

# 100'-0" x 30'-0"

## MESA TOP DRIVE SOUTH BRIDGE ELITE PROPERTIES of AMERICA, INC

DRAWING INDEX

SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	GENERAL NOTES & ANCHOR DETAILS
3	PLAN VIEW
4	CROSS SECTION
5	ANCHOR DETAILS
6	DETAILS
7	DETAILS
8	SPLICE DETAILS
9	DETAILS
10	DETAILS

**APPROVALS:**

**DESIGN ENGINEER'S STATEMENT:**

These detailed plans were prepared under my direction and supervision. Said plans have been prepared according to the criteria and specifications provided and are correct to the best of my knowledge. Contech Engineered Solutions accepts responsibility for all details contained in this set of plans and accept liability for any errors or negligence regarding the design.

*Nathan Evans*  
Nathan Evans Colorado P.E. #53643

11-15-21  
DATE



7-16-21



The information shown on this drawing is provided as a service to the customer and is not intended to be used as a contract. Contech Engineered Solutions, LLC ("Contech"), neither the drawing, nor any part thereof, shall be used for any purpose other than that intended. Contech hereby disclaims any liability or responsibility for any errors or omissions. If discrepancies between the supplier's information and the drawing are noted, the supplier's information shall prevail. Contech is not responsible for any errors or omissions in the drawing or for any damage or loss resulting therefrom. Contech accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

MARK	DATE	APPROVED FOR CONSTRUCTION	BY
ED	7/16/2021		

100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES OF AMERICA, INC  
FOUNTAIN, CO

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.ContechES.com  
800-338-2047 330-766-3148 FAX  
19962 Olive Drive, CO 80501

**BIG BIRD**  
BRIDGE

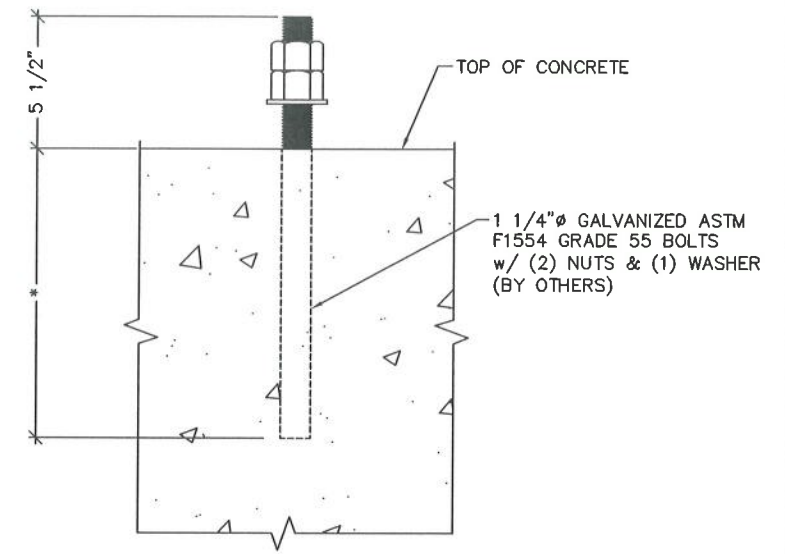
DATE:	7/24/2020	
DESIGNED:	NBE	DRAWN: RDH
CHECKED:	NBE	APPROVED: NBE
PROJECT No:	621715	SEQUENCE No: 030
SHEET:	1 OF 11	

**GENERAL NOTES:**

- CONTECH ENGINEERED SOLUTIONS HAS AISC QUALITY CERTIFIED BRIDGE FABRICATION - ADVANCED (MAJOR) WITH A FRACTURE CRITICAL AND SOPHISTICATED PAINT ENDORSEMENT AND CWB CERTIFIED TO CSA STANDARD W47.1 DIVISION 2.
- DESIGN IS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8th EDITION 2017.
- MATERIALS (UNLESS NOTED OTHERWISE):
  - STRUCTURAL STEEL: ASTM A588 WEATHERING STEEL
  - ELASTOMERIC PADS: GRADE 4, 60 DUROMETER
  - SHEET PILING: ASTM A929 (GALV)  
STRUCTURAL BOLTS: ASTM F3125 GRADE A325 (TYPE 1)
  - GUARDRAIL BOLTS: ASTM A307 (GALV)
- DESIGN LOADINGS:
  - BRIDGE DEAD LOAD PLUS 37.5 FUTURE WEARING SURFACE.
  - VEHICLE LIVE LOAD: HL-93, MAX ADTT = 160
  - WIND LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.8:  
WIND SPEED = 115 MPH  
WIND EXPOSURE CATEGORY = C  
MAX HEIGHT OF STRUCTURE = 33 FT.
  - RAIL DESIGNED FOR TL-1 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS APPENDIX A13.2 (RAIL HAS NOT BEEN CRASH TESTED)
  - SEISMIC LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.10:  
SITE CLASS: D  
PGA = 0.058  
S<sub>g</sub> = 0.125  
S<sub>i</sub> = 0.035  
PERIOD OF BRIDGE = T<sub>m</sub> = 0.076 SEC
- BRIDGE TO BE BUILT TO THE REQUIREMENTS OF AWS D1.5.
- ALL SHOP WELDING SHALL USE THE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS.
- FINISH:  
ALL EXPOSED SURFACES OF STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 1, SSPC-SP1 SOLVENT CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE (AND BOTTOM) OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH.
- ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS BY RCSC.
- ALL BOLTS, NUTS AND WASHERS SHALL BE FURNISHED IN THE AMOUNT OF 5% IN EXCESS OF THE NUMBER REQUIRED FOR EACH SIZE AND LENGTH.
- IF BOLTS DO NOT SMOOTHLY ENGAGE UP TO SNUG-TIGHT, THERE MAY BE AN OBSTRUCTION WITHIN THE THREADS. THE BOLTS SHOULD BE REMOVED, THE THREADS ON THE BOLT AND NUT CLEANED AND RETAPPED IF NECESSARY TO ALLOW SMOOTH INSTALLATION OF THE BOLT. (IF APPLICABLE)
- MAINTENANCE NOTE: CONTECH RECOMMENDS NOT APPLYING DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE. IF DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS ARE APPLIED TO ANY PART OF THE BRIDGE STRUCTURE, CONTECH WILL NOT BE RESPONSIBLE FOR ANY RESULTANT ACCELERATED CORROSION.

**CONCRETE NOTES**

- BIG R BRIDGE IS RESPONSIBLE FOR THE STRUCTURAL DESIGN OF THE CONCRETE DECK. ALL ISSUES RELATED TO MATERIAL SUPPLY, TESTING AND INSTALLATION ARE OUTSIDE OF BIG R BRIDGE'S RESPONSIBILITY.
  - CONCRETE MIX DESIGN, MATERIALS, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 601 OF CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2017 EDITION.
  - MINIMUM MATERIAL REQUIREMENTS:
    - CONCRETE: CLASS D OR H; f<sub>c</sub> = 4500 psi AT 28 DAY  
AIR CONTENT OF 5.5% +/- 1%  
UNIT WEIGHT OF 145 PCF MAX
    - REINFORCING: ASTM A615 GRADE 60 OR ASTM A775 FOR EPOXY COATING
  - THE USE OF EPOXY COATED REBAR, GALVANIZED REBAR, DECK SEALERS OR ANY OTHER FORM OF PROTECTION OF THE REBAR SHALL BE DONE AS NEEDED FOR LOCAL CONDITIONS OR AS REQUIRED PER THE PROJECT CONTRACT DOCUMENTS AND IS NOT THE RESPONSIBILITY OF BIG R BRIDGE.
  - THE CONTRACTOR MUST EXERCISE CARE TO CONTROL TRAFFIC AND STORAGE OF MATERIALS ON THE FORM DECK BEFORE CONCRETE IS PLACED.
  - LONGITUDINAL BARS MAY BE SPLICED IF REQUIRED. SPLICES SHALL BE STAGGERED EVERY OTHER LONGITUDINAL BAR. SPLICES SHALL BE LOCATED AT OR NEAR THE ONE-THIRD POINT OF THE BAY SPANS FROM FLOOR BEAM TO FLOOR BEAM. REQUIRED SPLICE LENGTHS ARE AS FOLLOWS:
- | BAR SIZE | NORMAL WEIGHT CONCRETE (145 PCF) | LIGHT WEIGHT CONCRETE (120 PCF) |
|----------|----------------------------------|---------------------------------|
| #4       | 29"                              | 35"                             |
| #5       | 36"                              | 43"                             |
| #6       | 43"                              | 52"                             |
| #7       | 50"                              | 60"                             |
| #8       | 57"                              | 69"                             |
| #9       | 70"                              | 85"                             |
- STAY IN PLACE GALVANIZED FORM DECK SHALL BE USED ON THE BRIDGE. FORM DECK SHALL BE SHOP ATTACHED TO FLOOR BEAMS VIA SELF-DRILLING FASTENERS, WELDING OR POWER ACTUATED FASTENERS. LONGITUDINAL SHEET LAPS SHALL BE ATTACHED WITH SELF-DRILLING FASTENERS AT 36" MAXIMUM SPACING. THE ATTACHMENT OF THE FORM DECK TO THE FLOOR BEAMS IS ONLY NECESSARY TO KEEP THE FORM DECK IN PLACE DURING TRANSPORTATION AND DURING THE CONCRETE PLACEMENT. THE FORM DECK IS NOT REQUIRED FOR DIAPHRAGM ACTION OR COMPOSITE ACTION AND PROVIDES NO STRUCTURAL BENEFIT TO THE TRUSS OR THE DECK AFTER THE CONCRETE IS SET.
  - CONCRETE TO BE FINISHED WITH A TRANSVERSE BROOM FINISH.
  - THE USE OF GROOVED CONTRACTION JOINTS SHALL BE PUT IN PER THE PROJECT CONTRACT DOCUMENTS OR AT THE DISCRETION OF THE ENGINEER AND OWNER. IF CONTRACTION JOINTS ARE USED, THEY SHALL BE PLACED OVER THE CENTERLINE OF THE FLOOR BEAMS AS NEEDED.



