

Addendum No. 1



ISSUED BY: Great River Engineering
2826 S. Ingram Mill Rd.
Springfield, Missouri 65804
(417) 886-7171

DATE: January 25, 2024

FOR: Shelbina Lake Bridge Replacement and Spillway Improvements
GRE Project # 4514

The attached revisions hereby supersede any and all data with which they may conflict as indicated on the Drawings, Specifications and related documents issued in the original set and any previous addendums. Each trade is responsible for changes in its work caused by changes in the work of other trades. This addendum is a part of and shall be attached to the original set of plans and specifications for the work.

Notification: There have been no changes or addendums prior to this addendum.

CHANGES:

1. Contract Documents - Bid Form

- a. Bid Form quantities changes as indicated below:
 - i. Item 8 – “Guardrail Type A” quantity has been changed to 37.5 L.F. per a manufacturer’s question.
 - ii. Item 32 – “Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50W” – Changed to “Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50W or Grade 50 (Galvanized)”. A note requesting bidders to indicate the finish of the beams being bid was included on the Bid Form.
 - iii. Item 33 – “Bridge Guard Rail (Thrie Beam)” quantity has been changed to 180 L.F. per a manufacturer’s question.
- b. JSP changes as indicated below:
 - i. Existing JSP 53. Buy America is replaced with the following:
“106.9 Buy America Requirements
Buy America Requirements are waived if the total amount of Federal financial assistance applied to the project, through awards or subawards, is below \$500,000.

106.9.1 Buy America Requirements for Iron and Steel.

On all federal-aid projects, the contractor’s attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured, from the initial melting stage through the application of coatings, in the USA except for “minimal use” as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. Under a general waiver from FHWA the use of pig iron and processed, pelletized, and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

106.9.2 Buy America Requirements for Iron and Steel for Manufactured items.

A manufactured item will be considered iron and steel if it is “predominantly” iron or steel. Predominantly iron or steel means that the cost of iron or steel content of a product is more than 50 percent of the total cost of all its components.

106.9.2 Any sources other than the USA as defined will be considered foreign. The required domestic manufacturing process shall include formation of ingots and any subsequent process. Coatings shall include any surface finish that protects or adds value to the product.

106.9.3 "Minimal use" of foreign steel, iron or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one percent (0.1 percent) of the total contract cost or \$2,500.00, whichever is greater. If foreign steel, iron, or coating processes are used, invoices to document the cost of the foreign portion, as delivered to the project, shall be provided and the engineer's written approval obtained prior to placing the material in any work.

106.9.4 Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000. The AASHTO Product Evaluation and Audit Solutions compliance program verifies that all steel and iron products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and is an acceptable standard per 23 CFR 635.410(d). AASHTO Product Evaluation and Audit Solutions compliant suppliers will not be required to submit step certification documentation with the shipment for some selected steel and iron materials. The AASHTO Product Evaluation and Audit Solutions compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

106.9.4.1 Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies the following. That all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

106.9.4.2 Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the engineer and retained for a period of 3 years after the last reimbursement of the material.

106.9.4.3 Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America

Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

106.9.5 When permitted in the contract, alternate bids may be submitted for foreign steel and iron products. The award of the contract when alternate bids are permitted will be based on the lowest total bid of the contract based on furnishing domestic steel or iron products or 125 percent of the lowest total bid based on furnishing foreign steel or iron products. If foreign steel or iron products are awarded the contract, domestic steel or iron products may be used; however, payment will be at the contract unit price for foreign steel or iron products.

106.9.6 Buy America Requirements for Construction Materials other than iron and steel materials. Construction materials means articles, materials, or supplies that consist of only one of the items listed. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. Upon request by the engineer, the contractor shall submit a domestic certification for all construction materials listed that are incorporated into the project.

- (a) Non-ferrous metals
- (b) Plastic and Polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)
- (c) Glass (including optic glass)
- (d) Fiber optic cable (including drop cable)
- (e) Optical fiber
- (f) Lumber
- (g) Engineered wood
- (h) Drywall

106.9.6.1 Minimal Use allowance for Construction Materials other than iron or steel.

"The total value of the non-compliant products is no more than the lesser of \$1,000,000 or 5% of total applicable costs for the project." The contractor shall submit to the engineer any non-domestic materials and their total material cost to the engineer. The contractor and the engineer will both track these totals to assure that the minimal usage allowance is not exceeded.

106.9.7 Buy America Requirements for Manufactured Products.

Manufactured products means:

- (a) Articles, materials, or supplies that have been:
 - (i) Processed into a specific form and shape; or
 - (ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.
- (b) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under § 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under § 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.

106.9.7.1 Manufactured products are exempt from Buy America requirements. To qualify as a manufactured product, items that consist of two or more of the listed construction materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials.

106.9.7.2 Manufactured items are covered under a general waiver to exclude them from Buy America Requirements. To qualify for the exemption the components must comprise of 55% of the value of materials in the item. The final assembly must also be performed domestically.”

2. Plans

- a. SHEET C2 – Roadway quantity “Type A Guardrail” was changed to 37.5 L.F.
- b. SHEET C3 – Plan view was updated to reflect changes made to guardrail.
- c. SHEET S2 – Estimated Bridge Quantities and Design Unit Stresses “Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50W” changed to “Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50W or Grade 50 (Galvanized)”. Estimated bridge quantity “Bridge Guardrail (Thrie Beam)” was changed to 180 L.F.
- d. SHEET S6 – General Notes were updated to include the option of using Grade 50 (Galvanized) as an alternative to the Grade 50W for the Fabricated Structural Low Alloy Steel (I-Beam).
- e. SHEET S7 - General Notes were updated to include the option of using Grade 50 (Galvanized) as an alternative to the Grade 50W for the Fabricated Structural Low Alloy Steel (I-Beam).
- f. SHEET S9 – Guardrail layout and labels were changed in the plan view.

Attached Supplemental Documents

- Revised Bid Form
- Revised Sheets C2, C3, S2, S6, S7, and S9

There are no other clarifications or changes included with this Addendum.



