | 418.42 | 418.69 | 418.96 | 419.23 | 419.50 | 419.77 | 420.04 | 420.31 | 420.58 | 420.85 | 421.12 | 421.39 | 421.66 | 421.93 | 422.20 | 422.47 | 422.74 | 423.01 | 423.28 | 423.55 | 423.82 | 424.09 | 424.36 | 424.63 | 424.90 | 425.17 | 425.44 | 425.71 | 425.98 | 426.25 | 426.52 | 426.79 | 427.06 | 427.33 | 427.60 | 427.87 | 428.14 | 428.41 | 428.68 | 428.95 | 429.22 | 429.49 | 429.76 | 430.03 | 430.30 | 430.57 | 430.84 | 431.11 | 431.38 | 431.65 | 431.92 | 432.19 | 432.46 | 432.73 | 433.00 | 433.27 | 433.54 | 433.81 | 434.08 | 434.35 | 434.62 | 434.89 | 435.16 | 435.43 | 435.70 | 435.97 | 436.24 | 436.51 | 436.78 | 437.05 | 437.32 | 437.59 | 437.86 | 438.13 | 438.40 | 438.67 | 438.94 | 439.21 | 439.48 | 439.75 | 440.02 | 440.29 | 440.56 | 440.83 | 441.10 | 441.37 | 441.64 | 441.91 | 442.18 | 442.45 | 442.72 | 442.99 | 443.26 | 443.53 | 443.80 | 444.07 | 444.34 | 444.61 | 444.88 | 445.15 | 445.42 | 445.69 | 445.96 | 446.23 | 446.50 | 446.77 | 447.04 | 447.31 | 447.58 | 447.85 | 448.12 | 448.39 | 448.66 | 448.93 | 449.20 | 449.47 | 449.74 | 450.01 | 450.28 | 450.55 | 450.82 | 451.09 | 451.36 | 451.63 | 451.90 | 452.17 | 452.44 | 452.71 | 452.98 | 453.25 | 453.52 | 453.79 | 454.06 | 454.33 | 454.60 | 454.87 | 455.14 | 455.41 | 455.68 | 455.95 | 456.22 | 456.49 | 456.76 | 457.03 | 457.30 | 457.57 | 457.84 | 458.11 | 458.38 | 458.65 | 458.92 | 459.19 | 459.46 | 459.73 | 460.00 | 460.27 | 460.54 | 460.81 | 461.08 | 461.35 | 461.62 | 461.89 | 462.16 | 462.43 | 462.70 | 462.97 | 463.24 | 463.51 | 463.78 | 464.05 | 464.32 | 464.59 | 464.86 | 465.13 | 465.40 | 465.67 | 465.94 | 466.21 | 466.48 | 466.75 | 467.02 | 467.29 | 467.56 | 467.83 | 468.10 | 468.37 | 468.64 | 468.91 | 469.18 | 469.45 | 469.72 | 470.00 |

| | | | | | |
|------------|----------------|--------------|----|-----------|---|
| SECTION | 13-16123-00-BR | TOTAL SHEETS | 14 | SHEET NO. | 3 |
| COUNTY | WAYNE | | | | |
| ROAD DIST. | MASSILON | | | | |
| STA. 0+00 | | TO STA. 2+90 | | | |



| | | | |
|------------|----------------|--------------|----|
| SECTION | 13-16123-00-BR | TOTAL SHEETS | 14 |
| COUNTY | WAYNE | SHEET NO. | 4 |
| ROAD DIST. | MASSILON | | |
| STA. 3+00 | | TO STA. 5+00 | |



BENCHMARK: Mag Nail in Power Pole. 84', Lt. Sta. 0+64, Elev. 389.31

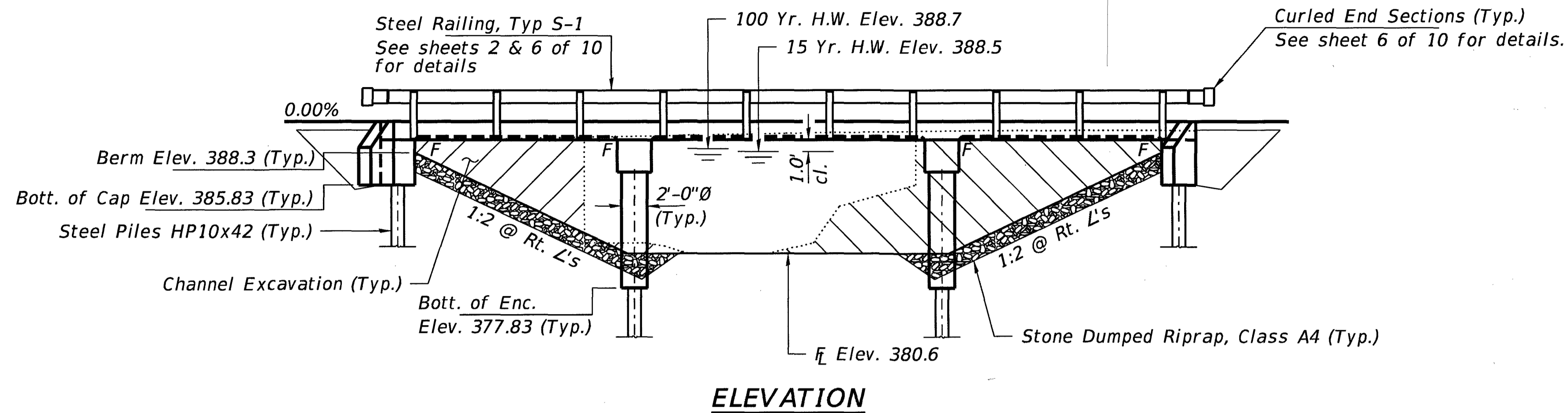
EXISTING STRUCTURE NO. 096-3119: Single span I-beam bridge with concrete deck with closed concrete abutments and wings. 1span @ 29', 13' Rdwy., Skew = 20°

Structure closed to traffic during construction.

No Salvage

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at West Abutment and Pier 2 or approved by the Engineer before ordering the remainder of piles.
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
 All bars to be epoxy coated.
 Excavation required to construct the Abutments and Piers shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation or Cofferdam Excavation.
 All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act.
 The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

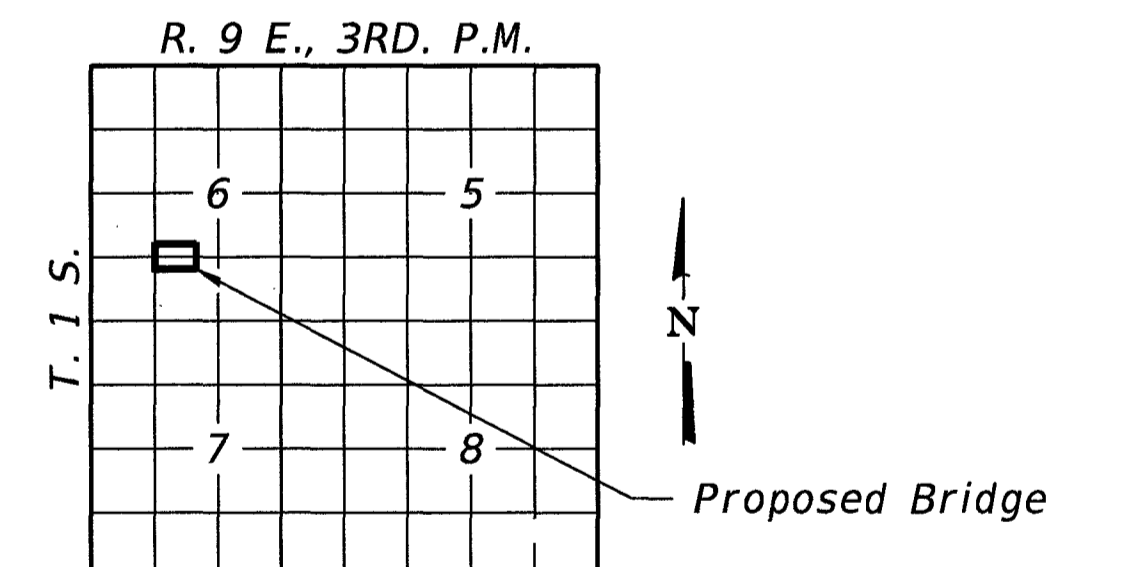


INDEX OF STRUCTURE SHEETS

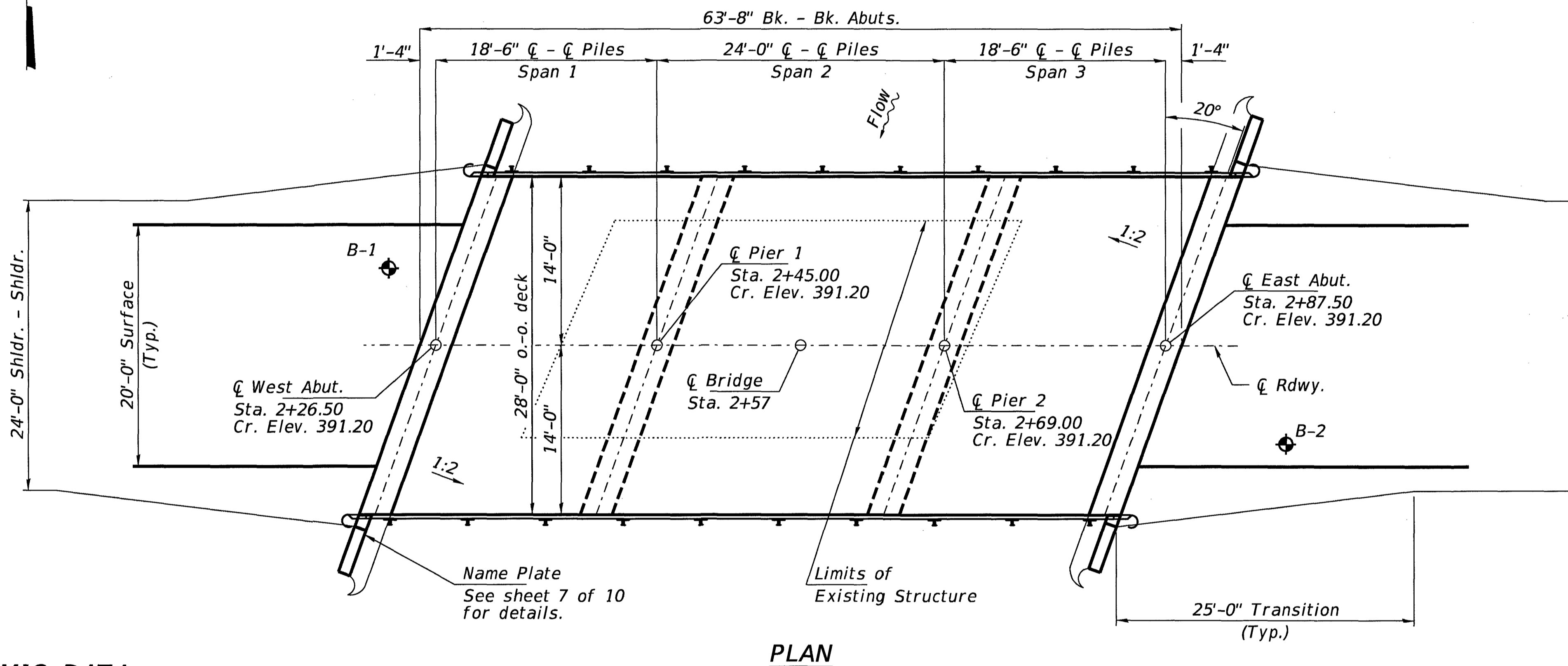
1. General Plan & Elevation
2. General Data
3. Top of Slab Elevations
4. Superstructure
5. Superstructure Details
6. Steel Railing, Type S-1
7. Abutments
8. Piers
9. HP Pile Details
10. Borings

BUILT 201 BY
 WAYNE COUNTY
 SEC. 13-16123-00-BR
 MASSILLON ROAD DISTRICT
 STR. NO. 096-3470
 LOADING HL-93

NAME PLATE
 See Std. 515001



LOCATION SKETCH



DESIGN SCOUR ELEVATION TABLE

| Event/Limit State | Design Scour Elevations (ft.) | | | | Item 113 |
|-------------------|-------------------------------|--------|--------|----------|----------|
| | W. Abut. | Pier 1 | Pier 2 | E. Abut. | |
| Q100 | 385.9 | 377.6 | 377.6 | 385.9 | 8 |
| Q200 | 385.9 | - | - | 385.9 | |
| Design | 385.9 | 378.6 | 378.6 | 385.9 | |
| Check | 385.9 | - | - | 385.9 | |

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.271g
 Design Spectral Acceleration at 0.2 sec. (SDS) = 0.653g
 Soil Site Class = D

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition with all interims.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.
 IL-RS6-60 (120k) Permit Vehicle Allowed

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Superstructure)
 f'c = 3,500 psi (Substructure)
 fy = 60,000 psi (Reinf.)
 fy = 50,000 psi (Steel H-Pile) (M270 Gr. 50)

WATERWAY INFORMATION

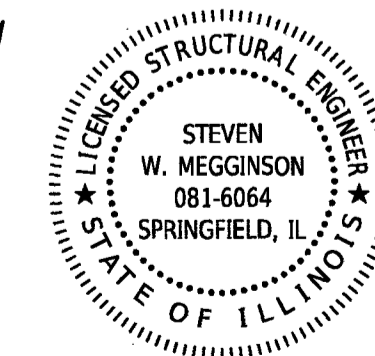
Drainage Area = 3.76 Mi² Existing Low Grade Elev. 388.1 @ Sta. 5+00 Proposed Low Grade Elev. 388.1 @ Sta. 5+00

| Flood | Freq. Yr. | Q C.F.S. | Opening Ft ² | | Nat. Head - Ft. | | Headwater El. | | |
|--------|-----------|----------|-------------------------|-------|-----------------|-------|---------------|-------|-------|
| | | | Exist. | Prop. | H.W.E. Exist. | Prop. | Exist. | Prop. | |
| Design | 15 | 1220 | 152 | 243 | 388.5 | - | 0.1 | 388.5 | 388.6 |
| Base | 100 | 2100 | 152 | 272* | 388.7 | 0.0 | 0.0 | 388.7 | 388.7 |

