



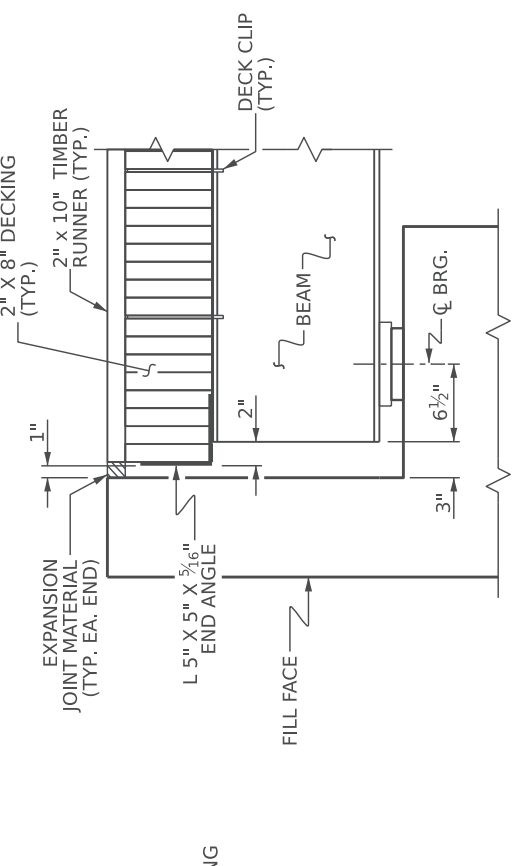


**NOTES**

FOR TIMBER BRIDGE DECK SYSTEM DETAILS, SEE "PLAN OF SPAN" SHEET.  
 FOR OPTIONAL TIMBER RAILS, SEE "OPTIONAL TIMBER BRIDGE RAIL" SHEET.  
 FOR BEAM AND DIAPHRAGM DETAILS, SEE "FRAMING PLAN & BEAM DETAILS" SHEET.  
 TREAT ALL DRILLED OR NEWLY EXPOSED HOLES IN TIMBER MEMBERS BY PUMPING WITH BITUMINOUS ASPHALT-BASED ROOFING CEMENT, OR APPROVED PRESERVATIVE SYSTEM BEFORE INSTALLING HARDWARE.  
 SEE "PLAN OF SPAN" SHEET FOR NUMBER OF WHEEL GUARDS AND WHEEL GUARD SPACING.  
 STAINLESS STEEL DECK CLIPS SHALL BE FABRICATED FROM 12-GAUGE STEEL.  
 THE 2"X10" TIMBER RUNNERS SHALL BE LAID OUT SYMMETRICALLY ABOUT THE CENTERLINE OF THE BRIDGE. ANY REQUIRED WIDTH ADJUSTMENT SHALL BE MADE AT THE CENTER RUNNER.  
 PLACE 2X10 WEARING SURFACE BOARDS PARALLEL TO TRAFFIC WITH A UNIFORM 1/4" CLEAR LONGITUDINAL GAP BETWEEN ADJACENT BOARDS. DO NOT BUTT BOARDS TIGHT. THIS GAP SHALL BE MAINTAINED TO FACILITATE SURFACE DRAINAGE AND PREVENT MOISTURE ENTRAPMENT AT THE INTERFACE OF THE STRUCTURAL DECK.  
 INSTALL 2X10 WEARING SURFACE BOARDS WITH GROWTH RINGS CURVING DOWNWARD TO PROMOTE DRAINAGE.

**MATERIALS TABLE**

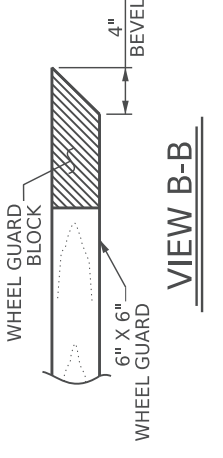
| SPAN   | BEAM    | DIAPHRAGM CHANNEL | DECK PLANK | DECKING SQ. FT. |
|--------|---------|-------------------|------------|-----------------|
| 20'-0" | W16X36  | C12X20.7          | 2X8        | 244             |
| 30'-0" | W21X48  | C12X20.7          | 2X8        | 364             |
| 40'-0" | W24X76  | C12X20.7          | 2X8        | 484             |
| 50'-0" | W24X104 | C12X20.7          | 2X8        | 604             |
| 60'-0" | W30X116 | C12X20.7          | 2X8        | 724             |
| 70'-0" | W33X130 | C12X20.7          | 2X8        | 844             |



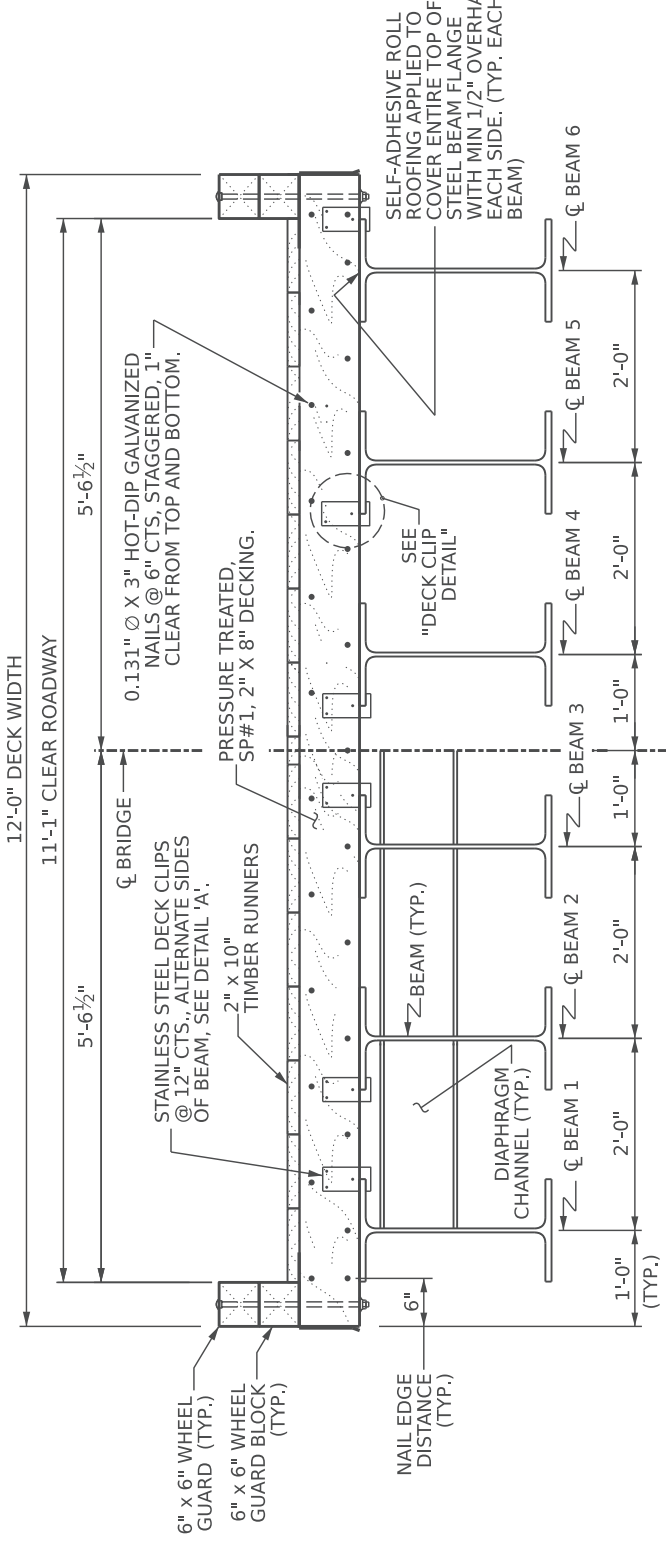
**SECTION AT END BENT**

**DECK CLIP DIMENSIONS**

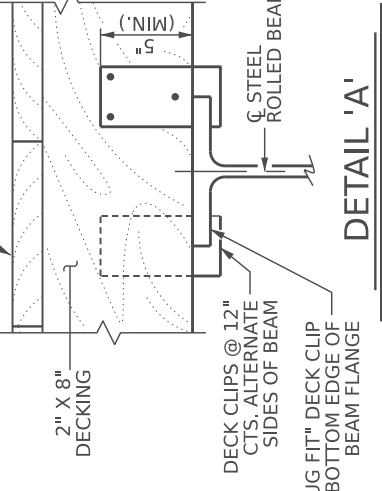
| SPAN   | BEAM    | *A     |
|--------|---------|--------|
| 20'-0" | W16X36  | 1/2"   |
| 30'-0" | W21X48  | 1/2"   |
| 40'-0" | W24X76  | 3/4"   |
| 50'-0" | W24X104 | 1 1/4" |
| 60'-0" | W30X116 | 1 5/8" |
| 70'-0" | W33X130 | 1 7/8" |



