

ADDENDUM NO. 1
TO
BRO-B057(20)
5th STREET OVER PAGE BRANCH
BRIDGE NO. 1315001
LINCOLN COUNTY, MO

December 10, 2020

You are instructed to read and note the following described changes, corrections, clarifications, omissions, deletions, additions, approvals, and statements pertinent to the Construction Documents.

Addendum No. 1 is a part of the Contract Bid and Construction Documents and shall govern in the performance of the Work.

Please note: Updated Itemized Proposal is included as a part of this Addendum for your use.

Revisions:

1. In accordance with manufacturer's recommendations, the Precast Concrete Box Girders are increasing to 18" deep and the concrete deck is decreasing to average 3" thick (4" at centerline to 2" at edge). Due to this change, the following items will be affected, and the changes are called out in attached sheets:
 - a. Plan Sheet 7 of 21, Note 11: 15" is to change to 18"
 - b. Plan Sheet 9 of 21, vertical dimension of Typical Section of Girder: 1'3" is to change to 1'6"
 - c. Plan Sheet 11 of 21
 - i. Callout "Concrete Deck (7" at centerline to 5" at edge)" is to change to Concrete Deck (4" at centerline to 2" at edge)
 - ii. Callout "Conc Box Girders (15" Deep)" is to change to "Conc Box Girders (18" Deep)"
 - d. Plan Sheet 12 of 21
 - i. Callout "Concrete Deck (7" at centerline to 5" at edge)" is to change to Concrete Deck (4" at centerline to 2" at edge)
 - ii. Callout "Conc Box Girders (15" Deep)" is to change to "Conc Box Girders (18" Deep)"
 - e. Plan Sheet 16 of 21, Detail at Slab Drawing: Callout "TS 6"x3"x1/4"x3'9" (8'4" max spacing)" is to change to "TS 6"x3"x1/4"x3'6" (8'4" max spacing)"
2. With the deck thickness change described above, the reinforcing steel will now be epoxy coated. Due to this change, the following items will be affected, and the changes are called out in attached sheets:
 - a. Plan Sheet 7 of 21: Bid Item #28 will change from "Reinforcing Steel" to "Epoxy Coated Reinforcing Steel"
 - b. Itemized Proposal:
 - i. Bid Item Bid Item #28 will change from "Reinforcing Steel" to "Epoxy Coated Reinforcing Steel"
3. Reinforced Soil Foundation (RSF) quantities were not included in item no. 31 and 32 and therefore will be modified to include. Due to this change, the following items will be affected, and the changes are called out in attached sheets:
 - a. Plan Sheet 7 of 21:
 - i. Bid Item #31 "GRS-IBS Fabric" quantity is to be 1354 S.Y.
 - ii. Bid Item #32 "GRS-IBS Reinforced Backfill (3/4" Clean)" quantity is to be 250 C.Y.
 - b. Itemized Proposal:
 - i. Bid Item #31 "GRS-IBS Fabric" quantity is to be 1354 S.Y.
 - ii. Bid Item #32 "GRS-IBS Reinforced Backfill (3/4" Clean)" quantity is to be 250 C.Y.

4. Ameren Missouri Gas was not included in the Utility Section of the JSPs of the Specifications. Due to this change, the following items will be affected, and the changes are called out in attached sheets:
 - a. Specifications, JSP Section D:
 - i. Add: Ameren Missouri Gas, Contact: Vince Kaimann, cell phone: 636-485-4233, Ameren plans to be onsite when the gas line is uncovered to verify its location in reference to the bridge abutments. If the line is crossing within the foundations of the abutments, Ameren will sleeve in place and the concrete or RSF Foundations will be modified to accommodate. If the line interferes with the block wall, Ameren will plan to relocate along the west side of the roadway at that time.

ACKNOWLEDGEMENT: Each Bidder shall acknowledge receipt of Addendum No. 1 by their signature affixed hereto and shall file Addendum No. 1 with their bid.

Signature of Bidder

Contractor

By: _____

Title: _____

Date: _____

ITEMIZED PROPOSAL
 WORK PERFORMED BY THE CONTRACTOR

LINE	ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS						
1	201	Clearing & Grubbing (Approx 0.1 Acres)	L.S.	1		
2	202.30	Removal of Existing Improvements	L.S.	1		
3	203	Embankment in Place	C.Y.	74		
4	304	Aggregate Base Course (4in Layer MoDOT Type 1)	S.Y.	479		
5	310	Aggregate Surface (Shoulder) (13in Layer MoDOT Type 1)	S.Y.	76		
6	310	Aggregate Surface (Drive Entrance) (4in Layer 2" Minus)	S.Y.	45		
7	401	Plant Mix Bituminous Base (7in Layer BP-Base)	S.Y.	479		
8	401	Plant Mix Bituminous Pavement (2in Layer BP-1)	S.Y.	479		
9	604.20	Adjusting Drainage Facilities (Manhole Riser Ring)	EACH	1		
10	606.10	Guardrail Transition Section	EACH	4		
11	606.10	Type A Crashworthy End Terminal	EACH	3		
12	606.10	Type A Guardrail	L.F.	25		
13	606.10	Type A Rolled End Buffer	EACH	1		
14	627	Contractor Surveying & Staking	L.S.	1		
15	618	Mobilization	L.S.	1		
16	805	Seeding (includes Fertilizing & Mulching)	ACRE	0.1		
17	806.30	Ditch Checks	EACH	2		
18	806.70	Silt Fence	L.F.	80		
19	903	Highway Signage (Remove & Reinstall)	EACH	1.0		
		Roadway Subtotal				
SIGNING ITEMS						
20	616	Type III Moveable Barricades	EACH	9		
21	616	Construction Signs	EACH	29		
		Signing Subtotal				

ITEMIZED PROPOSAL
 WORK PERFORMED BY THE CONTRACTOR

LINE	ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
BRIDGE ITEMS						
22	206	Excavation for Structures	C.Y.	305.8		
23	216.10	Removal of Existing Bridge	L.S.	1		
24	611.30	Type 2 Rock Blanket	C.Y.	73		
25	624	Geotextile Fabric	S.Y.	154		
26	703	Class B-2 Concrete	C.Y.	19.2		
27	705	Precast Concrete Box Girders (40'-5 1/2") (Horiz.)	EACH	9		
28	706	Epoxy Coated Reinforcing Steel	LBS.	1,900		
29	713	Thrie Beam Guardrail on Bridge	L.F.	75		
30	720	GRS-IBS Retaining Wall	S.F.	837		
31	720	GRS-IBS Fabric	S.Y.	1,354		
32	720	GRS-IBS Reinforced Backfill (3/4" Clean)	C.Y.	250		
Bridge Subtotal						
Total Contractor						

ACKNOWLEDGEMENT: Each Bidder shall acknowledge receipt of addenda by their signature affixed hereto and addendum noted at the right by number.

Addendum No.(s) _____

Contractor: _____

Phone: _____

Signature: _____

Date: _____

Name: _____

(please print)

Email: _____

(please print)

2.0 In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

No additional for this project.