CONTRACTOR NAME: _____

ADDRESS LINE 1: _____

ADDRESS LINE 2: _____

PHONE NUMBER: _____

EMAIL: _____

DATE: _____

City of Shelbina
 Golf Course Rd
 Bridge No. 3965002

ITEMIZED BID FORM

LINE	ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS						
1	201	CLEARING AND GRUBBING	ACRE	0.2	_____	_____
2	203	UNCLASSIFIED EXCAVATION (ROADWAY)	C.Y.	21	_____	_____
3	203	EMBANKMENT IN PLACE W/COMPACTION	C.Y.	8	_____	_____
4	502	8 IN. PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	252	_____	_____
5	304	4 IN. ROLLED AGGREGATE BASE (TYPE 1 OR 5)	S.Y.	252	_____	_____
6	304	5 IN. ROLLED AGGREGATE (GRAVEL DRIVEWAY)	S.Y.	18	_____	_____
7	606	TRANSITION SECTION, 6.5 FT. POSTS	EACH	2	_____	_____
8	606	GUARDRAIL TYPE A	L.F.	37.5	_____	_____
9	606	END ANCHOR	EACH	4	_____	_____
10	616	CONSTRUCTION SIGNS	S.F.	21.5	_____	_____
11	616	TYPE III MOVEABLE BARRICADE	EACH	5	_____	_____
12	618	MOBILIZATION	L.S.	1	_____	_____
13	805	SEEDING	ACRE	0.2	_____	_____
14	806	SILT FENCE	L.F.	189	_____	_____
					<i>ROADWAY ITEMS SUBTOTAL</i>	_____
SPILLWAY REPAIR ITEMS						
15		CLASS B CONCRETE FIBER REINFORCED	C.Y.	120	_____	_____
16		#5 BARS 6" LONG ON 8' CENTERS	EACH	104	_____	_____
17		#5 TIE BARS 30" LONG ON 30" CENTERS FOR SLAB REPLACEMENT	EACH	70	_____	_____
18		CLEANING	S.Y.	788	_____	_____
19		REMOVAL OF DELAMINATED SECTIONS OF CONCRETE	S.Y.	12.3	_____	_____
20		CONCRETE BONDING AGENT	GAL.	35	_____	_____
21		MASONRY CONCRETE SKIM COAT OVER ROCK WALL 2"	S.Y.	59	_____	_____
22		MASONRY CONCRETE SKIM COAT OVER ENERGY DISSIPATING WALL 1"	S.Y.	4	_____	_____
23		ANCHORING EPOXY FOR TIE BARS	L.S.	1	_____	_____
24		REMOVAL OF SLAB CONCRETE	S.Y.	152	_____	_____
25		CONCRETE SAWING OF 4" OVERLAY 8' X 8' SQUARES	L.F.	1990	_____	_____
26		CRACK FILLER ON OVERLAY AND SLABS	L.F.	2150	_____	_____
27		CONCRETE SAWING OF SLABS	L.F.	160	_____	_____
28		4" SCHEDULE 40 PIPE	L.F.	20	_____	_____
					<i>SPILLWAY REPAIR ITEMS SUBTOTAL</i>	_____



City of Shelbina
 Golf Course Rd
 Bridge No. 3965002

CONTRACTOR NAME: _____
 ADDRESS LINE 1: _____
 ADDRESS LINE 2: _____
 PHONE NUMBER: _____
 EMAIL: _____
 DATE: _____

ITEMIZED BID FORM

LINE	ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
BRIDGE ITEMS						
29	216	PARTIAL REMOVAL OF BRIDGES	L.S.	1	_____	_____
30	703/706	REBUILD END BENT BACK WALLS	L.S.	1	_____	_____
31	703	SLAB ON STEEL	S.Y.	135	_____	_____
32	712	FABRICATED STRUCTURAL LOW ALLOY STEEL (I-BEAM) A709, GRADE 50W OR GRADE 50 (GALVANIZED)	L.F.	13160	_____	_____
PLEASE INDICATE WHICH OF THE FOLLOWING I-BEAMS ARE BEING BID: [] GRADE 50W [] GRADE 50 (GALVANIZED)						
33	713	BRIDGE GUARD RAIL (THRIE BEAM)	L.F.	180	_____	_____
34	716	PLAIN NEOPRENE BEARING PAD ASSEMBLY	EACH	24	_____	_____
<i>BRIDGE ITEMS SUBTOTAL</i>						_____
TOTAL CONTRACT						_____

Addenda

Signature

1 _____

2 _____

3 _____

GENERAL NOTES

THE CONTRACTOR SHALL FOLLOW THE JOB SPECIAL PROVISIONS FOR THIS PROJECT. FOR ITEMS NOT DIRECTLY COVERED IN THE JOB SPECIAL PROVISIONS THE CONTRACTOR SHALL FOLLOW THE SPECIFICATIONS AS STATED IN THE "MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION," 2023 EDITION, AND CURRENT SUPPLEMENTAL SPECIFICATION REVISIONS.

PERMANENT SIGNING & MARKING

ALL ROADSIDE SIGNS, GUIDEPOSTS, AND MARKERS SHALL REMAIN THE PROPERTY OF THE CITY AND THOSE REMOVED WITHIN THE PROJECT AREA SHALL BE STACKED ON SITE FOR PICKUP BY COUNTY FORCES.

TEMPORARY SIGNING

TEMPORARY SIGNING AND MARKING SHALL REMAIN IN PLACE AT ALL TIMES DURING CONSTRUCTION. TEMPORARY SIGNING SHALL BE KEPT CLEAN AND VISIBLE THROUGH OUT CONSTRUCTION. FAILURE TO DO SO WILL RESULT IN WORK STOPPAGE.

UTILITIES

PUBLIC AND PRIVATE UTILITY FACILITIES SHALL BE MOVED OR ADJUSTED PRIOR TO CONSTRUCTION AS NECESSARY BY THE OWNERS TO FIT THE CONSTRUCTION UNLESS NOTED ON THE PLANS OR IN THE PROPOSAL.

THE INFORMATION SHOWN ON THE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

CONTRACTOR SHALL CONTACT MISSOURI ONE CALL AT 1-800-344-7483 (DIG-RITE), 811 OR MO1CALL.COM AT LEAST TEN (10) DAYS PRIOR TO BEGINNING CONSTRUCTION.

Survey Control Point Table				
Point #	Northing	Easting	Elevation	Description
1	1417693.2560	1768936.8566	722.09	CP 1 60D
2	1417817.5659	1768930.5129	722.52	CP 2 60D
3	1417892.5569	1768816.6590	709.73	CP3 60D
4	1417772.3542	1768707.1784	719.78	CP4 60D
5	1417681.6729	1768452.8170	719.09	CP5 MAG NAIL

HORIZONTAL COORDINATES ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983, CENTRAL ZONE

BENCHMARK DATA

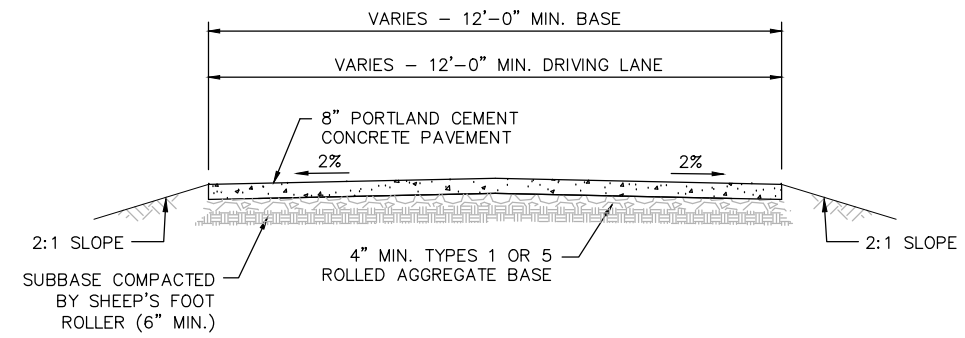
BM - SQUARE CUT IN CONCRETE AT SW CORNER OF CONCRETE PAD SOUTH OF GOLF CART OFFICE.

