

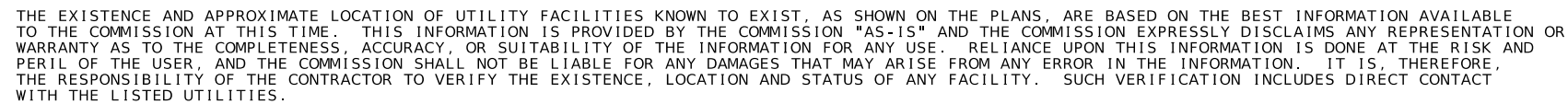
A.A.D.T. - 2025 = 6360  
A.A.D.T. - 2045 = 8566  
D.H.V. = 10%  
T = 8%  
V = 55 M.P.H.  
D = 50%

FUNCTIONAL CLASSIFICATION- MINOR ARTERIAL

|                              | EXISTING | NEW     |
|------------------------------|----------|---------|
| BUILDINGS AND STRUCTURES     |          |         |
| GUARD RAIL                   |          |         |
| GUARD CABLE                  |          |         |
| CONCRETE RIGHT-OF-WAY MARKER |          |         |
| STEEL RIGHT-OF-WAY MARKER    |          |         |
| LOCATION SURVEY MARKER       |          |         |
| UTILITIES                    |          |         |
| FIBER OPTICS                 | - FO -   | - FO -  |
| OVERHEAD CABLE TV            | - OTV -  | - OTV - |
| UNDERGROUND CABLE TV         | -UTV -   | -UTV -  |
| OVERHEAD TELEPHONE           | - OT -   | - OT -  |
| UNDERGROUND TELEPHONE        | - UT -   | - UT -  |
| OVERHEAD POWER               | - OE -   | - OE -  |
| UNDERGROUND POWER            | - UE -   | - UE -  |
| SANITARY SEWER               | - S -    | - S -   |
| STORM SEWER                  | - SS -   | - SS -  |
| GAS                          | - G -    | - G -   |
| WATER                        | - W -    | - W -   |
| MANHOLE                      |          |         |
| FIRE HYDRANT                 |          |         |
| WATER VALVE                  |          |         |
| WATER METER                  |          |         |
| DROP INLET                   |          |         |
| DITCH BLOCK                  |          |         |
| GROUND MOUNTED SIGN          |          |         |
| LIGHT POLE                   |          |         |
| H-FRAME POWER POLE           |          |         |
| TELEPHONE PEDESTAL           |          |         |
| FENCE                        |          |         |
| CHAIN LINK                   | - V -    | - V -   |
| WOVEN WIRE                   | - X -    | - X -   |
| GATE POST                    |          |         |
| BENCHMARK                    |          |         |

NOTE: DASHED OR OPEN SYMBOLS INDICATE  
EXISTING FEATURES

**KEY MAP**  
LOCATION OF CASS COUNTY



|                           |         |       |
|---------------------------|---------|-------|
| TOTAL CORRECTIONS         | 0       | FEET  |
| NET LENGTH OF PROJECT     | 2173.72 | FEET  |
| STATE LENGTH              | 0.412   | MILES |
| FOR INFORMATION ONLY      |         |       |
| ESTIMATED DISTURBED ACRES | 1       | ACRES |

[illegible]

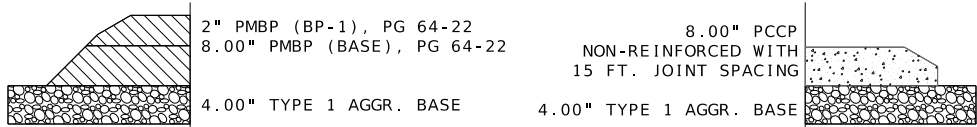
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED:

NOTE:  
CROSS SECTIONS AND EARTHWORK IN THIS PROJECT ARE BASED ON THE CONCRETE OPTION.  
CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS WITH NO EXTRA PAY IF ASPHALT  
OPTION IS USED.

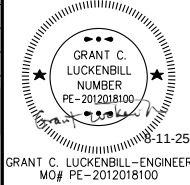
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THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE PROFILE GRADE FOR EITHER  
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A MINIMUM COVER BASED ON THE THICKER PAVEMENT DESIGN.

SEE STANDARD PLAN 401.00 FOR SAFETY EDGE DETAILS.

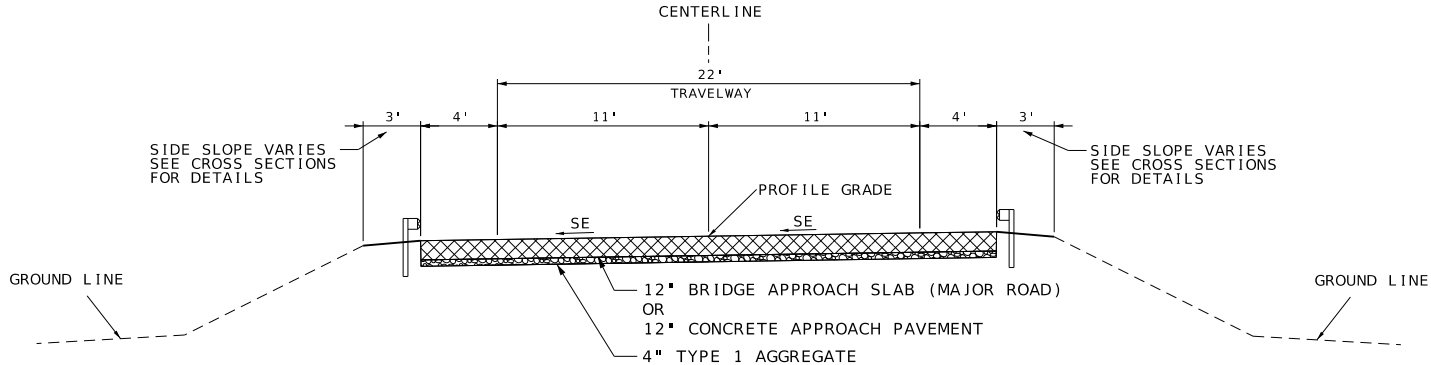
ROUTE 7 OPTIONAL PAVEMENT



| ASPHALT FACTORS            |         |
|----------------------------|---------|
| MATERIAL                   | TONS/CY |
| PMBP (BP-1), PG64-22       | 1.948   |
| PMBP (BASE), PG 64-22      | 1.943   |
| TACK COAT APPLICATION RATE |         |
| 0.10 GAL/YD' (UNDILUTED)   |         |



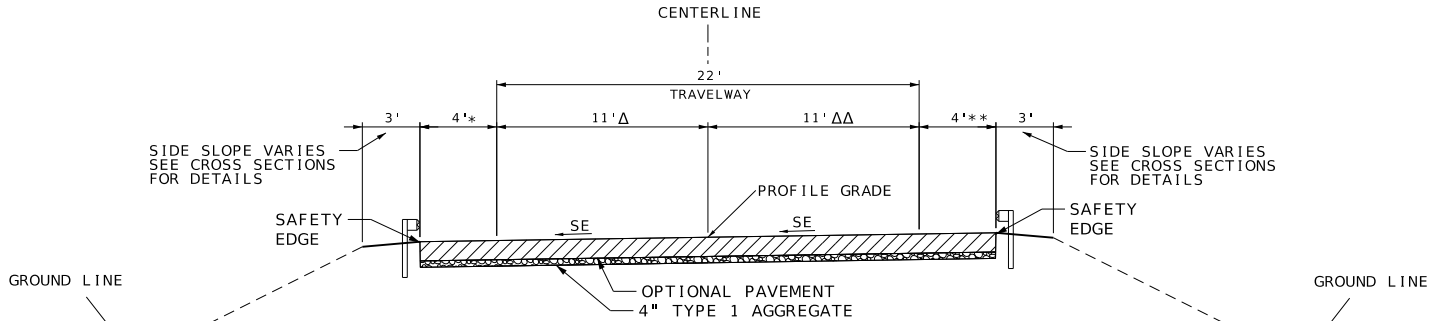
|               |           |
|---------------|-----------|
| DATE PREPARED |           |
| 8/11/2025     |           |
| ROUTE         | STATE     |
| 7             | MO        |
| DISTRICT      | SHEET NO. |
| KC            | 2         |
| COUNTY        |           |
| CASS          |           |
| JOB NO.       |           |
| JKU0098       |           |
| CONTRACT ID.  |           |
| PROJECT NO.   |           |
| BRIDGE NO.    |           |
| A9581         |           |



SECTION ON SUPERELEVATED CURVE

TYPICAL SECTION RTE. 7

STA. 85+11.39 TO STA. 85+27.81 (CONC. APPROACH PAVEMENT)  
STA. 85+27.81 TO STA. 85+48.31 (BRIDGE APPROACH SLAB)  
STA. 90+46.27 TO STA. 90+66.77 (BRIDGE APPROACH SLAB)  
STA. 90+66.77 TO STA. 90+82.35 (CONC. APPROACH PAVEMENT)



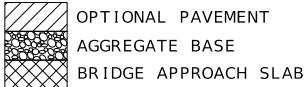
SECTION ON SUPERELEVATED CURVE

TYPICAL SECTION RTE. 7

STA. 83+30.00 TO STA. 85+11.39  
STA. 90+82.35 TO STA. 92+10.00

SE PAVEMENT CROSS SLOPE

| LEFT   | STATION  | RIGHT |
|--------|----------|-------|
| -0.59% | 83+30.00 | 1.04% |
| -1.67% | 83+57.57 | 1.67% |
| -1.67% | 92+85.39 | 1.67% |
| -2.27% | 93+15.00 | 0.51% |



NOT TO SCALE

TYPICAL SHEET  
1 OF 2

| DESCRIPTION | DATE |
|-------------|------|
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**olsson**

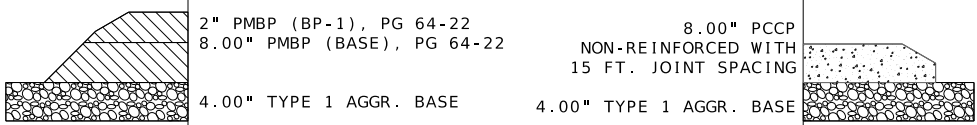
1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

NOTE:  
CROSS SECTIONS AND EARTHWORK IN THIS PROJECT ARE BASED ON THE CONCRETE OPTION.  
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SEE STANDARD PLAN 401.00 FOR SAFETY EDGE DETAILS.

ROUTE 7 OPTIONAL PAVEMENT

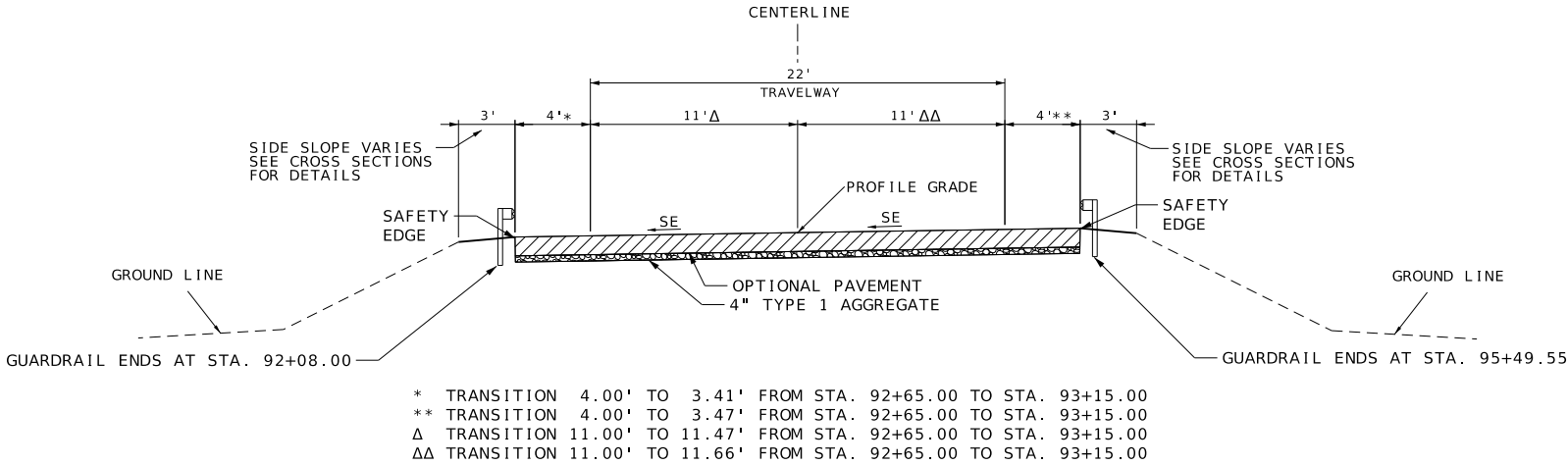
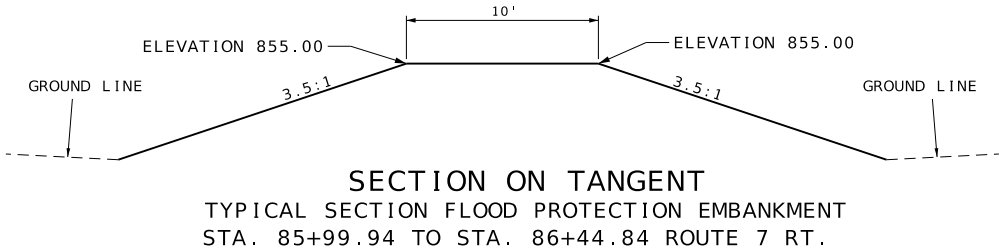


| ASPHALT FACTORS            |         |
|----------------------------|---------|
| MATERIAL                   | TONS/CY |
| PMBP (BP-1), PG64-22       | 1.948   |
| PMBP (BASE), PG 64-22      | 1.943   |
| TACK COAT APPLICATION RATE |         |
| 0.10 GAL/YD' (UNDILUTED)   |         |

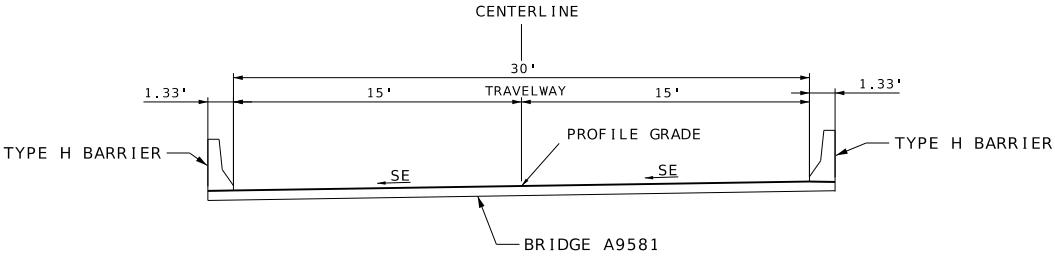


GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

|                            |                |
|----------------------------|----------------|
| DATE PREPARED<br>8/11/2025 |                |
| ROUTE<br>7                 | STATE<br>MO    |
| DISTRICT<br>KC             | SHEET NO.<br>2 |
| COUNTY<br>CASS             |                |
| JOB NO.<br>JKU0098         |                |
| CONTRACT ID.               |                |
| PROJECT NO.                |                |
| BRIDGE NO.<br>A9581        |                |



| SE PAVEMENT CROSS SLOPE |          |       |
|-------------------------|----------|-------|
| LEFT                    | STATION  | RIGHT |
| -0.59%                  | 83+30.00 | 1.04% |
| -1.67%                  | 83+57.57 | 1.67% |
| -1.67%                  | 92+85.39 | 1.67% |
| -2.27%                  | 93+15.00 | 0.51% |



- OPTIONAL PAVEMENT
- AGGREGATE BASE
- BRIDGE APPROACH SLAB

NOT TO SCALE

SECTION ON SUPERELEVATED CURVE  
TYPICAL SECTION ROUTE 7  
STA. 85+48.31 TO STA. 90+46.27

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

CLEARING & GRUBBING  
3 ACRES

MOBILIZATION  
1 LUMP SUM

CONTRACTOR FURNISHED  
SURVEYING & STAKING  
1 LUMP SUM

SEED AND MULCH  
1 LUMP SUM

ADDITIONAL MOBILIZATION FOR SEEDING  
2 EACH

| OPTIONAL PAVEMENT |          |          |            |                        |                               |          |
|-------------------|----------|----------|------------|------------------------|-------------------------------|----------|
| SHEET             | STA.     | STA.     | LOCATION   | OPTIONAL PAVEMENT (SY) | 4" TYPE 1 AGGREGATE BASE (SY) | REMARKS  |
| 4-5               | 83+30.00 | 85+11.39 | ROUTE 7    | 633.2                  | 633                           |          |
| 5                 | 90+82.35 | 93+15.00 | ROUTE 7    | 775.5                  | 776                           |          |
| 5                 | 92+46.33 |          | ROUTE 7 LT |                        | 158                           | ENTRANCE |
| TOTALS            |          |          |            | 1408.7                 | 1567                          |          |

| PAVEMENT MARKING |          |          |          |                                                     |                |                  |
|------------------|----------|----------|----------|-----------------------------------------------------|----------------|------------------|
| SHEET            | STA.     | STA.     | LOCATION | CLASS 1 PAVEMENT MARKING PAINT 18-MIL, TYPE P BEADS |                | REMARKS          |
|                  |          |          |          | 4" WHITE (LF)                                       | 4" YELLOW (LF) |                  |
| 15               | 83+30.00 | 93+15.00 | ROUTE 7  | 1970                                                |                | EDGE LINES       |
| 15               | 83+30.00 | 93+15.00 | ROUTE 7  |                                                     | 1970           | DOUBLE YELLOW CL |
| TOTALS           |          |          |          | 1970                                                | 1970           |                  |

| REMOVAL OF IMPROVEMENTS |          |          |            |                  |
|-------------------------|----------|----------|------------|------------------|
| SHEET                   | STA.     | STA.     | LOCATION   | DESCRIPTION      |
| 4                       | 73+75.83 | 85+57.39 | ROUTE 7 RT | 1183' GUARDRAIL  |
| 4                       | 74+84.07 | 85+57.10 | ROUTE 7 LT | 1081' GUARDRAIL  |
| 4                       | 83+30.00 |          | ROUTE 7    | 34' SAWCUT       |
| 4-5                     | 83+30.00 | 85+57.35 | ROUTE 7    | 790 SY PAVEMENT  |
| 5                       | 85+98.57 | 86+41.34 | ROUTE 7 RT | 30"X61' PIPE     |
| 5                       | 86+55.70 | 86+78.11 | ROUTE 7 RT | 2-24"X 28' PIPES |
| 5                       | 90+37.01 | 93+15.00 | ROUTE 7    | 874 SY PAVEMENT  |
| 5                       | 93+15.00 |          | ROUTE 7    | 30' SAWCUT       |
| 5                       | 90+36.77 | 92+07.11 | ROUTE 7 LT | 170' GUARDRAIL   |
| 5                       | 90+36.78 | 95+51.29 | ROUTE 7 RT | 517' GUARDRAIL   |
| 1 LUMP SUM              |          |          |            |                  |

| CONCRETE APPROACH PAVEMENT |          |          |          |                                 |
|----------------------------|----------|----------|----------|---------------------------------|
| SHEET                      | STA.     | STA.     | LOCATION | CONCRETE APPROACH PAVEMENT (SY) |
| 5                          | 85+11.39 | 85+27.81 | ROUTE 7  | 54.7                            |
| 5                          | 90+66.77 | 90+82.35 | ROUTE 7  | 51.9                            |
| TOTAL                      |          |          |          | 106.6                           |

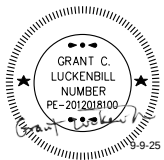
| CURB           |          |          |            |                           |
|----------------|----------|----------|------------|---------------------------|
| PLAN SHEET NO. | STA.     | STA.     | LOCATION   | TYPE A INTEGRAL CURB (LF) |
| 5              | 85+20.95 | 85+26.45 | ROUTE 7 LT | 5.5                       |
| 5              | 90+67.30 | 90+72.80 | ROUTE 7 LT | 5.5                       |
| TOTAL          |          |          |            | 11.0                      |

| OPTIONAL RUMBLE STRIPS (EDGE LINE) |          |          |             |                              |
|------------------------------------|----------|----------|-------------|------------------------------|
| SHEET NO.                          | STA.     | STA.     | LOCATION    | OPTIONAL RUMBLE STRIPS (STA) |
| 4-5                                | 83+30.00 | 85+11.39 | ROUTE 7 LT. | 1.8                          |
| 4-5                                | 83+30.00 | 85+11.39 | ROUTE 7 RT. | 1.8                          |
| 5                                  | 90+82.35 | 91+74.20 | ROUTE 7 LT. | 0.9                          |
| 5                                  | 90+82.35 | 93+15.00 | ROUTE 7 RT. | 2.3                          |
| TOTALS                             |          |          |             | 6.8                          |

| GUARDRAIL |          |          |            |                         |                                  |                                                           |                                           |                                       |                                 |                         |
|-----------|----------|----------|------------|-------------------------|----------------------------------|-----------------------------------------------------------|-------------------------------------------|---------------------------------------|---------------------------------|-------------------------|
| SHEET     | STA.     | STA.     | LOCATION   | MGS                     |                                  | TYPE A<br>CRASHWORTHY<br>END TERMINAL<br>(MASH)<br>(EACH) | TYPE A<br>GUARDRAIL<br>7 FT. POST<br>(LF) | BRIDGE<br>ANCHOR<br>SECTION<br>(EACH) | TRANSITION<br>SECTION<br>(EACH) | END<br>ANCHOR<br>(EACH) |
|           |          |          |            | GUARDRAIL<br>8 FT. POST | BRIDGE<br>APPROACH<br>TRANSITION |                                                           |                                           |                                       |                                 |                         |
|           |          |          |            | (LF)                    | (EACH)                           |                                                           |                                           |                                       |                                 |                         |
| 4-5       | 73+75.83 | 85+32.20 | ROUTE 7 RT | 1087.5                  | 2                                |                                                           |                                           |                                       |                                 |                         |
| 4-5       | 74+84.07 | 85+29.27 | ROUTE 7 LT |                         |                                  |                                                           | 1037.5                                    | 1                                     | 1                               | 1                       |
| 5         | 90+64.35 | 92+08.00 | ROUTE 7 LT | 62.5                    | 1                                | 1                                                         |                                           |                                       |                                 |                         |
| 5         | 90+63.22 | 95+49.55 | ROUTE 7 RT | 400                     | 1                                | 1                                                         |                                           |                                       |                                 |                         |
| TOTALS    |          |          |            | 1550                    | 4                                | 2                                                         | 1037.5                                    | 1                                     | 1                               | 1                       |

| EARTHWORK                     |          |            |                              |                          |                            |                         | REMARKS                                       |
|-------------------------------|----------|------------|------------------------------|--------------------------|----------------------------|-------------------------|-----------------------------------------------|
| STA.                          | STA.     | LOC.       | UNCLASSIFIED EXCAVATION (CY) | EMBANKMENT IN PLACE (CY) | COMPACTING EMBANKMENT (CY) | COMPACTING IN CUT (STA) |                                               |
| 83+30.00                      | 85+48.31 | ROUTE 7    | 203                          |                          | 2                          | 2.2                     | EXCESS 200 CY                                 |
| 85+76.17                      | 86+59.04 | ROUTE 7 RT |                              | 358                      |                            |                         | *F.P.E., OBTAIN 53 CY FROM EXCESS             |
| 86+75.00                      | 87+40.00 | ROUTE 7    |                              |                          | 210                        |                         | DITCH UNDER BRIDGE, OBTAIN 210 CY FROM EXCESS |
| 90+46.27                      | 93+15.00 | ROUTE 7    | 161                          |                          | 26                         | 2.7                     | EXCESS 103 CY                                 |
| TOTALS                        |          |            | 364                          | 358                      | 238                        | 4.9                     |                                               |
| * FLOOD PROTECTION EMBANKMENT |          |            |                              |                          |                            |                         |                                               |

SUMMARY OF QUANTITIES  
1 OF 3



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
9/8/2025

|                |                |
|----------------|----------------|
| ROUTE<br>7     | STATE<br>MO    |
| DISTRICT<br>KC | SHEET NO.<br>3 |

COUNTY  
CASS

JOB NO.  
JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A9581

DESCRIPTION

|  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|
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DATE

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|--|--|--|--|--|--|--|--|--|--|--|

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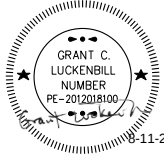
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

| TEMPORARY EROSION CONTROL |          |          |               |               |      |            |           |             |                                      |                    |
|---------------------------|----------|----------|---------------|---------------|------|------------|-----------|-------------|--------------------------------------|--------------------|
| SHEET NO.                 | STA.     | STA.     | LOCATION      | SEDIMENT TRAP |      | SILT FENCE | SED. REM. | TYPE C BERM | TYPE 3B EROSION CONTROL BLANKET (SY) | REMARKS            |
|                           |          |          |               | EXCAVATION    | ROCK |            |           |             |                                      |                    |
|                           |          |          |               | (CY)          | (CY) | (FT)       | (CY)      | (LF)        |                                      |                    |
| 4-5                       | 83+30.00 | 85+66.78 | ROUTE 7       |               |      | 579        | 6         |             |                                      |                    |
| 4-5                       | 84+72.55 | 85+6.51  | ROUTE 7 LT    |               |      | 100        | 1         |             |                                      |                    |
| 5                         | 85+77.13 | 86+59.04 | ROUTE 7 RT    |               |      |            |           |             | 550.6                                | LEVEE              |
| 5                         | 86+53.65 | 87+27.94 | ROUTE 7 RT    |               |      |            |           |             | 157.0                                | DITCH UNDER BRIDGE |
| 5                         | 90+31.19 | 93+15.00 | ROUTE 7       |               |      | 632        | 6         |             |                                      |                    |
| 5                         | 89+75.78 | 90+98.94 | ROUTE 7 LT    |               |      | 132        | 1         |             |                                      |                    |
| 9                         | 1+50.00  |          | SPECIAL DITCH | 5             | 5    |            |           |             |                                      |                    |
| 5                         | 87+40.86 | 87+92.40 | ROUTE 7       |               |      |            |           | 94          |                                      |                    |
| 5                         | 88+27.43 | 89+02.27 | ROUTE 7       |               |      |            |           | 112         |                                      |                    |
| TOTAL                     |          |          |               | 5             | 5    | 1443       | 14        | 206         | 707.6                                |                    |

| ROCK                                        |          |          |            |        |        |        |              |         |                  |         |            |         |
|---------------------------------------------|----------|----------|------------|--------|--------|--------|--------------|---------|------------------|---------|------------|---------|
| SHEET                                       | STA.     | STA.     | LOCATION   | LENGTH | WIDTH  | DEPTH  | TYPE 2       |         | TYPE 1           |         | SEPARATION | REMARKS |
|                                             |          |          |            |        |        |        | ROCK BLANKET |         | ROCK DITCH LINER |         |            |         |
|                                             |          |          |            |        |        |        | FURNISHING   | PLACING | FURNISHING       | PLACING | (SY)       |         |
|                                             |          |          |            | ( FT ) | ( FT ) | ( FT ) | ( CY )       | ( CY )  | ( CY )           | ( CY )  |            |         |
| 5                                           | 85+17.93 | 85+20.95 | ROUTE 7 LT | 74     | 3      | 0.67   |              |         | 5.4              | 5.4     |            | FLUME   |
| 5                                           | 86+45.91 | 86+57.43 | ROUTE 7 RT | *      | *      | 2      | 6.3          | 6.3     |                  |         |            |         |
| 5                                           | 87+02.91 | 87+91.67 | ROUTE 7    | *      | *      | 2      | 354.1        | 354.1   |                  |         | 531        |         |
| 5                                           | 88+40.62 | 89+32.59 | ROUTE 7    | *      | *      | 2      | 411.6        | 411.6   |                  |         | 617        |         |
| 5                                           | 90+72.80 | 90+75.82 | ROUTE 7 LT | 78     | 3      | 0.67   |              |         | 5.8              | 5.8     |            | FLUME   |
| TOTALS                                      |          |          |            |        |        |        | 772.0        | 772.0   | 11.2             | 11.2    | 1148       |         |
| * VARIES, SEE PLAN SHEETS.                  |          |          |            |        |        |        |              |         |                  |         |            |         |
| SEE STANDARD PLANS 609.40 FOR FLUME DETAILS |          |          |            |        |        |        |              |         |                  |         |            |         |

| CULVERTS  |          |          |            |                                |             |                                        |                                            |              |
|-----------|----------|----------|------------|--------------------------------|-------------|----------------------------------------|--------------------------------------------|--------------|
| SHEET NO. | STA.     | STA.     | LOCATION   | TYPE 4 MANHOLE FRAME AND COVER | 60" MANHOLE | 30" CLASS III REINFORCED CONCRETE PIPE | 30" REINFORCED CONCRETE FLARED END SECTION | CLASS 3 EXC. |
|           |          |          |            | (EACH)                         | (LF)        | (LF)                                   | (EACH)                                     | (CY)         |
| 5         | 85+86.87 | 86+44.20 | ROUTE 7 RT |                                |             | 88                                     | 1                                          | 124          |
| 5         | 86+53.74 | 87+18.03 | ROUTE 7    |                                |             | 61                                     | 1                                          | 84           |
| 5         | 87+18.03 | 87+55.93 | ROUTE 7    |                                |             | 51                                     | 1                                          | 75           |
| 5         | 87+18.03 |          | ROUTE 7 RT | 1                              | 8.91        |                                        |                                            | 34           |
| TOTAL     |          |          |            | 1                              | 8.9         | 200                                    | 3                                          | 317          |

| CONCRETE HEADWALL |          |          |            |                                    |                                   |                       |
|-------------------|----------|----------|------------|------------------------------------|-----------------------------------|-----------------------|
| SHEET NO.         | STA.     | STA.     | LOCATION   | CLASS B-1 CONCRETE (CULVERTS) (CY) | REINFORCING STEEL (CULVERTS) (LB) | 30" FLOOD GATE (EACH) |
| 11                | 86+47.70 | 86+52.50 | ROUTE 7 RT | 4.0                                | 405                               | 1                     |
| TOTAL             |          |          |            | 4.0                                | 405                               | 1                     |



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
8/11/2025

|                |                |
|----------------|----------------|
| ROUTE<br>7     | STATE<br>MO    |
| DISTRICT<br>KC | SHEET NO.<br>3 |

COUNTY  
CASS

JOB NO.  
JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A9581

|             |      |  |  |  |  |  |  |
|-------------|------|--|--|--|--|--|--|
| DESCRIPTION | DATE |  |  |  |  |  |  |
|-------------|------|--|--|--|--|--|--|

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



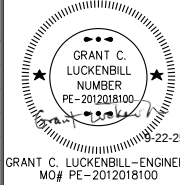
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