* Low water approach to remain

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

Steven W. Megginson 01/07/2019
 ILLINOIS STRUCTURAL ENGINEER NO. 081-6064

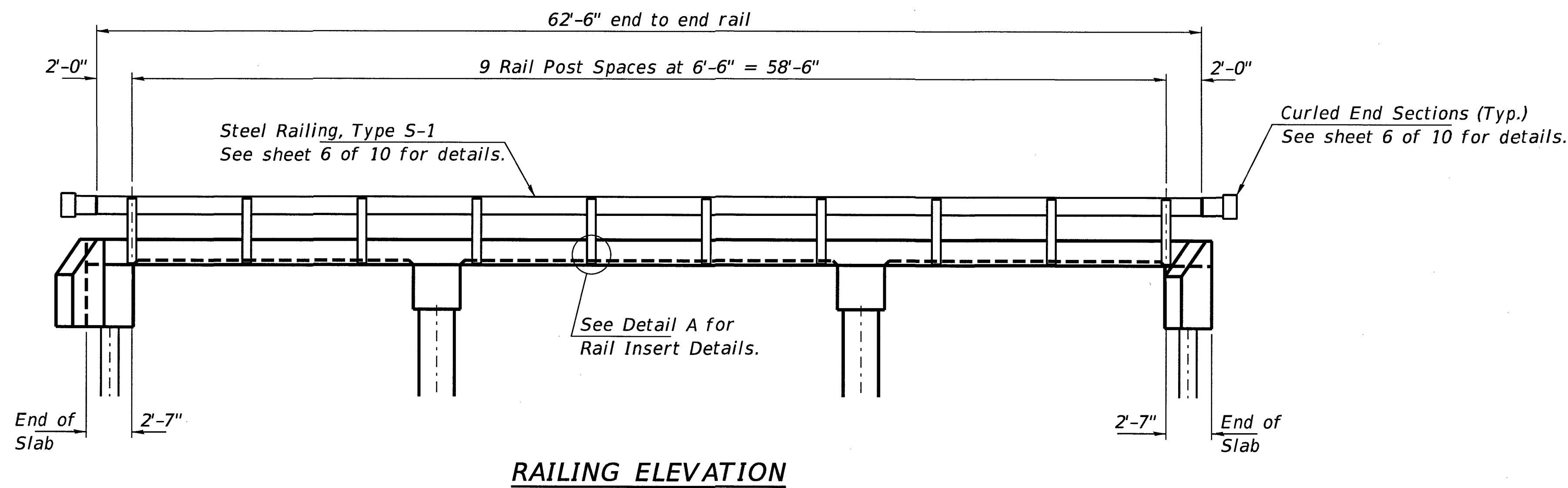


Expires 11-30-2020

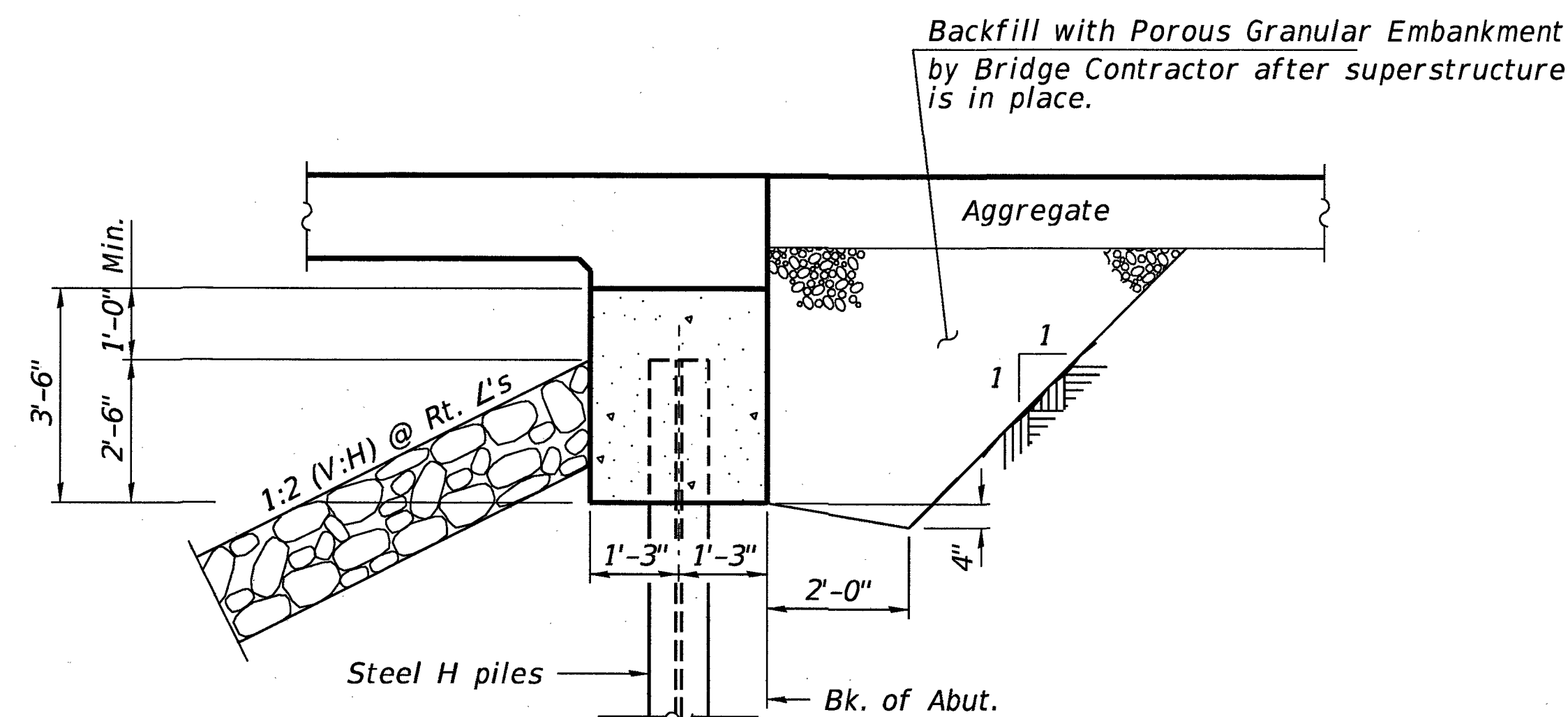
GENERAL PLAN & ELEVATION

FAS-2821
 OVER BRANCH ELM RIVER
 SECTION 13-16123-00-BR
 WAYNE COUNTY
 STATION 2+57.00
 STRUCTURE NO. 096-3470

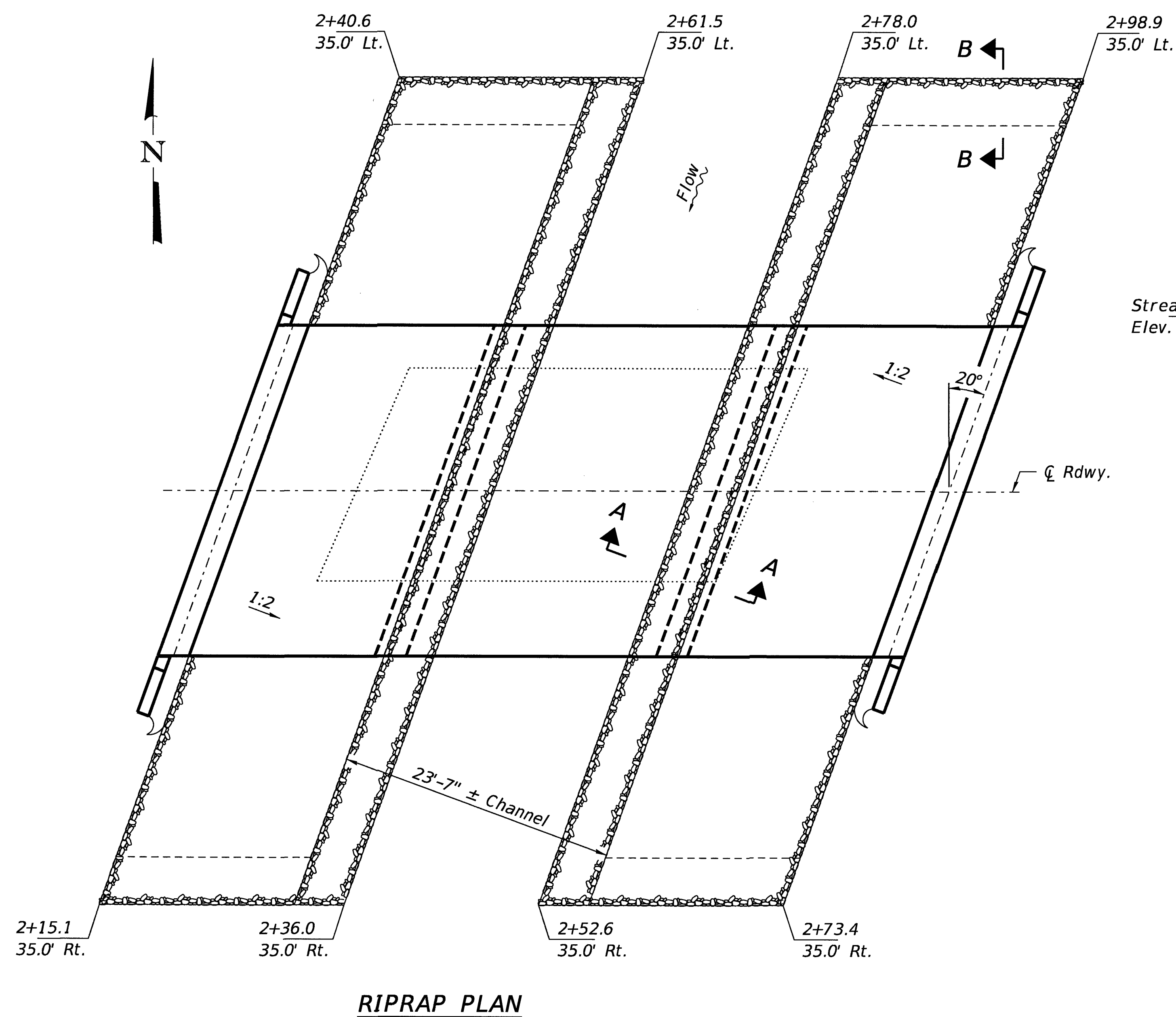
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| FILE NAME = 180327-ah-bridge.dgn | USER NAME = rthoick | DESIGNED - N.D.O. | REVISED - | STATE OF ILLINOIS WAYNE COUNTY HIGHWAY DEPARTMENT | GENERAL PLAN AND ELEVATION STRUCTURE NO. 096-3470 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3048 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | CHECKED - S.W.M. | REVISED - | | | 2821 | 13-16123-00-BR | WAYNE | 14 | 5 | |
| ILR ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORP. 184-000929 | PLOT DATE = 1/7/2019 | DRAWN - M.M.P. | REVISED - | | | MASSILLON ROAD DISTRICT | CONTRACT NO. 95844 | | | | |
| | | CHECKED - S.W.M. | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | | |



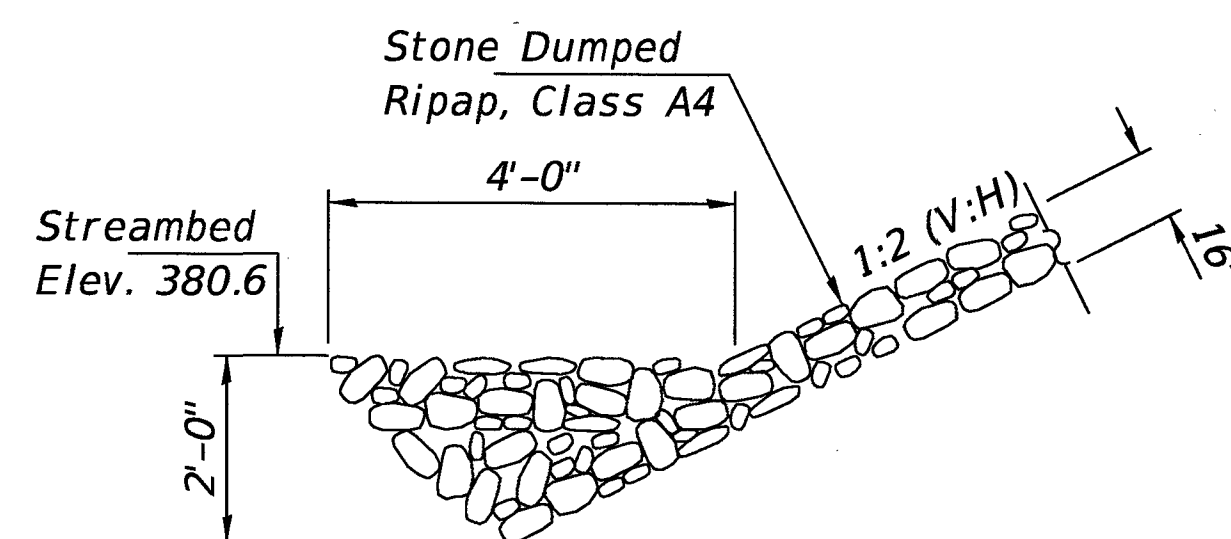
RAILING ELEVATION



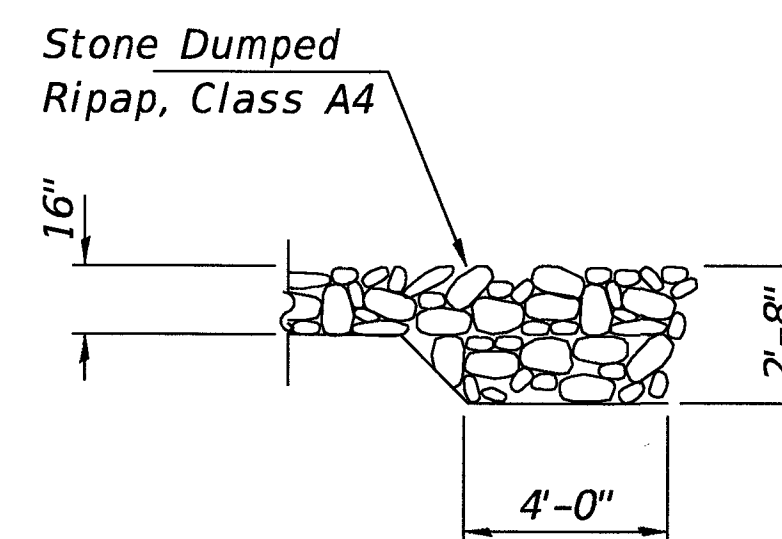
SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)



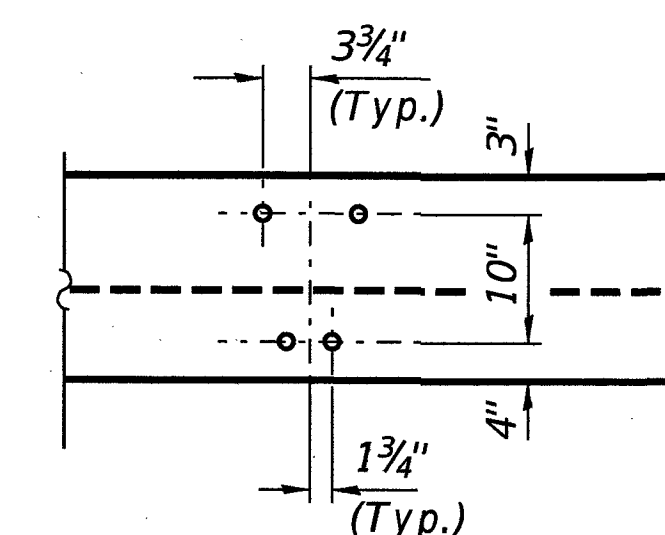
RIPRAP PLAN



SECTION A-A



SECTION B-B



DETAIL A

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|----------------------------------|---------|--------|-------|--------|
| Channel Excavation | Cu. Yd. | | | 135 |
| Porous Granular Embankment | Ton | | | 115 |
| Stone Dumped Riprap, Class A4 | Ton | | | 280 |
| Protective Coat | Sq. Yd. | 218 | 12 | 230 |
| Removal of Existing Structures | Each | | | 1 |
| Concrete Structures | Cu. Yd. | | 36.3 | 36.3 |
| Concrete Superstructure | Cu. Yd. | 83.1 | | 83.1 |
| Concrete Encasement | Cu. Yd. | | 8.1 | 8.1 |
| Reinforcement Bars, Epoxy Coated | Pound | 34,800 | 5,820 | 40,620 |
| Steel Railing, Type S1 | Foot | 125 | | 125 |
| Furnishing Steel Piles HP10x42 | Foot | | 560 | 560 |
| Driving Piles | Foot | | 560 | 560 |
| Test Pile Steel HP10x42 | Each | | 2 | 2 |
| Name Plates | Each | 1 | | 1 |
| Terminal Marker - Direct Applied | Each | 4 | | 4 |

FILE NAME = 180327-eh-bridge.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LB / PE / SE CORP. 184.002959

USER NAME = rmosick
 DESIGNED - N.D.O.
 CHECKED - S.W.M.
 DRAWN - M.M.P.
 CHECKED - S.W.M.
 PLOT SCALE =
 PLOT DATE = 1/7/2019

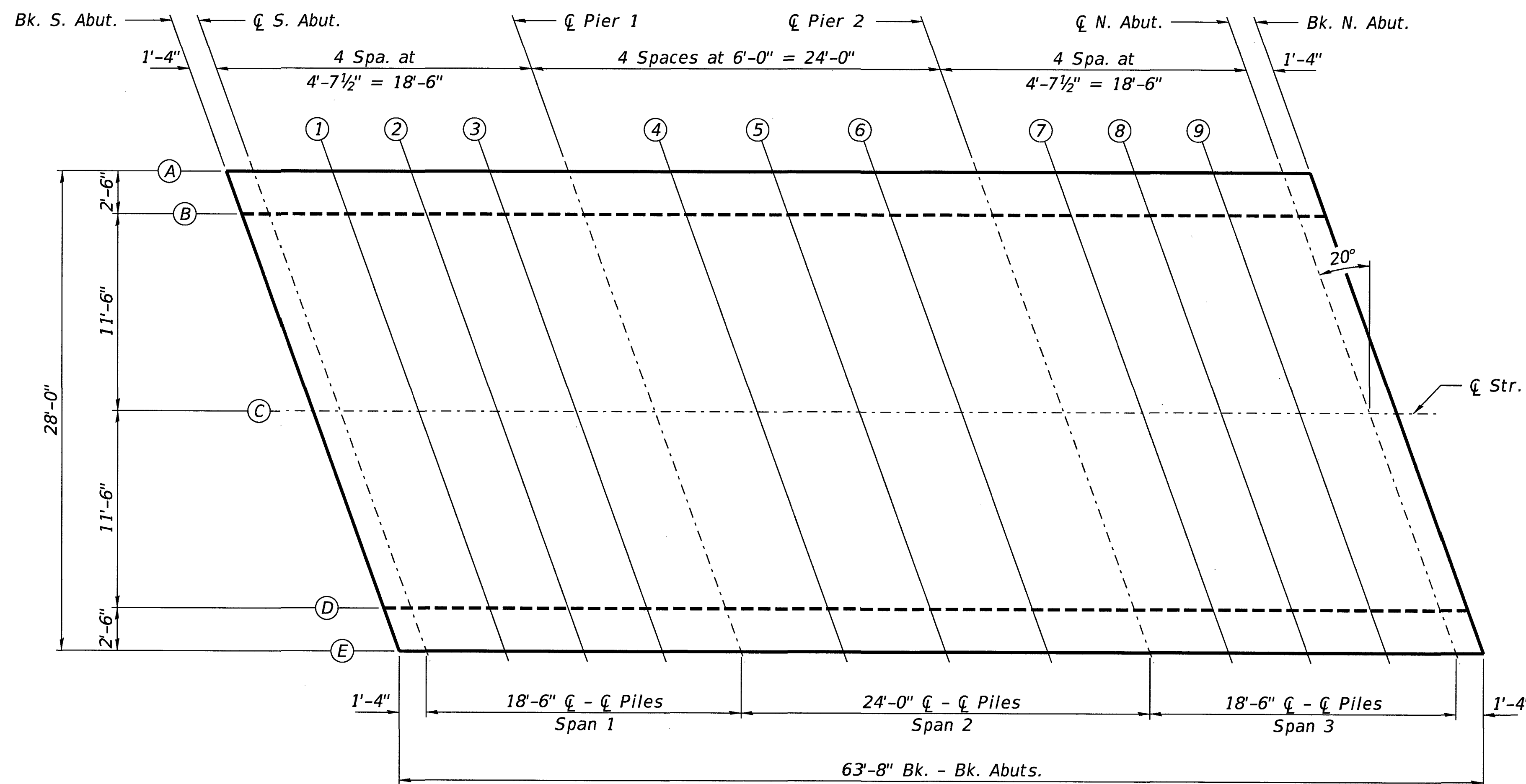
DESIGNED - N.D.O.
 CHECKED - S.W.M.
 DRAWN - M.M.P.
 CHECKED - S.W.M.
 REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 WAYNE COUNTY HIGHWAY DEPARTMENT

GENERAL DATA
 STRUCTURE NO. 096-3470

SHEET NO. 2 OF 10 SHEETS

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------------|-----------|
| 2821 | 13-16123-00-BR | WAYNE | 14 | 6 |
| MASSILLON ROAD DISTRICT | | | CONTRACT NO. 95844 | |
| ILLINOIS FED. AID PROJECT | | | | |



| LOCATION | | BK. W. | CL. W. | SPAN 1 | | | CL | SPAN 2 | | | CL | SPAN 3 | | | CL E. | BK. E. |
|----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| LINE | T. | ABUT. | ABUT. | 1 | 2 | 3 | PIER 1 | 4 | 5 | 6 | PIER 2 | 7 | 8 | 9 | ABUT. | ABUT. |
| A | ADJ. | 390.908 | 390.908 | 390.912 | 390.912 | 390.908 | 390.908 | 390.912 | 390.915 | 390.912 | 390.908 | 390.908 | 390.912 | 390.912 | 390.908 | 390.908 |
| | Bot. of Slab | 389.492 | 389.492 | 389.495 | 389.495 | 389.492 | 389.492 | 389.495 | 389.498 | 389.495 | 389.492 | 389.492 | 389.495 | 389.495 | 389.492 | 389.492 |

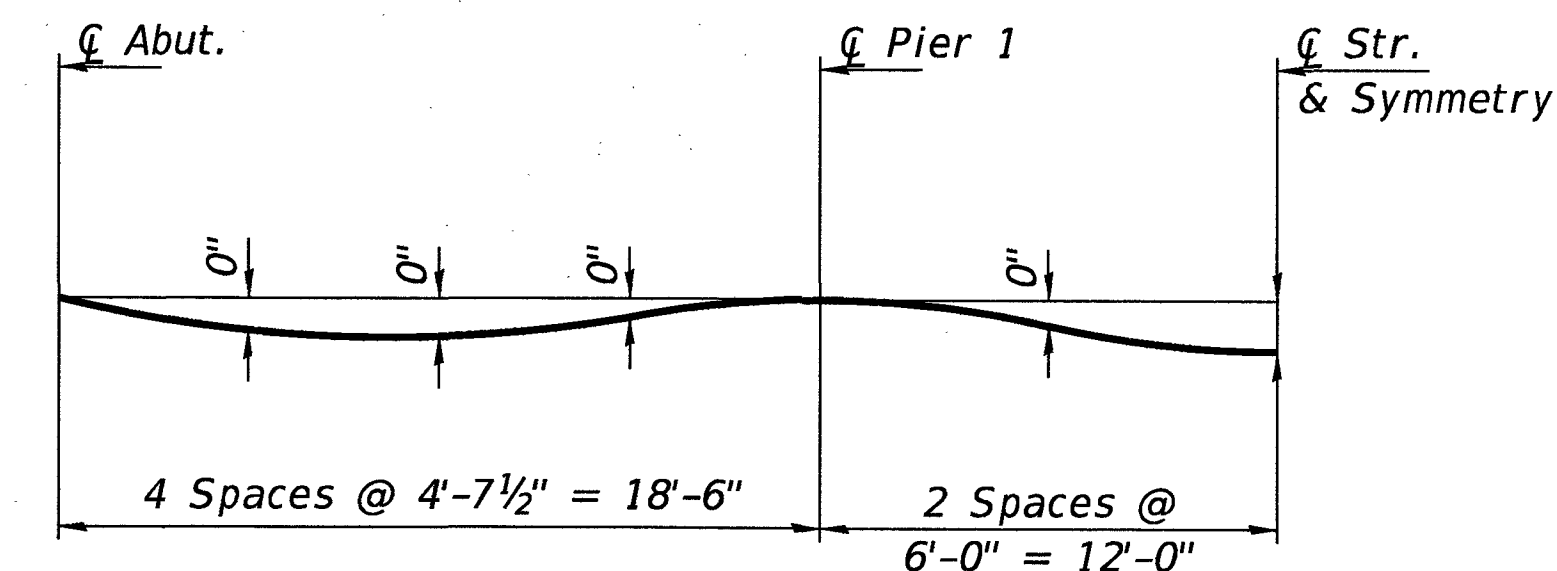
| LOCATION | | BK. W. | CL. W. | SPAN 1 | | | CL | SPAN 2 | | | CL | SPAN 3 | | | CL E. | BK. E. |
|----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| LINE | T. | ABUT. | ABUT. | 1 | 2 | 3 | PIER 1 | 4 | 5 | 6 | PIER 2 | 7 | 8 | 9 | ABUT. | ABUT. |
| B | ADJ. | 390.960 | 390.960 | 390.964 | 390.964 | 390.960 | 390.960 | 390.964 | 390.967 | 390.964 | 390.960 | 390.960 | 390.964 | 390.964 | 390.960 | 390.960 |
| | Bot. of Slab | 389.794 | 389.794 | 389.797 | 389.797 | 389.794 | 389.794 | 389.797 | 389.800 | 389.797 | 389.794 | 389.794 | 389.797 | 389.797 | 389.794 | 389.794 |

| LOCATION | | BK. W. | CL. W. | SPAN 1 | | | CL | SPAN 2 | | | CL | SPAN 3 | | | CL E. | BK. E. |
|----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| LINE | T. | ABUT. | ABUT. | 1 | 2 | 3 | PIER 1 | 4 | 5 | 6 | PIER 2 | 7 | 8 | 9 | ABUT. | ABUT. |
| C | ADJ. | 391.200 | 391.200 | 391.203 | 391.203 | 391.200 | 391.200 | 391.203 | 391.207 | 391.203 | 391.200 | 391.200 | 391.203 | 391.203 | 391.200 | 391.200 |
| | Bot. of Slab | 390.033 | 390.033 | 390.037 | 390.037 | 390.033 | 390.033 | 390.037 | 390.040 | 390.037 | 390.033 | 390.033 | 390.037 | 390.037 | 390.033 | 390.033 |

| LOCATION | | BK. W. | CL. W. | SPAN 1 | | | CL | SPAN 2 | | | CL | SPAN 3 | | | CL E. | BK. E. |
|----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| LINE | T. | ABUT. | ABUT. | 1 | 2 | 3 | PIER 1 | 4 | 5 | 6 | PIER 2 | 7 | 8 | 9 | ABUT. | ABUT. |
| D | ADJ. | 390.960 | 390.960 | 390.964 | 390.964 | 390.960 | 390.960 | 390.964 | 390.967 | 390.964 | 390.960 | 390.960 | 390.964 | 390.964 | 390.960 | 390.960 |
| | Bot. of Slab | 389.794 | 389.794 | 389.797 | 389.797 | 389.794 | 389.794 | 389.797 | 389.800 | 389.797 | 389.794 | 389.794 | 389.797 | 389.797 | 389.794 | 389.794 |