ELEVATION = 725.08'

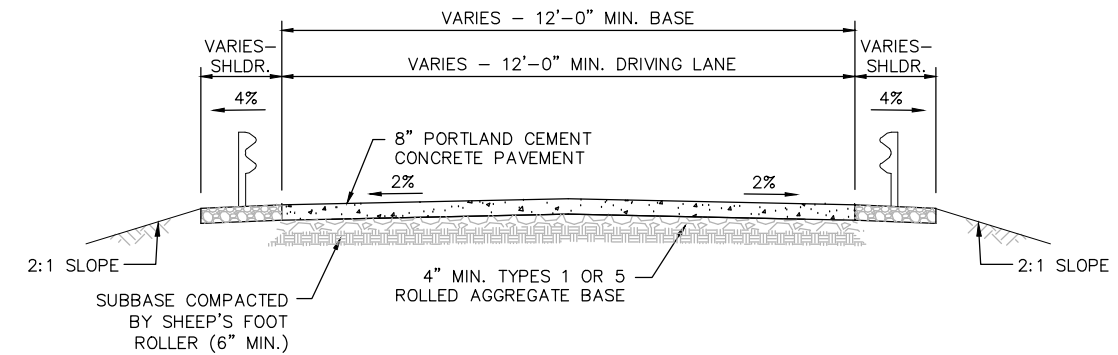
BM - SQUARE CUT IN CONCRETE ON SW WING WALL OF EXISTING BRIDGE AT PI OF WINGWALL.

ELEVATION = 718.06'

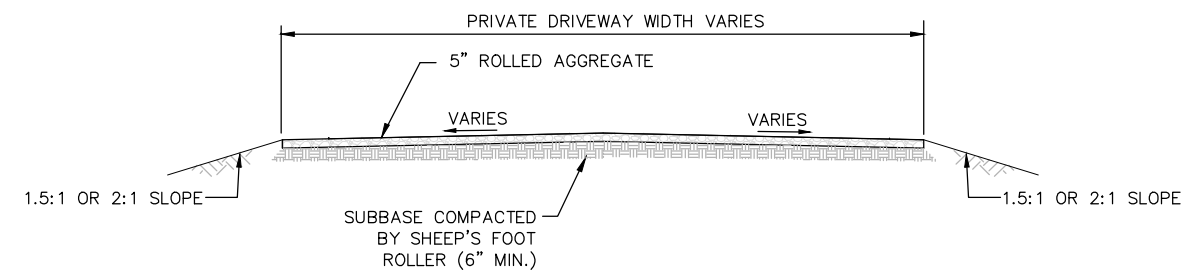
(VERTICAL DATUM: NAVD88)



TYPICAL CONCRETE PAVEMENT SECTION



TYPICAL CONCRETE PAVEMENT W/ GUARDRAIL SECTION



TYPICAL GRAVEL DRIVEWAY SECTION

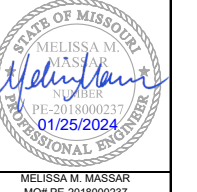
ROADWAY QUANTITIES

ITEM	TOTAL	UNITS
CLEARING AND GRUBBING	0.2	ACRE
UNCLASSIFIED EXCAVATION (ROADWAY)	21	CU. YARD
EMBANKMENT IN PLACE WITH COMPACTION	8	CU. YARD
8 IN. PORTLAND CEMENT CONCRETE PAVEMENT	252	SQ. YARD
4 IN. ROLLED AGGREGATE BASE (TYPE 1 OR 5)	252	SQ. YARD
5 IN. ROLLED AGGREGATE (GRAVEL DRIVEWAY)	18	SQ. YARD
TRANSITION SECTION	2	EACH
TYPE A GUARDRAIL	37.5	LIN. FOOT
GUARDRAIL END SECTION	4	EACH
CONSTRUCTION SIGNS	63	SQ. FOOT
TYPE III MOVEABLE BARRICADE	8	EACH
MOBILIZATION	1	LUMP SUM
SEEDING	0.2	ACRE
SILT FENCE	189	LIN. FOOT