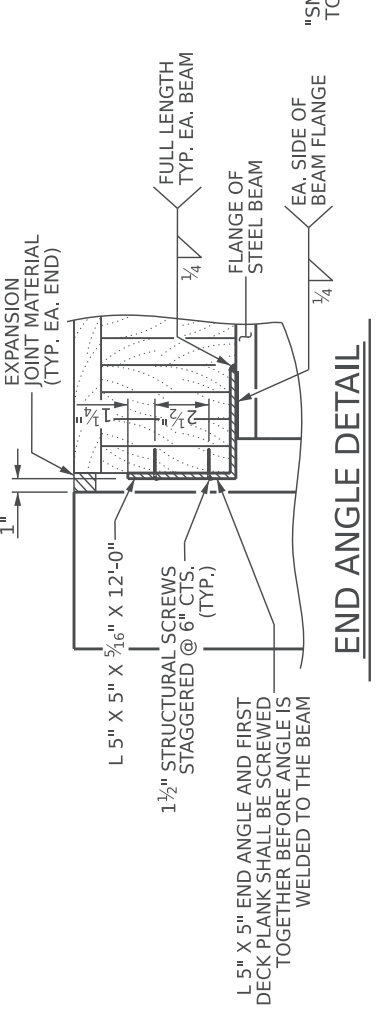
**VIEW B-B**



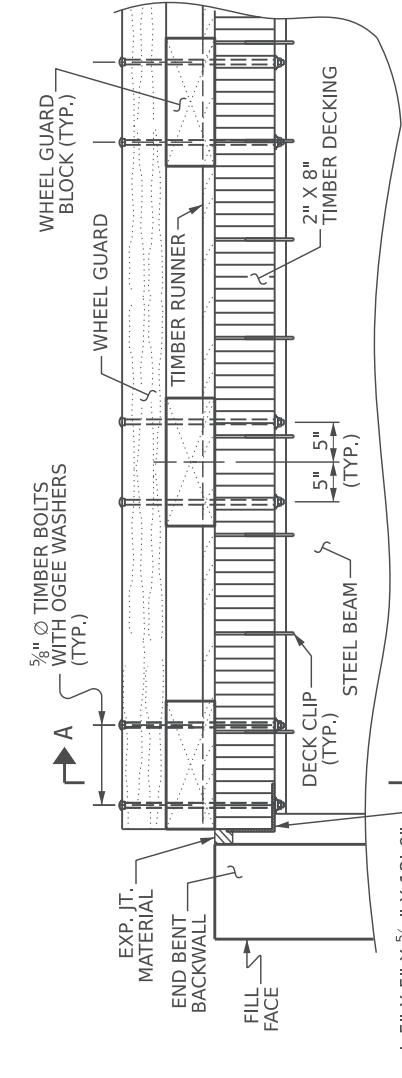
**TYPICAL SECTION**



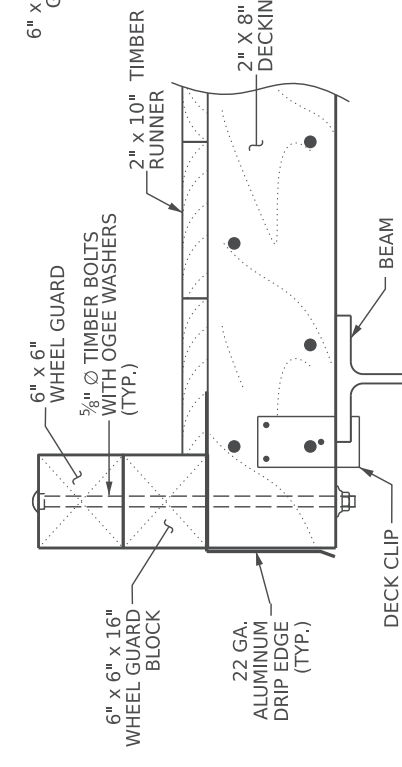
**DETAIL 'A'**



**END ANGLE DETAIL**

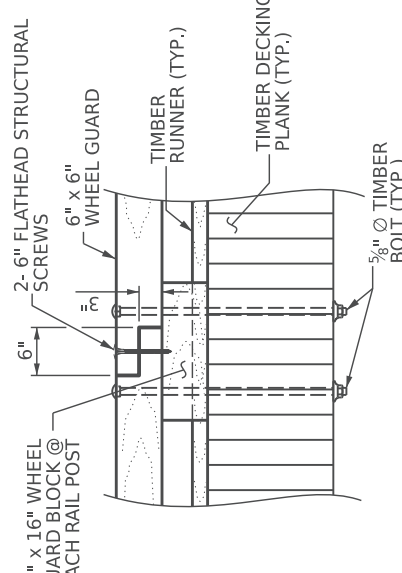


**WHEEL GUARD DETAIL AT END BENTS**



**SECTION A-A**

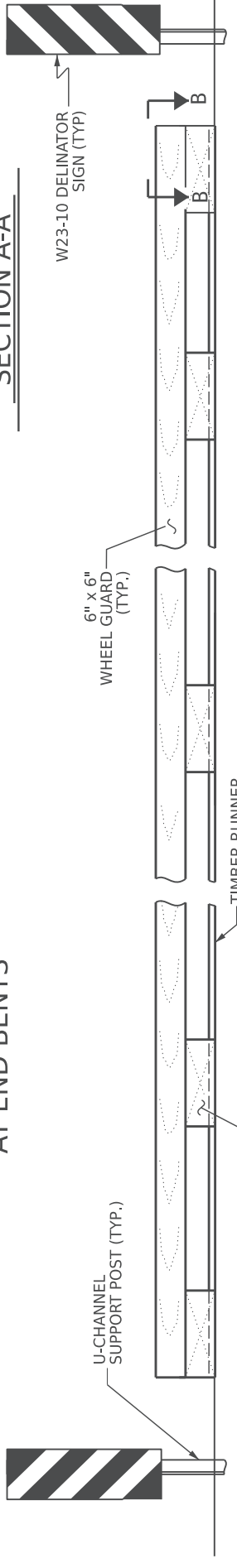
**WHEEL GUARD SPICE DETAIL**



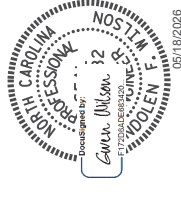
**DECK CLIP DETAIL**

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER APPROVAL PRIOR TO ORDERING ANY DECK CLIPS.

\* DIMENSION A IS FOR INFORMATION ONLY. IT IS BASED ON THE FLANGE THICKNESS PLUS A 1/16" TOLERANCE. THE CONTRACTOR SHALL VERIFY THIS DIMENSION WITH DECK CLIP SUPPLIER. THE DECK CLIP SHALL HAVE A SNUG FIT TO THE BEAM FLANGE.



**WHEEL GUARD ELEVATION**



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA OFFICE OF  
**EMERGENCY MANAGEMENT**  
**PRIVATE DRIVEWAY BRIDGE STANDARDS**  
 SINGLE LANE STEEL BEAM BRIDGE  
**TYPICAL SECTION & RAIL DETAILS**

**REVISIONS**

| NO. | BY: | DATE:   |
|-----|-----|---------|
| 1   |     | 04/2026 |
| 2   |     | 04/2026 |

**SHEET NO.** S-02  
**TOTAL SHEETS** 13

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 CHKD, BY: GFW  
 DES, EGR, OF RECORD: GFW

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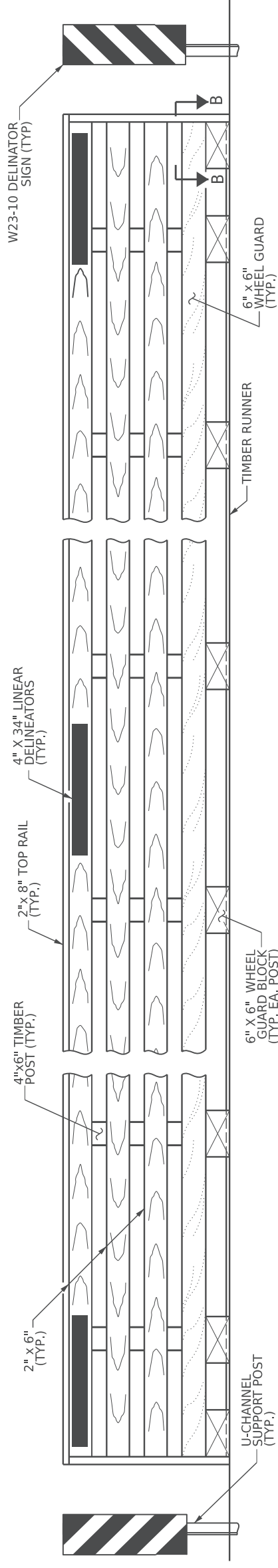


### OPTIONAL BRIDGE RAIL NOTES

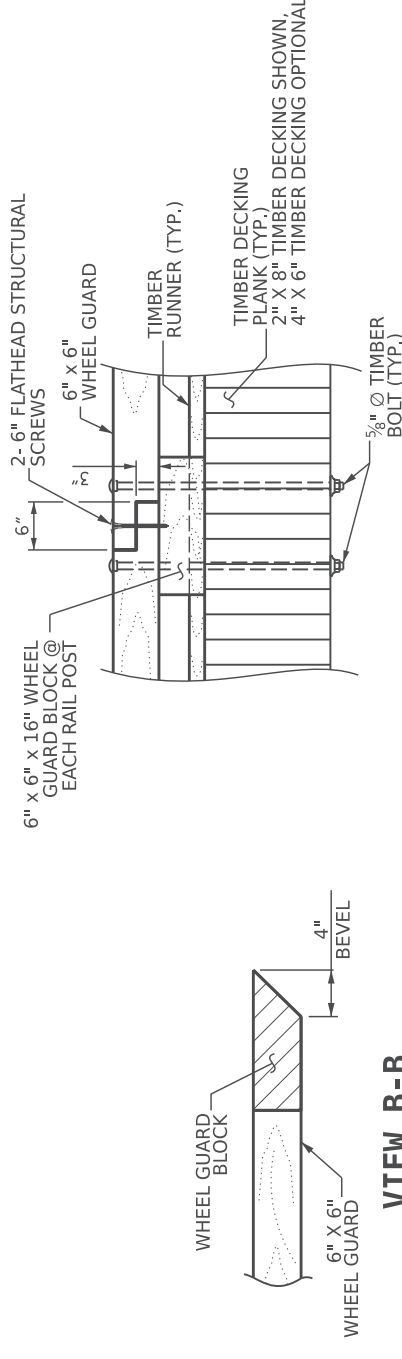
BRIDGE RAILS SHALL BE CONTINUOUS FROM END POST TO END POST WITH NO GAPS. RAIL LUMBER LENGTHS SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

TREAT ALL DRILLED OR NEWLY EXPOSED HOLES IN TIMBER MEMBERS BY PUMPING WITH BITUMINOUS ASPHALT-BASED ROOFING CEMENT, OR APPROVED PRESERVATIVE SYSTEM BEFORE INSTALLING HARDWARE.