2.1 This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

2.2 The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

3.0 No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

D. UTILITIES JSP-93-26C

1.0 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Action</u>
ALLIANCE WATER RESOURCES Justin Reaves Office – 636-358-6509 jreaves@alliancewater.com	Yes	Plan to move prior to construction
AMEREN MISSOURI ELECTRIC Tara Riney Office – 314-206-1079 Cell - 314-412-7291 triney@ameren.com	Yes	Contractor to notify Electric 2 weeks prior to construction to relocate pole.
ATT DISTRIBUTION Tim Bregenzer Cell – 618-210-2425 tb6879@att.com	No	None
CUIVRE RIVER ELECTRIC COOP Stan Winkle Office – 636-695-4841 stanw@cuivre.com	Yes	Contractor to notify when Ameren is relocating pole
Ameren Missouri Gas Vince Kaimann Cell - 636-485-4233	Yes	Ameren plans to be onsite when the gas line is uncovered to verify it's location in reference to the bridge abutments. If the line is crossing within the foundations of the abutments, Ameren will sleeve in place and the concrete or RSF Foundations will be modified to accommodate. If the line interferes with the block wall, Ameren will plan to relocate along the west side of the roadway at that time.

NOTICE:
McClure Engineering Company waives any and all responsibility and liability for problems which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for problems which arise from failure to obtain and/or follow the engineers guidance with respect to any errors, omissions, inconsistencies, ambiguities, or conflicts which are alleged.

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253
EXPIRES: DECEMBER 31, 2020

SUMMARY OF QUANTITIES				
LINE	ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
ROADWAY ITEMS				
1	201	Clearing & Grubbing (Approx 0.1 Acres)	L.S.	1
2	202.30	Removal of Existing Improvements	L.S.	1
3	203	Embankment in Place	C.Y.	74
4	304	Aggregate Base Course (4in Layer MoDOT Type 1)	S.Y.	479
5	310	Aggregate Surface (Shoulder) (13in Layer MoDOT Type 1)	S.Y.	76
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7	401	Plant Mix Bituminous Base (7in Layer BP-Base)	S.Y.	479
8	401	Plant Mix Bituminous Pavement (2in Layer BP-1)	S.Y.	479
9	604.20	Adjusting Drainage Facilities (Manhole Riser Ring)	EACH	1
10	606.10	Guardrail Transition Section	EACH	4
11	606.10	Type A Crashworthy End Terminal	EACH	3
12	606.10	Type A Guardrail	L.F.	25
13	606.10	Type A Rolled End Buffer	EACH	1
14	627	Contractor Surveying & Staking	L.S.	1
15	618	Mobilization	L.S.	1
16	805	Seeding (includes Fertilizing & Mulching)	ACRE	0.1
17	806.3	Ditch Checks	EACH	2
18	806.70	Silt Fence	L.F.	80
19	903	Highway Signage (Remove & Reinstall)	EACH	1.0
SIGNING ITEMS				
20	616	Type III Moveable Barricades	EACH	9
21	616	Construction Signs	EACH	29
BRIDGE ITEMS				
22	206	Excavation for Structures	C.Y.	305.8
23	216.10	Removal of Existing Bridge	L.S.	1
24	611.30	Type 2 Rock Blanket	C.Y.	73
25	624	Geotextile Fabric	S.Y.	154
26	703	Class B-2 Concrete	C.Y.	19.2
27	705	Precast Concrete Box Girders (40'-5 1/2") (Horiz.)	EACH	9
28	706	Reinforcing Steel	LBS.	1900
29	713	Thrie Beam Guardrail on Bridge	L.F.	75
30	720	GRS-IBS Retaining Wall	S.F.	837
31	720	GRS-IBS Fabric	S.Y.	1237
32	720	GRS-IBS Reinforced Backfill (3/4" Clean)	C.Y.	219

Epoxy Coated Reinforcing Steel

1354

250

- NOTE:
- QUANTITIES SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE COUNTY COMMISSION AND ARE USED SOLELY FOR THE PURPOSE OF COMPARING BIDS AND AWARDED THE CONTRACT, AND MAY OR MAY NOT REPRESENT THE ACTUAL QUANTITIES ON THE JOB, SEE SPECIFICATIONS.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT FORM 106, TO MISSOURI DEPARTMENT OF NATURAL RESOURCES, HISTORIC PRESERVATION PROGRAM FOR ANY BORROW AREAS TO BE USED ON THIS PROJECT.
 - MoDOT AND FHWA MAY MAKE INSPECTIONS OF THE WORK AND THE CONTRACTOR SHALL GRANT THEM ACCESS TO ALL PARTS OF THE WORK.
 - ANY ITEM SHOWN IN THE PLANS WITHOUT A BID ITEM SHALL BE CONSIDERED SUBSIDIARY TO ANOTHER ITEM BID.
 - IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO CONTACT ANY/ALL UTILITIES AND RESOLVE RELOCATION OR DE-ENERGIZING FOR CONSTRUCTION TO TAKE PLACE ALONG WITH MAINTAINING THE REQUIRED CLEARANCE FROM LINES.
 - EMBANKMENT IN PLACE SHALL INCLUDE HAULING AND REMOVING MATERIAL FROM/TO THE SITE, PLACEMENT AND COMPACTION OF MATERIAL AND EXCAVATION OF DITCHES TO MAKE GRADE SHOWN ON PLANS. PAYMENT WILL ONLY BE MADE FOR FILL MATERIAL PLACED PER PLAN REQUIREMENTS.
 - EXCAVATION FOR STRUCTURES SHALL INCLUDE ALL CLASSES OF EXCAVATION. NO EXTRA PAYMENT WILL BE MADE FOR ROCK EXCAVATION IF ROCK IS ENCOUNTERED. ROCK IS ANTICIPATED TO BE ENCOUNTERED. SEE GEOTECHNICAL REPORT.
 - GRS-IBS REINFORCED BACKFILL SHALL BE 3/4" CLEAN AGGREGATE.
 - GRS-IBS FABRIC SHALL BE A WOVEN GEOTEXTILE FABRIC, SEE SPECIFICATIONS FOR REQUIREMENTS. MIRAFI_HP570 FABRIC OR EQUIVALENT.
 - GRS-IBS RETAINING WALL UNIT BLOCKS SHALL BE DRY CAST AND MEET ASTM REQUIREMENTS SHOWN IN SPECIFICATIONS. VERSA-LOK 8" T x 18" L x 12" W OR EQUIVALENT.
 - PRECAST CONCRETE GIRDERS SHALL BE 15" DEEP, CONVENTIONALLY REINFORCED AND SOLID CORE. (PRESTRESSED GIRDERS MAY BE ACCEPTABLE IF DESIGN PARAMETERS ARE MET).
 - CONTRACTOR TO SEE PLAN NOTES AND SPECIFICATIONS FOR LANDOWNER CONDITIONS, STAGING EQUIPMENT AND PROJECT ACCESS
 - CONTRACTOR SHALL REMOVE AND REPLACE EXISTING MANHOLE LID & RISER RING WITH NEW MANHOLE LID AND RISER RING. CONTRACTOR TO MEET WITH CITY TO DISCUSS NEW TOP OF LID ELEVATION TO NEW TOP OF ROAD ELEVATION.

GENERAL NOTES:

DESIGN SPECIFICATION:
2014 - AASHTO 7th EDITION
LOAD & RESISTANCE FACTOR DESIGN

SITE CLASS C SEISMIC DESIGN CATEGORY

FOR MATERIALS AND CONSTRUCTION PROCEDURES THE CONTRACTOR SHALL FOLLOW THE SPECIFICATIONS AS STATED IN THE "MISSOURI CONSTRUCTION SPECIFICATIONS FOR HIGHWAY CONSTRUCTION 2019 AS AMENDED OR SUPPLEMENTED." IN ADDITION, REFER TO THE GENERAL AND JOB SPECIAL PROVISIONS WHICH SUPERCEDE THE "STANDARD SPECIFICATIONS" FOR VARIOUS ITEMS ON THIS PROJECT.