Date	1/24/2024
Revision/Issue	QUANTITY CHANGED
No.	1

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

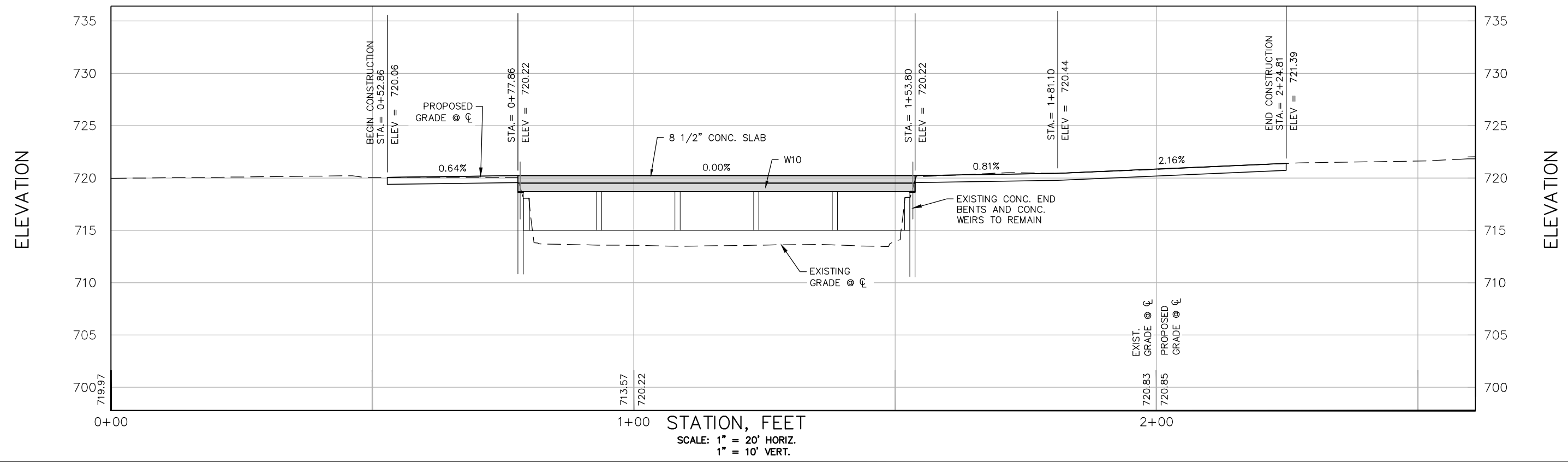
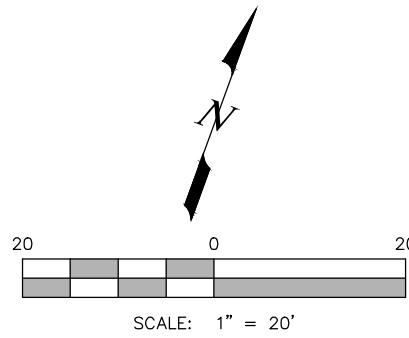
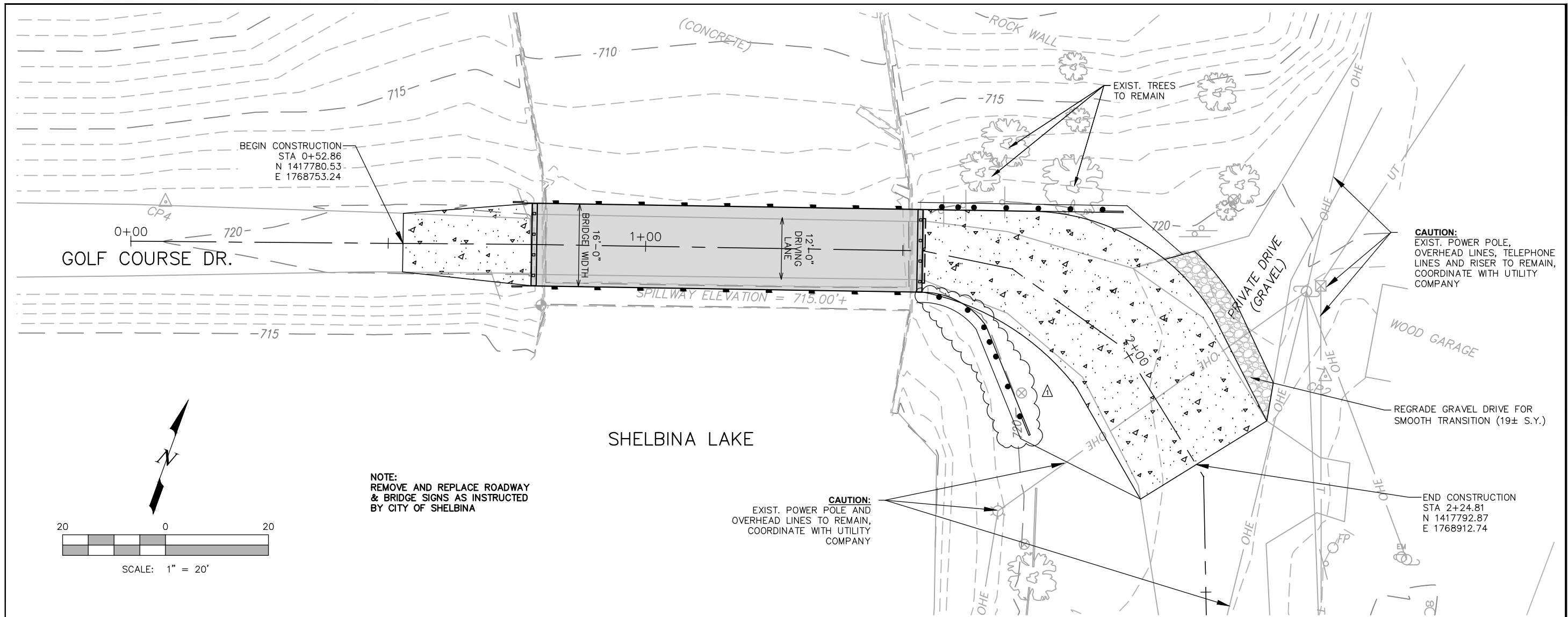


MELISSA M. MASSAR
MO# PE-2018000237

GOLF COURSE DR. BRIDGE #39650021
CITY OF SHELBYNA, MISSOURI
GENERAL NOTES, QTYs. & TYP. SECTIONS

CHECKED BY:	MM
DRAWN BY:	KFB
JOB NUMBER:	4514
FILE NAME:	4514_Civil
SCALE:	NA
ISSUE DATE:	2024-01-25
SHEET NUMBER:	C2

C2



25 YEARS EST. 1997

Missouri State Certificate of Authority Numbers:
 Engineering: 2000150685, Land Surveying: 2010101476,
 Landscape Architecture: 2020102673

Date	1/24/2024
Revision/Issue	GUARDRAIL LAYOUT CHANGED
No.	1

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

MELISSA M. MASSAR
 MISSOURI PROFESSIONAL ENGINEER
 NUMBER: PE-2018000237
 DATE: 01/25/2024
 MISSOURI PROFESSIONAL ENGINEER
 MO# PE-2018000237

GOLF COURSE DR. BRIDGE #39650021
CITY OF SHELBYNA, MISSOURI
ROADWAY PLAN & PROFILE

Copyright © 2023 by Great River Engineering
 CHECKED BY: MMM
 DRAWN BY: KFB
 JOB NUMBER: 4514
 FILE NAME: 4514_Civil
 SCALE: NOTED
 ISSUE DATE: 2024-01-25
 SHEET NUMBER:

C3

GENERAL NOTES:

DESIGN SPECIFICATIONS:

2020 A.A.S.H.T.O. LRFD Bridge Design Specifications (9th edition)
Seismic Performance Category 'A'.

DESIGN LOADING:

Vehicular = HL-93
Future Wearing Surface = 35 lb//sf (Min.)
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Continuous Non-Composite for dead load.
Continuous Composite for live load.

DESIGN UNIT STRESSES:

Class B Concrete (Substructure) $f'c = 3,000$ psi
Class B-2 Concrete (Superstructure) $f'c = 4,000$ psi
Reinforcing Steel (Grade 60) $fy = 60,000$ psi
Structural Steel (ASTM A709 Grade 50W or Grade 50 (Galvanized)) $fy = 50,000$ 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 3/4" diameter ASTM F3125 Grade A325 Typ 3 bolts and 13/16" 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 Traffic Management plan for traffic control.

Hydrologic Data	
Drainage Area	= 2.4 sq. mi.
Design Flood Frequency	= 200 years
Design Flood Discharge	= 2,700 cfs
Design Flood (D.F.) Elevation	= 718.6 feet
Base Flood (100-year)	
Base Flood Elevation	= 717.8 feet
Base Flood Discharge	= 2,400 cfs
Estimated Backwater	= 0 feet
Average Velocity Thru Opening	= 8.5 ft/s
Freeboard (50-year)	
Freeboard	= 1.3 feet
Roadway Overtopping	
Overtopping Flood Discharge	= 3,100 cfs
Overtopping Flood Frequency	= 500 years
Overtopping Flood Elevation	= 720.2 feet

Estimated Bridge Quantities		
ITEM	TOTAL	UNITS
Partial Removal of Bridges	1	lump sum
Rebuild End Bent, Back Walls	1	lump sum
Slab on Steel	135	sq. yard
Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50W or Grade 50 (Galvanized)	13,160	pound
Bridge Guardrail (Thrie Beam)	180	linear foot
Plain Neoprene Bearing Pad Assembly	24	each

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	32
Reinforcing Steel (Epoxy)	pound	8,820

the table of estimated quantities for slab on steel represents the quantities used by the engineer 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 transversally from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). payment for 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 shown on the plans and in accordance with Section 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.