**ANCHOR BOLT DETAIL**

**\*NOTE:**  
ANCHOR BOLTS ARE DESIGNED BY CONTECH FOR STEEL STRENGTH IN SHEAR AND TENSION OF THE ANCHOR BOLT ONLY. ALL DESIGN CONSIDERATIONS REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION, PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRYOUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE NOT CONSIDERED AND ARE NOT THE RESPONSIBILITY OF CONTECH. IF LARGER DIAMETER BOLTS ARE REQUIRED TO MEET ANY OF THESE REQUIREMENTS, THAT INFORMATION MUST BE PROVIDED TO CONTECH PRIOR TO BEGINNING ANY FABRICATION ON THE BRIDGE.

LIFTING WEIGHTS			
ITEM	QTY	UNIT WEIGHT (LBS)	TOTAL WEIGHT (LBS)
BRIDGE SECTION 1A	1	21,710	21,710
BRIDGE SECTION 1B	1	32,311	32,311
BRIDGE SECTION 2A	1	31,920	31,920
BRIDGE SECTION 2B	1	47,349	47,349
LOOSE ITEMS	-	-	18,000
TOTAL BRIDGE WEIGHT:			151,290

	BEARING REACTION IN KIPS	MAX AT INTERIOR STRINGER			MAX AT EXTERIOR STRINGER			TOTAL AT ABUTMENT		
		P	H	L	P	H	L	P	H	L
	DEAD LOAD (DC)	53.78			39.77			240.89		
	WEARING SURFACE LOAD (DW)	13.44			34.42			109.14		
	VEHICLE LOAD (LL)	90.43			68.83			193.83		
	VEHICLE LOAD + DYNAMIC LOAD ALLOWANCE (LL+IM)	104.99			79.91			236.87		
	WIND LOAD (WS)	-30.00*	3.00			3.00		-30.00*	15.00	
	THERMAL LOAD (TU)			13.32			13.32			66.59
	BREAKING FORCE (BR)			7.20			7.20			36.00
	SEISMIC LOAD (EQ)		13.36	26.72		13.36	26.72		66.79	133.59

"P": VERTICAL LOAD  
 "H": HORIZONTAL LOAD TRANSVERSE TO THE STRUCTURE  
 "L": HORIZONTAL LOAD LONGITUDINAL TO THE STRUCTURE  
 \* WIND LOAD UPLIFT ASSUMES FULL 20 PSF TO DECK AREA IS APPLIED TO ONE STRINGER LINE

CONTECH  
**CONTRACT**  
 DRAWING



The design and information shown on this drawing is the property of Contech Engineered Solutions, LLC and is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Contech Engineered Solutions, LLC. Contech Engineered Solutions, LLC expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to Contech Engineered Solutions, LLC immediately. Contech Engineered Solutions, LLC will not be held responsible for any liability for designs based on missing, incomplete or inaccurate information supplied by others.

DATE	7/16/2021	DATE	
APPROVED FOR CONSTRUCTION	TLF	BY	
MARK	E0	REVISION DESCRIPTION	

100'-0" x 30'-0"  
 MESA TOP DRIVE SOUTH BRIDGE  
 ELITE PROPERTIES of AMERICA, INC  
 FOUNTAIN, CO

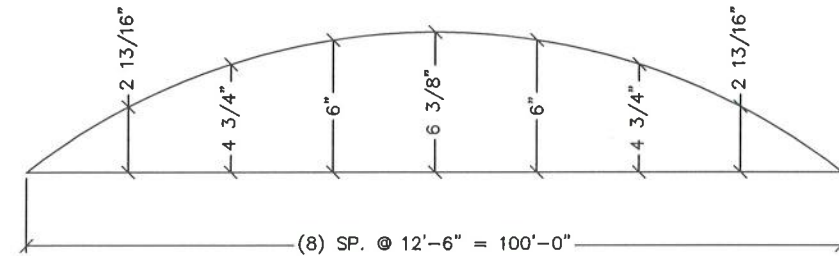
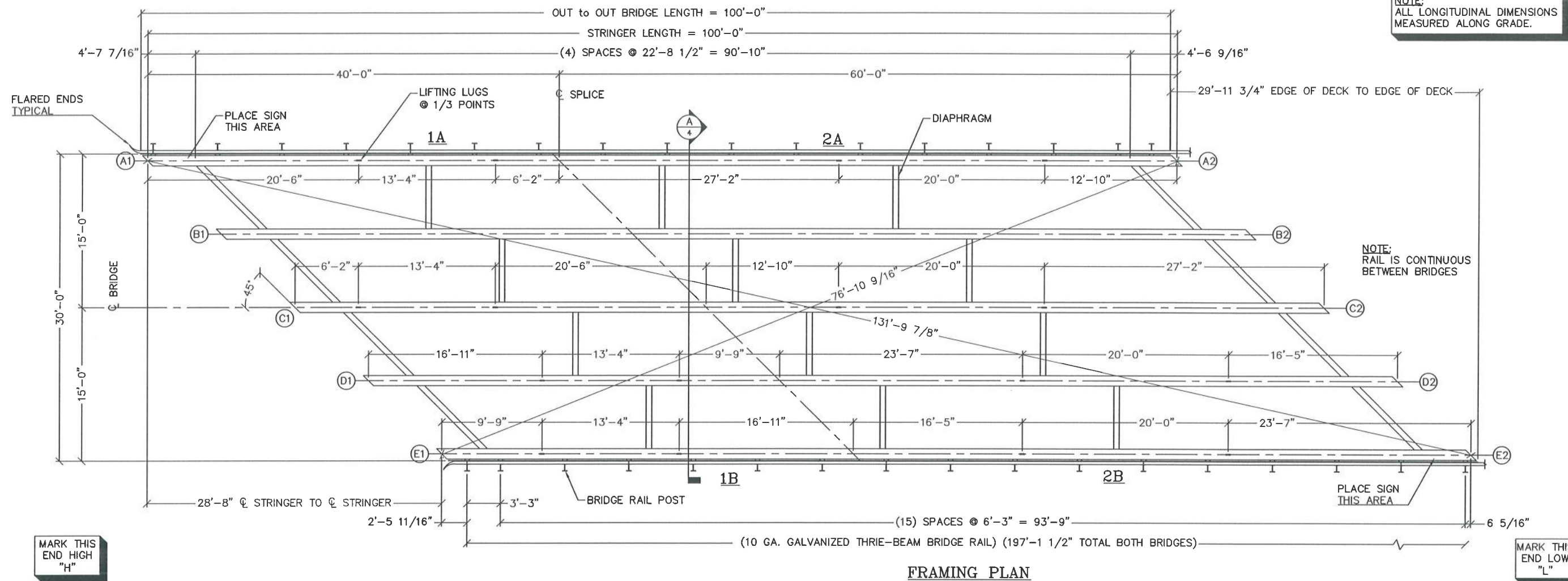
CONTECH ENGINEERED SOLUTIONS LLC  
 www.conteches.com  
 10000 CO 16 Driv, Fountain, CO 80821  
 800-326-2047 303-545-9120 303-565-3148 FAX

**BIG R BRIDGE**

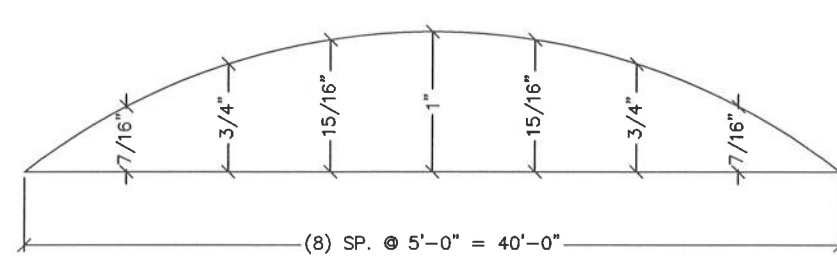
DATE: 7/24/2020  
 DESIGNED: NBE DRAWN: RDH  
 CHECKED: NBE APPROVED: NBE  
 PROJECT No.: 621715 SEQUENCE No.: 030  
 SHEET: 2 OF 11

C:\AUTODESK\VAULT WORKING\2020\BEMAM621715\CAD\FABRICATION\REV-0621715-030 REV-0.DWG 7/16/2021 9:53 AM

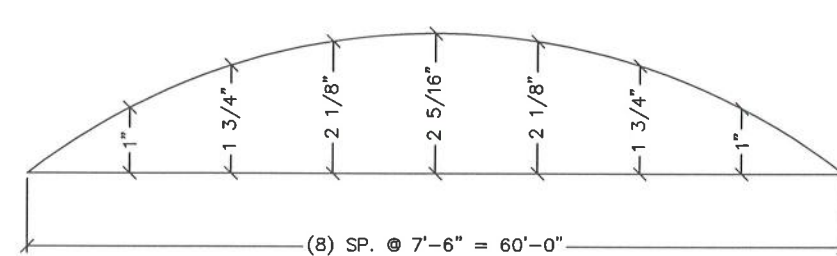
C:\AUTODESK VAULT WORKING\2020\BEM162175\CAD\FABRICATION\REV-062175-030 REV.0 DWG 7/16/2021 9:53 AM



**CAMBER DETAIL**  
(FULL BRIDGE)



**CAMBER DETAIL**  
(STRINGER SECTION 1)

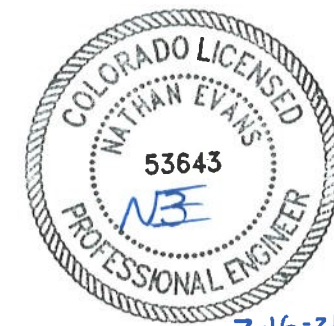


**CAMBER DETAIL**  
(STRINGER SECTION 2)

MEMBERS	DESCRIPTION
GIRDER	W 36x232
DIAPHRAGM	W 21x44
POST BLOCK	W 14x22
SIDE DAM	PL 1/4"

BUILD 4 AS SHOWN  
621715-30  
621715-40  
621715-50  
621715-60

CONTECH  
**CONTRACT**  
DRAWING



NOTE:  
ALL LONGITUDINAL DIMENSIONS  
MEASURED ALONG GRADE.

