

09-19-14 LETTING ITEM 070

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAS ROUTE 673 (LERNA RD.)  
SECTION 2BR

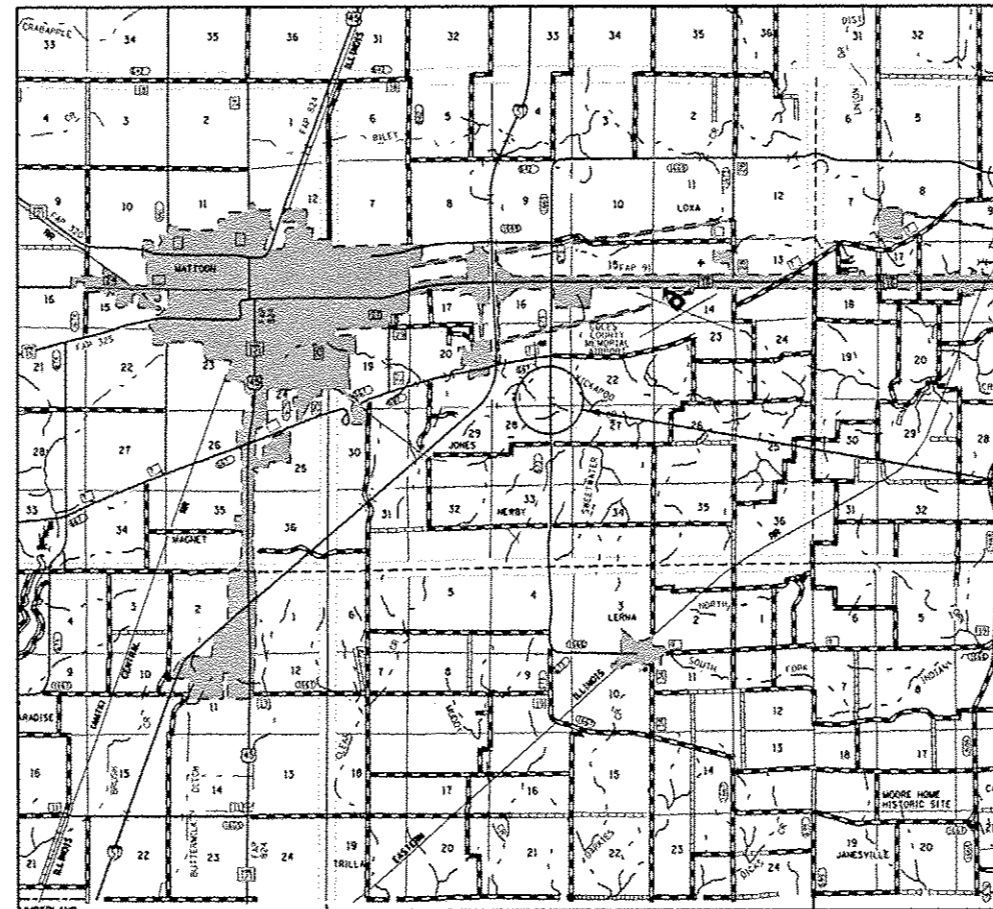
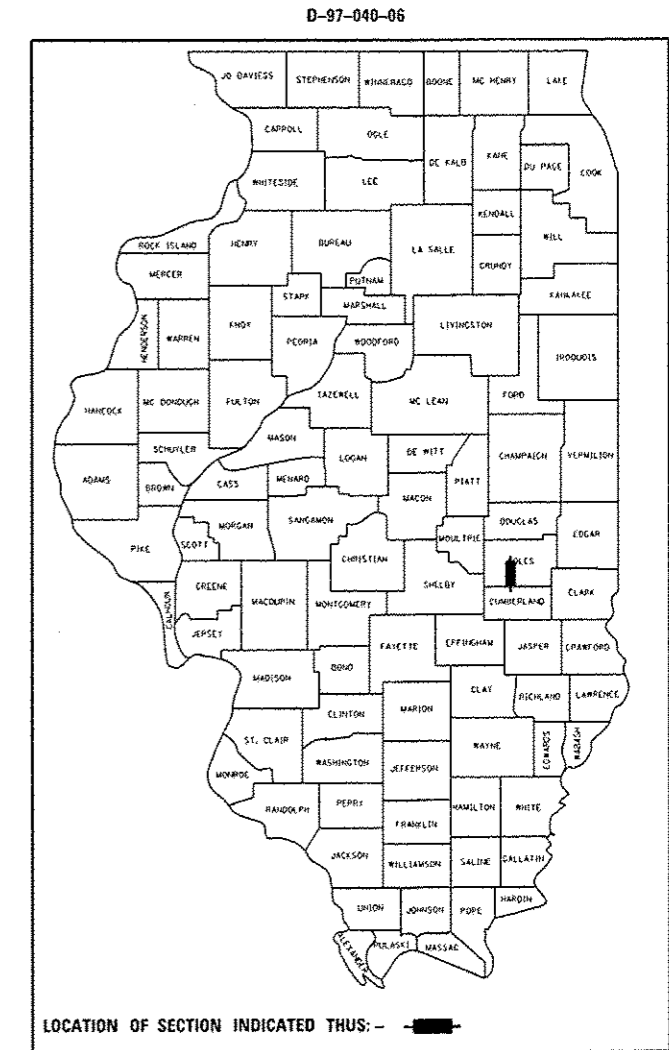
**SUPERSTRUCTURE REPLACEMENT  
COLES COUNTY**

C-97-078-06

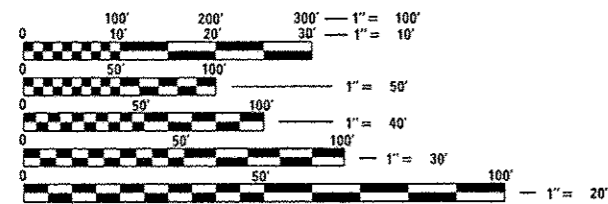
|                       |                |                 |                       |                   |
|-----------------------|----------------|-----------------|-----------------------|-------------------|
| F.A.S.<br>RTE.<br>673 | SECTION<br>2BR | COUNTY<br>COLES | TOTAL<br>SHEETS<br>24 | SHEET<br>NO.<br>1 |
| ILLINOIS              |                |                 | CONTRACT NO. 74167    |                   |

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT (2012) = 3,400



SN 015-0065  
STA 900+00



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

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

PROJECT ENGINEER: MARK DAUGHERTY  
PROJECT MANAGER: BRIAN BIERMAN

CONTRACT NO. 74167

GROSS LENGTH = 158 FT. = 0.03 MILE  
NET LENGTH = 158 FT. = 0.03 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED July 17 20 14  
Roger L. Drishell  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Aug 15 20 14  
John D. Baranzelli, PE, Jr.  
ENGINEER OF DESIGN AND ENVIRONMENT

Aug 15 20 14  
Omer Osman, PE, Jr.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

**GENERAL NOTES**

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE HOT-MIX ASPHALT PLANT QUALITY CONTROL LAB SO THAT HOT-MIX ASPHALT PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL HOT-MIX ASPHALT ITEMS.

ANY BITUMINOUS MATERIAL (PRIME COAT) THE CONTRACTOR USES SHALL BE EITHER RC-70, SS-1H, OR SS-1HP APPLIED AT THE RATE DIRECTED BY THE ENGINEER. THE COST OF THIS MATERIAL SHALL BE INCLUDED IN THE COST OF THE ASSOCIATED HOT-MIX ASPHALT PAY ITEM.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING - LINE 4" CONSISTS OF 198 FEET OF YELLOW AND 316 FEET OF WHITE.

TEMPORARY PORTABLE TRAFFIC SIGNALS WILL ONLY BE ALLOWED FROM MARCH 1 TO NOVEMBER 1, UNLESS APPROVED BY THE ENGINEER.

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

MIXTURE USE(S): BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE); HOT-MIX ASPHALT SHOULDERS, SPECIAL  
 AC/PG: PG 64-22  
 DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70  
 MIXTURE COMPOSITION:  
 (GRADATION MIXTURE) IL-19.0  
 FRICTION AGGREGATE: N/A

**INDEX OF SHEETS**

| SHEET NO | TITLE   |
|----------|---|
| 1        | COVER SHEET                                       |
| 2        | GENERAL NOTES, INDEX OF SHEETS, LIST OF STANDARDS |
| 3-4      | SUMMARY OF QUANTITIES                             |
| 5        | SCHEDULES   |
| 6        | STAGE 1 CONSTRUCTION                              |
| 7        | STAGE 2 CONSTRUCTION                              |
| 8-24     | BRIDGE PLANS                                      |

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

|           |  |
|-----------|--|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS                                 |
| 001001-02 | AREAS OF REINFORCEMENT BARS  |
| 001006    | DECIMAL OF AN INCH AND OF A FOOT   |
| 420001-07 | PAVEMENT JOINTS  |
| 420401-10 | BRIDGE APPROACH PAVEMENT CONNECTOR   |
| 420101-04 | 24' JOINTED PCC PAVEMENT   |
| 483001-04 | PCC SHOULDER   |
| 515001-03 | NAME PLATE FOR BRIDGES   |
| 601101-01 | CONCRETE HEADWALL FOR PIPE DRAIN   |
| 606101-04 | TYPE A GUTTER (INLET, OUTLET & ENTRANCE)                                     |
| 606201-02 | TYPE B GUTTER (INLET, OUTLET & ENTRANCE)                                     |
| 630001-10 | STEEL PLATE BEAM GUARDRAIL   |
| 631032-08 | TRAFFIC BARRIER TERMINAL, TYPE 6A  |
| 635006-03 | REFLECTOR AND TERMINAL MARKER PLACEMENT                                      |
| 635011-02 | REFLECTOR MARKER AND MOUNTING DETAILS  |
| 701001-02 | OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY                                |
| 701006-05 | OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE                     |
| 701011-04 | OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY                                   |
| 701301-04 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS                                  |
| 701306-03 | LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS, DAY ONLY, FOR SPEEDS >= 45 MPH |
| 701311-03 | LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY                             |
| 701321-13 | LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER                             |
| 701901-03 | TRAFFIC CONTROL DEVICES  |
| 704001-07 | TEMPORARY CONCRETE BARRIER   |
| 720001-01 | SIGN PANEL MOUNTING DETAILS  |
| 720006-04 | SIGN PANEL ERECTION DETAILS  |
| 720011-01 | METAL POSTS FOR SIGNS, MARKERS & DELINEATORS                                 |
| 729001-01 | APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)                |
| 780001-04 | TYPICAL PAVEMENT MARKINGS  |
| 886001-01 | DETECTOR LOOP INSTALLATIONS  |
| 886006-01 | TYPICAL LAYOUTS FOR DETECTION LOOPS  |

|  |                               |            |           |   |  |                    |         |                           |              |           |    |
|--|-------------------------------|------------|-----------|---|--|--------------------|---------|---------------------------|--------------|-----------|----|
| FILE NAME =                            | USER NAME = staffanok         | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>GENERAL NOTES &amp;<br/>INDEX OF SHEETS</b> | F.A.U. RTE.        | SECTION | COUNTY                    | TOTAL SHEETS | SHEET NO. |    |
| o:\pwwork\pwwork\staffanok\dms77819\07 | 4167-ahg-gennote.dgn          | DRAWN -    | REVISED - |   |  | 7705               | 2BR     | Colos                     | 24           | 2         |    |
| Default                                | PLOT SCALE = 100.0000' / 1" = | CHECKED -  | REVISED - |   |  | CONTRACT NO. 74167 |         | ILLINOIS FED. AID PROJECT |              |           |    |
|  | PLOT DATE = 7/17/2014         | DATE -     | REVISED - |   |  | SCALE:             | SHEET   | OF                        | SHEETS       | STA.      | TO |

100% STATE

100% STATE

| SUMMARY OF QUANTITIES |   |       | TOTAL QUANTITIES | CONSTRUCTION TYPE CODE |  |  |
|-----------------------|---|-------|------------------|------------------------|--|--|
| CODE NO               | ITEM  | UNIT  |                  | 0014                   |  |  |
| 42001300              | PROTECTIVE COAT                               | SQ YD | 532              | 532                    |  |  |
| 42001430              | BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE) | SQ YD | 44               | 44                     |  |  |
| 44000100              | PAVEMENT REMOVAL                              | SQ YD | 276              | 276                    |  |  |
| 44000400              | GUTTER REMOVAL                                | FOOT  | 303              | 303                    |  |  |
| 48300100              | PORTLAND CEMENT CONCRETE SHOULDERS 6"         | SQ YD | 35               | 35                     |  |  |
| 50101500              | REMOVAL OF EXISTING SUPERSTRUCTURES           | EACH  | 1                | 1                      |  |  |
| 50102400              | CONCRETE REMOVAL                              | CU YD | 1.8              | 1.8                    |  |  |
| 50200100              | STRUCTURE EXCAVATION                          | CU YD | 165              | 165                    |  |  |
| 50300225              | CONCRETE STRUCTURES                           | CU YD | 21.3             | 21.3                   |  |  |
| 50300255              | CONCRETE SUPERSTRUCTURE                       | CU YD | 250.4            | 250.4                  |  |  |
| 50300260              | BRIDGE DECK GROOVING                          | SQ YD | 500              | 500                    |  |  |
| 50300300              | PROTECTIVE COAT                               | SQ YD | 532              | 532                    |  |  |
| 50800205              | REINFORCEMENT BARS, EPOXY COATED              | POUND | 79,070           | 79,070                 |  |  |
| 50800515              | BAR SPLICERS                                  | EACH  | 488              | 488                    |  |  |
| 50901050              | STEEL RAILING, TYPE SM                        | FOOT  | 167              | 167                    |  |  |

| SUMMARY OF QUANTITIES |  |        | TOTAL QUANTITIES | CONSTRUCTION TYPE CODE |  |  |
|-----------------------|--|--------|------------------|------------------------|--|--|
| CODE NO               | ITEM   | UNIT   |                  | 0014                   |  |  |
| 51500100              | NAME PLATES                                      | EACH   | 1                | 1                      |  |  |
| 59100100              | GEOCOMPOSITE WALL DRAIN                          | SQ YD  | 84               | 84                     |  |  |
| 60500060              | REMOVING INLETS                                  | EACH   | 6                | 6                      |  |  |
| 60600095              | CLASS SI CONCRETE (OUTLET)                       | CU YD  | 11.3             | 11.3                   |  |  |
| 60602500              | CONCRETE GUTTER, TYPE A                          | FOOT   | 92               | 92                     |  |  |
| 60602800              | CONCRETE GUTTER, TYPE B                          | FOOT   | 40               | 40                     |  |  |
| * 63000001            | STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS | FOOT   | 500              | 500                    |  |  |
| * 63100041            | TRAFFIC BARRIER TERMINAL, TYPE 1B                | EACH   | 3                | 3                      |  |  |
| * 63100087            | TRAFFIC BARRIER TERMINAL, TYPE 6A                | EACH   | 4                | 4                      |  |  |
| * 63200310            | GUARDRAIL REMOVAL                                | FOOT   | 685              | 685                    |  |  |
| 67000400              | ENGINEER'S FIELD OFFICE, TYPE A                  | CAL MO | 4                | 4                      |  |  |
| 67100100              | MOBILIZATION                                     | L SUM  | 1                | 1                      |  |  |
| 70100460              | TRAFFIC CONTROL AND PROTECTION, STANDARD         | L SUM  | 1                | 1                      |  |  |
|                       | 701306   |        |                  |                        |  |  |

\* SPECIALTY ITEMS

|  |                               |            |           |   |                       |  |  |                             |         |        |              |           |
|--|-------------------------------|------------|-----------|---|-----------------------|--|--|-----------------------------|---------|--------|--------------|-----------|
| FILE NAME =                            | USER NAME = a3offennk         | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | SUMMARY OF QUANTITIES |  |  | F.A.U. RTE.                 | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| c:\pwwork\pwwork\steffennk\dms77819\07 | 74167-ahtrsoq.dgn             | DRAWN -    | REVISED - |   |                       |  |  | 7705                        | 2BR     | Colts  | 24           | 3         |
| Default                                | PLOT SCALE = 100.0000 ' / in. | CHECKED -  | REVISED - |   |                       |  |  | CONTRACT NO. 74167          |         |        |              |           |
|  | PLOT DATE = 7/17/2014         | DATE -     | REVISED - |   |                       |  |  | [ILLINOIS] FED. AID PROJECT |         |        |              |           |

SCALE: SHEET OF SHEETS STA. TO STA.

100% STATE

100% STATE

| SUMMARY OF QUANTITIES |   |        | TOTAL QUANTITIES | CONSTRUCTION TYPE CODE |  |  |
|-----------------------|---|--------|------------------|------------------------|--|--|
| CODE NO               | ITEM  | UNIT   |                  | 0014                   |  |  |
| 70103815              | TRAFFIC CONTROL SURVEILLANCE  | CAL DA | 10               | 10                     |  |  |
| 70106500              | TEMPORARY BRIDGE TRAFFIC SIGNALS  | EACH   | 1                | 1                      |  |  |
| 70106700              | TEMPORARY RUMBLE STRIPS   | EACH   | 6                | 6                      |  |  |
| 70400100              | TEMPORARY CONCRETE BARRIER  | FOOT   | 352              | 352                    |  |  |
| 70400200              | RELOCATE TEMPORARY CONCRETE BARRIER                                     | FOOT   | 142              | 142                    |  |  |
| 70600250              | IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3           | EACH   | 2                | 2                      |  |  |
| 70600260              | IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 | EACH   | 1                | 1                      |  |  |
| 70600350              | IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3            | EACH   | 1                | 1                      |  |  |
| * 78001110            | PAINT PAVEMENT MARKING - LINE 4"  | FOOT   | 514              | 514                    |  |  |
| * 78200410            | GUARDRAIL MARKERS, TYPE A   | EACH   | 16               | 16                     |  |  |
| X0323586              | PIPE DRAIN REMOVAL  | FOOT   | 122              | 122                    |  |  |
| X4823105              | HOT-MIX ASPHALT SHOULDERS, SPECIAL                                      | TON    | 10               | 10                     |  |  |
| X5860110              | GRANULAR BACKFILL FOR STRUCTURES  | CU YD  | 165              | 165                    |  |  |

| SUMMARY OF QUANTITIES |  |       | TOTAL QUANTITIES | CONSTRUCTION TYPE CODE |  |  |
|-----------------------|--|-------|------------------|------------------------|--|--|
| CODE NO               | ITEM   | UNIT  |                  | 0014                   |  |  |
| X7010202              | TRAFFIC CONTROL AND PROTECTION, STANDARD<br>701321 (SPECIAL) | EACH  | 1                | 1                      |  |  |
| Z0026407              | TEMPORARY SHEET PILING                                       | SO FT | 278              | 278                    |  |  |
| Z0046304              | PIPE UNDERDRAINS FOR STRUCTURES 4"                           | FOOT  | 140              | 140                    |  |  |
| 3                     |  |       |                  |                        |  |  |

13 \*SPECIALTY ITEMS

|  |                             |            |           |
|--|-----------------------------|------------|-----------|
| FILE NAME =                              | USER NAME = staffanok       | DESIGNED - | REVISED - |
| c:\hp\work\p\ridot\staffanok\dms77819\07 | 4167-ahtrsoq.dgn            | DRAWN -    | REVISED - |
| Default                                  | PLOT SCALE = 100.0000' / 1" | CHECKED -  | REVISED - |
|  | PLOT DATE = 7/17/2014       | DATE -     | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                           |                 |                    |         |        |              |           |
|---------------------------|-----------------|--------------------|---------|--------|--------------|-----------|
| SUMMARY OF QUANTITIES     |                 | F.A.U. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| SCALE:                    | SHEET OF SHEETS | 7705               | 2BR     | COIOS  | 24           | 4         |
| STA. TO STA.              |                 | CONTRACT NO. 74167 |         |        |              |           |
| ILLINOIS FED. AID PROJECT |                 |                    |         |        |              |           |