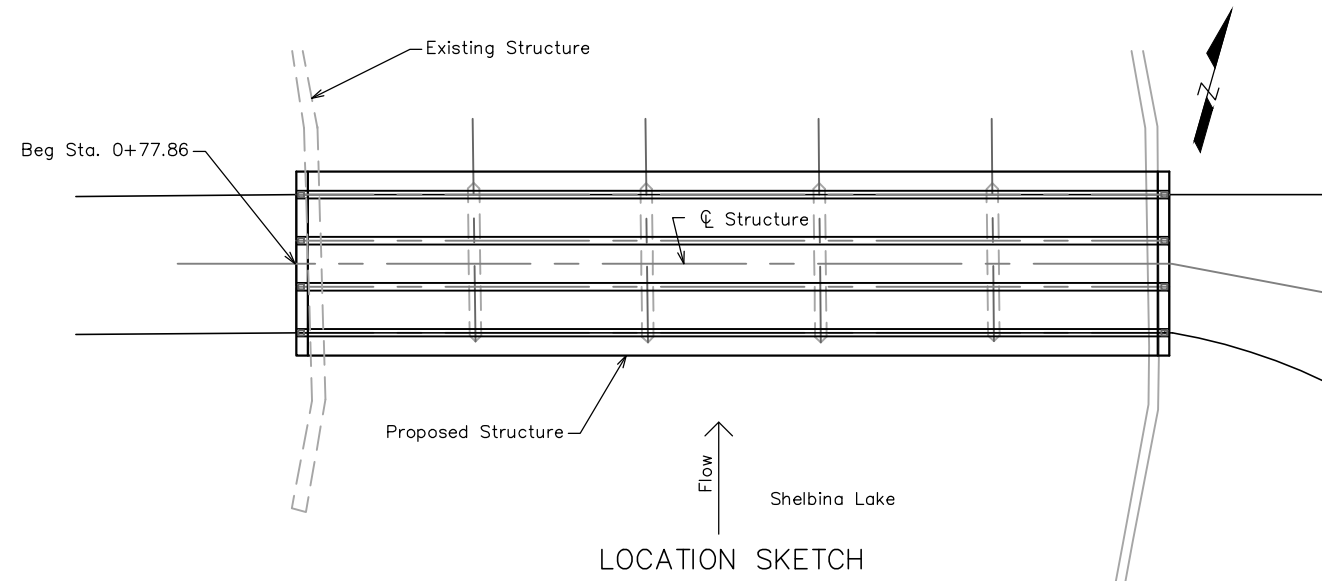
Slab shall be Cast-In-Place with conventional forms or Stay-In-Place corrugated steel forms.

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with Grade Requirement and Coating Designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec. 108.

Corrugations of Stay-In-Place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of steel beams. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch and each end Form supports shall be placed in direct contact with the top surface of the steel beam. Drilling holes in the steel beam will not be permitted. All steel fabrication and construction shall be in accordance with Sections 1080 and 712. Certified field welders will not be required for welding of form supports.

The design of Stay-In-Place corrugated steel forms is per manufacturer's which shall be in accordance with Sec. 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for steel beam loading.



Note: Drawing not to scale. Follow dimensions.

EST. 1972

Great River Engineering - Missouri State Certificate of Authority Numbers:
Engineering: 2000150685, Land Surveying: 2001011476,
Landscape Architecture: 2007016973

No.	Revision/Issue	Date
1	QTY. AND DESCRIPTION CHANGED	1/24/2024

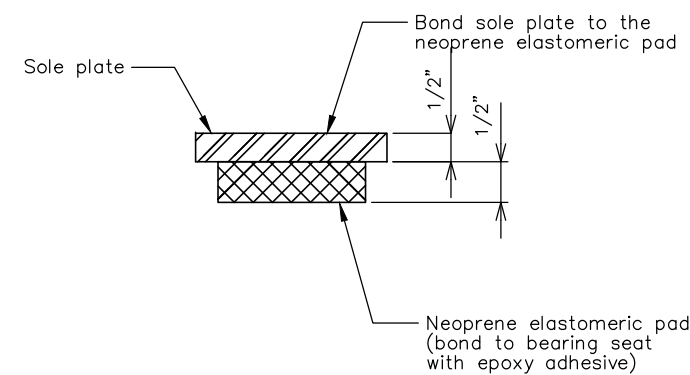
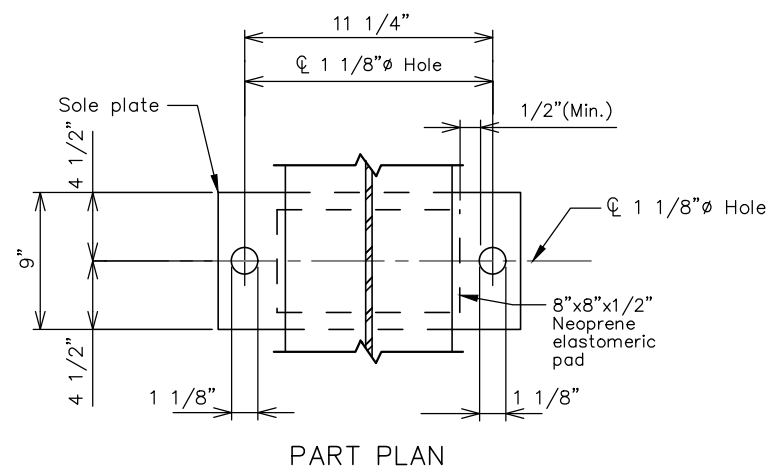
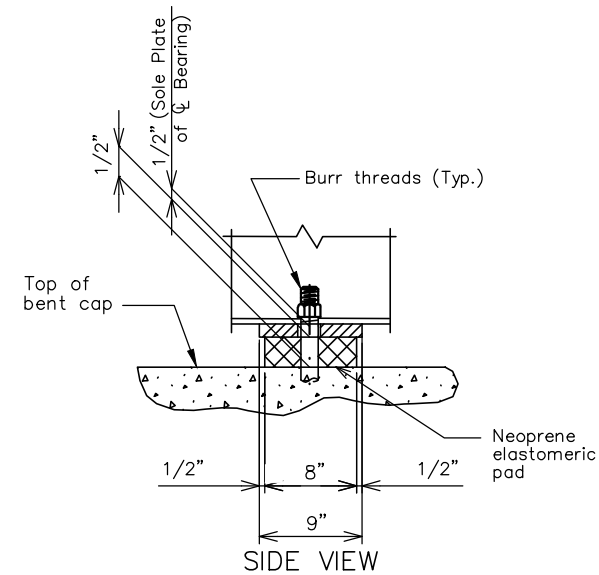
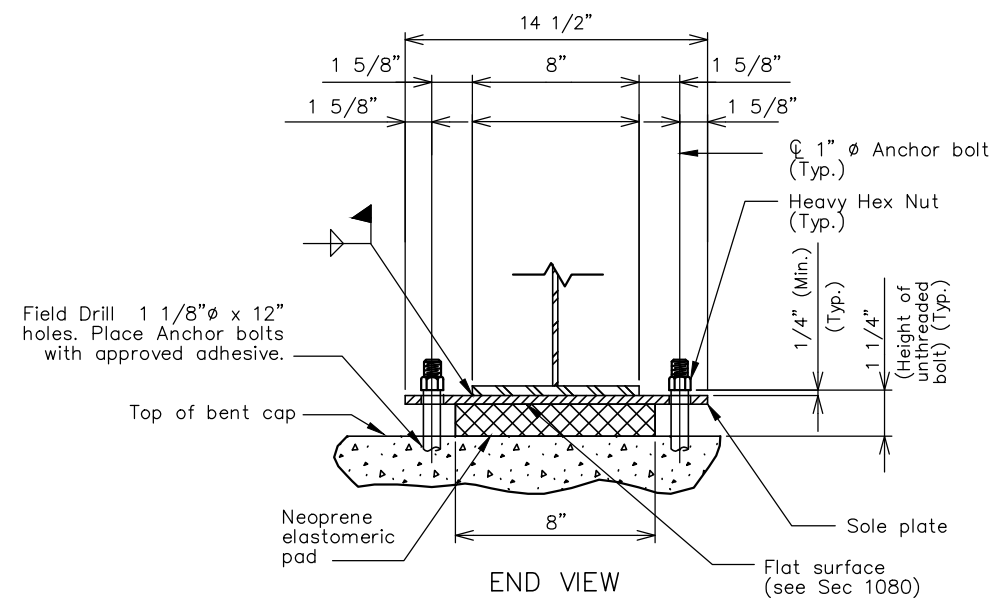
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MELISSA M. MASSAR
MO# PE-2018000237