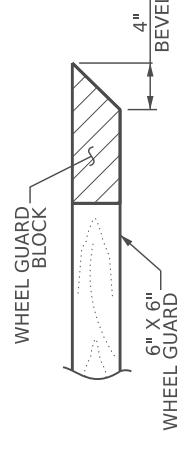
SEE "PLAN OF SPAN" SHEET FOR NUMBER OF POSTS AND POST SPACING.



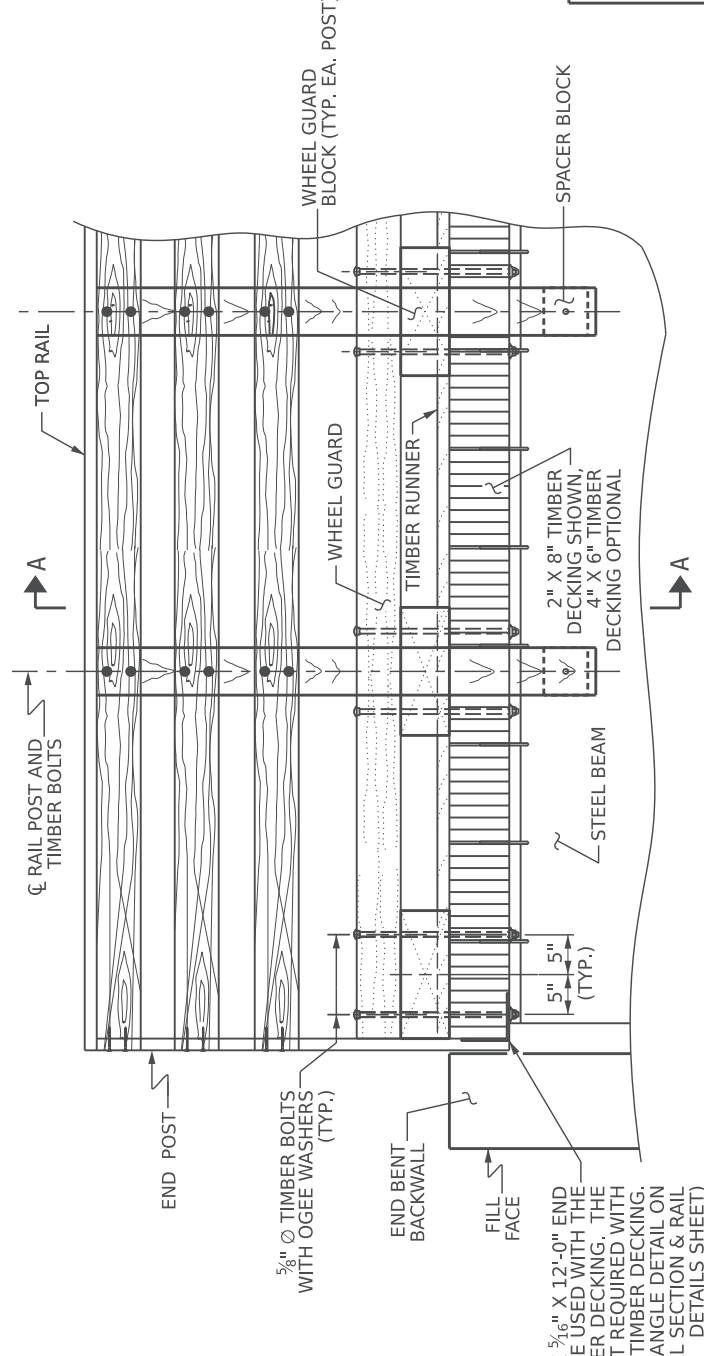
### ELEVATION OF OPTIONAL BRIDGE RAIL



### WHEEL GUARD SPLICE DETAIL

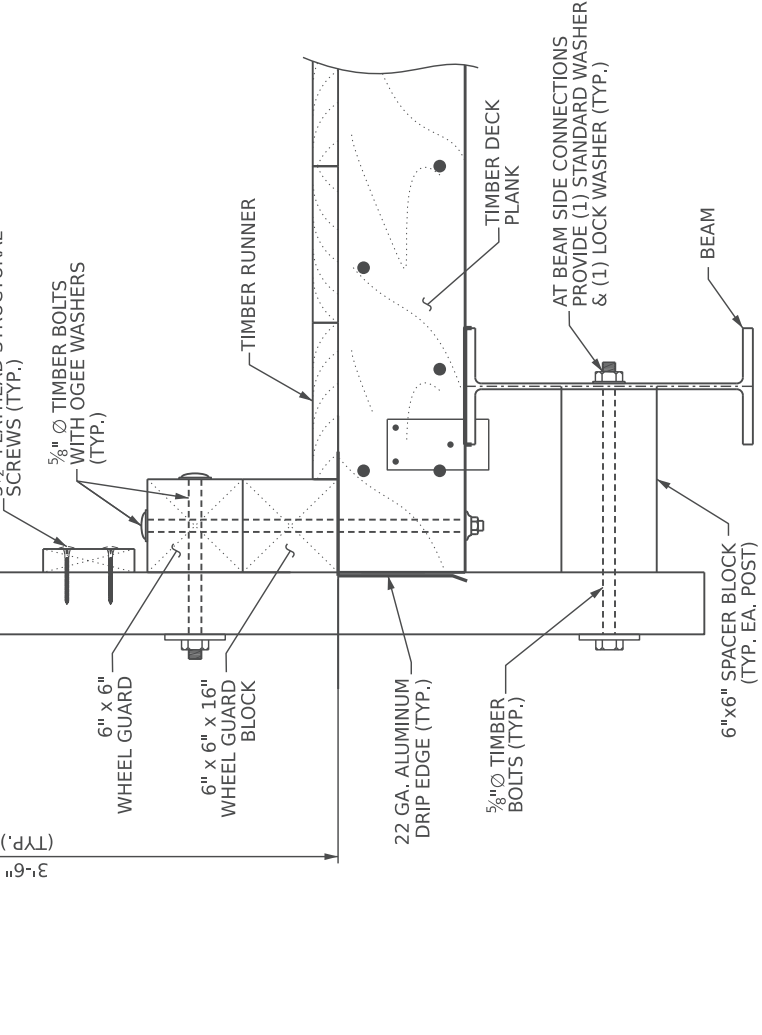


### VIEW B-B

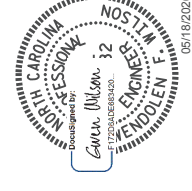


### OPTIONAL RAIL DETAIL AT END BENTS

L 5" X 5" X 5/16" X 12'-0" END ANGLE TO BE USED WITH THE 2" X 8" TIMBER DECKING. THE ANGLE IS NOT REQUIRED WITH THE 4" X 6" TIMBER DECKING. (SEE END ANGLE DETAIL ON TYPICAL SECTION & RAIL DETAILS SHEET)



### SECTION A-A



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NORTH CAROLINA OFFICE OF EMERGENCY MANAGEMENT

PRIVATE DRIVEWAY BRIDGE STANDARDS  
 SINGLE LANE STEEL BEAM BRIDGE  
 TIMBER DECK  
 OPTIONAL TIMBER BRIDGE RAIL

| REVISIONS |  | NO. | BY: | DATE:   |
|-----------|--|-----|-----|---------|
| 1         |  | 1   |     | 04/2026 |
| 2         |  | 2   |     | 04/2026 |

| DATE:   | BY: | NO. | DATE:   |
|---------|-----|-----|---------|
| 04/2026 | BC  | 1   | 04/2026 |
| 04/2026 | GFW | 2   | 04/2026 |