The design and information shown on this drawing is the property of Contech Engineered Solutions, LLC and contractor. Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the written consent of Contech Engineered Solutions, LLC. Contech Engineered Solutions, LLC expressly disclaims any liability or responsibility for such use. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall be responsible for notifying Contech immediately for reevaluation of the design. Contech accepts no liability for design based on missing, incomplete or inaccurate information supplied by others.

MARK	DATE	REVISION DESCRIPTION	BY
E0	7/16/2021	APPROVED FOR CONSTRUCTION	TLF

100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES of AMERICA, INC  
FOUNTAIN, CO

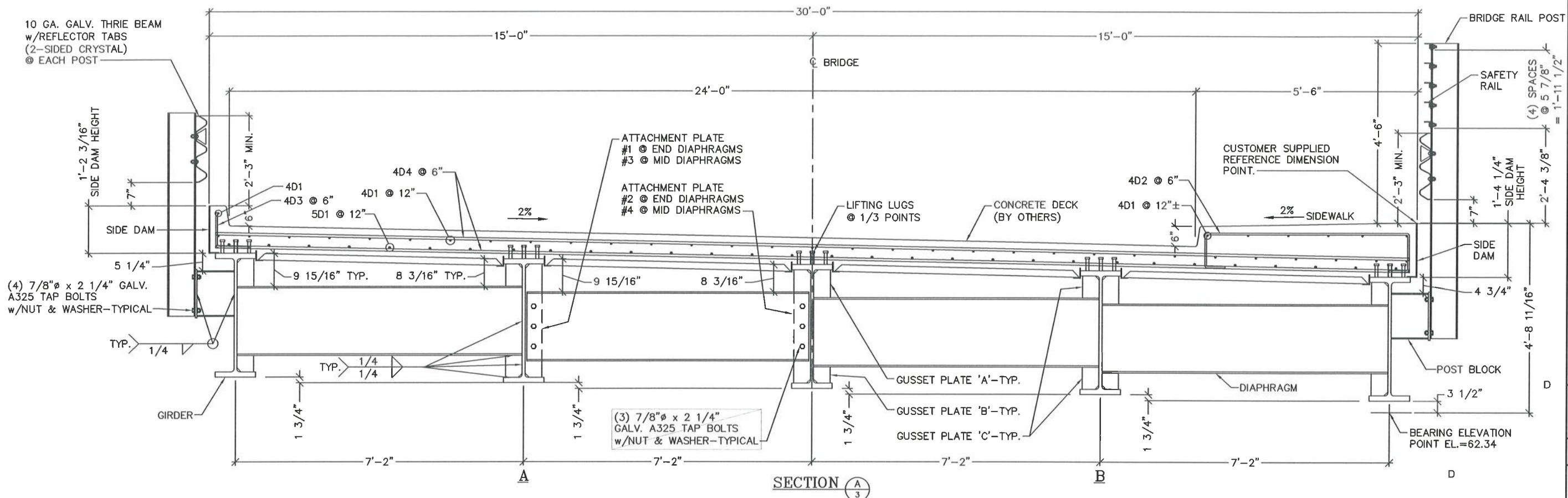
**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.conteches.com  
10000 CO 160, FOUNTAIN, CO 80031  
800-326-2047 303-565-9720 303-565-3148 FAX

**BIGR**  
BRIDGE

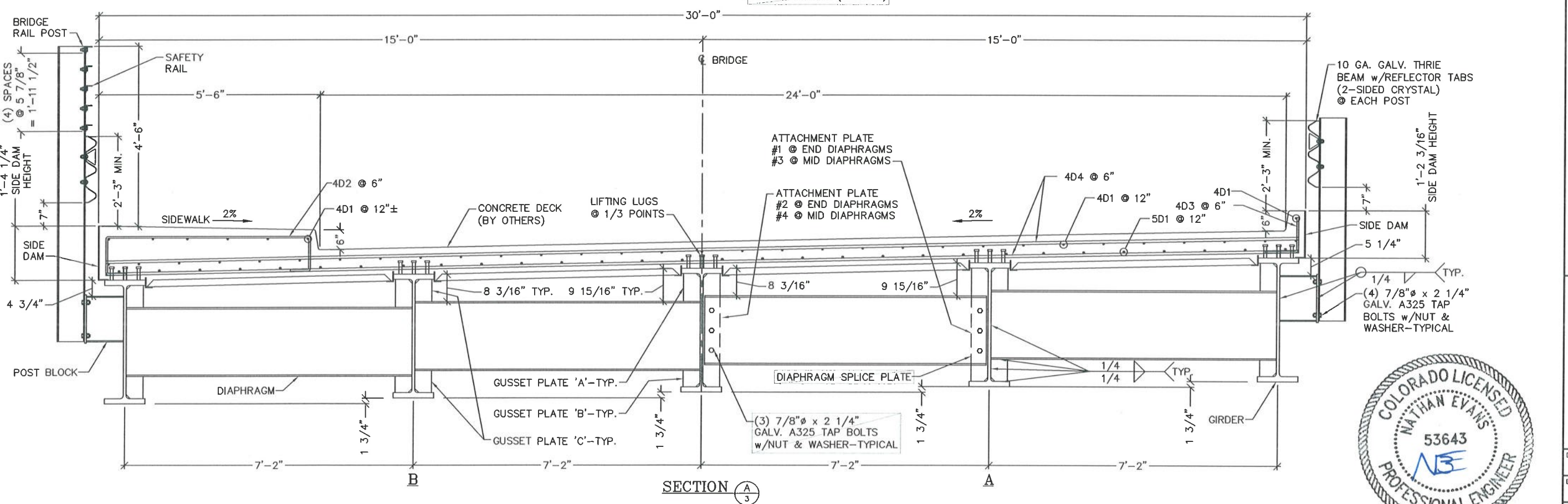
DATE: 7/24/2020

DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No.: 621715	SEQUENCE No.: 030
SHEET: 3	OF 11

C:\AUTODESK\VAULT\WORKING-2020\BEMAM21715\CAD\FABRICATION\REV-0621715-030 REV-0.DWG 7/16/2021 9:53 AM



SECTION A-3  
SOUTH BRIDGES (BUILD 2)



SECTION A-3  
NORTH BRIDGES (BUILD 2)

CONTECH  
CONTRACT  
DRAWING



The design and information shown on this drawing is the property of Contech Engineered Solutions, LLC and is to be used only for the project and location specified herein. It is not to be reproduced, copied, or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Contech Engineered Solutions, LLC. Contech Engineered Solutions, LLC expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to Contech Engineered Solutions, LLC immediately. Contech Engineered Solutions, LLC shall not be held responsible or liable for any design errors, omissions, or inaccuracies in this drawing or any information supplied by others.

DATE	7/16/2021	APPROVED FOR CONSTRUCTION	TLF
MARK	E0	REVISION DESCRIPTION	BY

100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES of AMERICA, INC  
FOUNTAIN, CO

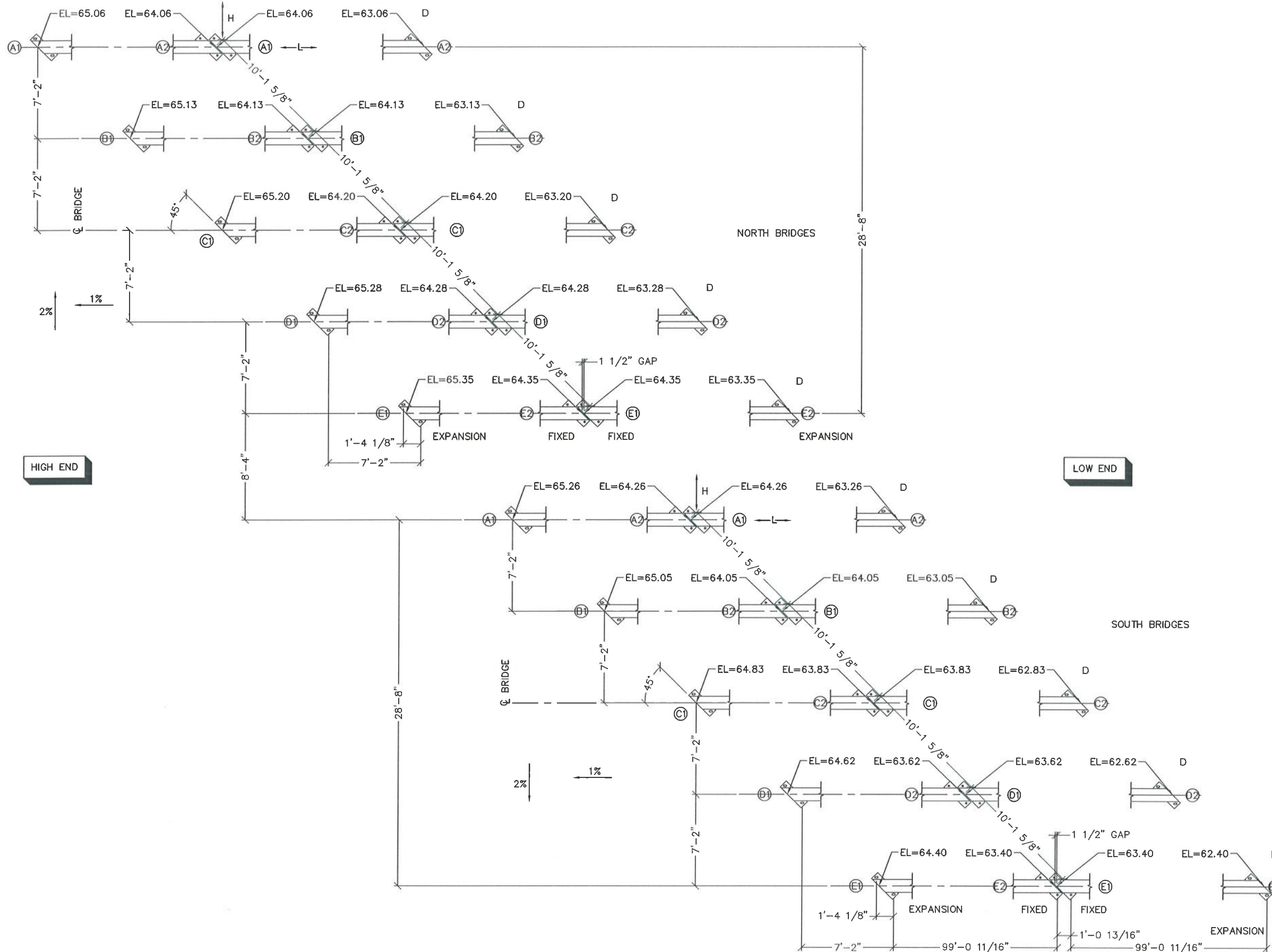
**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.conteches.com  
1900 G ST. GREEK, CO 80631  
303-565-148 FAX  
303-565-1720  
303-565-2047

**BIG BIRD**  
BRIDGE

DATE: 7/24/2020

DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No.: 621715	SEQUENCE No.: 030
SHEET: 4	OF 11

C:\AUTODESK VAULT WORKING\2020\BEMAM621715\CAD\FABRICATION\REV-0621715-030 REV-0 DWG 7/16/2021 9:53 AM



**ANCHOR BOLT LAYOUT**  
(ELEVATIONS ARE AT BEARING SEATS)

CONTECH  
**CONTRACT**  
DRAWING



The design and information shown on this drawing is the property of Contech Engineered Solutions LLC and contractor by Contech Engineered Solutions LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the express written consent of Contech. Contech expressly disclaims any liability or responsibility for such use. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall immediately notify Contech and accept no liability for design based on missing, incomplete or inaccurate information supplied by others.