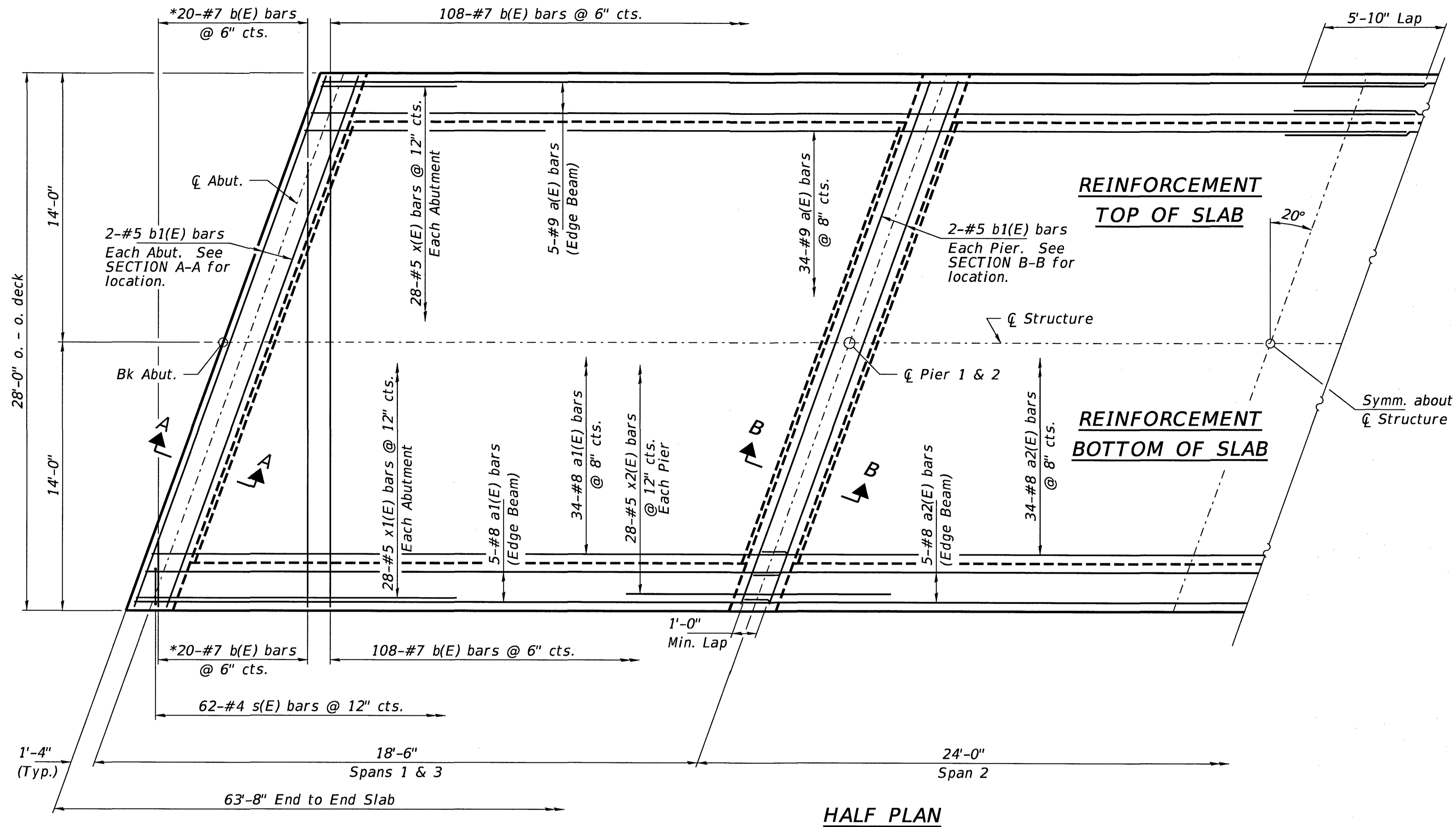
| LOCATION | | BK. W. | CL. W. | SPAN 1 | | | CL | SPAN 2 | | | CL | SPAN 3 | | | CL E. | BK. E. |
|----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| LINE | T. | ABUT. | ABUT. | 1 | 2 | 3 | PIER 1 | 4 | 5 | 6 | PIER 2 | 7 | 8 | 9 | ABUT. | ABUT. |
| E | ADJ. | 390.908 | 390.908 | 390.912 | 390.912 | 390.908 | 390.908 | 390.912 | 390.915 | 390.912 | 390.908 | 390.908 | 390.912 | 390.912 | 390.908 | 390.908 |
| | Bot. of Slab | 389.492 | 389.492 | 389.495 | 389.495 | 389.492 | 389.492 | 389.495 | 389.498 | 389.495 | 389.492 | 389.492 | 389.495 | 389.495 | 389.492 | 389.492 |

T. - Theoretical elevation at top of slab
 Adj. - T adjusted for dead load deflection
 * Bottom of slab elevation equals bottom of edge beam

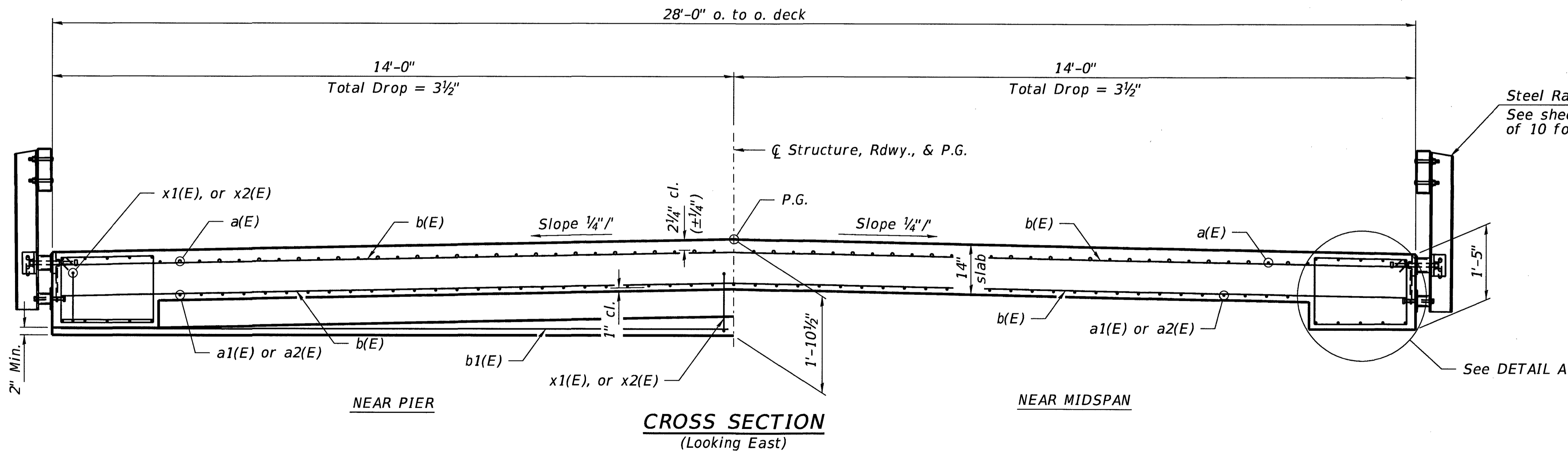


DEAD LOAD DEFLECTION DIAGRAM
 (Includes weight of concrete only.)

Notes:
 The deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown.
 The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework in addition to allowance for dead load deflection.



HALF PLAN



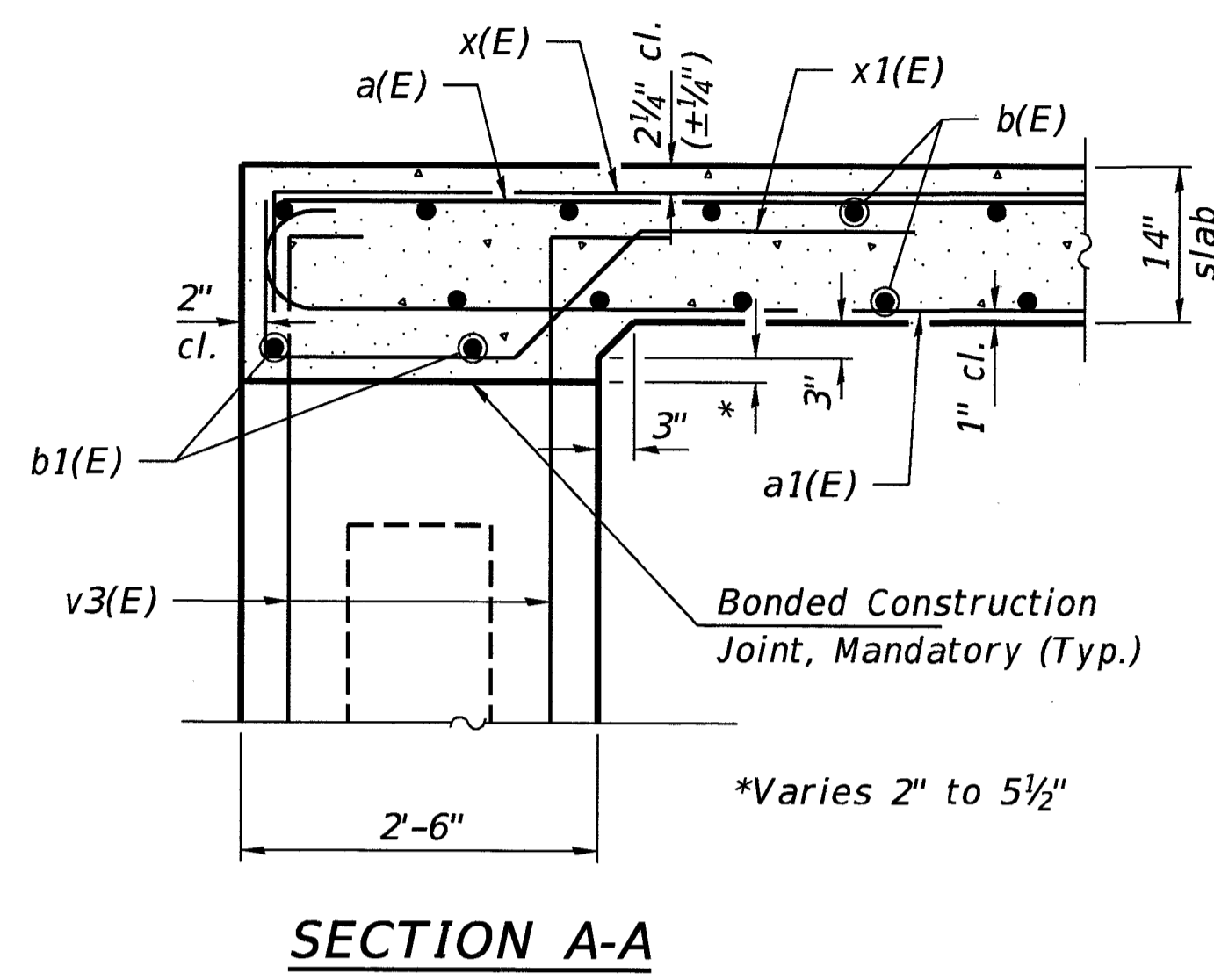
CROSS SECTION
(Looking East)

Notes:
See sheets 5 of 10 for Superstructure Details and Bill of Material.
See sheet 5 of 10 for SECTION A-A, SECTION B-B and DETAIL A.

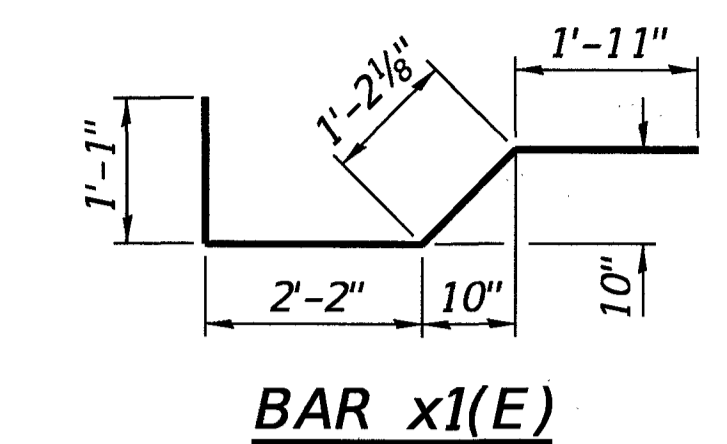
* Order b(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MIN. BAR LAP
#9 = 5'-10"

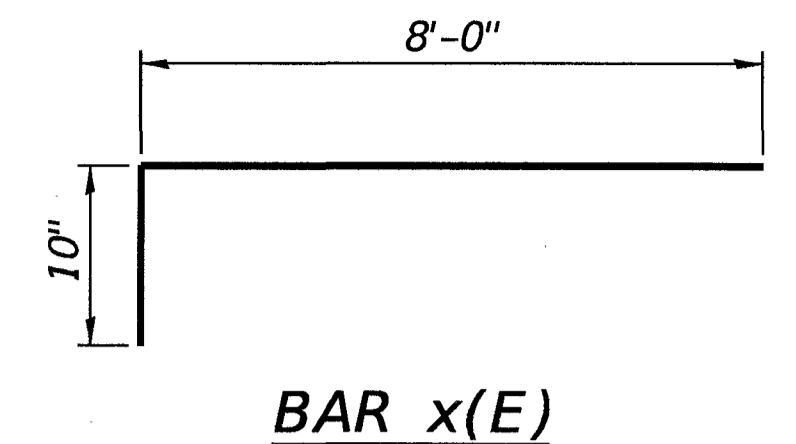
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| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | CHECKED - S.W.M. | REVISED - | | | 2821 | 13-16123-00-BR | WAYNE | 14 | 8 |
| ILR ILLINOIS PROFESSIONAL DESIGN FIRM 1.8 / P.E. / SE CORP. 184.000959 | PLOT DATE = 1/7/2019 | DRAWN - M.M.P. | REVISED - | | | MASSILLON ROAD DISTRICT | | CONTRACT NO. 95844 | | |
| | | CHECKED - S.W.M. | REVISED - | | | SHEET NO. 4 OF 10 SHEETS | | ILLINOIS | | FED. AID PROJECT |



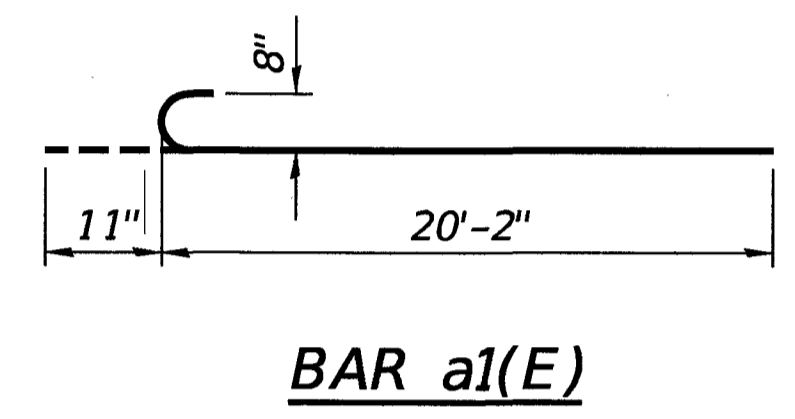
SECTION A-A



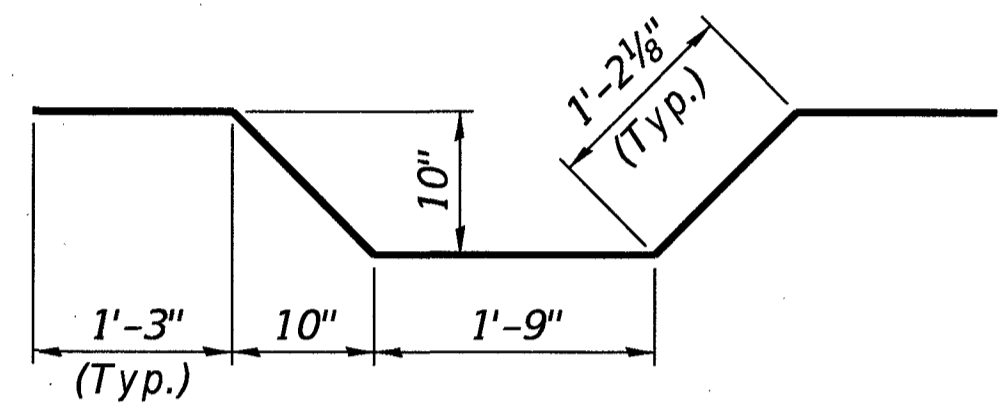
BAR x1(E)



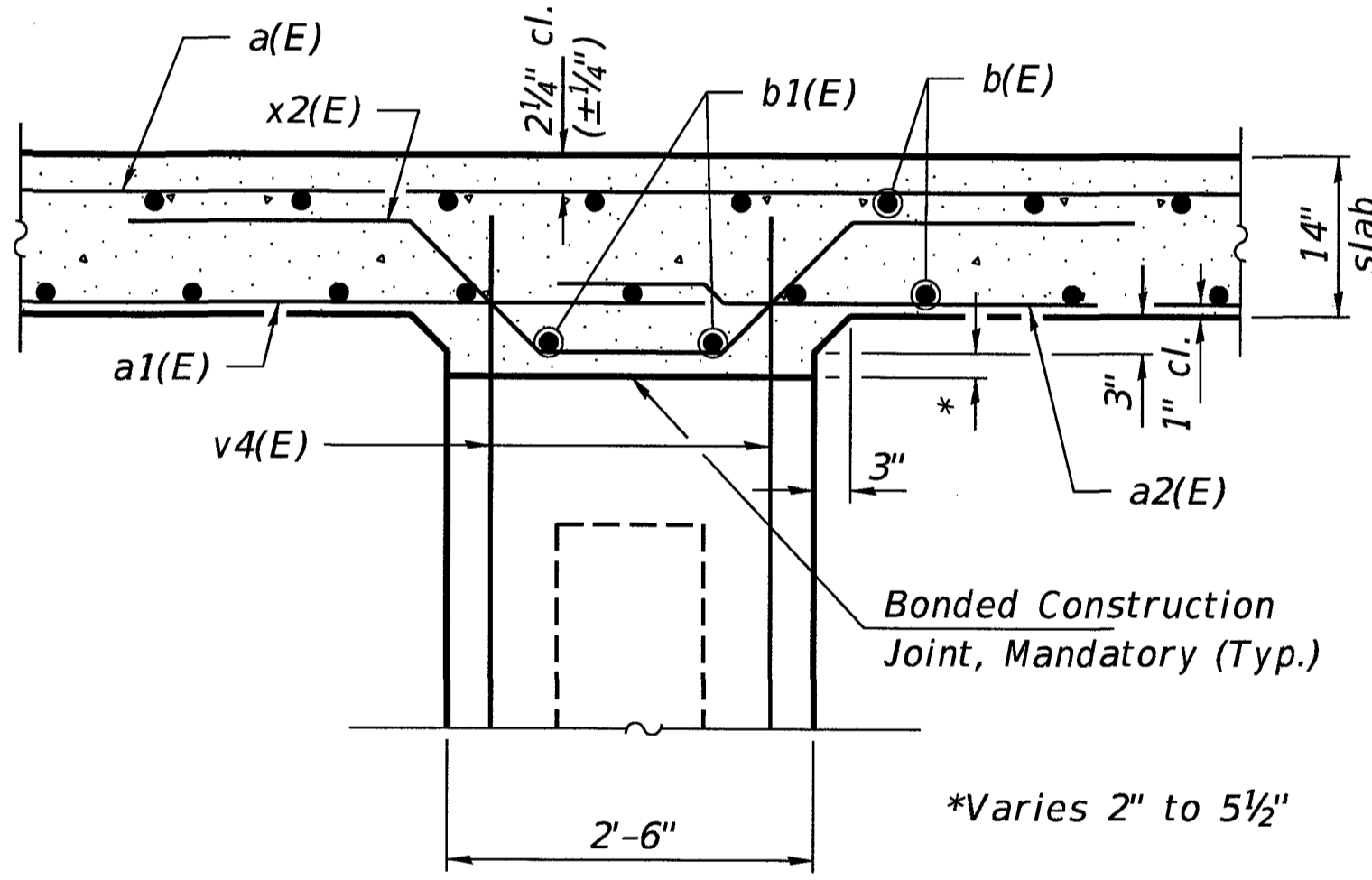
BAR x(E)