| SIGN          | SIZE  | AREA   | QTY  | TOTAL  | QTY  | TOTAL  | SIGN |                                                  | SIGN                | SIZE   | AREA   | QTY   | TOTAL  | RELOC | RELOC  | SIGN |                                                   | ITEM               | TOTAL    | EFFECTIVE: 07-01-2025                                                             |  |
|---------------|-------|--------|------|--------|------|--------|------|--------------------------------------------------|---------------------|--------|--------|-------|--------|-------|--------|------|---------------------------------------------------|--------------------|----------|-----------------------------------------------------------------------------------|--|
|               | IN.   | SQ.FT. | EACH | SQ.FT. | EACH | SQ.FT. | NO.  |                                                  |                     | IN.    | SQ.FT. | EACH  | SQ.FT. | EACH  | SQ.FT. | NO.  |                                                   | NUMBER             | QTY      | DESCRIPTION                                                                       |  |
| WARNING SIGNS |       |        |      |        |      |        |      |                                                  | GUIDE SIGNS         |        |        |       |        |       |        |      |                                                   | 6122008            |          | IMPACT ATTENUATOR 40 MPH (SAND BARRELS)                                           |  |
| WO1-1L        | 48X48 | 16.00  |      |        |      |        |      | TURN (SYMBOL LEFT)                               | E05-1               | 36X48  | 12.00  |       |        |       |        |      | GORE EXIT                                         | 6122009            |          | IMPACT ATTENUATOR 45 MPH (SAND BARRELS)                                           |  |
| WO1-1R        | 48X48 | 16.00  |      |        |      |        |      | TURN (SYMBOL RIGHT)                              | E05-2               | 48X36  | 12.00  |       |        |       |        |      | EXIT OPEN                                         | 6122010            |          | IMPACT ATTENUATOR 50 MPH (SAND BARRELS)                                           |  |
| WO1-2L        | 48X48 | 16.00  |      |        |      |        |      | CURVE (SYMBOL LEFT)                              | E05-2a              | 48X36  | 12.00  |       |        |       |        |      | EXIT CLOSED                                       | 6122012            |          | IMPACT ATTENUATOR 55 MPH (SAND BARRELS)                                           |  |
| WO1-2R        | 48X48 | 16.00  |      |        |      |        |      | CURVE (SYMBOL RIGHT)                             | GO20-1              | 60X24  | 10.00  |       |        |       |        |      | ROAD WORK NEXT XX MILES                           | 6122014            |          | IMPACT ATTENUATOR 60 MPH (SAND BARRELS)                                           |  |
| WO1-3L        | 48X48 | 16.00  |      |        |      |        |      | REVERSE TURN (SYMBOL LEFT)                       | GO20-2              | 48X24  | 8.00   | 2     | 16.00  |       |        |      | END ROAD WORK                                     | 6122017            |          | IMPACT ATTENUATOR 65 MPH (SAND BARRELS)                                           |  |
| WO1-3R        | 48X48 | 16.00  |      |        |      |        |      | REVERSE TURN (SYMBOL RIGHT)                      | GO20-4              | 36X18  | 4.50   |       |        |       |        |      | PILOT CAR FOLLOW ME                               | 6122019            |          | IMPACT ATTENUATOR 70 MPH (SAND BARRELS)                                           |  |
| WO1-4L        | 48X48 | 16.00  |      |        |      |        |      | REVERSE CURVE (SYMBOL LEFT)                      | GO20-4a             | 42X30  | 8.75   |       |        |       |        |      | PILOT CAR IN USE WAIT & FOLLOW                    | 6122020            |          | REPLACEMENT SAND BARREL                                                           |  |
| WO1-4R        | 48X48 | 16.00  |      |        |      |        |      | REVERSE CURVE (SYMBOL RIGHT)                     | GO20-4a             | 18X12  | 1.50   |       |        |       |        |      | PILOT CAR IN USE WAIT & FOLLOW                    | 6122030            |          | IMPACT ATTENUATOR (RELOCATION)                                                    |  |
| WO1-4bL       | 48X48 | 16.00  |      |        |      |        |      | DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)         | GO20-5aP            | 36X24  | 6.00   |       |        |       |        |      | WORK ZONE (PLAQUE)                                | 6122040            |          | WORK ZONE CRASH CUSHION (NARROW)                                                  |  |
| WO1-4bR       | 48X48 | 16.00  |      |        |      |        |      | DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)        | MO4-8a              | 24X18  | 3.00   | 2     | 6.00   |       |        |      | END DETOUR                                        | 6122041            |          | WORK ZONE CRASH CUSHION (RELOCATION)                                              |  |
| WO1-4cL       | 48X48 | 16.00  |      |        |      |        |      | TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)         | MO4-9L              | 48X36  | 12.00  |       |        |       |        |      | DETOUR (LEFT)                                     | 6123001            |          | TRUCK MOUNTED ATTENUATOR (TMA)                                                    |  |
| WO1-4cR       | 48X48 | 16.00  |      |        |      |        |      | TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)        | MO4-9R              | 48X36  | 12.00  |       |        |       |        |      | DETOUR (RIGHT)                                    | 6161012            |          | BUOYS (BOATS KEEP OUT)                                                            |  |
| WO1-6         | 60X30 | 12.50  |      |        |      |        |      | HORIZONTAL ARROW (SYMBOL)                        | MO4-9P              | 48X12  | 4.00   |       |        |       |        |      | STREET NAME (PLAQUE)                              | 6161013            |          | BUOYS (NO WAKE)                                                                   |  |
| WO1-6a        | 72X36 | 18.00  |      |        |      |        |      | HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)     | MO4-10L             | 48X18  | 6.00   |       |        |       |        |      | DETOUR ARROW (LEFT)                               | 6161014            |          | SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)                                            |  |
| WO1-7         | 60X30 | 12.50  |      |        |      |        |      | DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)            | MO4-10R             | 48X18  | 6.00   |       |        |       |        |      | DETOUR ARROW (RIGHT)                              | 6161020            |          | CHANNELIZER (DRUM-LIKE)                                                           |  |
| WO1-7a        | 72X36 | 18.00  |      |        |      |        |      | DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.) | REGULATORY SIGNS    |        |        |       |        |       |        |      |                                                   | 6161022            |          | CHANNELIZER (CONE)                                                                |  |
| WO1-8         | 18X24 | 3.00   |      |        |      |        |      | CHEVRON (SYMBOL)                                 | R1-1                | 48X48  | 13.25  |       |        |       |        |      | STOP                                              | 6161025            | 45       | CHANNELIZER (TRIM-LINE)                                                           |  |
| WO1-8a        | 30X36 | 7.50   |      |        |      |        |      | CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)            | R1-2                | 48TRI. | 6.93   |       |        |       |        |      | YIELD                                             | 6161026            |          | CHANNELIZER (VERTICAL PANEL)                                                      |  |
| WO3-1         | 48X48 | 16.00  |      |        |      |        |      | STOP AHEAD (SYMBOL)                              | R1-2a               | 36X36  | 9.00   |       |        |       |        |      | TO ONCOMING TRAFFIC (PLAQUE)                      | 6161030            | 13       | TYPE 3 MOVEABLE BARRICADE                                                         |  |
| WO3-2         | 48X48 | 16.00  |      |        |      |        |      | YIELD AHEAD (SYMBOL)                             | R1-3P               | 30X12  | 2.50   |       |        |       |        |      | ALL WAY (PLAQUE)                                  | 6161033            |          | DIRECTION INDICATOR BARRICADE                                                     |  |
| WO3-3         | 48X48 | 16.00  |      |        |      |        |      | SIGNAL AHEAD (SYMBOL)                            | R2-1                | 36X48  | 12.00  |       |        |       |        |      | SPEED LIMIT XX                                    | 6161040            |          | FLASHING ARROW PANEL                                                              |  |
| WO3-4         | 48X48 | 16.00  |      |        |      |        |      | BE PREPARED TO STOP                              | R3-1                | 48X48  | 16.00  |       |        |       |        |      | NO RIGHT TURN (SYMBOL)                            | 6161047            |          | TYPE 3 OBJECT MARKER                                                              |  |
| WO3-5         | 48X48 | 16.00  |      |        |      |        |      | SPEED LIMIT AHEAD                                | R3-2                | 48X48  | 16.00  |       |        |       |        |      | NO LEFT TURN (SYMBOL)                             | 6161055            |          | SEQUENTIAL FLASHING WARNING LIGHT                                                 |  |
| WO4-1L        | 48X48 | 16.00  |      |        |      |        |      | MERGE (SYMBOL FROM LEFT)                         | R3-3                | 36X36  | 9.00   |       |        |       |        |      | NO TURNS                                          | 6161070            |          | TUBULAR MARKER                                                                    |  |
| WO4-1R        | 48X48 | 16.00  |      |        |      |        |      | MERGE (SYMBOL FROM RIGHT)                        | R3-4                | 48X48  | 16.00  |       |        |       |        |      | NO U-TURN (SYMBOL)                                | 6161095            |          | RADAR SPEED ADVISORY SYSTEM                                                       |  |
| WO4-1aL       | 48X48 | 16.00  |      |        |      |        |      | MERGE (LEFT)                                     | R3-7L               | 30X30  | 6.25   |       |        |       |        |      | LEFT LANE MUST TURN LEFT                          | 6161096            |          | CHANGEABLE MESSAGE SIGN,<br>COMMISSION FURNISHED/RETAINED                         |  |
| WO4-1aR       | 48X48 | 16.00  |      |        |      |        |      | MERGE (RIGHT)                                    | R3-7R               | 30X30  | 6.25   |       |        |       |        |      | RIGHT LANE MUST TURN RIGHT                        |                    |          | CHANGEABLE MESSAGE SIGN WITHOUT COMM.<br>INTERFACE, CONTRACTOR FURNISHED/RETAINED |  |
| WO5-1         | 48X48 | 16.00  | 2    | 32.00  |      |        |      | ROAD/BRIDGE/RAMP NARROWS                         | R4-1                | 36X48  | 12.00  |       |        |       |        |      | DO NOT PASS                                       | 6161098A           |          | CHANGEABLE MESSAGE SIGN WITH COMM.<br>INTERFACE, CONTRACTOR FURNISHED/RETAINED    |  |
| WO5-3         | 48X48 | 16.00  |      |        |      |        |      | ONE LANE BRIDGE                                  | R4-2                | 36X48  | 12.00  |       |        |       |        |      | PASS WITH CARE                                    |                    |          | CHANGEABLE MESSAGE SIGN WITH COMM.<br>INTERFACE, CONTRACTOR FURNISHED/RETAINED    |  |
| WO5-5         | 48X48 | 16.00  |      |        |      |        |      | NARROW LANES                                     | R4-7a               | 36X48  | 12.00  |       |        |       |        |      | KEEP RIGHT (HORIZONTAL ARROW)                     | 6161099            | 6        | WORK ZONE TRAFFIC SIGNAL SYSTEM                                                   |  |
| WO6-1         | 48X48 | 16.00  |      |        |      |        |      | DIVIDED HIGHWAY (SYMBOL)                         | R4-8a               | 36X48  | 12.00  |       |        |       |        |      | KEEP LEFT (HORIZONTAL ARROW)                      |                    |          | TEMPORARY LONG-TERM RUMBLE STRIPS                                                 |  |
| WO6-2         | 48X48 | 16.00  |      |        |      |        |      | DIVIDED HIGHWAY END (SYMBOL)                     | R5-1                | 30X30  | 6.25   |       |        |       |        |      | DO NOT ENTER                                      | 6162000A           |          |                                                                                   |  |
| WO6-3         | 48X48 | 16.00  |      |        |      |        |      | TWO WAY TRAFFIC (SYMBOL)                         | R5-1a               | 36X24  | 6.00   |       |        |       |        |      | WRONG WAY                                         | 6162002            |          |                                                                                   |  |
| WO7-3a        | 30X24 | 5.00   |      |        |      |        |      | NEXT XX MILES (PLAQUE)                           | R6-1L               | 54X18  | 6.75   |       |        |       |        |      | ONE WAY ARROW (LEFT)                              | 6173600D           |          | TEMPORARY TRAFFIC BARRIER,<br>CONTRACTOR FURNISHED/RETAINED                       |  |
| WO8-1         | 48X48 | 16.00  |      |        |      |        |      | BUMP                                             | R6-1R               | 54X18  | 6.75   |       |        |       |        |      | ONE WAY ARROW (RIGHT)                             |                    |          | TEMP. TRAFFIC BARRIER ANCHORED,<br>CONTRACTOR FURNISHED/RETAINED                  |  |
| WO8-2         | 48X48 | 16.00  |      |        |      |        |      | DIP                                              | R6-2L               | 24X30  | 5.00   |       |        |       |        |      | ONE WAY (LEFT)                                    | 6173700B           |          | TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION                                        |  |
| WO8-3         | 48X48 | 16.00  |      |        |      |        |      | PAVEMENT ENDS                                    | R6-2R               | 24X30  | 5.00   |       |        |       |        |      | ONE WAY (RIGHT)                                   |                    |          | CONTRACTOR FURNISHED/RETAINED                                                     |  |
| WO8-4         | 48X48 | 16.00  |      |        |      |        |      | SOFT SHOULDER                                    | R9-9                | 24X12  | 2.00   |       |        |       |        |      | SIDEWALK CLOSED                                   | 6173706            |          | TEMP. TRAFFIC BARRIER HEIGHT TRANSITION,<br>CONTRACTOR FURNISHED/RETAINED         |  |
| WO8-5         | 48X48 | 16.00  |      |        |      |        |      | SLIPPERY WHEN WET (SYMBOL)                       | R9-11L              | 24X18  | 3.00   |       |        |       |        |      | SIDEWALK CLOSED AHEAD,<br>(ARROW LEFT) CROSS HERE |                    |          | RELOCATING TEMPORARY TRAFFIC BARRIER                                              |  |
| WO8-6         | 48X48 | 16.00  |      |        |      |        |      | TRUCK CROSSING                                   | R9-11R              | 24X18  | 3.00   |       |        |       |        |      | (ARROW RIGHT) CROSS HERE                          | 6174000A           |          |                                                                                   |  |
| WO8-6c        | 48X48 | 16.00  |      |        |      |        |      | TRUCK ENTRANCE                                   | R10-6               | 24X36  | 6.00   |       |        |       |        |      | STOP HERE ON RED (45° ARROW)                      | 6175010A           |          |                                                                                   |  |
| WO8-7         | 36X36 | 9.00   |      |        |      |        |      | LOOSE GRAVEL                                     | R11-2               | 48X30  | 10.00  |       |        |       |        |      | ROAD CLOSED                                       | 6175011B           |          |                                                                                   |  |
| WO8-7a        | 36X36 | 9.00   |      |        |      |        |      | FRESH OIL / LOOSE GRAVEL                         | R11-3a              | 60X30  | 12.50  |       |        |       |        |      | ROAD CLOSED XX MILES AHEAD                        | 6175013            |          |                                                                                   |  |
| WO8-9         | 48X48 | 16.00  |      |        |      |        |      | LOW SHOULDER                                     |                     | R11-4  | 60X30  | 12.50 |        |       |        |      |                                                   | LOCAL TRAFFIC ONLY | 6175020A |                                                                                   |  |
| WO8-11        | 48X48 | 16.00  |      |        |      |        |      | UNEVEN LANES                                     | CONST-3A            | 60X48  | 20.00  |       |        |       |        |      | ROAD CLOSED TO THRU TRAFFIC                       | 6208064A           |          |                                                                                   |  |
| WO8-12        | 48X48 | 16.00  |      |        |      |        |      | NO CENTER LINE                                   | CONST-3X            | 56X12  | 4.67   |       |        |       |        |      | FINE SIGN                                         | 9029400            |          |                                                                                   |  |
| WO8-15        | 48X48 | 16.00  |      |        |      |        |      | GROOVED PAVEMENT                                 | MISCELLANEOUS SIGNS |        |        |       |        |       |        |      |                                                   | 6122008            |          | TEMPORARY RAISED PAVEMENT MARKER                                                  |  |
| WO8-15P       | 30X24 | 5.00   |      |        |      |        |      | MOTORCYCLE (PLAQUE)                              | CONST-5             | 48X36  | 12.00  |       |        |       |        |      | POINT OF PRESENCE                                 |                    |          | TEMPORARY TRAFFIC SIGNALS                                                         |  |
| WO8-17L       | 48X48 | 16.00  |      |        |      |        |      | SHOULDER DROP-OFF (SYMBOL LEFT)                  | CONST-5             | 96X48  | 32.00  |       |        |       |        |      | POINT OF PRESENCE                                 |                    |          | TEMPORARY TRAFFIC SIGNALS AND LIGHTING                                            |  |
| WO8           |       |        |      |        |      |        |      |                                                  |                     |        |        |       |        |       |        |      |                                                   |                    |          |                                                                                   |  |



|               |           |
|---------------|-----------|
| DATE PREPARED |           |
| 9/22/2025     |           |
| ROUTE         | STATE     |
| 7             | MO        |
| DISTRICT      | SHEET NO. |
| KC            | 3         |
| COUNTY        |           |

GENERAL NOTE:  
THE APPROXIMATE LOCATION OF PROPERTY LINES AS SHOWN ON THE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

ALL BEARINGS ARE BASED ON STATE PLANE BEARINGS, WEST ZONE.

GRAFFEO, NICHOLAS  
NO ACQUISITION

STA. 74+84.07 TO  
STA. 85+29.27 @ RTE. 7 LT.  
BUILD 1037.5' TYPE A GUARDRAIL,  
1 BRIDGE ANCHOR SECTION,  
1 ASYMMETRICAL TRANSITION SECTION,  
1 END ANCHOR

BEGINS AT A POINT APPROX. 1744.57'  
WEST & 784.74' SOUTH OF THE NORTH QUARTER  
CORNER OF SECTION 29, T46N R30W.

NORTH QUARTER CORNER OF SECTION 29,  
T46N R30W 1940.03', S66°52'17"W  
DOCUMENT #600-59961

BEGIN PROJECT  
STA. 73+75.83

TIE MGS BRIDGE APPROACH  
TRANSITION TO BRIDGE A5883

MOORE FAMILY TRUST  
NO ACQUISITION

NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub>  
SEC. 29  
T46N R30W

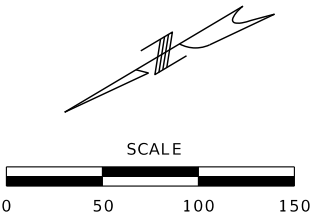
STA. 73+75.83 TO  
STA. 85+32.20 @ RTE. 7 RT.  
BUILD 1087.5' MGS GUARDRAIL,  
2 MGS BRIDGE ANCHOR SECTIONS

GRAFFEO, NICHOLAS  
NO ACQUISITION

MDNR DIVISION OF STATE PARKS  
NO ACQUISITION

SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub>  
SEC. 29  
T46N R30W

PLAN SHEET  
SHEET 1 OF 3



PI 92+87.63  
PC 82+81.68  
PT 102+57.99  
Δ 26°21'1.0" (LT)  
D 1°19'59.9"  
L 1,976.32' (ARC)  
T 1,005.95'  
R 4,297.28'  
SE 1.67%



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
8/11/2025  
ROUTE 7 STATE MO  
DISTRICT KC SHEET NO. 4  
COUNTY CASS  
JOB NO. JKU0098  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO. A9581

| DESCRIPTION | DATE |
|-------------|------|
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

olsson

1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

SW¼ NW¼  
SEC. 29  
T46N R30W

GRAFFEO, NICHOLAS  
NO ACQUISITION

STA. 74+84.07 TO  
STA. 85+29.27 @ RTE. 7 LT.  
BUILD 1037.5' TYPE A GUARDRAIL,  
1 BRIDGE ANCHOR SECTION,  
1 ASYMMETRICAL TRANSITION SECTION,  
1 END ANCHOR

STA. 85+11.39 TO STA. 85+27.81 @ RTE. 7  
BUILD 54.7 SY OF CONCRETE APPROACH PAVEMENT

STA. 85+20.95 TO STA. 85+26.45 @ RTE. 7 LT.  
BUILD 5.5' OF TYPE A INTEGRAL CURB

STA. 85+27.81 TO STA. 85+48.31 @ RTE. 7  
BUILD 74.4 SY OF BRIDGE APPROACH SLAB

HIGHT FAMILY TRUST  
NO ACQUISITION

EXIST. BRIDGE NO. L0023  
STA. 85+56.65 @ ROUTE 7  
480.67' STEEL I-BEAM AND  
TRUSS SPANS  
(REMOVE)

MDNR DIVISION  
OF STATE PARKS  
NO ACQUISITION

PI 92+87.63  
PC 82+81.68  
PT 102+57.99  
Δ 26°21'1.0" (LT)  
D 1°19'59.9" (ARC)  
L 1,976.32'  
T 1,005.95'  
R 4,297.28'  
SE 1.67%

NW¼ SW¼  
SEC. 30  
T46N R30W

HOUSE, DOMINICK JOSEPH  
& ERICA NICHOLE  
NO ACQUISITION

STA. 90+64.35 TO  
STA. 92+08.00 @ RTE. 7 LT.  
BUILD 62.5' MGS GUARDRAIL,  
1 MGS BRIDGE ANCHOR SECTION,  
1 MGS CRASHWORTHY END TERMINAL (MASH)

STA. 90+46.27 TO STA. 90+66.77 @ RTE. 7  
BUILD 74.4 SY OF BRIDGE APPROACH SLAB

STA. 90+66.77 TO STA. 90+82.35 @ RTE. 7  
BUILD 51.9 SY OF CONCRETE APPROACH PAVEMENT

STA. 90+67.30 TO STA. 90+72.80 @ RTE. 7 LT.  
BUILD 5.5' OF TYPE A INTEGRAL CURB

STA. 92+46.33 LT.  
TYPE I DRWY.  
24' WIDTH  
0.95% GRADE  
R= 10'  
AGGREGATE SURFACE

END PROJECT  
STA. 95+49.55

STA. 90+63.22 TO  
STA. 95+49.55 @ RTE. 7 RT.  
BUILD 400.0' MGS GUARDRAIL,  
1 MGS BRIDGE ANCHOR SECTION,  
1 MGS CRASHWORTHY END TERMINAL (MASH)

SLEAD, AMANDA KAY  
NO ACQUISITION

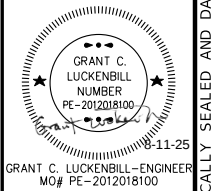
MOORE FAMILY TRUST  
NO ACQUISITION

PROPOSED BRIDGE NO. A9581  
STA. 85+51.75 @ ROUTE 7  
FILL EXCEPTION  
STA. 85+47.80 TO STA. 90+46.77  
W.S. PLATE GIRDER  
SPANS W/20'-0" WINGS  
(165'-200'-130')  
W= 30' ROADWAY, 16" TYPE H  
BARRIER CURBS

SE¼ NW¼  
SEC. 30  
T46N R30W

NE¼ SE¼  
SEC. 30  
T46N R30W

PLAN SHEET  
SHEET 2 OF 3



|                            |                |
|----------------------------|----------------|
| DATE PREPARED<br>8/11/2025 |                |
| ROUTE<br>7                 | STATE<br>MO    |
| DISTRICT<br>KC             | SHEET NO.<br>5 |
| COUNTY<br>CASS             |                |
| JOB NO.<br>JKU0098         |                |
| CONTRACT ID.               |                |
| PROJECT NO.                |                |
| BRIDGE NO.<br>A9581        |                |

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MISSOURI HIGHWAYS AND TRANSPORTATION  
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**MoDOT**

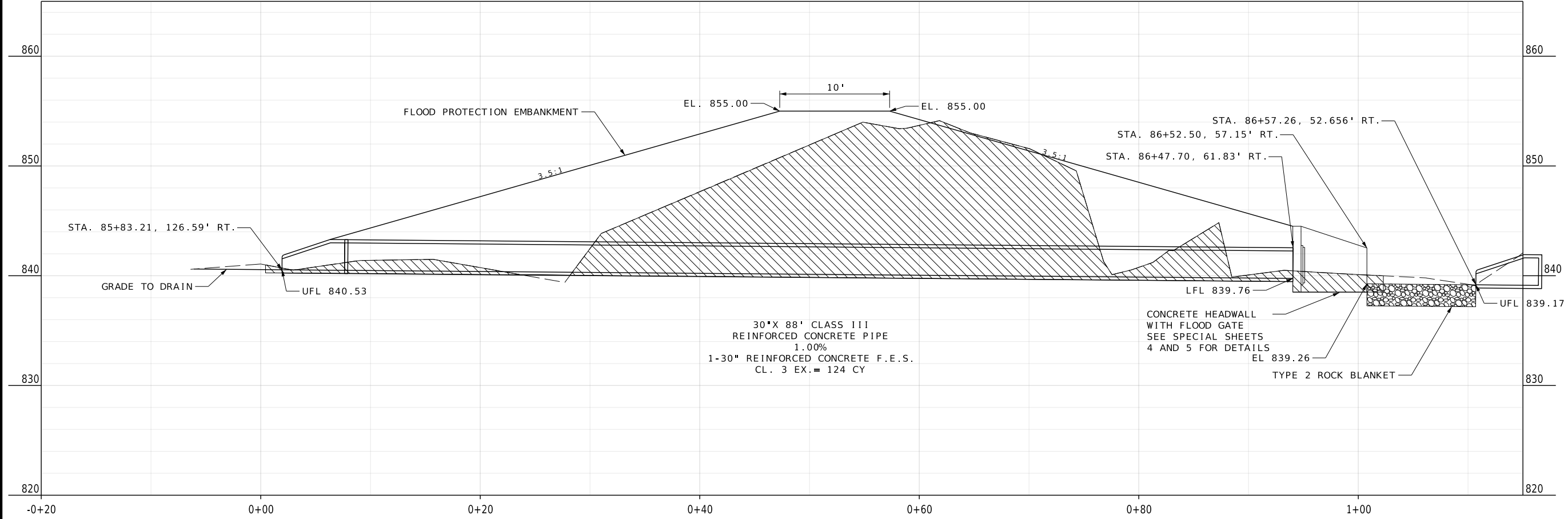
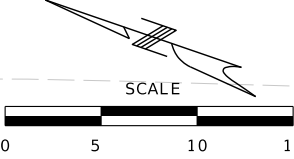
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
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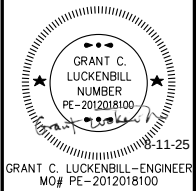
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SPECIAL SHEET  
SHEET 1 OF 5



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| DATE PREPARED<br>8/11/2025 |                |
| ROUTE<br>7                 | STATE<br>MO    |
| DISTRICT<br>KC             | SHEET NO.<br>8 |
| COUNTY<br>CASS             |                |
| JOB NO.<br>JKU0098         |                |
| CONTRACT ID.               |                |
| PROJECT NO.                |                |
| BRIDGE NO.<br>A9581        |                |

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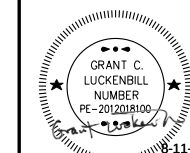
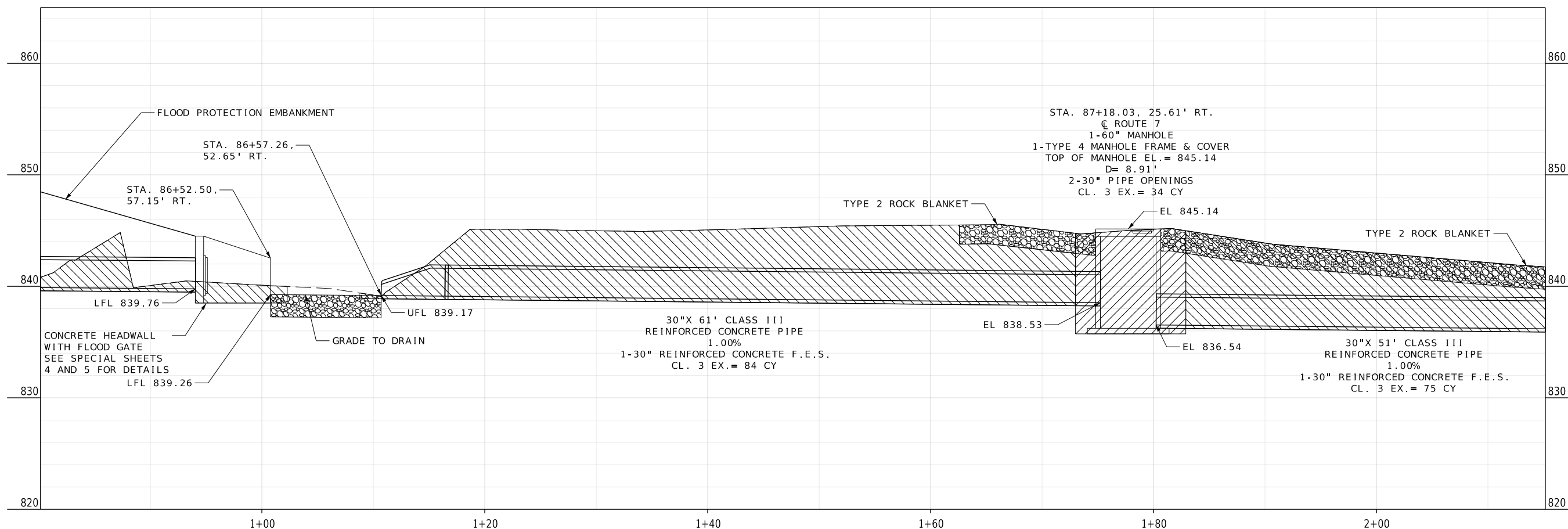
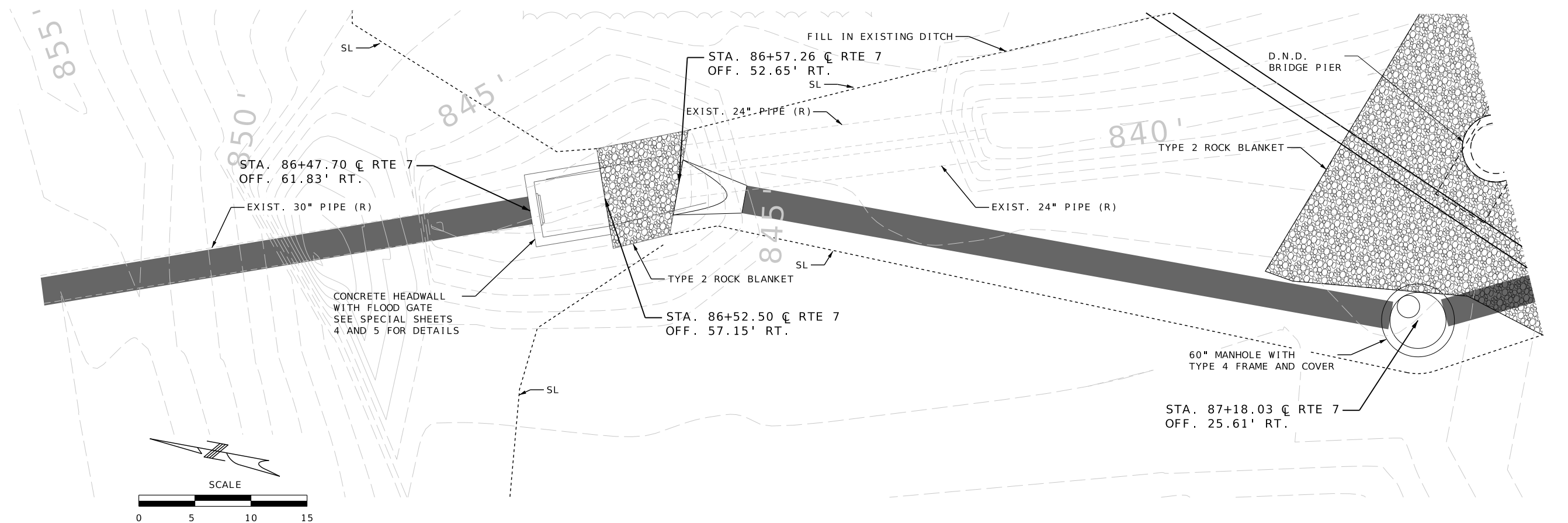
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GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
8/11/2025

ROUTE 7 STATE MO

DISTRICT KC SHEET NO. 9

COUNTY CASS

JOB NO. JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9581

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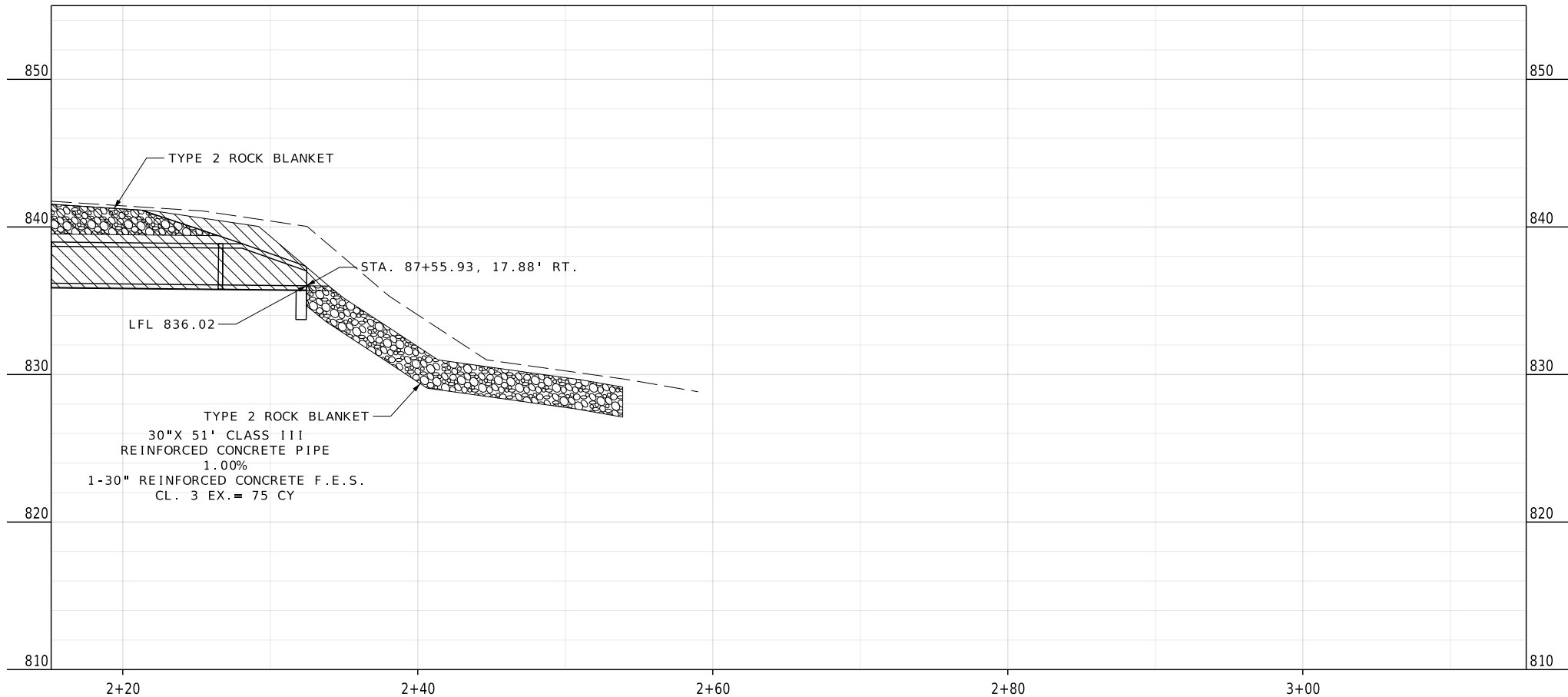
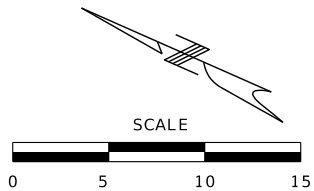
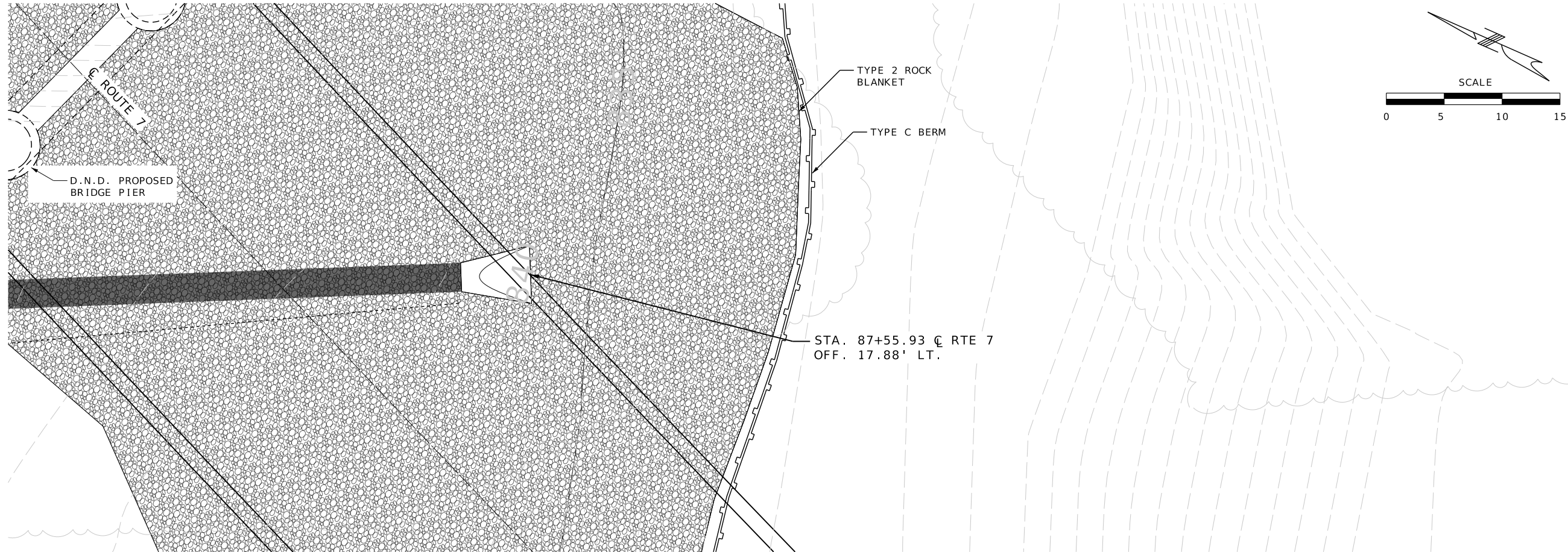
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SPECIAL SHEET  
SHEET 2 OF 5



SPECIAL SHEET  
SHEET 3 OF 5



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
8/11/2025

ROUTE 7 STATE MO

DISTRICT KC SHEET NO. 10

COUNTY CASS

JOB NO. JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9581

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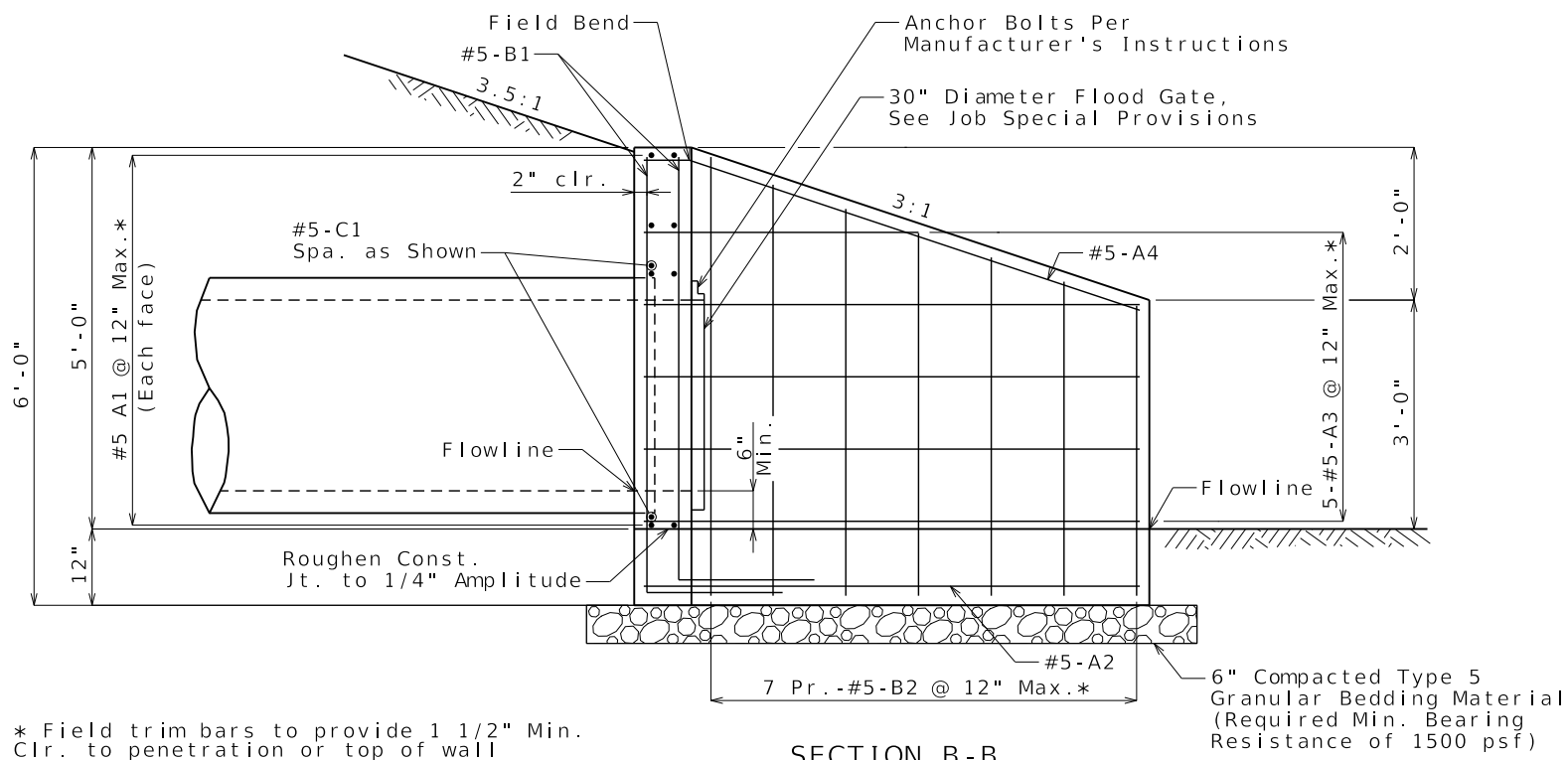
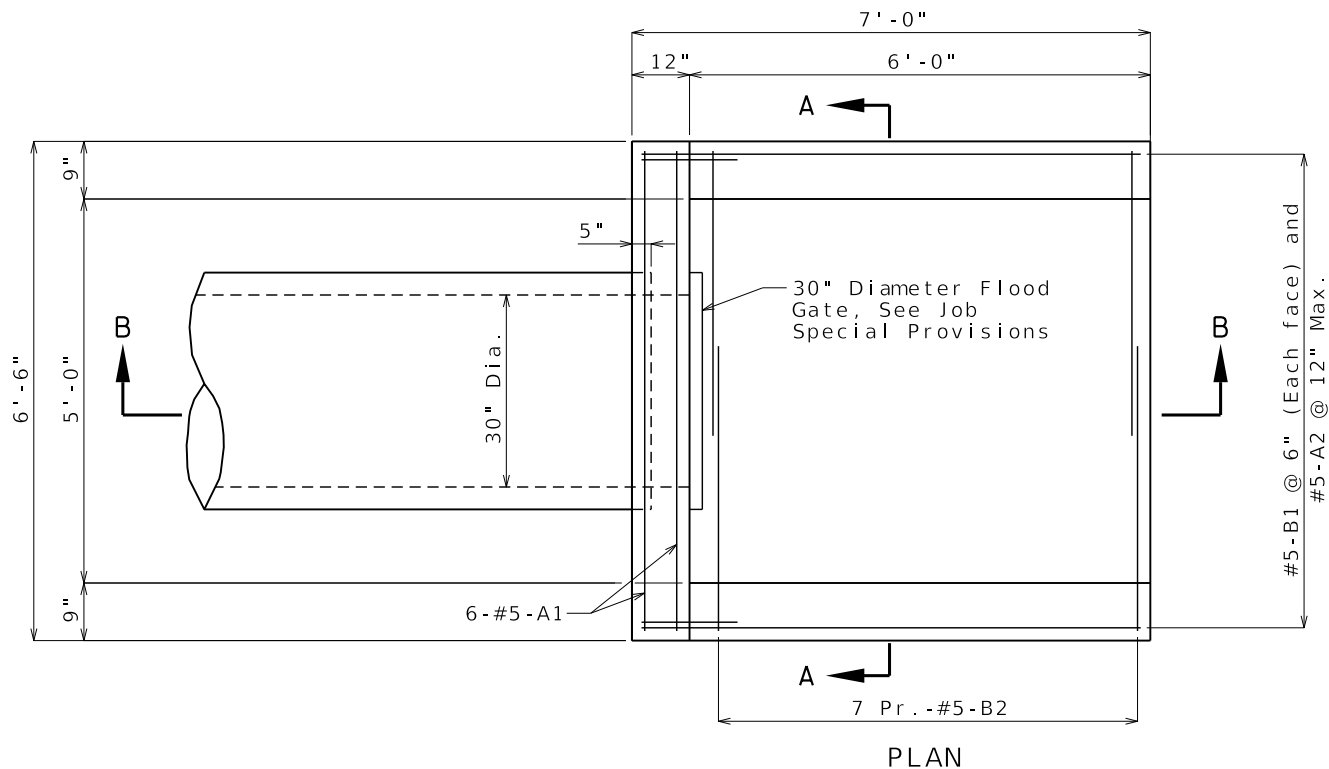
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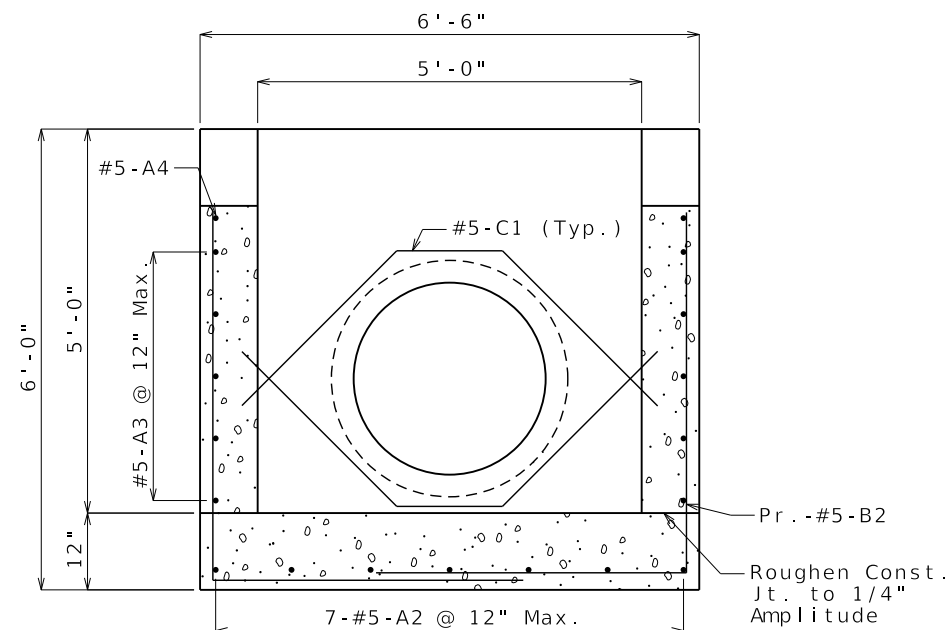
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\* Field trim bars to provide 1 1/2" Min. Clr. to penetration or top of wall

| PIPE SIZE | QUANTITIES |       | REINFORCING |        |            |        |            |        |            |        |            |   |            |        |            |   |   |        |
|-----------|------------|-------|-------------|--------|------------|--------|------------|--------|------------|--------|------------|---|------------|--------|------------|---|---|--------|
|           |            |       | #5 A1 BARS  |        |            |        | #5 A2 BARS |        |            |        | #5 A3 BARS |   |            |        | #5 A4 BARS |   |   |        |
|           | CONC.      | STEEL | #5 A1 BARS  |        | #5 A2 BARS |        | #5 A3 BARS |        | #5 A4 BARS |        | #5 B1 BARS |   | #5 B2 BARS |        | #5 C1 BARS |   |   |        |
|           | C. Y.      | LBS.  | NO.         | LENGTH | NO.        | LENGTH | NO.        | LENGTH | NO.        | LENGTH | NO.        | E | D          | LENGTH | NO.        | E | D | LENGTH |

## BENDING DETAILS



30" Diameter Flood Gate not shown for clarity.