2001-AASHTO GUIDELINES FOR GEOMETRIC DESIGN OF VERY LOW VOLUME LOCAL ROADS (ADT < 400)

DESIGN LOADING:
HL-93
SOIL WT 120 LBS/ CU. FT.
EQUIVALENT FLUID PRESSURE 45 LBS. CU. FT.
SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON-COMPOSITE FOR DEAD LOAD AND LIVE LOAD.
TOPPING SLAB MAY BE COMPOSITE WITH GIRDERS.

DESIGN UNIT STRESSES:
CLASS B-2 CONCRETE $F'_c = 4000$ PSI
REINFORCING STEEL (GRADE 60) $F_y = 60000$ PSI

REINFORCING STEEL:
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.

GEOTECHNICAL INVESTIGATION:
A GEOTECHNICAL INVESTIGATION WAS PERFORMED AT THIS SITE. REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION REGARDING ROCK ELEVATIONS FOR GRS-IBS ABUTMENT BEARINGS.

ACCEPTANCE OF PRECAST GIRDERS:
THE FOLLOWING PROCEDURES HAVE BEEN ESTABLISHED FOR THE ACCEPTANCE OF PRECAST GIRDERS; SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. THE APPROVAL WILL COVER ONLY THE GENERAL DESIGN FEATURES, AND IN NO CASE SHALL THIS APPROVAL BE CONSIDERED TO COVER ERRORS OR OMISSIONS IN THE SHOP DRAWINGS. THE LOCAL AGENCY OR THEIR CONSULTANT HAS THE OPTION OF INSPECTING THE PRECAST UNITS DURING FABRICATION OR REQUIRING THE FABRICATOR TO FURNISH A CERTIFICATION OF CONTRACT COMPLIANCE AND SUBSTANTIATING TEST REPORTS. IN ADDITION, THE FOLLOWING REPORTS WILL BE REQUIRED.

- CERTIFIED MILL TEST REPORTS, INCLUDING RESULTS OF PHYSICAL TESTS ON THE PRESTRESSED STRANDS, AND REINFORCEMENT AS REQUIRED.
- TEST REPORTS ON CONCRETE CYLINDER BREAKS.

THE LOCAL AGENCY OR CONSULTANT MUST VERIFY AND DOCUMENT THAT DIMENSIONS OF THE UNITS WERE CHECKED AT THE JOB AND FOUND TO BE IN COMPLIANCE WITH THE SHOP DRAWINGS.

DIG-RITE:
THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE NAMES AND TELEPHONE NUMBERS OF UTILITY COMPANIES, EVEN IF ONLY REMOTELY INVOLVED WITH THIS PROJECT ARE SHOWN ON TITLE SHEET.

- ABBREVIATIONS:
- BRG = BEARING
 - CLR = CLEAR
 - CONST= CONSTRUCTION
 - DIA = DIAMETER
 - EB = END BENT
 - EF = EACH FACE
 - ELEV = ELEVATION
 - EQ = EQUAL
 - FF = FAR FACE
 - MAX = MAXIMUM
 - MIN = MINIMUM
 - NF = NEAR FACE
 - SPA = SPACES
 - SYMM = SYMMETRICAL
 - TYP = TYPICAL



AARON DANIEL MCVICKER
PE-2010019574

LINCOLN COUNTY,
MISSOURI

BRO-B057(20)
BRIDGE NO. 1315001

GENERAL NOTES &
QUANTITIES

CITY OF ELSBERRY - 5TH STREET
190496-000
10/15/2020

REVISIONS

ENGINEER: AARON DANIEL MCVICKER
DRAWN BY: JJB

CHECKED BY: DRB
FIELD BOOK NO.

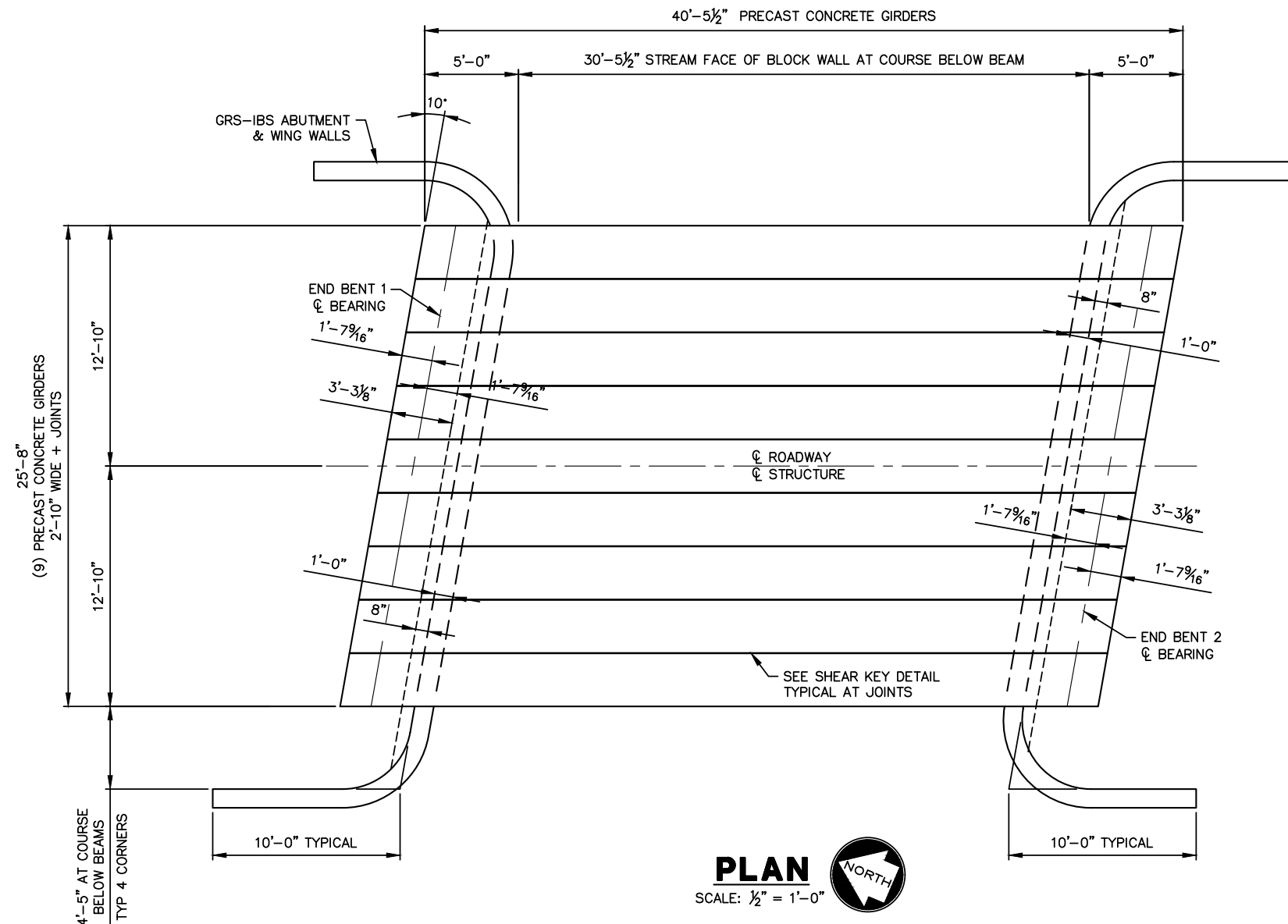
SHEET NO.
7 OF 21

NOTICE:
McClure Engineering Company waives any and all responsibility and liability for problems which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for problems which arise from failure to obtain and/or follow the engineers guidance with respect to any errors, omissions, inconsistencies, ambiguities, or conflicts which are alleged.