DWN. BY: BC  
 CHKD. BY: GFW  
 DES. EGR. OF RECORD: GFW



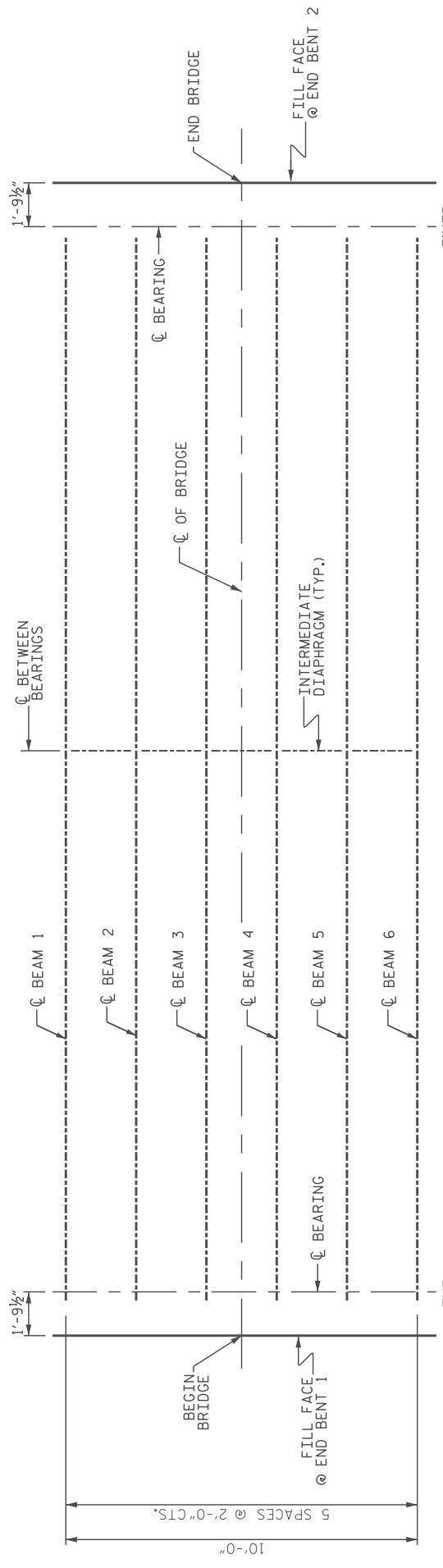
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 Candler, NC, 28715  
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| SHEET NO. | S-O4 |
|-----------|------|
| 13        | 13   |



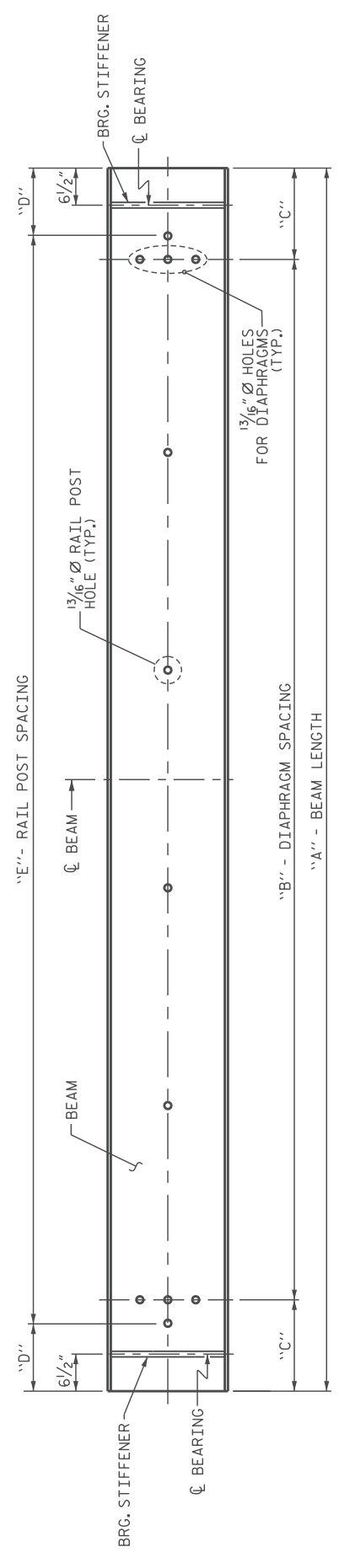
### NOTES

- NO SALVAGED BEAMS SHALL BE USED, UNLESS OTHERWISE NOTED ON THE PLANS.
- NO SHOP CAMBER REQUIRED, TURN NATURAL MILL CAMBER UP.
- ALL STRUCTURAL STEEL FIELD CONNECTIONS SHALL BE  $\frac{3}{8}$ " DIA. GALVANIZED HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.
- BEAMS SHALL BE PLACED PARALLEL TO THE CHORD.
- CONTRACTORS OPTION TO WELD CONNECTOR TO BEAM PRIOR TO SHOP COATING.
- SEE "GENERAL NOTES" SHEET FOR COATING.



### FRAMING PLAN

EXPANSION BEARING SHALL BE PLACED ON THE "UPHILL" END OF THE BRIDGE.



### BEAM FLANGE ELEVATION

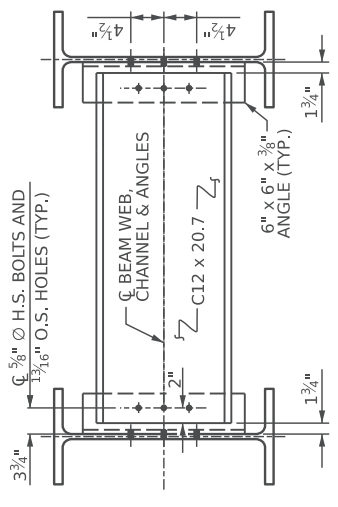
SHOWING DIAPHRAGM HOLES FOR ALL BEAMS, AND RAIL POST HOLES FOR EXTERIOR BEAMS.

### BEAM DIMENSION TABLE

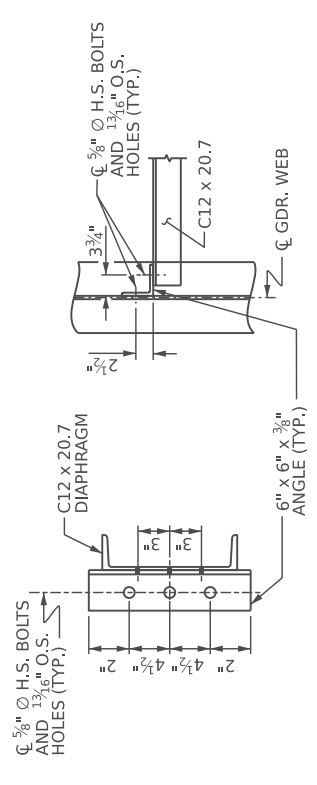
| SPAN   | BEAM    | CHANNEL  | A      | B               | C     | D         | E                   |
|--------|---------|----------|--------|-----------------|-------|-----------|---------------------|
| 20'-0" | W16X36  | C12X20.7 | 20'-0" | 2 SPA. @ 7'-0"  | 3'-0" | 10"       | 5 SPA. @ 3'-8"      |
| 30'-0" | W21X48  | C12X20.7 | 30'-0" | 2 SPA @ 12'-0"  | 3'-0" | 1'-0"     | 7 SPA. @ 4'-0"      |
| 40'-0" | W24X76  | C12X20.7 | 40'-0" | 2 SPA. @ 17'-0" | 3'-0" | 10 1/2"   | 9 SPA. @ 4'-3"      |
| 50'-0" | W24X104 | C12X20.7 | 50'-0" | 2 SPA. @ 22'-0" | 3'-0" | 1'-2"     | 11 SPA. @ 4'-4"     |
| 60'-0" | W30X116 | C12X20.7 | 60'-0" | 4 SPA. @ 13'-6" | 3'-0" | 1'-0 1/4" | 13 SPA. @ 4'-5 1/2" |
| 70'-0" | W33X130 | C12X20.7 | 70'-0" | 4 SPA. @ 16'-0" | 3'-0" | 1'-3"     | 15 SPA. @ 4'-6"     |

### STIFFENER DIMENSION

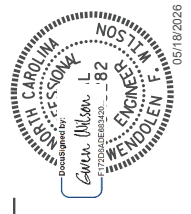
| BEAM    | F           | G      | H       |
|---------|-------------|--------|---------|
| W16X36  | 1'-3"       | 3 3/8" | 2"      |
| W21X48  | 1'-7 3/4"   | 3 3/8" | 2"      |
| W24X76  | 1'-10 1/16" | 4 1/4" | 2 1/16" |
| W24X104 | 1'-10 1/16" | 6 7/8" | 2 3/4"  |
| W30X116 | 2'-4 1/4"   | 5"     | 3 1/16" |
| W33X130 | 2'-7 3/8"   | 5 1/2" | 3 3/8"  |



### DIAPHRAGM DETAILS



### ANGLE DETAILS



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NORTH CAROLINA OFFICE OF  
**EMERGENCY MANAGEMENT**  
PRIVATE DRIVEWAY  
BRIDGE STANDARDS  
SINGLE LANE STEEL BEAM BRIDGE  
TIMBER DECK  
**FRAMING PLAN &  
BEAM DETAILS**

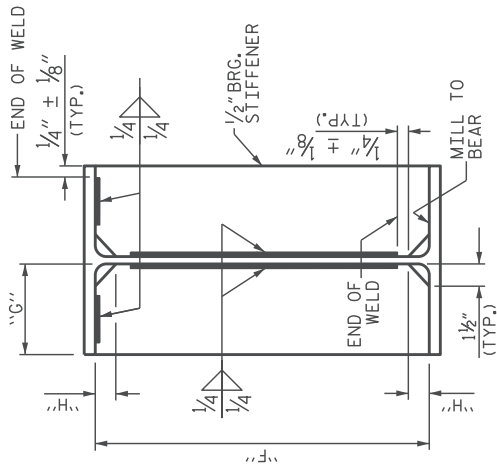
| REVISIONS |         | SHEET NO. |      |
|-----------|---------|-----------|------|
| NO.       | DATE    | BY:       | DATE |
| 1         | 04/2026 |           |      |
| 2         | 04/2026 |           |      |