### General Notes:

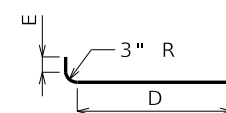
All concrete shall be Class "B1".

This drawing and the concrete quantities shown are based on the use of concrete pipe. Quantities of concrete shown will be used for payment regardless of any quantity changes necessary due to the use of any other type pipe specified or permitted.

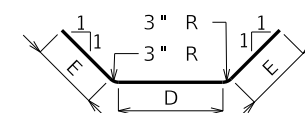
Flow line of headwall is to be placed horizontally.

### Precast Notes:

The Contractor may, subject to approval of the Engineer, furnish precast units in lieu of cast-in-place. If a precast unit is furnished, it shall conform in all respects to the requirements for cast-in-place units including dimensions and reinforcement, except that the forms may be tapered to facilitate removal of the unit from the forms. Shop drawings of the precast unit shall be submitted for approval prior to first use of the precasting forms.



B1 and B2 BARS



C1 BARS

SPECIAL SHEET  
SHEET 4 OF 5

GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

|                            |                 |
|----------------------------|-----------------|
| DATE PREPARED<br>8/11/2025 |                 |
| ROUTE<br>7                 | STATE<br>MO     |
| DISTRICT<br>KC             | SHEET NO.<br>11 |
| COUNTY<br>CASS             |                 |
| JOB NO.<br>JKU0098         |                 |
| CONTRACT ID.               |                 |
| PROJECT NO.                |                 |
| BRIDGE NO.<br>A9581        |                 |

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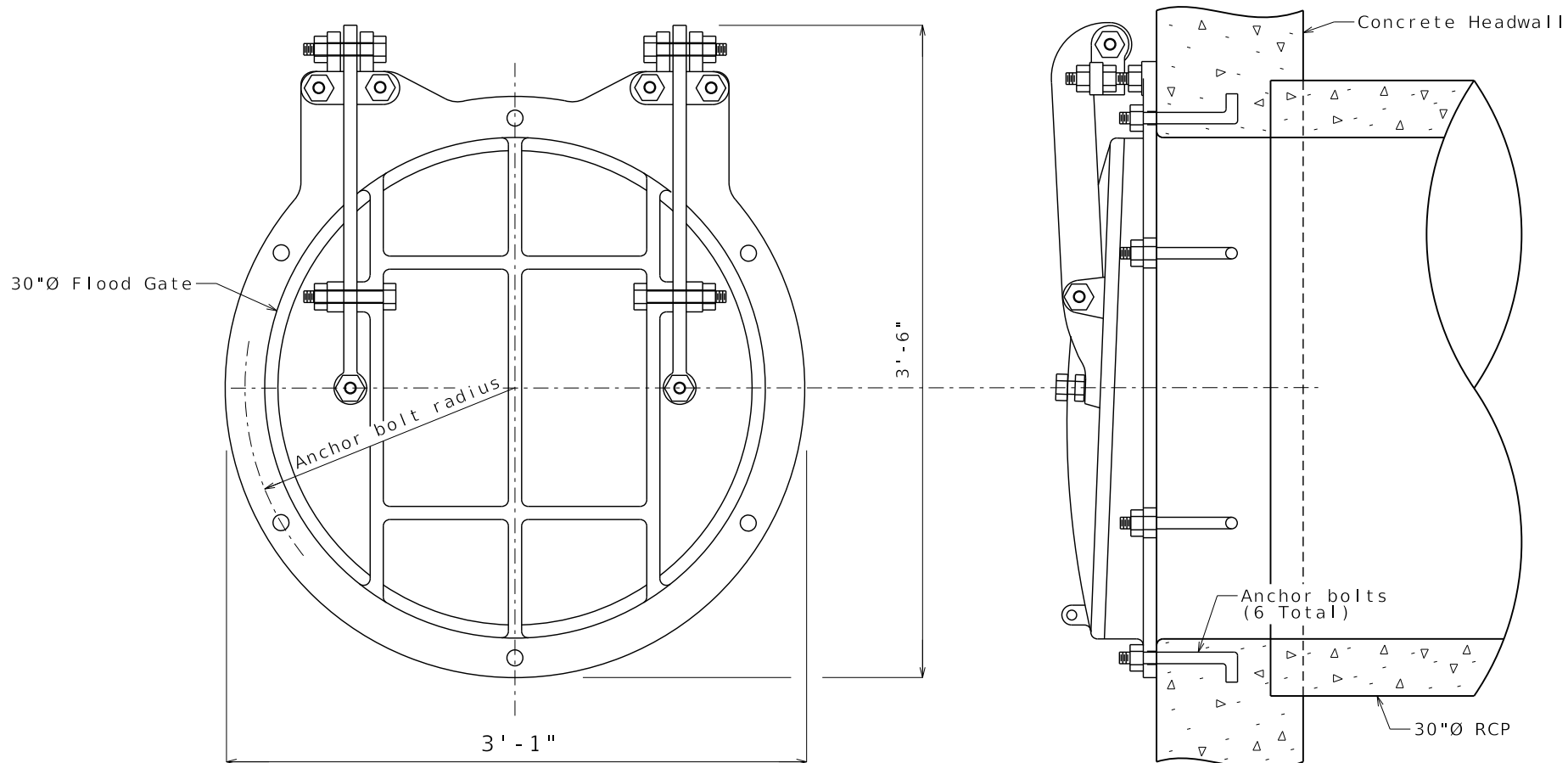
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ELEVATION

SIDE VIEW & SECTION  
THRU CONCRETE WALL  
FLAT BACK

GENERAL NOTES:

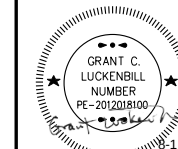
The flood gate shall be installed in accordance with the manufacturers' recommendations.

When no water is against the face of the gate, the flap shall seat on the finished frame. Seating surfaces of both frame and flap shall be cast iron and machined to a close fit.

The gate flap, frame and links shall be cast iron. Anchor bolts, assembly bolts and nuts shall be galvanized steel.

The gate is designed to withstand a maximum operating head of twenty (20) feet on the check side, measured from the center line of the gate to the high water level.

The illustrations and notes shown are recommended for gates designed for 20 feet of operating head. Other approved makes may be substituted with the approval of the Engineer.



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED

8/11/2025

ROUTE STATE

7 MO

DISTRICT SHEET NO.

KC 12

COUNTY

CASS

JOB NO.

JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9581

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CERTIFICATE OF AUTHORITY NO. 001592

SPACING AND TAPER LENGTHS FOR WORK ZONE SIGNS, CHANNELIZERS AND CONCRETE BARRIER

| SIGN SPACING FOR ADVANCE SIGN SERIES (1) |                       |                                  |
|------------------------------------------|-----------------------|----------------------------------|
| PERMANENT<br>POSTED SPEED<br>MPH         | UNDIVIDED<br>HIGHWAYS | DIVIDED<br>HIGHWAYS              |
| 0-35                                     | 200'                  | 200'                             |
| 40-45                                    | 350'                  | 500'                             |
| 50-55                                    | 500'                  | 1000'                            |
| 60-70                                    | 1000'                 | SA - 1000' SB - 1500' SC - 2640' |

| TAPER LENGTHS AND END TREATEMENTS FOR CONCRETE BARRIER |                               |      |      |                           |
|--------------------------------------------------------|-------------------------------|------|------|---------------------------|
| PERMANENT<br>POSTED SPEED<br>MPH                       | MINIMUM LANE TAPER LENGTH (2) |      |      | END TREATMENT (3)         |
|                                                        | 10'                           | 11'  | 12'  |                           |
| <40                                                    | 160'                          | 168' | 176' | BARRIER HEIGHT TRANSITION |
| >40                                                    | 160'                          | 168' | 176' | APPROVED CRASH CUSHION    |

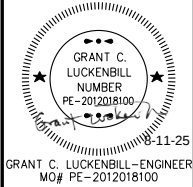
| TAPER LENGTHS AND SPACING FOR CHANNELIZERS |                           |      |      |                                                           |                         |                             |                      |
|--------------------------------------------|---------------------------|------|------|-----------------------------------------------------------|-------------------------|-----------------------------|----------------------|
| PERMANENT<br>POSTED SPEED<br>MPH           | MINIMUM LANE TAPER LENGTH |      |      | MINIMUM SHOULDER<br>TAPER LENGTH<br>BASED ON 10' SHOULDER | BUFFER<br>LENGTH<br>FT. | MAXIMUM CHANNELIZER SPACING |                      |
|                                            | 10'                       | 11'  | 12'  |                                                           |                         | THROUGH<br>TAPER            | THROUGH<br>WORK AREA |
| 0-35                                       | 205'                      | 225' | 245' | 70'                                                       | 280'                    | 35'                         | 40'                  |
| 40-45                                      | 450'                      | 495' | 540' | 150'                                                      | 400'                    | 40'                         | 80'                  |
| 50-55                                      | 550'                      | 605' | 660' | 185'                                                      | 560'                    | 50'                         | 80'                  |
| 60-70                                      | 700'                      | 770' | 840' | 235'                                                      | 840'                    | 60'                         | 120'                 |

NOTE:  
SEE STANDARD PLAN 616.10 FOR TEMPORARY TRAFFIC CONTROL DEVICES.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. FOUR (4) PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE SUPPLIED A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF ANY TURNING RESTRICTIONS, LANE CLOSURES, OR DETOURS REQUIRED BY THE TEMPORARY TRAFFIC CONTROL.
3. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
4. NOTIFY RUSSEL PENNER. MODOT AREA ENGINEER AT 816-347-4143 (OFFICE) 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
5. ALL EXISTING SIGNS SHALL BE USED IN PLACE. ADJUSTED AND/OR COVERED AS CONDITIONS REQUIRE.
6. REFER TO MODOT STANDARD PLANS 619.10J. SHEETS 1-3 FOR "PAVEMENT EDGE TREATMENT" DETAILS. THE CONTRACTOR SHALL BE REQUIRED TO FOLLOW THIS STANDARD DURING WORKING AND NON-WORKING HOURS.
7. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
8. TYPE III MOVEABLE BARRICADES TO BE LOCATED AS APPROVED BY THE ENGINEER TO FIT FIELD CONDITIONS.
9. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
10. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
11. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM.
12. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
13. SPEED LIMIT SIGNS INDICATING THE NORMAL SPEED LIMIT SHALL BE INSTALLED AT THE END OF THE WORK ZONE, NO FURTHER WORK ZONES WILL BE ENCOUNTERED WITHIN THE NEXT 1/2 MILE.
14. TEMPORARY SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED WHEN THE CONDITIONS REQUIRING REDUCED SPEEDS DO NOT EXIST.
15. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS OR CONSTRUCTION SIGNS.

- NOTES:
- (1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION MAY BE ADJUSTED BY INCREASING TO ACCOMMODATE FIELD CONDITIONS AND VISIBILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AND 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MY PROVIDE CONCRETE BARRIER AT OWN EXPENSE. INCIDENTAL TO PROJECT.



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| DATE PREPARED<br>8/11/2025 |                 |
| ROUTE<br>7                 | STATE<br>MO     |
| DISTRICT<br>KC             | SHEET NO.<br>13 |
| COUNTY<br>CASS             |                 |
| JOB NO.<br>JKU0098         |                 |
| CONTRACT ID.               |                 |
| PROJECT NO.                |                 |
| BRIDGE NO.<br>A9581        |                 |

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MISSOURI HIGHWAYS AND TRANSPORTATION  
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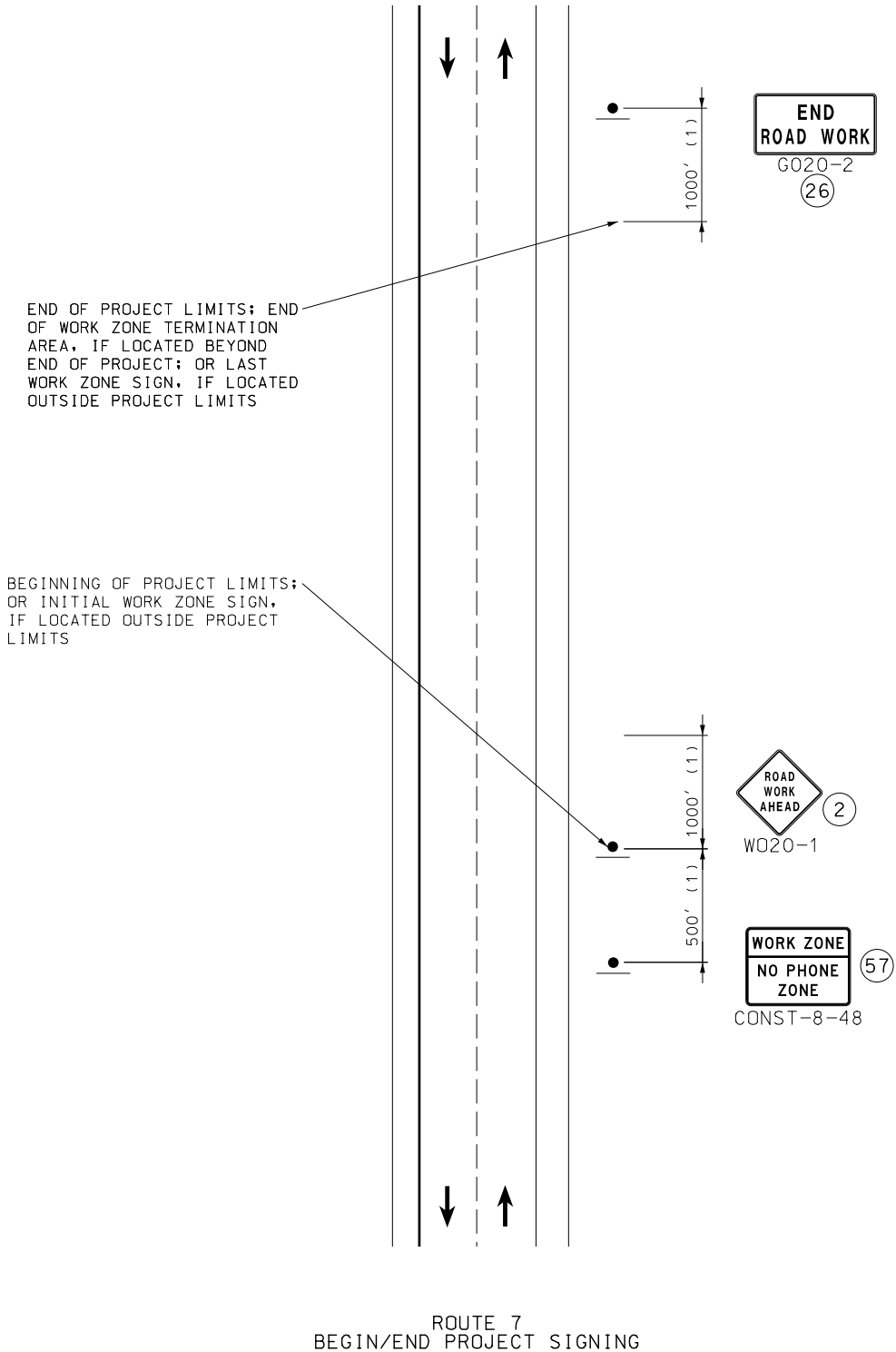


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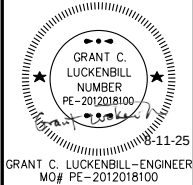


NOTES:

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

(1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCED WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.



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| ROUTE<br>7                 | STATE<br>MO     |
| DISTRICT<br>KC             | SHEET NO.<br>14 |
| COUNTY<br>CASS             |                 |
| JOB NO.<br>JKU0098         |                 |
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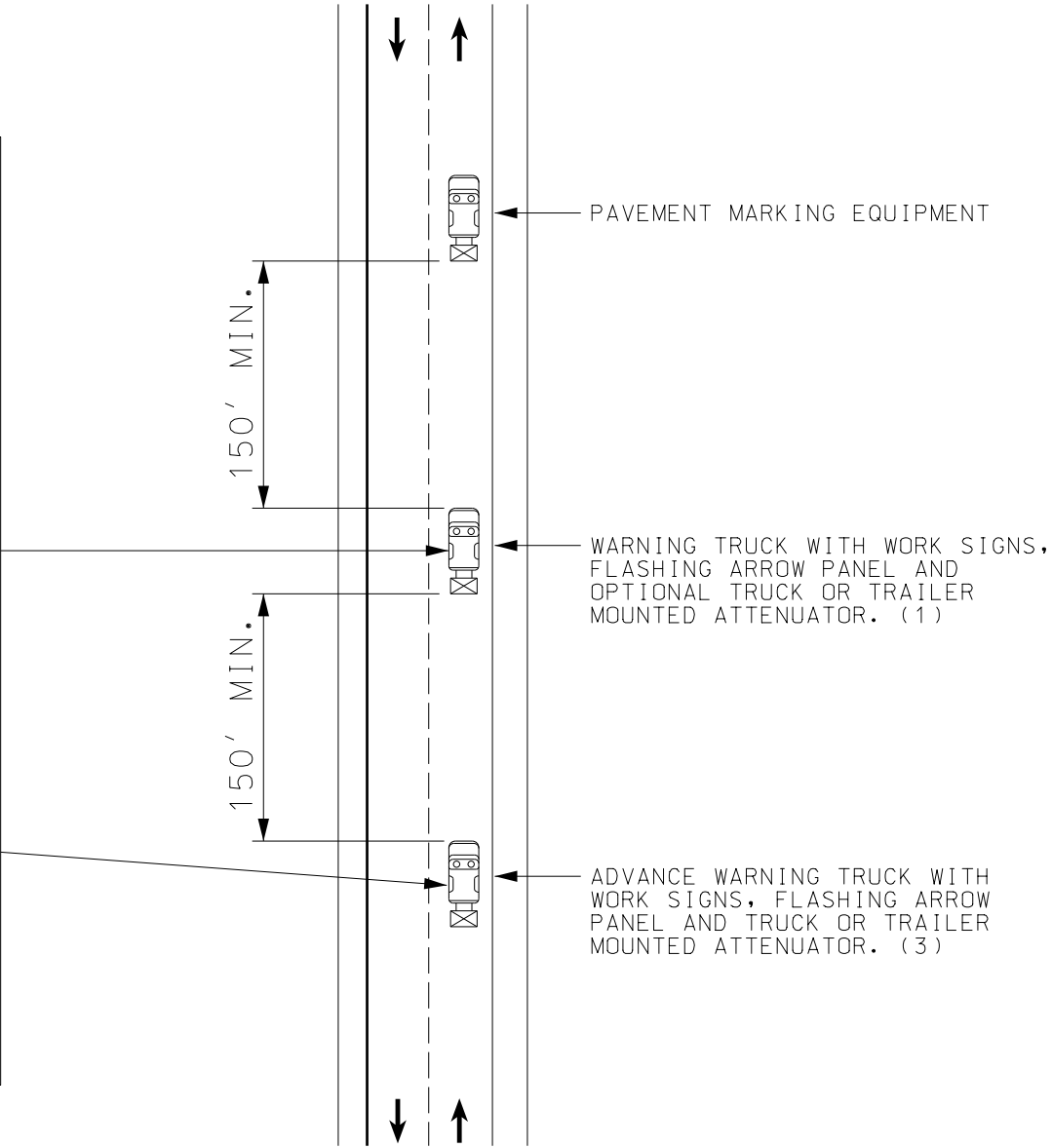
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CERTIFICATE OF AUTHORITY NO. 001592



| SIGN SPACING FOR ADVANCE SIGN SERIES |                            |                          |                       |
|--------------------------------------|----------------------------|--------------------------|-----------------------|
| PERMANENT<br>POSTED SPEED<br>MPH     | S<br>UNDIVIDED<br>HIGHWAYS | S<br>DIVIDED<br>HIGHWAYS |                       |
| 0-35                                 | 200'                       | 200'                     |                       |
| 40-45                                | 350'                       | 500'                     |                       |
| 50-55                                | 500'                       | 1000'                    |                       |
| 60-70                                | 1000'                      | SA - 1000'               | SB - 1500' SC - 2640' |

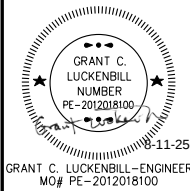
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|  | SIGN ( SINGLE SIDED )                                |
|  | FLAGGER                                              |
|  | CHANNELIZER                                          |
|  | SHORT-TERM RUMBLE STRIPS<br>3 STRIPS SPACED AT 20 FT |
|  | WORK AREA                                            |





CENTERLINE/EDGE LINE STRIPING ON TWO-LANE HIGHWAYS

- NOTES:  
ALL SIGNS HAVE FLUORESCENT ORANGE RETROREFLECTIVE.
- (1) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.
- (2) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICH EVER IS GREATER.



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| DATE PREPARED<br>8/11/2025 |                 |
| ROUTE<br>7                 | STATE<br>MO     |
| DISTRICT<br>KC             | SHEET NO.<br>16 |
| COUNTY<br>CASS             |                 |
| JOB NO.<br>JKU0098         |                 |
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| PROJECT NO.                |                 |
| BRIDGE NO.<br>A9581        |                 |

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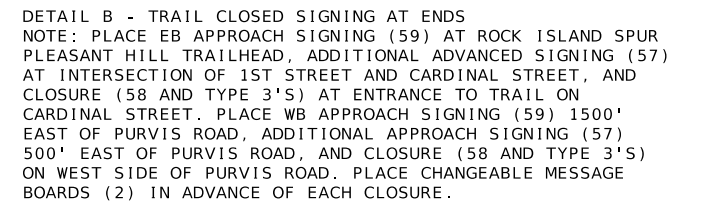
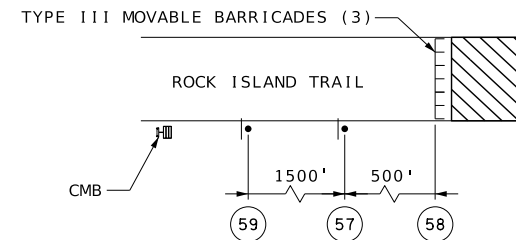
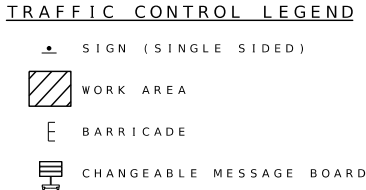
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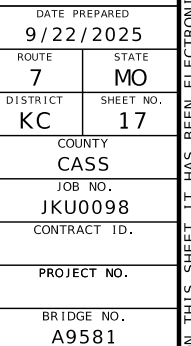
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MELISSA HALL, Melissa.Hall@dnr.mo.gov,  
SUPERINTENDENT KNOB NOSTER OR  
MIKE THOMPSON, Michael.Thompson@dnr.mo.gov,  
ASST. SUPERINTENDENT KNOB NOSTER

TRAFFIC CONTROL  
SHEET 5 OF 5

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1-888-ASK-MODOT (1-888-275-6636)

1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MATCHLINE STA. 90+50.00

4" SOLID WHITE EDGE LINE (TYP.)

4" DOUBLE YELLOW (TYP.)

(R)

4" DOUBLE YELLOW WITH DASH BEGIN AT 92+72

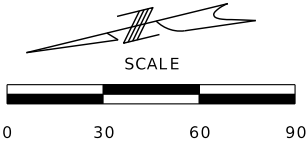
MATCH EXISTING MARKINGS STA:93+15

DR FRED L SEEVERS MEMORIAL BRIDGE

U.I.P.

ROUTE 7

95



PAVEMENT MARKING  
SHEET 1 OF 1

4" SOLID WHITE EDGE LINE (TYP.)

4" DOUBLE YELLOW (TYP.)

MATCH EXISTING MARKINGS STA: 83+30

STRIPING LEGEND

SOLID WHITE/YELLOW

DOUBLE YELLOW

DOUBLE YELLOW WITH DASHED

ROUTE 7

85

90

(R)

MATCHLINE STA. 90+50.00

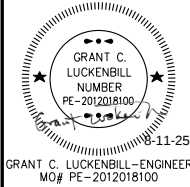
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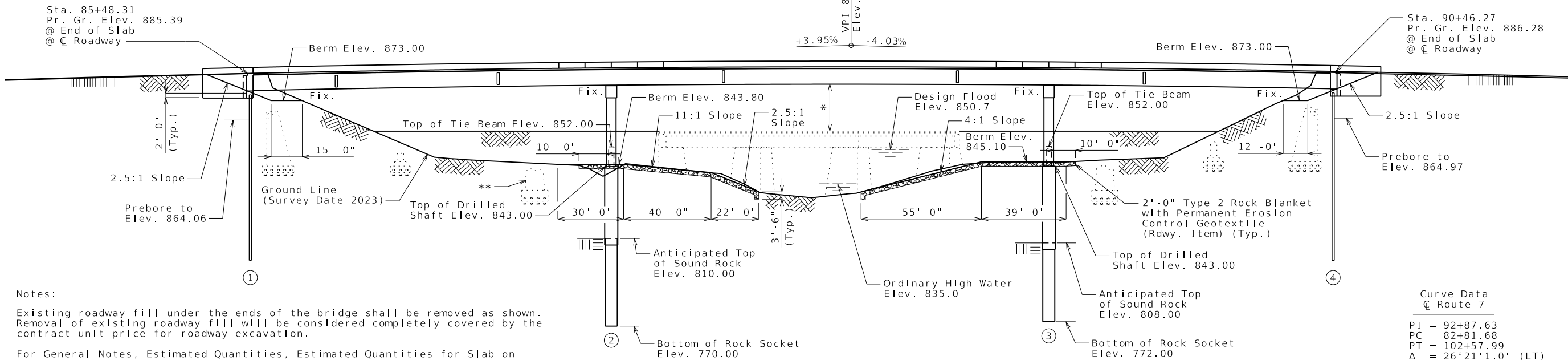
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|----------------------------|-----------------|
| DATE PREPARED<br>8/11/2025 |                 |
| ROUTE<br>7                 | STATE<br>MO     |
| DISTRICT<br>KC             | SHEET NO.<br>18 |
| COUNTY<br>CASS             |                 |
| JOB NO.<br>JKU0098         |                 |
| CONTRACT ID.               |                 |
| PROJECT NO.                |                 |
| BRIDGE NO.<br>A9581        |                 |

| DATE | DESCRIPTION |
|------|-------------|
|      |             |
|      |             |
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|      |             |

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

(165' - 200' - 130') CONTINUOUS COMPOSITE PLATE GIRDER SPANS

SEC/SUR 29 TWP 46N RGE 30W



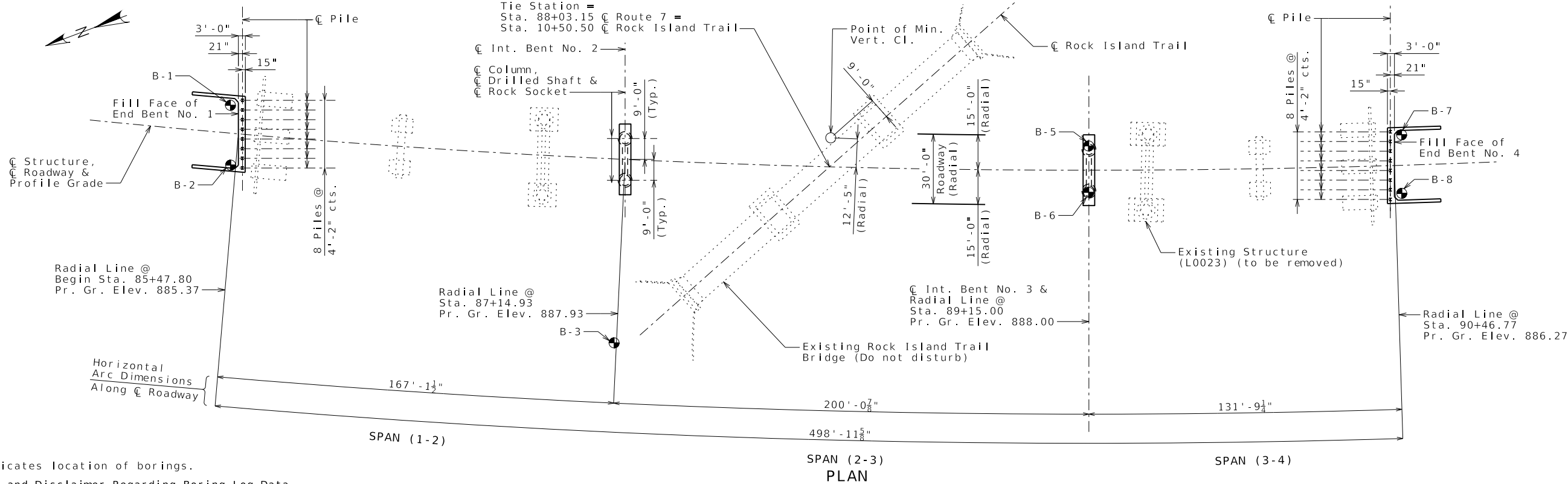
GENERAL ELEVATION

\* 21'-1 1/2" Minimum Vertical Clearance

\*\* Existing Structure (L0023) to be removed to 2'-0" below finished groundline

Curve Data  
C Route 7

PI = 92+87.63  
PC = 82+81.68  
PT = 102+57.99  
Δ = 26°21'1.0" (LT)  
D = 1°19'59.9"  
L = 1,976.32'  
T = 1,005.95'  
R = 4,297.28'



⊕ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 36-47 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

GPS#5025 - SET 1/2" REBAR W/CONTROL POINT CAP  
STA. 92+17.97, 18.20' LT, ELEV. 880.69

BRIDGE: ROUTE 7 OVER ROCK ISLAND TRAIL AND BIG CREEK

ROUTE 7 FROM ROUTE 58 TO ROUTE P  
ABOUT 0.6 MILES SOUTH OF ROUTE 58  
BEGINNING STATION 85+47.80

Designed Feb. 2025  
Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 47

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GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED

8/4/2025

ROUTE 7 STATE MO

DISTRICT BR SHEET NO. 1

COUNTY CASS

JOB NO. JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9581

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

CERTIFICATE OF AUTHORITY NO. 001592

REV.

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| Estimated Quantities                                                 |             |         |           |         |
|----------------------------------------------------------------------|-------------|---------|-----------|---------|
| Item                                                                 |             | Substr. | Superstr. | Total   |
| Class 1 Excavation                                                   | cu. yard    | 145     |           | 145     |
| Removal of Bridges (L0023)                                           | lump sum    |         |           | 1       |
| Bridge Approach Slab (Major)                                         | sq. yard    |         | 137       | 137     |
| Drilled Shafts (6 ft. 0 in. Dia.)                                    | linear foot | 136.0   |           | 136.0   |
| Rock Sockets (5 ft. 6 in. Dia.)                                      | linear foot | 152.0   |           | 152.0   |
| Video Camera Inspection                                              | each        | 4       |           | 4       |
| Foundation Inspection Holes                                          | linear foot | 196.0   |           | 196.0   |
| Sonic Logging Testing                                                | each        | 4       |           | 4       |
| Galvanized Structural Steel Piles (14 in.)                           | linear foot | 1216    |           | 1216    |
| Pre-Bore for Piling                                                  | linear foot | 160     |           | 160     |
| Pile Point Reinforcement                                             | each        | 16      |           | 16      |
| Class B Concrete (Substructure)                                      | cu. yard    | 193.7   |           | 193.7   |
| Slab on Steel                                                        | sq. yard    |         | 1807      | 1807    |
| Type H Barrier                                                       | linear foot |         | 1078      | 1078    |
| Reinforcing Steel (Bridges)                                          | pound       | 75,230  |           | 75,230  |
| Temporary Coating - Concrete Bents and Piers (Weathering Steel)      | lump sum    |         |           | 1       |
| Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W | pound       |         | 723,360   | 723,360 |
| Slab Drain                                                           | each        |         | 20        | 20      |
| Vertical Drain at End Bents                                          | each        |         |           | 2       |
| Laminated Neoprene Bearing Pad (Tapered)                             | each        |         | 8         | 8       |
| Laminated Neoprene Bearing Pad Assembly                              | each        |         | 8         | 8       |
| Open Cell Foam Joint Seal                                            | linear foot |         | 60        | 60      |
|                                                                      |             |         |           |         |
|                                                                      |             |         |           |         |
|                                                                      |             |         |           |         |

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Steel.

| Foundation Data   |                                                                |             |           |           |         |
|-------------------|----------------------------------------------------------------|-------------|-----------|-----------|---------|
| Type              | Design Data                                                    | Bent Number |           |           |         |
|                   |                                                                | 1           | 2         | 3         | 4       |
| Load Bearing Pile | Pile Type and Size                                             | HP14X73     | -         | -         | HP14X73 |
|                   | Number                                                         | 8           | -         | -         | 8       |
|                   | Approximate Length Per Each                                    | ft 76       | -         | -         | 76      |
|                   | Pile Point Reinforcement                                       | ea All      | -         | -         | All     |
|                   | Min. Galvanized Penetration (Elev.)                            | ft 854      | -         | -         | 855     |
|                   | Pile Driving Verification Method                               | DF          | -         | -         | DF      |
|                   | Resistance Factor                                              | 0.4         | -         | -         | 0.4     |
|                   | Minimum Nominal Axial Compressive Resistance                   | kip 204     | -         | -         | 204     |
| Rock Socket       | Number                                                         | ea -        | 2         | 2         | -       |
|                   | Foundaton Material                                             | -           | Weak Rock | Weak Rock | -       |
|                   | Elevation Range                                                | ft -        | 807-770   | 806-772   | -       |
|                   | Minimum Nominal Axial Compressive Resistance (Side Resistance) | ksf -       | 7.0       | 7.0       | -       |
|                   | Minimum Nominal Axial Compressive Resistance (Tip Resistance)  | ksf -       | 30.9      | 24.3      | -       |

DF = FHWA-modified Gates Dynamic Pile Formula

Rock Socket (Drilled Shafts):  
Minimum Nominal Axial Compressive Resistance =  $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$  (Side + Tip Resistance)

Load Bearing Pile:  
Minimum Nominal Axial Compressive Resistance =  $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

Prebore for piles at Bent(s) No. 1 and 4 with 24" oversized holes to elevation(s) 864.06 and 864.97, respectively.

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

| Estimated Quantities for Slab on Steel |          |         |
|----------------------------------------|----------|---------|
| Item                                   |          | Total   |
| Class B-2 Concrete                     | cu. yard | 531     |
| Reinforcing Steel (Epoxy Coated)       | pound    | 145,780 |

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast panels will not be permitted.

| Hydrologic Data                          |
|------------------------------------------|
| Drainage Area = 91 mi <sup>2</sup>       |
| Design Flood Frequency = 50 years        |
| Design Flood Discharge = 13200 cfs       |
| Design Flood (D.F.) Elevation = 850.7    |
| Base Flood (100-year)                    |
| Base Flood Elevation = 851.0 ft          |
| Base Flood Discharge = 15500 cfs         |
| Estimated Backwater = 0.0 ft             |
| Average Velocity thru Opening = 3.2 ft/s |
| Freeboard (50-year)                      |
| Freeboard = 32.0 ft                      |
| Roadway Overtopping                      |
| Overtopping Flood Discharge = N/A        |
| Overtopping Flood Frequency > 500 years  |
| 500-Year Flood Elevation = 851.8         |

## General Notes:

Design Specifications  
2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)  
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)  
Seismic Design Category = A (Seismic Details)  
Design earthquake response spectral acceleration coefficient at 1.0 second period, S<sub>DS</sub>=0.116  
Acceleration Coefficient (effective peak ground acceleration coefficient), A<sub>s</sub>=0.056

Design Loading:  
Vehicular = HL-93  
Future Wearing Surface = 35 lb/sf  
Earth = 120 lb/cf  
Equivalent Fluid Pressure = 45 lb/cf (Min.)