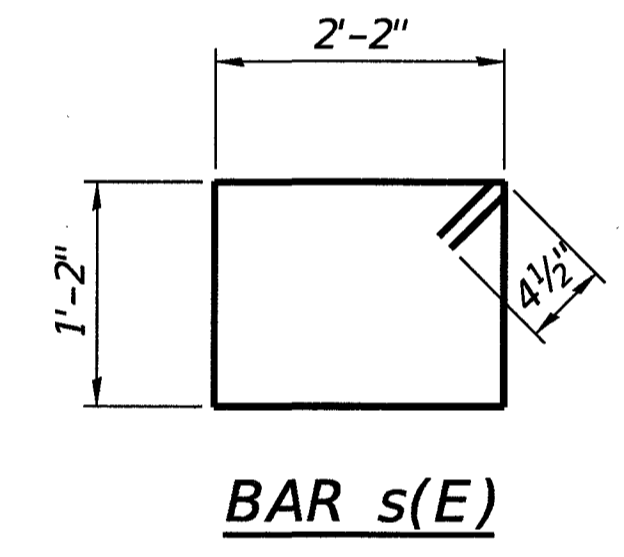
BAR a1(E)



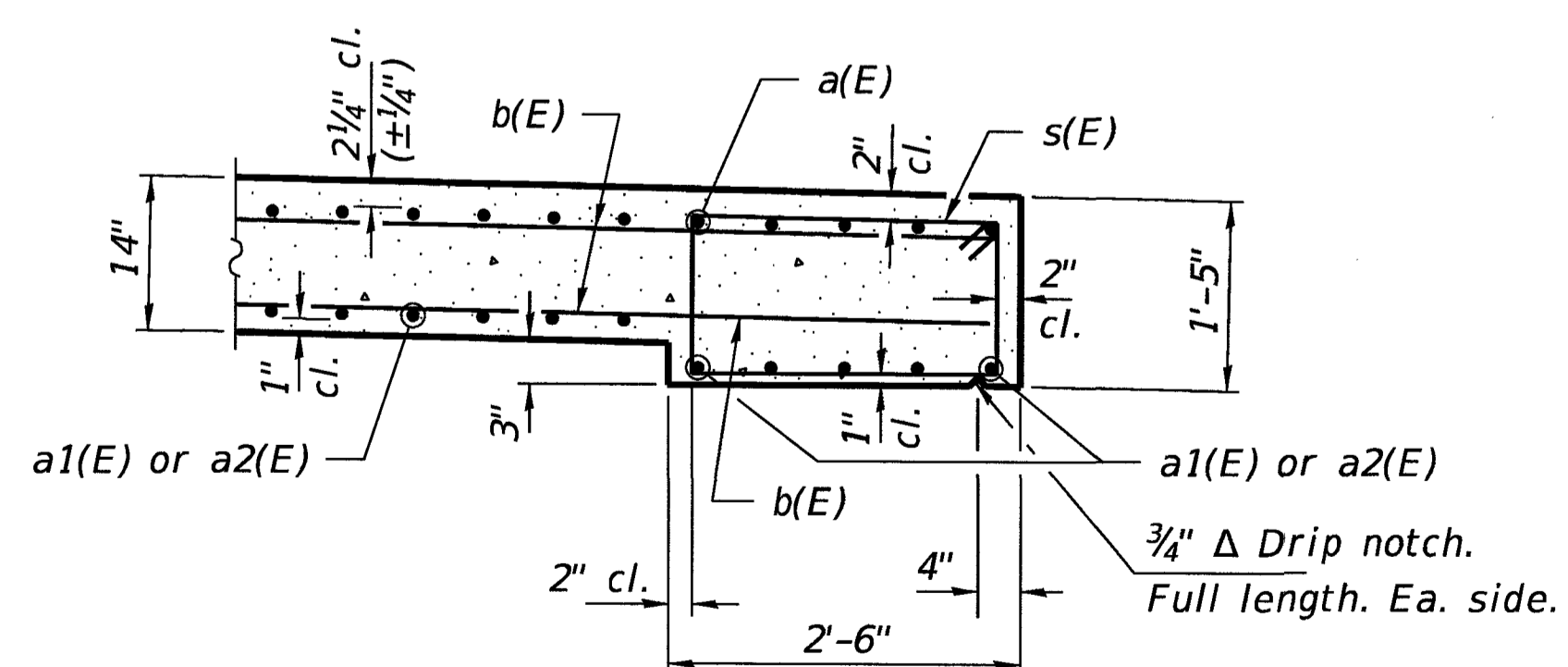
BAR x2(E)



SECTION B-B



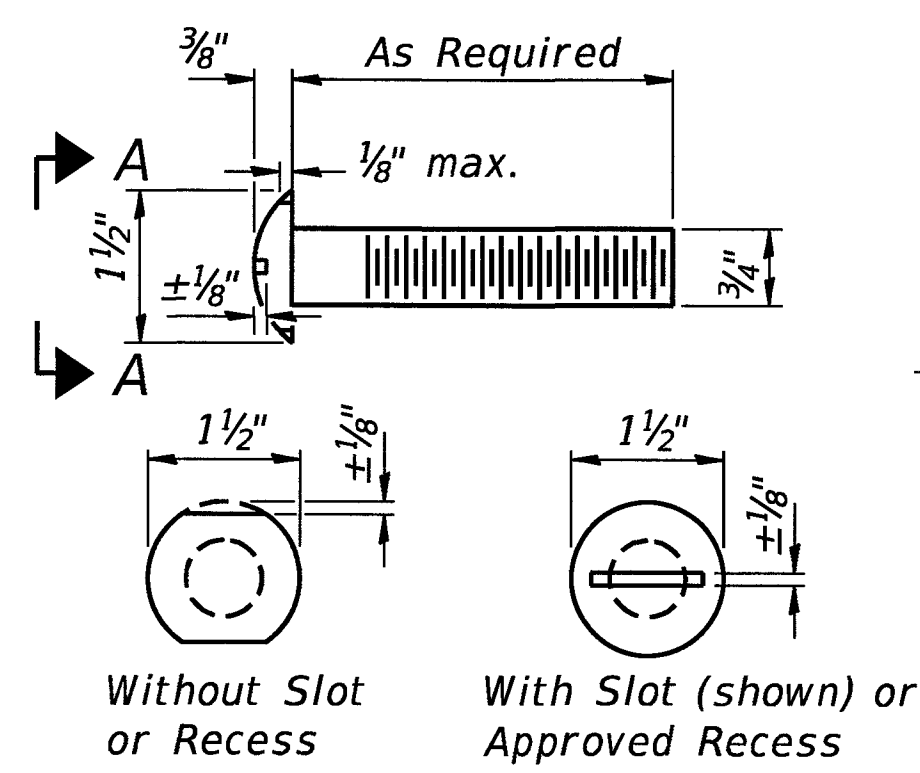
BAR s(E)



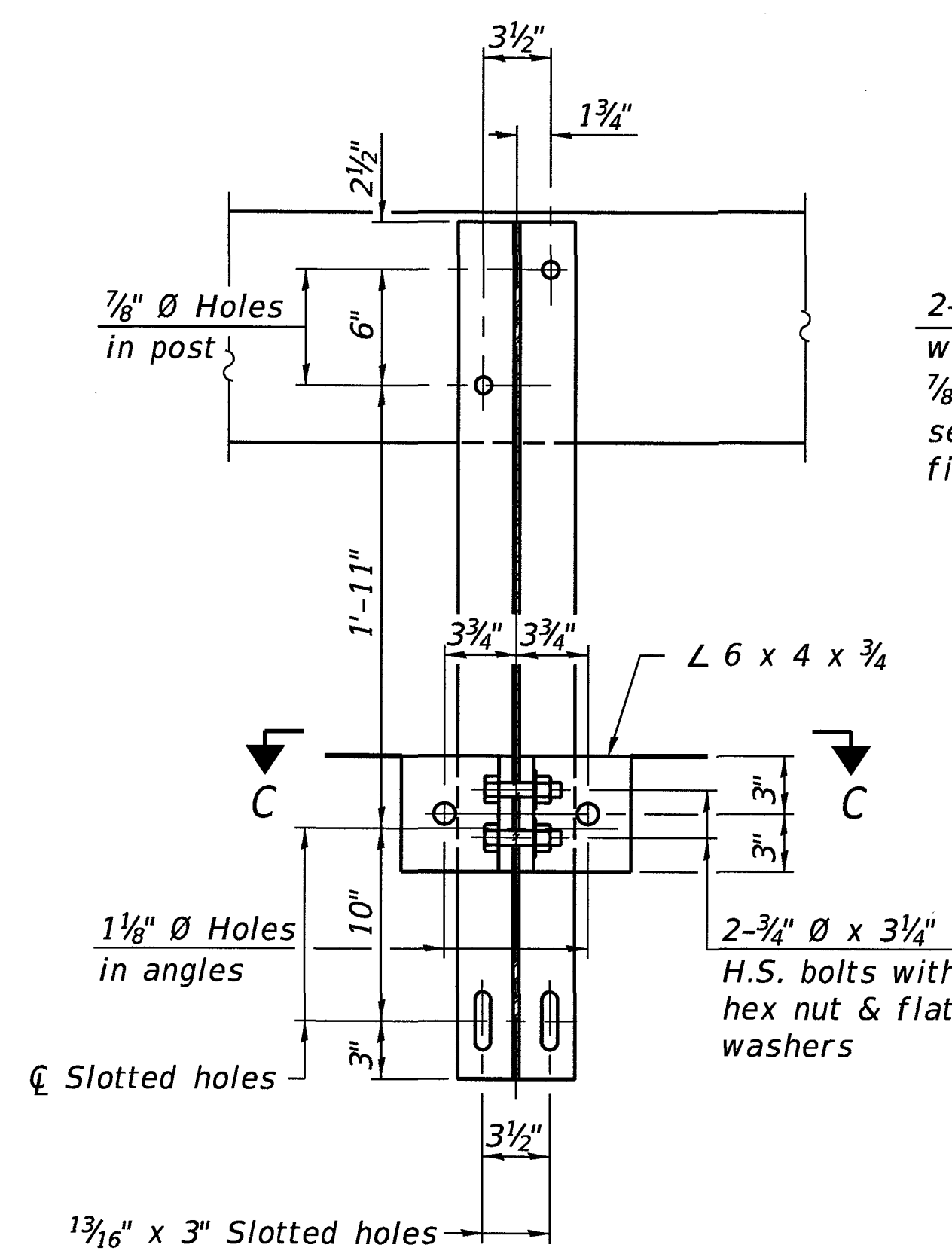
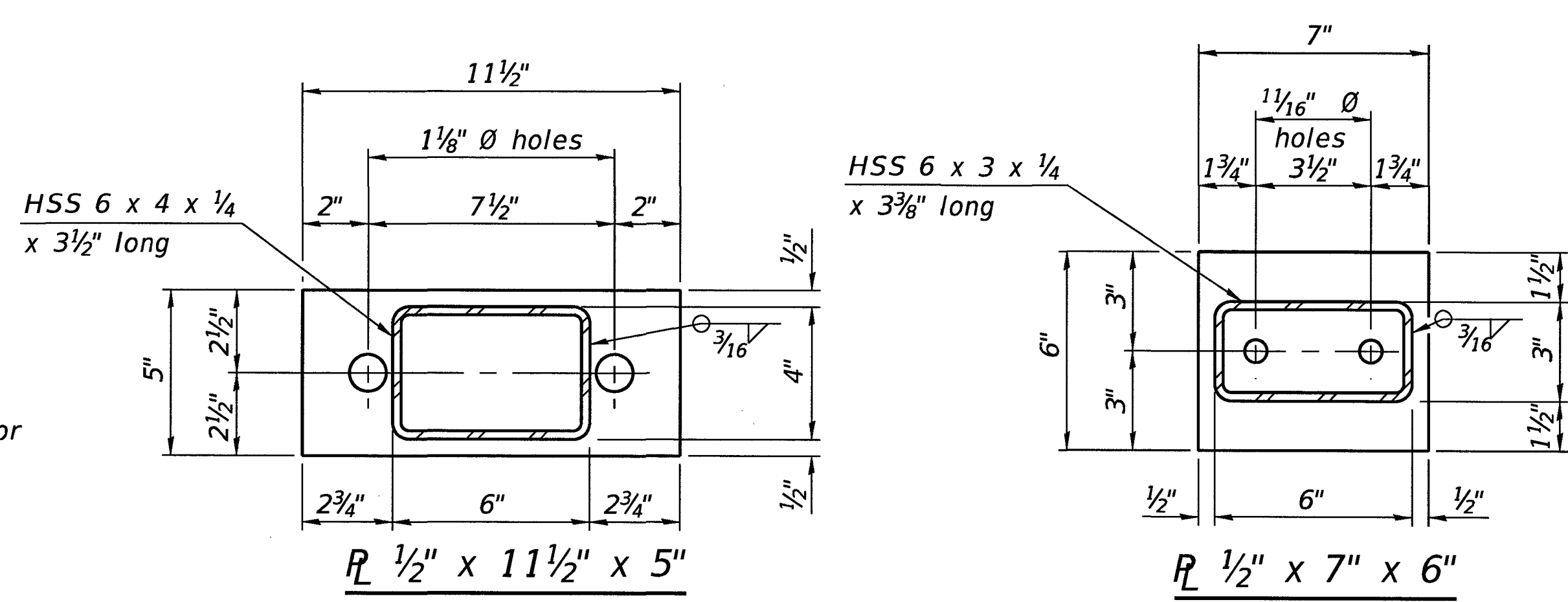
DETAIL A

**SUPERSTRUCTURE
BILL OF MATERIAL**

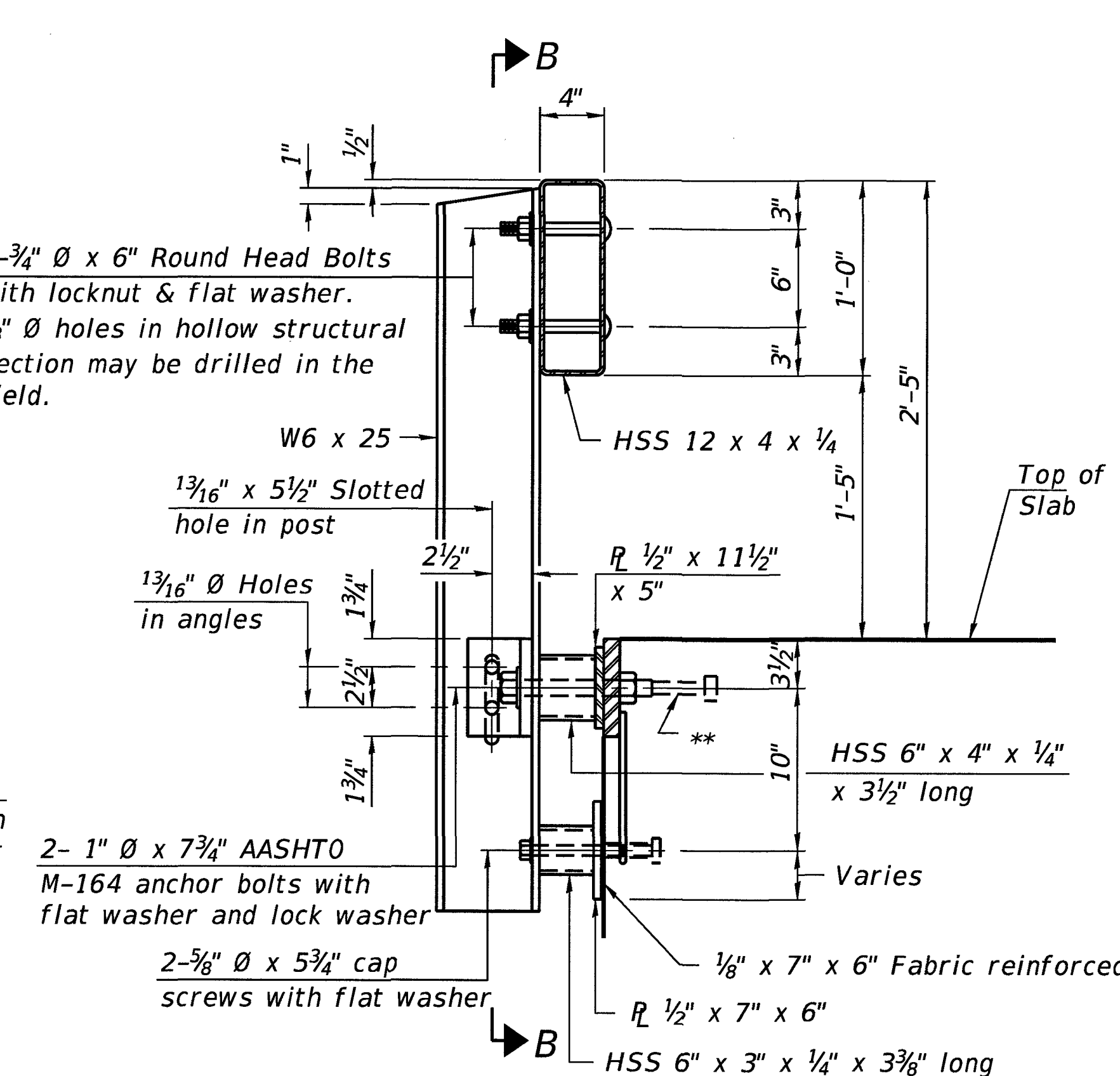
| BAR | NO. | SIZE | LENGTH | SHAPE |
|----------------------------------|-----|------|---------|--------|
| a(E) | 88 | #9 | 34'-7" | — |
| a1(E) | 88 | #8 | 21'-1" | C |
| a2(E) | 44 | #8 | 25'-0" | — |
| b(E) | 256 | #7 | 27'-8" | — |
| b1(E) | 8 | #5 | 29'-6" | — |
| s(E) | 114 | #4 | 7'-5" | □ |
| x(E) | 56 | #5 | 8'-10" | L |
| x1(E) | 56 | #5 | 6'-4" | L |
| x2(E) | 56 | #5 | 6'-7" | ~ |
| Protective Coat | | | Sq. Yd. | 218 |
| Concrete Superstructures | | | Cu. Yd. | 83.1 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 34,800 |