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253
EXPIRES: DECEMBER 31, 2020

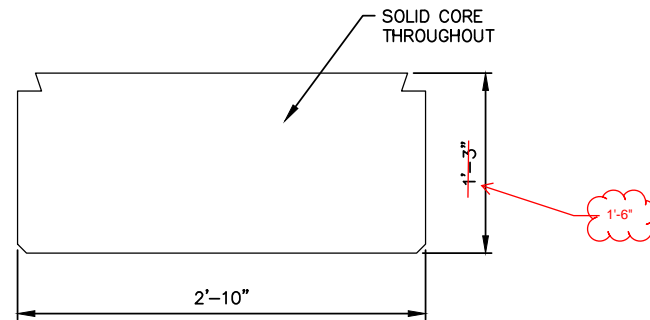
GENERAL NOTES

- HL-93 DESIGN LOAD
- CONVENTIONAL OR PRESTRESSED REINFORCEMENT MAY BE USED.
- GIRDER FABRICATOR SHALL PROVIDE LOAD RATING CALCULATIONS SEALED BY A MISSOURI PROFESSIONAL ENGINEER. RATINGS SHALL INCLUDE INVENTORY & OPERATING RATING FOR THE FOLLOWING TRUCKS.
HL-93
HS20-44
H20
3S2
M05
- GIRDER FABRICATOR TO PROVIDE DEAD LOAD CAMBER DIMENSION.
- GIRDER SHALL HAVE CONCRETE SLAB OVERLAY, SEE GRS-IBS WALL ELEVATION SHEETS.
- SUITABLE ANCHORAGE DEVICES FOR LIFTING GIRDERS MAY BE CAST IN GIRDERS PROVIDED THEY ARE SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER.
- END OF GIRDERS SHALL BE COATED WITH BITUMINOUS COATING.
- GIRDERS SHALL BE SOLID CORE, WITH NO VOIDS OR CHANNEL SHAPES.
- NON-SHRINK GROUT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS TO AVOID CRACKING.



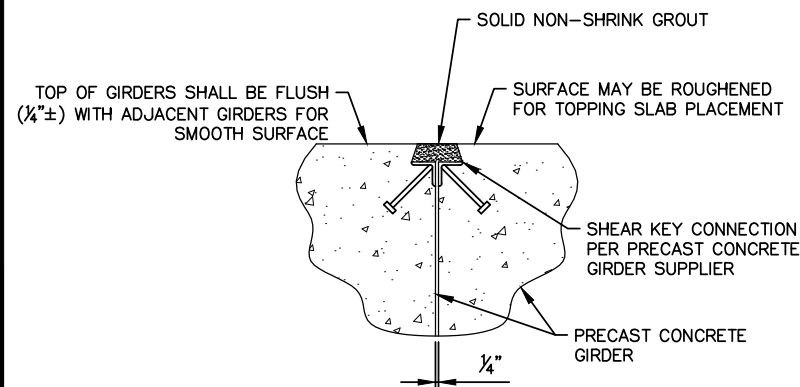
PLAN
SCALE: 1/2" = 1'-0"

- PLAN NOTES:**
- FABRIC NOT SHOWN FOR CLARITY GUARDRAIL NOT SHOWN FOR CLARITY.
 - DIMENSION TO GRS-IBS WALLS ARE SHOWN AT COURSE BELOW BEAM.
 - COORDINATE GUARDRAIL POST ANCHORS WITH GUARDRAIL DETAIL SHEETS.



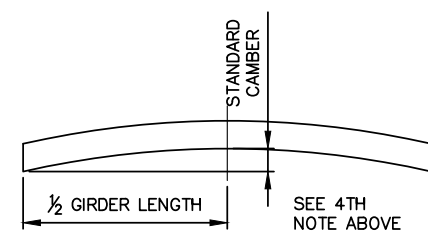
TYPICAL SECTION OF GIRDER

SCALE: 3/4" = 1'-0"



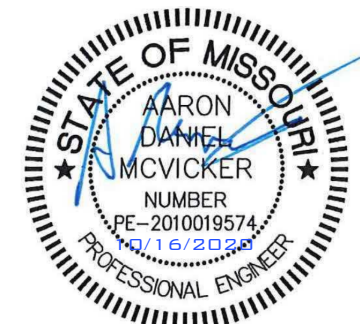
SHEAR KEY DETAIL

NO SCALE



TYPICAL SLAB CAMBER

NOT TO SCALE



AARON DANIEL MCVICKER
PE-2010019574

LINCOLN COUNTY,
MISSOURI

BRO-B057(20)
BRIDGE NO. 1315001

PRECAST GIRDER LAYOUT

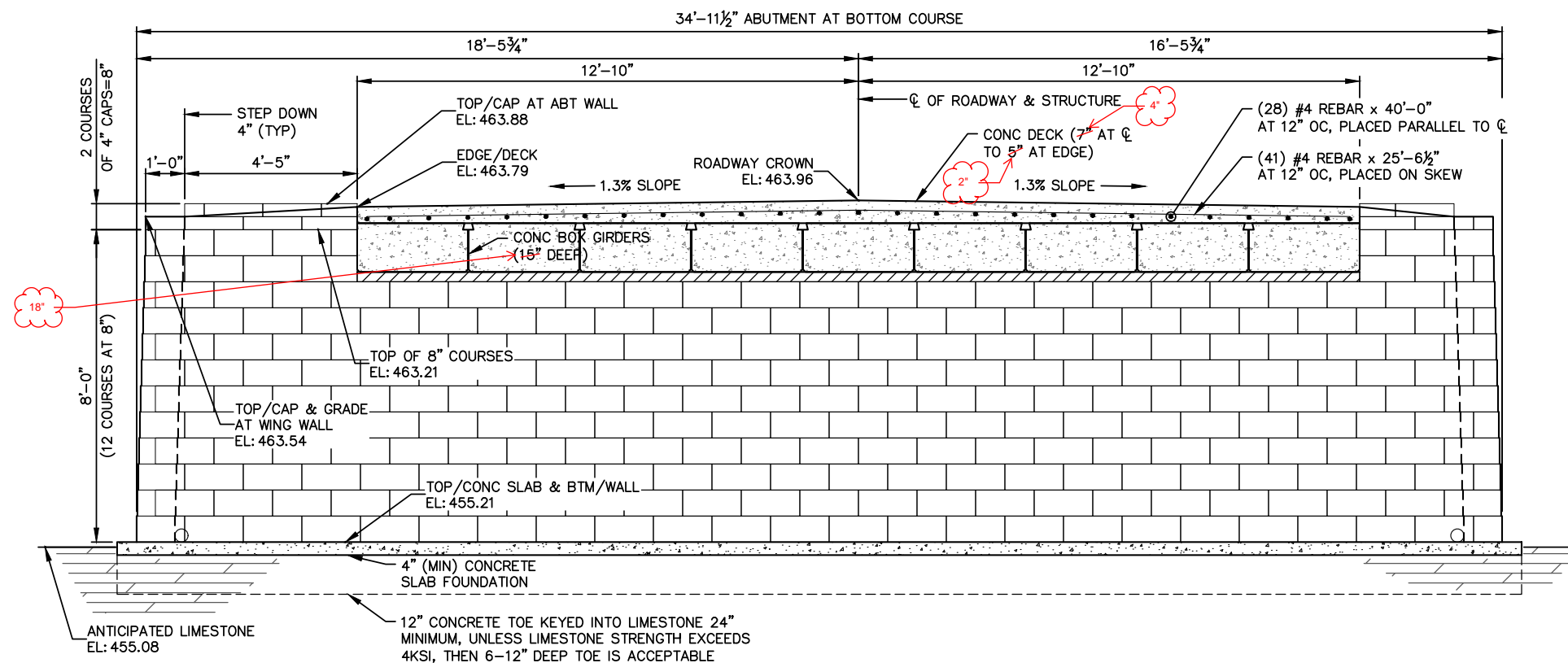
CITY OF ELSBERRY - 5TH STREET
190496-000
10/15/2020