MARK	DATE	APPROVED FOR CONSTRUCTION	REVISION DESCRIPTION
E0	7/16/2021		

100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES of AMERICA, INC  
FOUNTAIN, CO

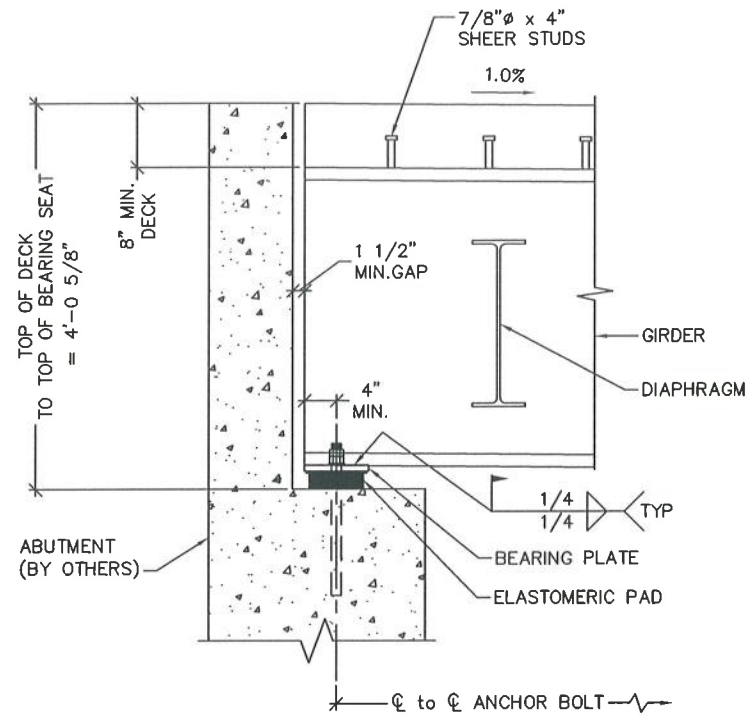
**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.conteches.com  
15202 S EL DORADO, CO 80031  
800-328-2047 303-345-9726 303-566-748 FAX

**BIG R**  
BRIDGE

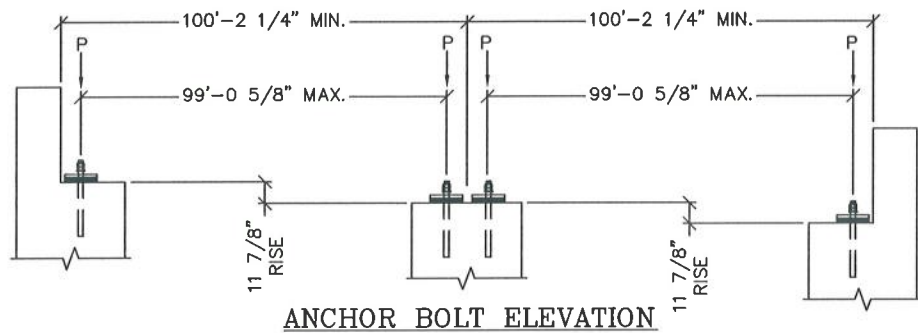
DATE: 7/24/2020

DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No.: 621715	SEQUENCE No.: 030
SHEET: 5	OF 11

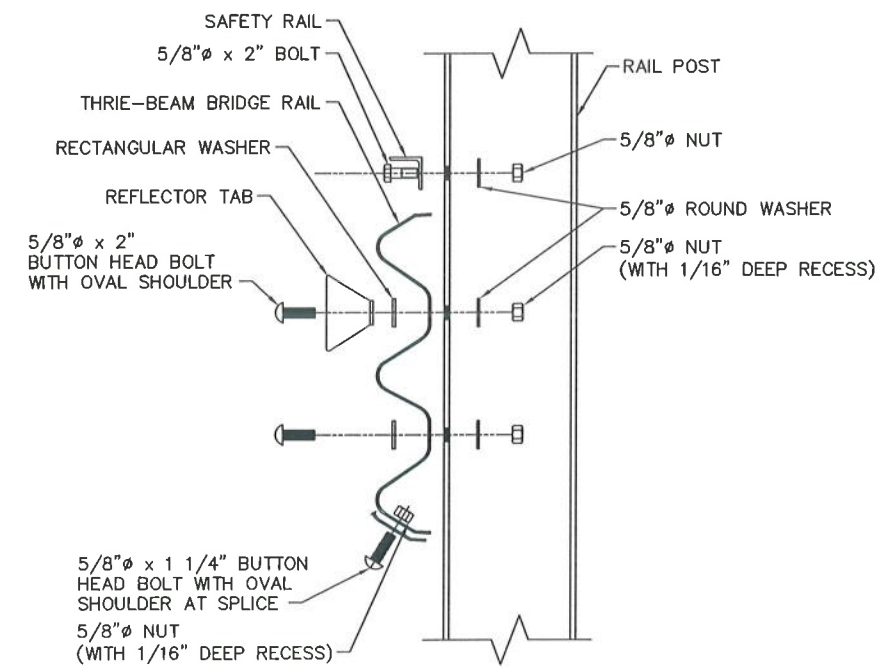
C:\AUTODESK\VAULT\WORKING\2020\BEAM62175\CAD\FABRICATION\REV-062175-030 REV-0 DWG 7/16/2021 9:53 AM



**BEARING DETAIL**

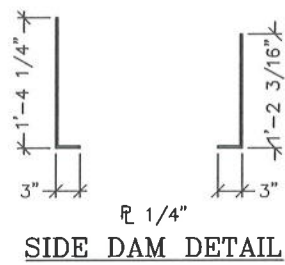


**ANCHOR BOLT ELEVATION**

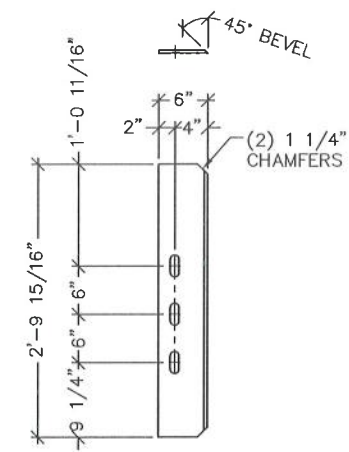


**THRIE-BEAM RAIL ATTACHMENT DETAIL**

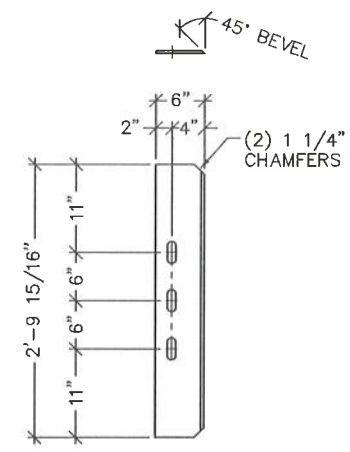
(W 8x18 POSTS)



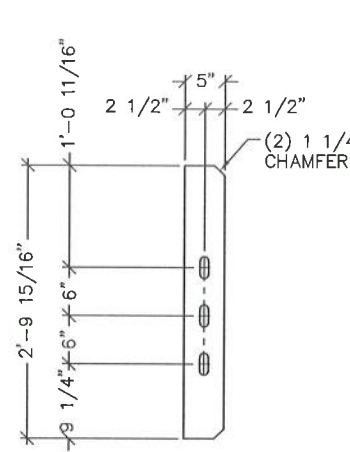
**SIDE DAM DETAIL**



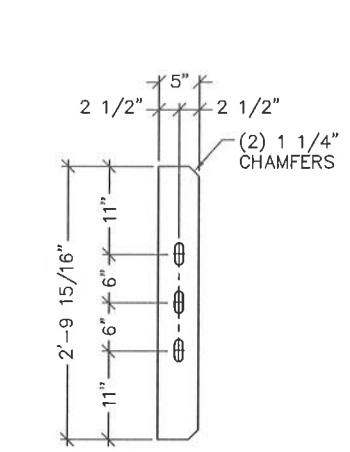
**ATTACHMENT PLATE '1'**  
(2) REQUIRED



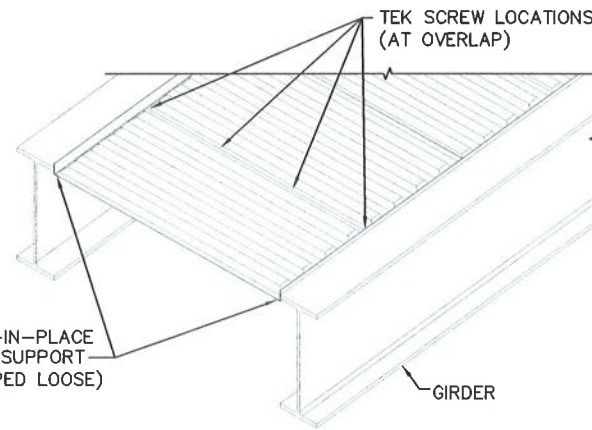
**ATTACHMENT PLATE '2'**  
(2) REQUIRED



**ATTACHMENT PLATE '3'**  
(3) REQUIRED



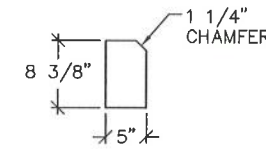
**ATTACHMENT PLATE '4'**  
(3) REQUIRED



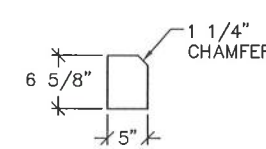
STAY-IN-PLACE  
DECK SUPPORT  
(SHIPPED LOOSE)

**NOTES:**  
1) STAY-IN-PLACE DECK PANS TO BE ATTACHED IN THE FIELD TO THE SUPPORT ANGLE WITH SELF-TAPPING TEK SCREWS PLACED AT THE FOUR PAN CORNERS AND AT THE 1/3 POINTS ALONG THE LONGITUDINAL OVERLAPS. (4 PER SHEET).