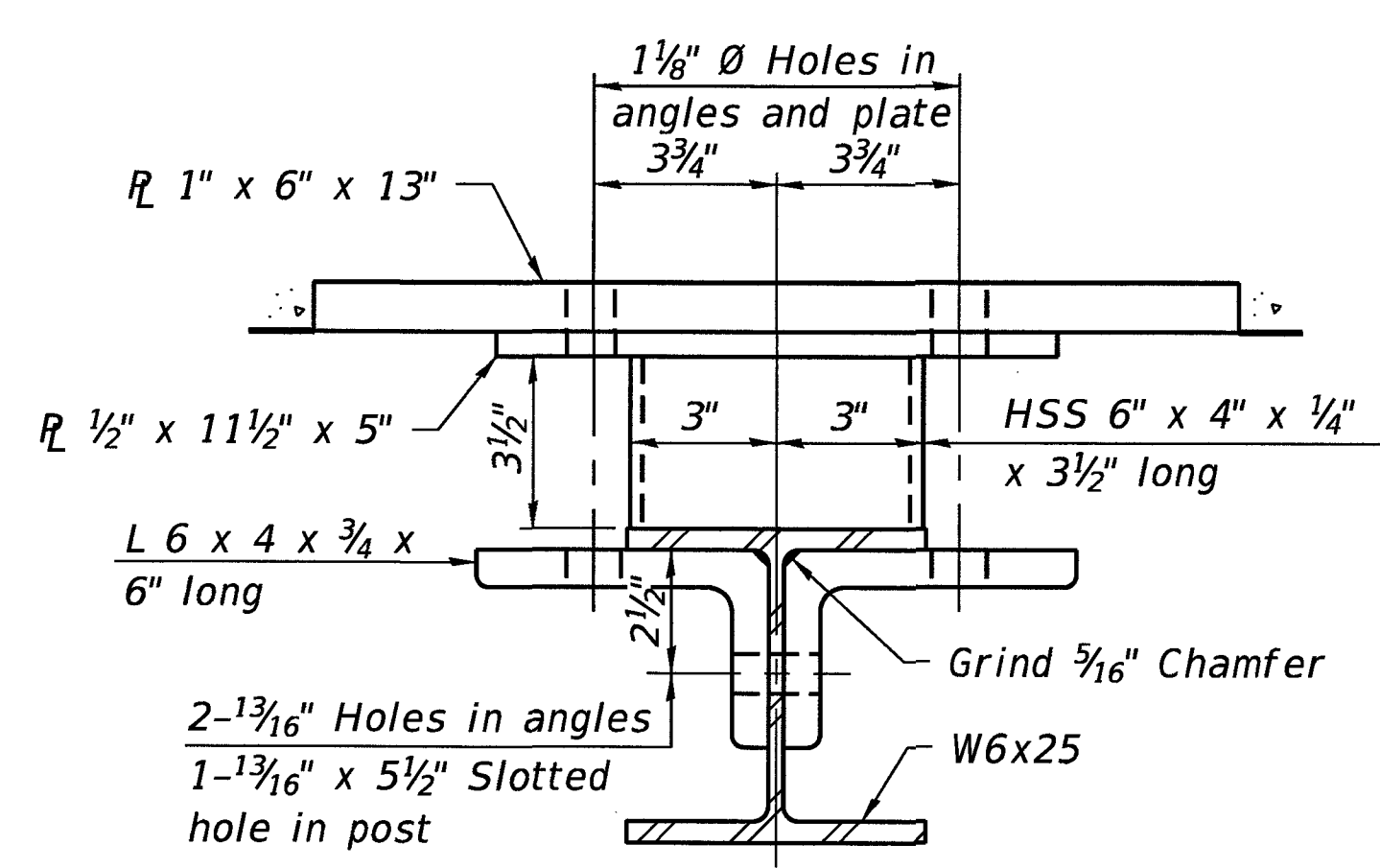
VIEW A-A
ROUND HEAD BOLT



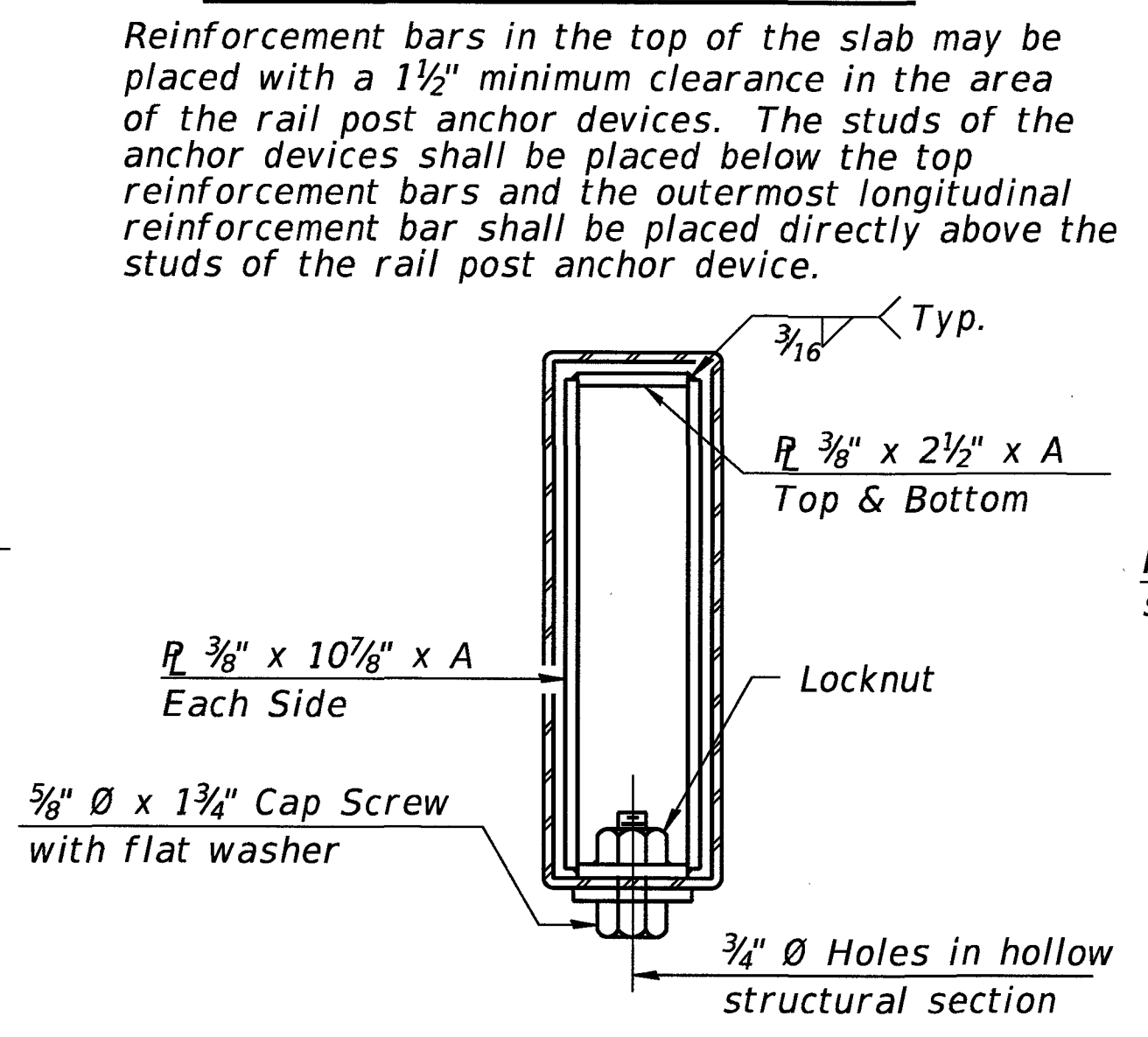
SECTION B-B



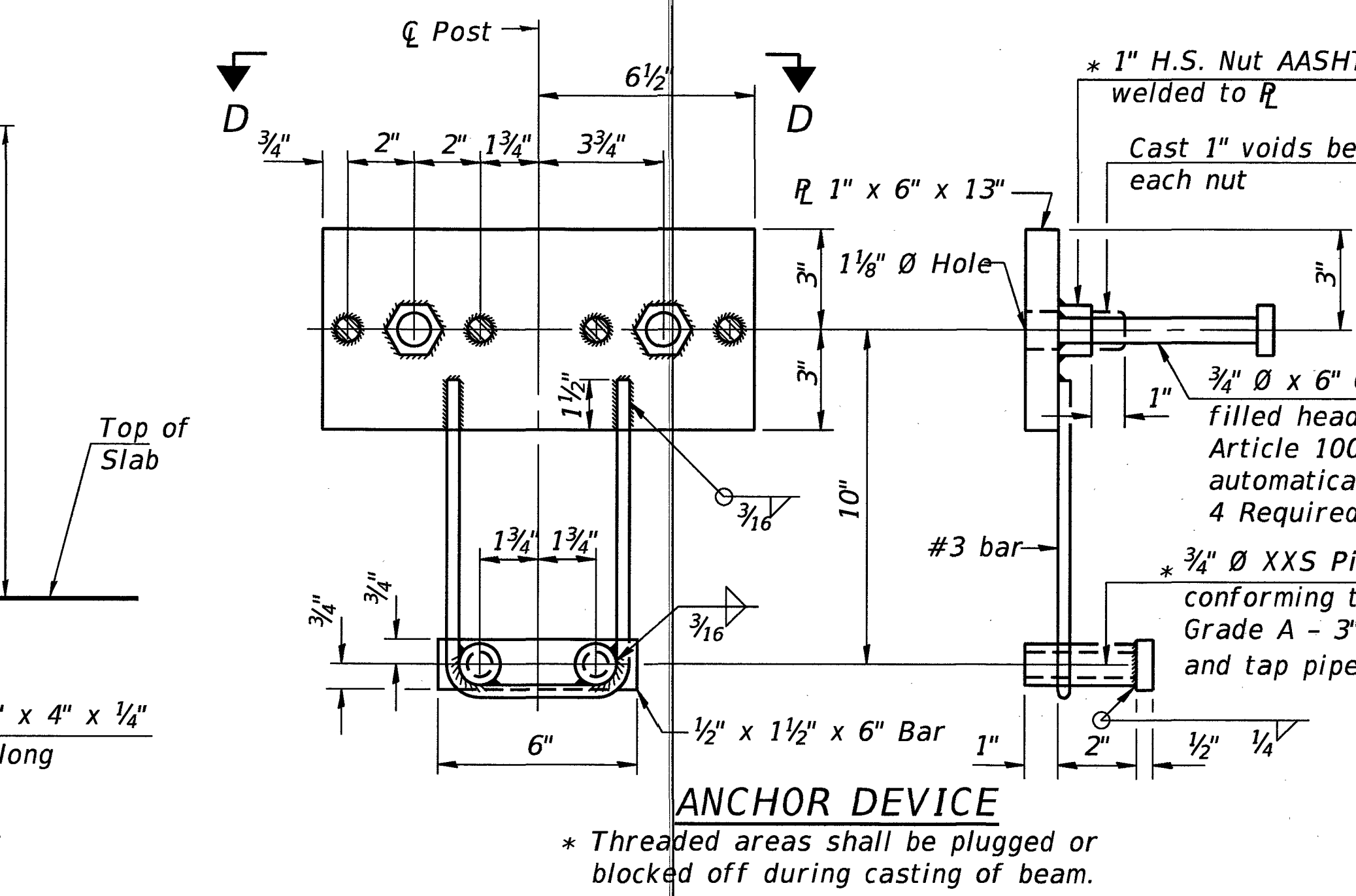
SECTION AT RAILING POST



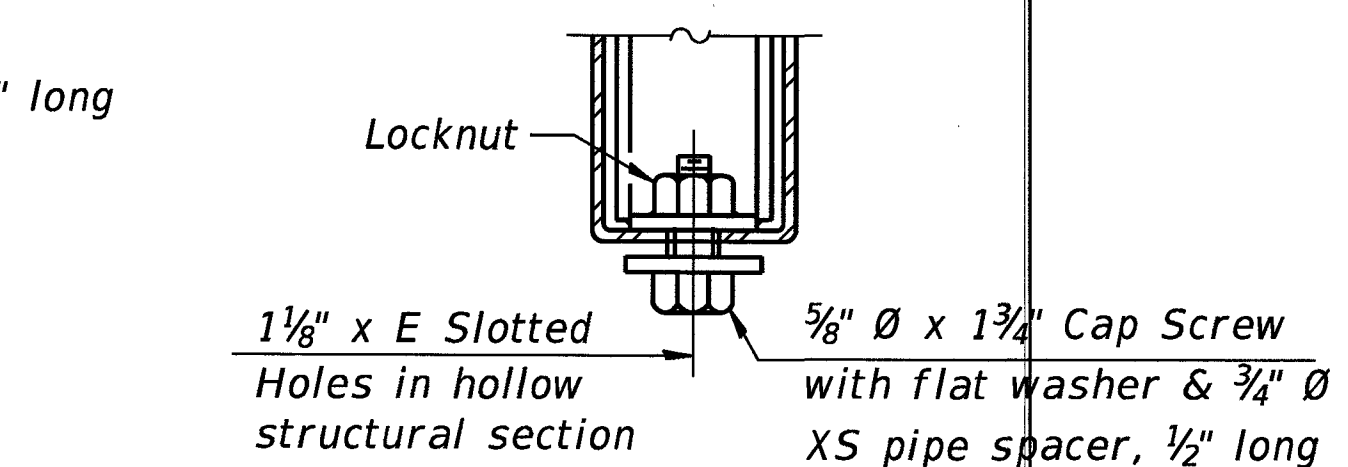
SECTION C-C



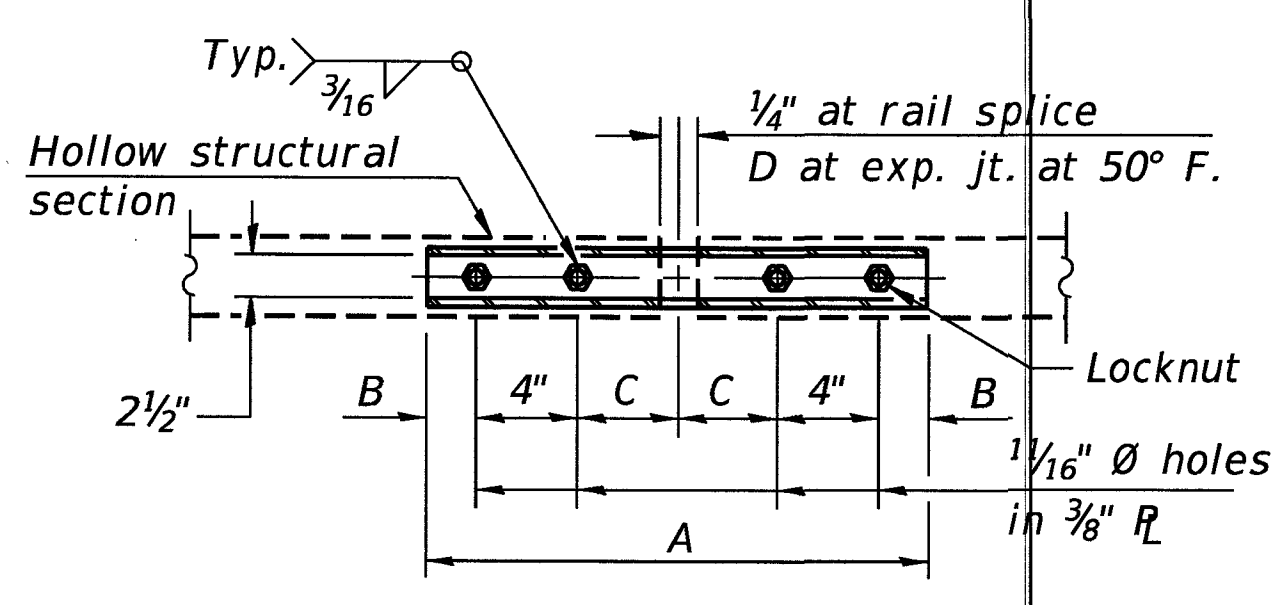
SECTIONS AT RAIL SPLICE



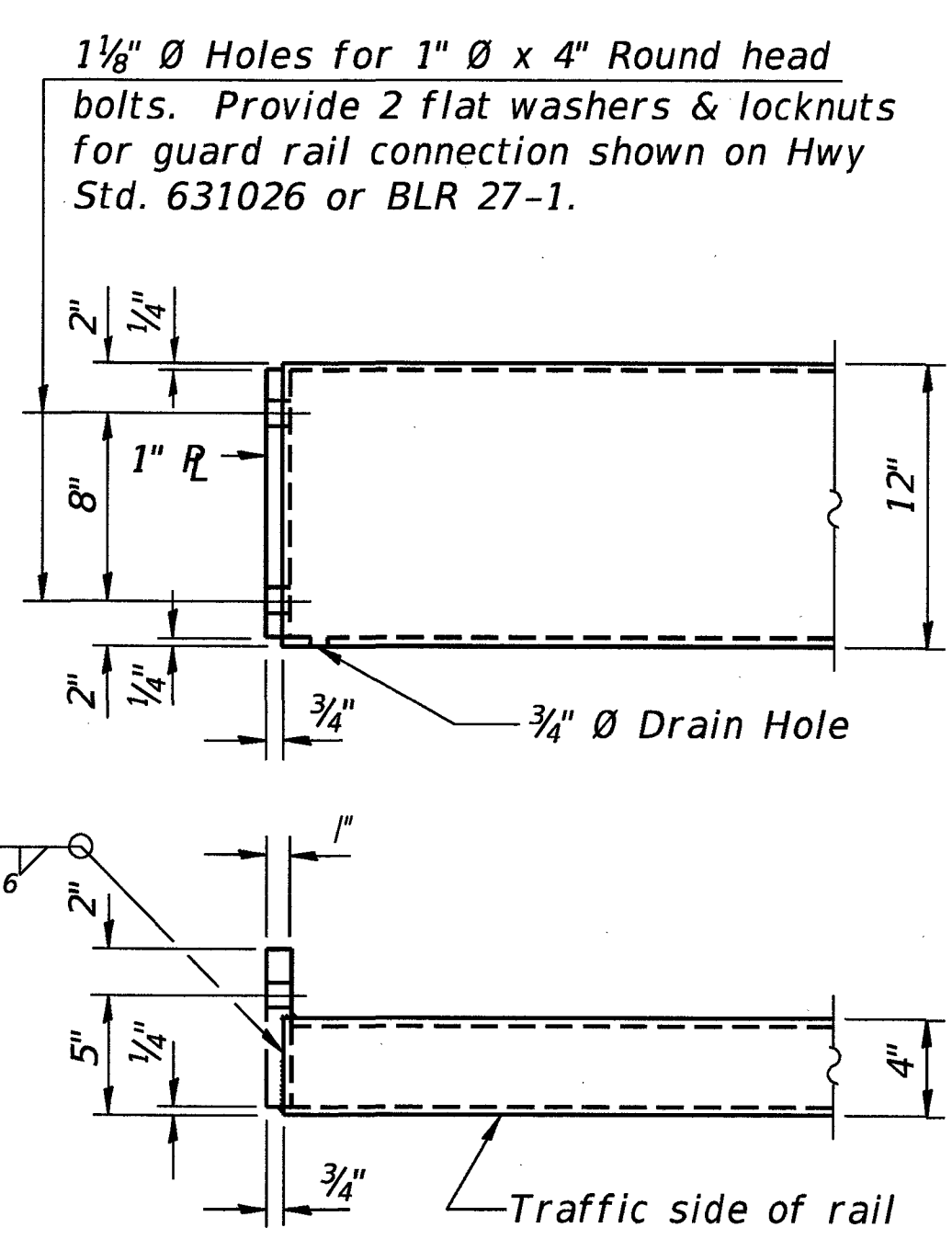
ANCHOR DEVICE



RAIL SPLICE CONNECTION AT EXPANSION JT.

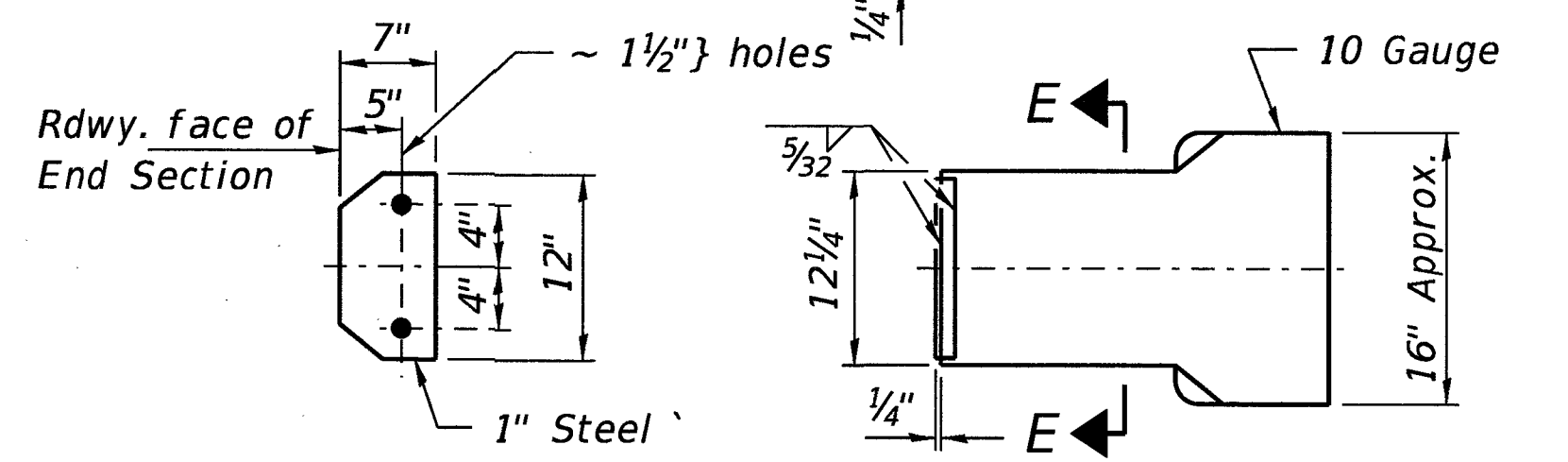


PLAN-BOTT. SPLICE R TYPICAL



END OF RAIL DETAILS

Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



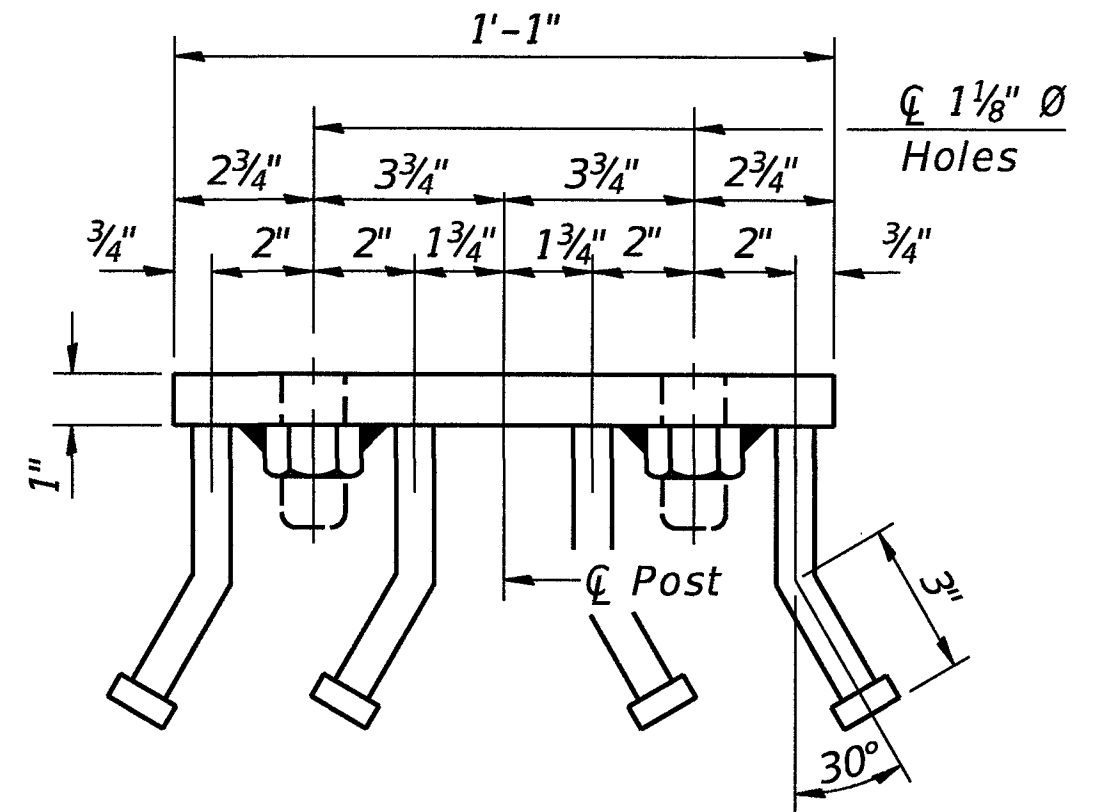
SECTION E-E CURLLED END SECTION DETAILS
SPLICE DIMENSIONS

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

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

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

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



VIEW D-D

BILL OF MATERIAL

| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 125 |

R-23A 8-11-2017 (10'-9" Maximum Post Spacing)