REVISIONS

ENGINEER: DRB
DRAWN BY: JJB
CHECKED BY: DRB
FIELD BOOK NO.

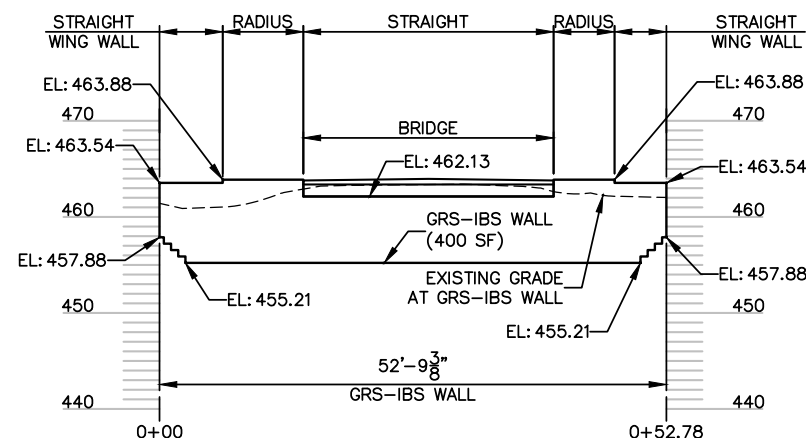
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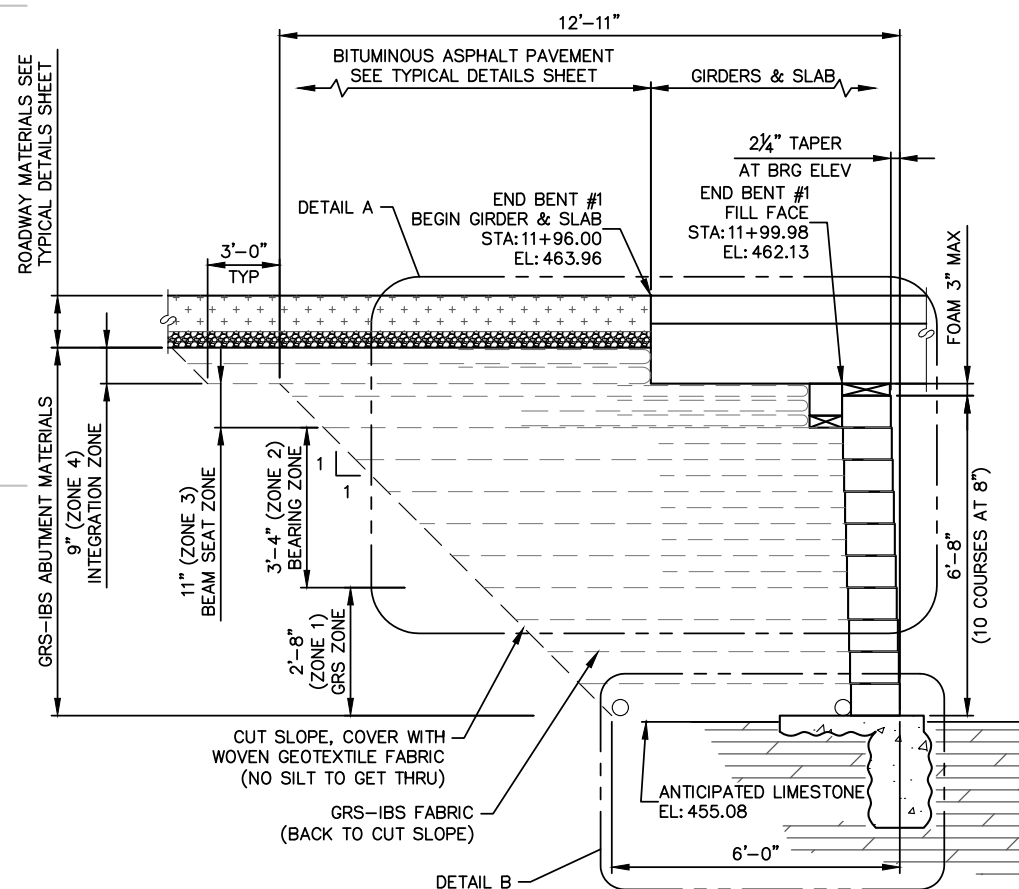


END BENT 1 GRS-IBS ABUTMENT WALL ELEVATION

- SHEET NOTES:
1. GRS-IBS = GEOSYNTHETIC REINFORCED SOIL-INTEGRATED BRIDGE SYSTEM.
 2. STATIONS SHOWN ARE ALONG C OF ROADWAY, SEE PLANS FOR SKEW.
 3. DIMENSIONS SHOWN ARE PERPENDICULAR OR PARALLEL TO C OF ROADWAY, SEE PLANS FOR SKEW.
 4. STOP GRS-IBS FABRIC AT CUT SLOPE IN ZONES 1, 2 & 3.
 5. FOR DETAILS NOT SHOWN ON THIS SHEET SEE SHEET 13.



BENT 1 GRS-IBS ROLLED OUT ELEVATION



END BENT 1 GRS-IBS WING WALL ELEVATION

K:\190496-000\06-DRAWINGS\STRUCTURAL\190496-000-S-RWAL-01.DWG
DATE: 10/15/2020
BY: JBASINGER
LAYOUT: LAYOUT(C)