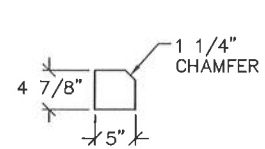
**TYPICAL STAY-IN-PLACE  
DECK MOUNTING DETAIL**



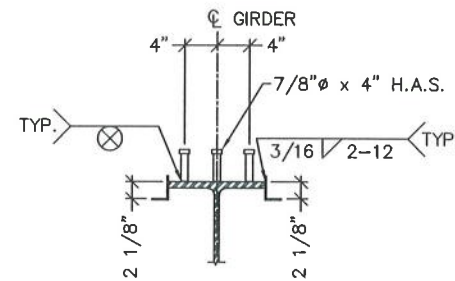
**GUSSET PLATE 'A'**  
(15) REQUIRED



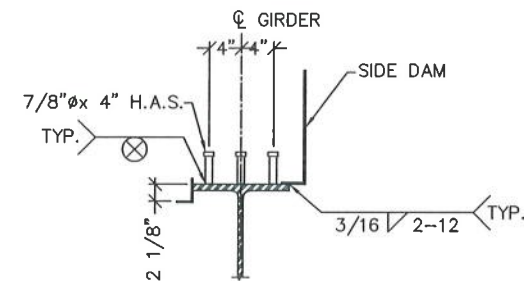
**GUSSET PLATE 'C'**  
(30) REQUIRED



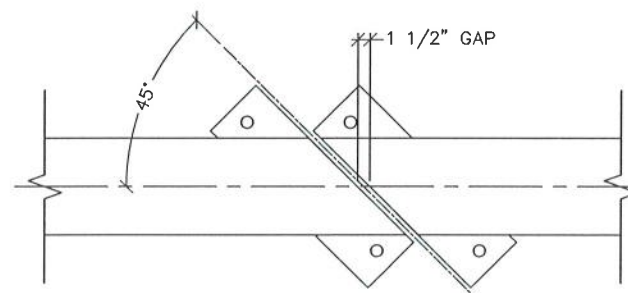
**GUSSET PLATE 'B'**  
(15) REQUIRED



**GIRDER DETAIL**



**TYPICAL EXTERIOR  
GIRDER DETAIL**



**BRIDGE GAP DETAIL**

CONTECH  
**CONTRACT**  
DRAWING



7-16-21



<small>The design and information shown on this drawing is provided as a service to the project owner and contractor by Contech Engineered Solutions LLC ("Contech"). Neither this drawing, nor any part thereof, represents or purports to be a contract. Contech expressly disclaims any liability or responsibility for such use.</small>			
<small>If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall be responsible for notifying Contech immediately for re-evaluation of the design. Contech accepts no liability for design based on missing, incomplete or inaccurate information supplied by others.</small>			
DATE	7/16/2021	MARK	E0
APPROVED FOR CONSTRUCTION		REVISION DESCRIPTION	
BY			

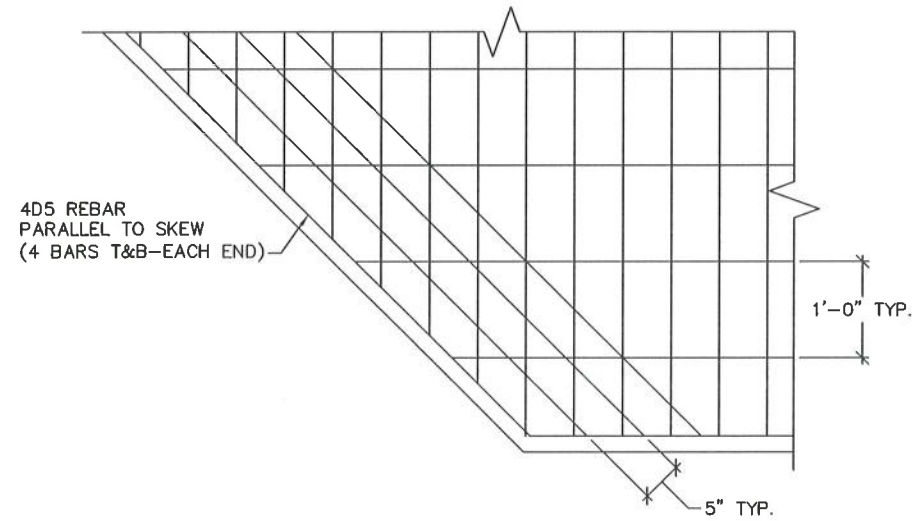
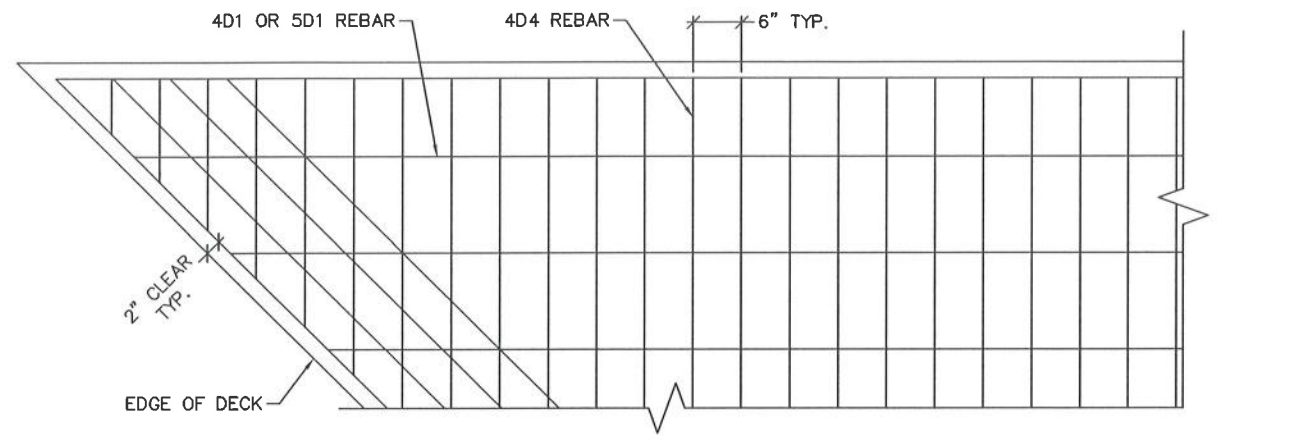
**100'-0" x 30'-0"**  
**MESA TOP DRIVE SOUTH BRIDGE**  
**ELITE PROPERTIES OF AMERICA, INC**  
**FOUNTAIN, CO**

**CONTECH**  
**ENGINEERED SOLUTIONS LLC**  
 www.conteches.com  
 1900 G E Greenway, CO 80531  
 800-328-2047 320-545-9126 320-566-3148 FAX

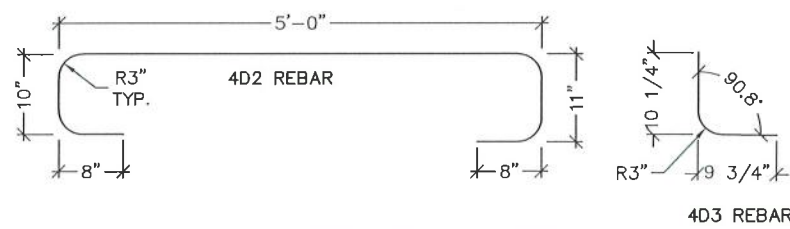
**BIG R**  
**BRIDGE**

DATE:	7/24/2020		
DESIGNED:	NBE	DRAWN:	RDH
CHECKED:	NBE	APPROVED:	NBE
PROJECT No.:	621715	SEQUENCE No.:	030
SHEET:	6 OF 11		

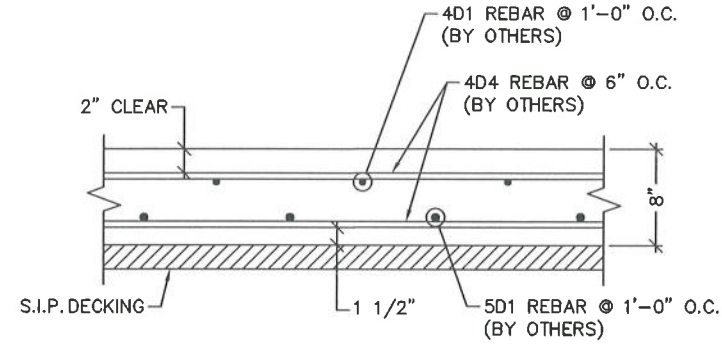
C:\AUTODESK VAULT WORKING\2020\BEAM2175\CAD\FABRICATION\REV-0\621715-030 REV-0.DWG 7/16/2021 9:53 AM