GUARDRAIL SCHEDULE

| STATION TO STATION |        |    |               | STEEL PLATE BEAM GUARD RAIL,<br>TYPE A, 6 FOOT POSTS | TRAFFIC BARRIER<br>TERMINAL, TYPE 6A | TRAFFIC BARRIER TERMINAL, TYPE 1B | GUARDRAIL REMOVAL | GUARDRAIL MARKER, TYPE A |
|--------------------|--------|----|---------------|--|--------------------------------------|-----------------------------------|-------------------|--------------------------|
|                    |        |    |               | FOOT   | EACH                                 | EACH                              | FOOT              | EACH                     |
| RT STA             | 897+96 | TO | RT STA 899+53 | 87.5   | 1                                    | 1                                 | 102               | 4                        |
| LT STA             | 898+30 | TO | LT STA 899+62 | 62.5   | 1                                    | 1                                 | 125               | 4                        |
| RT STA             | 900+38 | TO | RT STA 900+80 | 12.5   | 1                                    | -                                 | 53                | 4                        |
| LT STA             | 900+47 | TO | LT STA 904+55 | 337.5  | 1                                    | 1                                 | 405               | 5                        |
| TOTALS:            |        |    |               | 500  | 4                                    | 3                                 | 685               | 16                       |

INLET SCHEDULE

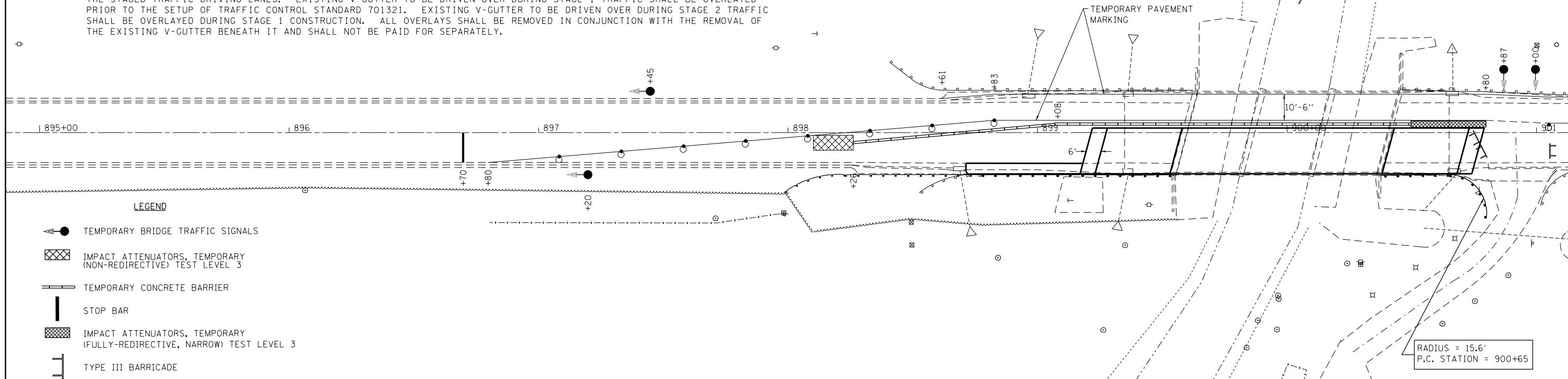
| STATION | SIDE | REMOVING INLETS | PIPE DRAIN REMOVAL |
|---------|------|-----------------|--------------------|
|         |      | EACH            | FOOT               |
| 898+69  | RT   | 1               | 23                 |
| 898+96  | LT   | 1               | 22                 |
| 899+36  | RT   | 1               | 20                 |
| 899+36  | LT   | 1               | 19                 |
| 900+66  | LT   | 1               | 18                 |
| 900+67  | RT   | 1               | 20                 |
| TOTALS: |      | 6               | 122                |

GUTTER SCHEDULE

| STATION TO STATION |        |    |               | GUTTER REMOVAL | CLASS SI CONCRETE (OUTLET) | CONCRETE GUTTER, TYPE A | CONCRETE GUTTER, TYPE B | PORTLAND CEMENT CONCRETE<br>SHOULDERS 6" | HOT-MIX ASPHALT SHOULDERS,<br>SPECIAL |
|--------------------|--------|----|---------------|----------------|----------------------------|-------------------------|-------------------------|--|---------------------------------------|
|                    |        |    |               | FOOT           | CU YD                      | FOOT                    | FOOT                    | SO YD                                    | TON                                   |
| RT STA             | 898+25 | TO | RT STA 898+47 | 22             | -                          | -                       | 22                      | -  | 1                                     |
| RT STA             | 898+47 | TO | RT STA 898+71 | 24             | 2.1                        | -                       | -                       | -  | 1                                     |
| RT STA             | 898+71 | TO | RT STA 899+18 | 47             | -                          | -                       | -                       | 22                                       | -                                     |
| LT STA             | 898+57 | TO | LT STA 898+75 | 18             | -                          | -                       | 18                      | -  | 1                                     |
| LT STA             | 898+75 | TO | LT STA 898+99 | 24             | 2.1                        | -                       | -                       | -  | 1                                     |
| LT STA             | 898+99 | TO | LT STA 899+26 | 27             | -                          | -                       | -                       | 13                                       | 1                                     |
| RT STA             | 900+74 | TO | RT STA 900+99 | 25             | 3.8                        | -                       | -                       | -  | 1                                     |
| RT STA             | 900+99 | TO | RT STA 901+77 | 78             | 0.6                        | 78                      | -                       | -  | 3                                     |
| LT STA             | 900+82 | TO | LT STA 901+06 | 24             | 2.7                        | -                       | -                       | -  | 1                                     |
| LT STA             | 901+06 | TO | LT STA 901+20 | 14             | -                          | 14                      | -                       | -  | 1                                     |
| TOTALS:            |        |    |               | 303            | 11.3                       | 92                      | 40                      | 35                                       | 10                                    |



NOTE: IN ORDER TO ACCOMMODATE TRAFFIC DRIVING OVER THE EXISTING V-GUTTER DURING STAGED TRAFFIC CONTROL, THE EXISTING V-GUTTER SHALL BE OVERLAYED WITH HOT-MIX ASPHALT AS DIRECTED BY THE ENGINEER TO PROVIDE A CONSISTENT SLOPE TO THE STAGED TRAFFIC DRIVING LANES. EXISTING V-GUTTER TO BE DRIVEN OVER DURING STAGE 1 TRAFFIC SHALL BE OVERLAYED PRIOR TO THE SETUP OF TRAFFIC CONTROL STANDARD 701321. EXISTING V-GUTTER TO BE DRIVEN OVER DURING STAGE 2 TRAFFIC SHALL BE OVERLAYED DURING STAGE 1 CONSTRUCTION. ALL OVERLAYS SHALL BE REMOVED IN CONJUNCTION WITH THE REMOVAL OF THE EXISTING V-GUTTER BENEATH IT AND SHALL NOT BE PAID FOR SEPARATELY.



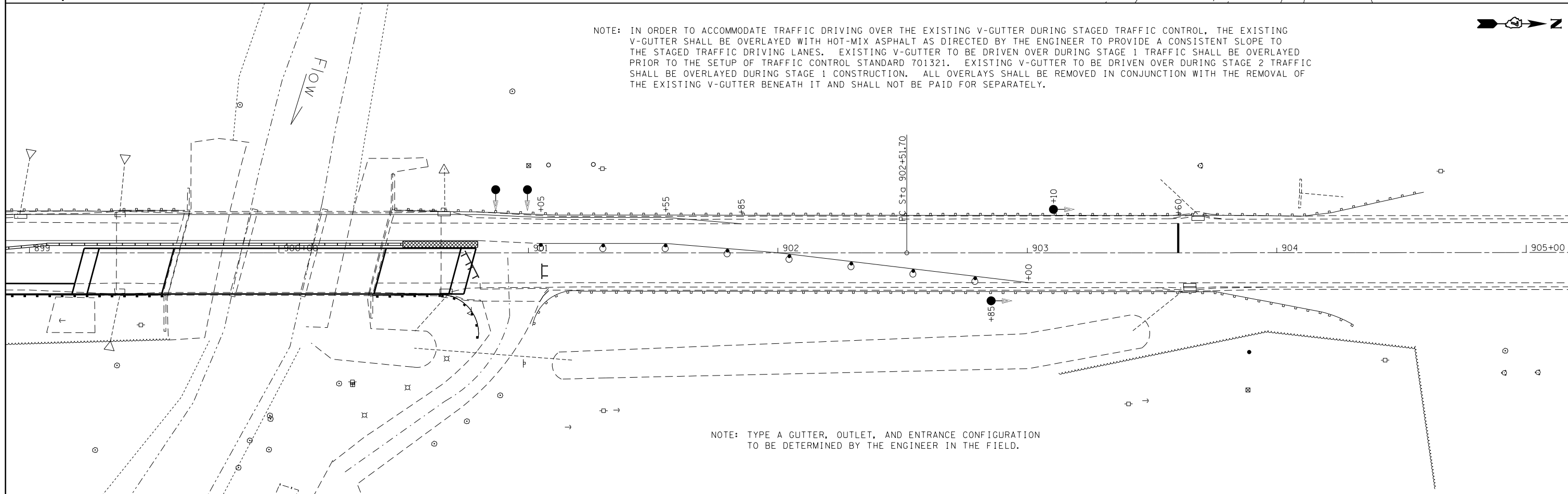
**LEGEND**

- TEMPORARY BRIDGE TRAFFIC SIGNALS
- IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
- TEMPORARY CONCRETE BARRIER
- STOP BAR
- IMPACT ATTENUATORS, TEMPORARY (FULLY-REDIRECTIVE, NARROW) TEST LEVEL 3
- TYPE III BARRICADE

RADIUS = 15.6'  
P.C. STATION = 900+65



NOTE: IN ORDER TO ACCOMMODATE TRAFFIC DRIVING OVER THE EXISTING V-GUTTER DURING STAGED TRAFFIC CONTROL, THE EXISTING V-GUTTER SHALL BE OVERLAYED WITH HOT-MIX ASPHALT AS DIRECTED BY THE ENGINEER TO PROVIDE A CONSISTENT SLOPE TO THE STAGED TRAFFIC DRIVING LANES. EXISTING V-GUTTER TO BE DRIVEN OVER DURING STAGE 1 TRAFFIC SHALL BE OVERLAYED PRIOR TO THE SETUP OF TRAFFIC CONTROL STANDARD 701321. EXISTING V-GUTTER TO BE DRIVEN OVER DURING STAGE 2 TRAFFIC SHALL BE OVERLAYED DURING STAGE 1 CONSTRUCTION. ALL OVERLAYS SHALL BE REMOVED IN CONJUNCTION WITH THE REMOVAL OF THE EXISTING V-GUTTER BENEATH IT AND SHALL NOT BE PAID FOR SEPARATELY.



NOTE: TYPE A GUTTER, OUTLET, AND ENTRANCE CONFIGURATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

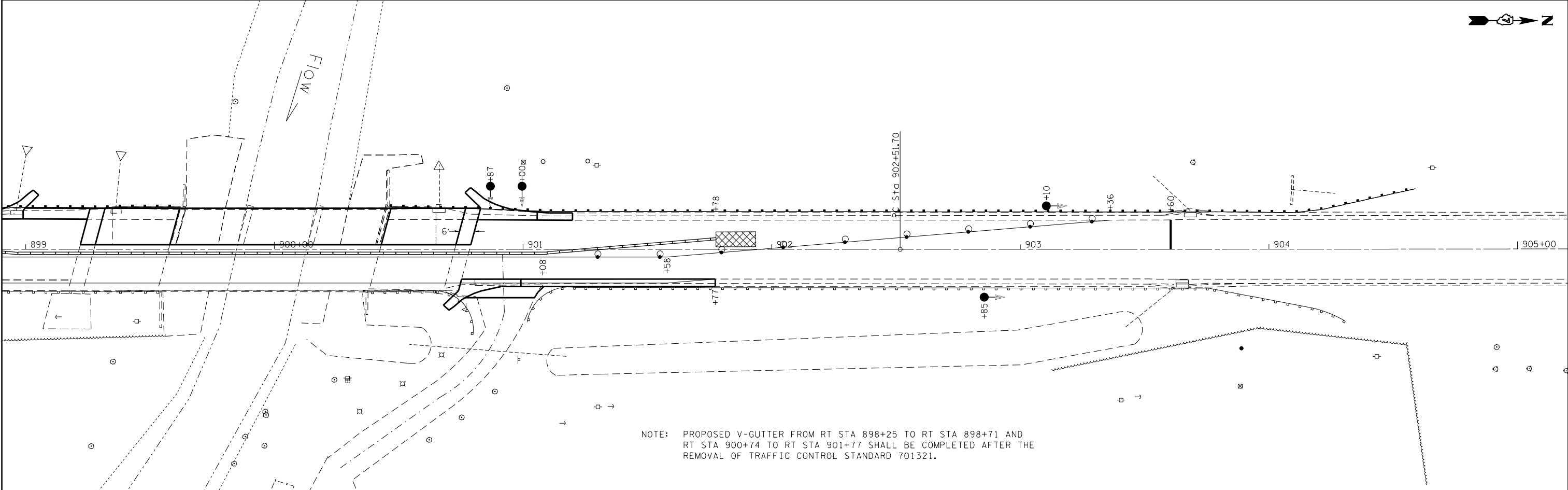
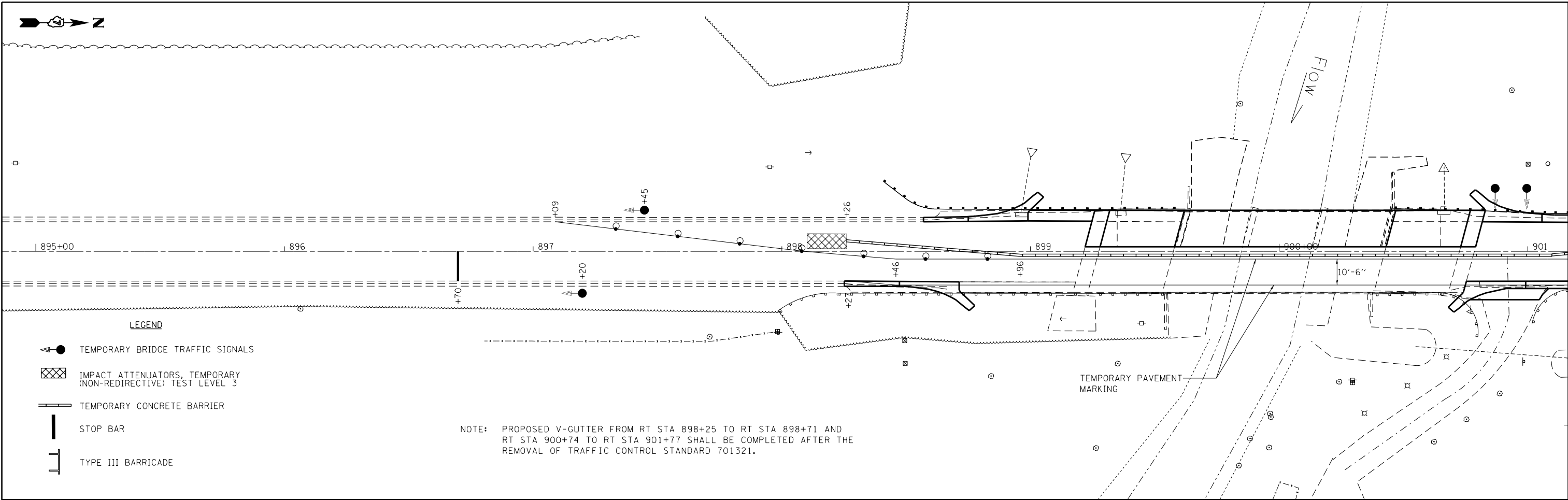
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|---|-----------------------------|------------|-----------|
| FILE NAME =   | USER NAME = steffennk       | DESIGNED - | REVISED - |
| ci:\pw\work\p\idot\steffennk\dms77819\0774167-sh1-staging.dgn |                             | DRAWN -    | REVISED - |
| Default   | PLOT SCALE = 40.0000' / in. | CHECKED -  | REVISED - |
|   | PLOT DATE = 7/17/2014       | DATE -     | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SN 015-0065  
STAGE 1 CONSTRUCTION**

SCALE: SHEET OF SHEETS STA. TO STA.

| F.A.U. RTE.        | SECTION | COUNTY | TOTAL SHEETS              | SHEET NO. |
|--------------------|---------|--------|---------------------------|-----------|
| 7705               | 2BR     | Coles  | 24                        | 6         |
| CONTRACT NO. 74167 |         |        | ILLINOIS FED. AID PROJECT |           |



|                           |                             |            |           |   |   |       |    |                |         |         |                    |              |       |    |   |
|---------------------------|-----------------------------|------------|-----------|---|---|-------|----|----------------|---------|---------|--------------------|--------------|-------|----|---|
| FILE NAME =               | USER NAME = steffenmk       | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SN 015-0065<br/>STAGE 2 CONSTRUCTION</b> |       |    | F.A.U.<br>RTE. | SECTION | COUNTY  | TOTAL<br>SHEETS    | SHEET<br>NO. |       |    |   |
| Default                   | 74167-shit-staging.dgn      | DRAWN -    | REVISED - |   | SCALE:                                      | SHEET | OF | SHEETS         | STA.    | TO STA. | 7705               | 2BR          | Coles | 24 | 7 |
|                           | PLOT SCALE = 40.0000' / in. | CHECKED -  | REVISED - |   |   |       |    |                |         |         |                    |              |       |    |   |
|                           | PLOT DATE = 7/17/2014       | DATE -     | REVISED - |   |   |       |    |                |         |         |                    |              |       |    |   |
| ILLINOIS FED. AID PROJECT |                             |            |           |   |   |       |    |                |         |         | CONTRACT NO. 74167 |              |       |    |   |

B.M. #4690-2 Brass disk on the N.W. wing of S.N. 015-0065, 17.5' Lt. Sta. 900+45, Elev. 677.59 (Stamped Elev. 677.81).

Existing Structure: S.N. 015-0065, originally built in 1980 as F.A.S. Rte. 673, Section 2-BR at Sta. 900+00. The existing structure is a Three Span Precast Concrete Channel Beam bridge on spill thru abutments and pile bent piers. The existing structure has a bituminous overlay and waterproofing membrane. The overall length is 86'-1" back to back of abutments. The out to out bridge width is 33'-9" with a clear roadway width of 31'-9" measured face to face of curbs. The superstructure will be replaced under stage construction.