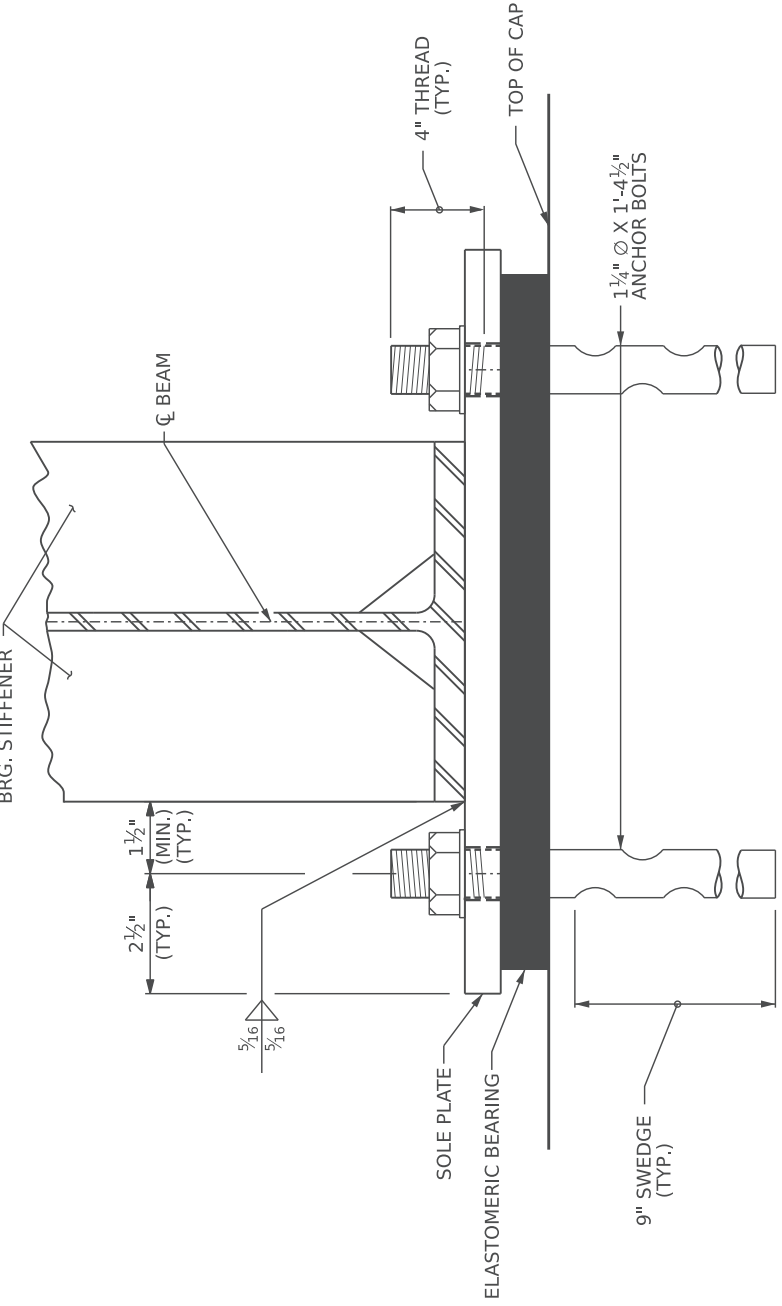
DWN, BY: BC  
CHKD, BY: GFW  
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### SECTION VIEW - BRG. STIFFENER





**SECTION AT BEARING**  
END VIEW

| DIMENSIONS TABLE |         |              |      |                   |
|------------------|---------|--------------|------|-------------------|
| SPAN             | BEAM    | FLANGE WIDTH | TYPE |                   |
| 20'-0"           | W16X36  | 7"           | I    | A B C             |
| 30'-0"           | W21X48  | 8 1/8"       | II   | 1'-3" 1'-3" 1'-4" |
| 40'-0"           | W24X76  | 9"           | II   | 1'-5" 1'-5" 1'-6" |
| 50'-0"           | W24X104 | 12 3/4"      | III  | 1'-5" 1'-5" 1'-6" |
| 60'-0"           | W30X116 | 10 1/2"      | IV   | 1'-8" 1'-8" 1'-9" |
| 70'-0"           | W33X130 | 11 1/2"      | IV   | 1'-3" 1'-7" 1'-8" |

**NOTES**  
ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

AT ALL SUPPORTS, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL BEARING PLATES SHALL BE AASHTO M270 GRADE 36.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS, AND WASHERS. SHOP INSPECTION IS REQUIRED.

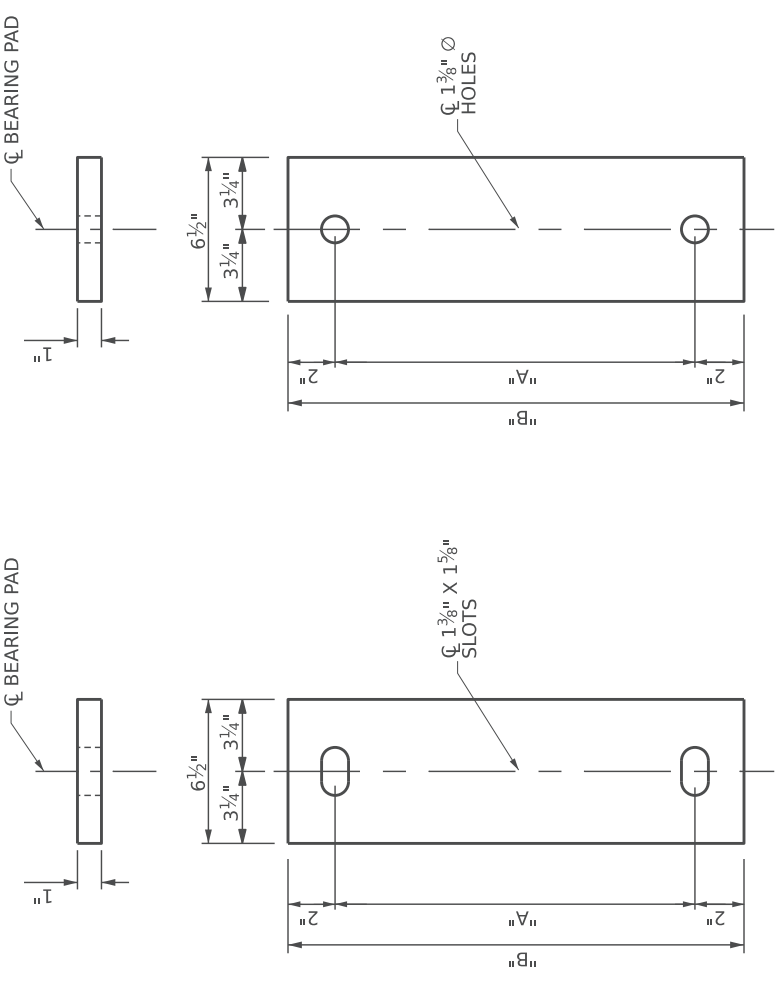
AT THE APPROVAL OF THE ENGINEER, SOLE PLATES AT THE EXPANSION END MAY BE FIELD WELDED.

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300° F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

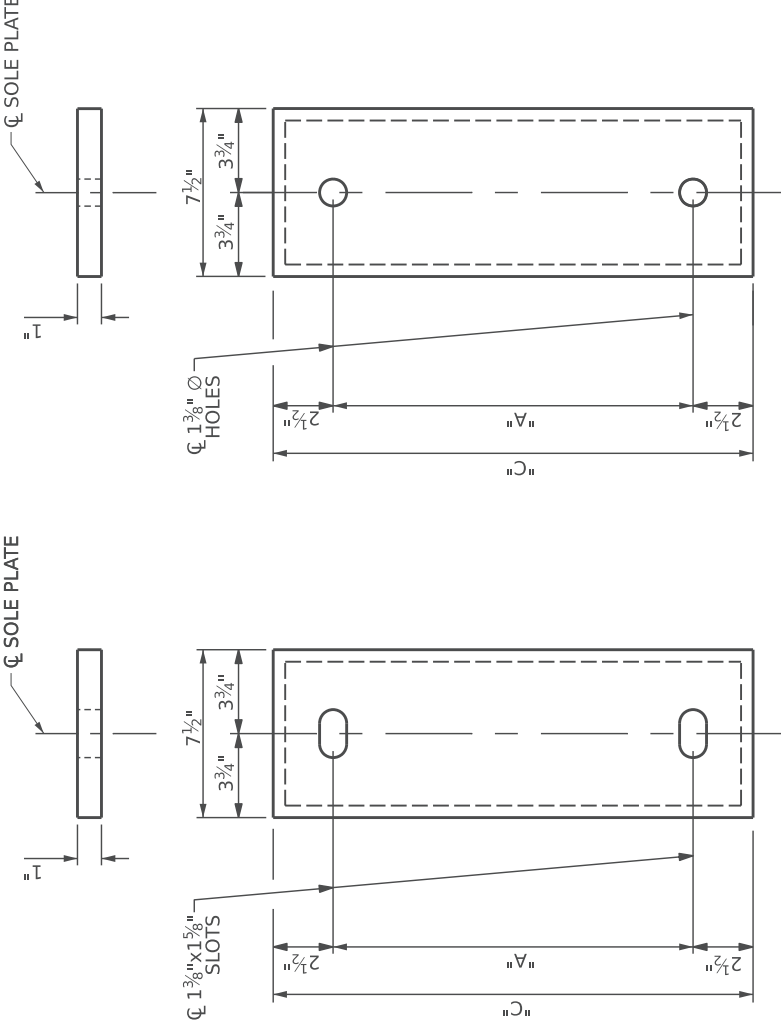
ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

AT NO ADDITIONAL COST, THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF CAST-IN-PLACE ANCHORS. LEVEL 1 FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE ANCHOR BOLT IS 30 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