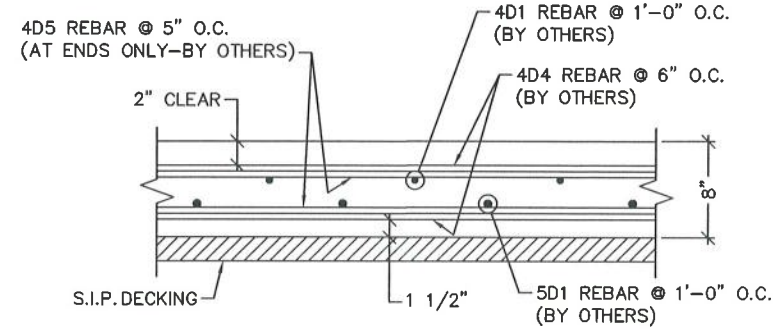
END REBAR LAYOUT



BENT REBAR DETAILS



TYPICAL DECK SECTION



TYPICAL DECK SECTION AT ENDS

- NOTES:  
 1. ALL CONCRETE & REBAR BY OTHERS  
 2. ALL QUANTITIES ARE FOR ONE BRIDGE

REBAR SCHEDULE				
MARK	TYPE	QUANTITY	LENGTH	REMARKS
4D1	STRAIGHT	38	99'-6"	EPOXY*
4D2	BENT	202	8'-1"	EPOXY
4D3	BENT	202	1'-8"	EPOXY
4D4	STRAIGHT	405	29'-7"	EPOXY
4D5	STRAIGHT	16	41'-11"	EPOXY
5D1	STRAIGHT	31	99'-6"	EPOXY*

DIGIT PRECEDING LETTER DENOTES SIZE OF REBAR  
 \* SEE CONCRETE NOTE 6 ON PG. 2 FOR SPLICING

CONTECH  
 CONTRACT  
 DRAWING



7-16-21



The design and information shown on this drawing is the property of Contech Engineered Solutions, LLC and contractor by Contech Engineered Solutions, LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the written consent of Contech. Contech expressly disclaims any liability or responsibility for such use. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall immediately notify Contech in writing, immediately or as soon as practicable thereafter, excepting no liability for design based on missing, incomplete or inaccurate information supplied by others.

DATE	MARK	REVISION DESCRIPTION	BY
7/16/2021	E0	APPROVED FOR CONSTRUCTION	TLF

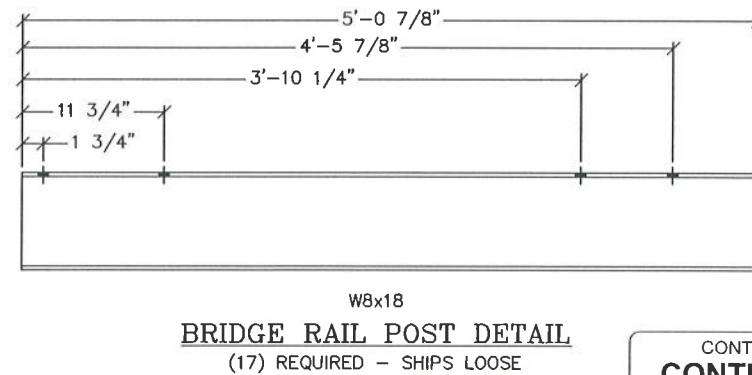
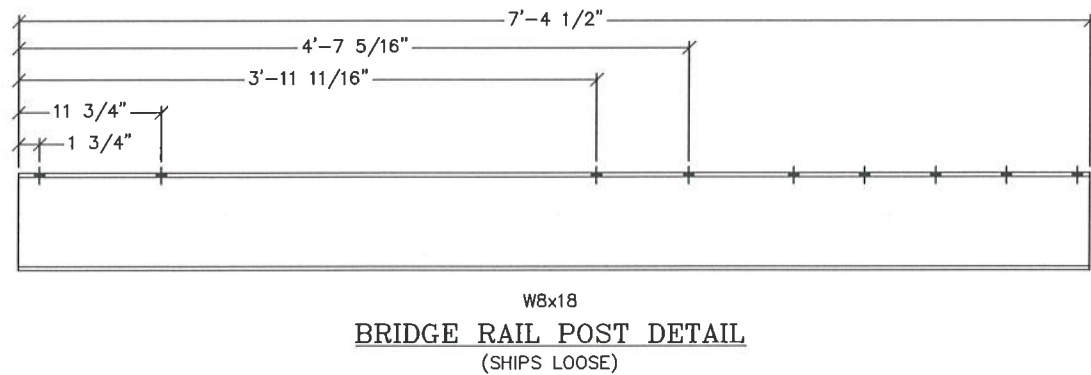
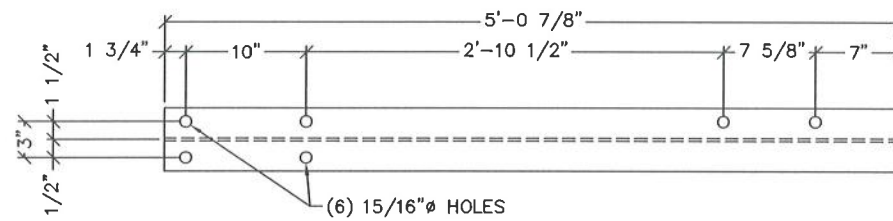
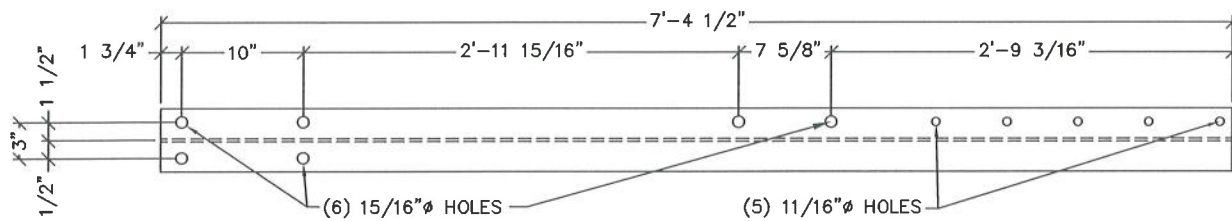
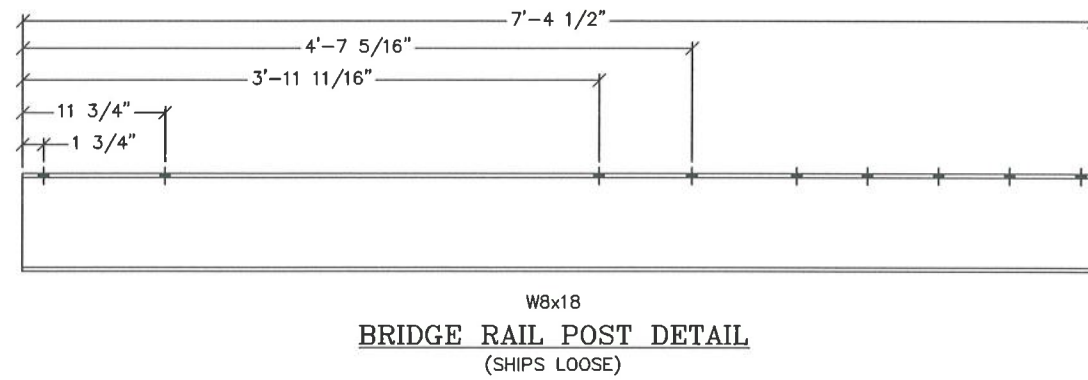
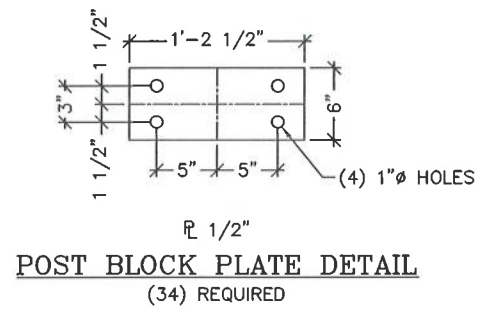
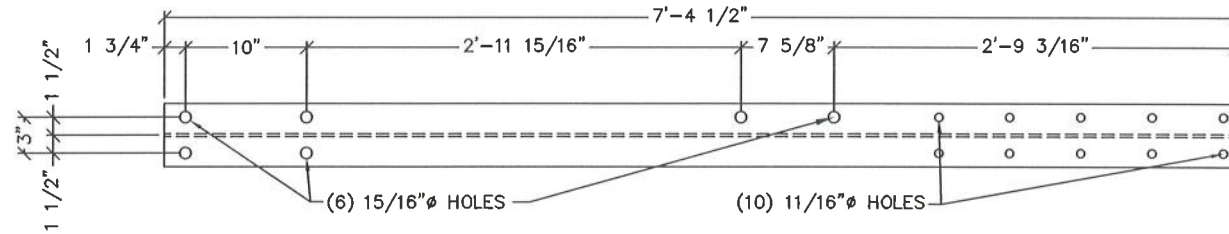
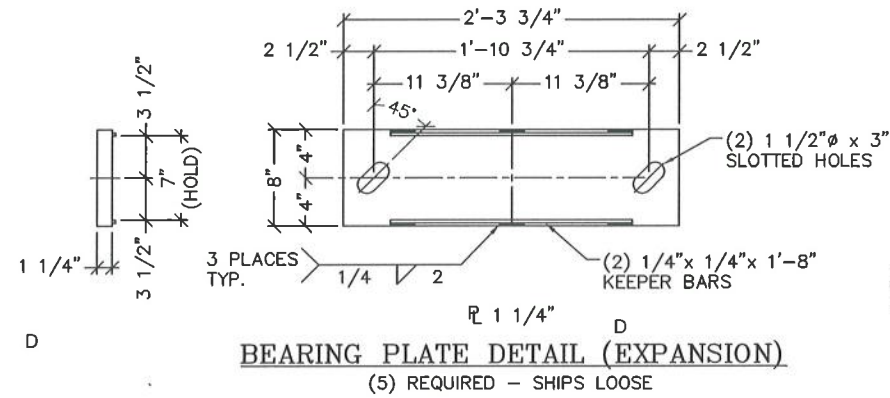
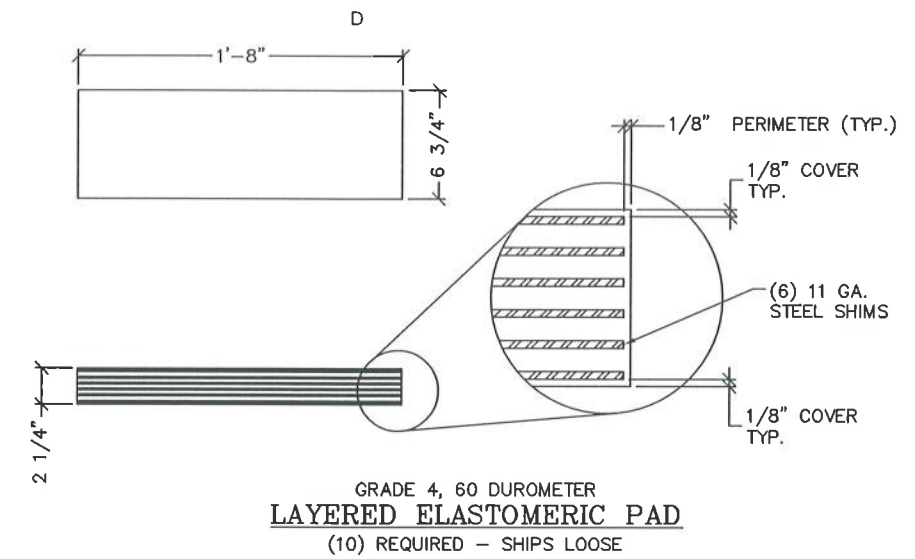
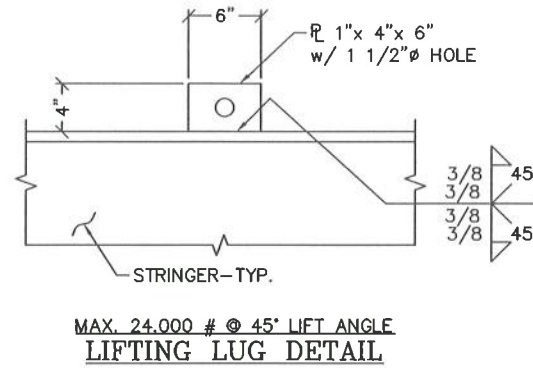
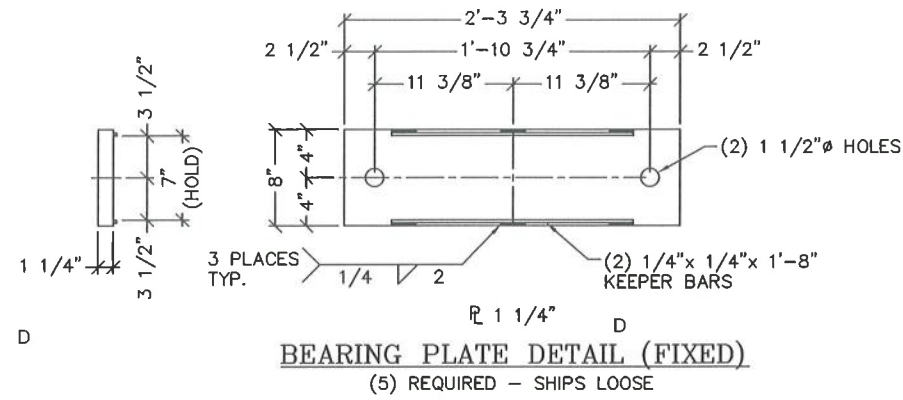
100'-0" x 30'-0"  
 MESA TOP DRIVE SOUTH BRIDGE  
 ELITE PROPERTIES OF AMERICA, INC  
 FOUNTAIN, CO