No Salvage

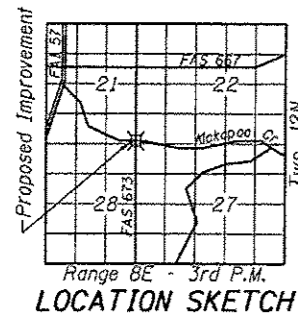
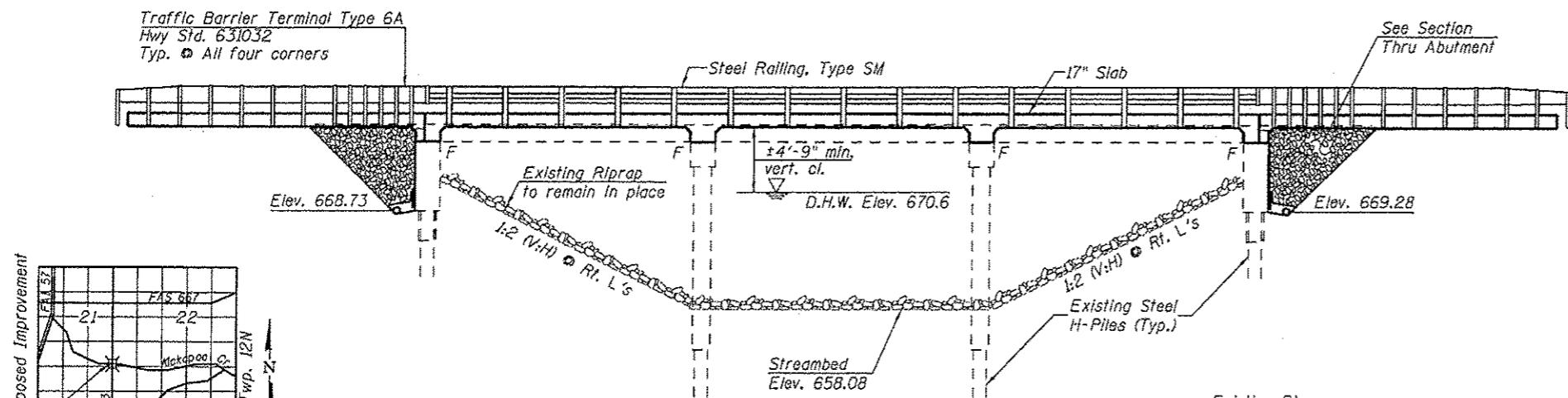
**DESIGN SCOUR ELEVATION TABLE**

| Design Scour Elevation (ft.) | S. Abut. | Pier 1 | Pier 2 | N. Abut. |
|------------------------------|----------|--------|--------|----------|
|                              | 668.7    | 655.1  | 655.1  | 669.3    |

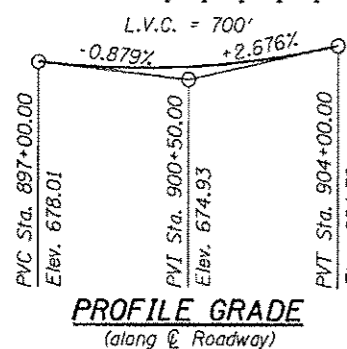
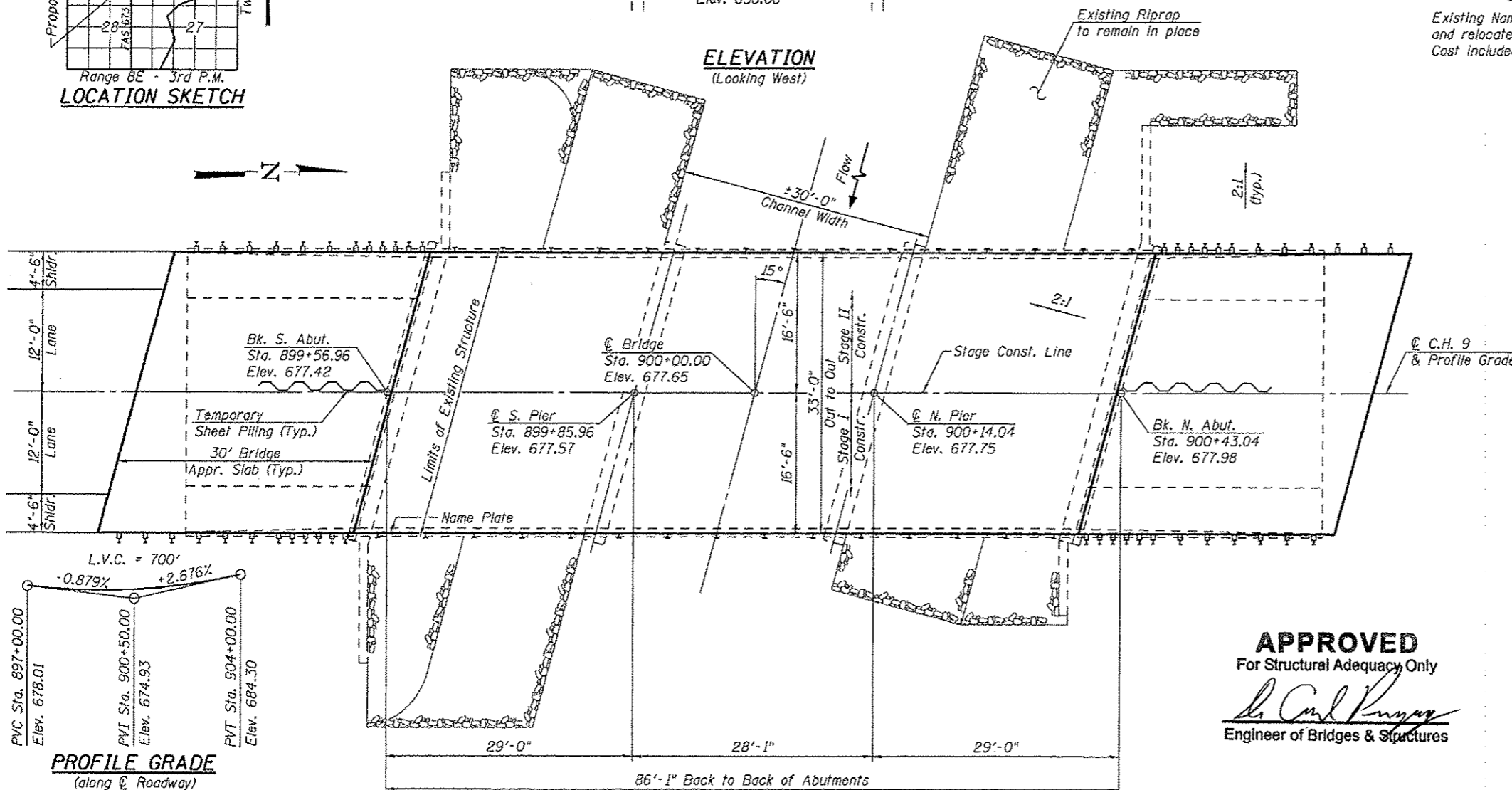
**WATERWAY INFORMATION**

| Drainage Area = 11.5 sq. mi. Low Grade Elev. 677.23 @ Sta. 899+00.00 |           |          |               |               |             |                   |                     |        |       |
|--|-----------|----------|---------------|---------------|-------------|-------------------|---------------------|--------|-------|
| Flood  | Freq. Yr. | Q C.F.S. | Openng Exist. | Sq. Ft. Prop. | Nat. H.W.E. | Head - Ft. Exist. | Headwater El. Prop. | Exist. | Prop. |
|  | 10        | 1700     | 369           | 369           | 669.2       | 0.2               | 0.2                 | 669.4  | 669.4 |
| Design   | 50        | 2730     | 463           | 463           | 670.6       | 0.5               | 0.5                 | 671.1  | 671.1 |
| Base   | 100       | 3190     | 499           | 499           | 671.1       | 0.6               | 0.6                 | 671.7  | 671.7 |
| Overtopping  |           |          |               |               |             |                   |                     |        |       |
| Max. Calc.   | 500       | 4320     | 588           | 588           | 672.3       | 1.0               | 1.0                 | 673.3  | 673.3 |

10 Year Velocity Through Exist. Bridge = 4.61 fps  
 10 Year Velocity Through Prop. Bridge = 4.61 fps



**ELEVATION**  
(Looking West)



Note: Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.22 feet to match benchmark datum.

STATION 900+00.00  
 RE-BUILT 20\_\_ BY  
 STATE OF ILLINOIS  
 F.A.S. RTE 673  
 SEC. 2BR  
 LOADING HL-93  
 STR. NO. 015-0065  
**NAME PLATE**  
 See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates

**INDEX OF SHEETS**

1. General Plan
2. General Data
3. Stage Construction Details
4. Temporary Concrete Barrier
- 5.-6. Top of Slab Elevations
- 7.-8. Top of Approach Slab Elevations
- 9.-10. Superstructure Plan
11. Superstructure Cross Section and Details
- 12.-13. Bridge Approach Slab Details
14. Type SM Railing
15. Abutment Details
16. Pier Details
17. Bar Splicer Details

**DESIGN SPECIFICATIONS**

**New Construction**  
 2012 AASHTO LRFD Bridge Design Specifications, 6th Edition, with 2013 AASHTO Interims  
**Existing Construction**  
 2002 AASHTO Bridge Design Specifications

**LOADING HL-93**

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

**SEISMIC DATA**

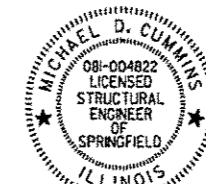
**New Construction**  
 Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (S<sub>1</sub>) = 0.125  
 Design Spectral Acceleration at 0.2 sec. (S<sub>0.2</sub>) = 0.274  
 Soil Site Class = C  
**Existing Construction**  
 Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.06g  
 Site Coefficient (S) = 1.5

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**  
 f'c = 5,000 psi (Superstructure)  
 fy = 60,000 psi (Reinforcement)  
**FIELD UNITS (Existing Construction)**  
 f'c = 3,500 psi (Substructure)  
 fy = 60,000 psi (Reinforcement)

**APPROVED**  
 For Structural Adequacy Only

*Michael D. Cummins*  
 Engineer of Bridges & Structures



*Michael D. Cummins* 7/24/14  
 (Expires 11/30/2014)

**GENERAL PLAN & ELEVATION**  
**C.H. 9 OVER KICKAPOO CREEK**  
**F.A.S. ROUTE 673 SECTION 2BR**  
**COLES COUNTY**  
**STATION 900+00.00**  
**STRUCTURE NO. 015-0065**



JOB # 2223.9  
 FILE # 8150065-74167-81-0PE.dgn  
 DATE 7/24/2014

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION

SHEET NO. 1 OF 17 SHEETS

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---------|--------|--------------|-----------|
| 673         | 2BR     | COLES  | 24           | 8         |

CONTRACT NO. 74167  
 ILLINOIS FED. AID PROJECT



**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

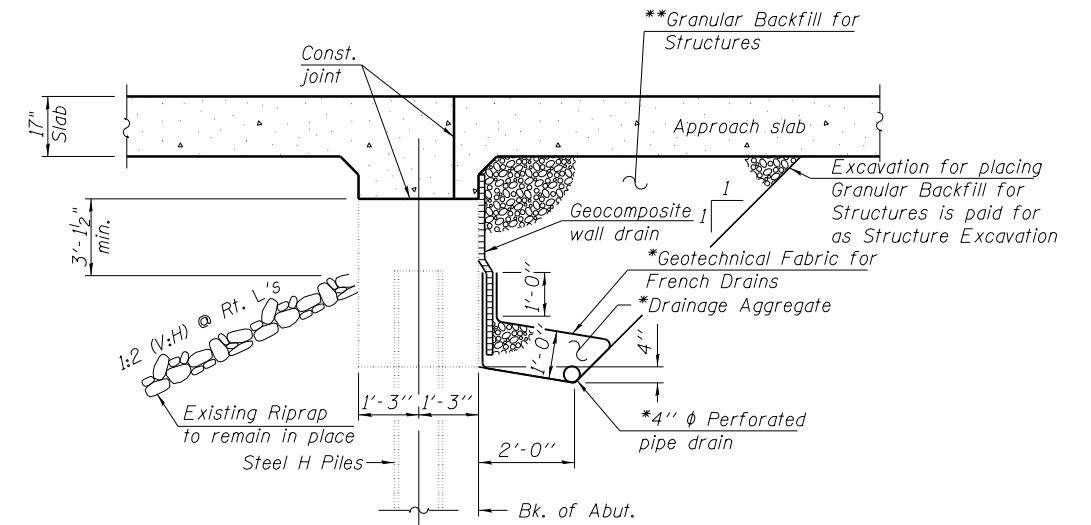
Concrete Superstructure shall be Class BS concrete with a compressive strength (f'c) of 5,000 psi.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

Backfill shall be placed behind the abutment after the superstructure has been poured and falsework removed. See Article 502.10 of the Standard Specifications.

Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.22 feet to match benchmark datum.

No in-stream work will be allowed on this project.



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

\*Included in the cost of Pipe Underdrains for Structures.

\*\*Granular Backfill for Structures shall be compacted for guardrail terminal post installation.

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

**TOTAL BILL OF MATERIAL**

| ITEM                                | UNIT    | SUPER  | SUB  | TOTAL  |
|-------------------------------------|---------|--------|------|--------|
| Removal of Existing Superstructures | Each    | 1      |      | 1      |
| Concrete Removal                    | Cu. Yd. |        | 1.8  | 1.8    |
| Structure Excavation                | Cu. Yd. |        | 165  | 165    |
| Concrete Structures                 | Cu. Yd. |        | 21.3 | 21.3   |
| Concrete Superstructure             | Cu. Yd. | 250.4  |      | 250.4  |
| Bridge Deck Grooving                | Sq. Yd. | 500    |      | 500    |
| Protective Coat                     | Sq. Yd. | 532    |      | 532    |
| Reinforcement Bars, Epoxy Coated    | Pound   | 78,140 | 930  | 79,070 |
| Bar Splicers                        | Each    | 488    |      | 488    |
| Steel Railing, Type SM              | Foot    | 167    |      | 167    |
| Name Plates                         | Each    | 1      |      | 1      |
| Geocomposite Wall Drain             | Sq. Yd. |        | 84   | 84     |
| Granular Backfill for Structures    | Cu. Yd. |        | 165  | 165    |
| Temporary Sheet Piling              | Sq. Ft. |        | 278  | 278    |
| Pipe Underdrains for Structures, 4" | Foot    |        | 140  | 140    |
|                                     |         |        |      |        |
|                                     |         |        |      |        |
|                                     |         |        |      |        |



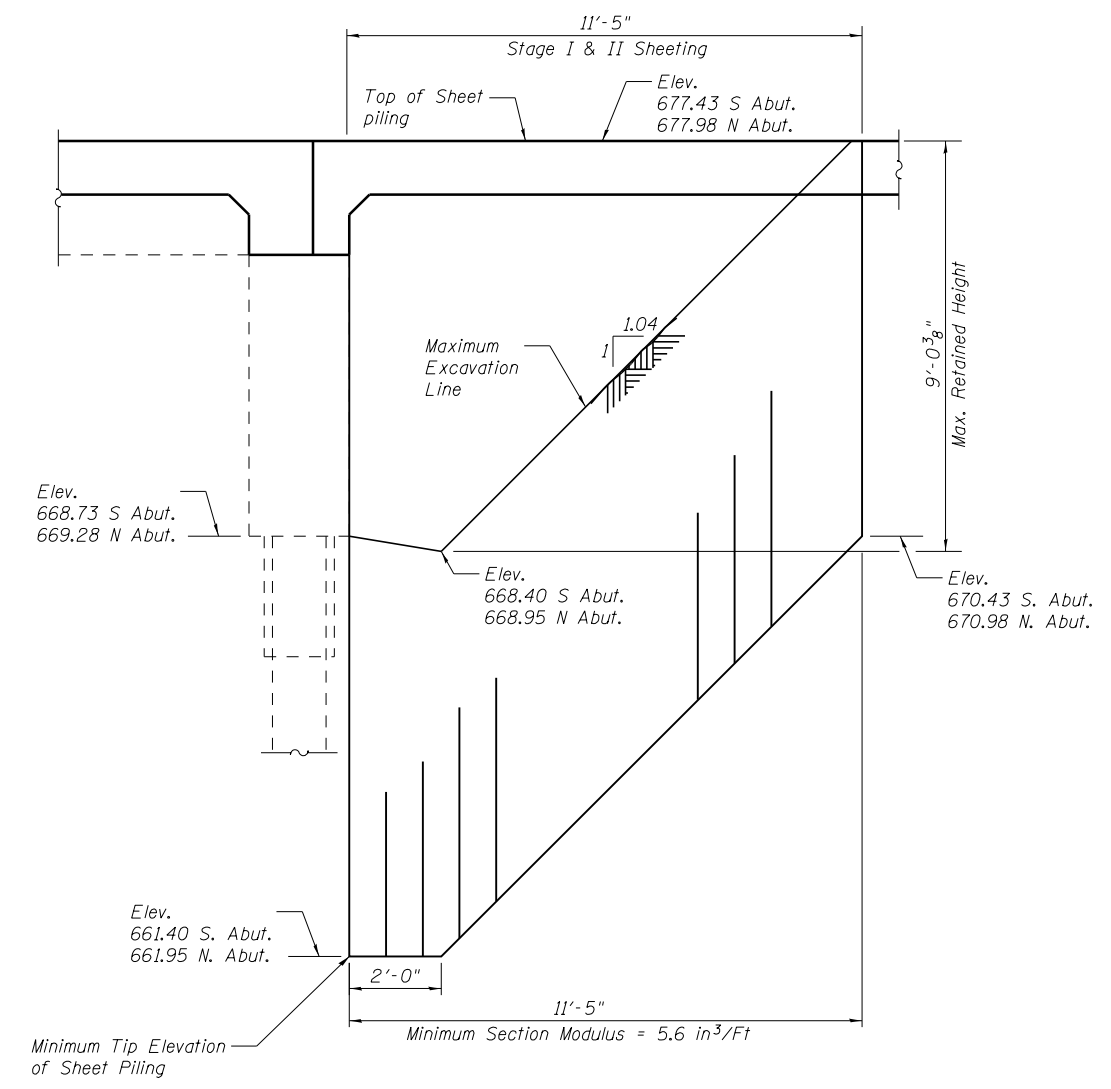
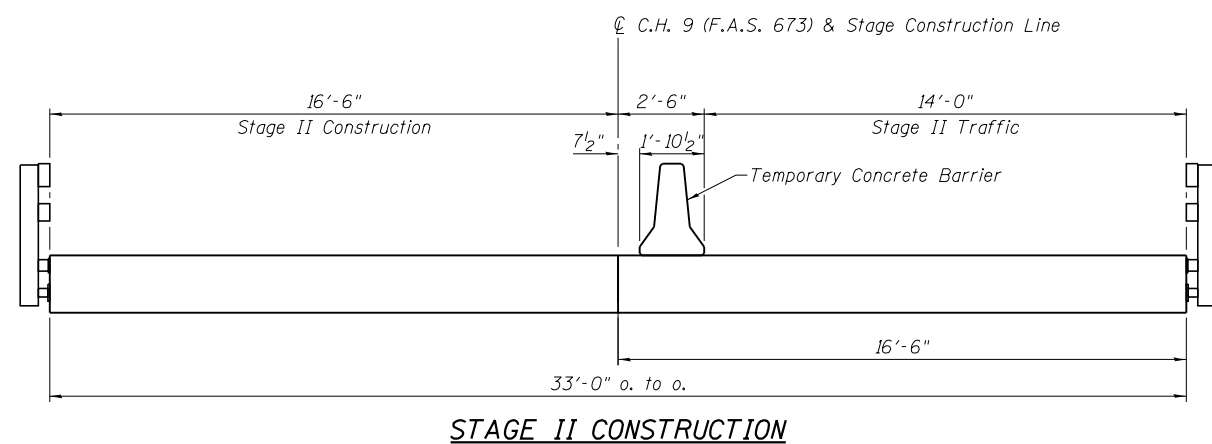
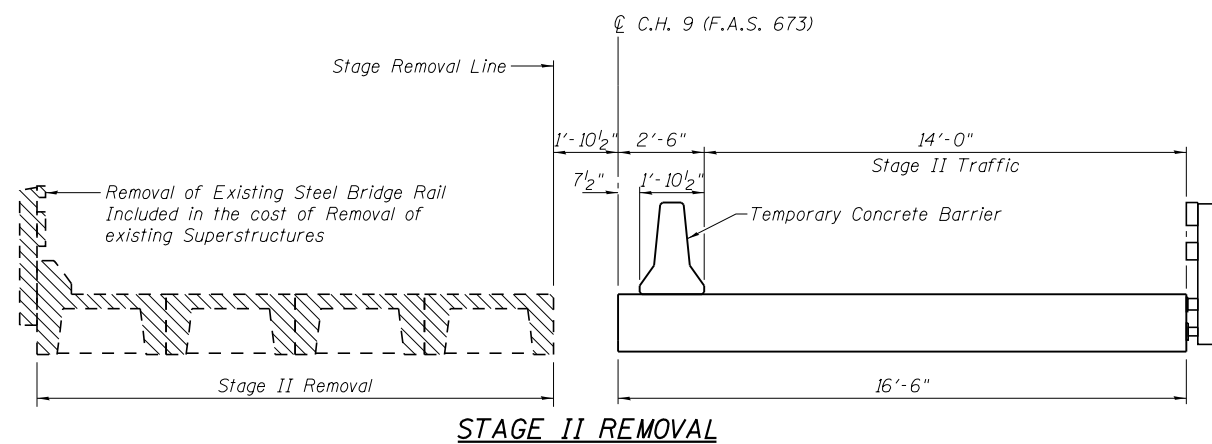
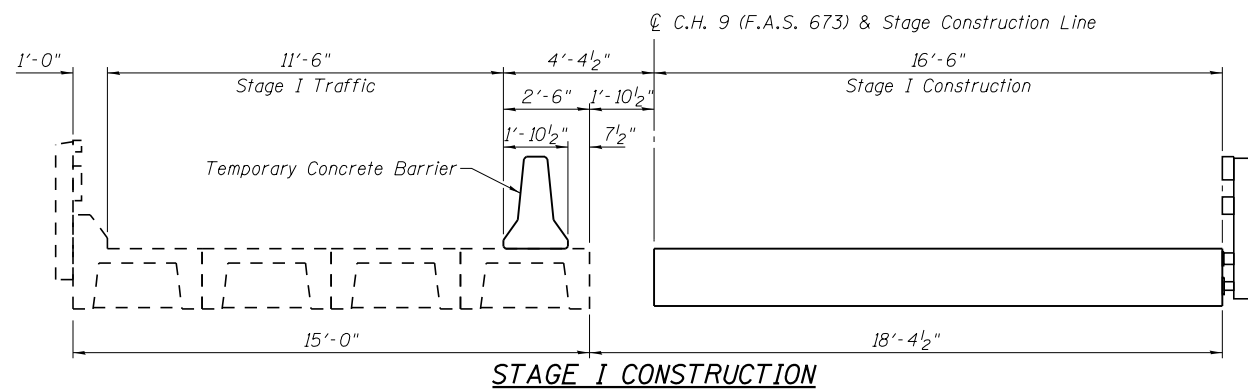
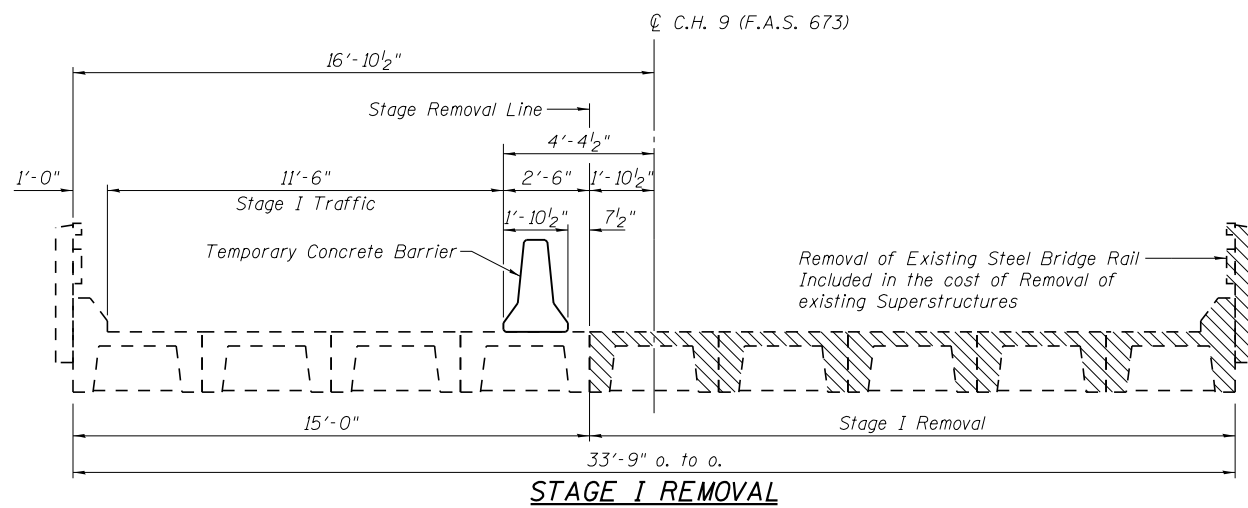
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|-------------------------------------|----------------|-----------|
| JOB = 2223.8                        | DESIGNED - AAN | REVISED - |
| FILE = 0150065-74167-02-GenData.dgn | CHECKED - MDC  | REVISED - |
| DATE = 7/24/2014                    | DRAWN - SJS    | REVISED - |
|                                     | CHECKED - MDC  | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
STRUCTURE NO. 015-0065**