Design Unit Stresses:  
Class B Concrete (Substructure) f'c = 3,000 psi  
Class B-2 Concrete (Drilled Shafts & Rock Sockets) f'c = 4,000 psi  
Class B-2 Concrete (Superstructure, except Barrier) f'c = 4,000 psi  
Class B-1 Concrete (Barrier) f'c = 4,000 psi  
Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi  
Structural Steel (ASTM A709 Grade 50W) fy = 50,000 psi  
Structural Steel HP Pile (ASTM A709 Grade 50) fy = 50,000 psi

Neoprene Pads:  
Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Fabricated Steel Connections:  
Field connections shall be made with 7/8-inch diameter ASTM F3125 Grade A325 Type 3 bolts and 15/16-inch diameter holes, except as noted.

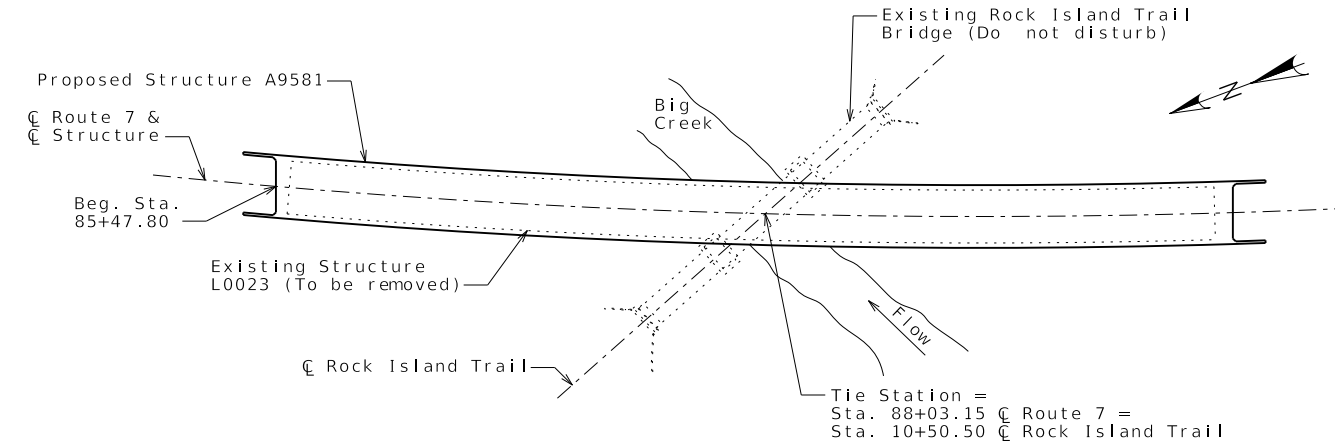
Joint Filler:  
All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:  
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:  
Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

Concrete Protective Coatings:  
Temporary coating for concrete bents and piers (weathering steel) shall be applied on all concrete surfaces above ground line or low water elevation on all abutments and intermediate bents in accordance with Sec 711.

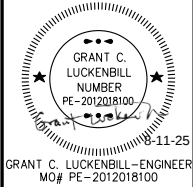
Miscellaneous:  
High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.



LOCATION SKETCH

## GENERAL NOTES AND QUANTITIES

Sheet No. 2 of 47



|                           |                |
|---------------------------|----------------|
| DATE PREPARED<br>8/4/2025 |                |
| ROUTE<br>7                | STATE<br>MO    |
| DISTRICT<br>BR            | SHEET NO.<br>2 |
| COUNTY<br>CASS            |                |
| JOB NO.<br>JKU0098        |                |
| CONTRACT ID.              |                |
| PROJECT NO.               |                |
| BRIDGE NO.<br>A9581       |                |

| DESCRIPTION | DATE |
|-------------|------|
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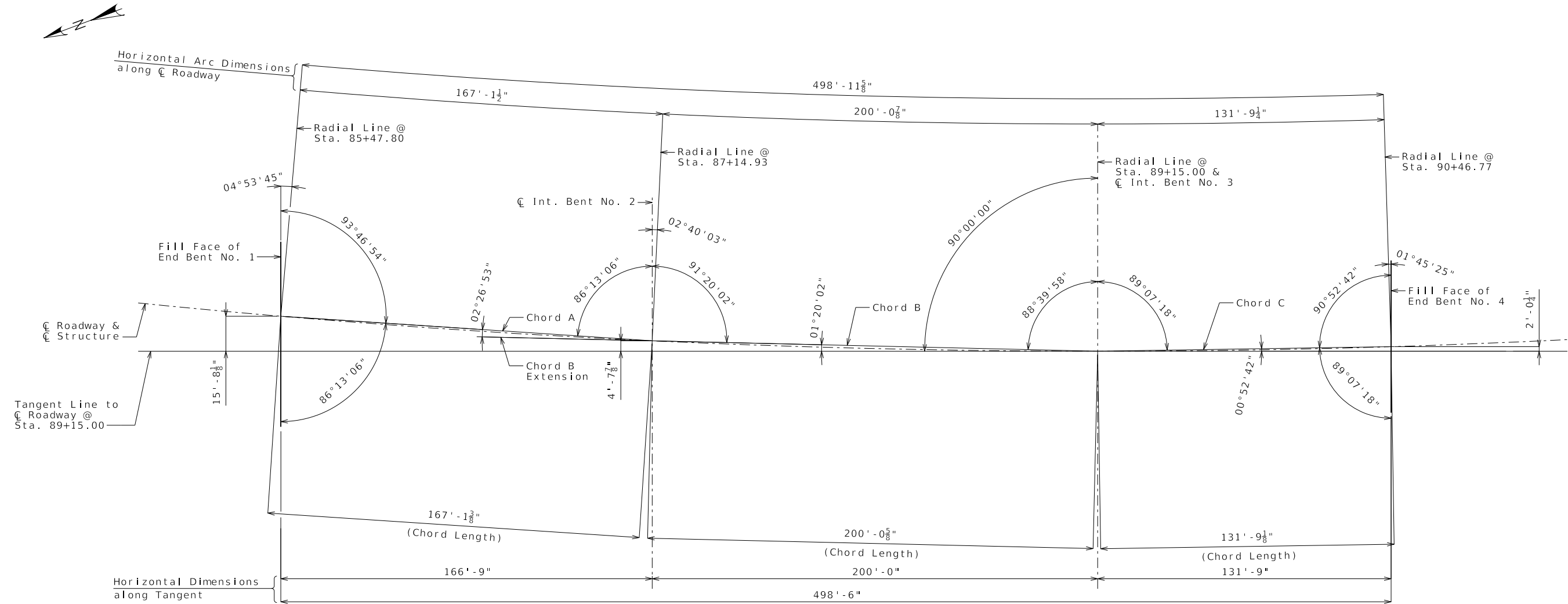


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Notes:  
 All bents are parallel.  
 All dimensions are horizontal.

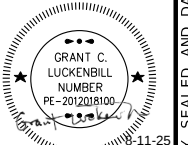
## SUBSTRUCTURE LAYOUT

Detailed Mar. 2025  
 Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 47

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 MO# PE-2012018100

DATE PREPARED  
 8/4/2025

|                |                |
|----------------|----------------|
| ROUTE<br>7     | STATE<br>MO    |
| DISTRICT<br>BR | SHEET NO.<br>3 |

COUNTY  
 CASS  
 JOB NO.  
 JKU0098  
 CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
 A9581

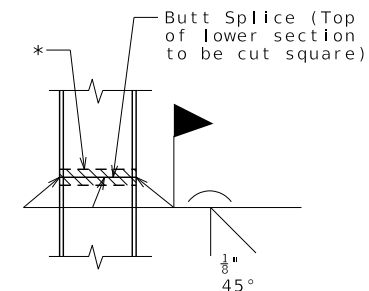
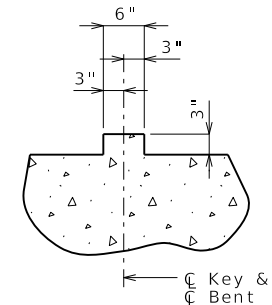
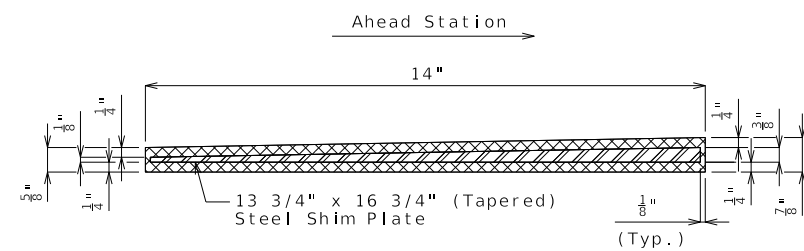
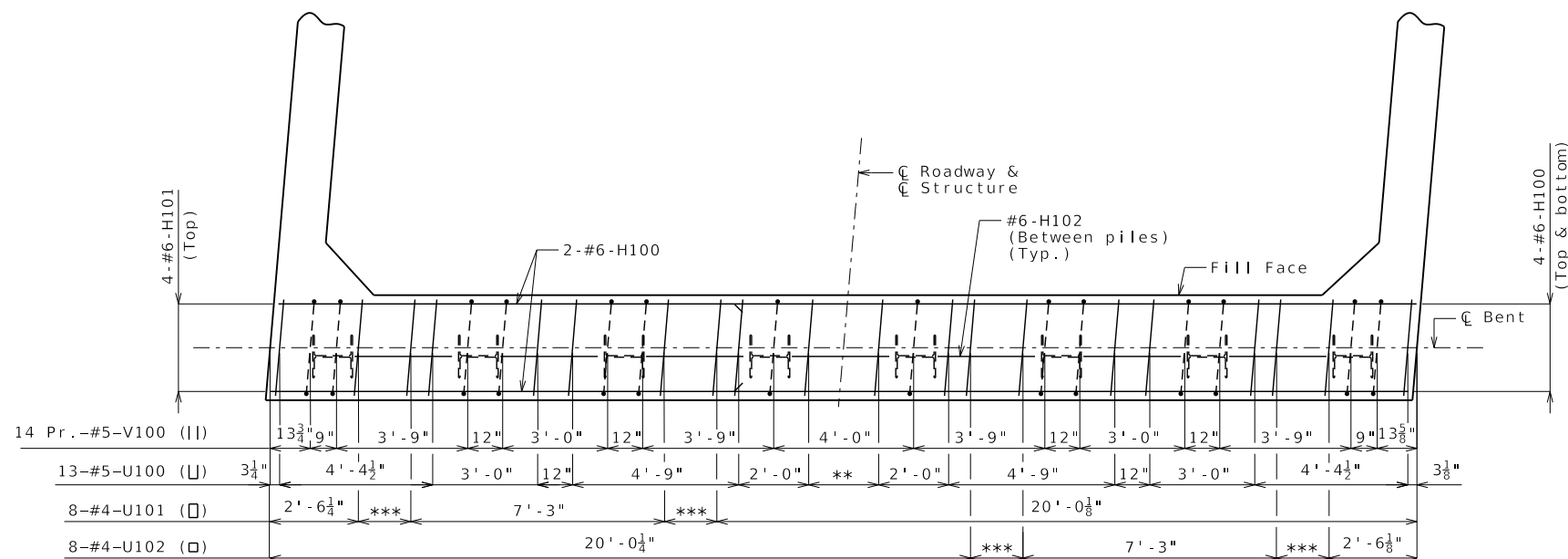
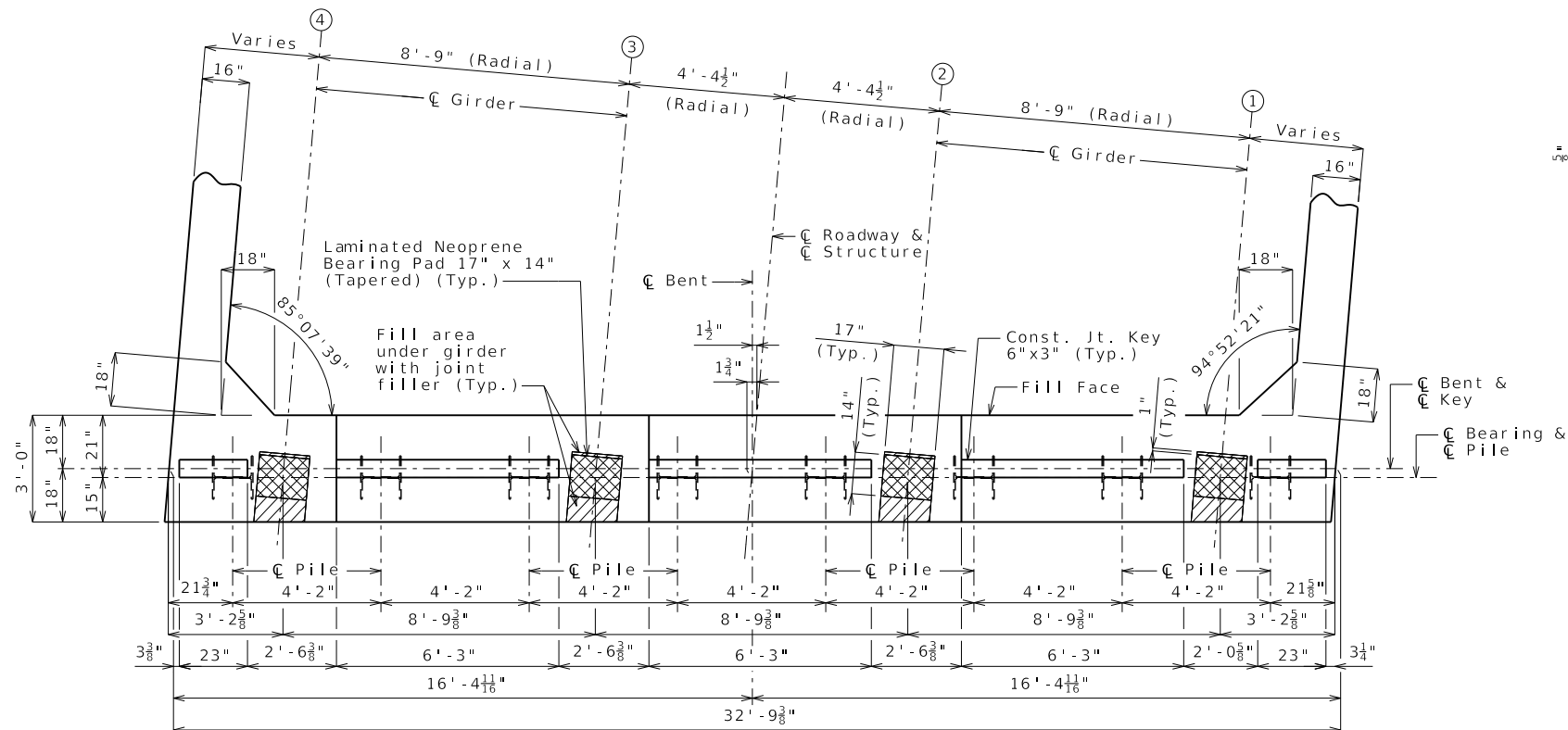
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| Substructure Quantity Table for Bent No. 1 |             |          |
|--------------------------------------------|-------------|----------|
| Item                                       |             | Quantity |
| Class 1 Excavation                         | cu. yard    | 70       |
| Galvanized Structural Steel Piles (14 in.) | linear foot | 608      |
| Pre-Bore for Piling                        | linear foot | 80       |
| Pile Point Reinforcement                   | each        | 8        |
| Class B Concrete (Substructure)            | cu. yard    | 18.5     |
|                                            |             |          |

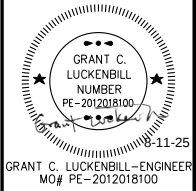
These quantities are included in the Estimated Quantities table on Sheet No. 2.

Notes:

Work this sheet with Sheets No. 5 & 6.

The U bars and pairs of V bars shall be placed parallel to a line tangent to  $\odot$  Roadway at  $\odot$  Bearing.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.



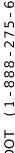
DATE PREPARED  
8/4/2025

|                |                |
|----------------|----------------|
| ROUTE<br>7     | STATE<br>MO    |
| DISTRICT<br>BR | SHEET NO.<br>4 |

|              |
|--------------|
| COUNTY       |
| CASS         |
| JOB NO.      |
| JKU0098      |
| CONTRACT ID. |

|             |
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| PROJECT NO. |
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| BRIDGE NO. |
| A9581      |

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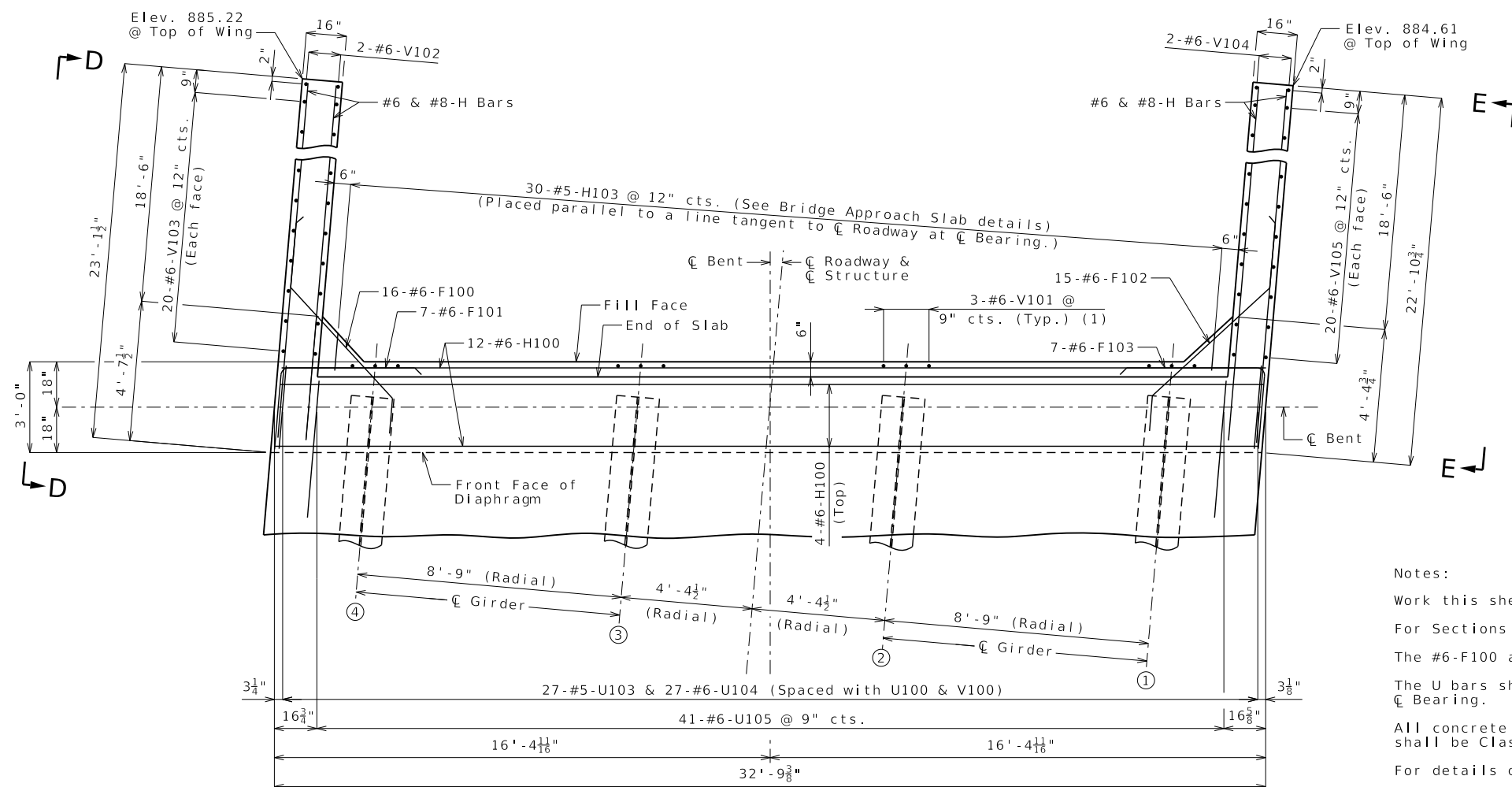
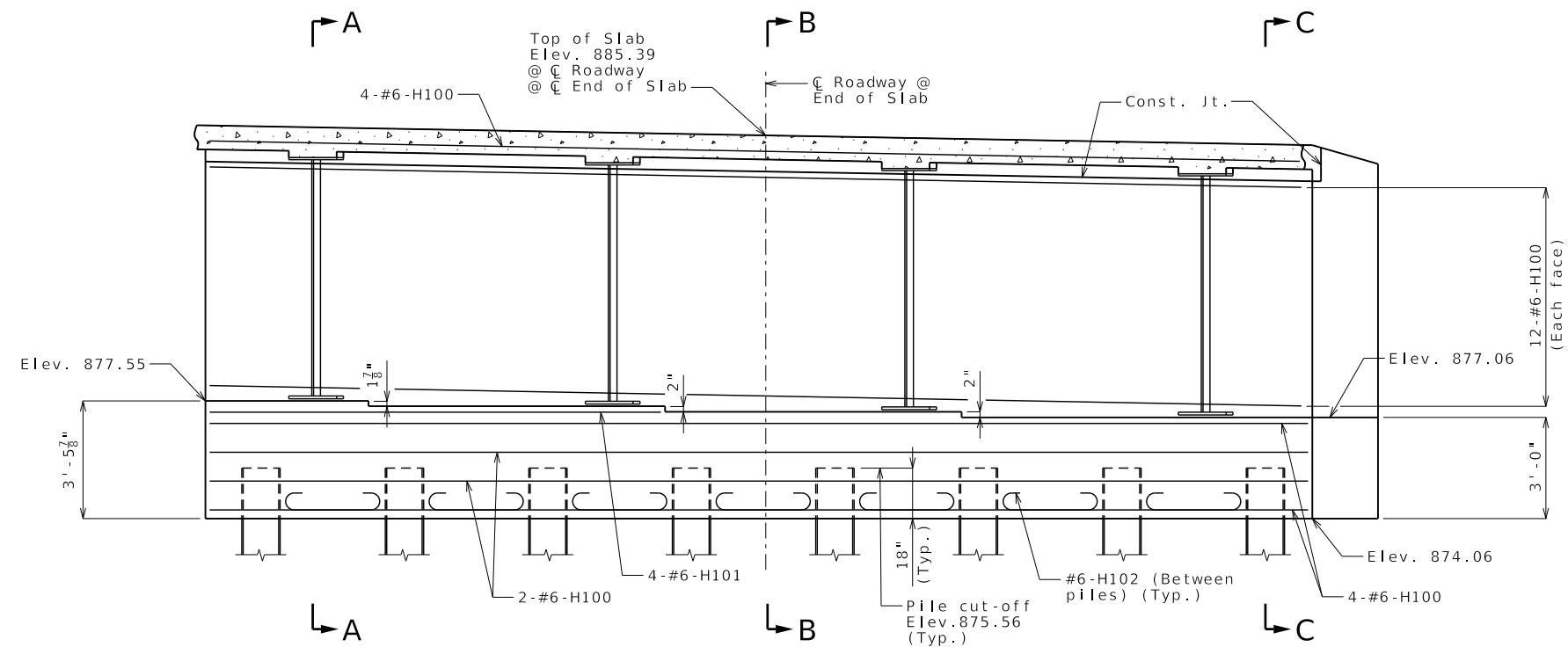
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Notes:

Work this sheet with Sheets No. 4 & 6.

For Sections A-A thru C-C and Elevations D-D & E-E, see Sheet No. 6.

The #6-F100 and #6-F102 bars shall be bent in the field to clear girders.

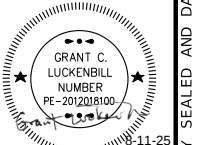
The U bars shall be placed parallel to a line tangent to C Roadway at C Bearing.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For details of vertical drain at end bents, see Sheet No. 7.

Concrete diaphragms at the integral end bents shall be poured a minimum of 12 hours before the slab is poured.

For details of bridge approach slab, see Sheet No. 31.



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED

8/4/2025

|                |                |
|----------------|----------------|
| ROUTE<br>7     | STATE<br>MO    |
| DISTRICT<br>BR | SHEET NO.<br>5 |

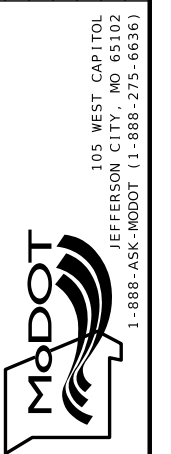
COUNTY

# CASS

1KU0098

CONTRACT ID.

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COMMISSION

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BURLINGTON STREET, STE. 200

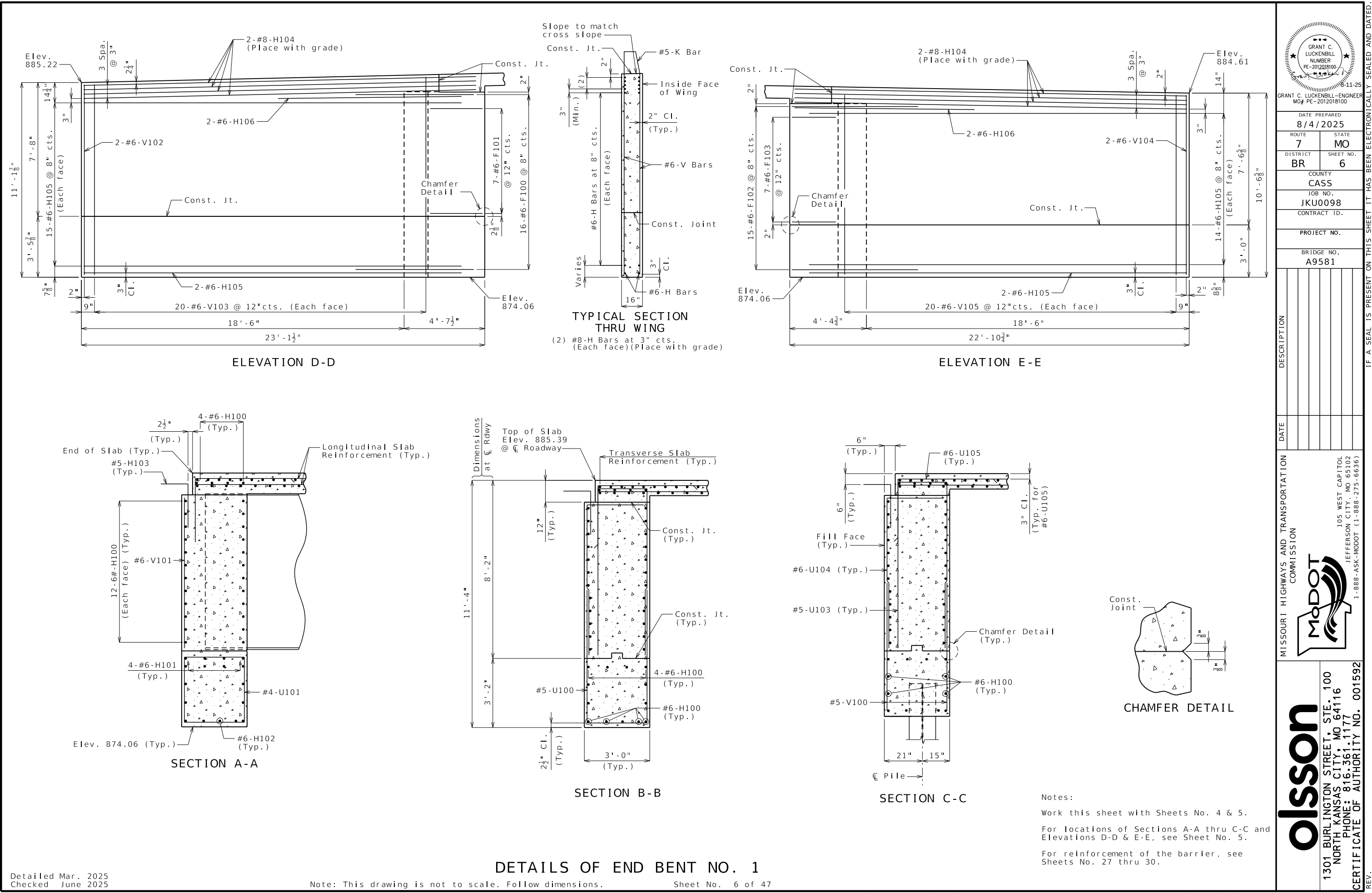
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Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 47

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Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 6 of 47

DETAILS OF END BENT NO. 1



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DATE PREPARED  
8/4/2025

ROUTE 7 STATE MO

DISTRICT BR SHEET NO. 6

COUNTY CASS

JOB NO. JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9581

DESCRIPTION

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NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177

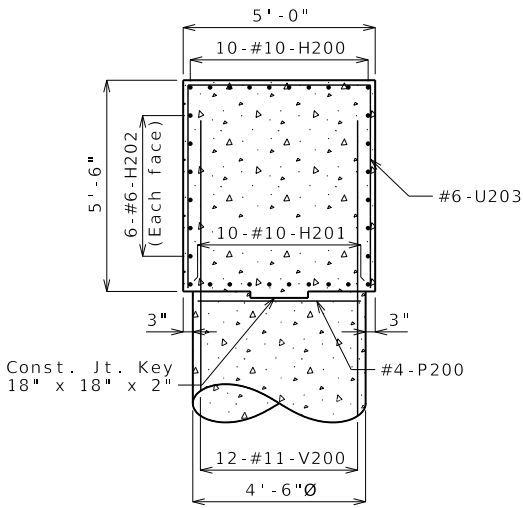
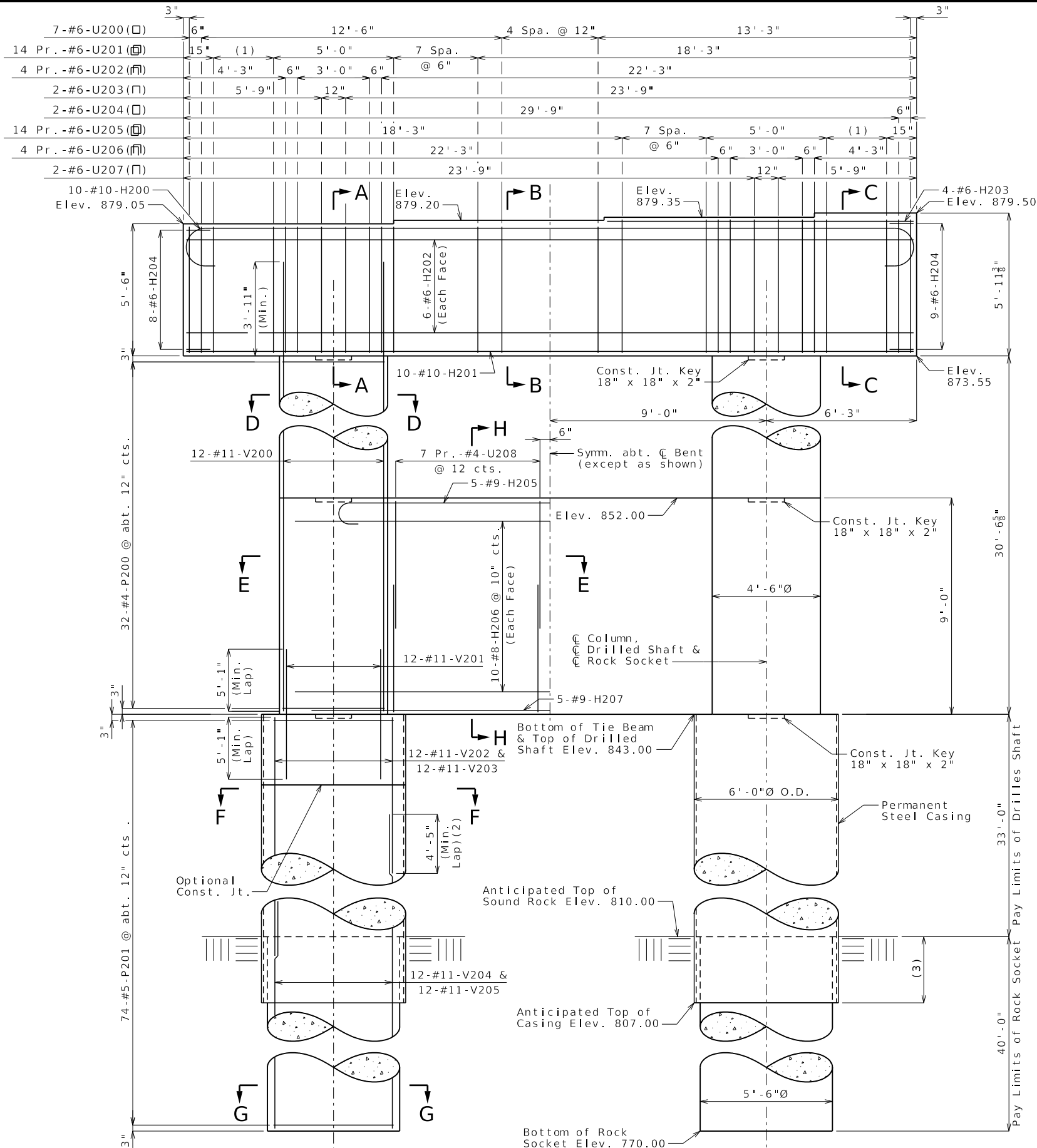
olsson

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

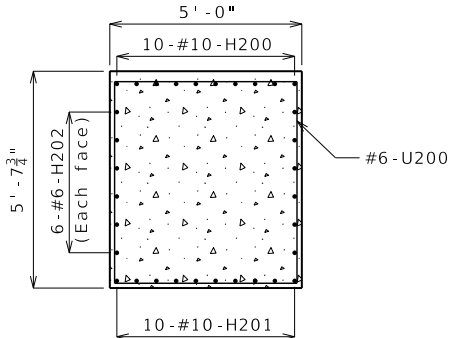
Notes:  
Work this sheet with Sheets No. 4 & 5.  
For locations of Sections A-A thru C-C and Elevations D-D & E-E, see Sheet No. 5.  
For reinforcement of the barrier, see Sheets No. 27 thru 30.



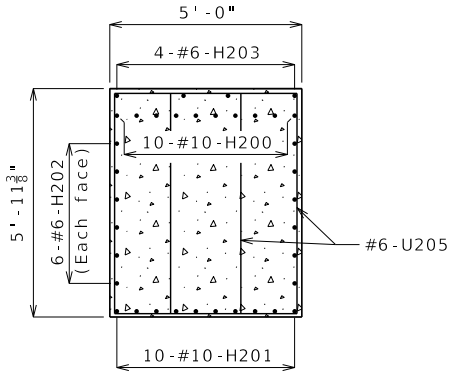


SECTION A-A

- (1) 5 Spa. @ 6"
- (2) Stagger location of lap splices by at least 10'-0"
- (3) Set steel casing into sound rock in accordance with Sec 701



SECTION B-B



SECTION C-C

| Substructure Quantity Table for Bent No. 2 |             |          |
|--------------------------------------------|-------------|----------|
| Item                                       |             | Quantity |
| Drilled Shafts (6 ft. 0 in. Dia.)          | linear foot | 66.0     |
| Rock Sockets (5 ft. 6 in. Dia.)            | linear foot | 80.0     |
| Video Camera Inspection                    | each        | 2        |
| Foundation Inspection Holes                | linear foot | 102.0    |
| Sonic Logging Testing                      | each        | 2        |
| Class B Concrete (Substructure)            | cu. yard    | 78.4     |
| Reinforcing Steel (Bridges)                | pound       | 37,900   |

These quantities are included in the Estimated Quantities table on Sheet No. 2.

All reinforcement in drilled shafts and rock sockets is included in the substructure quantities.

Notes:

Thickness of permanent steel casing shall be in accordance with Sec 701.

An additional 4 feet has been added to #11-V202 and #11-V203 bar lengths and an additional 8-#5-P201 bars have been added in the quantities, if required, for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The additional P-bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6-inch cts.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

The cost of any required excavation to the top of the drilled shafts will be considered completely covered by the contract unit price for other items.

Column or dowel reinforcement shall be placed prior to pouring drilled shaft concrete in the area of the lap. Dowel bar or column reinforcement shall not be inserted after drilled shaft pour is complete.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

Remove sediment laitance and weak concrete to sound concrete prior to setting column/dowel reinforcement if optional construction joint is used.

Work this sheet with Sheet No. 9.