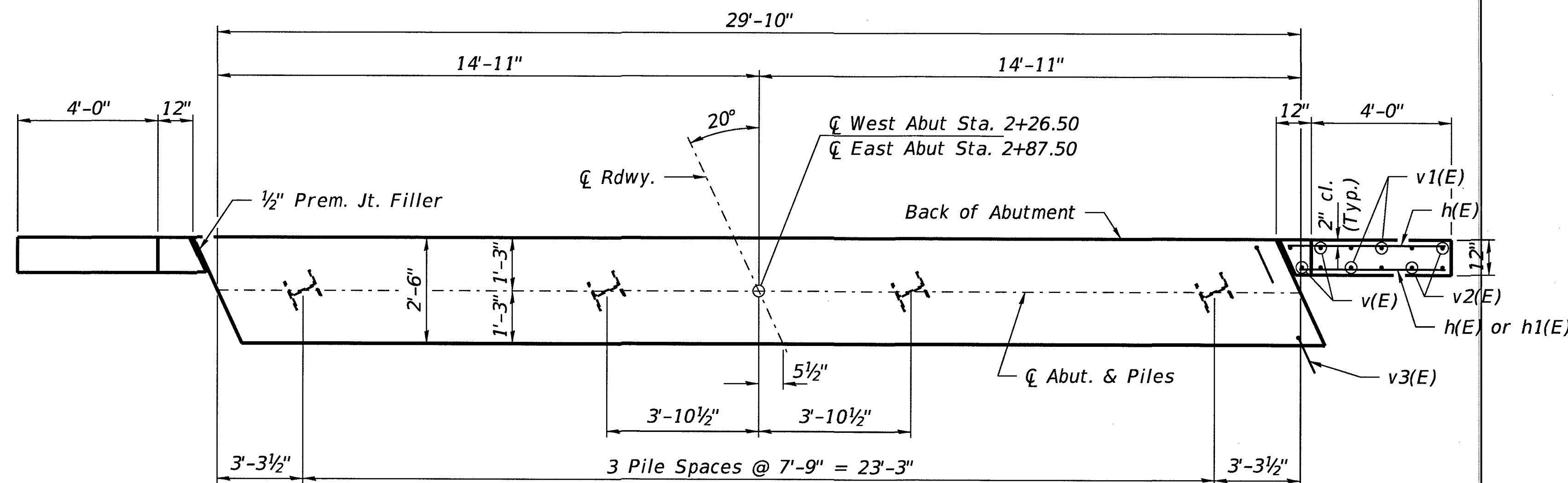
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|--|----------------------|-------------------|-----------|
| FILE NAME = 180327-shr-bridge.dgn | USER NAME = rhosick | DESIGNED - N.D.O. | REVISED - |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | CHECKED - S.W.M. | REVISED - |
| ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORP. 184.000959 | PLOT DATE = 1/7/2019 | DRAWN - M.M.P. | REVISED - |
| | | CHECKED - S.W.M. | REVISED - |

STATE OF ILLINOIS
WAYNE COUNTY HIGHWAY DEPARTMENT

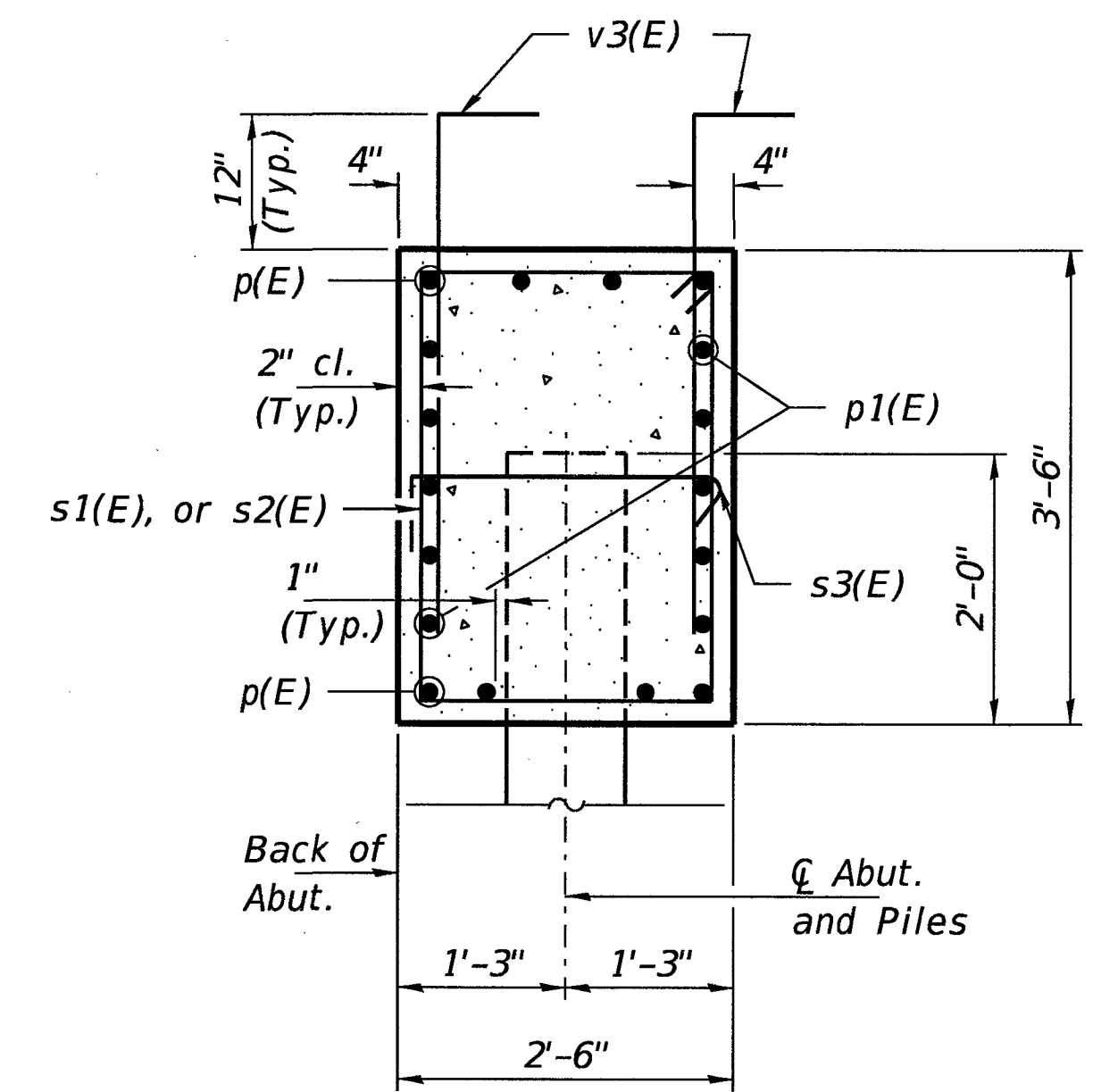
STEEL RAILING, TYPE S-1
STRUCTURE NO. 096-3470

SHEET NO. 6 OF 10 SHEETS

| | | | | |
|---------------------------|----------------|--------------------|--------------|-----------|
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2821 | 13-16123-00-BR | WAYNE | 14 | 10 |
| MASSILLON ROAD DISTRICT | | CONTRACT NO. 95844 | | |
| ILLINOIS FED. AID PROJECT | | | | |

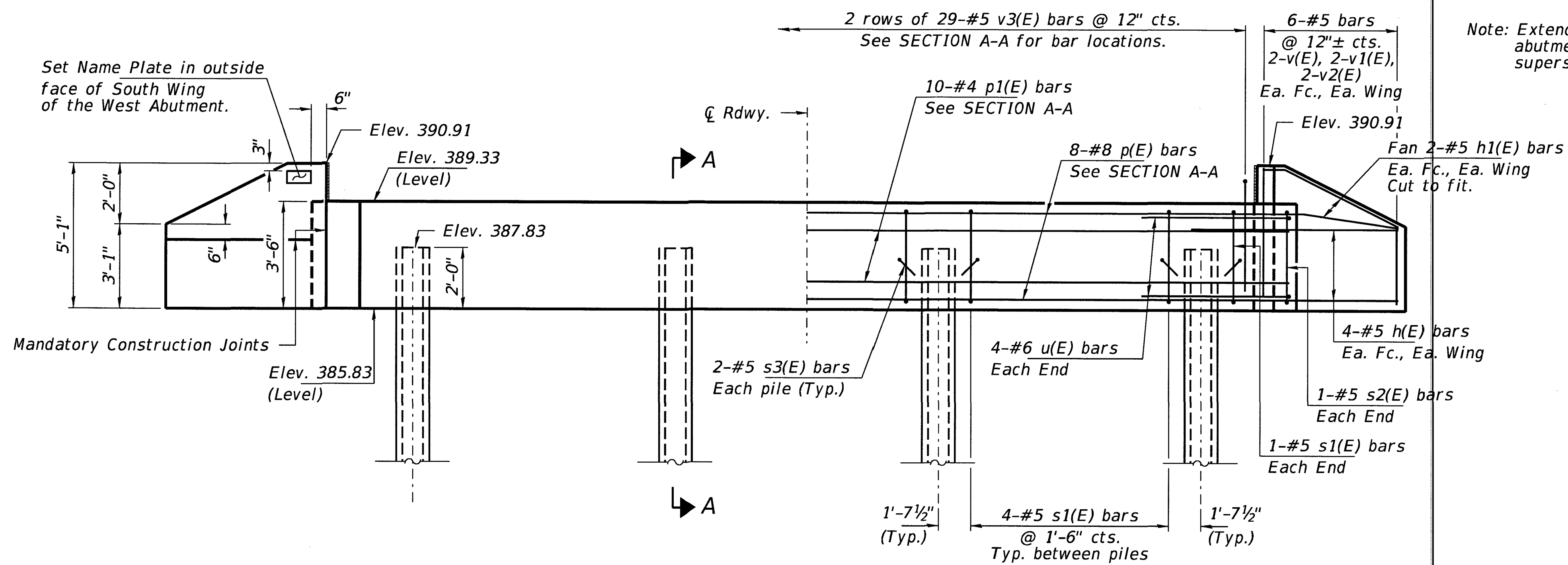


PLAN



SECTION A-A

Dimensions at right L's to abutment.



ELEVATION

Note: Extend h(E) bars into abutment cap and superstructure.

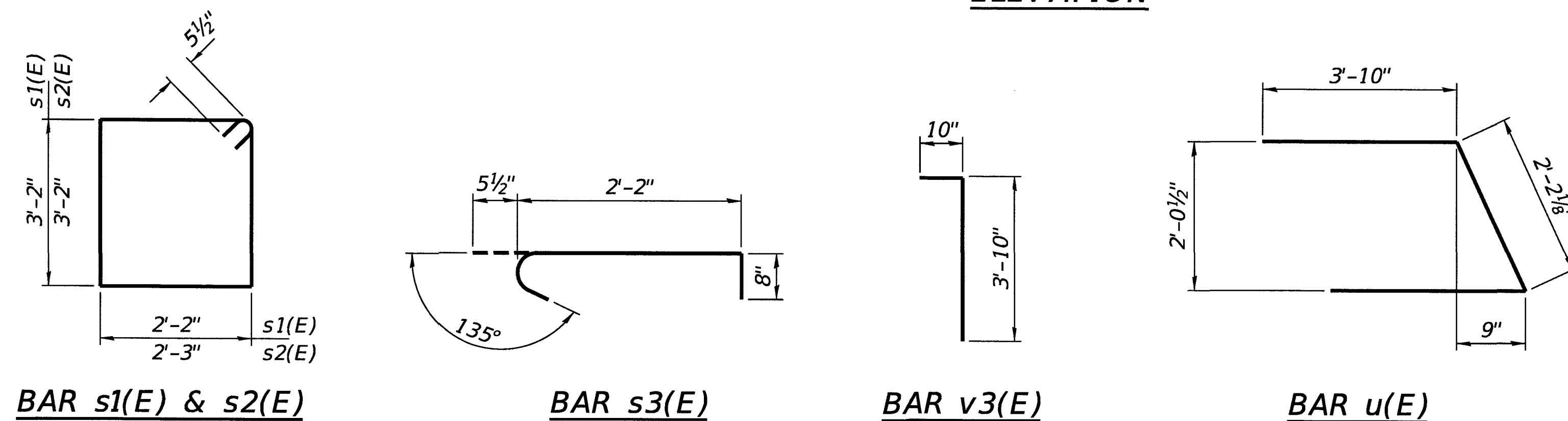
BILL OF MATERIAL - 2 ABUTS.

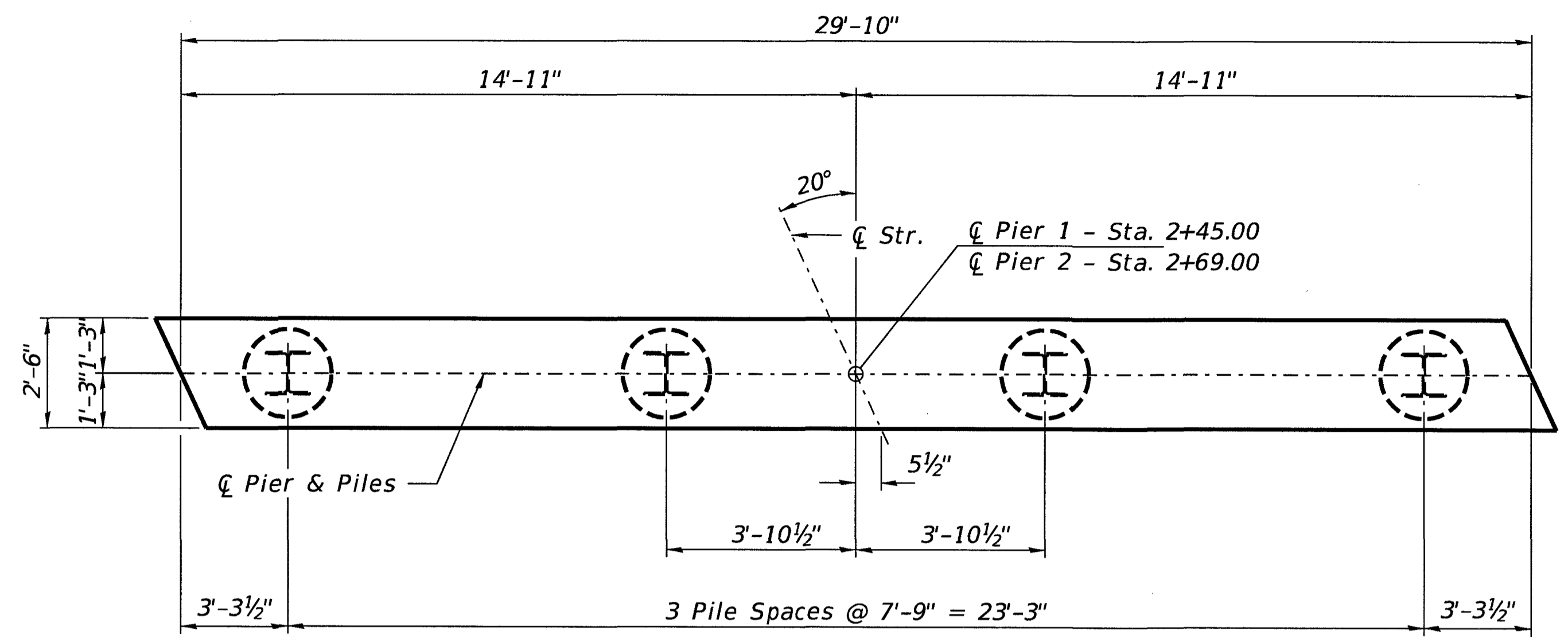
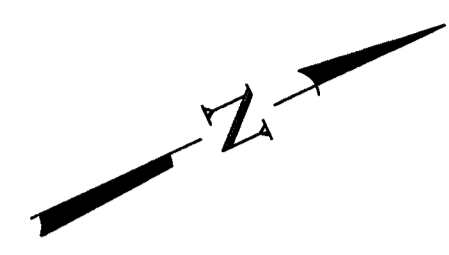
| BAR | NO. | SIZE | LENGTH | SHAPE |
|--------------------------------|-----|------|---------|-------|
| h(E) | 32 | #5 | 6'-3" | — |
| h1(E) | 16 | #5 | 4'-9" | — |
| p(E) | 16 | #8 | 29'-6" | — |
| p1(E) | 20 | #4 | 29'-6" | — |
| s1(E) | 28 | #5 | 11'-7" | □ |
| s2(E) | 4 | #5 | 11'-9" | □ |
| s3(E) | 16 | #5 | 3'-4" | ┌┐ |
| u(E) | 16 | #6 | 9'-10" | ┌┐ |
| v(E) | 16 | #5 | 4'-8" | — |
| v1(E) | 16 | #5 | 3'-9" | — |
| v2(E) | 16 | #5 | 2'-10" | — |
| v3(E) | 116 | #5 | 4'-8" | ┌┐ |
| Protective Coat | | | Sq. Yd. | 12 |
| Concrete Structures | | | Cu. Yd. | 22.5 |
| Reinf. Bars, Epoxy Coated | | | Pound | 3,370 |
| Furnishing Steel Piles HP10x42 | | | Foot | 280 |
| Driving Piles | | | Foot | 280 |
| Test Pile Steel HP10x42 | | | Each | 1 |
| Name Plates | | | Each | 1 |

PILE DATA

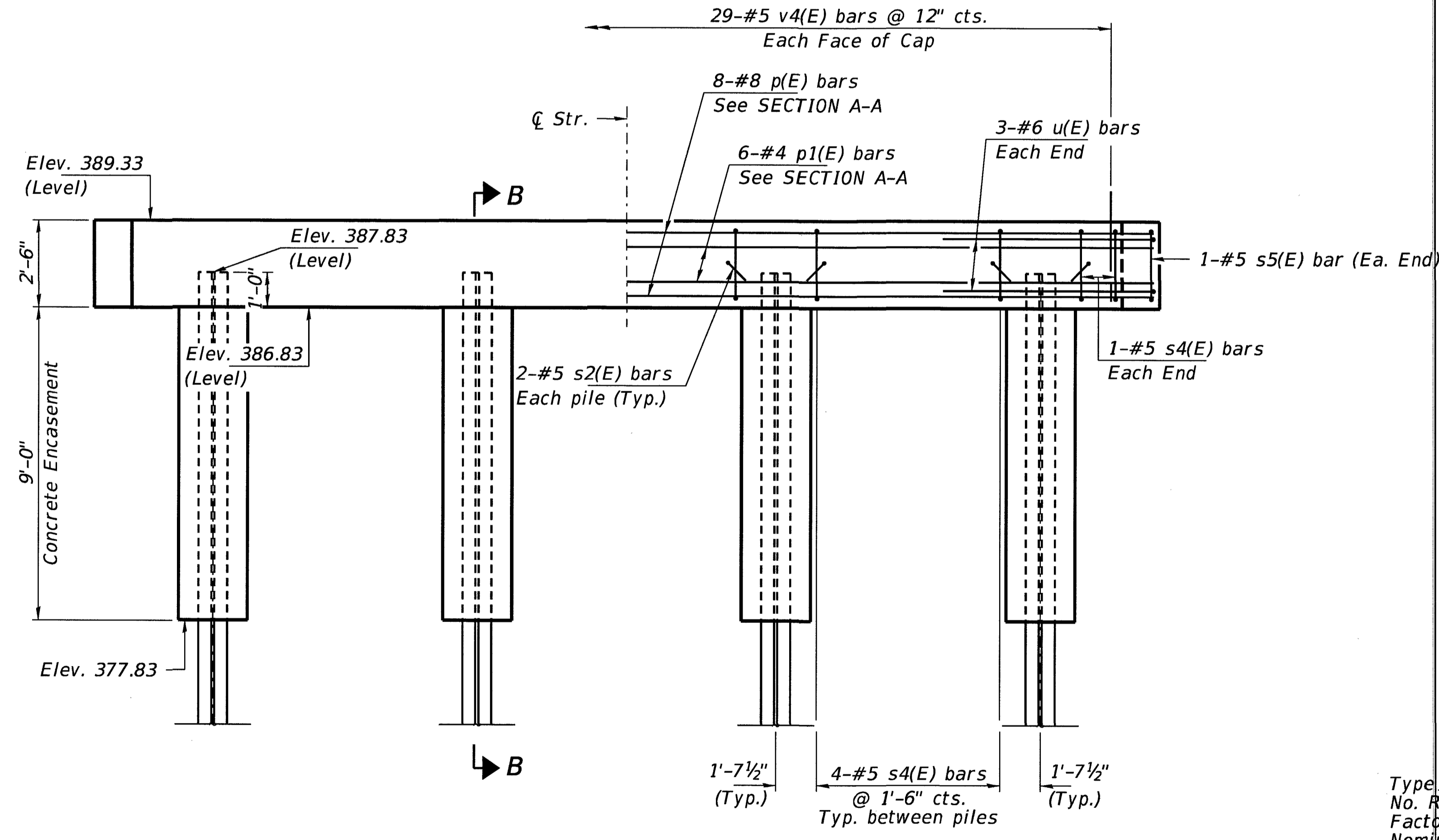
Type ----- Steel HP10x42
 No. Req'd. (2 Abuts.) ----- *8
 Factored Resistance Available (Rf) ----- 167 Kips/Pile
 Nominal Required Bearing (Rn) ----- 335 Kips/Pile
 Est. Length ----- 40 Ft/Pile

Notes: *Includes one test pile to be driven in a permanent location at the West Abutment.