**CONTECH**  
 ENGINEERED SOLUTIONS LLC  
 www.conteches.com  
 1920 G. E. O'NEAL, CO. 80531  
 800-326-2047 303-545-9120 303-565-3148 FAX  
**BIG R**  
 BRIDGE

DATE: 7/24/2020

DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No.: 621715	SEQUENCE No.: 030
SHEET: 7	OF 11

C:\AUTODESK VAULT WORKING\2020\BEMAM62175\CAD\FABRICATION\REV-062175-030 REV-0 DWG 7/16/2021 9:53 AM



CONTECH  
CONTRACT  
DRAWING



The design and information shown on this drawing is the property of Contech Engineered Solutions LLC and contractor by Contech Engineered Solutions LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the written consent of Contech. Contech expressly disclaims any liability or responsibility for such use. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall be responsible for immediately notifying Contech for reevaluation of the design. Contech accepts no liability for design based on missing, incomplete or inaccurate information supplied by others.

DATE	REVISION DESCRIPTION	BY
7/16/2021	APPROVED FOR CONSTRUCTION	TLF
E0	MARK	

100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES of AMERICA, INC  
FOUNTAIN, CO

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.conteches.com  
10000 E. Greenway, CO 80031  
800-328-2047 303-545-9120 303-565-148 FAX  
**BIG R**  
BRIDGE

DATE: 7/24/2020

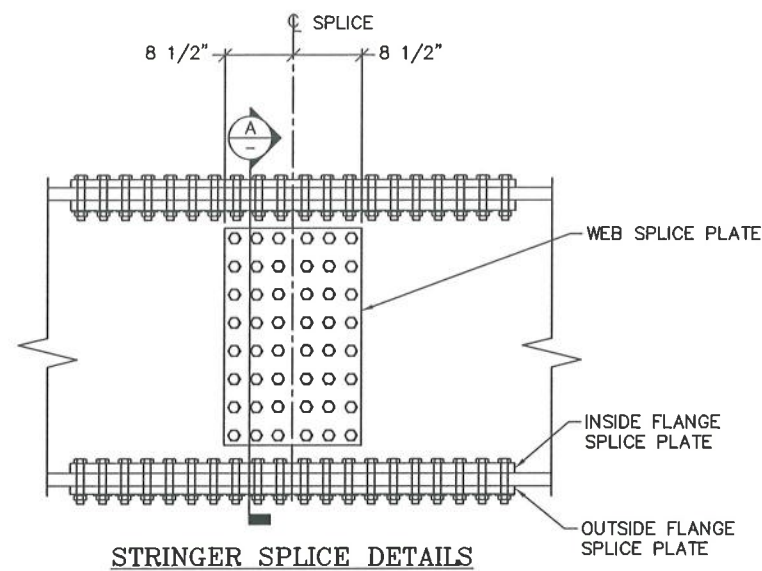
DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No: 621715	SEQUENCE No: 030
SHEET:	



C:\AUTODESK VAULT WORKING\2020\BEM621715\CAD\FABRICATION\REV\0621715-030 REV-0.DWG 7/16/2021 9:53 AM

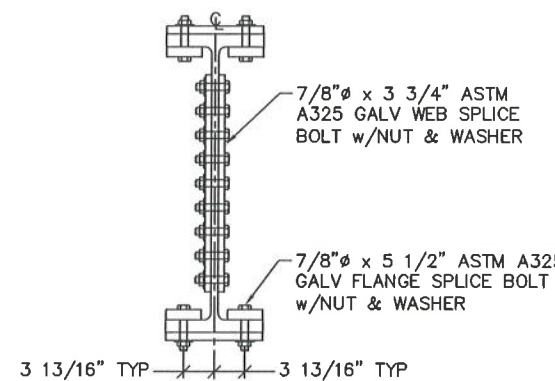
MEMBERS	QTY	THICKNESS	SIZE	HOLES	BOLTS w/NUT & WASHER	BOLT QTY
WEB SPLICE PLATE	10	3/4"	1'-5" x 2'-3"	15/16"	7/8"φ x 3 3/4" A325 GALV	240
INSIDE BTM FLANGE SPLICE PLATE	10	1 1/4"	4 3/8" x 4'-7"	15/16"	-	-
OUTSIDE BTM FLANGE SPLICE PLATE	5	1"	1'-0" x 4'-7"	15/16"	7/8"φ x 5 1/2" A325 GALV	200
INSIDE TOP FLANGE SPLICE PLATE	10	1 1/4"	4 3/8" x 4'-7"	15/16"	-	-
OUTSIDE TOP FLANGE SPLICE PLATE	5	1"	1'-0" x 4'-7"	15/16"	7/8"φ x 5 1/2" A325 GALV	200

The design and information shown on this drawing is the property of Contech Engineered Solutions, LLC and contractor by Contech Engineered Solutions, LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the written consent of Contech. Contech expressly disclaims any liability or responsibility for such use. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall immediately notify Contech and accept no liability for design based on missing, incomplete or inaccurate information supplied by others.



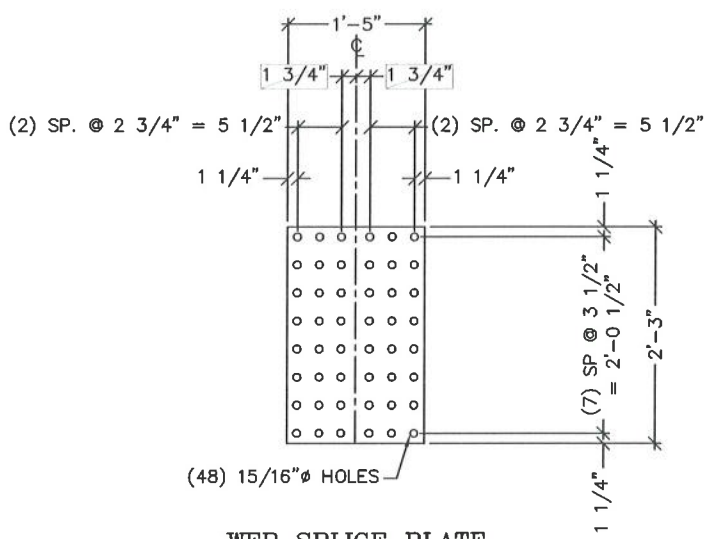
STRINGER SPLICE DETAILS

**SHOP NOTE:**  
15/16"φ HOLES IN STRINGER FLANGE AND WEB

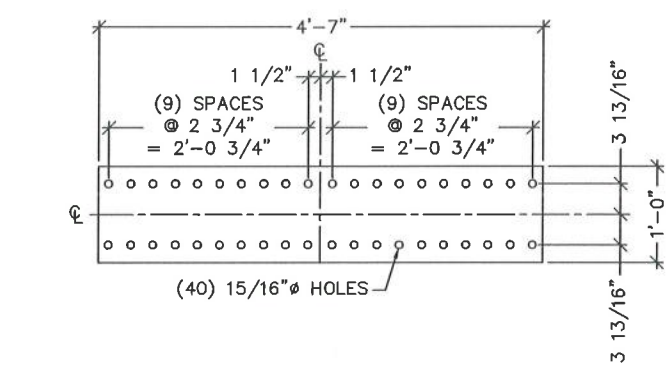


SECTION A

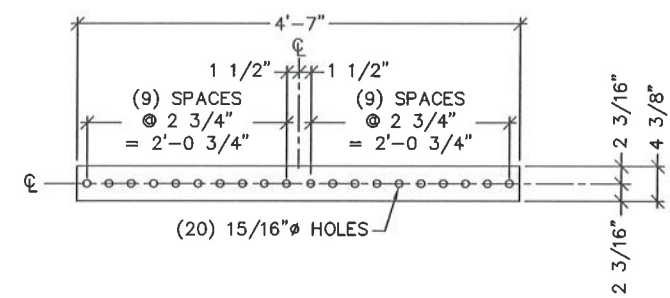
**CONTRACTOR NOTE:**  
FIELD WELDING TO BE PERFORMED BY A WELDER CERTIFIED PER AWS D1.5 BRIDGE WELDING CODE.