ELEVATION  
(Anchor bolts not shown for clarity.)  
**DETAILS OF INTERMEDIATE BENT NO. 2**

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 8 of 47

GRANT C. LUCKENBILL  
ENGINEER  
MO# PE-2012018100

DATE PREPARED  
**8/4/2025**

|                            |                       |
|----------------------------|-----------------------|
| ROUTE<br><b>7</b>          | STATE<br><b>MO</b>    |
| DISTRICT<br><b>BR</b>      | SHEET NO.<br><b>8</b> |
| COUNTY<br><b>CASS</b>      |                       |
| JOB NO.<br><b>JKU0098</b>  |                       |
| CONTRACT ID.               |                       |
| PROJECT NO.                |                       |
| BRIDGE NO.<br><b>A9581</b> |                       |

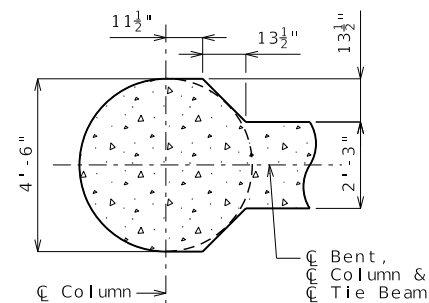
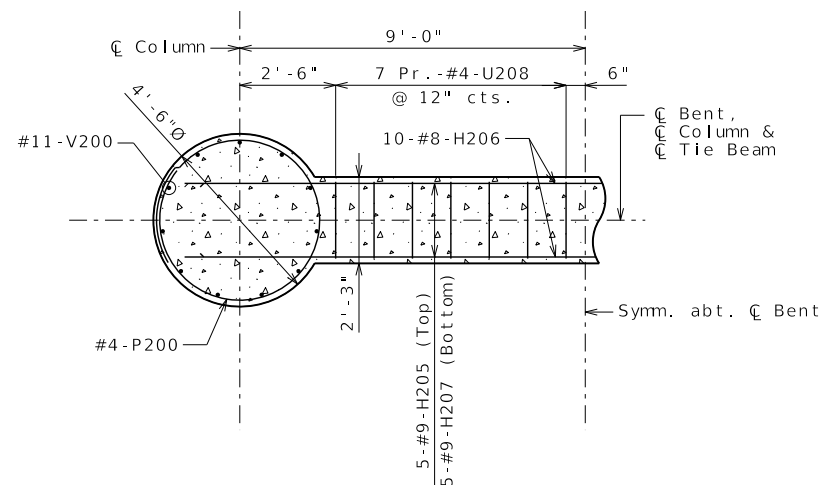
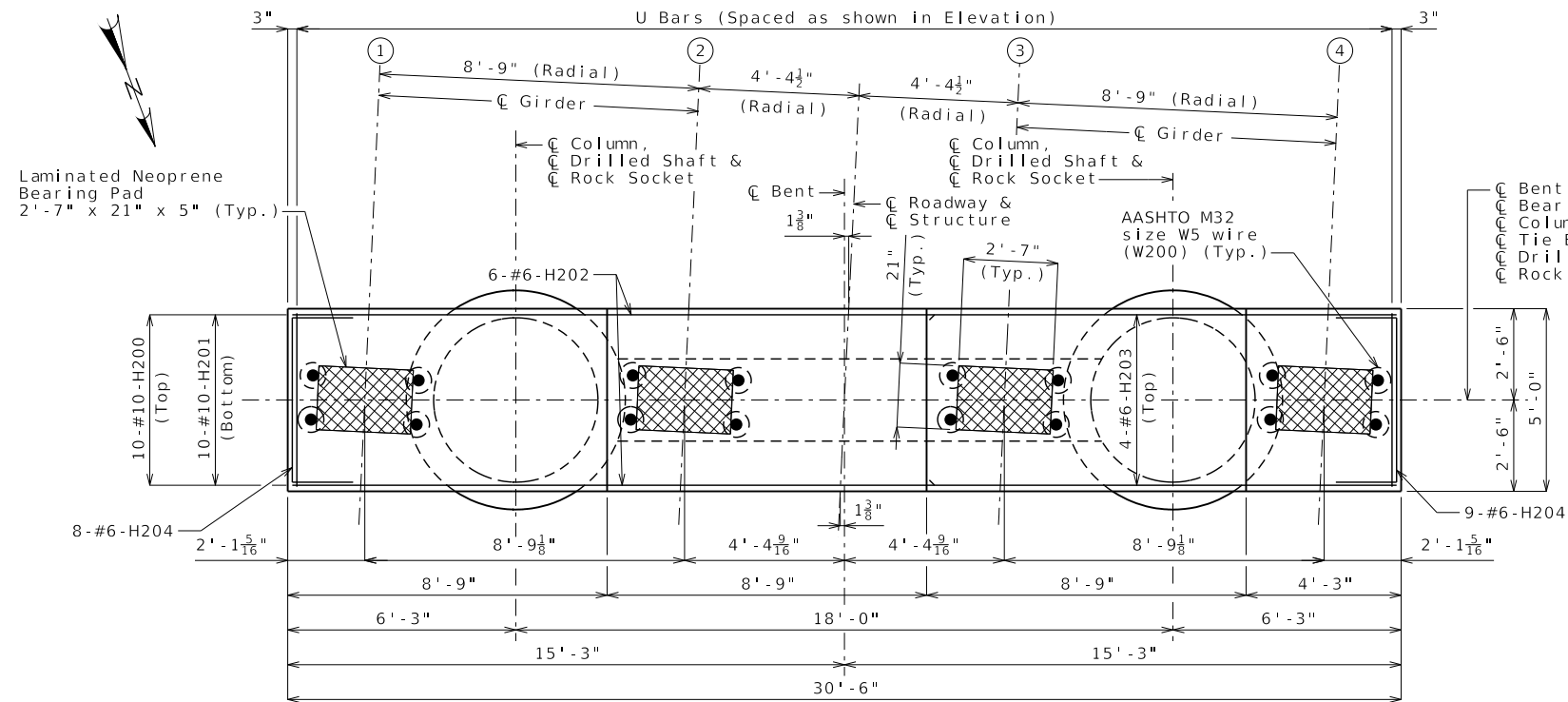
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

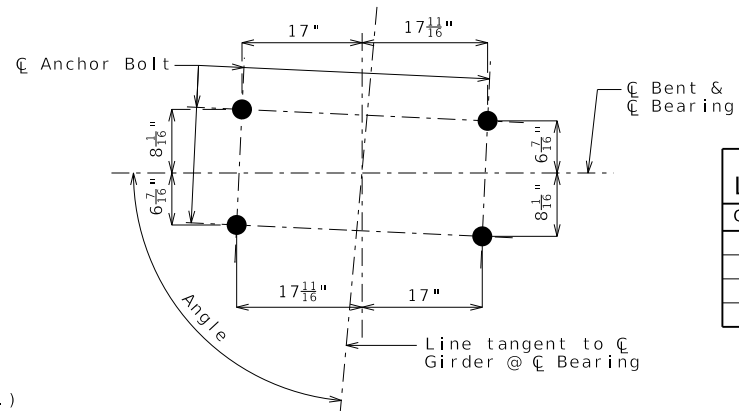
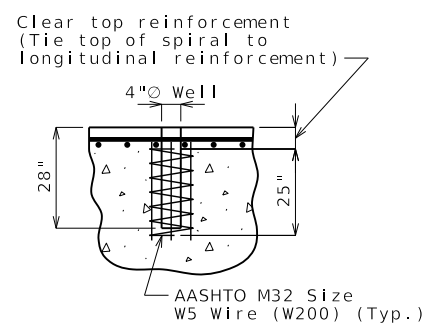
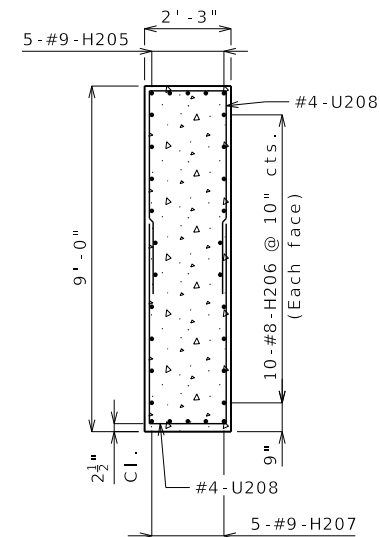
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

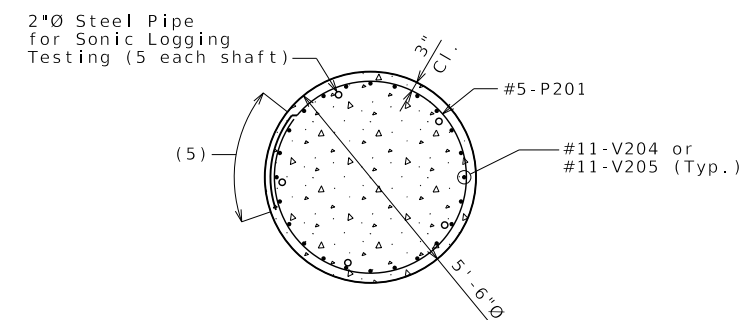
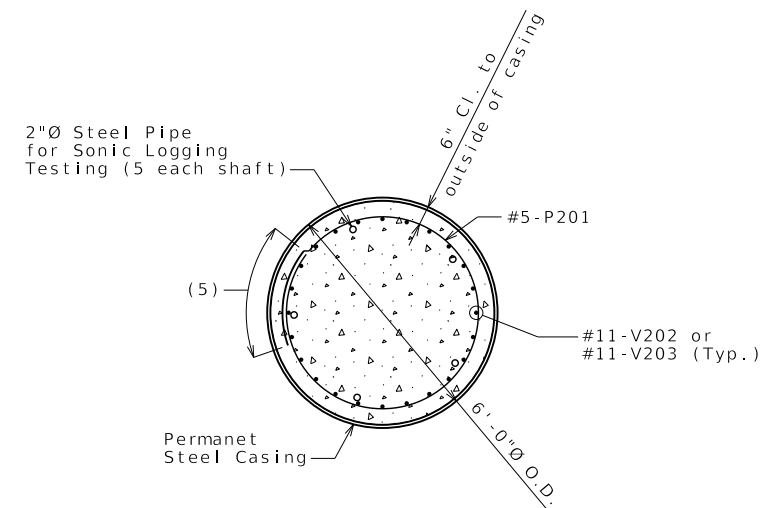
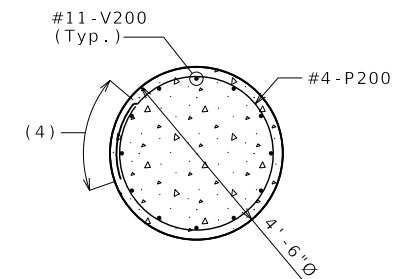


OPTIONAL PART SECTION E-E  
(Reinforcement not shown for clarity.)

At the contractor's option, the details shown in Optional Part Section E-E may be used for Column-Tie Beam at Intermediate Bent No. 2. No additional payment will be made for this substitution.



| Anchor Bolt Layout Dimensions |             |
|-------------------------------|-------------|
| Girder                        | Angle       |
| 1                             | 87° 19' 27" |
| 2                             | 87° 19' 47" |
| 3                             | 87° 20' 07" |
| 4                             | 87° 20' 26" |

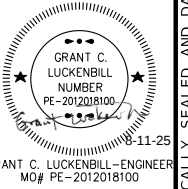


Notes:

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

For details on Laminated Neoprene Bearing Pads, see Sheet No. 15.

Work this sheet with Sheet No. 8.



DATE PREPARED

3 / 4 / 2025

|       |       |
|-------|-------|
| ROUTE | STATE |
| 7     | MO    |

|          |           |   |
|----------|-----------|---|
| 7        | MO        | E |
| DISTRICT | SHEET NO. |   |

DISTRICT  
RR

COUNTY

CASS

JOB NO. \_\_\_\_\_

JKU0098

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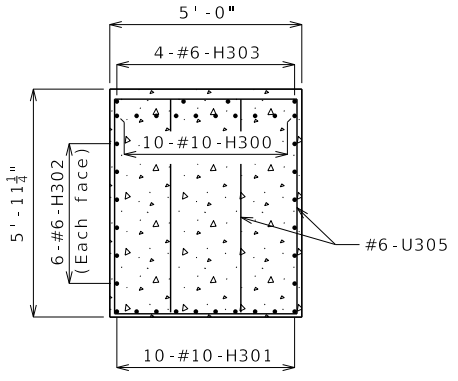
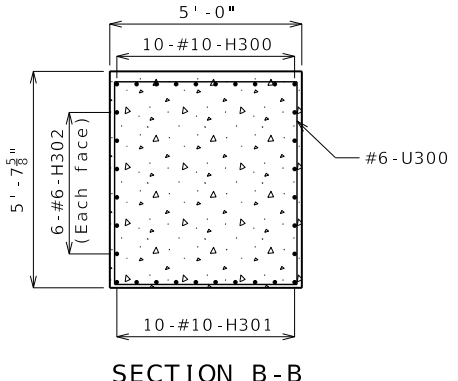
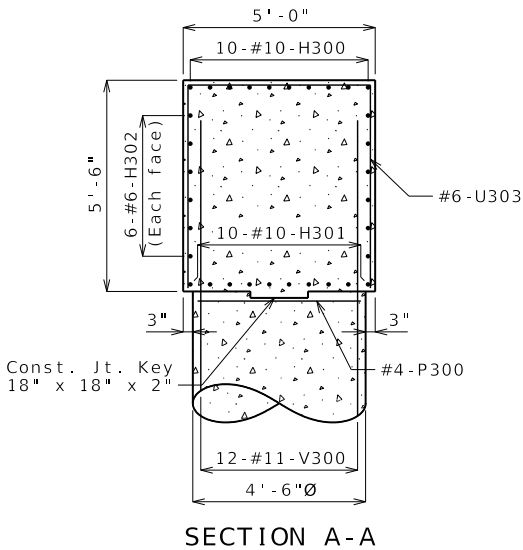
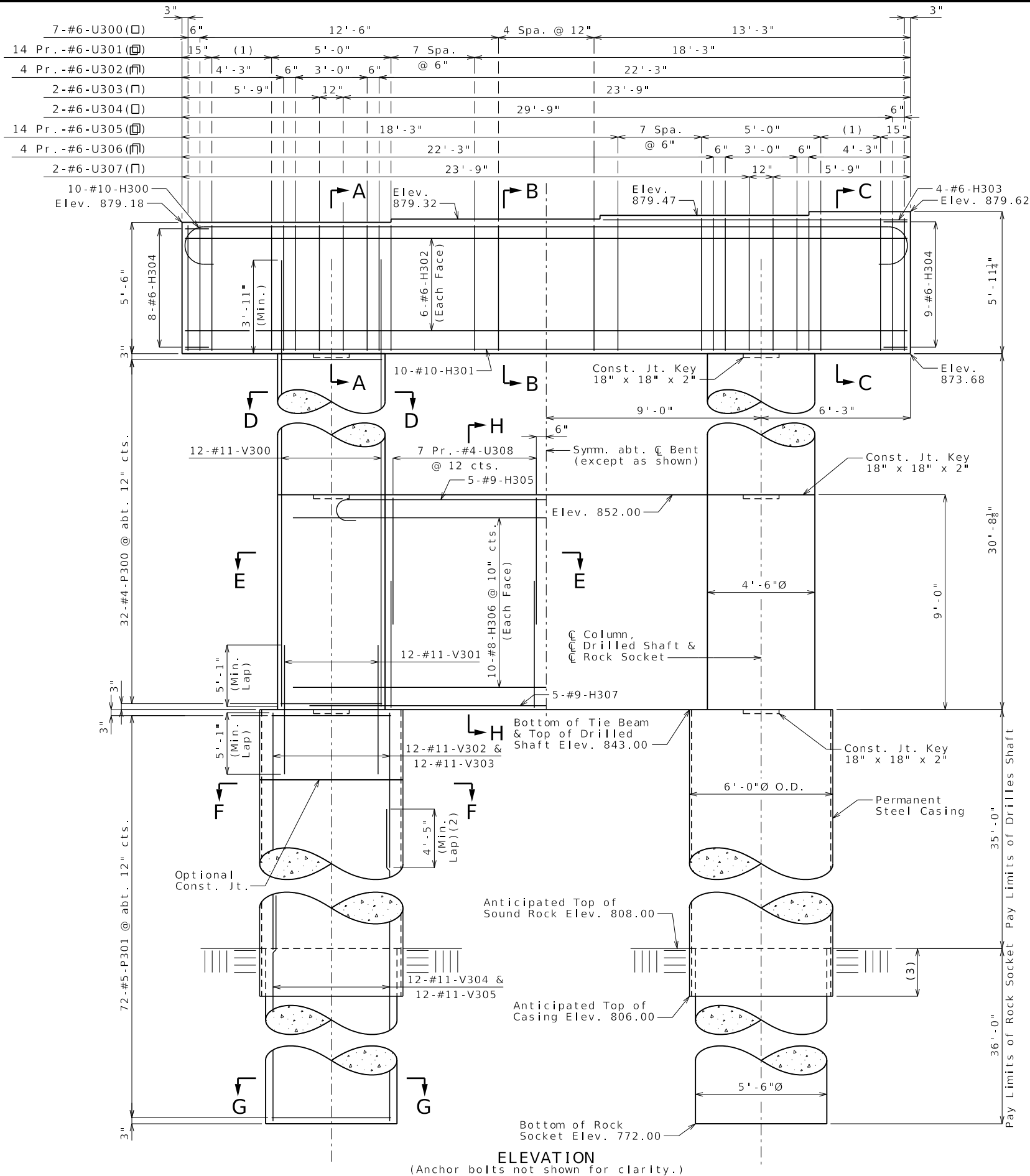
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- (1) 5 Spa. @ 6"  
(2) Stagger location of lap splices by at least 10'-0"  
(3) Set steel casing into sound rock in accordance with Sec 701

| Substructure Quantity Table for Bent No. 3 |             |          |
|--------------------------------------------|-------------|----------|
| Item                                       |             | Quantity |
| Class 1 Excavation                         | cu. yard    | 5        |
| Drilled Shafts (6 ft. 0 in. Dia.)          | linear foot | 70.0     |
| Rock Sockets (5 ft. 6 in. Dia.)            | linear foot | 72.0     |
| Video Camera Inspection                    | each        | 2        |
| Foundation Inspection Holes                | linear foot | 94.0     |
| Sonic Logging Testing                      | each        | 2        |
| Class B Concrete (Substructure)            | cu. yard    | 78.5     |
| Reinforcing Steel (Bridges)                | pound       | 37,330   |

These quantities are included in the Estimated Quantities table on Sheet No. 2.

All reinforcement in drilled shafts and rock sockets is included in the substructure quantities.

Notes:

Thickness of permanent steel casing shall be in accordance with Sec 701.

An additional 4 feet has been added to #11-V302 and #11-V303 bar lengths and an additional 8-#5-P301 bars have been added in the quantities, if required, for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The additional P-bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6-inch cts.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

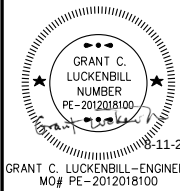
The cost of any required excavation to the top of the drilled shafts will be considered completely covered by the contract unit price for other items.

Column or dowel reinforcement shall be placed prior to pouring drilled shaft concrete in the area of the lap. Dowel bar or column reinforcement shall not be inserted after drilled shaft pour is complete.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

Remove sediment laitance and weak concrete to sound concrete prior to setting column/dowel reinforcement if optional construction joint is used.

Work this sheet with Sheet No. 11.



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
8/4/2025

ROUTE 7 STATE MO  
DISTRICT BR SHEET NO. 11

COUNTY CASS  
JOB NO. JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9581

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

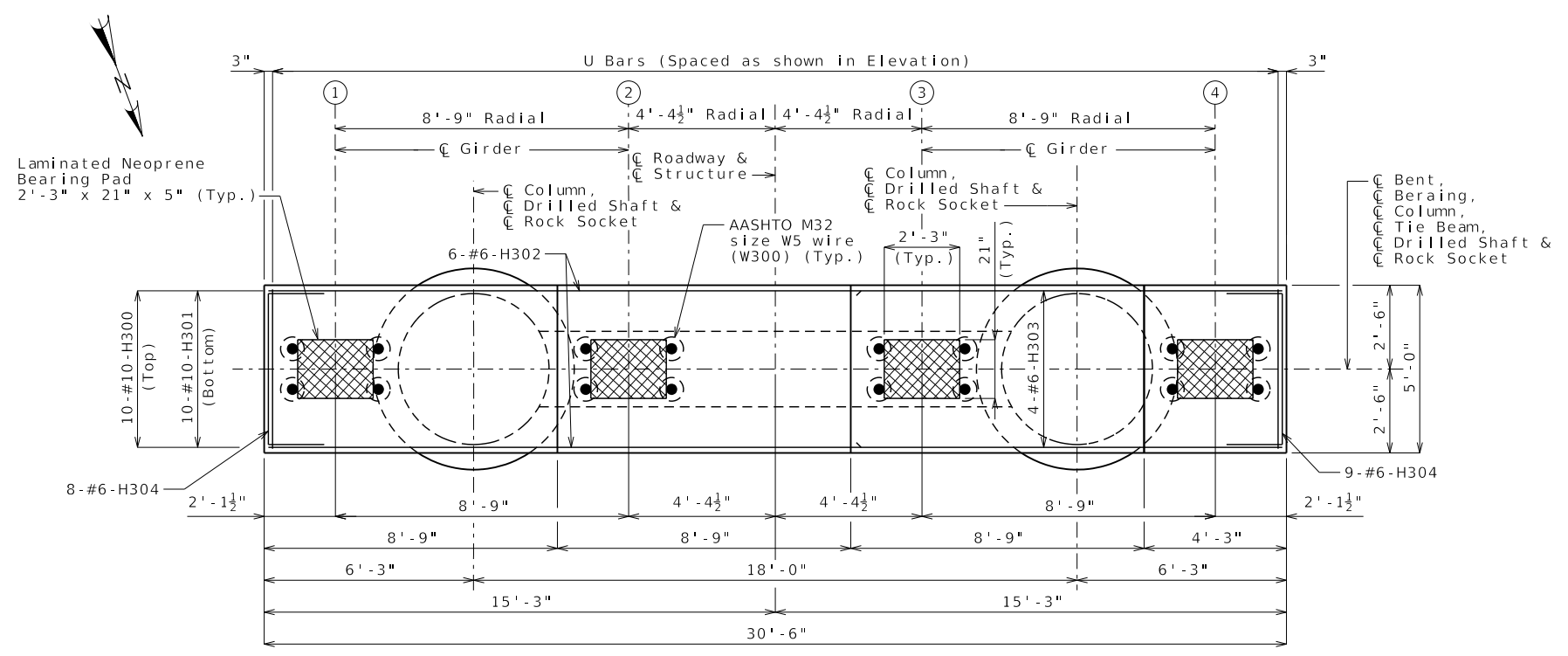
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

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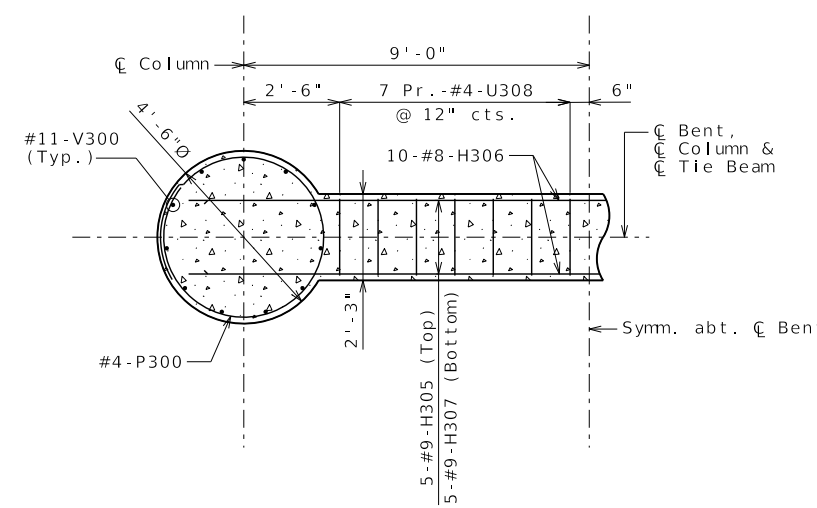
1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

REV.

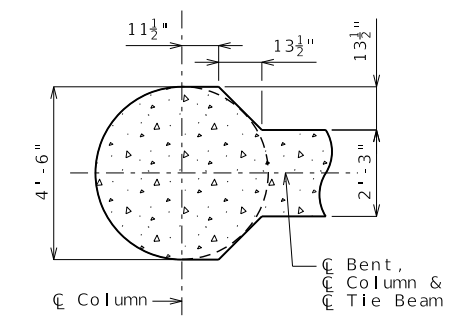
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PLAN OF BEAM

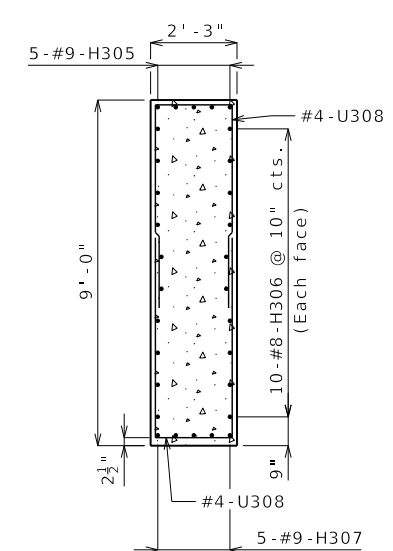


SECTION E-E

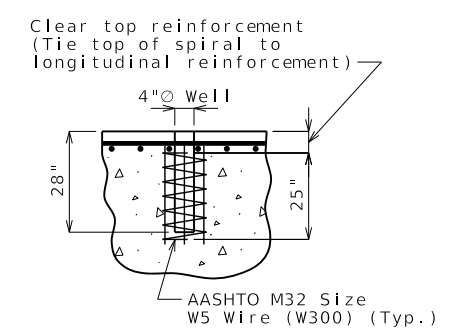


OPTIONAL PART SECTION E-E  
(Reinforcement not shown for clarity.)

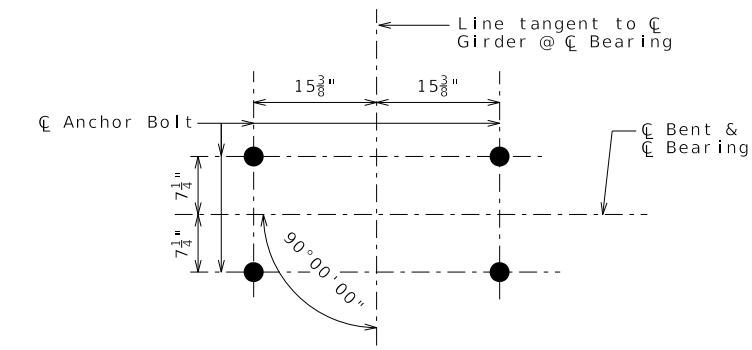
Note:  
At the contractor's option, the details shown in Optional Part Section E-E may be used for Column-Tie Beam at Intermediate Bent No. 3. No additional payment will be made for this substitution.



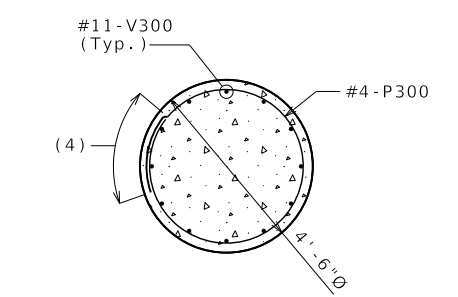
SECTION H-H



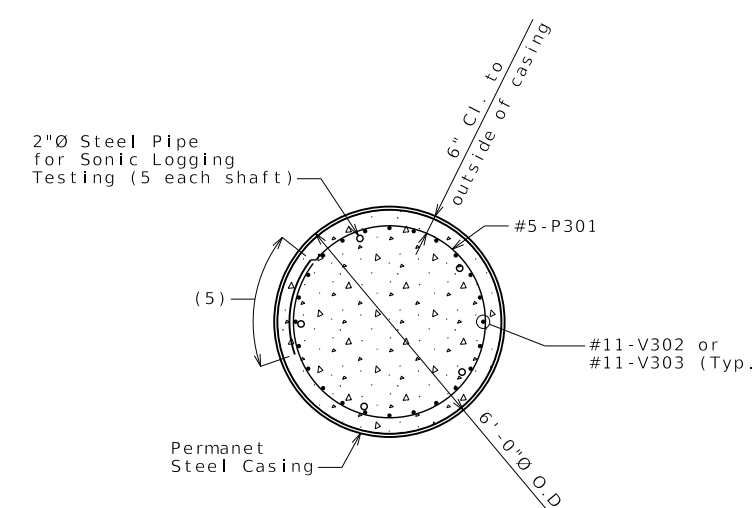
ANCHOR BOLT WELLS



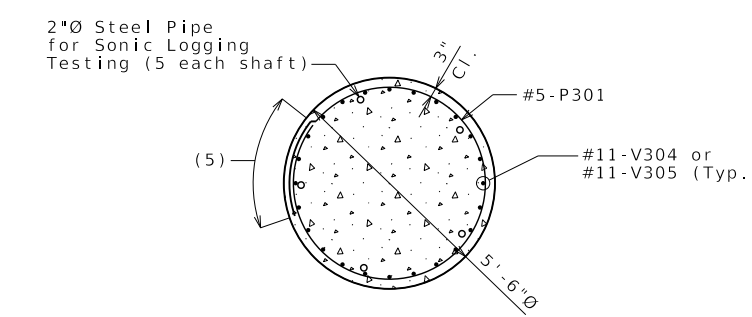
ANCHOR BOLT LAYOUT



SECTION D-D



SECTION F-F



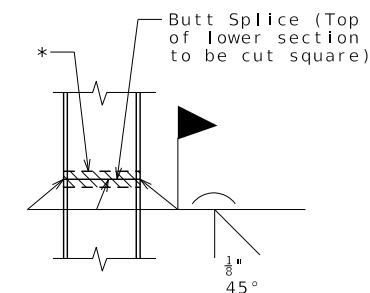
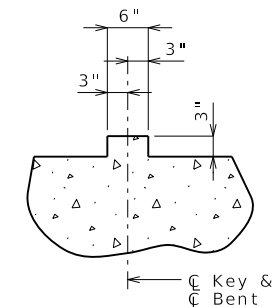
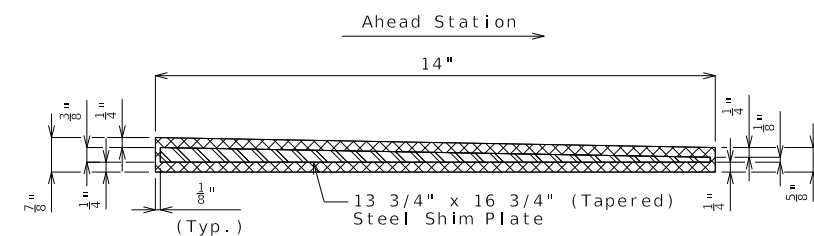
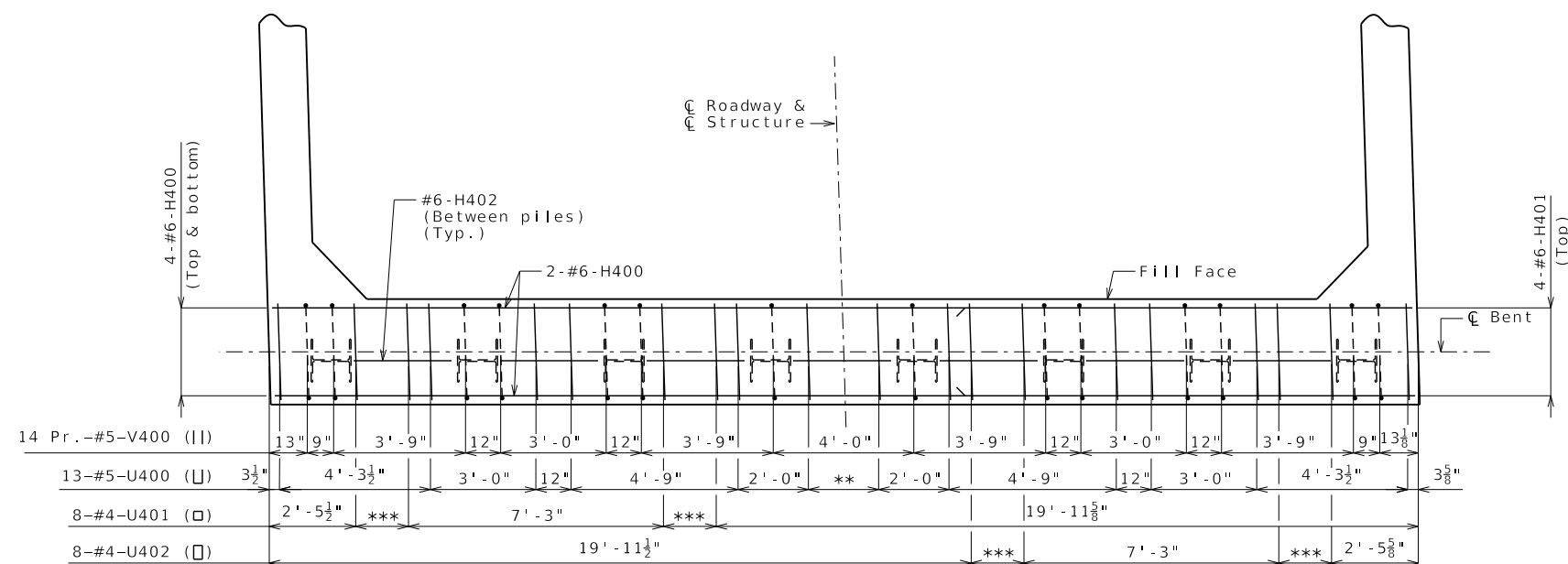
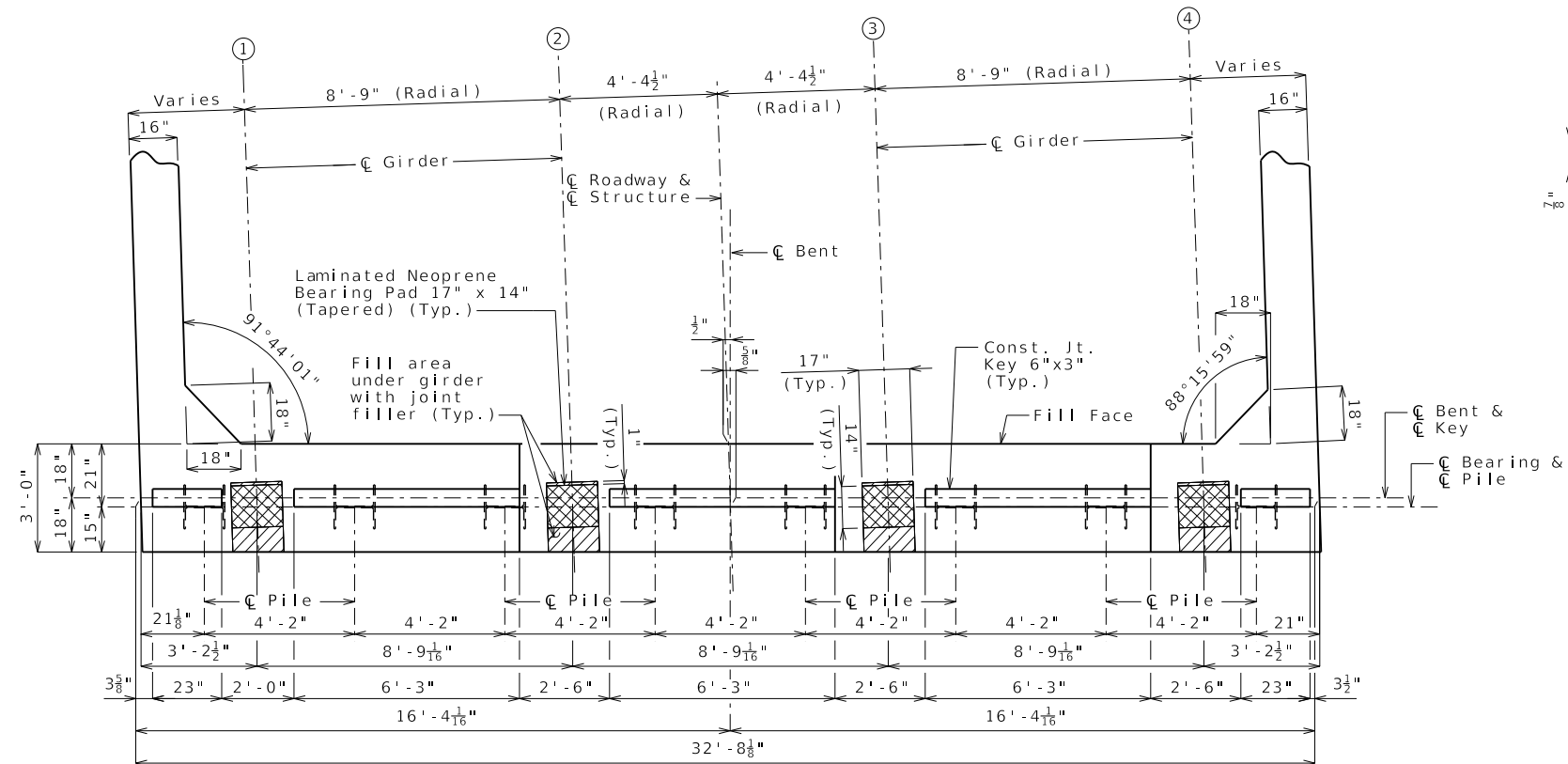
SECTION G-G

Notes:  
Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".  
For details on Laminated Neoprene Bearing Pads, see Sheet No. 15.  
Work this sheet with Sheet No. 10.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 11 of 47



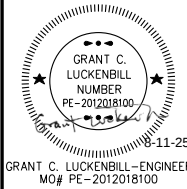
| Substructure Quantity Table for Bent No. 4 |             |          |
|--------------------------------------------|-------------|----------|
| Item                                       |             | Quantity |
| Class 1 Excavation                         | cu. yard    | 70       |
| Galvanized Structural Steel Piles (14 in.) | linear foot | 608      |
| Pre-Bore for Piling                        | linear foot | 80       |
| Pile Point Reinforcement                   | each        | 8        |
| Class B Concrete (Substructure)            | cu. yard    | 18.3     |
|                                            |             |          |

These quantities are included in the Estimated Quantities table on Sheet No. 2.

Notes:

The U bars and pairs of V bars shall be placed parallel to a line tangent to C Roadway at C Bearing.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.