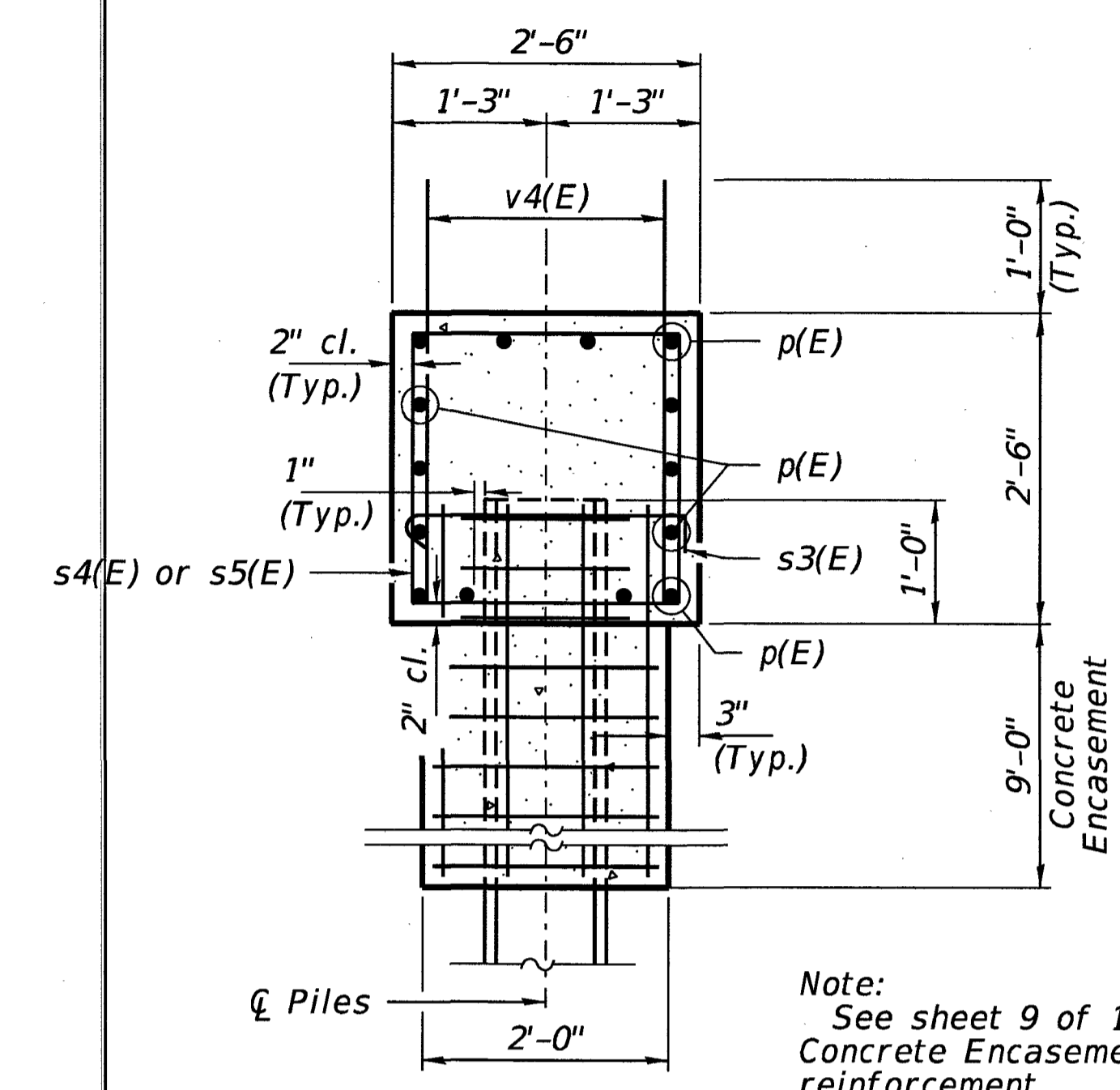




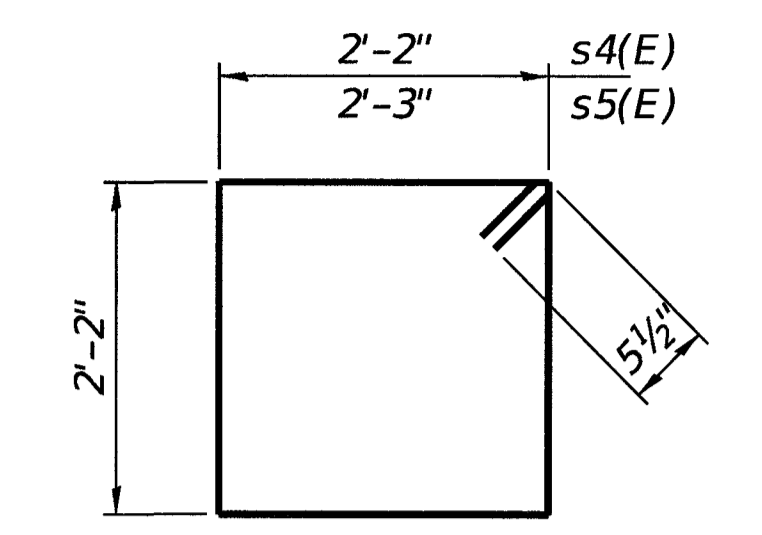
PLAN



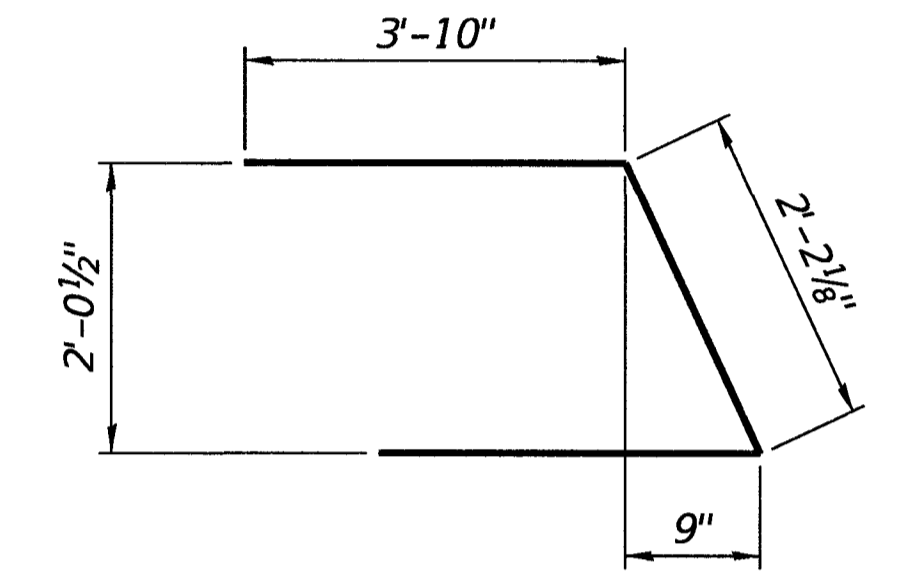
ELEVATION
(Looking East)



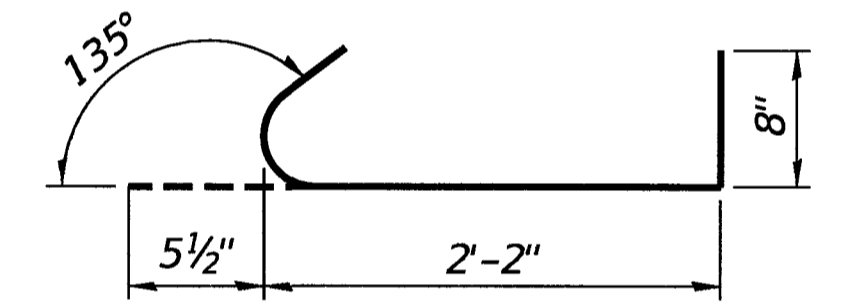
SECTION B-B
Dimensions at right L's to Pier.



BARS s4(E) & s5(E)



BAR u(E)



BAR s3(E)

BILL OF MATERIAL - 2 PIERS

| BAR | NO. | SIZE | LENGTH | SHAPE |
|-------|-----|------|--------|-------|
| p(E) | 16 | #8 | 29'-6" | — |
| p1(E) | 12 | #4 | 29'-6" | — |
| s3(E) | 16 | #5 | 3'-4" | ⌋ |
| s4(E) | 28 | #5 | 9'-7" | □ |
| s5(E) | 4 | #5 | 9'-9" | □ |
| u(E) | 12 | #6 | 9'-10" | — |
| v4(E) | 116 | #5 | 3'-4" | — |

| | | |
|--------------------------------|---------|-------|
| Concrete Structures | Cu. Yd. | 13.8 |
| Concrete Encasement | Cu. Yd. | 8.1 |
| Reinf. Bars, Epoxy Coated | Pound | 2,450 |
| Furnishing Steel Piles HP10x42 | Foot | 280 |
| Driving Piles | Foot | 280 |
| Test Pile Steel HP10x42 | Each | 1 |

PILE DATA

Type: Steel HP10x42
 No. Req'd. (2 Piers): *8
 Factored Resistance Available (Rf): 167 Kips/Pile
 Nominal Required Bearing (Rn): 335 Kips/Pile
 Est. Length: 40 Ft/Pile

Notes: *Includes one test pile to be driven in a permanent location at Pier 2.

FILE NAME = 190327-shr-bridge.dgn
 USER NAME = rholick
 DESIGNED - N.D.O.
 CHECKED - S.W.M.
 DRAWN - M.M.P.
 CHECKED - S.W.M.
 PLOT SCALE =
 PLOT DATE = 1/7/2019

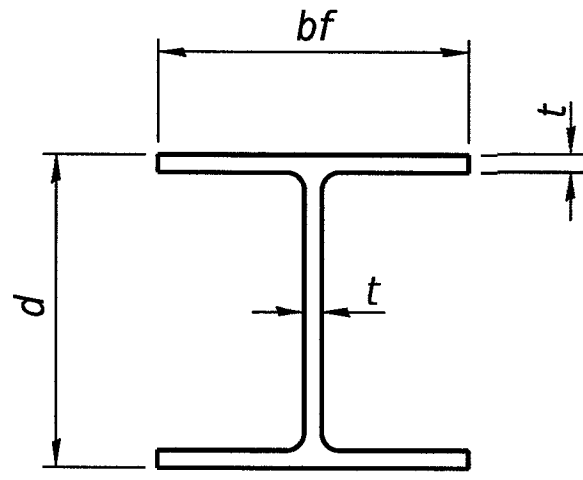
DESIGNED - N.D.O.
 CHECKED - S.W.M.
 DRAWN - M.M.P.
 CHECKED - S.W.M.
 REVISIONS:
 REVISIONS:
 REVISIONS:
 REVISIONS:

STATE OF ILLINOIS
WAYNE COUNTY HIGHWAY DEPARTMENT

PIERS
STRUCTURE NO. 096-3470
 SHEET NO. 8 OF 10 SHEETS

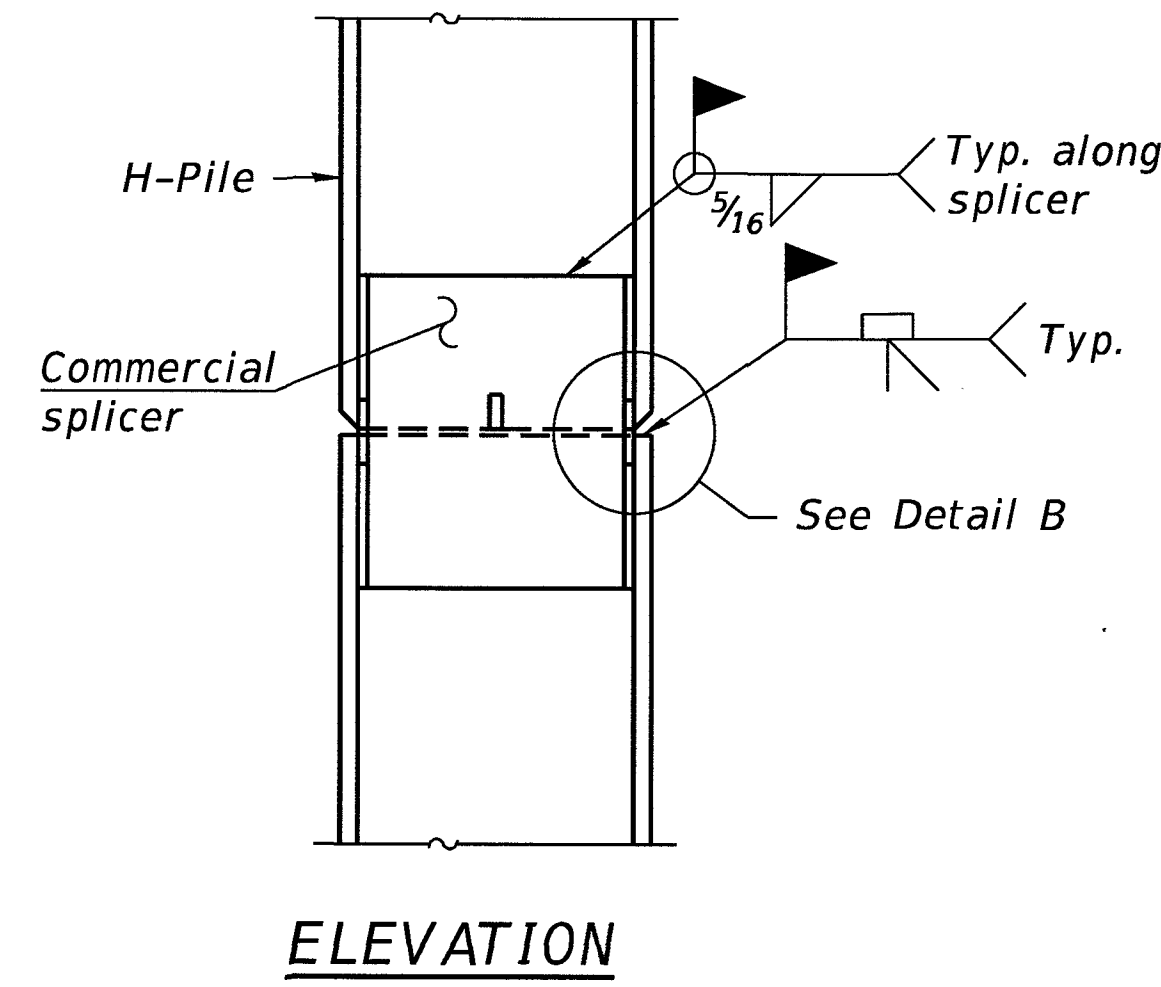
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------|----------------|--------|--------------|-----------|
| 2821 | 13-16123-00-BR | WAYNE | 14 | 12 |

MASSILLON ROAD DISTRICT
 CONTRACT NO. 95844
 ILLINOIS FED. AID PROJECT

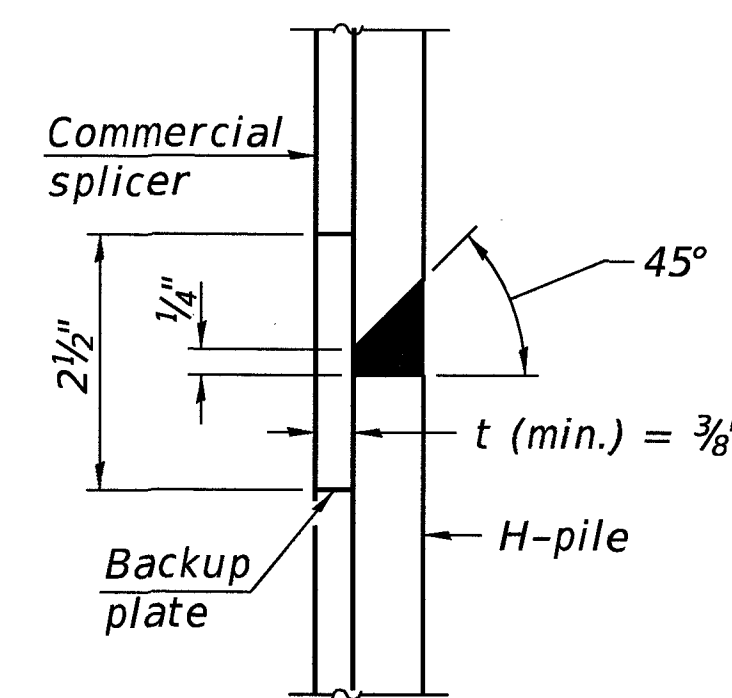


STEEL PILE TABLE

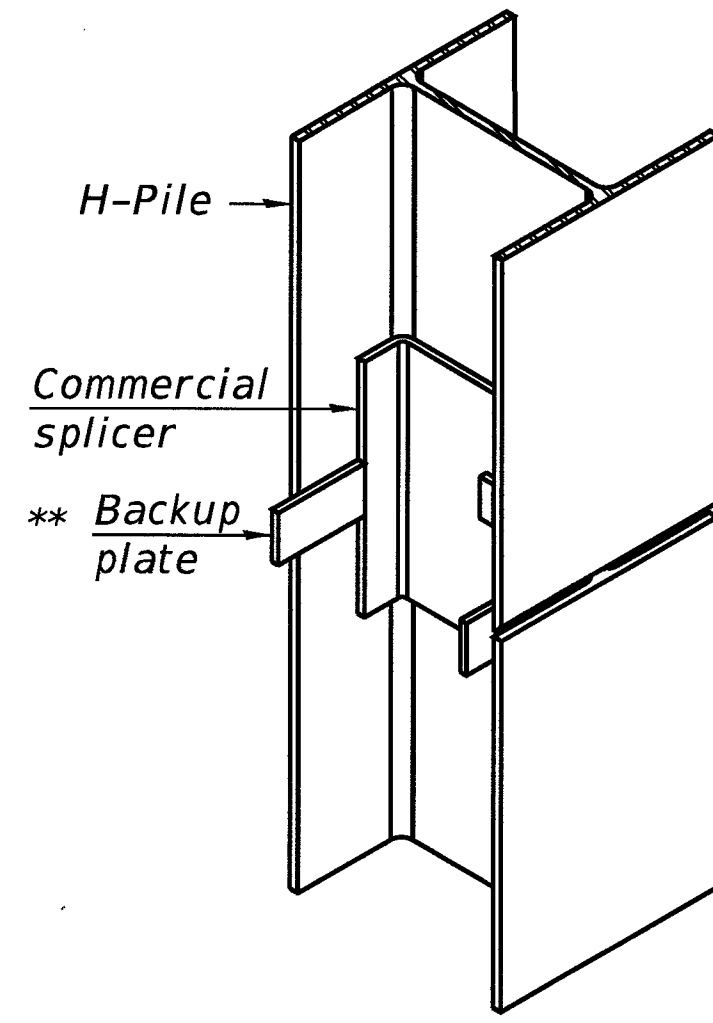
| Designation | Depth d | Flange width bf | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 1 3/16" | 30" |
| x102 | 14" | 14 3/4" | 1 1/16" | 30" |
| x89 | 13 7/8"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