GOLF COURSE DR. BRIDGE #39650021
CITY OF SHELBYNA, MISSOURI

ESTIMATED QUANTITIES

Copyright © 2022 by Great River Engineering
CHECKED BY: MMM
DRAWN BY: KFB
JOB NUMBER: 4514
FILE NAME: 4514_Structural
SCALE:
ISSUE DATE: April, 2022
SHEET NUMBER:
S2



PLAIN NEOPRENE BEARING PAD ASSEMBLY

General Notes:

Anchor bolts shall be 1" ϕ ASTM F1554 Grade 55 bolts and shall extend 12" into the concrete with ASTM A563 Grade A Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided.

Anchor bolts and heavy hex nuts shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with Sec. 1081.

Neoprene Elastomeric Pads shall be 60 durometer.

Structural steel for sole plate shall be ASTM A709 Grade 50W and shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils.

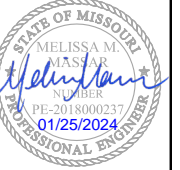
Galvanized Alternative:
Structural steel for sole plate shall be ASTM A709 Grade 50 (Galvanized) and shall be galvanized in accordance with ASTM A123 and Sec 1081. No additional payment will be made for galvanizing. All costs associated with galvanizing beams is to be included in the cost of the beams.

Plain Neoprene Bearing Pad Assembly shall be in accordance with Sec. 716.

Note: Drawing not to scale. Follow dimensions.

Date	1/24/2024
Revision/Issue	ADDED NOTE FOR GALVANIZED ALT.
No.	1

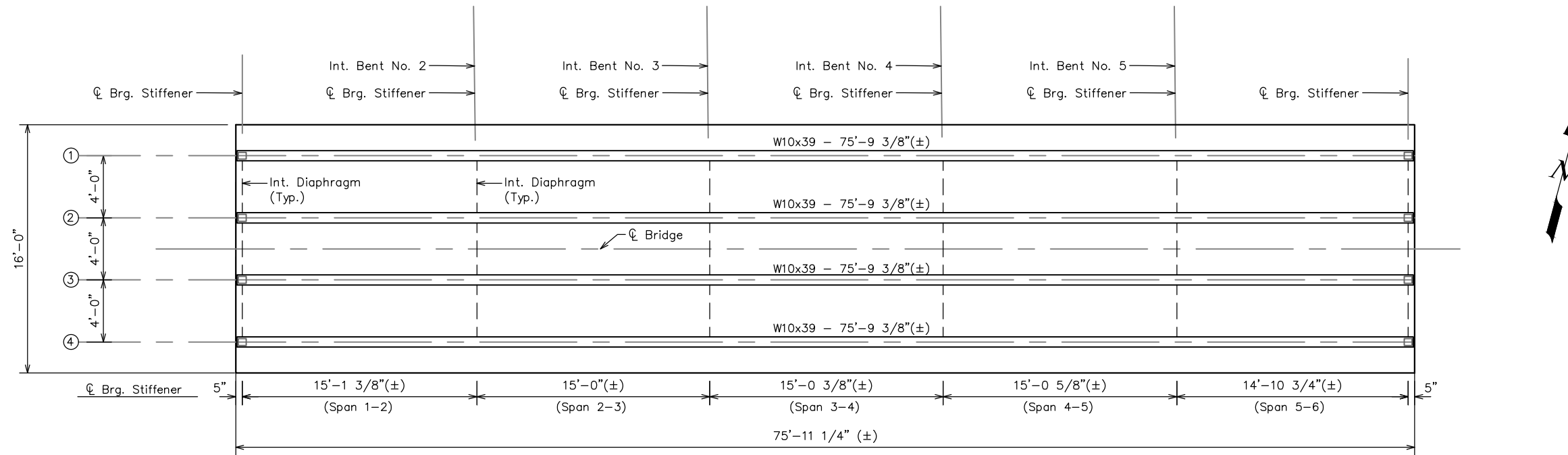
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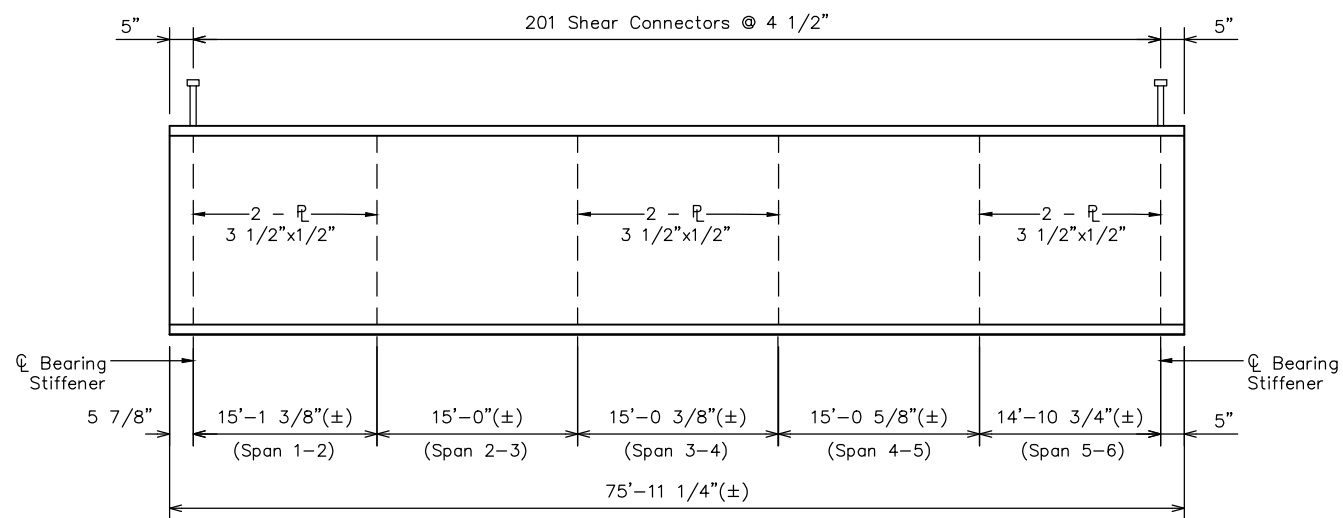
MELISSA M. MASSAR
MO# PE-2018000237