DATE PREPARED  
8/4/2025

|            |             |
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| ROUTE<br>7 | STATE<br>MO |
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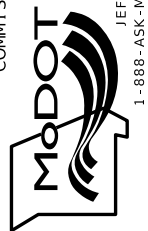
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| DISTRICT | SHEET NO. |
| BR       | 12        |

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|--------|
| COUNTY |
| CASS   |

JOB NO.  
JKU0098

|              |
|--------------|
| CONTRACT ID. |
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| PROJECT NO. |
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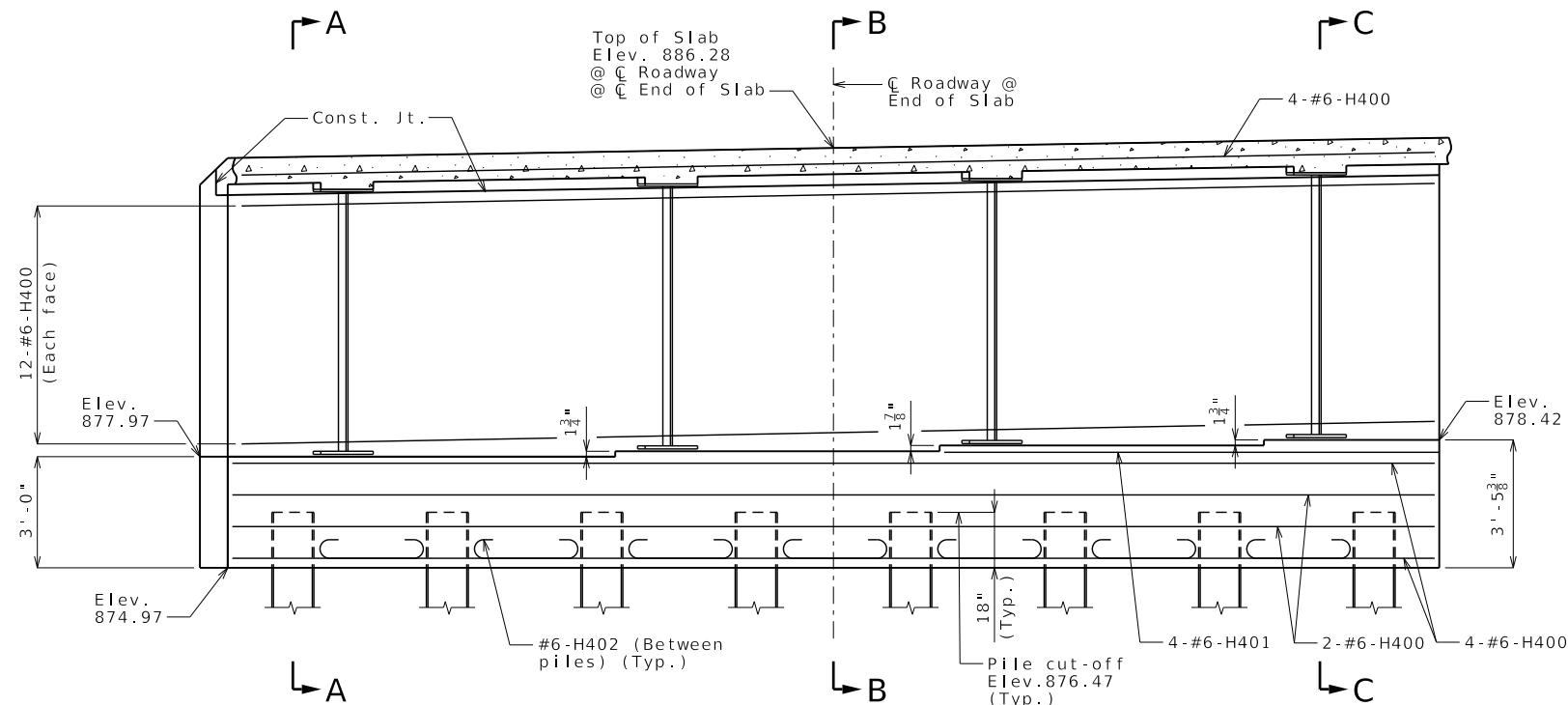
BRIDGE NO.  
A9581[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

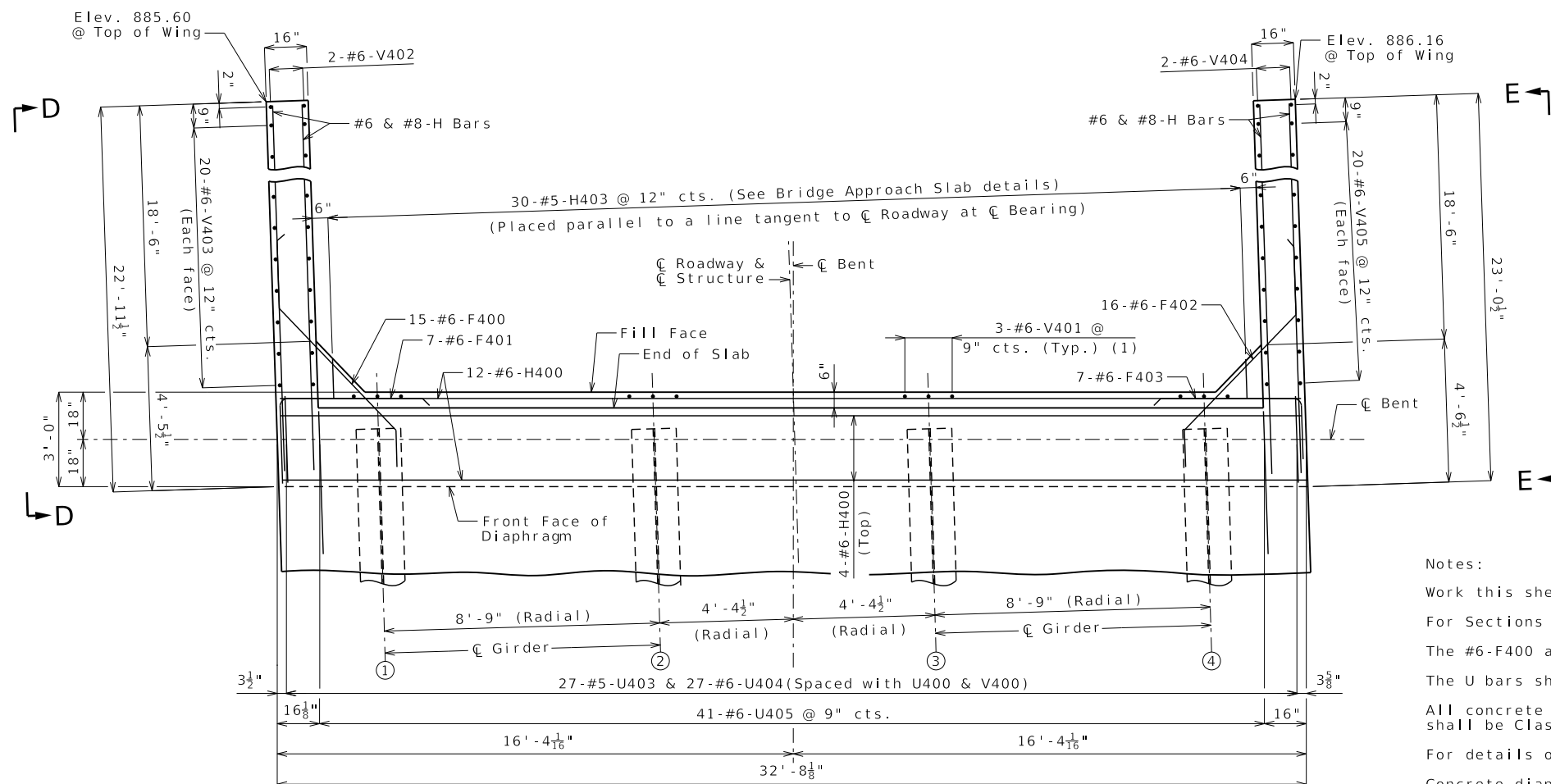
CERTIFICATE OF AUTHORITY NO. 001592

REV.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



SECTION NEAR END BENT



PART PLAN  
(1) Centered behind girders  
DETAILS OF END BENT NO. 4

Notes:

Work this sheet with Sheets No. 12 & 14.

For Sections A-A thru C-C and Elevations D-D & E-E, see Sheet No. 14.

The #6-F400 and #6-F402 bars shall be bent in the field to clear girders.

The U bars shall be placed parallel to centerline of roadway.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For details of vertical drain at end bents, see Sheet No. 7.

Concrete diaphragms at the integral end bents shall be poured a minimum of 12 hours before the slab is poured.

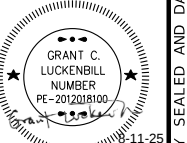
For details of bridge approach slab, see Sheet No. 31.

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 13 of 47

F:\2022\03001-03500\022-03482\40-Design\Microstation\KU0098\plan\_sheets\16 Bridge Sheets\B\_A9581\_013\_JKU0098\_END BENT 4 DETAILS (2 OF 3).dgn 3:27:33 PM



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED  
8/4/2025

ROUTE 7 STATE MO

DISTRICT BR SHEET NO. 13

COUNTY CASS

JOB NO. JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9581

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

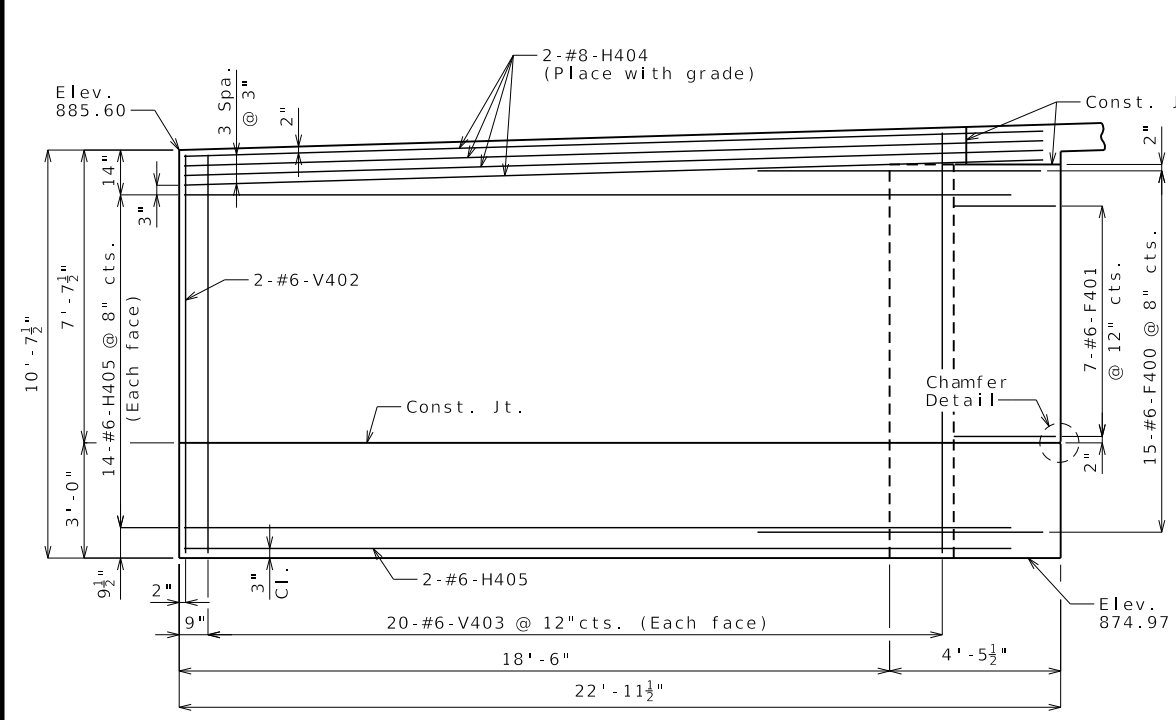
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

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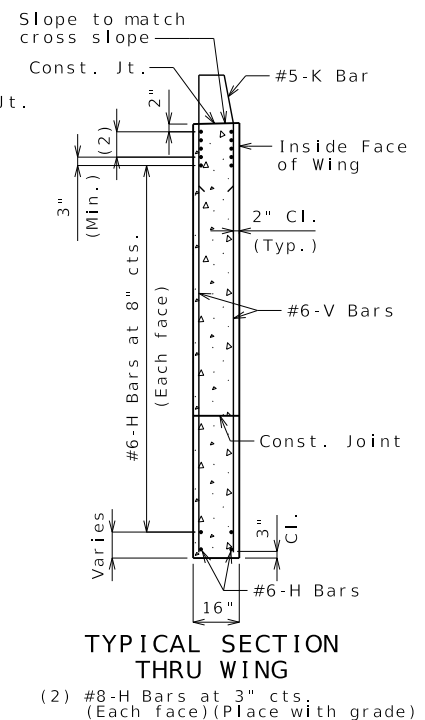
1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

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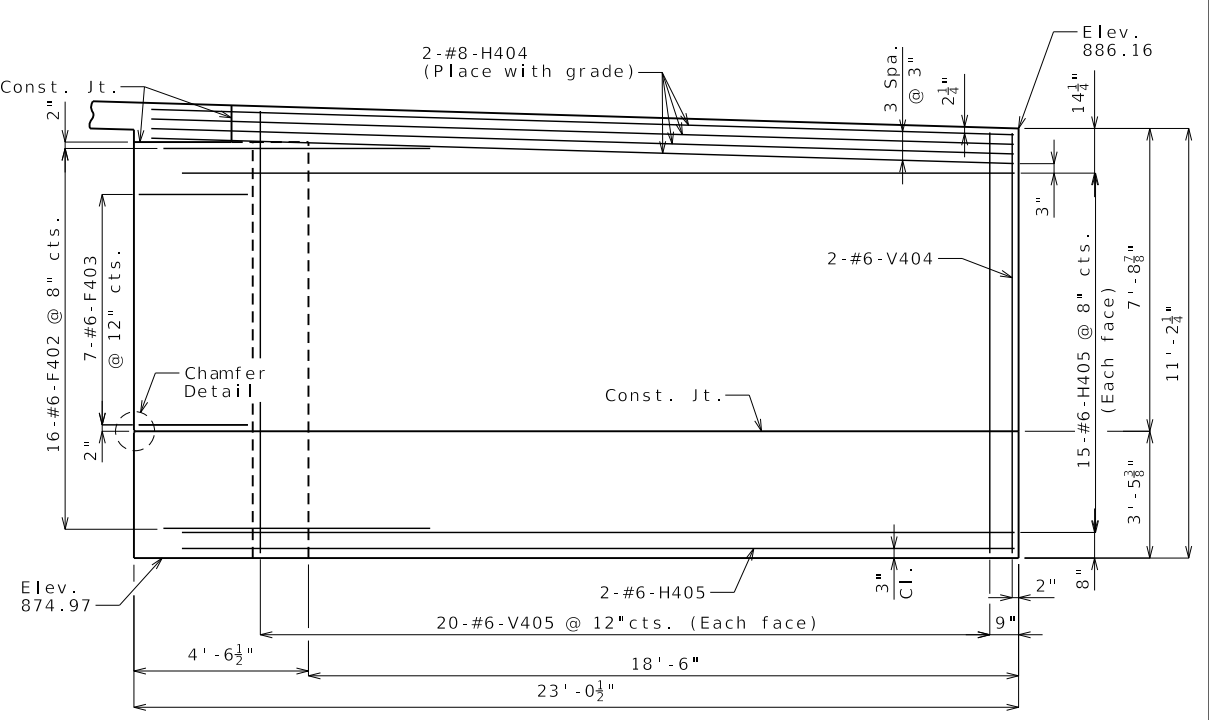


ELEVATION D-D

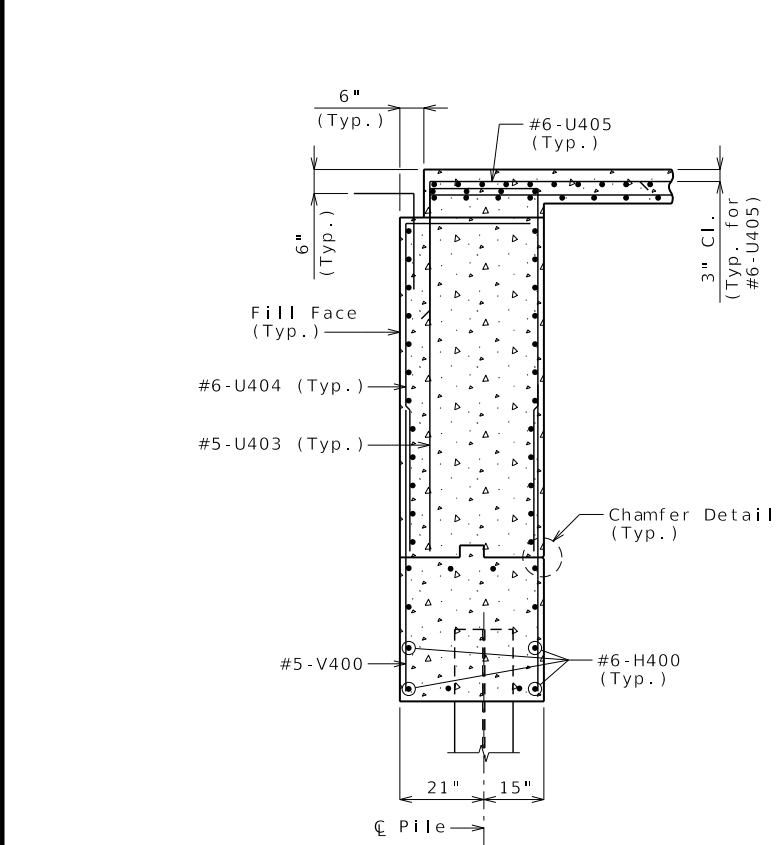


TYPICAL SECTION THRU WING

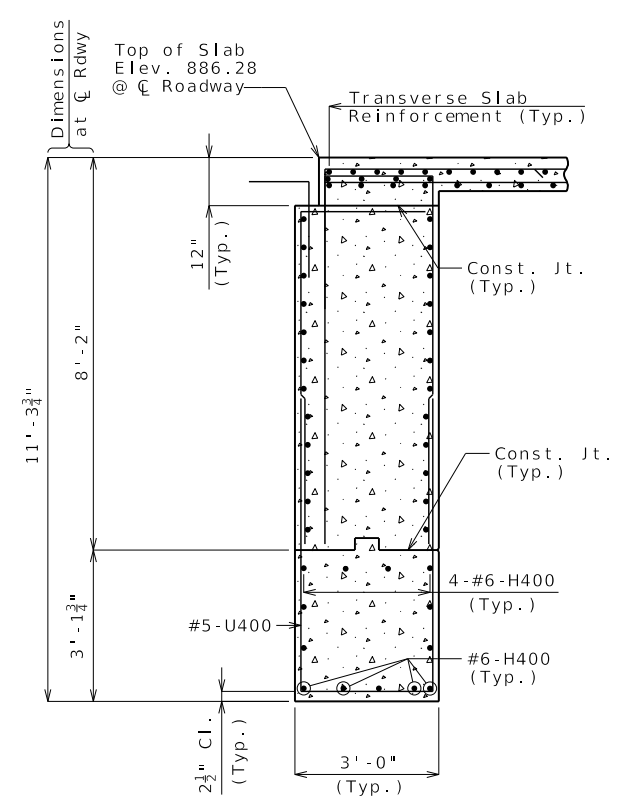
(2) #8-H Bars at 3" cts. (Each face) (Place with grade)



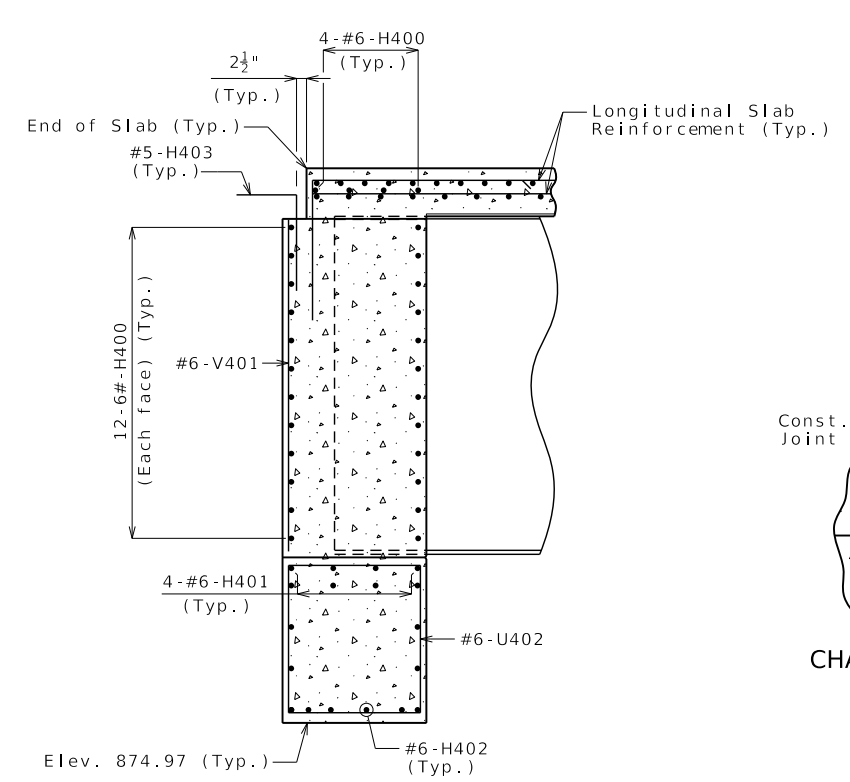
ELEVATION E-E



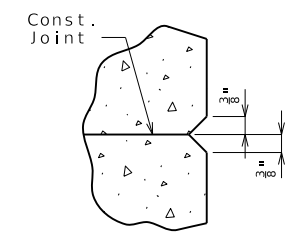
SECTION A-A



SECTION B-B



SECTION C-C



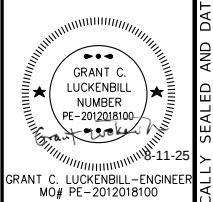
CHAMFER DETAIL

Notes:  
Work this sheet with Sheets No. 12 & 13.  
For locations of Sections A-A thru C-C and Elevations D-D & E-E, see Sheet No. 13.  
For reinforcement of the barrier, see Sheets No. 27 thru 30.

DETAILS OF END BENT NO. 4

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 14 of 47



|                           |                 |
|---------------------------|-----------------|
| DATE PREPARED<br>8/4/2025 |                 |
| ROUTE<br>7                | STATE<br>MO     |
| DISTRICT<br>BR            | SHEET NO.<br>14 |
| COUNTY<br>CASS            |                 |
| JOB NO.<br>JKU0098        |                 |
| CONTRACT ID.              |                 |

|                     |  |
|---------------------|--|
| PROJECT NO.         |  |
| BRIDGE NO.<br>A9581 |  |

| DESCRIPTION | DATE |
|-------------|------|
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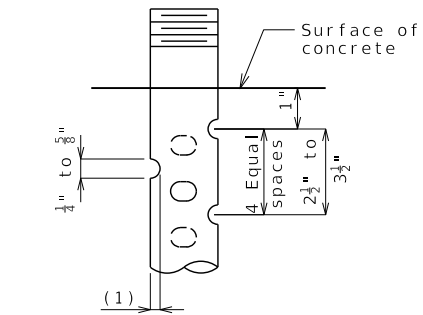
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

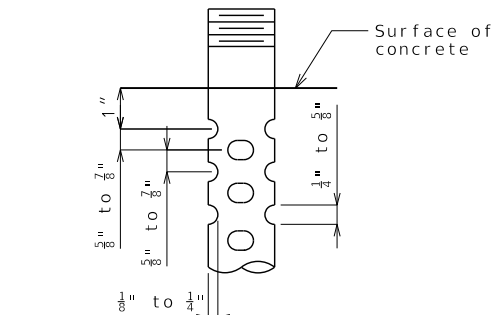
**olsson**

1301 BURLINGTON STREET, STE. 100  
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PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

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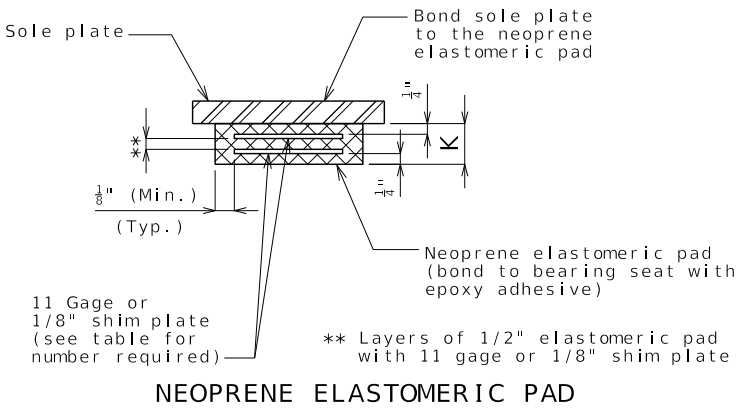
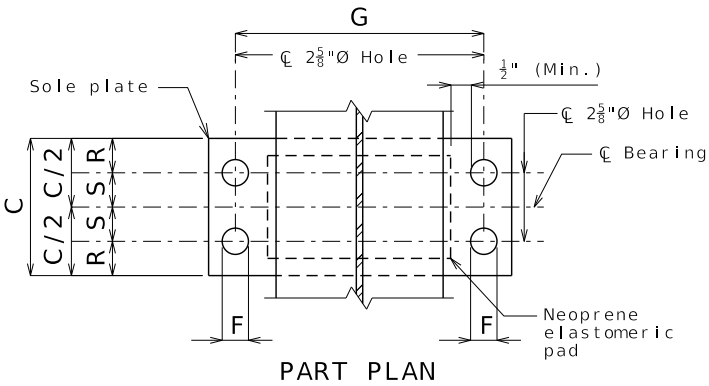
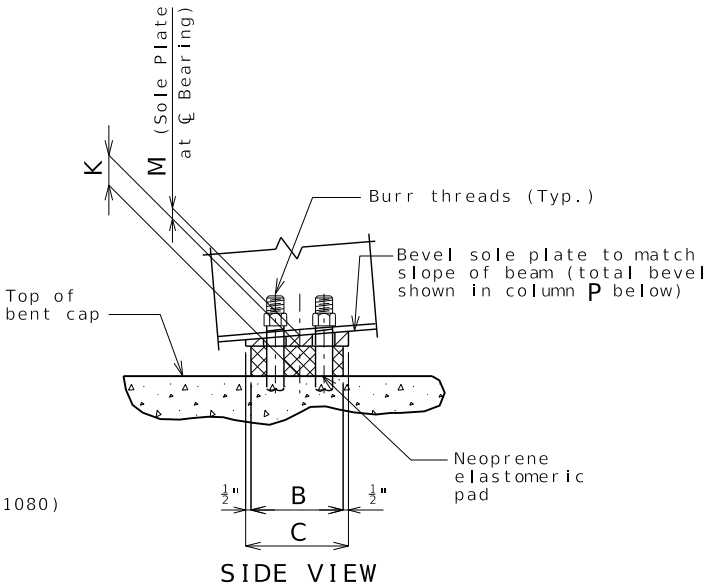
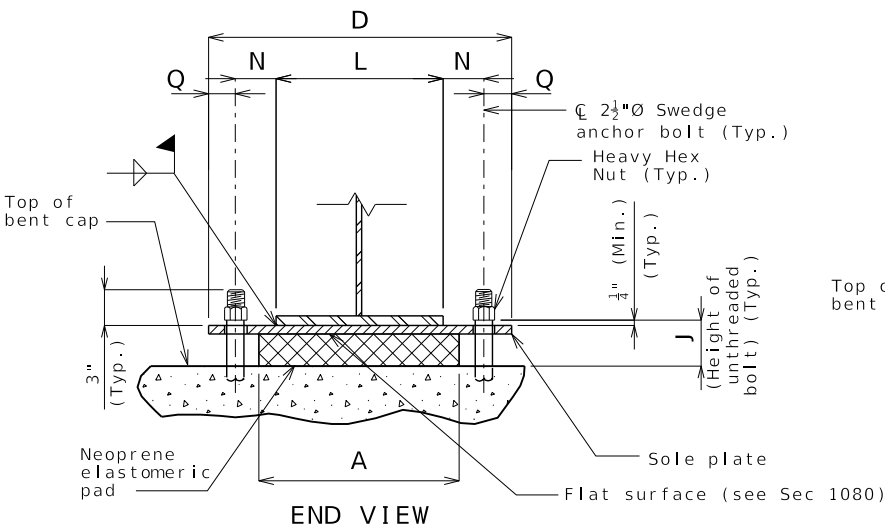
DETAIL FOR 3/4"Ø THRU  
2 1/2"Ø ANCHOR BOLTS



OPTIONAL DETAIL FOR 1 3/8"Ø  
THRU 2 1/2"Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

- (1) 1/8" for 3/4"Ø thru 1 1/4"Ø anchor bolts  
1/8" to 1/4" for 1 3/8"Ø thru 2 1/2"Ø anchor bolts



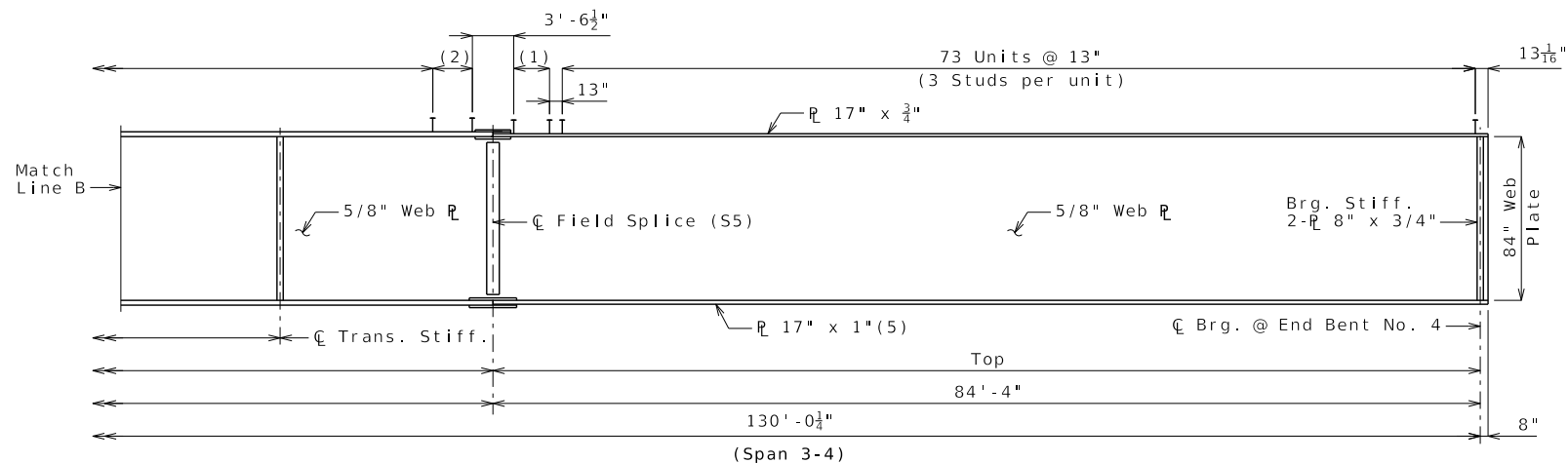
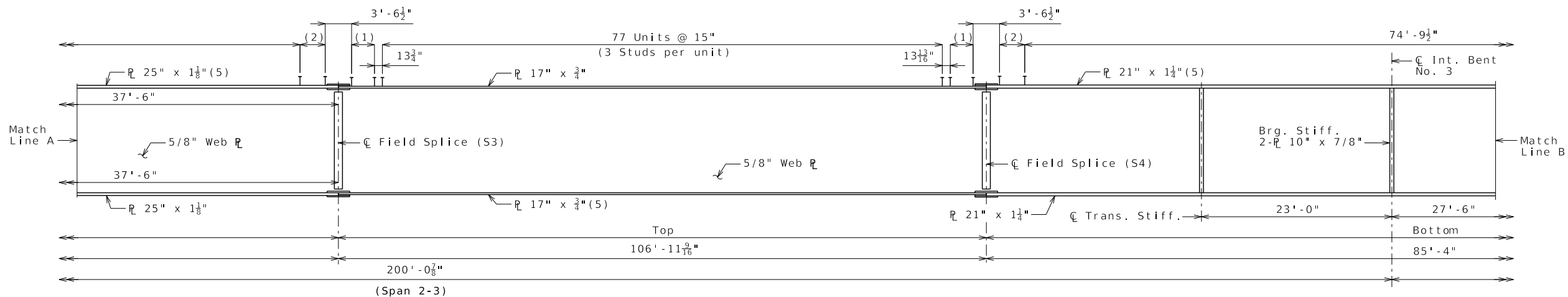
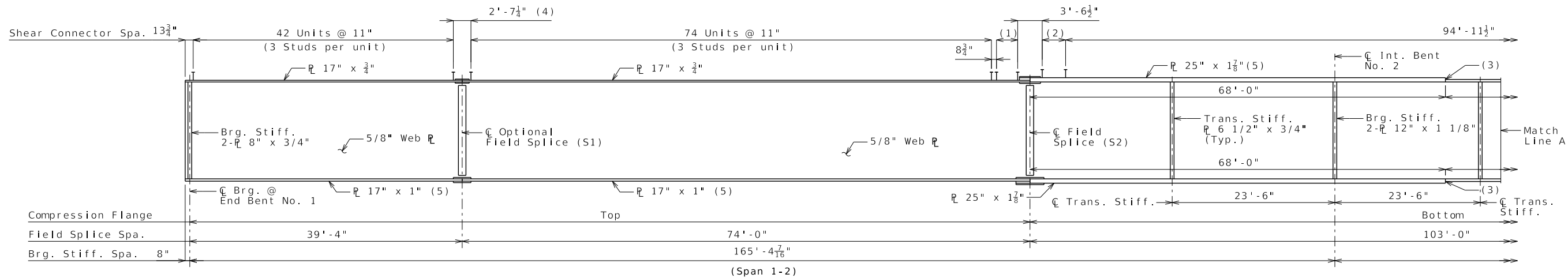
| FIXED BEARINGS                                                                                                      |     |     |     |         |        |         |        |    |     |        |        |      |        |        |                |
|---------------------------------------------------------------------------------------------------------------------|-----|-----|-----|---------|--------|---------|--------|----|-----|--------|--------|------|--------|--------|----------------|
| BENT NO.                                                                                                            | A   | B   | C   | D       | F      | G       | J      | K  | L   | M      | N      | P    | Q      | R      | S              |
| 2                                                                                                                   | 31" | 21" | 22" | 42 1/4" | 2 5/8" | 34 3/4" | 6 7/8" | 5" | 25" | 1 1/2" | 4 3/8" | 1/8" | 3 3/4" | 3 3/4" | 7 1/4"         |
| 3                                                                                                                   | 27" | 21" | 22" | 38 1/4" | 2 5/8" | 30 3/4" | 6 7/8" | 5" | 21" | 1 1/2" | 4 3/8" | 1/8" | 3 3/4" | 3 3/4" | 7 1/4"         |
|                                                                                                                     |     |     |     |         |        |         |        |    |     |        |        |      |        |        |                |
|                                                                                                                     |     |     |     |         |        |         |        |    |     |        |        |      |        |        |                |
| * The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit. |     |     |     |         |        |         |        |    |     |        |        |      |        |        | TOTAL BEARINGS |
|                                                                                                                     |     |     |     |         |        |         |        |    |     |        |        |      |        |        | 8              |

GENERAL NOTES:

- Anchor bolts shall be 2 1/2"Ø ASTM F1554 Grade 55 swedged bolts and shall extend 25" into the concrete with ASTM A563 Grade A Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.
- Anchor bolts and heavy hex nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.
- Neoprene Elastomeric Pads shall be 60 Durometer.
- Structural steel for sole plate shall be ASTM A709 Grade 50W. The welds shall have corrosion resistance and weathering characteristics compatible with the base material.
- Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.







- (1) 8 Units @ 5 $\frac{1}{4}"$  (3 Studs per unit)  
(2) 9 Units @ 5 $\frac{1}{4}"$  (3 Studs per unit)  
(3) Shop Welded Flange Splice  
(4) Install two additional shear connector units spaced equally if field splice is omitted  
(5) Indicates flange plates subject to notch toughness requirements

Notes:

Plate girders shall be fabricated to be in accordance with the camber diagram shown on Sheet No. 20.

Transverse web stiffeners shall be located as shown in the plan of structural steel.

All web plates shall be subject to notch toughness requirements.

The flange and web splice plates shall be subject to notch toughness requirements, when notch toughness is required for flanges on both sides of splice.

Fabricated structural steel shall be ASTM A709 Grade 50W, except as noted.

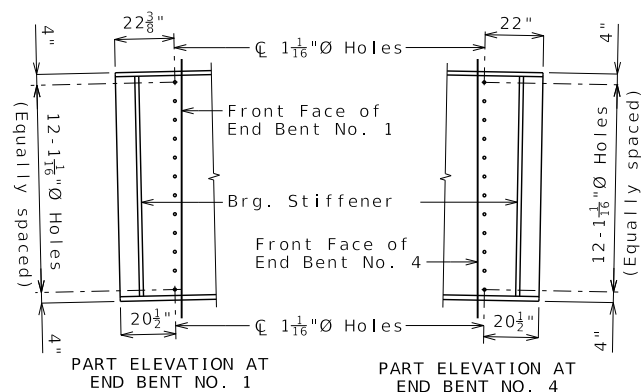
Weight of 3928 pounds of shear connectors is included in the weight of Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W.

Shear connectors shall be in accordance with 712, 1037 and 1080.

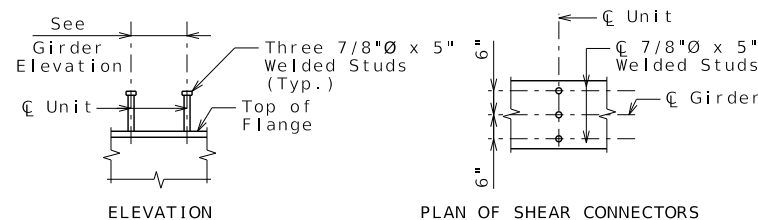
Weight of optional field splice (S1) is included in the weight of Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W. Weight of the additional shear connectors to be included if optional field splice is omitted is not included in the weight of Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W.

For location of slab drain attachment holes, see slab drain details sheet.

Longitudinal dimensions are horizontal arc dimensions from centerline bearing to centerline bearing. See Part-Longitudinal Sections on Sheet No. 16.