ELEVATION

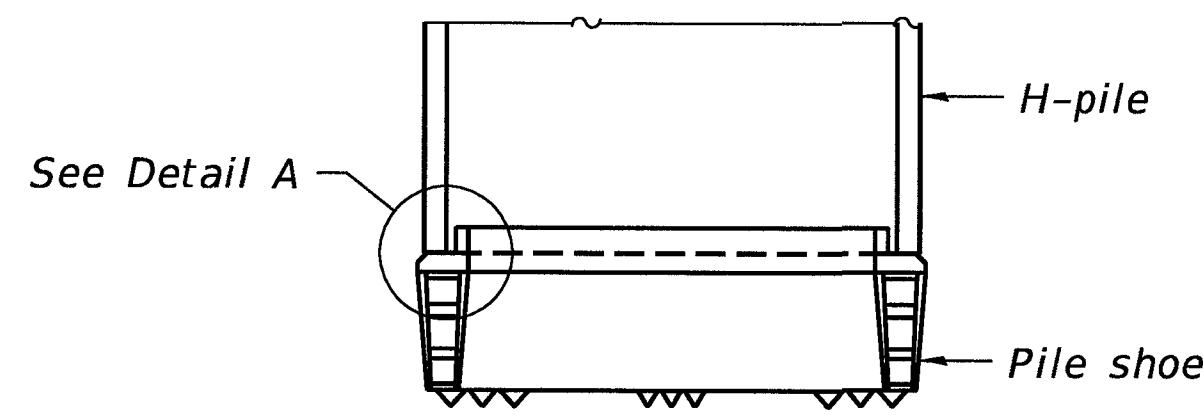


DETAIL "B"

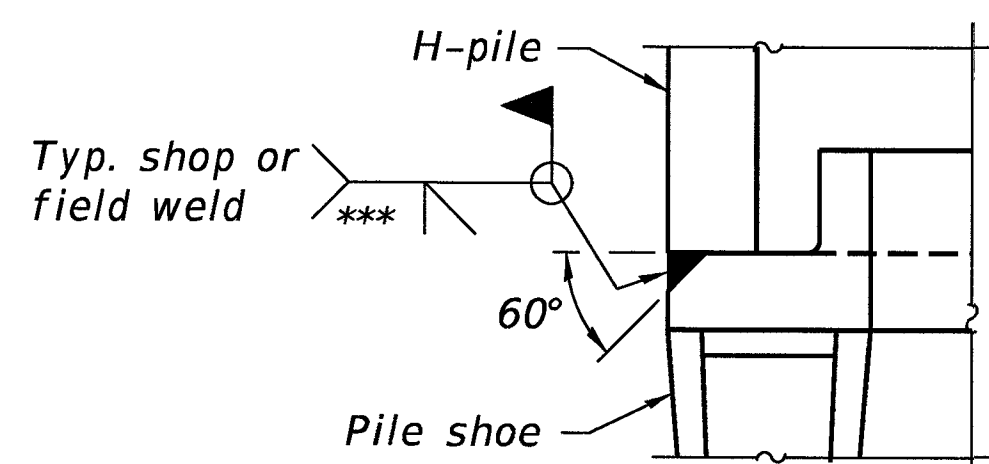


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



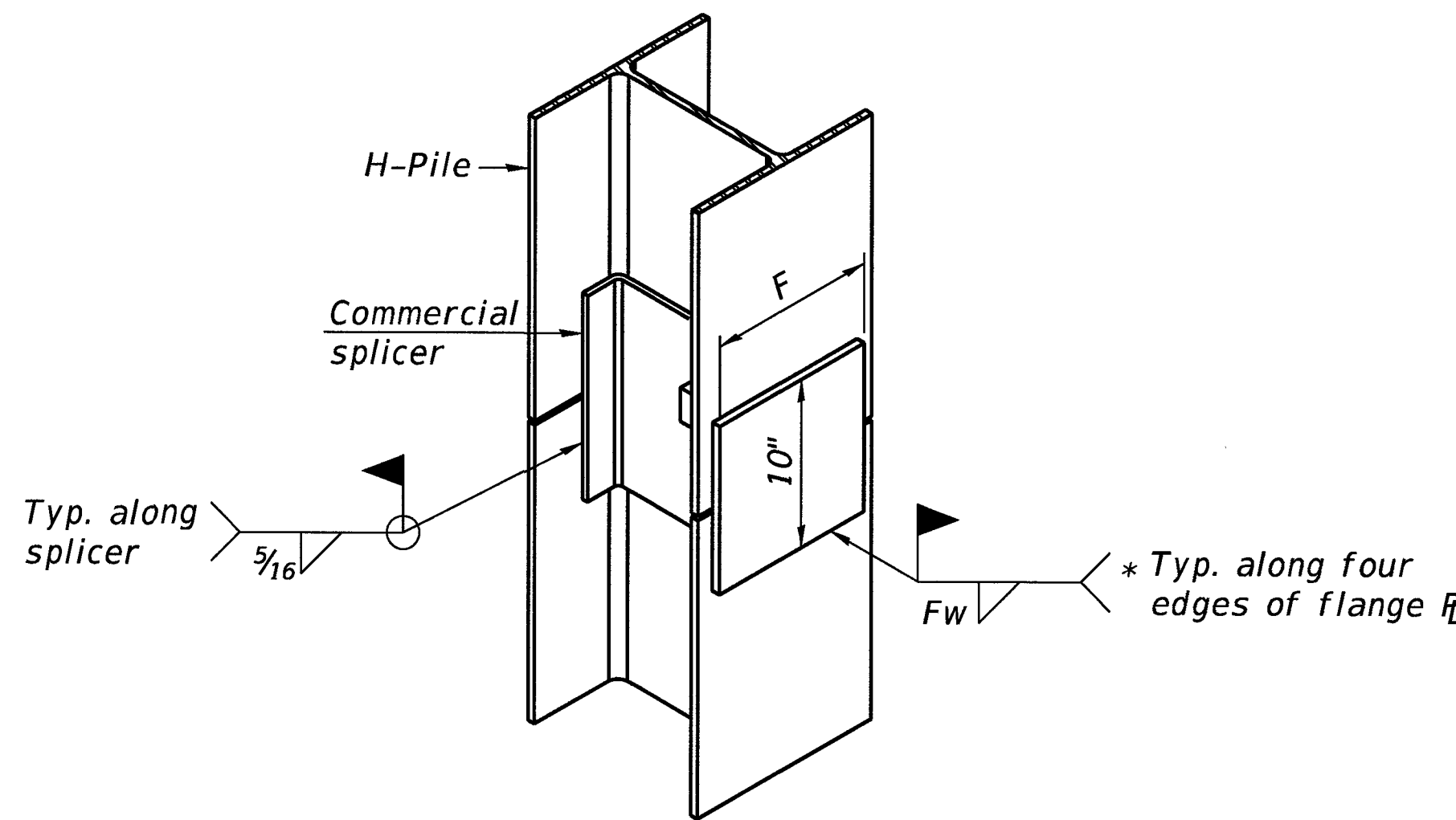
ELEVATION



DETAIL A

SHOE ATTACHMENT

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



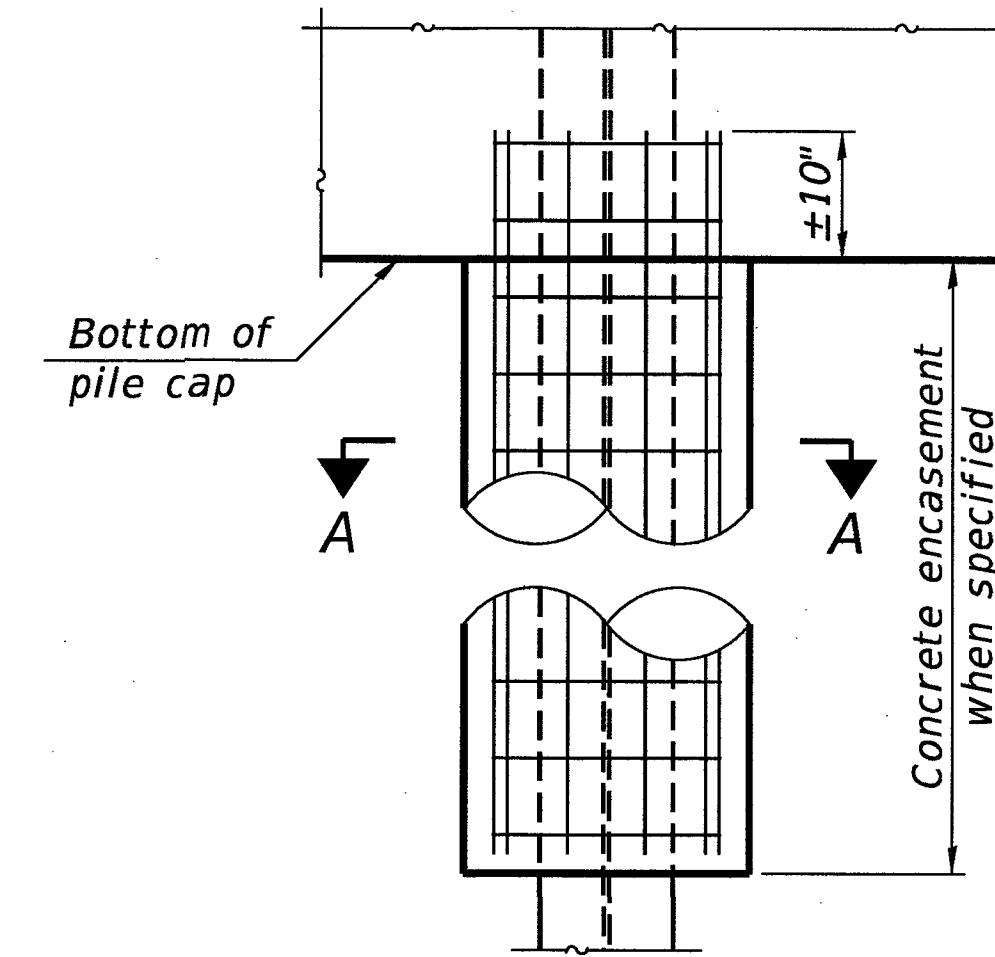
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

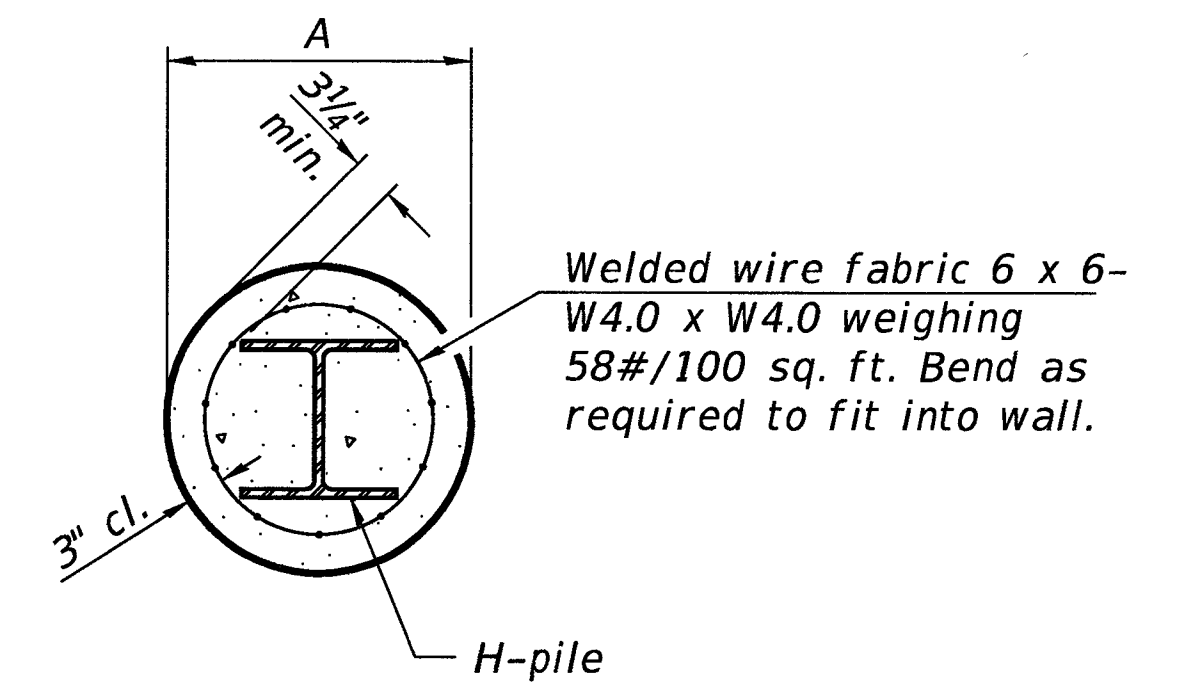
* Interrupt welds 1/4" from end of web and/or each flange.

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

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

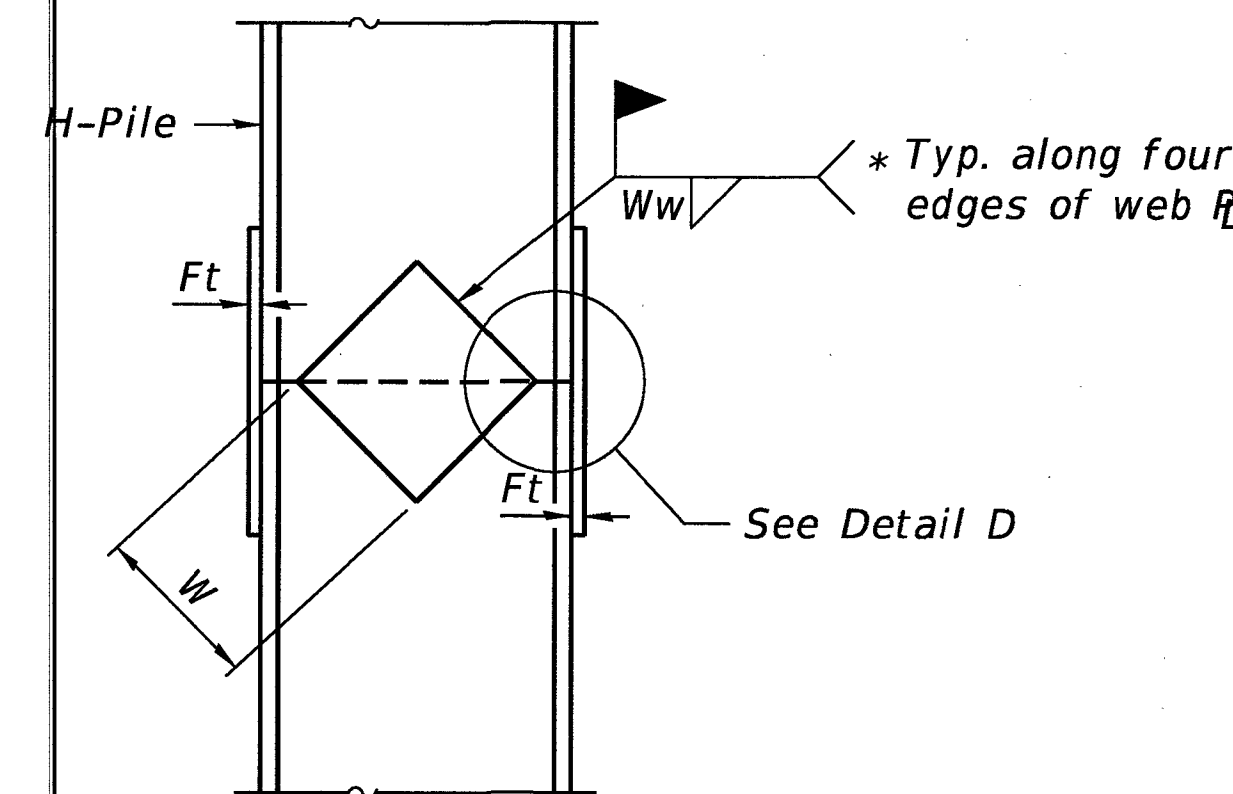


ELEVATION

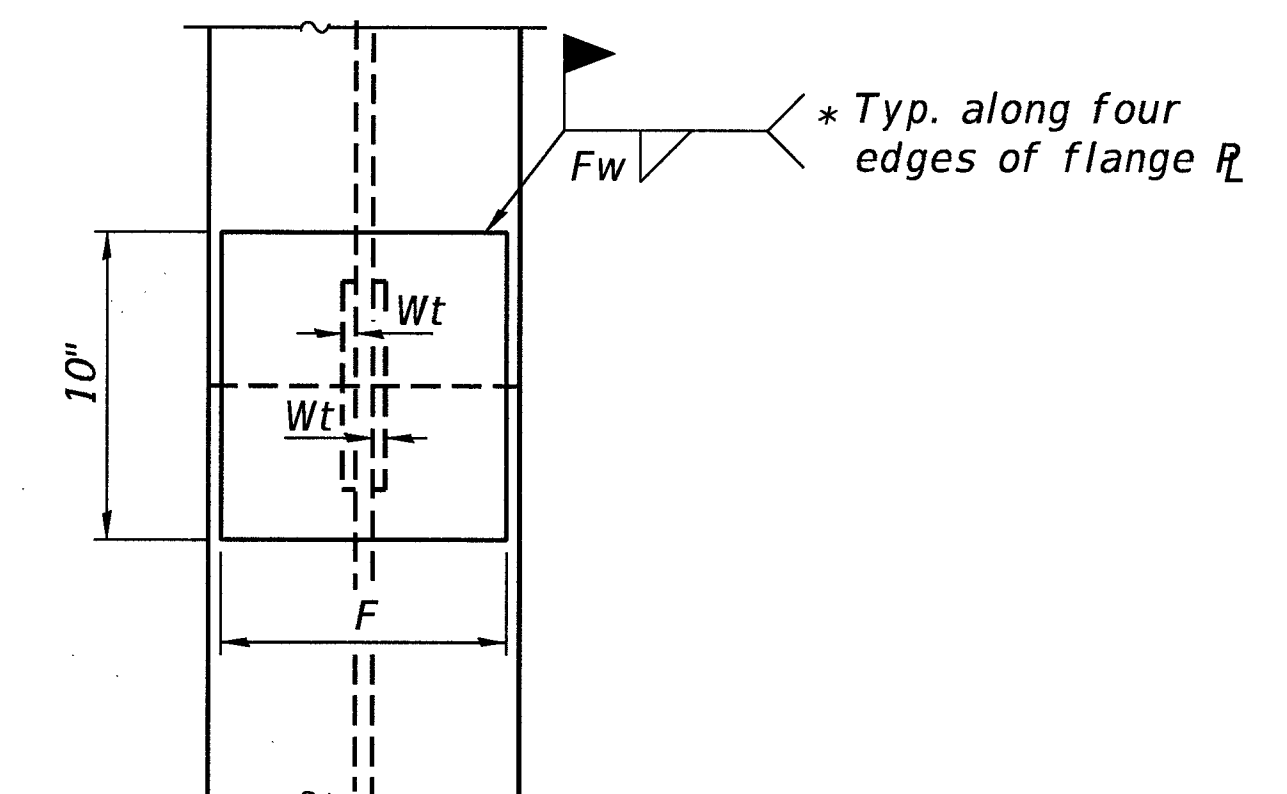


SECTION A-A

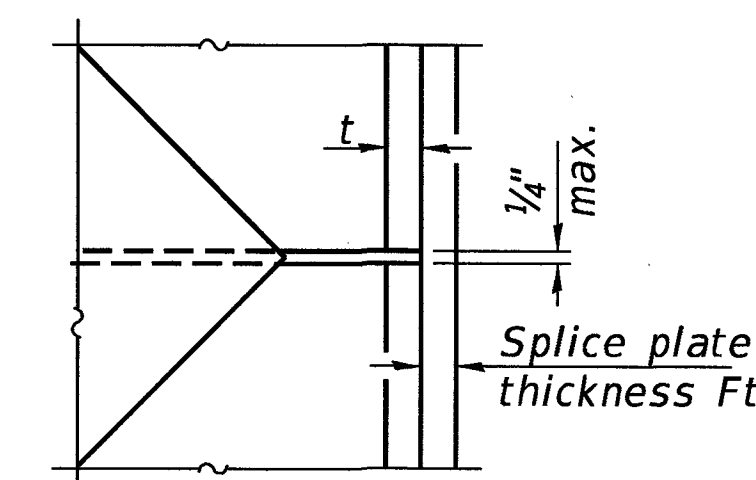
INDIVIDUAL PILE CONCRETE ENCASEMENT
(Forms for encasement may be omitted when soil conditions permit).



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 8-11-2017