GOLF COURSE DR. BRIDGE #39650021
CITY OF SHELBYNA, MISSOURI
BEARING PAD ASSEMBLY

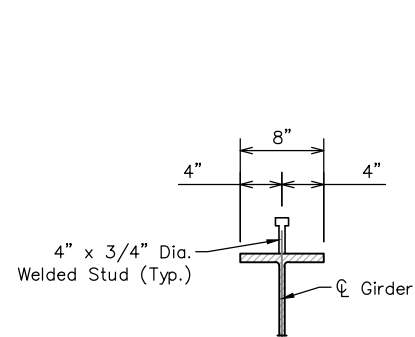
CHECKED BY:	MMM
DRAWN BY:	KFB
JOB NUMBER:	4514
FILE NAME:	4514_Structural
SCALE:	
ISSUE DATE:	April, 2022
SHEET NUMBER:	S6



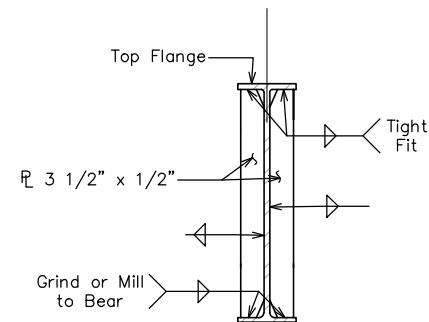
PLAN OF STRUCTURAL STEEL



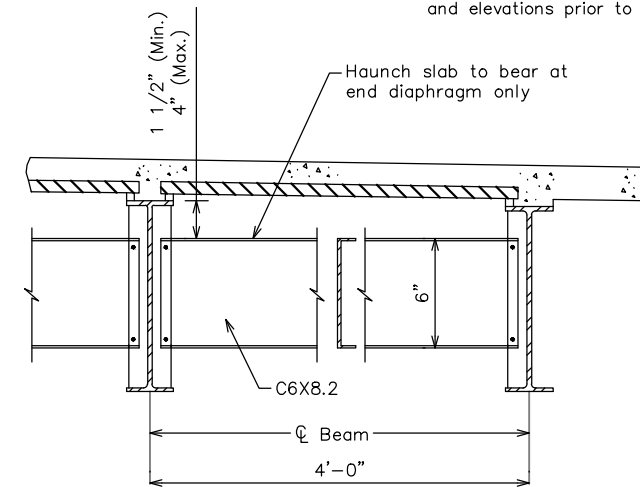
W10x39 ELEVATION



SHEAR CONNECTOR DETAIL FOR PROPOSED STRINGERS



BEARING STIFFENER WELDING DETAILS



TYPICAL PART SECTION SHOWING END DIAPHRAGMS AND INTERMEDIATE DIAPHRAGMS

General Notes:

Fabricated structural steel shall be ASTM A709 Grade 50W or Grade 50 (Galvanized) except as noted.

Galvanized Alternative: Structural steel shall be galvanized in accordance with ASTM A123 and Sec 1081. No additional payment will be made for galvanizing. All costs associated with galvanizing beams is to be included in the cost of the beams.

Weight of Shear Connectors is included in the weight of Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50W or Grade 50 (Galvanized).

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

Longitudinal Dimensions are horizontal from centerline brg. to centerline brg.

Contractor shall field verify all dimensions and elevations prior to fabrication.

Note: Drawing not to scale. Follow dimensions.



Date	1/24/2024
Revision/Issue	ADDED NOTE FOR GALVANIZED A.L.T.
No.	1

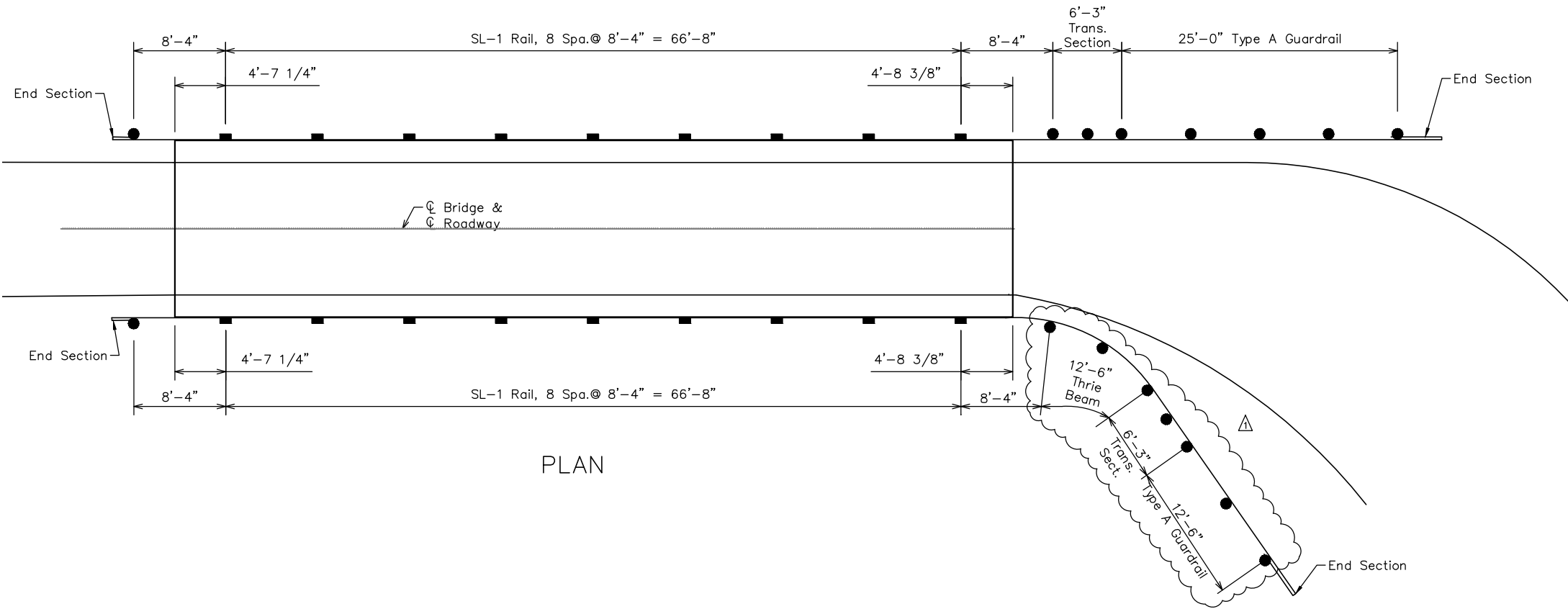
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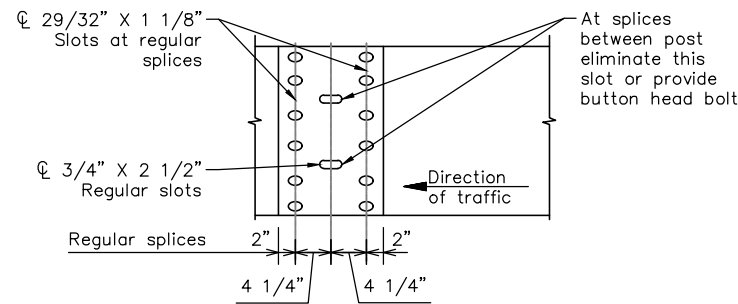
MELISSA M. MASSAR
MO# PE-2018000237