SHEET NO. 2 OF 17 SHEETS

|                           |         |        |                    |           |
|---------------------------|---------|--------|--------------------|-----------|
| F.A.S. RTE.               | SECTION | COUNTY | TOTAL SHEETS       | SHEET NO. |
| 673                       | 2BR     | COLES  | 24                 | 9         |
|                           |         |        | CONTRACT NO. 74167 |           |
| ILLINOIS FED. AID PROJECT |         |        |                    |           |

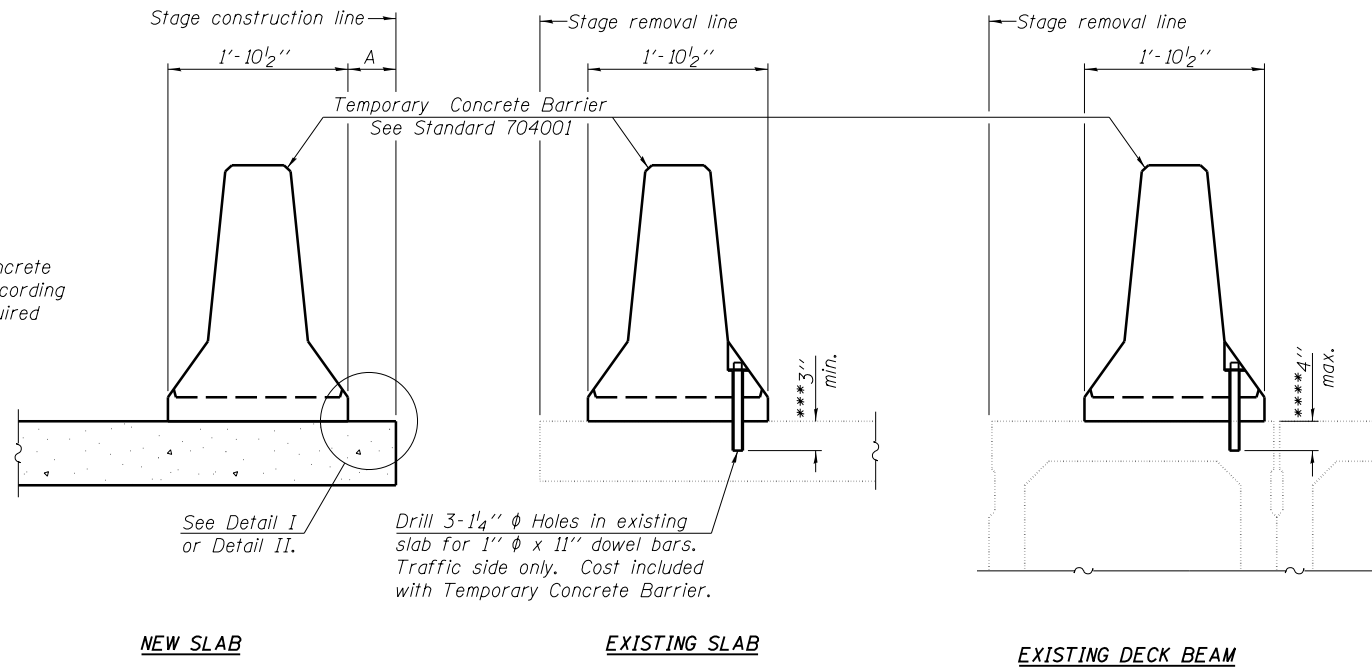


If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

Notes:  
Hatched areas indicate "Removal of Existing Superstructures".  
For details of "Temporary Concrete Barrier" see Sheet 4 of 17.  
See roadway plans for quantity of Temporary Concrete Barrier.  
All staging cross sections are looking north.

|   |                                   |                |           |   |  |                           |             |              |                 |              |
|---|-----------------------------------|----------------|-----------|---|--|---------------------------|-------------|--------------|-----------------|--------------|
| <b>CEC</b><br>Cummins<br>Engineering<br>Corporation<br>Civil and Structural Engineering | JOB = 2223.8                      | DESIGNED - AAN | REVISED - | <b>STATE OF ILLINOIS</b><br><b>DEPARTMENT OF TRANSPORTATION</b> | <b>STAGE CONSTRUCTION DETAILS</b><br><b>STRUCTURE NO. 015-0065</b> | F.A.S. RTE. 673           | SECTION 2BR | COUNTY COLES | TOTAL SHEETS 24 | SHEET NO. 10 |
|   | FILE = 0150065-74167-03-Stage.dgn | CHECKED - MDC  | REVISED - |   |  | CONTRACT NO. 74167        |             |              |                 |              |
|   | DATE = 7/24/2014                  | DRAWN - SJS    | REVISED - |   |  | ILLINOIS FED. AID PROJECT |             |              |                 |              |
|   | CHECKED - MDC                     | REVISED -      |           |   | SHEET NO. 3 OF 17 SHEETS   |                           |             |              |                 |              |

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



**NOTES**

Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

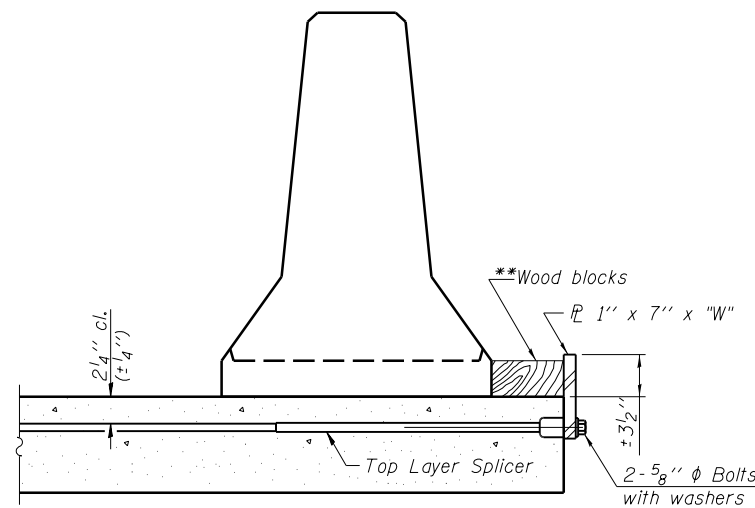
Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x "W" steel  $\bar{L}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

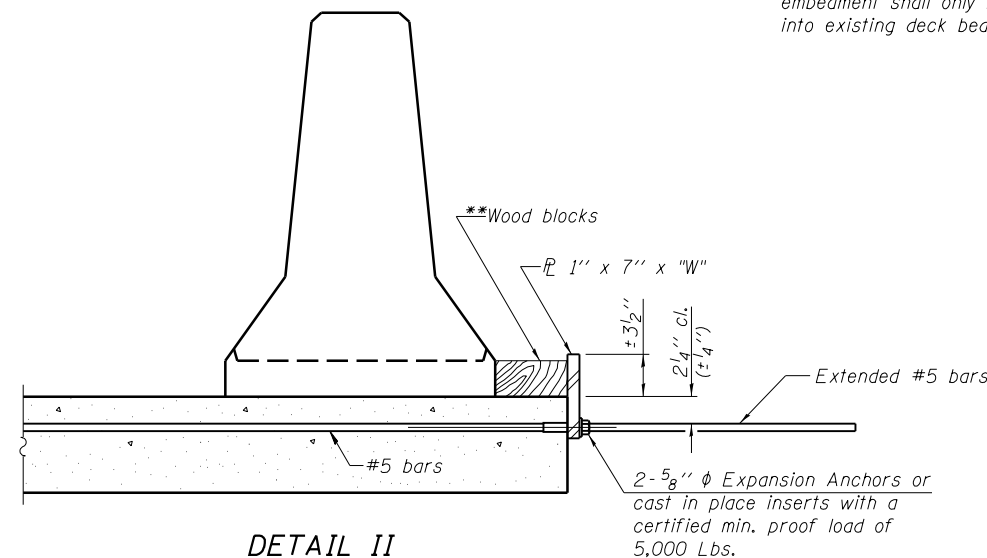
**SECTIONS THRU SLAB OR DECK BEAM**

\*\*\* Dimension shown is minimum required embedment into concrete.  
If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

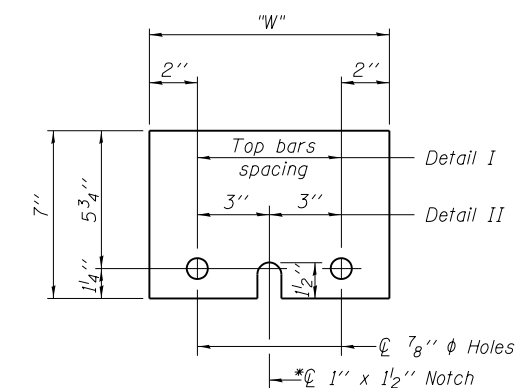
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**DETAIL I**



**DETAIL II**



**STEEL RETAINER  $\bar{L}$  1" x 7" x "W"**

\* Required only with Detail II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

R-27

7-1-10

**CEC**  
Civil and Structural Engineering

|                                     |                |           |
|-------------------------------------|----------------|-----------|
| JOB = 2223.8                        | DESIGNED - AAN | REVISED - |
| FILE = 0150065-74167-04-Barrter.dgn | CHECKED - MDC  | REVISED - |
| DATE = 7/24/2014                    | DRAWN - SJS    | REVISED - |
|                                     | CHECKED - MDC  | REVISED - |

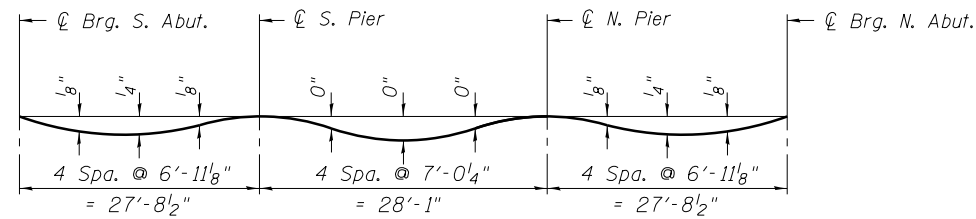
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 015-0065

SHEET NO. 4 OF 17 SHEETS

|             |         |        |                    |           |
|-------------|---------|--------|--------------------|-----------|
| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS       | SHEET NO. |
| 673         | 2BR     | COLES  | 24                 | 11        |
|             |         |        | CONTRACT NO. 74167 |           |

ILLINOIS FED. AID PROJECT



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note:

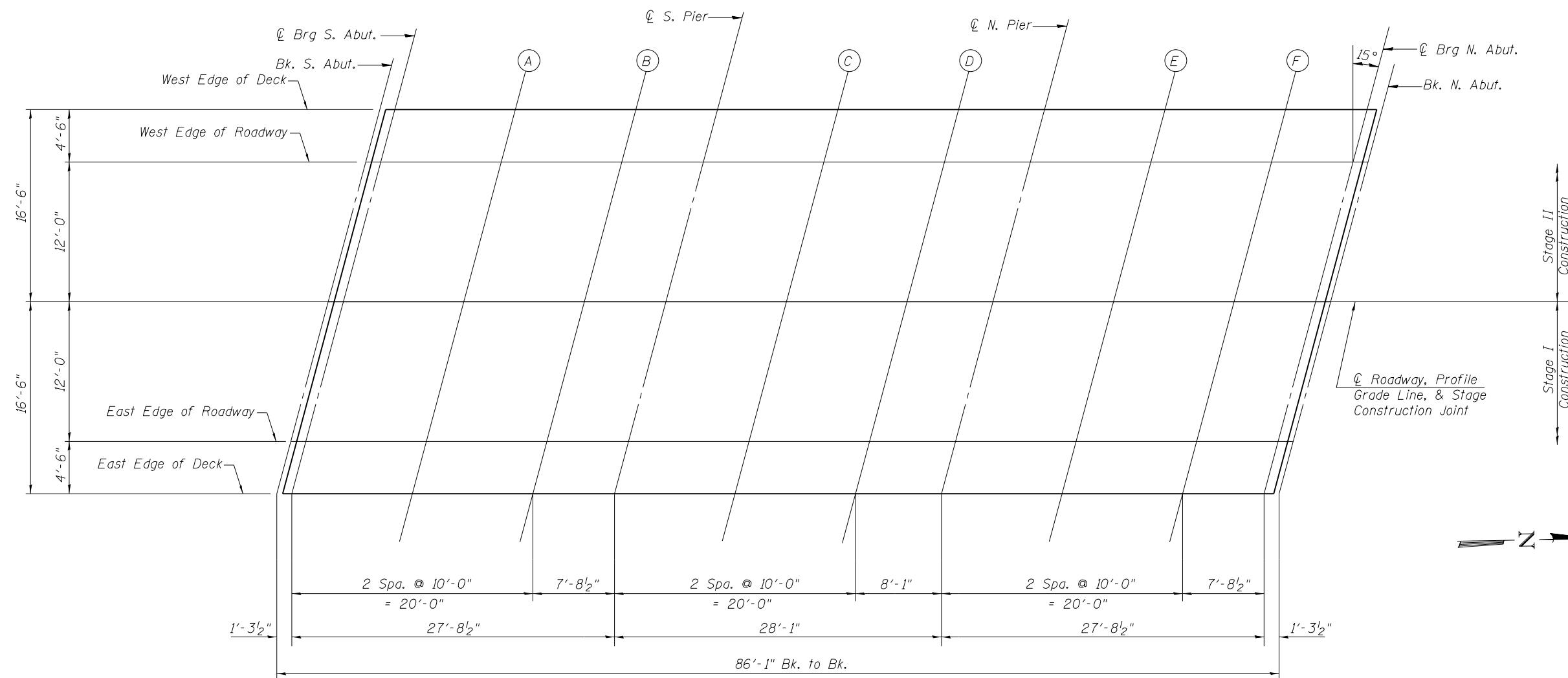
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 5 and 6 of 17.