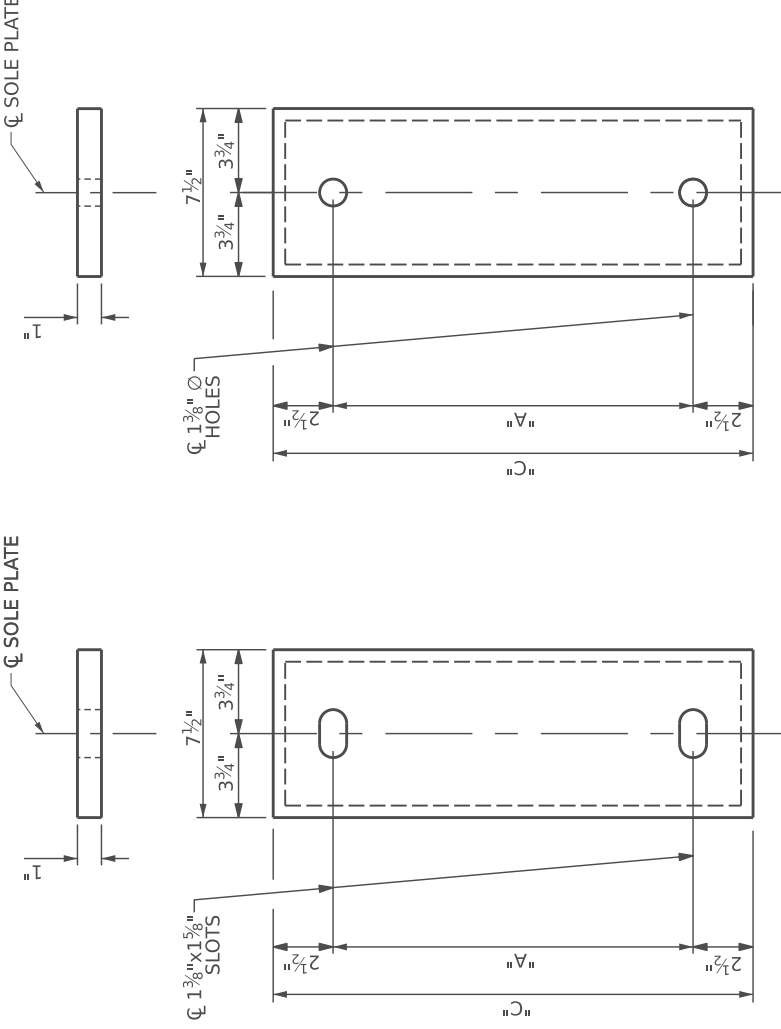
ADHESIVELY ANCHORED ANCHOR BOLTS SHALL BE THREADED FULL LENGTH.



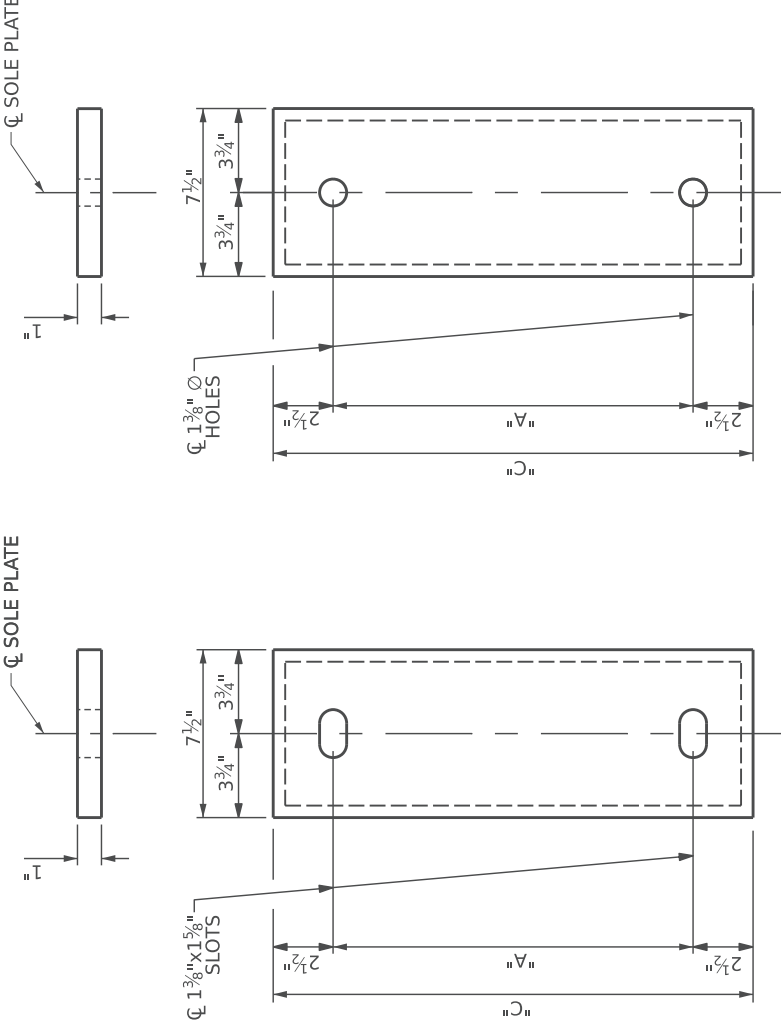
**E1 ELASTOMERIC BEARING DETAILS**  
(6 REQ'D) EXPANSION



**E2 ELASTOMERIC BEARING DETAILS**  
(6 REQ'D) FIXED



**P1 SOLE PLATE DETAILS**  
(6 REQ'D) EXPANSION



**P2 SOLE PLATE DETAILS**  
(6 REQ'D) FIXED



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NORTH CAROLINA OFFICE OF  
**EMERGENCY MANAGEMENT**  
**PRIVATE DRIVEWAY BRIDGE STANDARDS**  
SINGLE LANE STEEL BEAM BRIDGE  
TIMBER DECK

**BEARING DETAILS**

| REVISIONS |         | SHEET NO. |              |
|-----------|---------|-----------|--------------|
| NO.       | DATE:   | NO.       | S-O7         |
| 1         | 04/2026 | 3         | TOTAL SHEETS |
| 2         | 04/2026 | 4         | 13           |

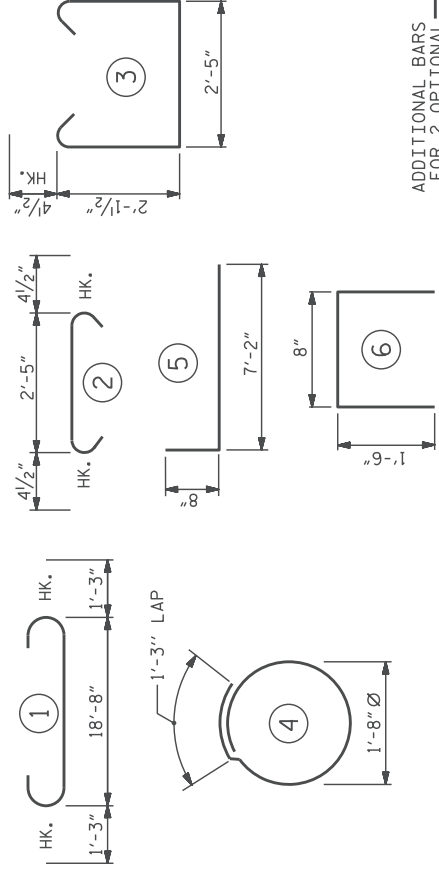
DWN. BY: BC  
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DES. EGR. OF RECORD: GFW

DATE: 04/2026  
DATE: 04/2026  
DATE: 04/2026

RECORD: GFW

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BAR TYPES



BILL OF MATERIAL

| BAR NO.                                      | SIZE | TYPE | LENGTH | WEIGHT |
|--|------|------|--------|--------|
| B1   | #9   | 1    | 21'-2" | 576    |
| B2   | #4   | STR  | 18'-8" | 100    |
| B3   | #4   | STR  | 2'-5"  | 8      |
| H1   | #4   | STR  | 18'-8" | 100    |
| S1   | #4   | 3    | 7'-5"  | 99     |
| S2   | #4   | 2    | 3'-2"  | 42     |
| S3   | #4   | 4    | 6'-6"  | 26     |
| U1   | #4   | 6    | 3'-8"  | 47     |
| V1   | #4   | STR  | 4'-4"  | 110    |
| H2   | #4   | 5    | 7'-10" | 147    |
| V2   | #4   | STR  | 3'-2"  | 118    |
| REINFORCING STEEL (FOR ONE END BENT) (LBS.)* |      |      |        | 1,108  |
| CLASS A CONCRETE (FOR ONE END BENT) (C.Y.)   |      |      |        |        |
| POUR 1                                       | *    |      | 4.8    | 6.0    |
| POUR 2                                       | *    |      | 1.7    | 2.8    |
| TOTAL  |      |      | 6.5    | 8.8    |