GOLF COURSE DR. BRIDGE #39650021
CITY OF SHELBYNA, MISSOURI
GIRDER LAYOUT DETAILS

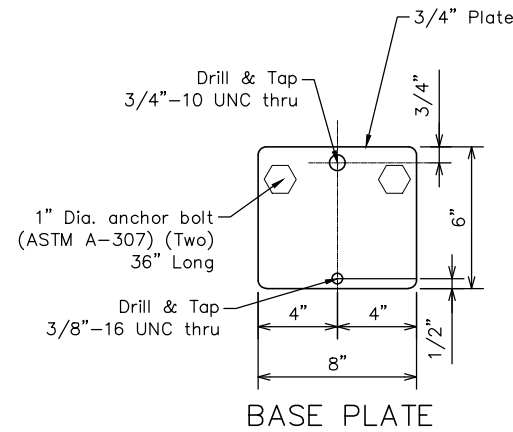
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JOB NUMBER:	4514
FILE NAME:	4514_Structural
SCALE:	
ISSUE DATE:	April, 2022
SHEET NUMBER:	S7



PLAN

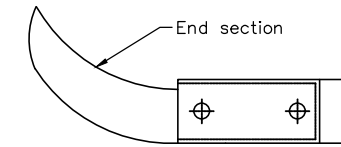


THRIE BEAM RAIL SPLICE DETAIL

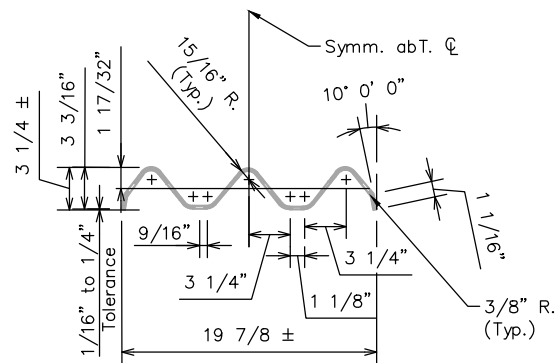


BASE PLATE

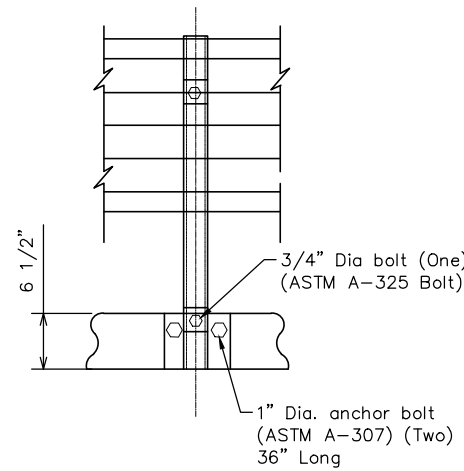
BEARING PLATE



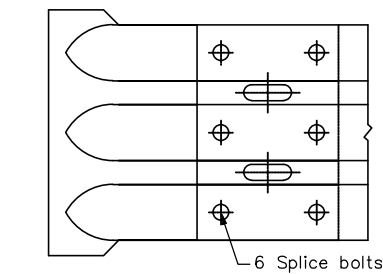
PLAN OF END SECTION



SECTION THRU THRIE BEAM RAIL



THRIE BEAM BRIDGE RAILING



ELEVATION OF END SECTION

Notes:

1. All railing parts shall be galvanized according to section 1040 of Missouri Standard Specifications.
2. Railing posts shall be set perpendicular to the roadway profile grade and vertically in cross sections.
3. Washers shall be used at all post bolts (between bolt head and beam). They shall be rectangular in shape (3"x1 3/4" x 3/16 min.) and flat, or when necessary of such design as to get the contour of the beam. Washers shall have a 11/16" x 1" slotted hole.
4. All lap spliced shall be made in the direction of traffic.
5. The bearing plate and base plate shall be fabricated from A36 steel and galvanized

Note: This drawing not to scale. Follow dimensions.

Date	1/24/2024
Revision/Issue	GUARDRAIL LAYOUT CHANGED
No.	1

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MELISSA M. MASSAR
 MO# PE-2018000237

GOLF COURSE DR. BRIDGE #39650021
 CITY OF SHELBYNA, MISSOURI
 RAILING & DETAILS

CHECKED BY:	MMM
DRAWN BY:	KFB
JOB NUMBER:	4514
FILE NAME:	4514_Structural
SCALE:	
ISSUE DATE:	April, 2022
SHEET NUMBER:	S9

RECEIPT OF ADDENDUM

I received addendum No. # 01 on January 25, 2024, for
Shelbina Lake Bridge Replacement and Spillway Improvements
BRO-R122(1)
Project Job # 4514

This addendum involves 13 pages including this sheet.

Vendor's Name

Vendor's Address

Signature / Date

**Return completed acknowledgment to
Great River Engineering ASAP**

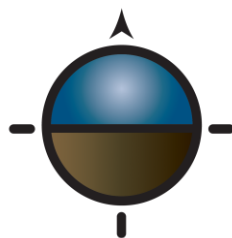
@

Fax # 417-886-7591

Attention: Tzaddi Luberda

Email Back to:

Secretary@greatriv.com



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