**WEST EDGE OF DECK**

| Location        | Station   | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|-----------------|-----------|--------|------------------------------|--|
| Bk. S. Abut.    | 899+61.38 | -16.50 | 677.16                       | 677.16   |
| ☉ Brg. S. Abut. | 899+62.67 | -16.50 | 677.17                       | 677.17   |
| A               | 899+72.67 | -16.50 | 677.22                       | 677.23   |
| B               | 899+82.67 | -16.50 | 677.27                       | 677.28   |
| ☉ S. Pier       | 899+90.38 | -16.50 | 677.31                       | 677.31   |
| C               | 900+00.38 | -16.50 | 677.38                       | 677.38   |
| D               | 900+10.38 | -16.50 | 677.44                       | 677.44   |
| ☉ N. Pier       | 900+18.46 | -16.50 | 677.50                       | 677.50   |
| E               | 900+28.46 | -16.50 | 677.58                       | 677.59   |
| F               | 900+38.46 | -16.50 | 677.66                       | 677.67   |
| ☉ Brg. N. Abut. | 900+46.17 | -16.50 | 677.73                       | 677.73   |
| Bk. N. Abut.    | 900+47.46 | -16.50 | 677.74                       | 677.74   |

**WEST EDGE OF ROADWAY**

| Location        | Station   | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|-----------------|-----------|--------|------------------------------|--|
| Bk. S. Abut.    | 899+60.18 | -12.00 | 677.25                       | 677.25   |
| ☉ Brg. S. Abut. | 899+61.47 | -12.00 | 677.26                       | 677.26   |
| A               | 899+71.47 | -12.00 | 677.30                       | 677.32   |
| B               | 899+81.47 | -12.00 | 677.36                       | 677.37   |
| ☉ S. Pier       | 899+89.18 | -12.00 | 677.40                       | 677.40   |
| C               | 899+99.18 | -12.00 | 677.46                       | 677.46   |
| D               | 900+09.18 | -12.00 | 677.53                       | 677.53   |
| ☉ N. Pier       | 900+17.26 | -12.00 | 677.59                       | 677.59   |
| E               | 900+27.26 | -12.00 | 677.66                       | 677.68   |
| F               | 900+37.26 | -12.00 | 677.74                       | 677.76   |
| ☉ Brg. N. Abut. | 900+44.97 | -12.00 | 677.81                       | 677.81   |
| Bk. N. Abut.    | 900+46.26 | -12.00 | 677.82                       | 677.82   |



**PLAN**

E-S 7-1-10

**CEC** Cummins Engineering Corporation  
Civil and Structural Engineering

JOB = 2223.8  
FILE = 0150065-74167-05-06-TopofSlab.dgn  
DATE = 7/24/2014

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 015-0065

SHEET NO. 5 OF 17 SHEETS

| F.A.S. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------|--------|--------------|-----------|
| 673                | 2BR     | COLES  | 24           | 12        |
| CONTRACT NO. 74167 |         |        |              |           |

ILLINOIS FED. AID PROJECT

☉ ROADWAY, PROFILE GRADE LINE,  
& STAGE CONSTRUCTION JOINT

| Location        | Station   | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|-----------------|-----------|--------|------------------------------|--|
| Bk. S. Abut.    | 899+56.96 | 0.00   | 677.42                       | 677.42   |
| ☉ Brg. S. Abut. | 899+58.25 | 0.00   | 677.43                       | 677.43   |
| A               | 899+68.25 | 0.00   | 677.48                       | 677.49   |
| B               | 899+78.25 | 0.00   | 677.53                       | 677.54   |
| ☉ S. Pier       | 899+85.96 | 0.00   | 677.57                       | 677.57   |
| C               | 899+95.96 | 0.00   | 677.63                       | 677.63   |
| D               | 900+05.96 | 0.00   | 677.69                       | 677.69   |
| ☉ N. Pier       | 900+14.04 | 0.00   | 677.75                       | 677.75   |
| E               | 900+24.04 | 0.00   | 677.83                       | 677.84   |
| F               | 900+34.04 | 0.00   | 677.90                       | 677.92   |
| ☉ Brg. N. Abut. | 900+41.75 | 0.00   | 677.97                       | 677.97   |
| Bk. N. Abut.    | 900+43.04 | 0.00   | 677.98                       | 677.98   |

EAST EDGE OF ROADWAY

| Location        | Station   | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|-----------------|-----------|--------|------------------------------|--|
| Bk. S. Abut.    | 899+53.75 | 12.00  | 677.22                       | 677.22   |
| ☉ Brg. S. Abut. | 899+55.04 | 12.00  | 677.23                       | 677.23   |
| A               | 899+65.04 | 12.00  | 677.27                       | 677.29   |
| B               | 899+75.04 | 12.00  | 677.32                       | 677.33   |
| ☉ S. Pier       | 899+82.75 | 12.00  | 677.36                       | 677.36   |
| C               | 899+92.75 | 12.00  | 677.42                       | 677.42   |
| D               | 900+02.75 | 12.00  | 677.49                       | 677.49   |
| ☉ N. Pier       | 900+10.83 | 12.00  | 677.54                       | 677.54   |
| E               | 900+20.83 | 12.00  | 677.61                       | 677.63   |
| F               | 900+30.83 | 12.00  | 677.69                       | 677.70   |
| ☉ Brg. N. Abut. | 900+38.54 | 12.00  | 677.75                       | 677.75   |
| Bk. N. Abut.    | 900+39.83 | 12.00  | 677.77                       | 677.77   |

EAST EDGE OF DECK

| Location        | Station   | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|-----------------|-----------|--------|------------------------------|--|
| Bk. S. Abut.    | 899+52.54 | 16.50  | 677.13                       | 677.13   |
| ☉ Brg. S. Abut. | 899+53.83 | 16.50  | 677.13                       | 677.13   |
| A               | 899+63.83 | 16.50  | 677.17                       | 677.19   |
| B               | 899+73.83 | 16.50  | 677.22                       | 677.23   |
| ☉ S. Pier       | 899+81.54 | 16.50  | 677.26                       | 677.26   |
| C               | 899+91.54 | 16.50  | 677.32                       | 677.32   |
| D               | 900+01.54 | 16.50  | 677.38                       | 677.38   |
| ☉ N. Pier       | 900+09.62 | 16.50  | 677.44                       | 677.44   |
| E               | 900+19.62 | 16.50  | 677.51                       | 677.53   |
| F               | 900+29.62 | 16.50  | 677.59                       | 677.60   |
| ☉ Brg. N. Abut. | 900+37.33 | 16.50  | 677.65                       | 677.65   |
| Bk. N. Abut.    | 900+38.62 | 16.50  | 677.66                       | 677.66   |

**WEST EDGE OF SHOULDER**

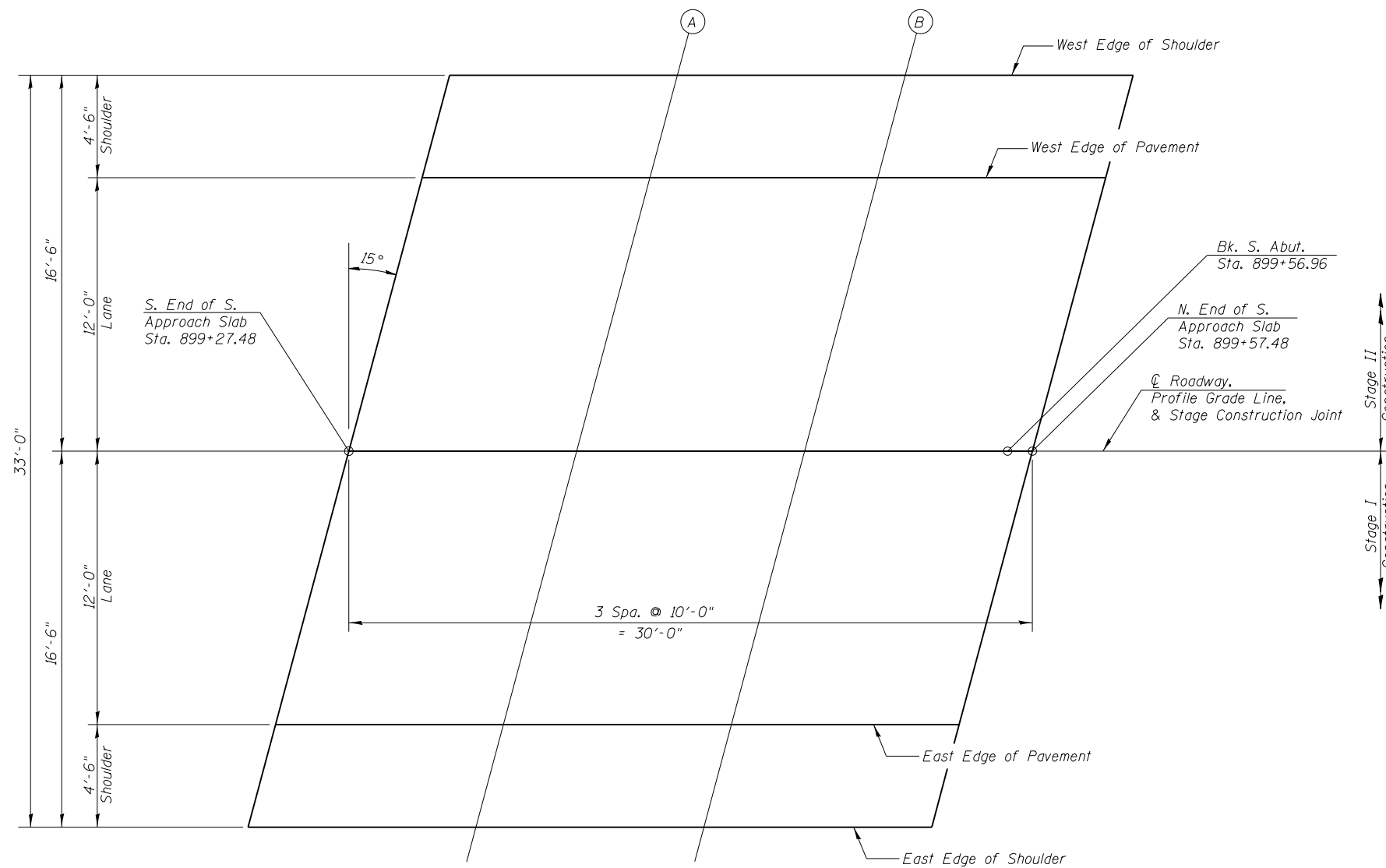
| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End S. Appr. Slab | 899+31.90 | -16.50 | 677.05                       |
| A                    | 899+41.90 | -16.50 | 677.09                       |
| B                    | 899+51.90 | -16.50 | 677.12                       |
| N. End S. Appr. Slab | 899+61.90 | -16.50 | 677.17                       |

**WEST EDGE OF PAVEMENT**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End S. Appr. Slab | 899+30.68 | -12.00 | 677.14                       |
| A                    | 899+40.68 | -12.00 | 677.17                       |
| B                    | 899+50.68 | -12.00 | 677.21                       |
| N. End S. Appr. Slab | 899+60.68 | -12.00 | 677.25                       |

**ROADWAY, PROFILE GRADE LINE & STAGE CONSTRUCTION JOINT**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End S. Appr. Slab | 899+27.48 | 0.00   | 677.32                       |
| A                    | 899+37.48 | 0.00   | 677.35                       |
| B                    | 899+47.48 | 0.00   | 677.39                       |
| N. End S. Appr. Slab | 899+57.48 | 0.00   | 677.43                       |



**PLAN - SOUTH APPROACH**

**EAST EDGE OF PAVEMENT**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End S. Appr. Slab | 899+24.28 | 12.00  | 677.12                       |
| A                    | 899+34.28 | 12.00  | 677.15                       |
| B                    | 899+44.28 | 12.00  | 677.18                       |
| N. End S. Appr. Slab | 899+54.28 | 12.00  | 677.22                       |

**EAST EDGE OF SHOULDER**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End S. Appr. Slab | 899+23.06 | 16.50  | 677.03                       |
| A                    | 899+33.06 | 16.50  | 677.06                       |
| B                    | 899+43.06 | 16.50  | 677.09                       |
| N. End S. Appr. Slab | 899+53.06 | 16.50  | 677.13                       |

E-AS

7-1-10



JOB = 2223.7  
 FILE = 0150065-74167-07-08-TopofApproach.dgn  
 DATE = 7/24/2014

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS  
 STRUCTURE NO. 015-0065**

SHEET NO. 7 OF 17 SHEETS

| F.A.S. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------|--------|--------------|-----------|
| 673                | 2BR     | COLES  | 24           | 14        |
| CONTRACT NO. 74167 |         |        |              |           |

ILLINOIS FED. AID PROJECT

**EAST EDGE OF SHOULDER**

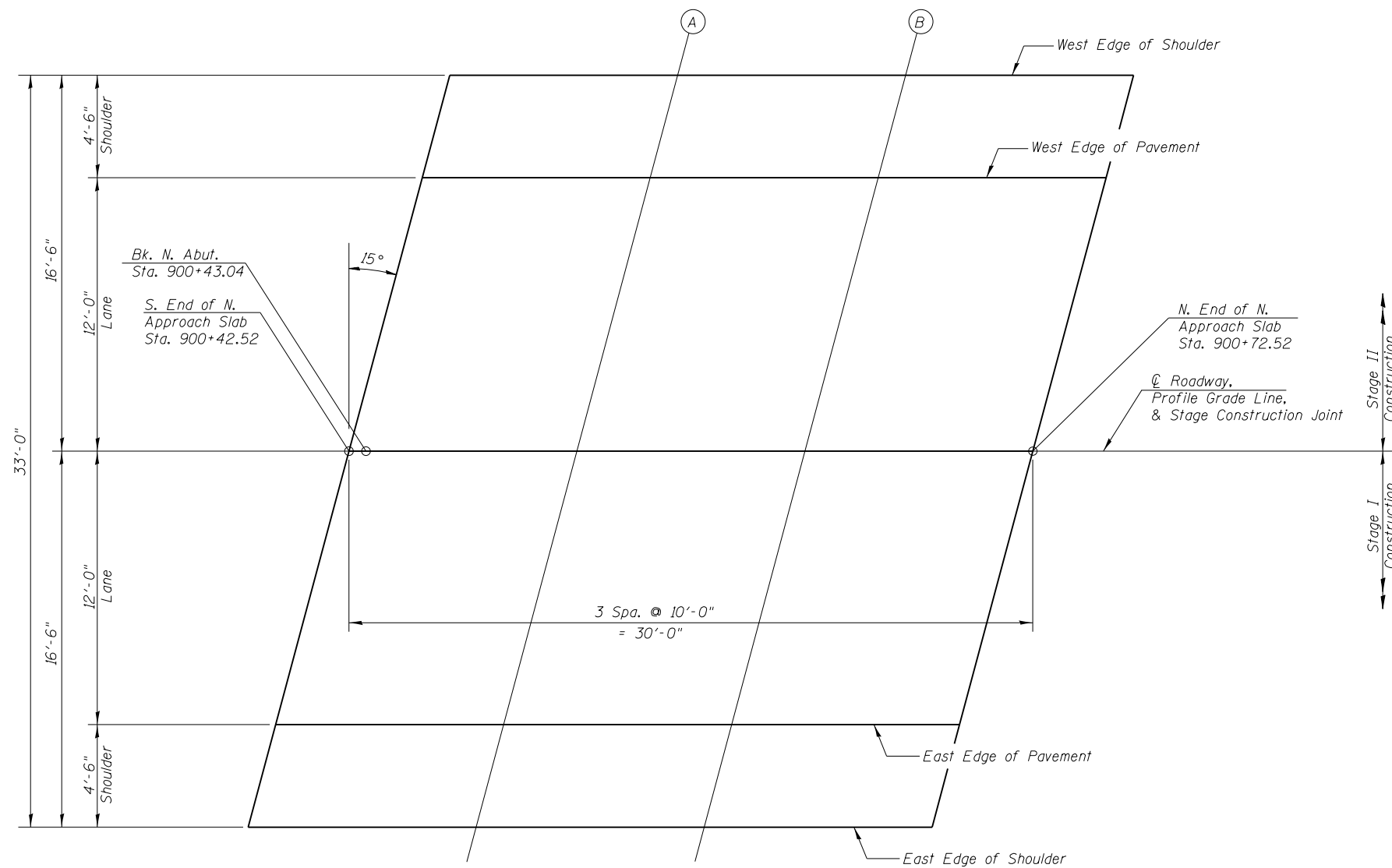
| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End N. Appr. Slab | 900+38.10 | 16.50  | 677.66                       |
| A                    | 900+48.10 | 16.50  | 677.74                       |
| B                    | 900+58.10 | 16.50  | 677.84                       |
| N. End N. Appr. Slab | 900+68.10 | 16.50  | 677.93                       |

**EAST EDGE OF PAVEMENT**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End N. Appr. Slab | 900+39.32 | 12.00  | 677.76                       |
| A                    | 900+49.32 | 12.00  | 677.84                       |
| B                    | 900+59.32 | 12.00  | 677.94                       |
| N. End N. Appr. Slab | 900+69.32 | 12.00  | 678.03                       |

**☉ ROADWAY, PROFILE GRADE LINE & STAGE CONSTRUCTION JOINT**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End N. Appr. Slab | 900+42.52 | 0.00   | 677.97                       |
| A                    | 900+52.52 | 0.00   | 678.06                       |
| B                    | 900+62.52 | 0.00   | 678.16                       |
| N. End N. Appr. Slab | 900+72.52 | 0.00   | 678.26                       |



**PLAN - NORTH APPROACH**

**WEST EDGE OF PAVEMENT**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End N. Appr. Slab | 900+45.72 | -12.00 | 677.81                       |
| A                    | 900+55.72 | -12.00 | 677.90                       |
| B                    | 900+65.72 | -12.00 | 678.00                       |
| N. End N. Appr. Slab | 900+75.72 | -12.00 | 678.10                       |

**WEST EDGE OF SHOULDER**

| Location             | Station   | Offset | Theoretical Grade Elevations |
|----------------------|-----------|--------|------------------------------|
| S. End N. Appr. Slab | 900+46.94 | -16.50 | 677.73                       |
| A                    | 900+56.94 | -16.50 | 677.82                       |
| B                    | 900+66.94 | -16.50 | 677.92                       |
| N. End N. Appr. Slab | 900+76.94 | -16.50 | 678.02                       |

E-AS 7-1-10



JOB = 2223.7  
 FILE = 0150065-74167-07-08-TopofApproach.dgn  
 DATE = 7/24/2014

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

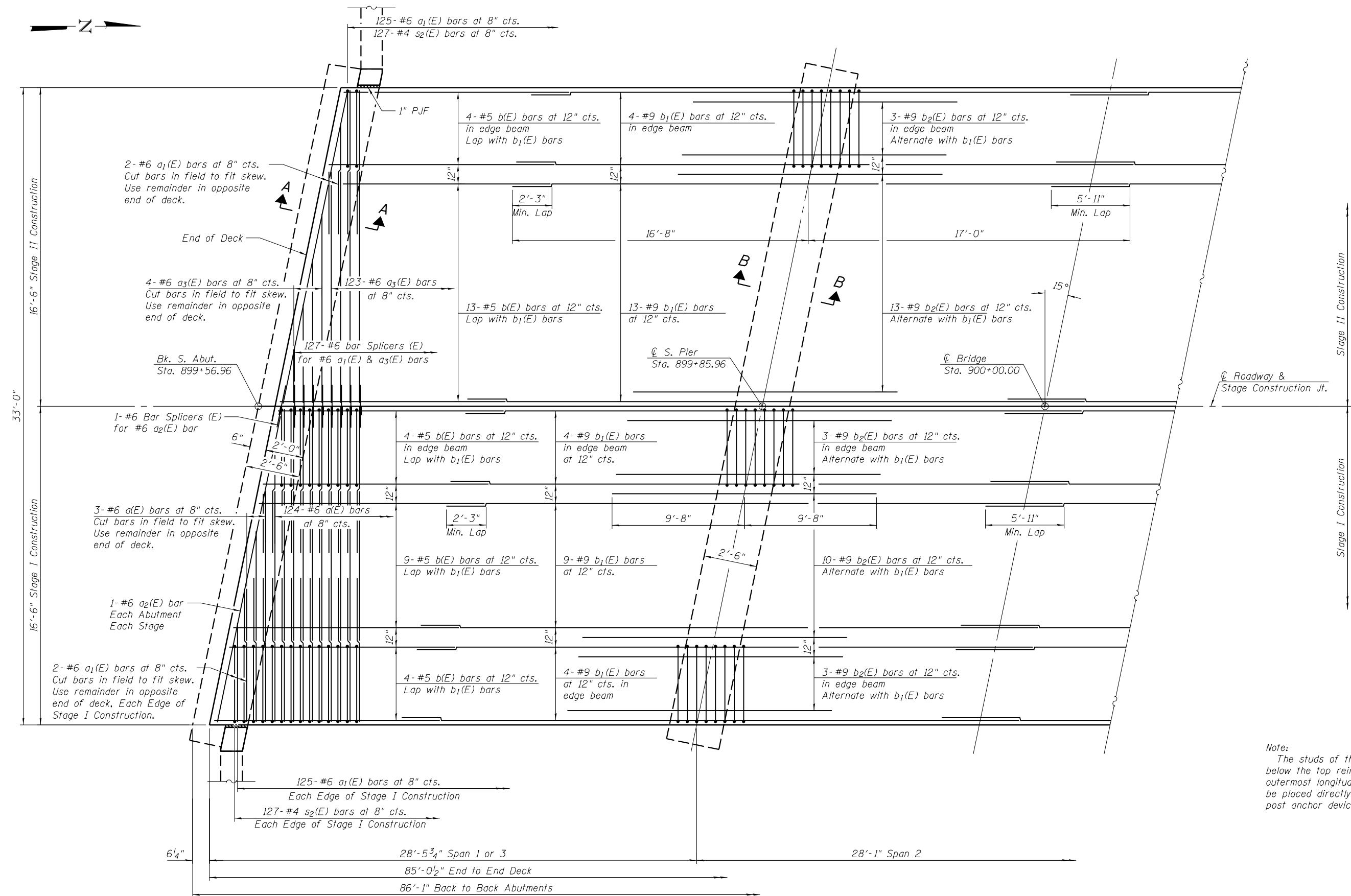
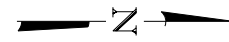
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS  
 STRUCTURE NO. 015-0065**

SHEET NO. 8 OF 17 SHEETS

| F.A.S. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------|--------|--------------|-----------|
| 673                | 2BR     | COLES  | 24           | 15        |
| CONTRACT NO. 74167 |         |        |              |           |

ILLINOIS FED. AID PROJECT



**HALF PLAN-TOP REINFORCEMENT**

Note:  
 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.