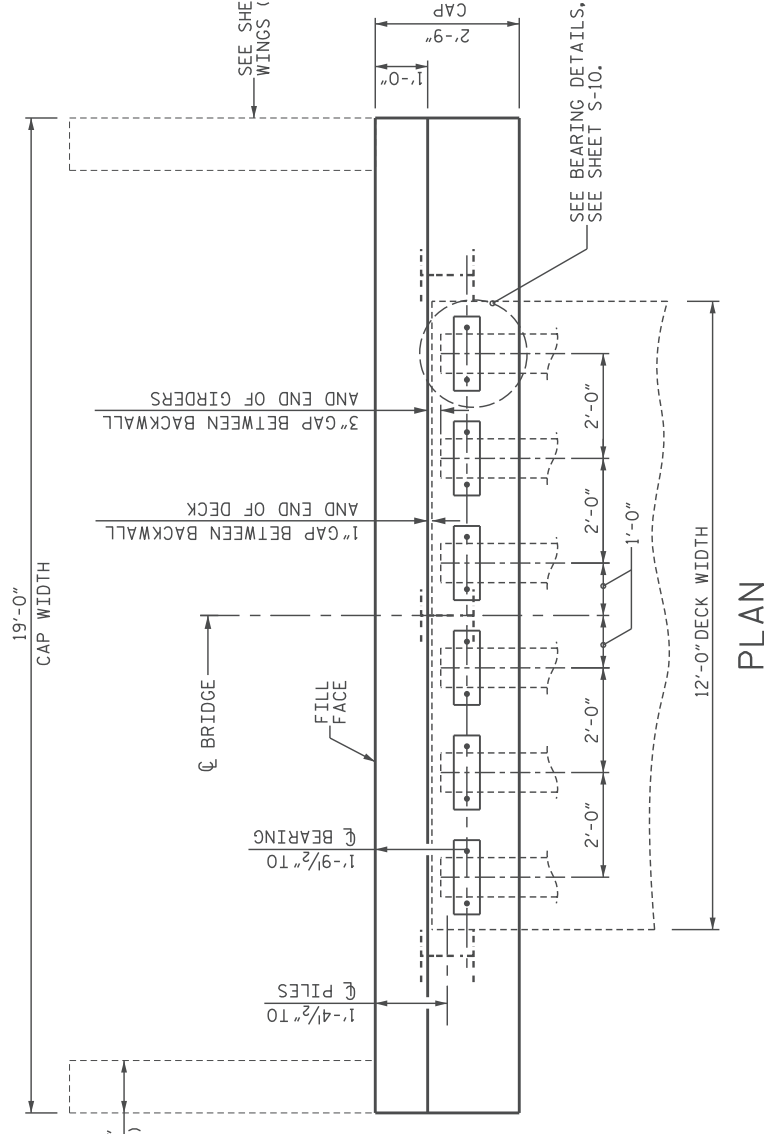
ADDITIONAL BARS FOR 2 OPTIONAL WINGS

ALL BAR DIMENSIONS ARE OUT TO OUT.

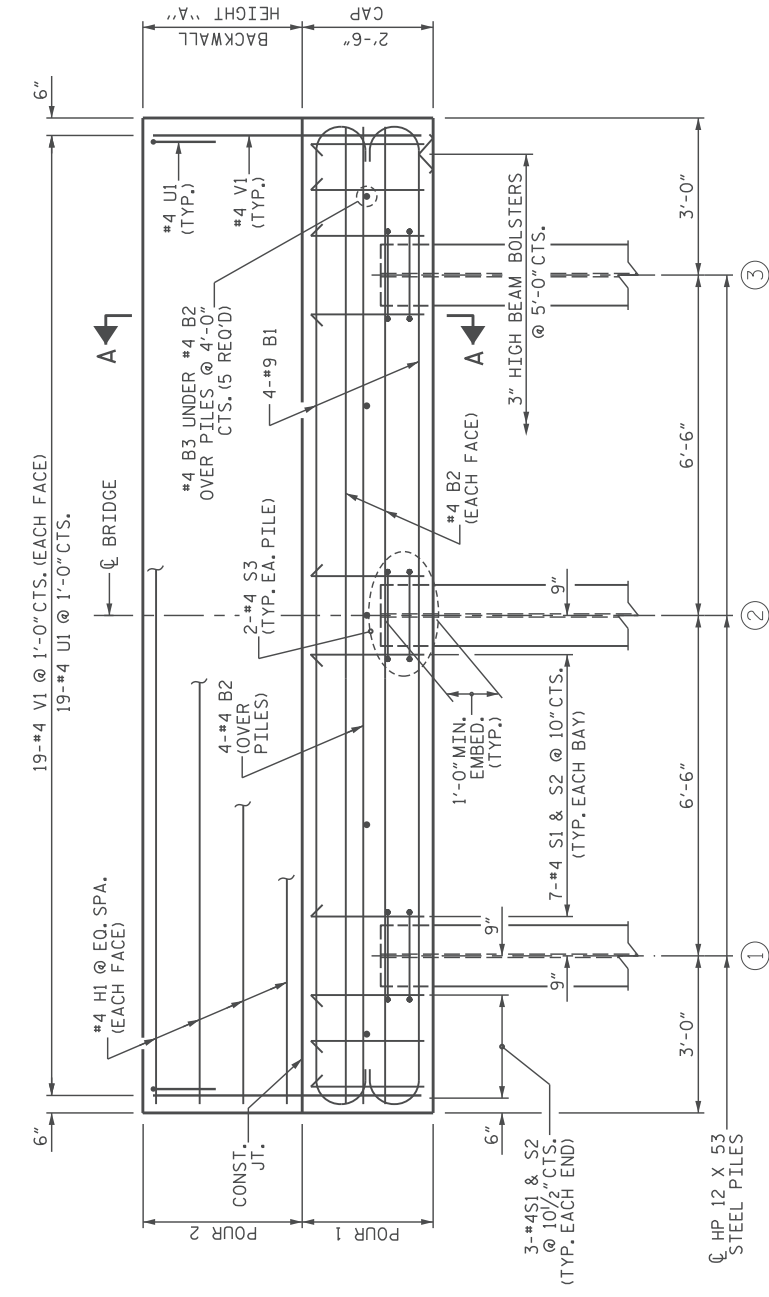
BACKWALL HEIGHT

| SPAN   | BEAM    | A (2X8 DECKING) | A (4X6 DECKING) |
|--------|---------|-----------------|-----------------|
| 20'-0" | W16X36  | 2'-2 3/8"       | 1'-10 1/8"      |
| 30'-0" | W21X48  | 2'-7 3/8"       | 2'-3 3/8"       |
| 40'-0" | W24X76  | 2'-10 5/8"      | 2'-6 7/8"       |
| 50'-0" | W24X104 | 2'-10 3/4"      | 2'-7"           |
| 60'-0" | W30X116 | 3'-4 3/4"       | 3'-1"           |
| 70'-0" | W33X130 | 3'-7 3/4"       | 3'-4"           |

DIMENSION "A" (BACKWALL HEIGHT) VARIES BASED ON DECKING TYPE. USE VALUES CORRESPONDING TO SELECTED DECKING OPTION.



PLAN



ELEVATION

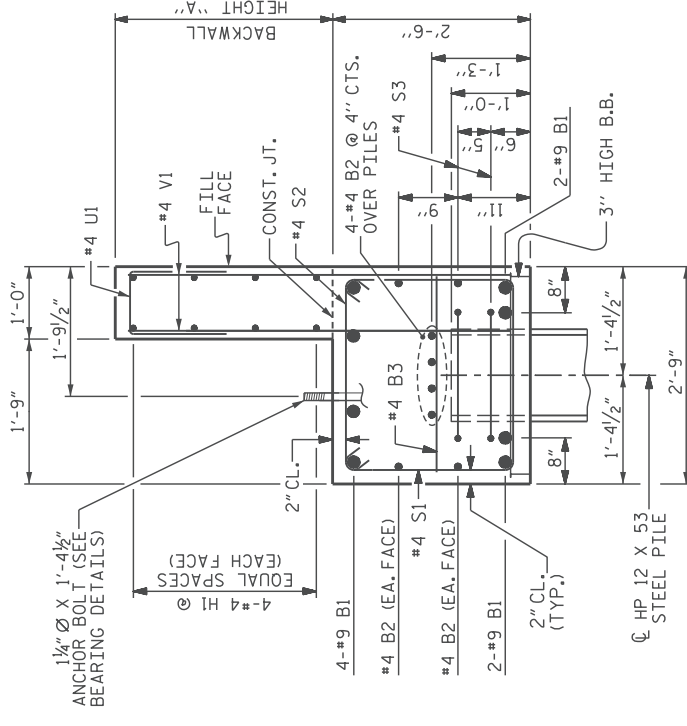
(OPTIONAL WINGS NOT SHOWN FOR CLARITY)

GENERAL NOTES

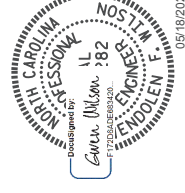
- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- CONTRACTOR SHALL SLOPE TOP OF CAP TO MATCH LONGITUDINAL GRADE OF THE BRIDGE. SLOPES SHALL MATCH ON BOTH END BENT 1 AND END BENT 2 CAPS.
- WINGS MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER OR DESIGNER.
- FOR OPTIONAL WINGS FOR END BENT, SEE SHEET S-10.
- FOR BEARING DETAILS, SEE SHEET S-10.
- FOR PILE SPlice DETAILS, SEE SHEET S-10.
- "N" BARS BASED ON SHORTEST BACKWALL HEIGHT USING 2X8 DECKING. ADJUST LENGTH TO MAINTAIN REQUIRED MIN. CLEARANCE AT BOTTOM OF CAP AND TOP OF BACKWALL.

FOUNDATION NOTES  
 DRIVEN PILES

- INSTALL PILES IN ACCORDANCE WITH SECTION 450 OF THE STANDARD SPECIFICATIONS.
- DO NOT INSTALL PILES UNTIL FILL HAS BEEN PLACED.
- DRIVE PILES TO A MINIMUM PENETRATION OF AT LEAST 10 FEET INTO NATURAL GROUND OR CHANNEL BOTTOM.
- DRIVE ALL PILES TO 'REFUSAL' BELOW MINIMUM PENETRATION.
- PREDRILLING OR SPUDDING MAY BE REQUIRED TO ACHIEVE THE MINIMUM PILE PENETRATION.
- SUBMIT THE PROPOSED PILE DRIVING METHODS AND EQUIPMENT FOR ACCEPTANCE BY THE ENGINEER.