AARON DANIEL MCVICKER
PE-2010019574

LINCOLN COUNTY,
MISSOURI

BRO-B057(20)
BRIDGE NO. 1315001

BENT 1 GRS-IBS WALL
ELEVATIONS

CITY OF ELSBERRY - 5TH STREET
190496-000
10/15/2020

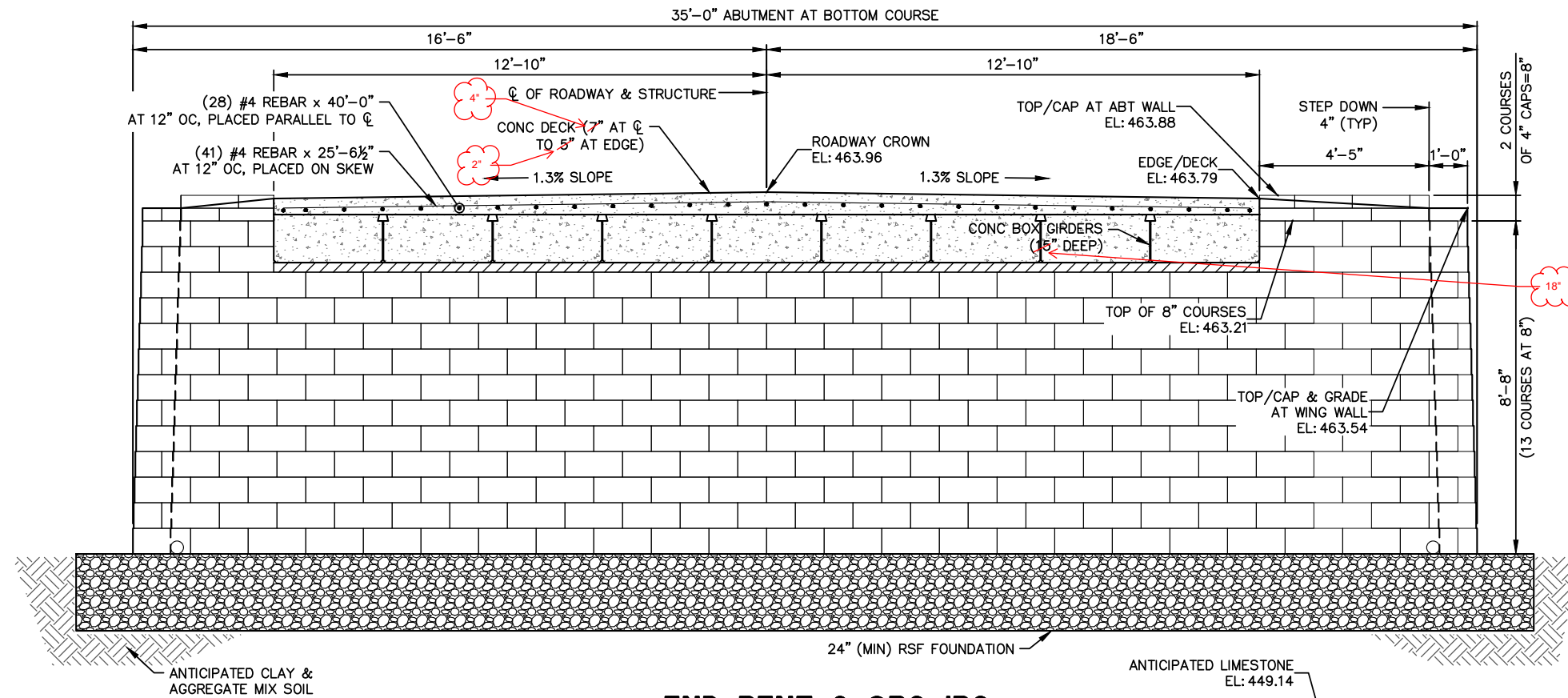
REVISIONS

ENGINEER
DRB
CHECKED BY
DRB

DRAWN BY
JJB
FIELD BOOK NO.

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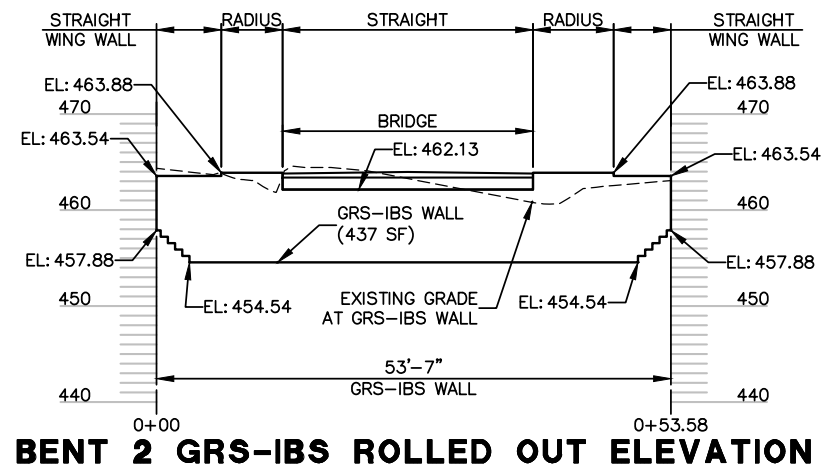
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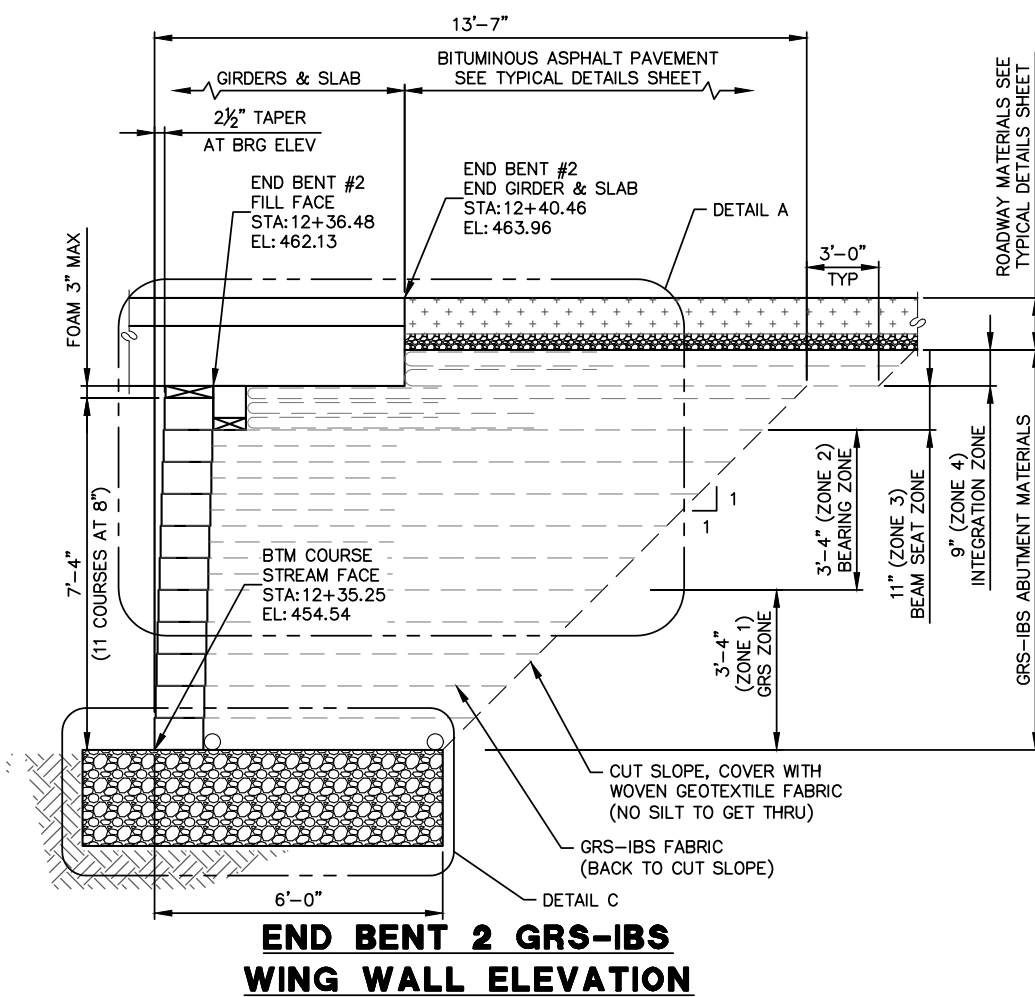
END BENT 2 GRS-IBS ABUTMENT WALL ELEVATION

SHEET NOTES:

1. GRS-IBS = GEOSYNTHETIC REINFORCED SOIL-INTEGRATED BRIDGE SYSTEM.
2. STATIONS SHOWN ARE ALONG ϕ OF ROADWAY, SEE PLANS FOR SKEW.
3. DIMENSIONS SHOWN ARE PERPENDICULAR OR PARALLEL TO ϕ OF ROADWAY, SEE PLANS FOR SKEW.
4. STOP GRS-IBS FABRIC AT CUT SLOPE IN ZONES 1, 2 & 3.
5. FOR DETAILS NOT SHOWN ON THIS SHEET SEE SHEET 13.