Notes:  
 See Sheet 11 of 17 for superstructure details, Section A-A, Section B-B, and Bill of Material.



JOB = 2223.8  
 FILE = 0150065-74167-09-11-Super.dgn  
 DATE = 7/24/2014

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

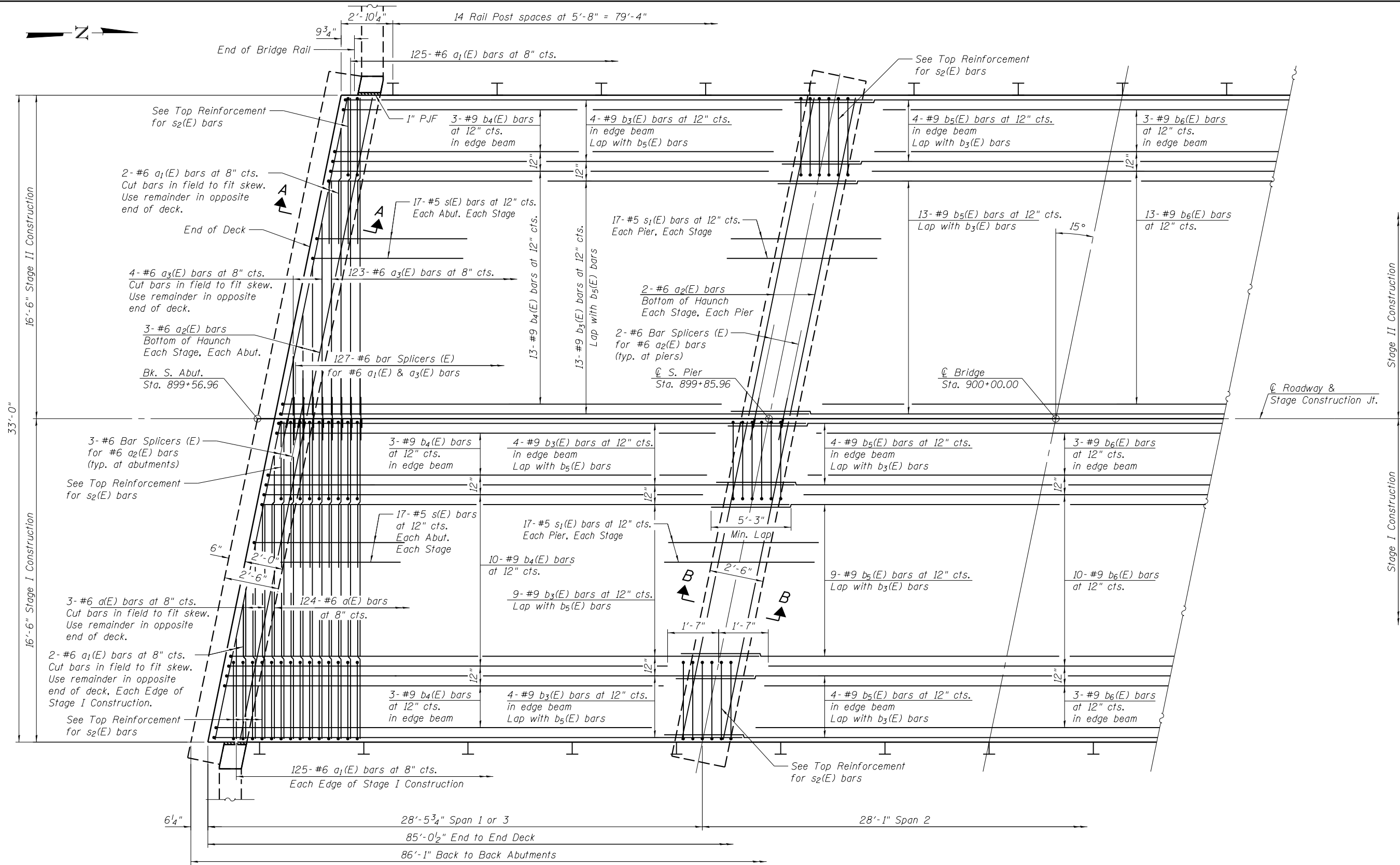
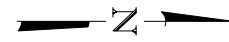
**TOP REINFORCEMENT  
 SUPERSTRUCTURE STRUCTURE NO. 015-0065**

SHEET NO. 9 OF 17 SHEETS

| F.A.S. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------|--------|--------------|-----------|
| 673                | 2BR     | COLES  | 24           | 16        |
| CONTRACT NO. 74167 |         |        |              |           |

ILLINOIS FED. AID PROJECT





**HALF PLAN-BOTTOM REINFORCEMENT**

**MINIMUM BAR LAP**

#6 bar = 3'-6"  
 #9 bar = 5'-3"

Notes:  
 See Sheet 11 of 17 for superstructure details,  
 Section A-A, Section B-B, and Bill of Material.



JOB = 2223.8  
 FILE = 0150065-74167-09-11-Super.dgn  
 DATE = 7/24/2014

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

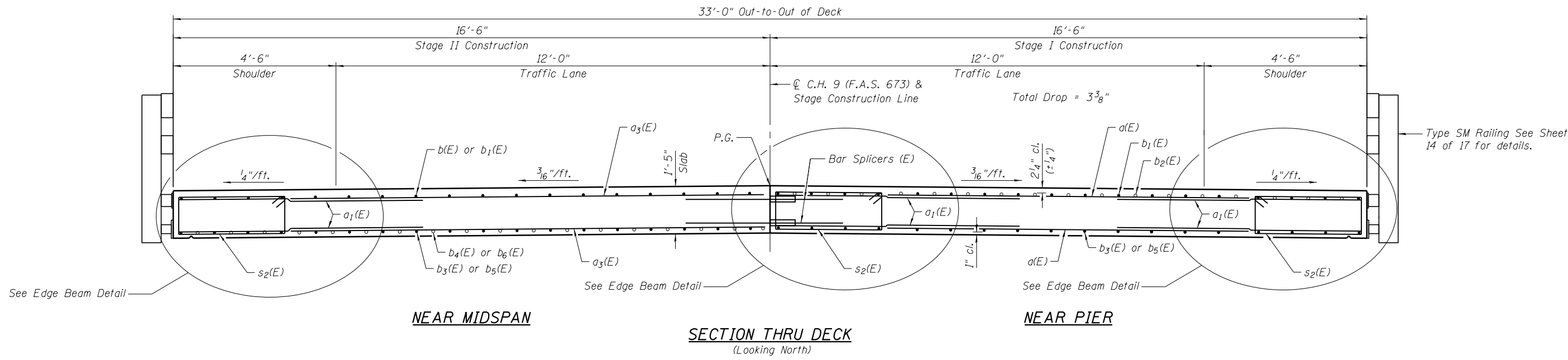
REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BOTTOM-REINFORCEMENT  
 SUPERSTRUCTURE STRUCTURE NO. 015-0065**

SHEET NO. 10 OF 17 SHEETS

| F.A.S. RTÉ.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------|--------|--------------|-----------|
| 673                       | 2BR     | COLES  | 24           | 17        |
| CONTRACT NO. 74167        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |

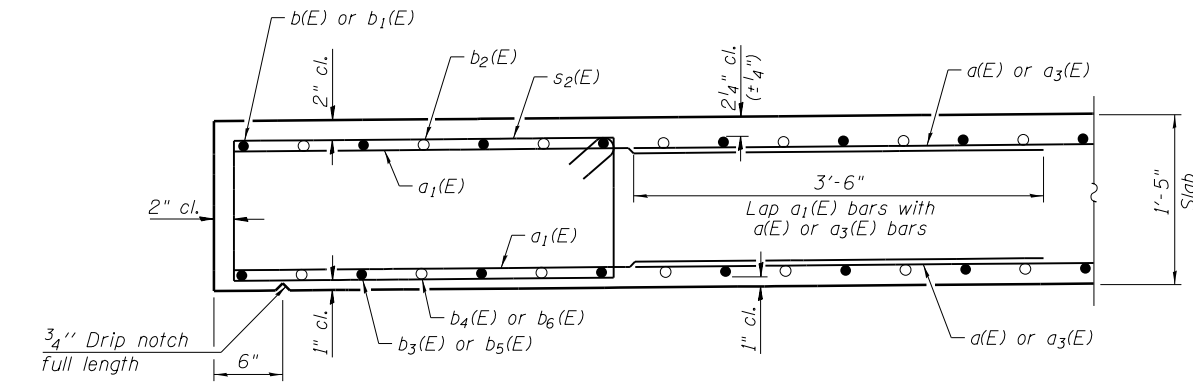


See Edge Beam Detail

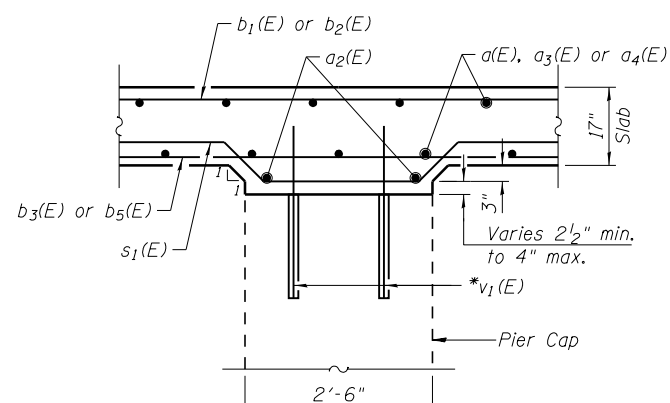
See Edge Beam Detail

See Edge Beam Detail

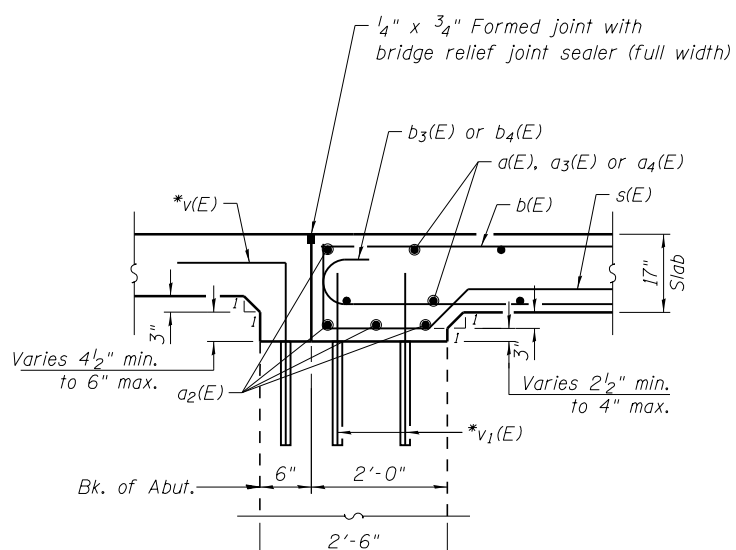
Type SM Railing See Sheet 14 of 17 for details.



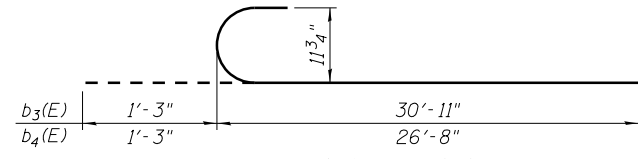
**EDGE BEAM DETAIL**



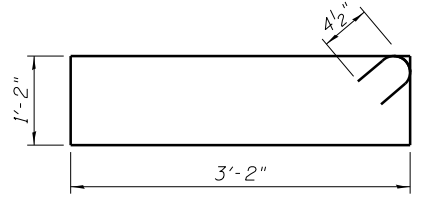
**SECTION B-B**  
(Dimensions at Rt. L's)



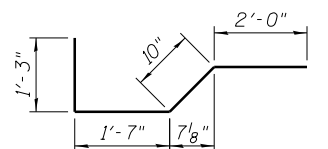
**SECTION A-A**  
(Dimensions at Rt. L's)



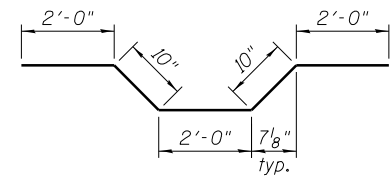
**BARS b3(E) & b4(E)**



**BAR s2(E)**



**BAR s(E)**



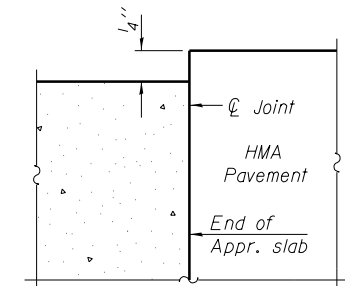
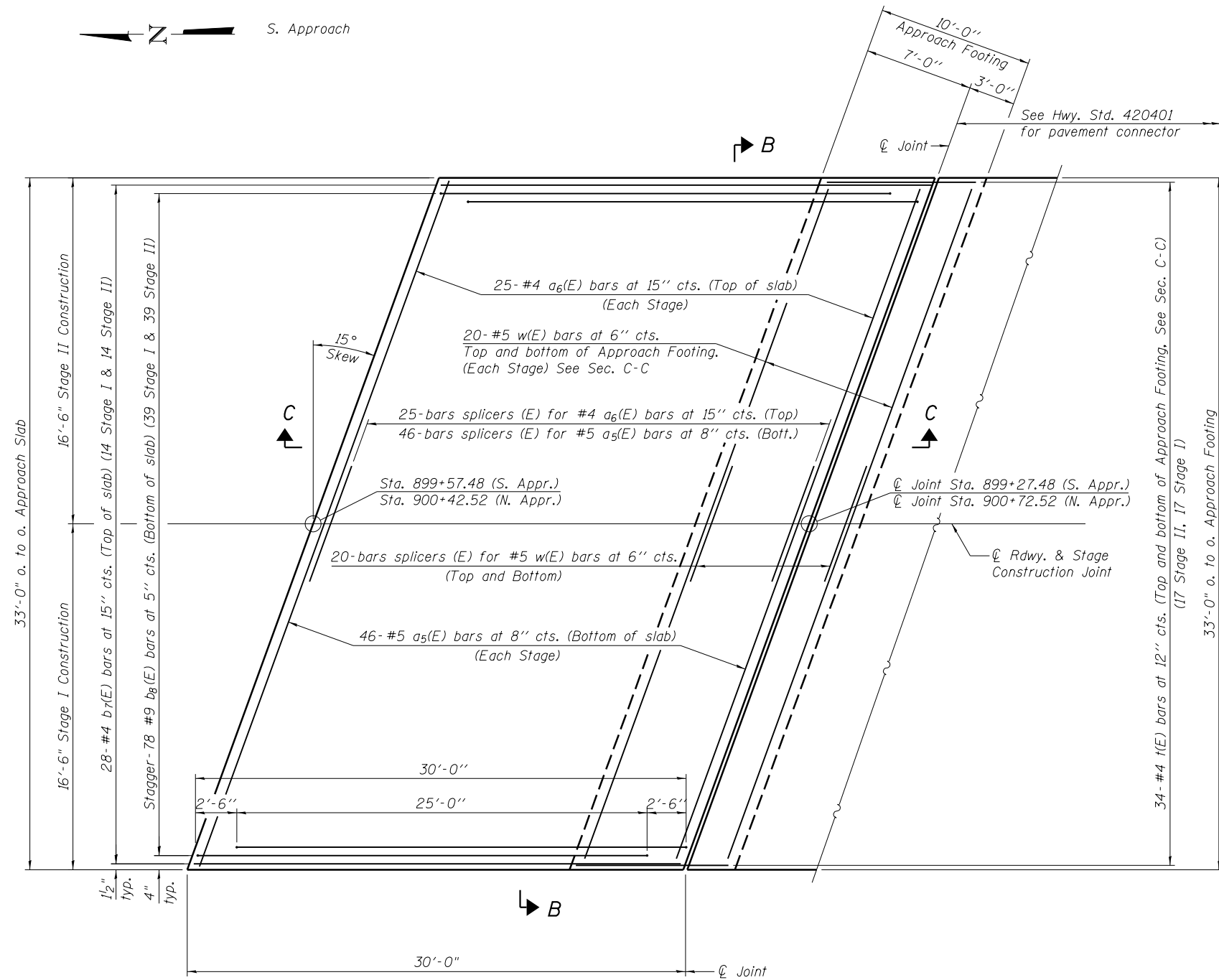
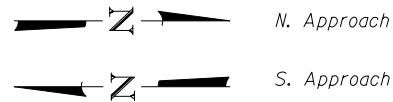
**BAR s1(E)**

**SUPERSTRUCTURE BILL OF MATERIAL**

| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a(E)                             | 254 | #6   | 9'-6"   | —     |
| a1(E)                            | 762 | #6   | 6'-9"   | —     |
| a2(E)                            | 24  | #6   | 16'-9"  | —     |
| a3(E)                            | 254 | #6   | 12'-9"  | —     |
| b(E)                             | 68  | #5   | 13'-10" | —     |
| b1(E)                            | 68  | #9   | 33'-8"  | —     |
| b2(E)                            | 64  | #9   | 19'-4"  | —     |
| b3(E)                            | 68  | #9   | 32'-2"  | —     |
| b4(E)                            | 64  | #9   | 27'-11" | —     |
| b5(E)                            | 34  | #9   | 33'-4"  | —     |
| b6(E)                            | 32  | #9   | 24'-11" | —     |
| s(E)                             | 68  | #5   | 5'-8"   | —     |
| s1(E)                            | 68  | #5   | 7'-8"   | —     |
| s2(E)                            | 381 | #4   | 9'-5"   | —     |
| Concrete Superstructure          |     |      | Cu. Yd. | 153.8 |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 53210 |

Notes:  
See Sheets 15 and 16 of 17 for bars v(E) and v1\*(E).

Notes:  
See sheet 13 of 17 for Sections B-B & C-C.  
a<sub>5</sub>(E) and a<sub>6</sub>(E) bar spacings measured along  $\varnothing$  Rdwy.



FLEXIBLE PAVEMENT

DETAIL A

**PLAN**

(N. Approach is shown, S. Approach is similar)

\* Tilt #9 b<sub>8</sub>(E) bars as required to maintain clearance.