SECTION A-A



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA OFFICE OF  
**EMERGENCY MANAGEMENT**  
**PRIVATE DRIVEWAY**  
**BRIDGE STANDARDS**  
 SINGLE LANE STEEL BEAM BRIDGE  
 TIMBER DECK  
**END BENT**  
**DRIVEN PILES**

| NO. | DATE    | BY: | NO. | DATE | BY: |
|-----|---------|-----|-----|------|-----|
| 1   | 04/2026 | BC  | 3   |      |     |
| 2   | 04/2026 | GFW | 4   |      |     |

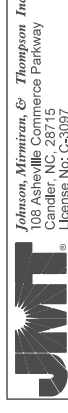
REVISIONS

DWN. BY: BC  
 CHKD. BY: GFW  
 DES. EGR. OF RECORD: GFW

DATE: 04/2026  
 DATE: 04/2026  
 DATE: 04/2026

RECORD: GFW

SHEET NO. S-08  
 TOTAL SHEETS 13











**STRUCTURAL STEEL / HARDWARE NOTES:**

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50 AND PAINTED IN ACCORDANCE WITH SYSTEM 1 OF THE STRUCTURAL STEEL COATING PROGRAM AND ARTICLE 442-8 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

COATING APPLICATION FOR ALL STRUCTURAL STEEL SHALL NOT BE PERFORMED UNTIL SHOP FABRICATION INCLUDING CUTTING, DRILLING AND WELDING HAS BEEN COMPLETED.

ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATION, UNLESS OTHERWISE NOTED ON THE PLANS.

DO NOT DRIVE LAG/STRUCTURAL SCREWS WITH A HAMMER, SCREW OR TORQUE LAG/STRUCTURAL SCREWS.

SCREWS SHALL BE OF SUFFICIENT LENGTH TO PROVIDE FULL THREAD ENGAGEMENT INTO RECEIVING MEMBERS.

REPAIR ANY DAMAGED GALVANIZED SURFACES IN ACCORDANCE WITH STANDARD SPECIFICATION ARTICLE 1076-7.

REPAIR ANY DAMAGED PAINTED SURFACES IN ACCORDANCE WITH SECTION 442 OF THE STANDARD SPECIFICATIONS.

STRUCTURAL WOOD SCREWS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATION.

**TIMBER / LUMBER NOTES:**

ALL TIMBER AND LUMBER MEMBERS SHALL BE TREATED NO. 1 SOUTHERN PINE AND CONFORM TO SECTION 1082 OF THE STANDARD SPECIFICATIONS.

ALL TIMBER DIMENSIONS SHOWN ON THE PLANS ARE NOMINAL DIMENSIONS. DESIGN IS BASED ON ACTUAL DRESSED DIMENSIONS.

PRE-DRILL HOLES IN TIMBER MEMBERS RECEIVING BOLTS TO ELIMINATE SPLITTING. PRE-DRILL HOLES FOR SCREWS AS NECESSARY TO PREVENT SPLITTING IN TIMBER MEMBERS.

**DESIGN LOADS:**

**LIVE LOAD:**

**TRUCK LOAD:**

THIS BRIDGE WAS DESIGNED FOR:

HS20  
GVWR = 72,000 LBS  
NUMBER OF AXLES: 3  
AXLE WEIGHTS:  
GAWR FRONT = 8,000 LBS  
GAWR INTERMEDIATE = 32,000 LBS  
GAWR REAR = 32,000 LBS

EV2  
GVWR = 57,500 LBS  
NUMBER OF AXLES: 2  
AXLE WEIGHTS:  
GAWR FRONT = 24,000 LBS  
GAWR REAR = 33,500 LBS

EV3  
GVWR = 86,000 LBS  
NUMBER OF AXLES: 3  
AXLE WEIGHTS:  
GAWR FRONT = 24,000 LBS  
GAWR INTERMEDIATE = 31,000 LBS  
GAWR REAR = 31,000 LBS

**LIVE LOAD FACTORS:**

HS-20 = 1.30  
EV2 = 1.3  
EV3 = 1.3

**LIVE LOAD FACTORS LOAD RATING:**

HS-20 = 1.35  
EV2 = 1.0  
EV3 = 1.0

**MULTIPLE PRESENCE FACTOR:**

MPF = 1.0

**LANE LOAD:**

NO LANE LOAD WAS APPLIED.

**IMPACT:**

DYNAMIC IMPACT FOR WOOD/TIMBER COMPONENTS IS ZERO. DYNAMIC IMPACT FACTOR FOR ALL OTHER COMPONENTS IS 33%.

**DEAD LOADS:**

WEARING SURFACES SHALL NOT BE ALLOWED.

WEIGHT OF TIMBER = 40 PCF.

**DESIGN ASSUMPTIONS/PARAMETERS:**

SUPERSTRUCTURE WILL BE SIX LINES OF I-BEAMS.

BRIDGE IS SINGLE SPAN.

BRIDGE WIDTH = 12'-0" OUT TO OUT.

**GENERAL NOTES:**

THIS BRIDGE IS DESIGNED IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) "STRUCTURES MANAGEMENT UNIT MANUAL", DATED 6/15/23, 2024 NCDOT IN-KIND TIMBER BRIDGE REPLACEMENT PROGRAM, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION.

THESE DRAWINGS ARE INTENDED ONLY FOR USAGE IN THE INSTALLATION OF SINGLE SPAN I-BEAM BRIDGES FOR PRIVATE DRIVEWAYS IN COUNTIES AS LISTED IN THE CONTRACT DOCUMENTS BY NORTH CAROLINA OFFICE OF EMERGENCY MANAGEMENT IN RESPONSE TO THE DAMAGE CAUSED BY HURRICANE HELENE.

BRIDGE CONSTRUCTION, WORKMANSHIP, AND MATERIALS SHALL BE IN ACCORDANCE WITH THE NCDOT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES", 2024 EDITION.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

IT IS ASSUMED THAT THERE ARE NO UTILITY CONFLICTS. THE CONTRACTOR SHALL INVESTIGATE THE PRESENCE OF UTILITIES BEFORE COMMENCING WORK.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL SET BRIDGE ELEVATIONS SUCH THAT WATER WILL DRAIN AND NOT POND ON THE BRIDGE DECK AND MINIMUM LONGITUDINAL GRADE SHALL BE 0.5% AND MAXIMUM GRADE SHALL BE 6%.

FOR PILE-SUPPORTED END BENTS, PLACE APPROACH EMBANKMENT (CORE MATERIAL) PRIOR TO PILE INSTALLATION.

THIS BRIDGE HAS BEEN DESIGNED FOR ADTT < 100.

EROSTON AND SEDIMENT CONTROL MEASURES SHOWN ON SHEET EC-01 ARE FOR GENERAL GUIDANCE ONLY AND REPRESENT MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL REQUIRED EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, CONTRACT DOCUMENTS, AND APPLICABLE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING THESE MEASURES AND PROVIDING ANY ADDITIONAL DEVICES NECESSARY TO ACCOUNT FOR ACTUAL SITE CONDITIONS, INCLUDING GROUNDWATER CONDITIONS AND WEATHER EVENTS, AND TO PREVENT SEDIMENT FROM LEAVING THE PROJECT SITE.

ALL REFERENCES WITHIN THESE PLANS TO "STANDARD SPECIFICATIONS" OR "NCDOT SPECIFICATIONS" SHALL BE GOVERNED BY THE NCDOT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.

TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, INCLUDING THE SPECIAL PROVISIONS, AND IN CONFORMANCE WITH THE NCDOT STANDARD SPECIFICATIONS, NCDOT ROADWAY STANDARD DRAWINGS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING ALL TRAFFIC CONTROL DEVICES NECESSARY TO SAFELY CONDUCT THE WORK AND PROTECT THE TRAVELING PUBLIC.

**MATERIAL PROPERTIES:**

CONCRETE: MINIMUM COMPRESSIVE STRENGTH,  $f_c = 3,000$  psi (CLASS A)

STRUCTURAL STEEL: AASHTO M270, GRADE 50.

WELDS: SMAW, 70 KSI ELECTRODES PER NCDOT STANDARD SPECIFICATIONS.

ANCHOR BOLTS: ASTM F1554, GRADE 55.

BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325. PROVIDE GALVANIZED NUTS AND WASHERS COMPATIBLE WITH THE BOLTS.

TIMBER: ALL TIMBER & DIMENSIONAL LUMBER SHALL BE NO. 1 VISUALLY GRADED, SOUTHERN PINE WITH REFERENCE DESIGN VALUES OF:  $F_{bo} = 1.35$  ksi AND  $F_{vo} = 0.175$  ksi OR GREATER.

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS WITH A SHEAR MODULUS OF 0.110 KSI.



NORTH CAROLINA OFFICE OF  
**EMERGENCY MANAGEMENT**  
**PRIVATE DRIVEWAY  
BRIDGE STANDARDS**  
SINGLE LANE STEEL BEAM BRIDGE  
TIMBER DECK

**GENERAL NOTES**

| REVISIONS |       | SHEET NO.       |      |
|-----------|-------|-----------------|------|
| NO.       | DATE: | NO.             | S-13 |
| 1         |       | 3               |      |
| 2         |       | 4               |      |
|           |       | TOTAL SHEETS 13 |      |

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**JMT**  
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Candler, NC, 28715  
License No. C-3087