BENT 2 GRS-IBS ROLLED OUT ELEVATION



END BENT 2 GRS-IBS WING WALL ELEVATION

K:\190496-000\06-DRAWINGS\STRUCTURAL\190496-000-S-RWAL-01.DWG
DATE: 10/15/2020
BY: JBASINGER
LAYOUT: LAYOUT(1)



AARON DANIEL MCVICKER
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LINCOLN COUNTY,
MISSOURI

BRO-B057(20)
BRIDGE NO. 1315001

BENT 2 GRS-IBS WALL
ELEVATIONS

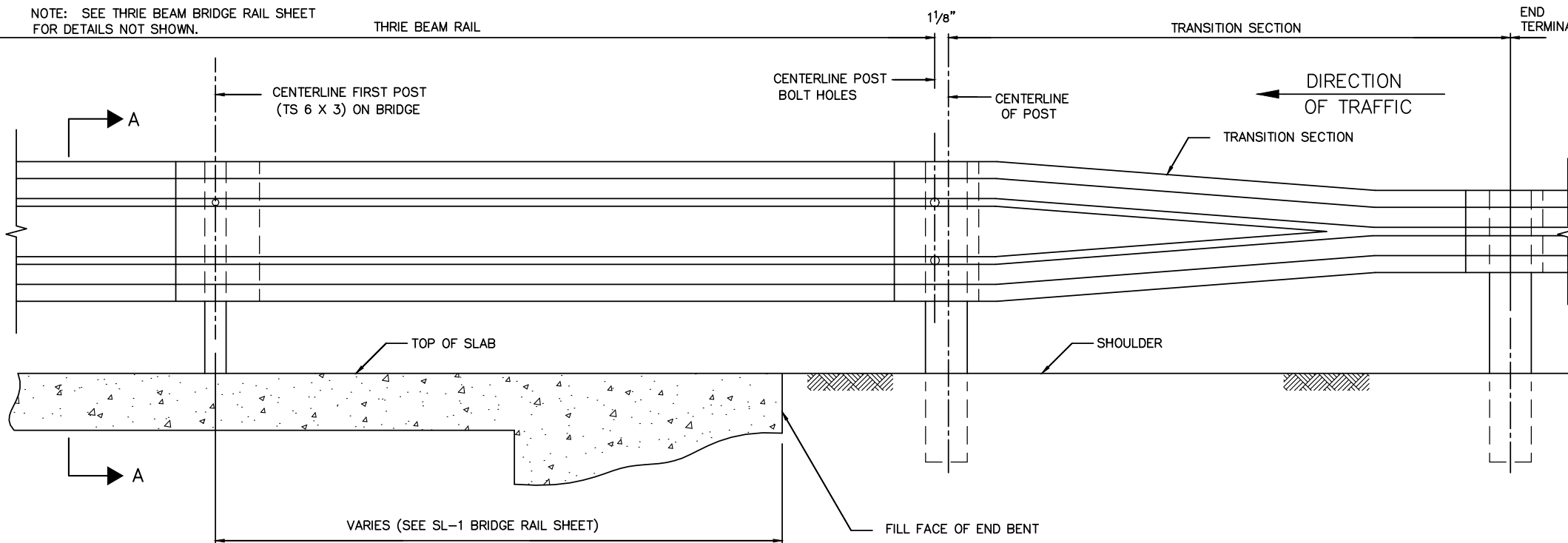
CITY OF ELSBERRY - 5TH STREET
190496-000
10/15/2020

REVISIONS

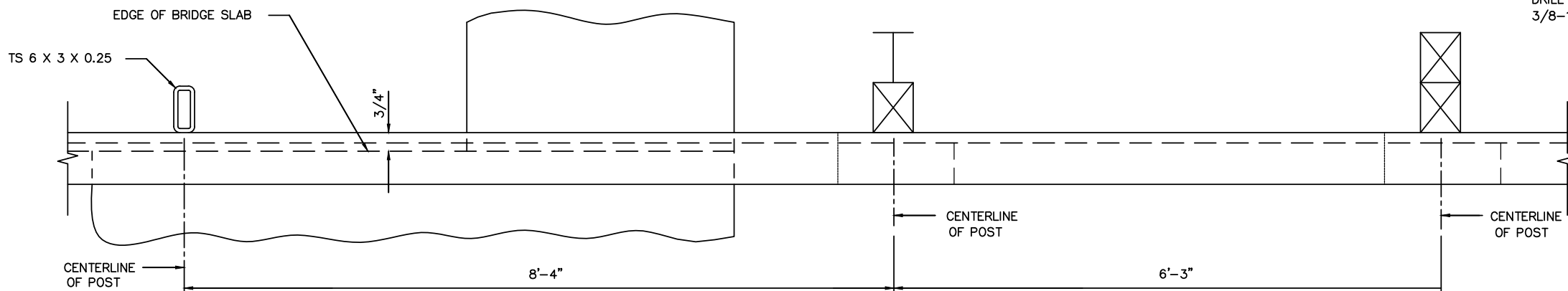
ENGINEER: AARON DANIEL MCVICKER
DRB: JJB
CHECKED BY: DRB
FIELD BOOK NO.

NOTE: SEE THRIE BEAM BRIDGE RAIL SHEET FOR DETAILS NOT SHOWN.