(Sheet 1 of 2)



|   |                |           |
|---|----------------|-----------|
| JOB = 2223.8                            | DESIGNED - AAN | REVISED - |
| FILE = 0150065-74167-12-13-ApprSlab.dgn | CHECKED - MDC  | REVISED - |
| DATE = 7/24/2014                        | DRAWN - SJS    | REVISED - |
|   | CHECKED - MDC  | REVISED - |

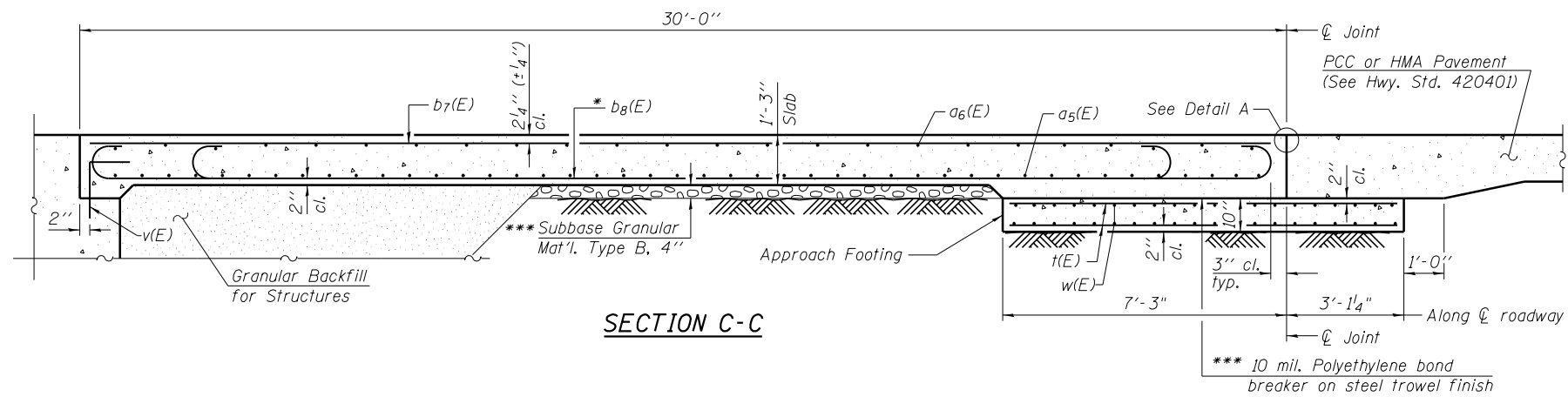
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 015-0065

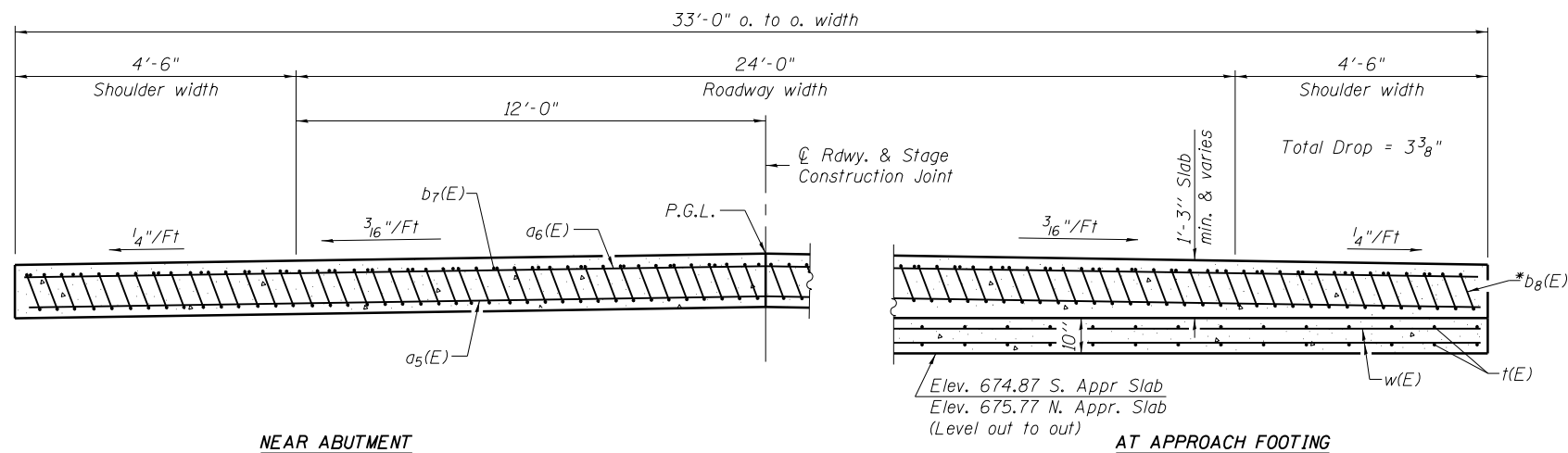
SHEET NO. 12 OF 17 SHEETS

| F.A.S. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------|--------|--------------|-----------|
| 673                | 2BR     | COLES  | 24           | 19        |
| CONTRACT NO. 74167 |         |        |              |           |

ILLINOIS FED. AID PROJECT



Notes:  
 See sheet 12 of 17 for Detail A.  
 Approach slab concrete shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 For v(E) bar details, see sheet 15 of 17.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 17 of 17.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 17.



NEAR ABUTMENT

SECTION B-B

(See Plan for dimensions not shown)

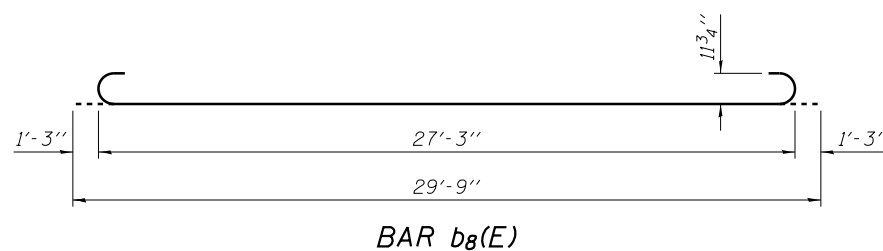
AT APPROACH FOOTING

\* Tilt #9 b8(E) bars as required to maintain clearance.

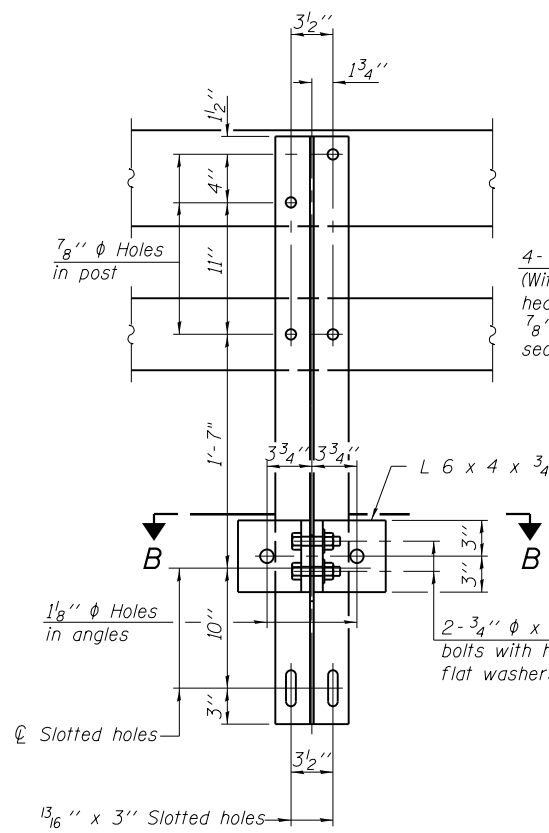
\*\*\* Cost included with Concrete Superstructure.

**TWO APPROACHES  
 BILL OF MATERIAL**

| Bar                              | No. | Size | Length  | Shape  |
|----------------------------------|-----|------|---------|--------|
| a5(E)                            | 184 | #5   | 16'-9"  | —      |
| a6(E)                            | 100 | #4   | 16'-9"  | —      |
| b7(E)                            | 56  | #4   | 29'-8"  | —      |
| b8(E)                            | 156 | #9   | 29'-9"  | ⌋      |
| t(E)                             | 136 | #4   | 10'-0"  | —      |
| w(E)                             | 160 | #5   | 16'-9"  | —      |
| Concrete Superstructure          |     |      | Cu. Yd. | 96.6   |
| Concrete Structures              |     |      | Cu. Yd. | 21.0   |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 24,930 |

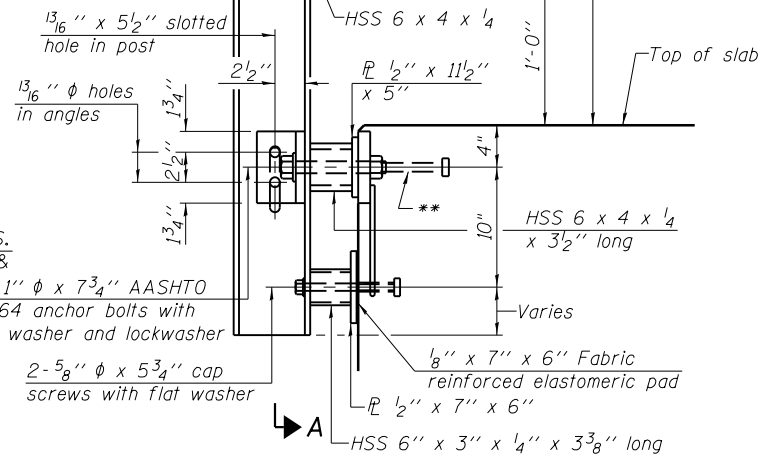


(Sheet 2 of 2)

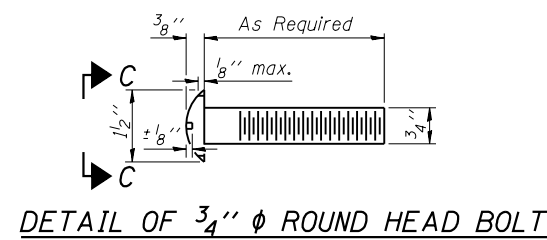


SECTION A-A

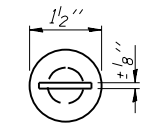
4- 3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8"  $\phi$  holes in hollow structural section may be drilled in the field.



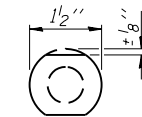
SECTION AT RAIL POST



DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT



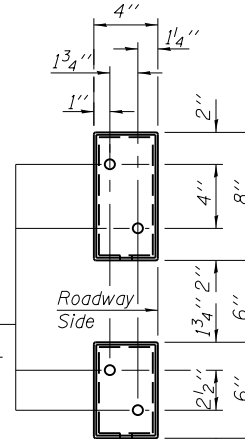
With Slot



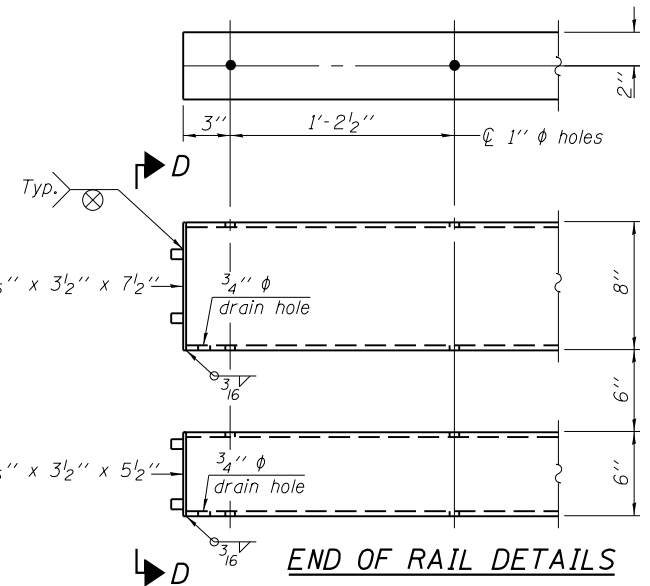
Without Slot or Recess

VIEW C-C

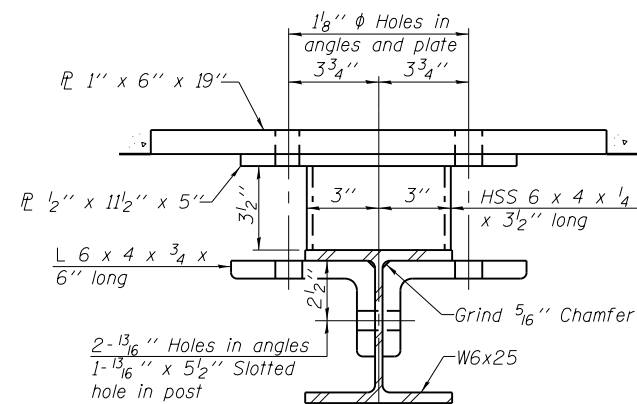
4- 5/8" reduced base welded studs. Provide 4- 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



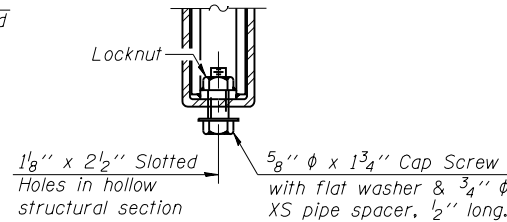
VIEW D-D



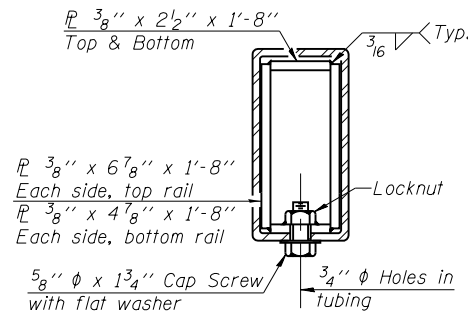
END OF RAIL DETAILS



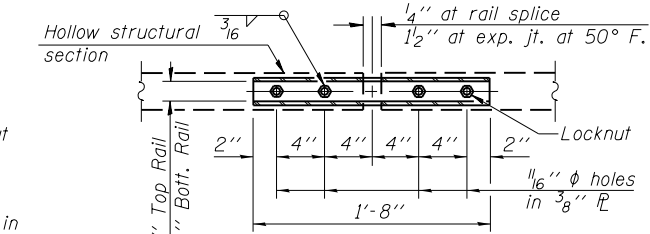
SECTION B-B



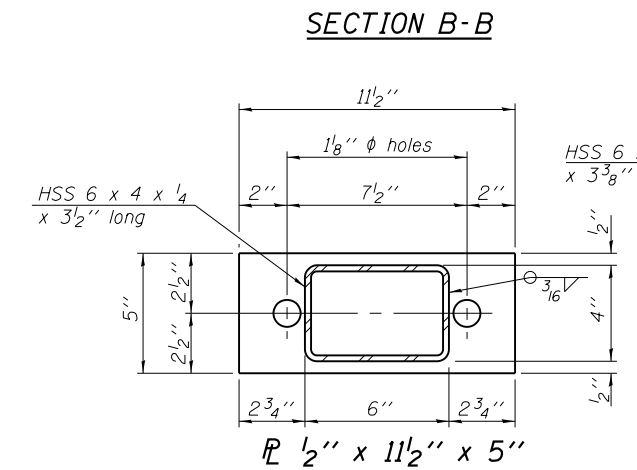
RAIL SPLICE CONNECTION AT EXPANSION JT.



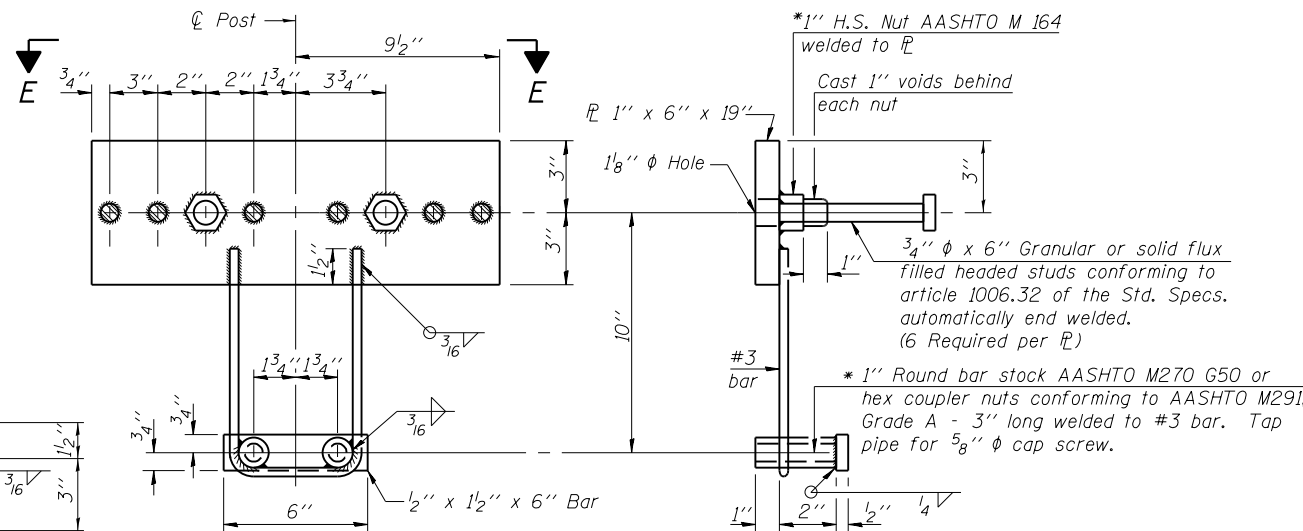
SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

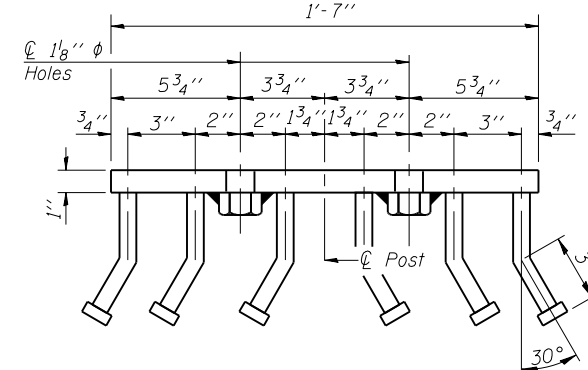


SECTION B-B



ANCHOR DEVICE

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



VIEW E-E

Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 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 SM.  
 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.

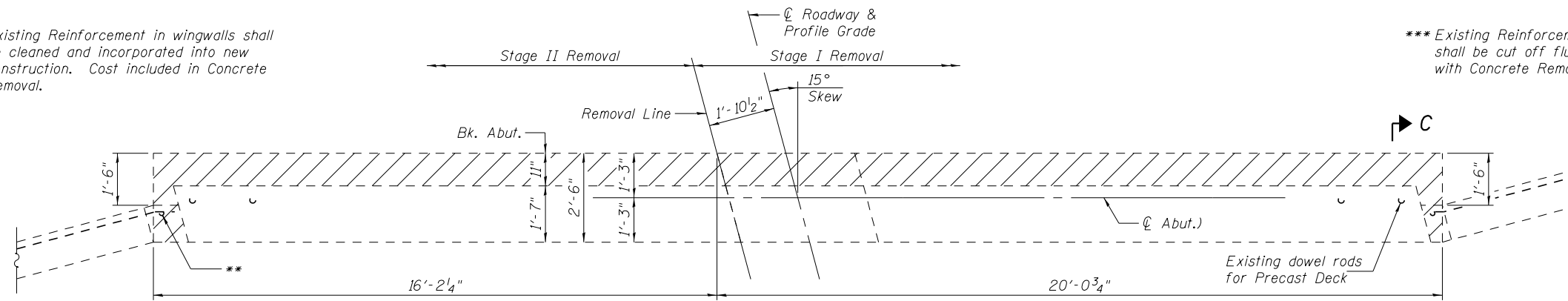
BILL OF MATERIAL

| Item                   | Unit | Quantity |
|------------------------|------|----------|
| Steel Railing, Type SM | Foot | 167      |

(6'-3" Maximum Post Spacing)

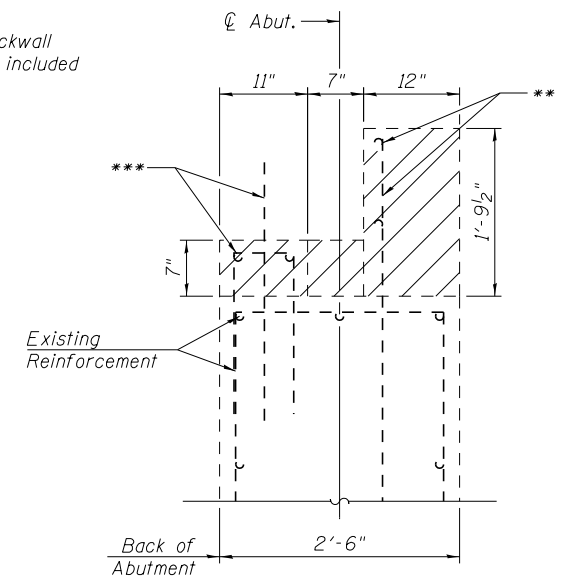
\*\* Existing Reinforcement in wingwalls shall be cleaned and incorporated into new construction. Cost included in Concrete Removal.