DETAIL OF WEB HOLES AT END BENTS



DETAILS OF SHEAR CONNECTORS  
(3 STUDS PER UNIT)

STEEL PLATE GIRDER DETAILS

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 17 of 47

F:\2022\03001-03500\022-03482\40-Design\Microstation\KU0098\plan\_sheets\16 Bridge Sheets\B\_A9581\_017\_JKU0098\_STEEL PLATE GIRDER DETAILS.dgn 3:27:41 PM

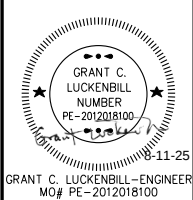
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105 WEST CAPITOL  
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olsson

1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

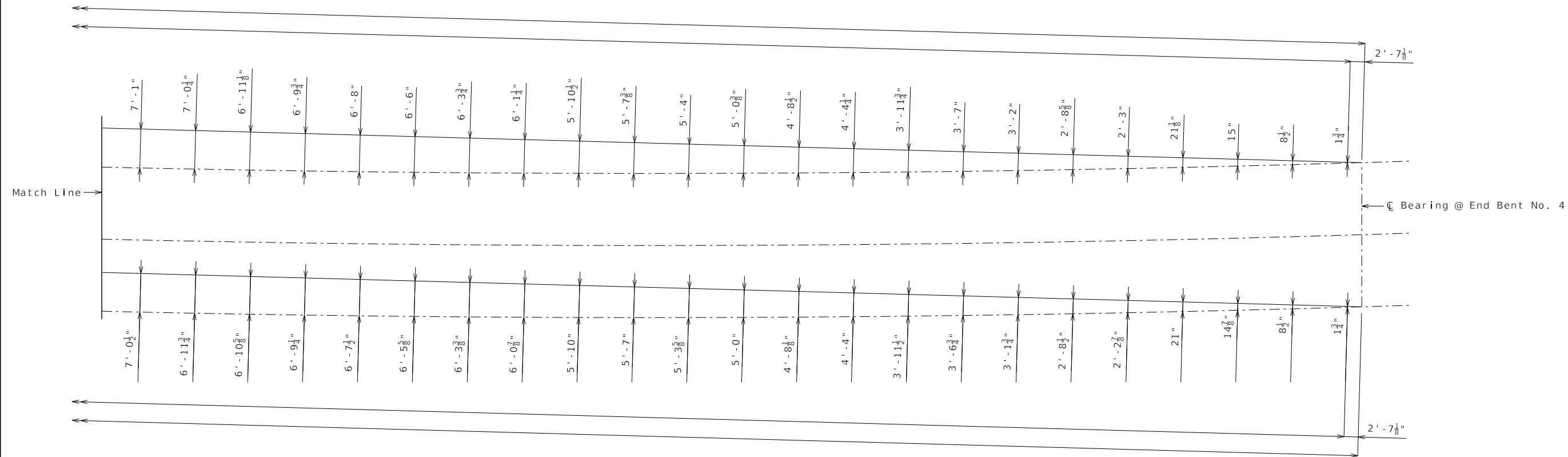
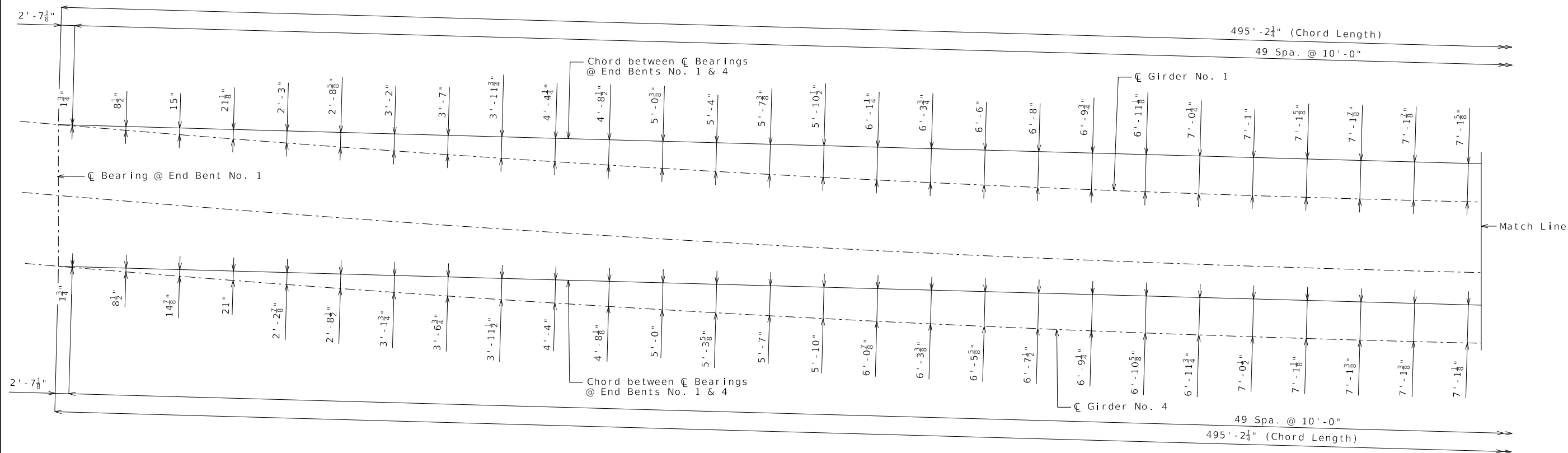
DATE PREPARED  
8/4/2025  
ROUTE 7  
DISTRICT BR  
STATE MO  
SHEET NO. 17  
COUNTY CASS  
JOB NO. JKU0098  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO. A9581

DESCRIPTION

DATE

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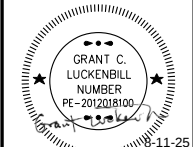
## PLAN OF EXTERIOR GIRDERS SHOWING GIRDER CURVE OFFSETS

Note:  
All dimensions are horizontal.

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 18 of 47

F:\2022\03001-03500\022-03482\40-Design\Microstation\KU0098\plan\_sheets\16 Bridge Sheets\B A9581 018 JKU0098 PLAN OF EXTERIOR GIRDERS SHOWING GIRDER CURVE OFFSETS.dgn 3:27:43 PM



GRANT C. LUCKENBILL-ENGINEER  
MO# PE-2012018100

DATE PREPARED

8/4/2025

| ROUTE | STATE |
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| DISTRICT | SHEET NO |
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BR | 18

COUNTY

CASS

JOB NO

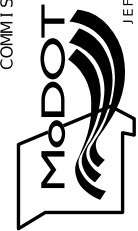
KU009

## CONTRACT

PROJECT NO.

BRIDGE NO.

A9581

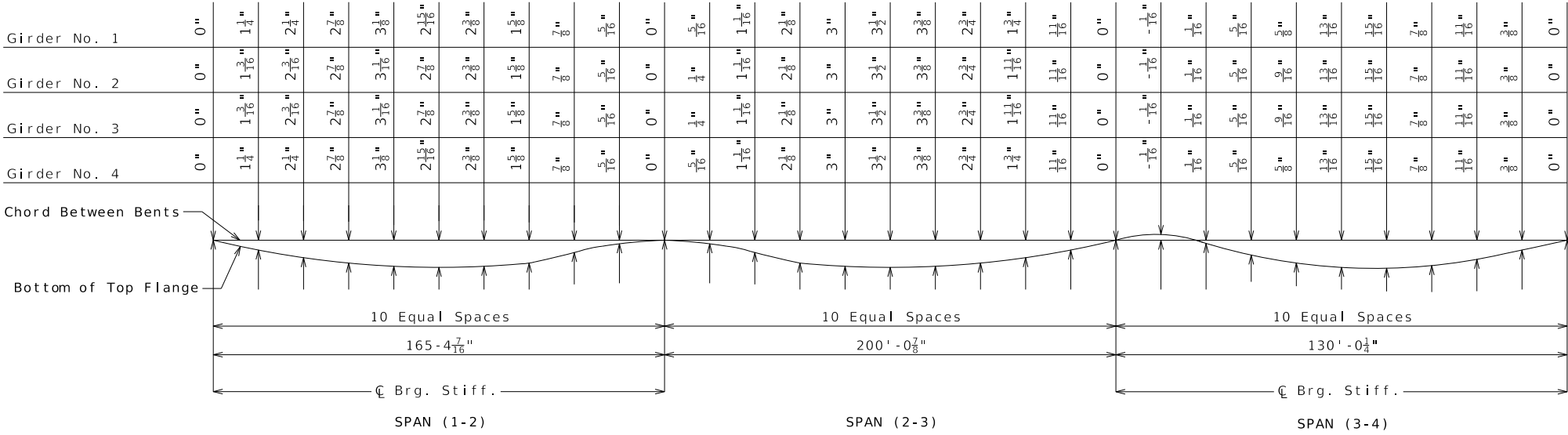
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

**olson**

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CERTIFICATE OF AUTHORITY NO. 00159

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**REV.**



DEAD LOAD DEFLECTION

The percent of dead load deflection due to the weight of structural steel is 24% (Span 1-2), 19% (Span 2-3) and 24% (Span 3-4).

Dead load deflection includes weight of structural steel, concrete slab, and barrier.

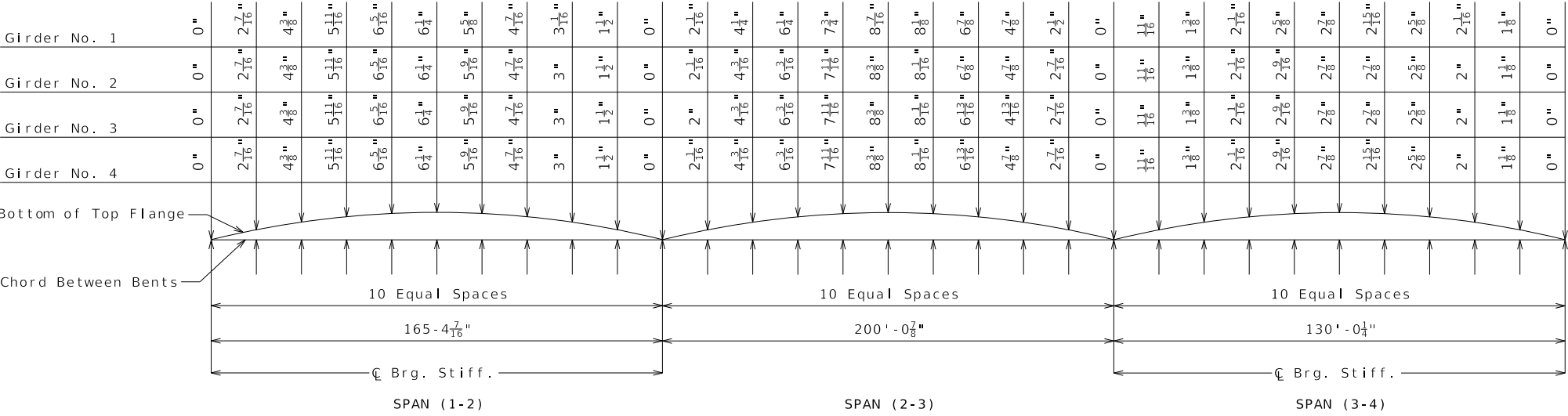
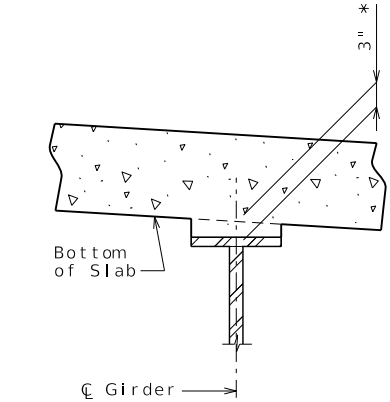


PLATE GIRDER CAMBER DIAGRAM

Camber includes allowance for vertical curve and for dead load deflection due to concrete slab, barrier, and structural steel.

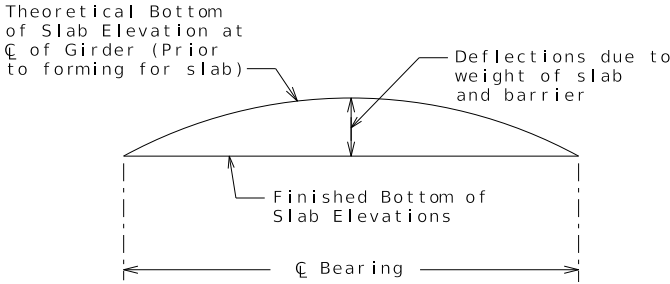
| Theoretical Bottom of Slab Elevations at Centerline of Girder<br>(Prior to forming for slab) (Estimated at 90 days) |                                                                    |        |        |        |        |        |        |        |        |        |        |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Girder Number                                                                                                       | Span (1-2) (165'-4 <sup>7</sup> / <sub>16</sub> " C Brg. - C Brg.) |        |        |        |        |        |        |        |        |        |        |
|                                                                                                                     | C Brg.                                                             | .10    | .20    | .30    | .40    | .50    | .60    | .70    | .80    | .90    | C Brg. |
| 1                                                                                                                   | 884.46                                                             | 884.89 | 885.29 | 885.64 | 885.94 | 886.19 | 886.40 | 886.57 | 886.72 | 886.86 | 887.00 |
| 2                                                                                                                   | 884.62                                                             | 885.05 | 885.45 | 885.80 | 886.10 | 886.35 | 886.55 | 886.72 | 886.87 | 887.01 | 887.15 |
| 3                                                                                                                   | 884.79                                                             | 885.21 | 885.61 | 885.96 | 886.25 | 886.50 | 886.71 | 886.88 | 887.03 | 887.16 | 887.30 |
| 4                                                                                                                   | 884.95                                                             | 885.38 | 885.77 | 886.11 | 886.41 | 886.66 | 886.86 | 887.03 | 887.18 | 887.31 | 887.45 |
| Girder Number                                                                                                       | Span (2-3) (200'-0 <sup>7</sup> / <sub>8</sub> " C Brg. - C Brg.)  |        |        |        |        |        |        |        |        |        |        |
|                                                                                                                     | C Brg.                                                             | .10    | .20    | .30    | .40    | .50    | .60    | .70    | .80    | .90    | C Brg. |
| 1                                                                                                                   | 887.00                                                             | 887.17 | 887.35 | 887.51 | 887.63 | 887.68 | 887.67 | 887.58 | 887.44 | 887.26 | 887.07 |
| 2                                                                                                                   | 887.15                                                             | 887.32 | 887.50 | 887.66 | 887.77 | 887.83 | 887.81 | 887.73 | 887.58 | 887.41 | 887.22 |
| 3                                                                                                                   | 887.30                                                             | 887.47 | 887.65 | 887.80 | 887.92 | 887.97 | 887.96 | 887.87 | 887.73 | 887.55 | 887.37 |
| 4                                                                                                                   | 887.45                                                             | 887.62 | 887.80 | 887.95 | 888.07 | 888.12 | 888.10 | 888.02 | 887.88 | 887.70 | 887.51 |
| Girder Number                                                                                                       | Span (3-4) (130'-0 <sup>1</sup> / <sub>4</sub> " C Brg. - C Brg.)  |        |        |        |        |        |        |        |        |        |        |
|                                                                                                                     | C Brg.                                                             | .10    | .20    | .30    | .40    | .50    | .60    | .70    | .80    | .90    | C Brg. |
| 1                                                                                                                   | 887.07                                                             | 886.96 | 886.85 | 886.73 | 886.59 | 886.44 | 886.27 | 886.08 | 885.86 | 885.62 | 885.36 |
| 2                                                                                                                   | 887.22                                                             | 887.11 | 886.99 | 886.87 | 886.74 | 886.59 | 886.42 | 886.23 | 886.01 | 885.77 | 885.52 |
| 3                                                                                                                   | 887.37                                                             | 887.25 | 887.14 | 887.02 | 886.89 | 886.74 | 886.57 | 886.38 | 886.16 | 885.92 | 885.67 |
| 4                                                                                                                   | 887.51                                                             | 887.40 | 887.29 | 887.17 | 887.04 | 886.89 | 886.72 | 886.53 | 886.31 | 886.07 | 885.82 |

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier.

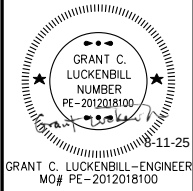


THEORETICAL SLAB HAUNCH

\* Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than the % of Dead Load Deflection due to weight of structural steel. No payment will be made for any adjustment in forming or additional concrete required for variation in haunching.



TYPICAL SLAB ELEVATIONS DIAGRAM



|                           |                 |
|---------------------------|-----------------|
| DATE PREPARED<br>8/4/2025 |                 |
| ROUTE<br>7                | STATE<br>MO     |
| DISTRICT<br>BR            | SHEET NO.<br>19 |
| COUNTY<br>CASS            |                 |
| JOB NO.<br>JKU0098        |                 |
| CONTRACT ID.              |                 |
| PROJECT NO.               |                 |
| BRIDGE NO.<br>A9581       |                 |

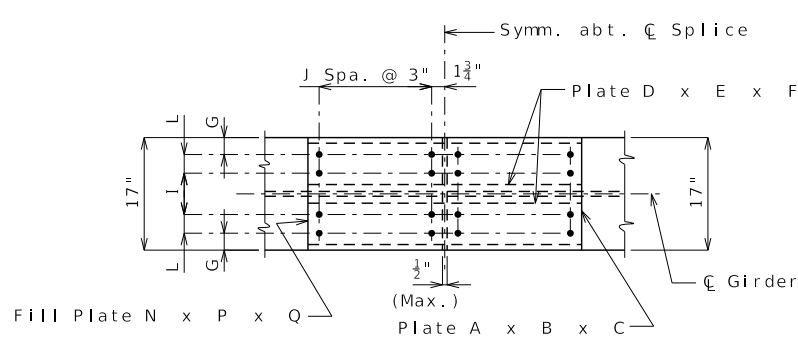
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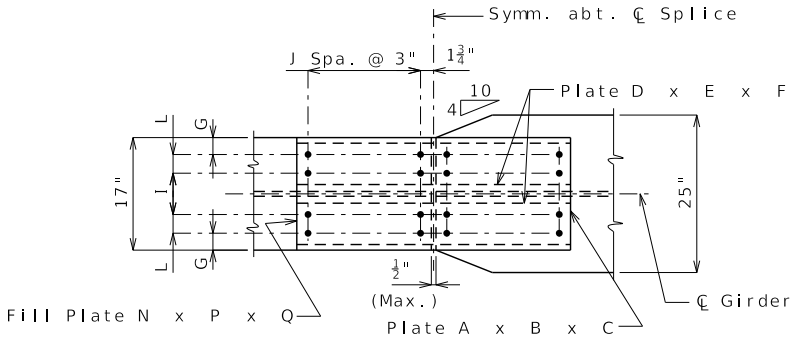
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

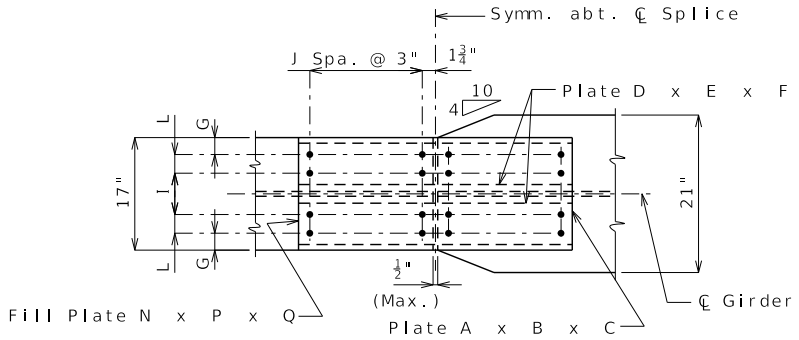
1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592



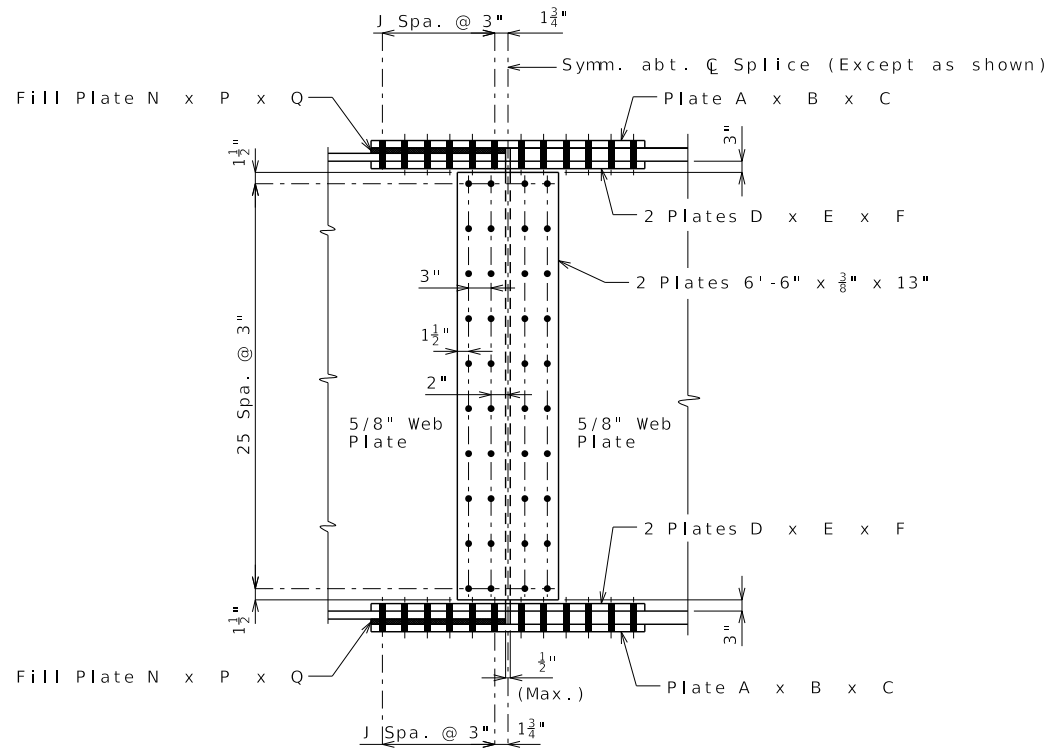
PLAN OF FLANGE  
S1 (TOP & BOTTOM)



PLAN OF FLANGE  
S2 & S3 (TOP & BOTTOM)

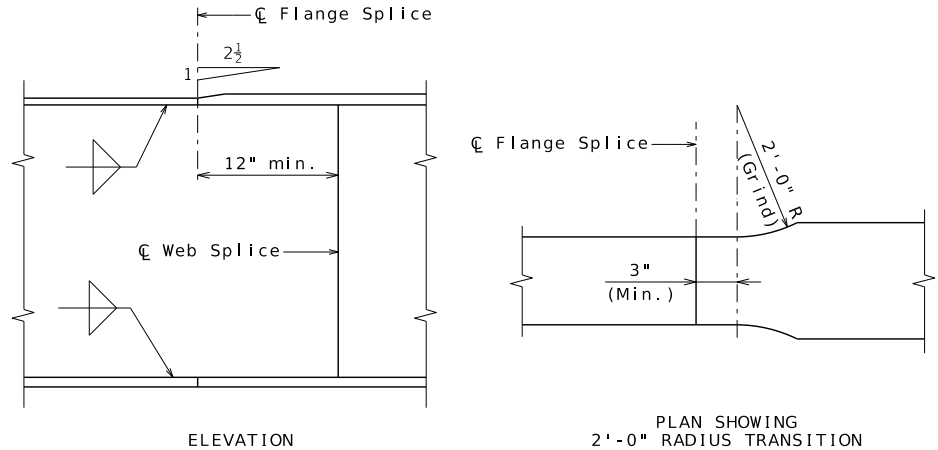


PLAN OF FLANGE  
S4 & S5 (TOP & BOTTOM)



DETAIL OF BOLTED FIELD SPLICE

Bolts shall be 7/8-inch diameter ASTM F3125 Grade A325 Type 3 in 15/16-inch diameter holes.  
Contact surfaces shall be in accordance with Sec 1081 for surface preparation.



WELDED SHOP WEB AND FLANGE SPLICE

Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.

| TABLE OF DIMENSIONS - FIELD SPLICE |     |                 |                    |    |                 |                    |                   |                   |   |   |     |                   |     |
|------------------------------------|-----|-----------------|--------------------|----|-----------------|--------------------|-------------------|-------------------|---|---|-----|-------------------|-----|
| LOCATION                           | A   | B               | C                  | D  | E               | F                  | G                 | I                 | J | L | N   | P                 | Q   |
| S1 (Top)                           | 17" | $\frac{1}{2}$ " | 24 $\frac{1}{2}$ " | 7" | $\frac{1}{2}$ " | 24 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " | 6"                | 3 | 3 |     |                   |     |
| S1 (Bottom)                        | 17" | $\frac{5}{8}$ " | 30 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 30 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 6 $\frac{1}{2}$ " | 4 | 3 |     |                   |     |
| S2 (Top)                           | 17" | $\frac{1}{2}$ " | 36 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 36 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " | 6"                | 5 | 3 | 17" | 1 $\frac{1}{8}$ " | 18" |
| S2 (Bottom)                        | 17" | $\frac{5}{8}$ " | 48 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 48 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 6 $\frac{1}{2}$ " | 7 | 3 | 17" | $\frac{7}{8}$ "   | 24" |
| S3 (Top & Bottom)                  | 17" | $\frac{1}{2}$ " | 36 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 36 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " | 6"                | 5 | 3 | 17" | $\frac{5}{8}$ "   | 18" |
| S4 (Top & Bottom)                  | 17" | $\frac{1}{2}$ " | 36 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 36 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " | 6"                | 5 | 3 | 17" | $\frac{1}{2}$ "   | 18" |
| S5 (Top)                           | 17" | $\frac{1}{2}$ " | 36 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 36 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " | 6"                | 5 | 3 | 17" | $\frac{1}{2}$ "   | 18" |
| S5 (Bottom)                        | 17" | $\frac{5}{8}$ " | 48 $\frac{1}{2}$ " | 7" | $\frac{5}{8}$ " | 48 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 6 $\frac{1}{2}$ " | 7 | 3 | 17" | $\frac{1}{4}$ "   | 24" |
|                                    |     |                 |                    |    |                 |                    |                   |                   |   |   |     |                   |     |
|                                    |     |                 |                    |    |                 |                    |                   |                   |   |   |     |                   |     |

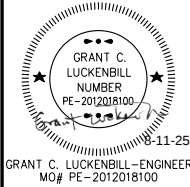
STEEL PLATE GIRDER SPLICE DETAILS

Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 20 of 47

F:\2022\03001-03500\022-03482\40-Design\Microstation\KU0098\plan\_sheets\16 Bridge Sheets\B\_A9581\_020\_JKU0098\_PLATE GIRDER SPLICE DETAILS.dgn 3:27:47 PM



|                           |                 |
|---------------------------|-----------------|
| DATE PREPARED<br>8/4/2025 |                 |
| ROUTE<br>7                | STATE<br>MO     |
| DISTRICT<br>BR            | SHEET NO.<br>20 |
| COUNTY<br>CASS            |                 |
| JOB NO.<br>JKU0098        |                 |
| CONTRACT ID.              |                 |
| PROJECT NO.               |                 |
| BRIDGE NO.<br>A9581       |                 |

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

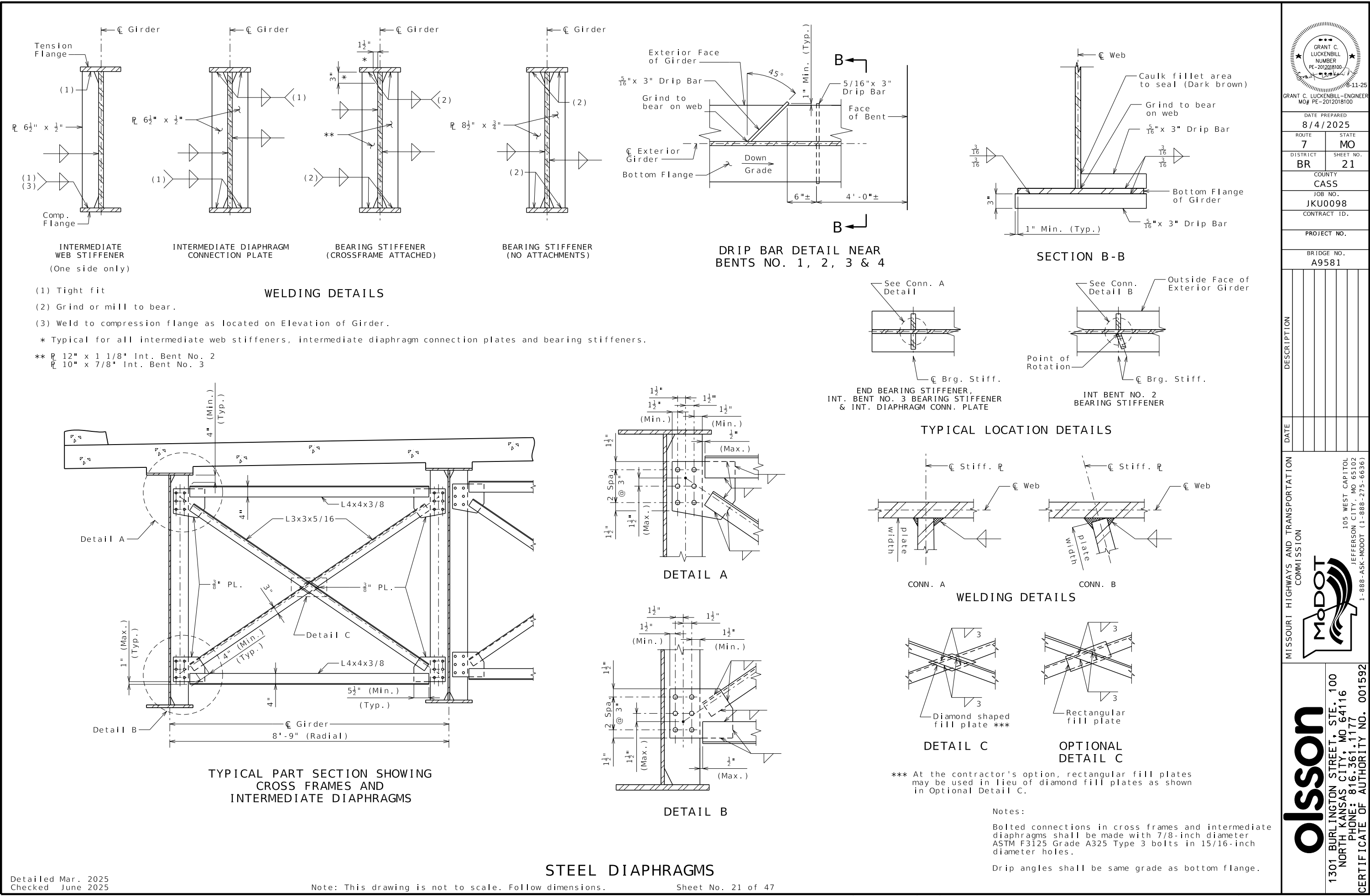
MoDOT

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**Olsson**

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PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

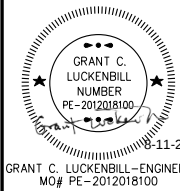
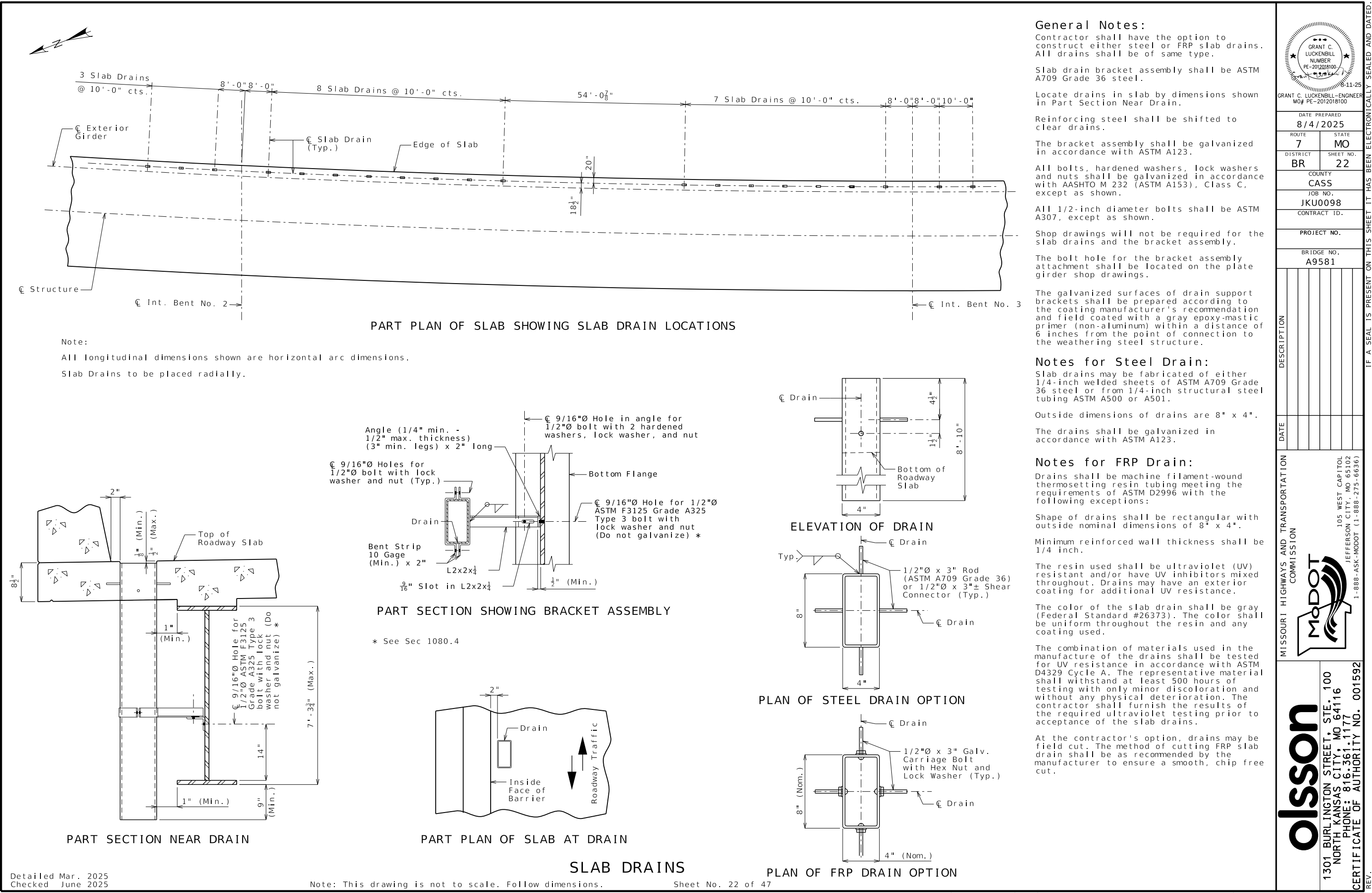


Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 21 of 47

F:\2022\03001-03500\022-03482\40-Design\Microstation\KU0098\plan\_sheets\16 Bridge Sheets\B\_A9581\_021\_JKU0098\_STEEL DIAPHRAGMS AND STIFFENERS.dgn 3:27:49 PM



|                           |                 |
|---------------------------|-----------------|
| DATE PREPARED<br>8/4/2025 |                 |
| ROUTE<br>7                | STATE<br>MO     |
| DISTRICT<br>BR            | SHEET NO.<br>22 |
| COUNTY<br>CASS            |                 |
| JOB NO.<br>JKU0098        |                 |
| CONTRACT ID.              |                 |
| PROJECT NO.               |                 |
| BRIDGE NO.<br>A9581       |                 |

| DATE | DESCRIPTION |
|------|-------------|
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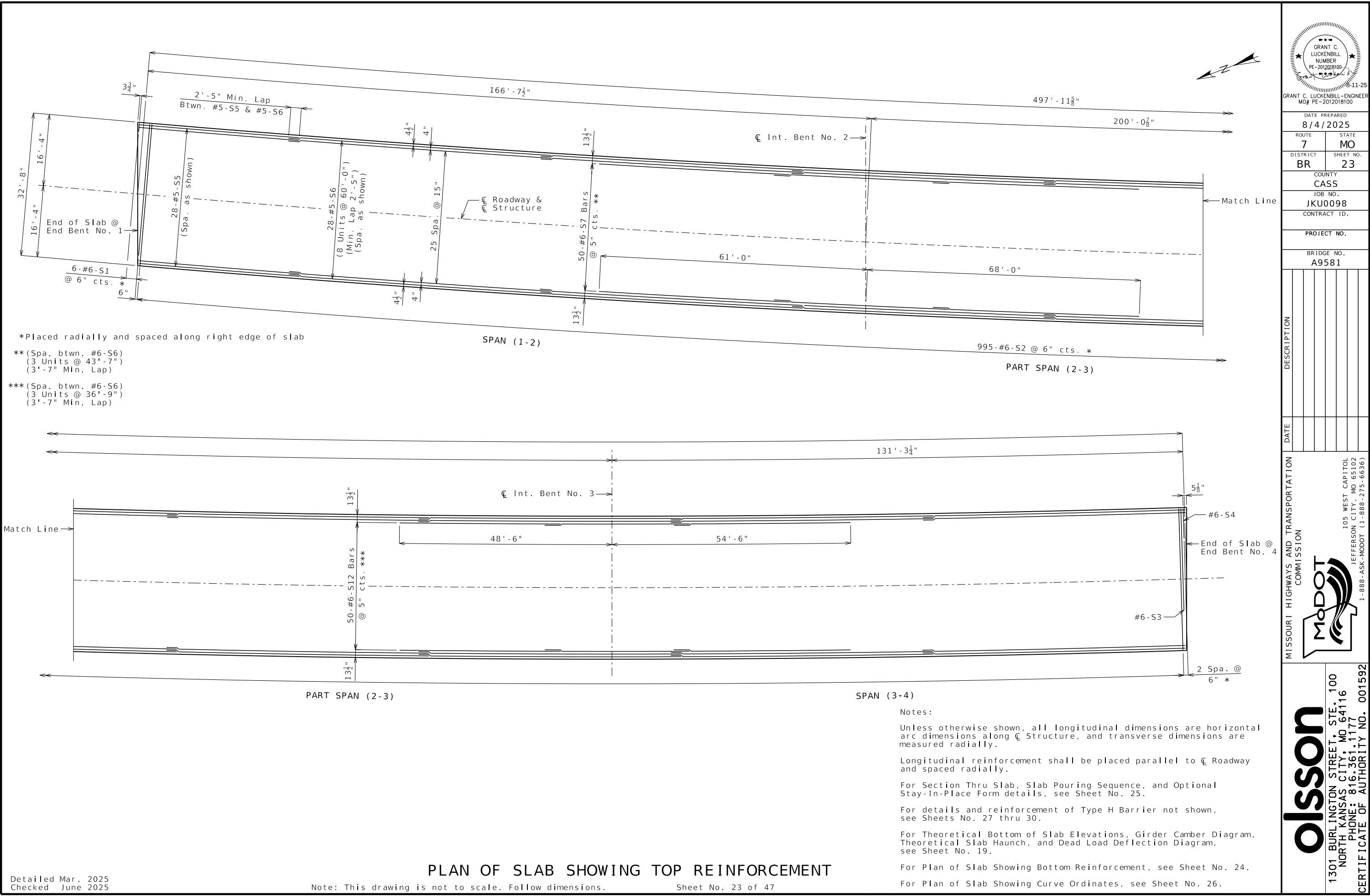
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

**MoDOT**

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**olsson**

1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592



\*Placed radially and spaced along right edge of slab

\*\* (Spa. btwn. #6-S6)  
(3 Units @ 43'-7")  
(3'-7" Min. Lap)

\*\*\* (Spa. btwn. #6-S6)  
(3 Units @ 36'-9")  
(3'-7" Min. Lap)

Notes:

Unless otherwise shown, all longitudinal dimensions are horizontal arc dimensions along  $\text{\textcircled{C}}$  Structure, and transverse dimensions are measured radially.