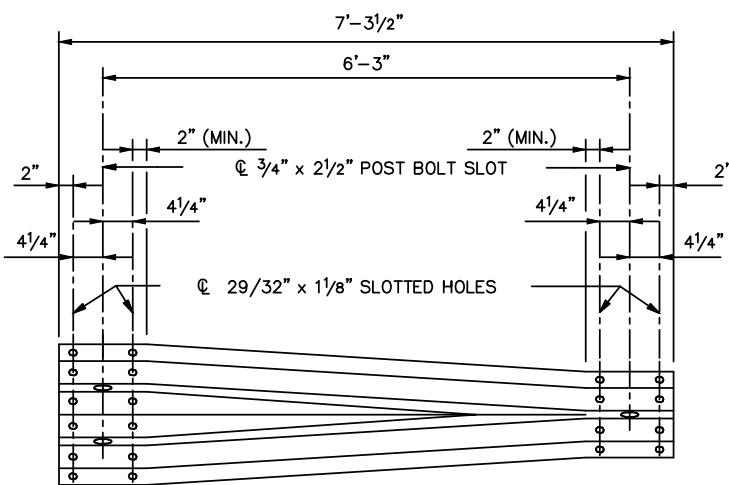
THRIE BEAM RAIL



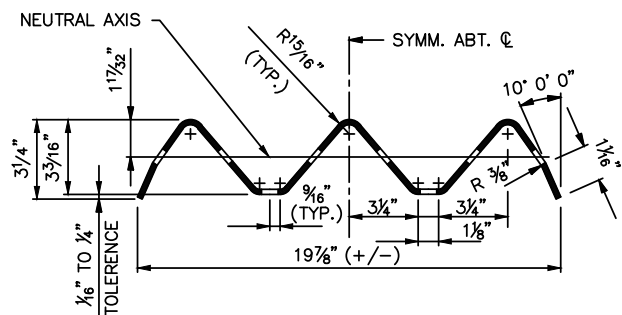
PART SECTION THRU SLAB AT END BENT



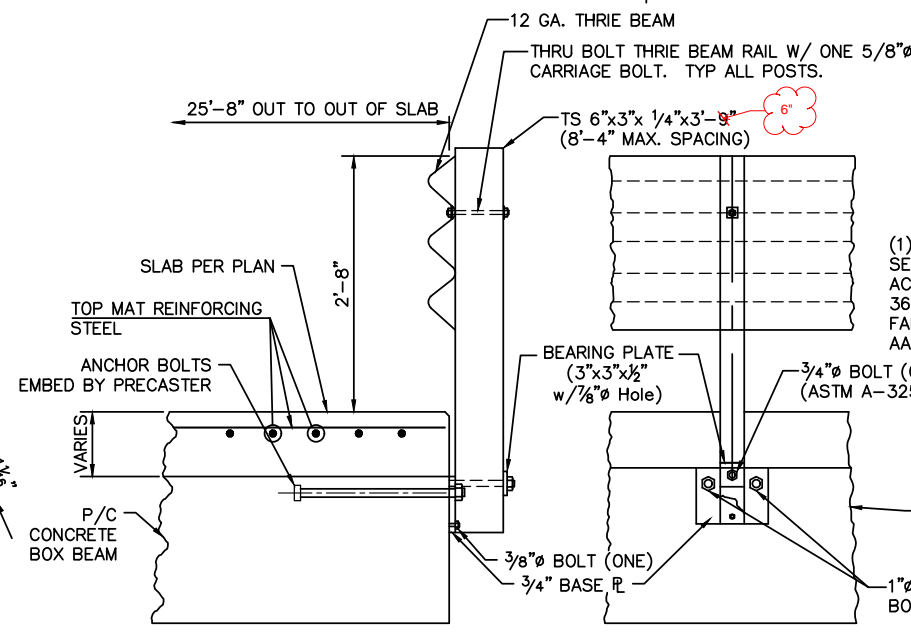
PLAN



TRANSITION SECTION



SECTION THRU THRIE BEAM RAIL



DETAIL AT SLAB

NOTE: THE 1" ANCHOR BOLT CONNECTIONS SHALL BE CALCULATED BY THE SUPPLIER TO PROVIDE THE REQUIRED TL-2 DESIGN STRENGTH. THE DESIGN SHALL BE SHOWN ON THE SHOP DRAWINGS WITH AN ENGINEER'S CERTIFICATION THAT THE DESIGN MINIMUM HAS BEEN MET.

THRIE BEAM BRIDGE RAILING

GENERAL NOTES:

DESIGN: CURRENT AASHTO SPECIFICATIONS.

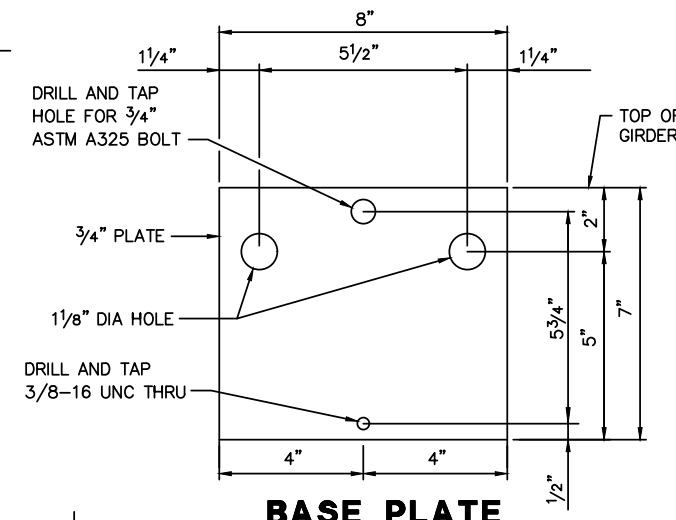
THE THRIE BEAM RAIL AND THE TRANSITION SECTION FOR THE BRIDGE ANCHOR SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE 2.

FOR PROTECTIVE COATING AND MATERIAL REQUIREMENTS, SEE SECTION 1040 OF THE STANDARD SPECIFICATIONS.

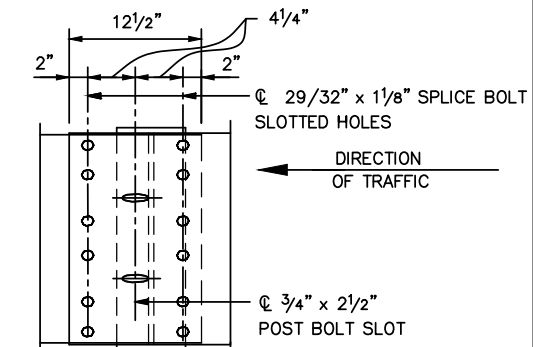
RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

USE 5/8" BUTTON-HEAD, OVAL SHOULDER BOLTS WITH HEX NUTS AT ALL SLOTS. (THICKNESS OF HEX NUTS = 3/8" MIN.)

ALL LAP SPLICES SHALL BE MADE IN THE DIRECTION OF TRAFFIC.



BASE PLATE



THRIE BEAM RAIL SPLICE AT POST

(1) THE CONTRACTOR MAY, AT HIS OPTION, FURNISH EQUIVALENT SECTIONS FABRICATED FROM MATERIAL MEETING, AND IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A709 GRADE 36 OR 50. THE SECTIONS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M111.



making lives better.

1901 Pennsylvania Drive
Columbia, MO 65202
P 573-814-1568

NOTICE:
McClure Engineering Company waives any and all responsibility and liability for problems which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for problems which arise from failure to obtain and/or follow the engineers guidance with respect to any errors, omissions, inconsistencies, ambiguities, or conflicts which are alleged.

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253
EXPIRES: DECEMBER 31, 2020

LINCOLN COUNTY,
MISSOURI

BRO-B057(20)
BRIDGE NO. 1315001

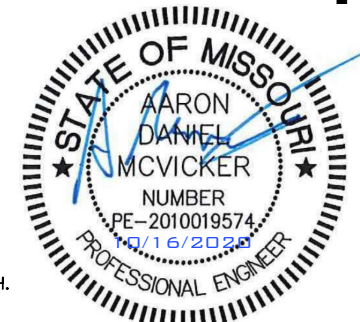
GUARDRAIL DETAILS 2

CITY OF ELSBERRY - 5TH STREET
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ENGINEER: AARON DANIEL MCVICKER
DRB: JJB
CHECKED BY: DRB
FIELD BOOK NO.

SHEET NO.
16 OF 21



AARON DANIEL MCVICKER
PE-2010019574

K:\190496-000\06-DRAWINGS\STRUCTURAL\190496-000-S-GRD-00.DWG DATE: 10/15/2020 LAYOUT: GUARDRAIL DETAILS 2 BY: JBASINGER

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.