\*\*\* Existing Reinforcement in backwall shall be cut off flush. Cost included with Concrete Removal.



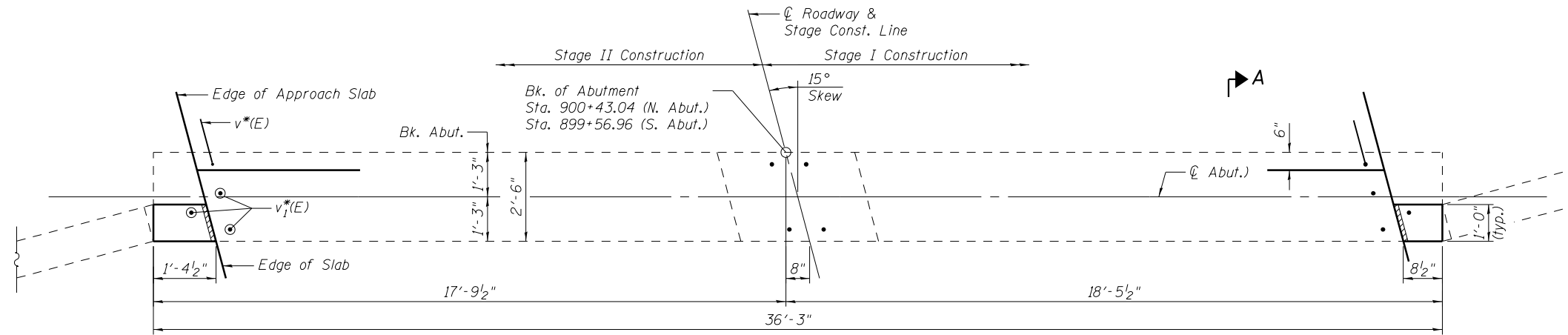
**REMOVAL PLAN**

(Stage Removal Line at North Abutment shown  
Stage Removal Line at South Abutment similar)



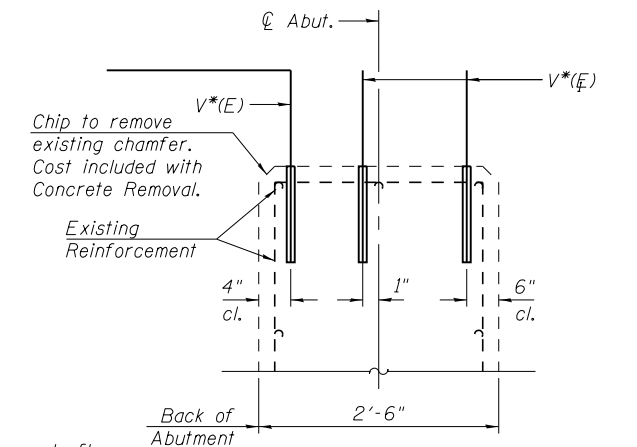
**SECTION C-C**

(Showing Removal)  
(Dimensions at right angles)



**PLAN**

(Stage Construction Line at North Abutment shown  
Stage Construction Line at South Abutment similar)

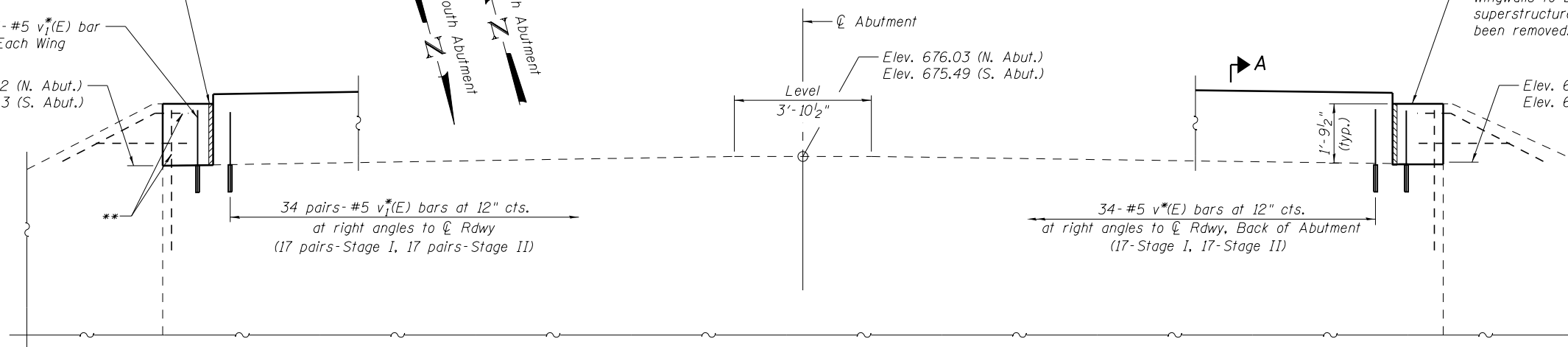


**SECTION A-A**

(Showing Proposed Reinforcement)  
(Dimensions at right angles)

Provide 1" PJF between bridge slab and existing wing. Cost included with Concrete Superstructure.

1- #5  $v_1^*(E)$  bar  
Each Wing  
Elev. 675.82 (N. Abut.)  
Elev. 675.23 (S. Abut.)

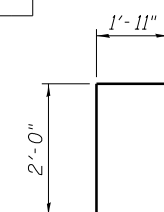


**ELEVATION**

(Looking North - N. Abut.  
Looking South - S. Abut.)

Wingwalls to be poured after superstructure forms have been removed.

Elev. 675.75 (N. Abut.)  
Elev. 675.27 (S. Abut.)



**BAR  $v^*(E)$**

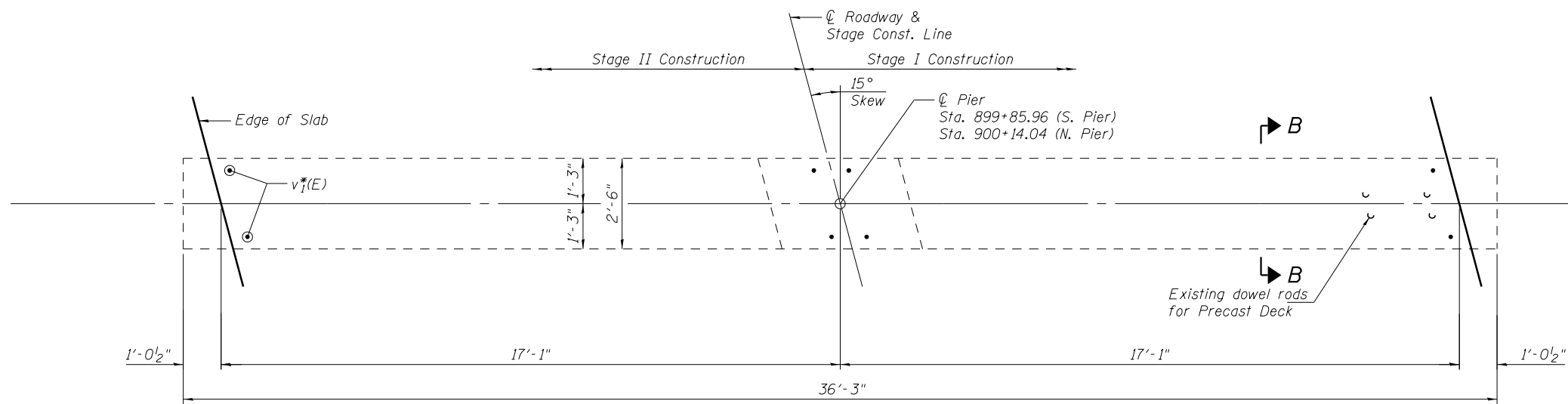
**TWO (2) ABUTMENTS  
BILL OF MATERIAL**

| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| $v_1^*(E)$                       | 68  | #5   | 3'-11"  | ┌     |
| $v_1^*(E)$                       | 140 | #5   | 2'-3"   | —     |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 610   |
| Concrete Removal                 |     |      | Cu. Yd. | 1.8   |
| Concrete Structures              |     |      | Cu. Yd. | 0.3   |

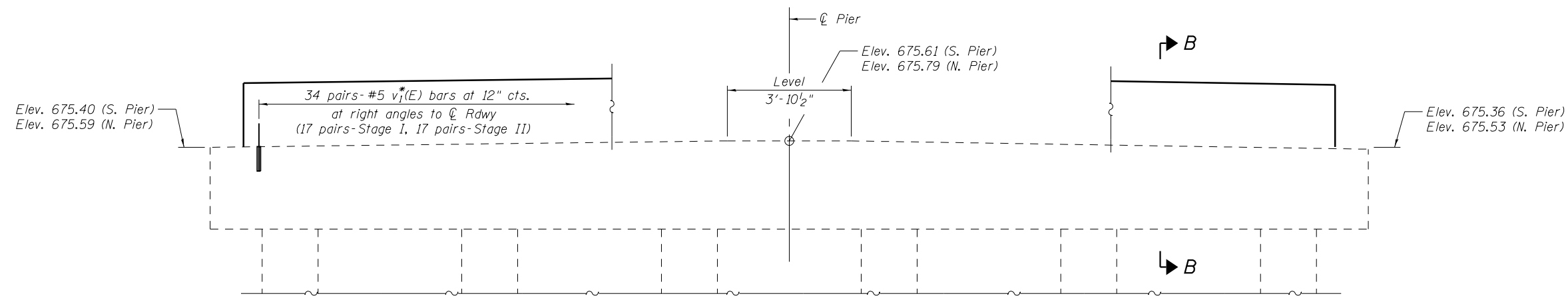
All bars designated with an asterisk (ex:  $v_1^*(E)$ ) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement.

Burn or cut the existing dowel rods flush with existing bearing seat. Grind dowel rods smooth and seal with epoxy. The cost of this work shall be included with Removal of Existing Superstructure.

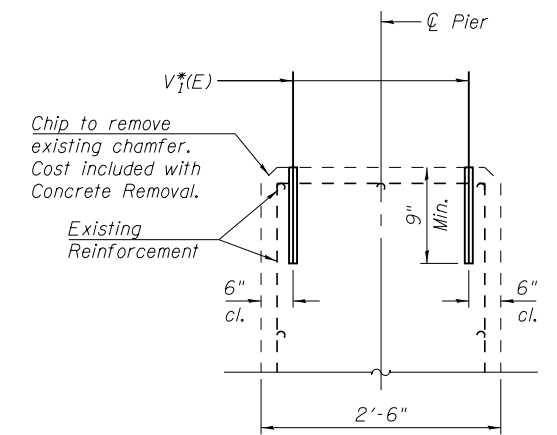
Hatched area indicates Concrete Removal.



**PLAN**



**ELEVATION**  
(Looking North)

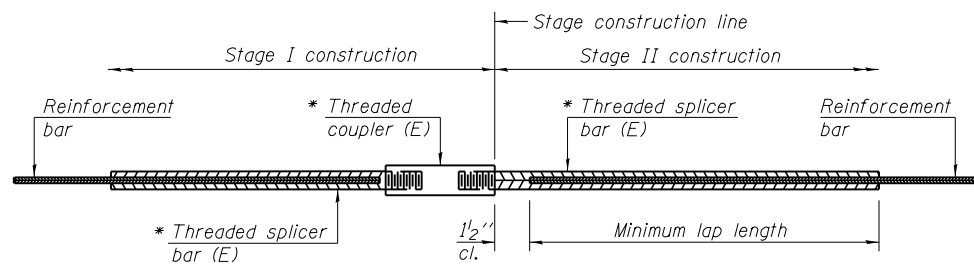


**SECTION B-B**  
(Showing proposed reinforcement)  
(Dimensions at right angles)

**TWO (2) PIERS  
BILL OF MATERIAL**

| Bar                              | No. | Size | Length | Shape |
|----------------------------------|-----|------|--------|-------|
| *v <sub>1</sub> (E)              | 136 | #5   | 2'-3"  | —     |
| Reinforcement Bars, Epoxy Coated |     |      | Pound  | 320   |

v<sub>1</sub>(E) bars shall be grouted into drilled holes in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement bars. Burn or cut the existing dowel rods flush with existing bearing seat. Grind dowel rods smooth and seal with epoxy. The cost of this work shall be included with Removal of Existing Superstructure.



**STANDARD BAR SPLICER ASSEMBLY**

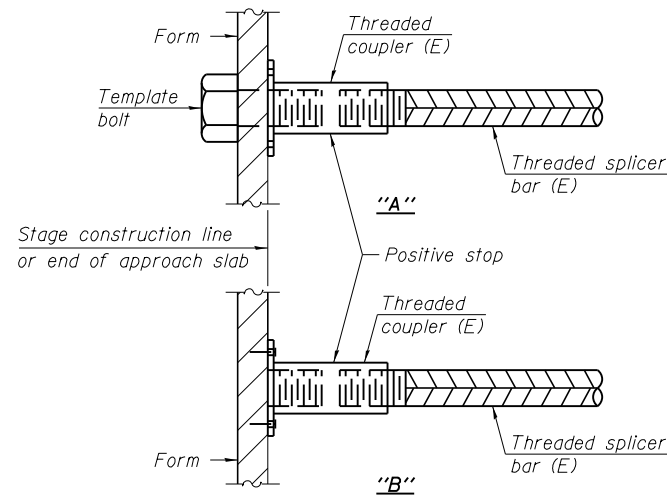
| Minimum Lap Lengths    |         |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|---------|
| Bar size to be spliced | Table 1 | Table 2 | Table 3 | Table 4 | Table 5 | Table 6 |
| 3, 4                   | 1'-5"   | 1'-11"  | 2'-1"   | 2'-4"   | 2'-7"   | 2'-11"  |
| 5                      | 1'-9"   | 2'-5"   | 2'-7"   | 2'-11"  | 3'-3"   | 3'-8"   |
| 6                      | 2'-1"   | 2'-11"  | 3'-1"   | 3'-6"   | 3'-10"  | 4'-5"   |
| 7                      | 2'-9"   | 3'-10"  | 4'-2"   | 4'-8"   | 5'-2"   | 5'-10"  |
| 8                      | 3'-8"   | 5'-1"   | 5'-5"   | 6'-2"   | 6'-9"   | 7'-8"   |
| 9                      | 4'-7"   | 6'-5"   | 6'-10"  | 7'-9"   | 8'-7"   | 9'-8"   |

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

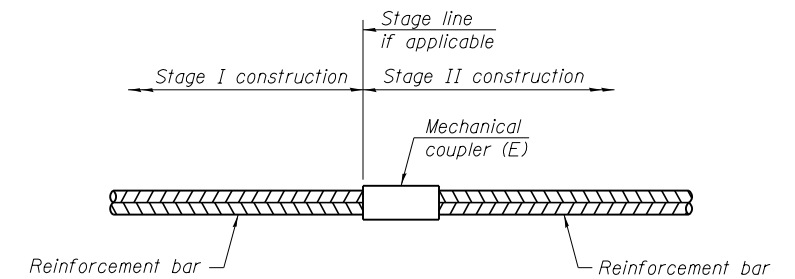
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location         | Bar size | No. assemblies required | Table for minimum lap length |
|------------------|----------|-------------------------|------------------------------|
| Deck Slab-Top    | #6       | 129                     | 4                            |
| Deck Slab-Bottom | #6       | 127                     | 3                            |
| Pier Haunch      | #6       | 4                       | 3                            |
| Abut. Haunch     | #6       | 6                       | 3                            |
| Approach Slab    | #4       | 50                      | 4                            |
| Approach Slab    | #5       | 92                      | 3                            |
| Approach Footing | #5       | 80                      | 3                            |



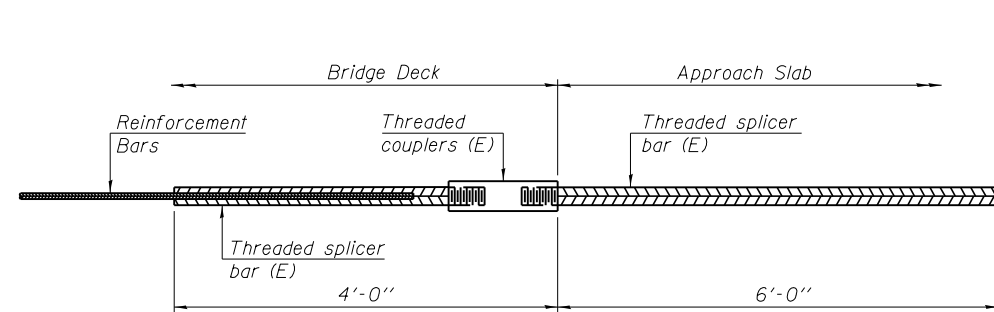
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E) : Indicates epoxy coating.



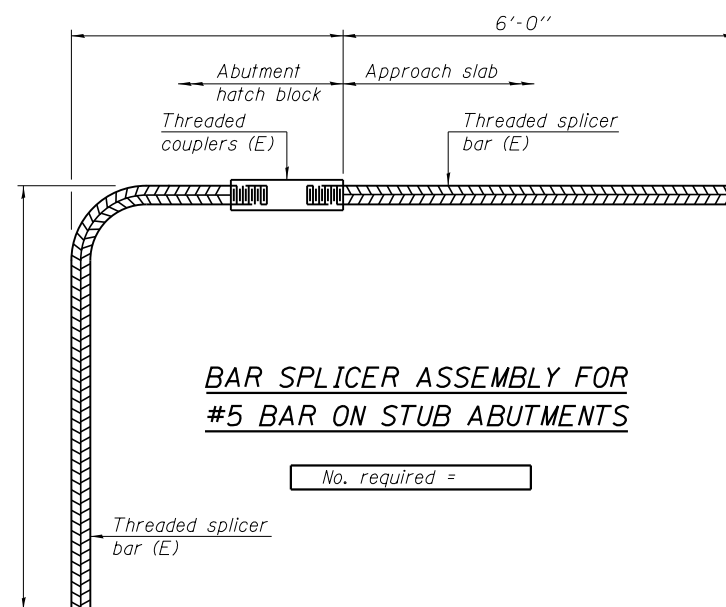
**STANDARD MECHANICAL SPLICER**

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
|          |          |                         |
|          |          |                         |
|          |          |                         |
|          |          |                         |



**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-27-12



Cummins Engineering Corporation  
 JOB = 2223.8  
 FILE = 0150065-74167-17-Splicer.dgn  
 DATE = 7/24/2014

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 015-0065

SHEET NO. 17 OF 17 SHEETS

| F.A.S. RTE.        | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------|--------|--------------|-----------|
| 673                | 2BR     | COLES  | 24           | 24        |
| CONTRACT NO. 74167 |         |        |              |           |

ILLINOIS FED. AID PROJECT