Longitudinal reinforcement shall be placed parallel to  $\text{\textcircled{C}}$  Roadway and spaced radially.

For Section Thru Slab, Slab Pouring Sequence, and Optional Stay-In-Place Form details, see Sheet No. 25.

For details and reinforcement of Type H Barrier not shown, see Sheets No. 27 thru 30.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram, Theoretical Slab Haunch, and Dead Load Deflection Diagram, see Sheet No. 19.

For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 24.

For Plan of Slab Showing Curve Ordinates, see Sheet No. 26.

PLAN OF SLAB SHOWING TOP REINFORCEMENT





## SLAB CONSTRUCTION JOINT

### DETAIL A

### DETAIL B



HALF SECTION NEAR MIDSPAN

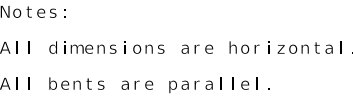
SECTION THRU SLAB

\*  $3\frac{1}{8}"$  (#5)  
3" (#6)

Note: Longitudinal dimensions are horizontal arc dimensions along  $\mathbb{C}$  Roadway.

## SLAB POURING SEQUENCE

For Plan of Slab Showing Reinforcement, see Sheets No. 23 and 24.

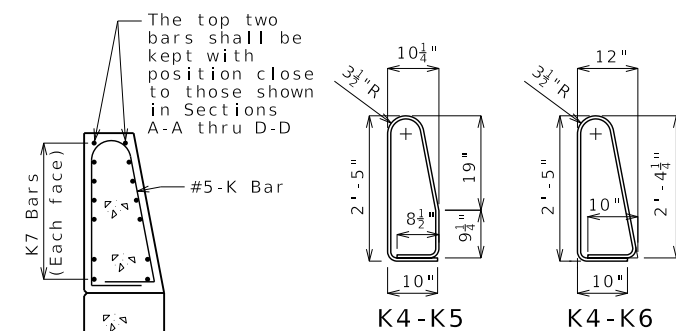
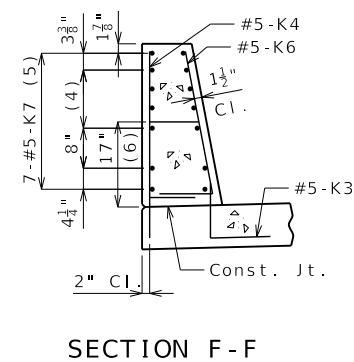
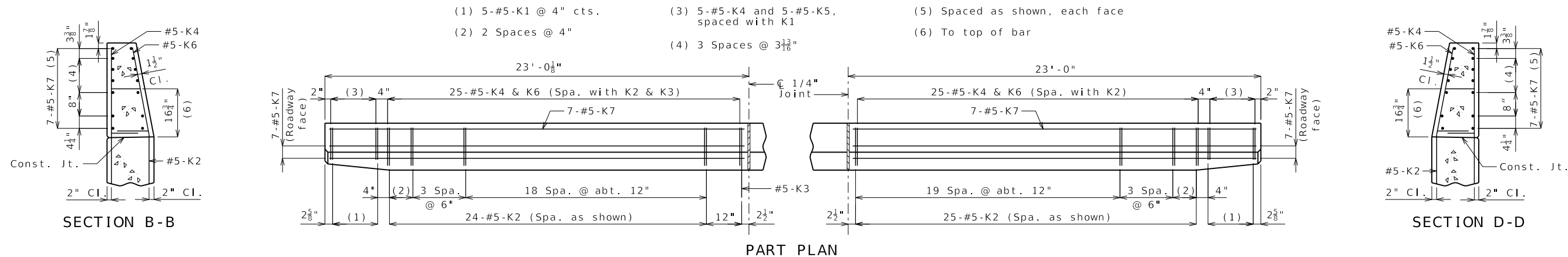


Note: This drawing is not to scale. Follow dimensions. Sheet No. 26 of 47

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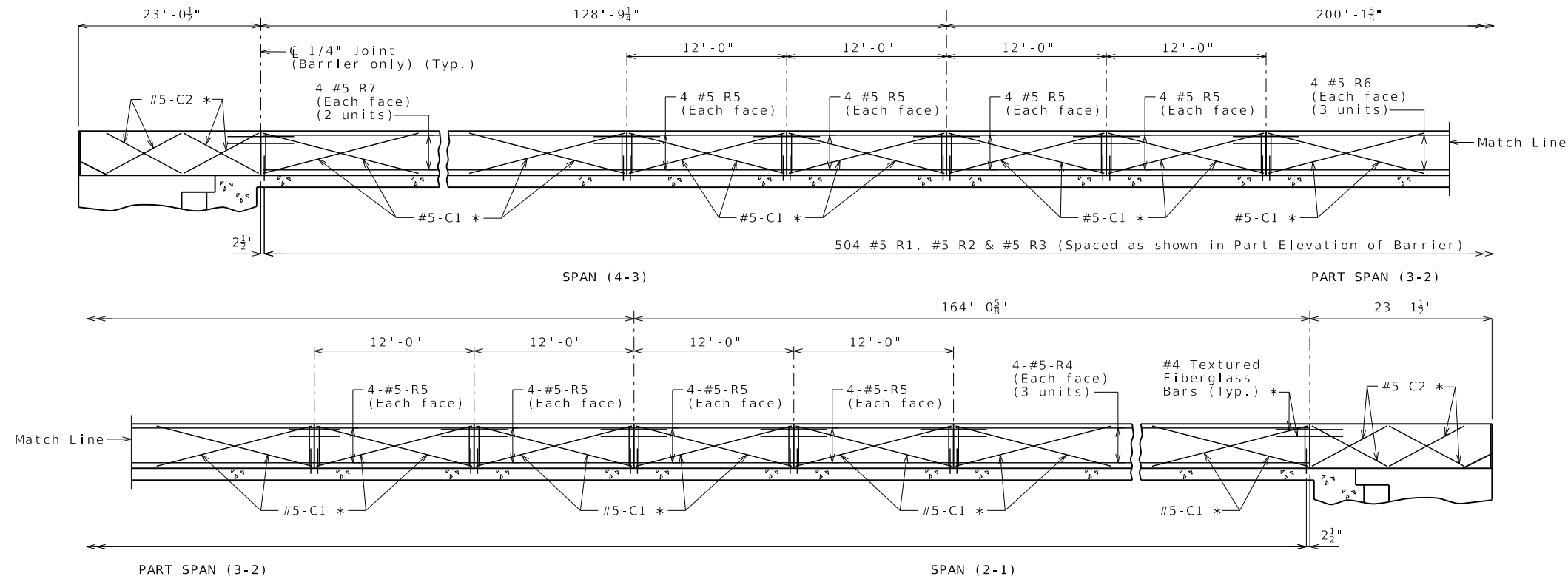
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



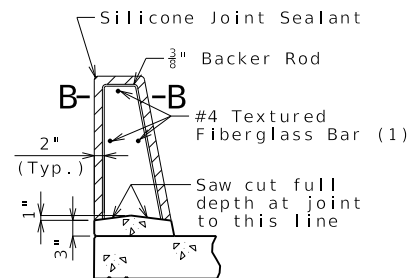


All dimensions are out to out.

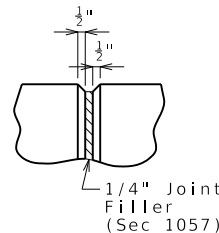
LEFT TYPE H BARRIER AT END BENT



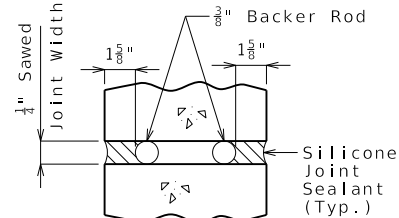
ELEVATION OF BARRIER  
Longitudinal dimensions are horizontal arc  
dimensions along outside face of barrier.



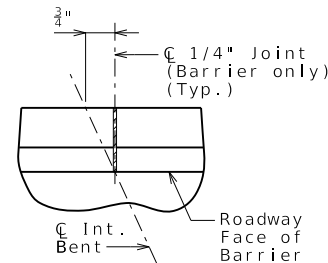
SECTION THRU  
SAW CUT JOINT



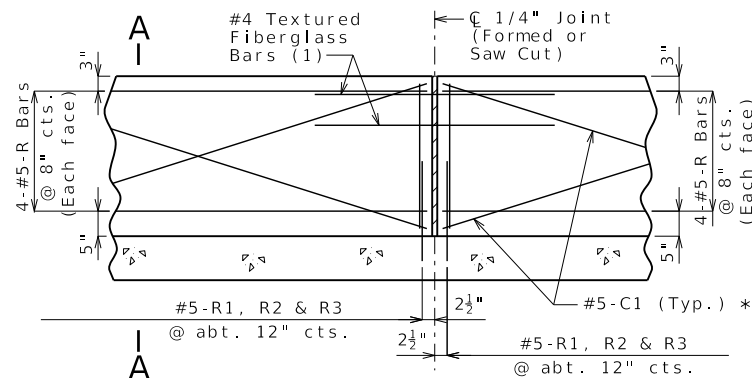
PART ELEVATION  
AT FORMED JOINT



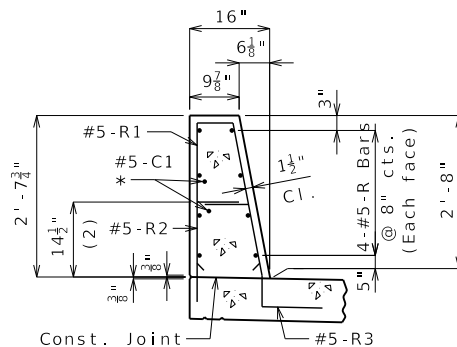
SECTION B-B



PART PLAN SHOWING JOINT LOCATION  
AT INT. BENT NO. 2

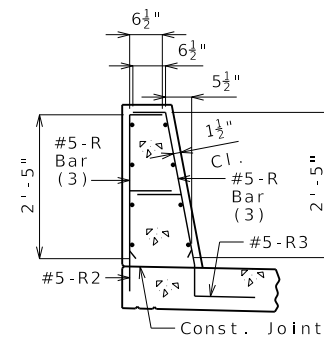


PART ELEVATION OF BARRIER  
(1) Four feet long, centered on joint,  
slip-formed option only



SECTION A-A

- Use a minimum lap of 3'-1" for #5 horizontal barrier bars.
- The cross-sectional area above the slab is 2.86 square feet.
- (2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

- (3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

### General Notes:

- \* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type H Barrier per linear foot.

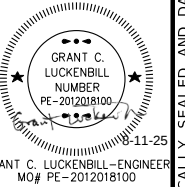
Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



DATE PREPARED  
8/4/2025

ROUTE  
7

STATE  
MO

DISTRICT  
BR

SHEET NO.  
29

COUNTY  
CASS

JOB NO.  
JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A9581

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

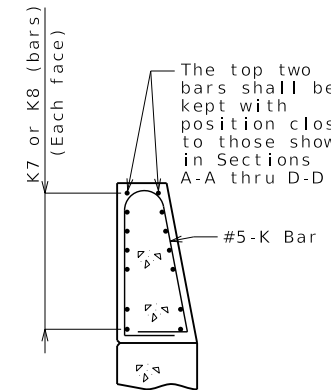
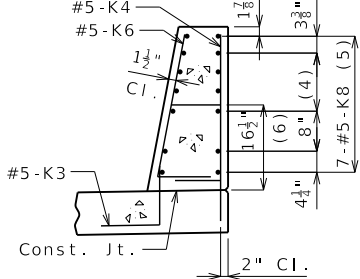
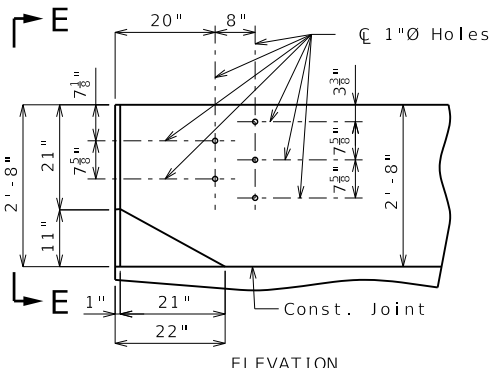
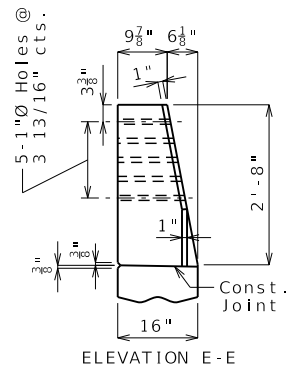
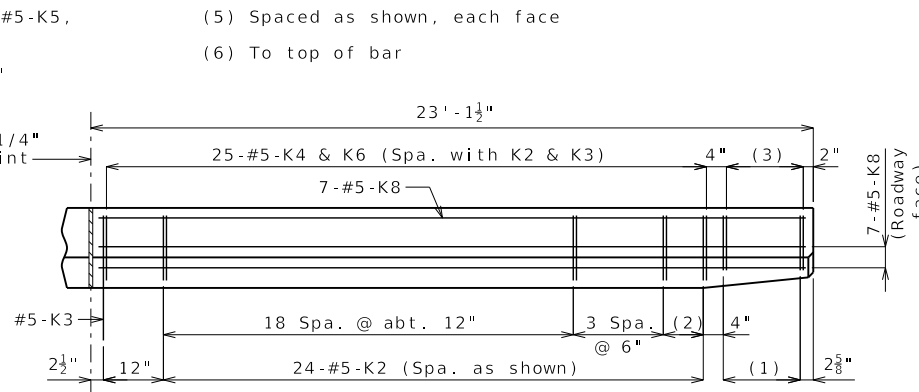
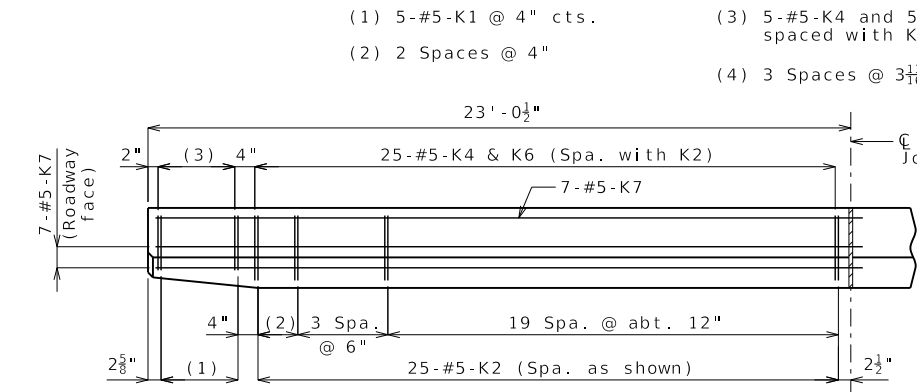
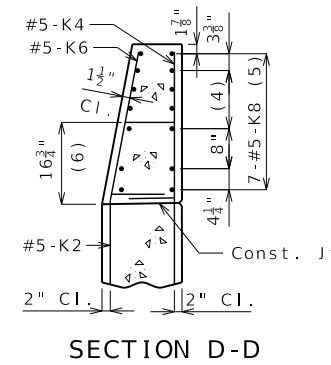
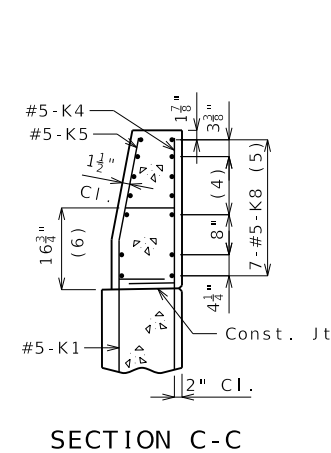
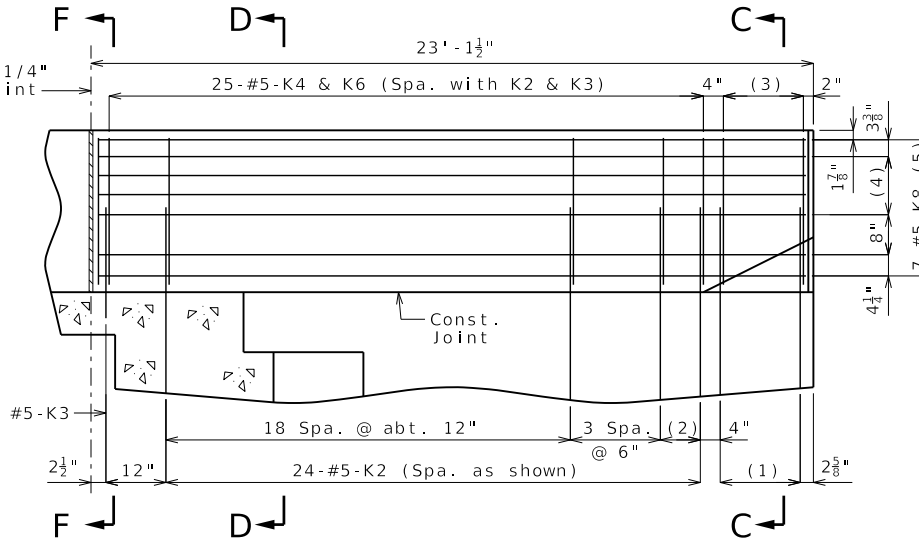
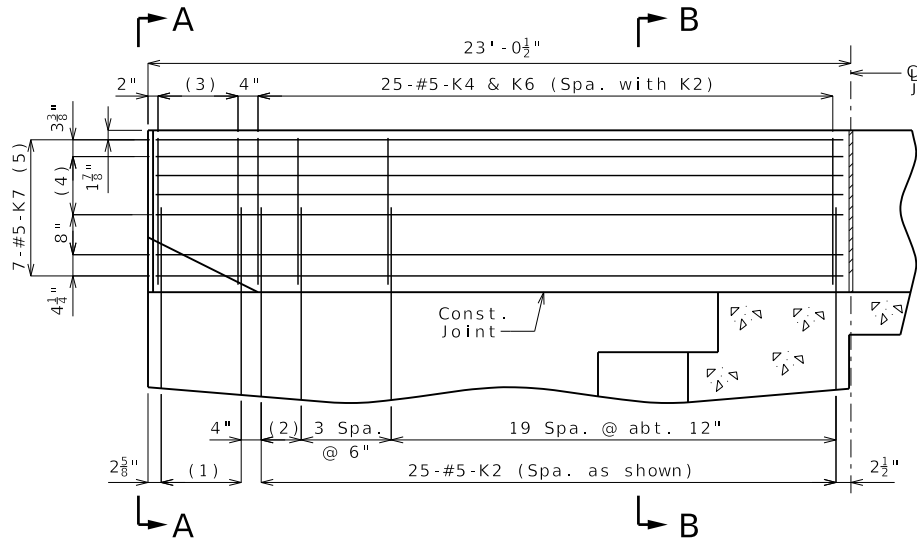
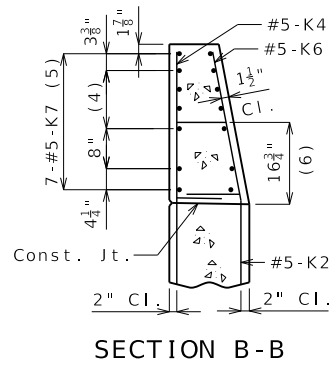
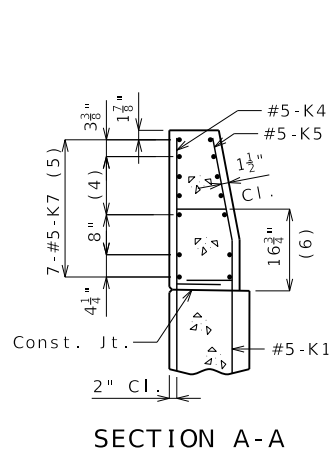
MoDOT

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

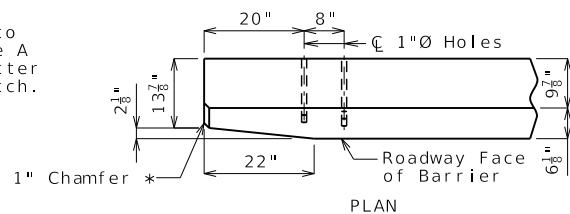
CERTIFICATE OF AUTHORITY NO. 001592

REV.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



\* Transition to zero at Type A curb for gutter lines to match.



### General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

### Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

### PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

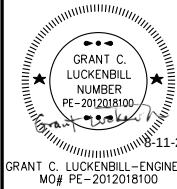
Detailed Mar. 2025  
Checked June 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 30 of 47

## RIGHT TYPE H BARRIER AT END BENTS

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DATE PREPARED  
8/4/2025

ROUTE  
7

DISTRICT  
BR

COUNTY  
CASS

JOB NO.  
JKU0098

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A9581

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

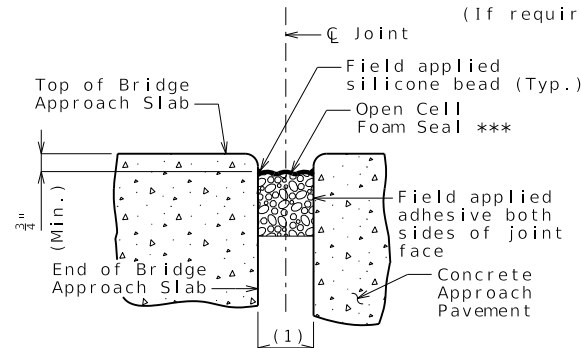
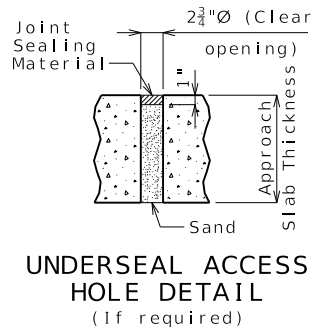
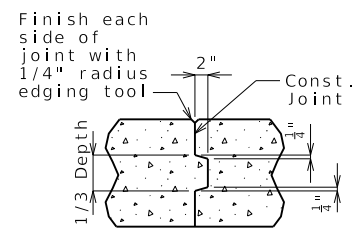
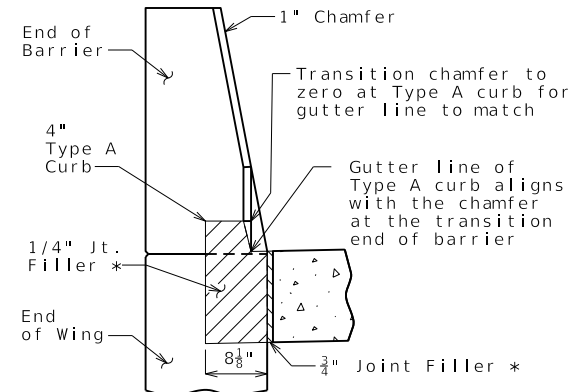
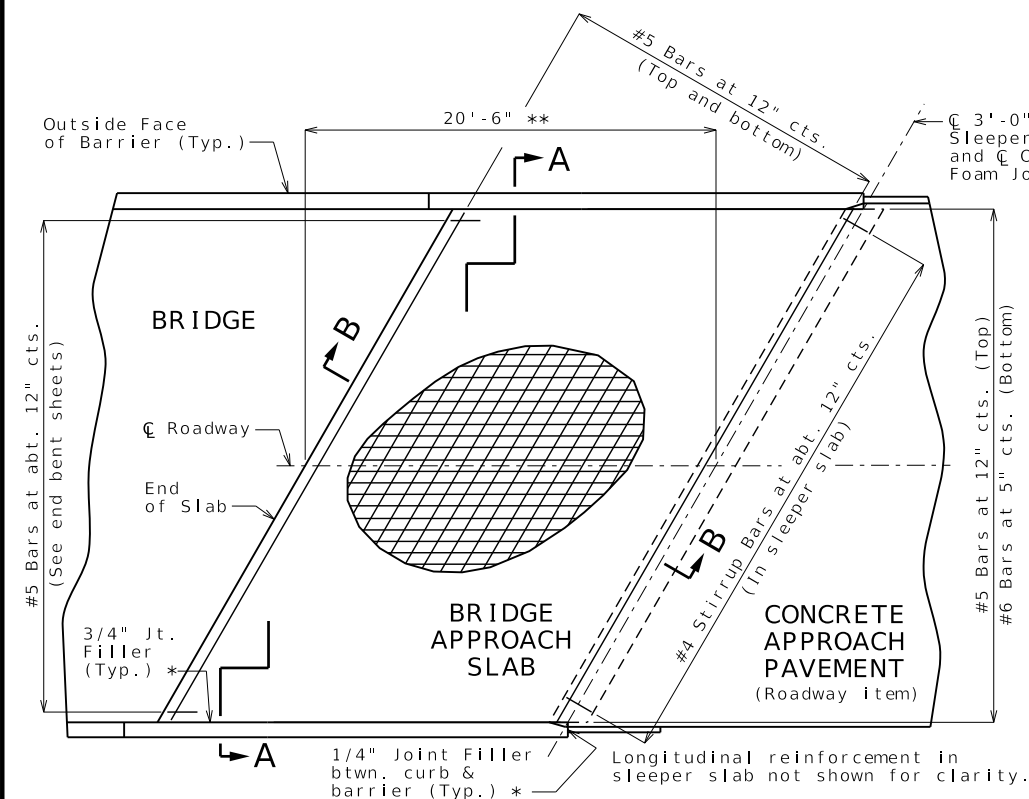
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

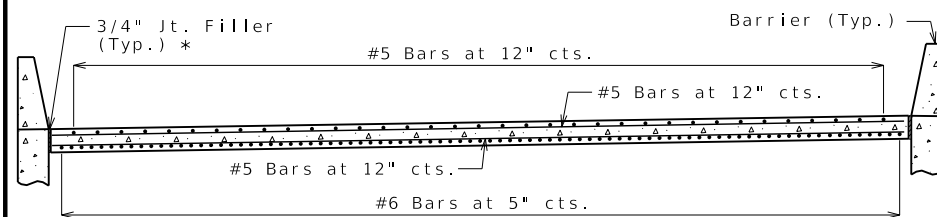
CERTIFICATE OF AUTHORITY NO. 001592

REV.

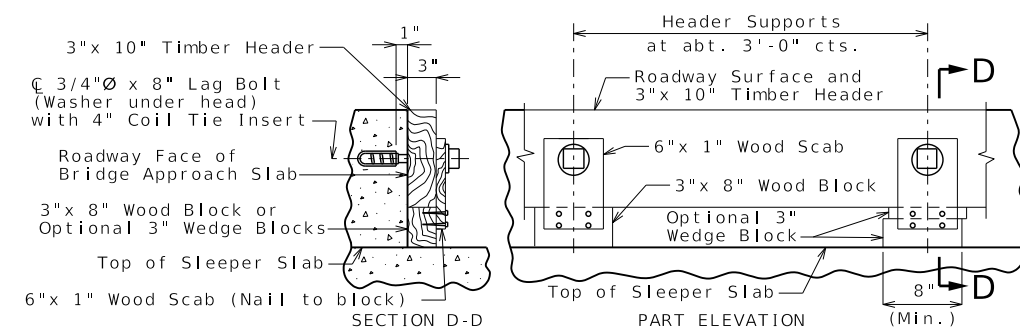
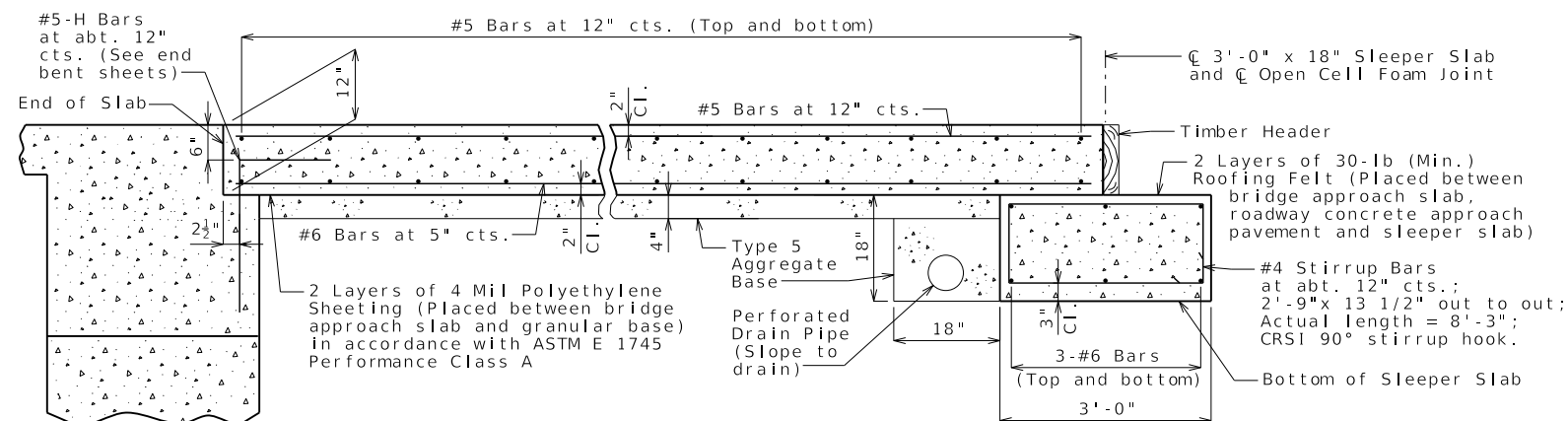
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SECTION THRU JOINT AT END  
OF BRIDGE APPROACH SLAB



| Location                                 | Skew      | Movement<br>Parallel<br>to Rdwy | Movement<br>Normal<br>to Joint | Min. Jt.<br>Width<br>(Normal<br>to Joint) | Max. Jt.<br>Width<br>(Normal<br>to Joint) | (1) Allowed Installation Gap ( $\pm$ ) Normal to Joint<br>at Roadway Surface at Air/Surface Temperature |                    |                    |                    | Manufacturer | Seal Name |
|------------------------------------------|-----------|---------------------------------|--------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|--------------|-----------|
|                                          |           |                                 |                                |                                           |                                           | @ 40°F                                                                                                  | @ 50°F             | @ 60°F             | @ 70°F             |              |           |
| End of Approach Slab<br>@ End Bent No. 1 | 05°09'45" | 3 $\frac{1}{4}$ "               | 3 $\frac{3}{16}$ "             | 1"                                        | 4 $\frac{1}{4}$ "                         | 2 $\frac{3}{4}$ "                                                                                       | 2 $\frac{1}{2}$ "  | 2 $\frac{5}{16}$ " | 2 $\frac{1}{8}$ "  |              |           |
| End of Approach Slab<br>@ End Bent No. 4 | 02°01'25" | 3 $\frac{1}{16}$ "              | 3 $\frac{1}{16}$ "             | 1"                                        | 4 $\frac{1}{8}$ "                         | 2 $\frac{11}{16}$ "                                                                                     | 2 $\frac{7}{16}$ " | 2 $\frac{1}{4}$ "  | 2 $\frac{1}{16}$ " |              |           |



Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 ( $f'c = 4,000$  psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with  $f_y = 60,000$  psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Minimum clearance to reinforcing steel shall be 1 1/2",  
unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

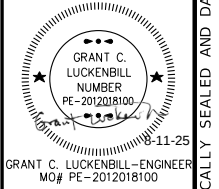
Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

The open cell foam joint seal shall be installed according to the manufacturer's recommendations.

The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

\* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

\*\* Longitudinal arc dimensions along C roadway.



DATE PREPARED  
8/4/2025

|       |       |
|-------|-------|
| ROUTE | STATE |
| 7     | MO    |

|          |           |
|----------|-----------|
| DISTRICT | SHEET NO. |
| BR       | 31        |

COUNTY  
CASS

JOB NO.  
JKU0098

|              |
|--------------|
| CONTRACT ID. |
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| PROJECT NO. |
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BRIDGE NO.  
A9581[illegible]

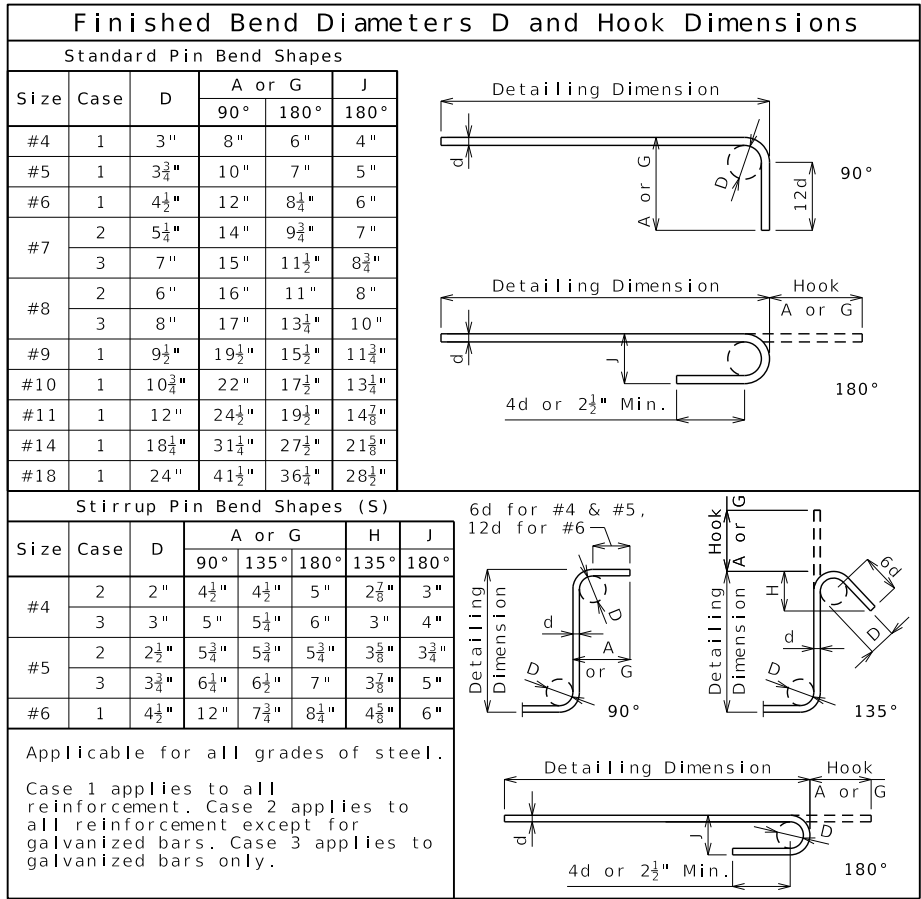
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MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

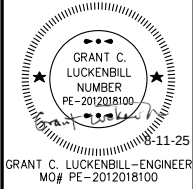
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**olsson**  
1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592  
REV.



| Reinforcing Steel Totals (Pounds) |    |              |       |                |         |         |           |               |         |
|-----------------------------------|----|--------------|-------|----------------|---------|---------|-----------|---------------|---------|
|                                   |    | Substructure |       | Superstructure |         |         |           | Entire Bridge |         |
|                                   |    |              |       | Slab           |         | Barrier | Slip Form | Plain         | Epoxy   |
|                                   |    | Size         | Plain | Epoxy          | Plain   |         |           |               |         |
| By Size                           | W5 | 176          | 0     | 0              | 0       | 0       | 0         | 176           | 0       |
|                                   | 4  | 1,802        | 0     | 0              | 250     | 0       | 0         | 1,802         | 250     |
|                                   | 5  | 5,836        | 0     | 0              | 63,100  | 23,017  | 835       | 5,836         | 86,952  |
|                                   | 6  | 5,994        | 0     | 0              | 80,509  | 0       | 0         | 5,994         | 80,509  |
|                                   | 7  | 0            | 0     | 0              | 0       | 0       | 0         | 0             | 0       |
|                                   | 8  | 2,278        | 0     | 0              | 1,922   | 0       | 0         | 2,278         | 1,922   |
|                                   | 9  | 1,398        | 0     | 0              | 0       | 0       | 0         | 1,398         | 0       |
|                                   | 10 | 5,458        | 0     | 0              | 0       | 0       | 0         | 5,458         | 0       |
|                                   | 11 | 52,290       | 0     | 0              | 0       | 0       | 0         | 52,290        | 0       |
|                                   | 14 | 0            | 0     | 0              | 0       | 0       | 0         | 0             | 0       |
| 18                                | 0  | 0            | 0     | 0              | 0       | 0       | 0         | 0             |         |
| By Type                           |    | 75,232       | 0     | 0              | 145,781 | 23,017  | 835       | 75,232        | 169,633 |

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.



DATE PREPARED  
8/4/2025

|                |                 |
|----------------|-----------------|
| ROUTE<br>7     | STATE<br>MO     |
| DISTRICT<br>BR | SHEET NO.<br>32 |

|              |         |
|--------------|---------|
| COUNTY       | CASS    |
| JOB NO.      | JKU0098 |
| CONTRACT ID. |         |

|                     |
|---------------------|
| PROJECT NO.         |
| BRIDGE NO.<br>A9581 |

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**olson**

1301 BURLINGTON STREET, STE. 100  
NORTH KANSAS CITY, MO 64116  
PHONE: 816.361.1177  
CERTIFICATE OF AUTHORITY NO. 001592

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