WEB SPLICE PLATE



OUTSIDE TOP & BTM FLANGE SPLICE PLATE



INSIDE TOP & BTM FLANGE SPLICE PLATE

CONTECH  
CONTRACT  
DRAWING



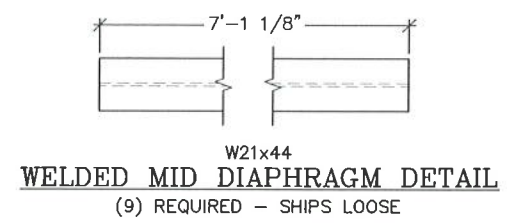
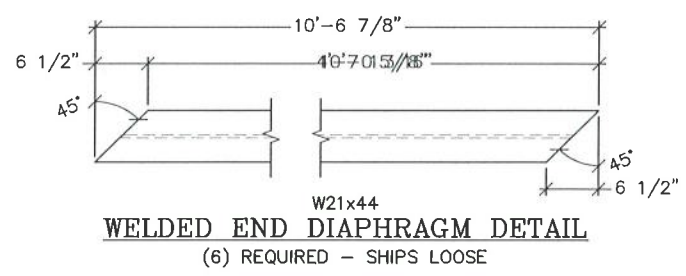
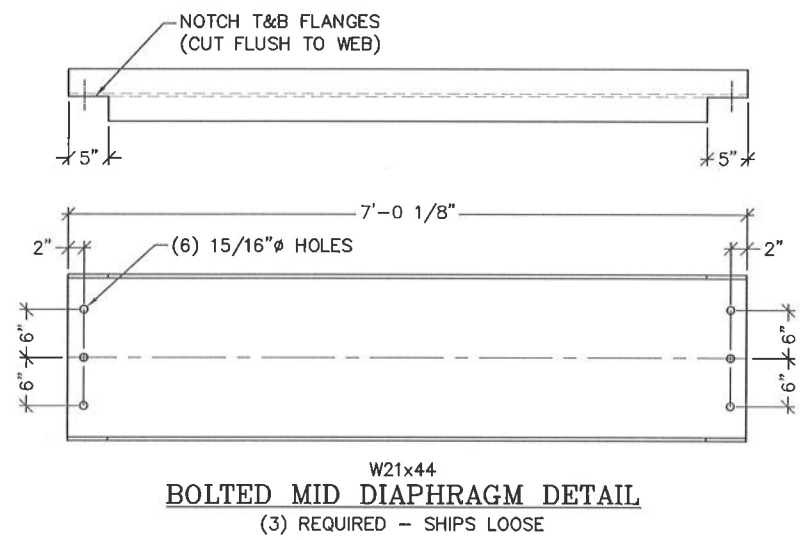
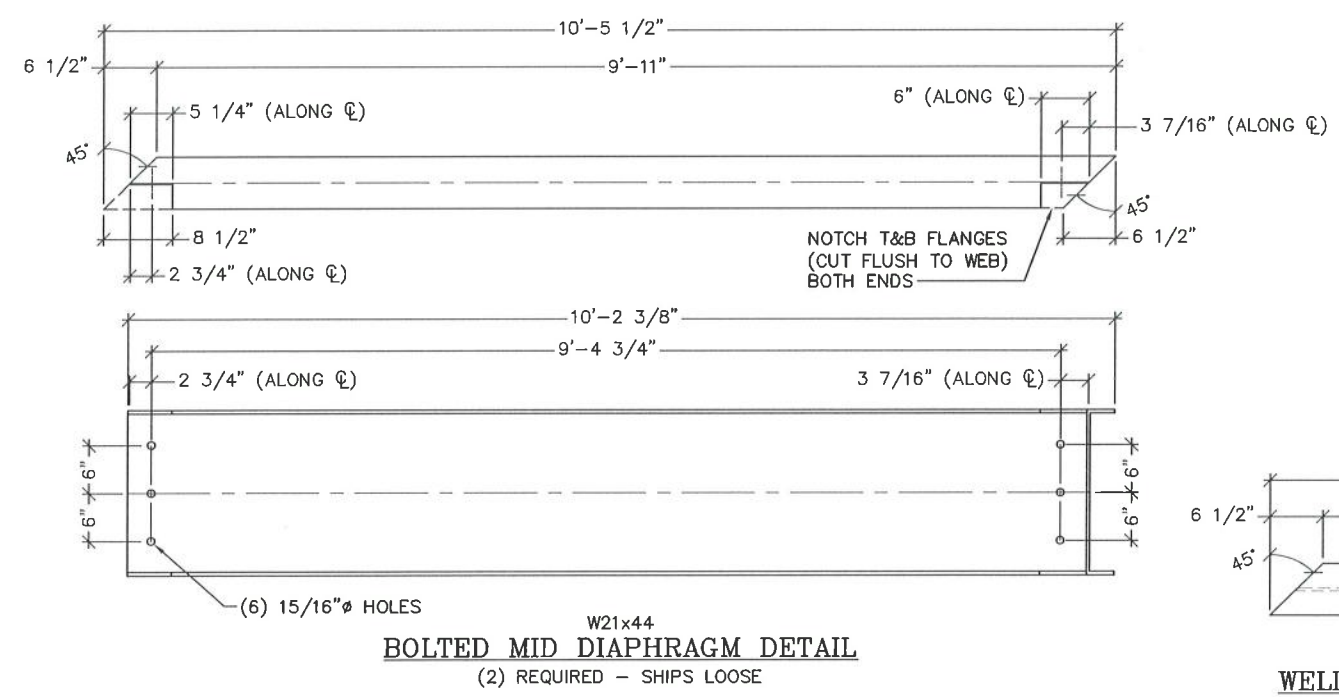
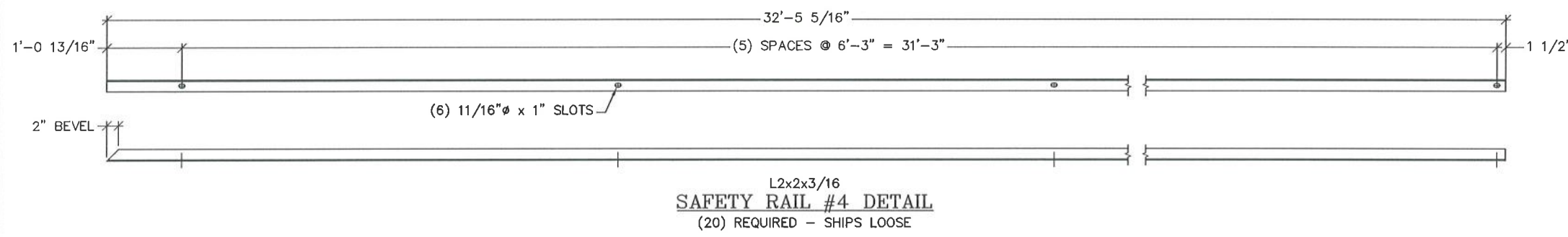
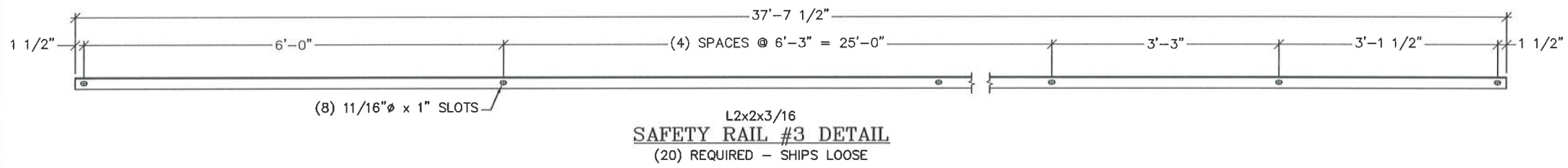
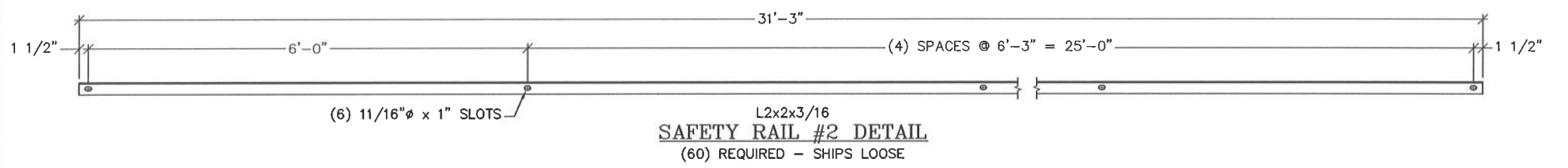
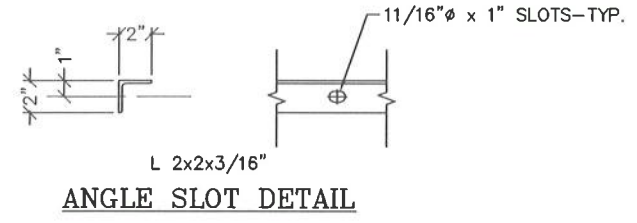
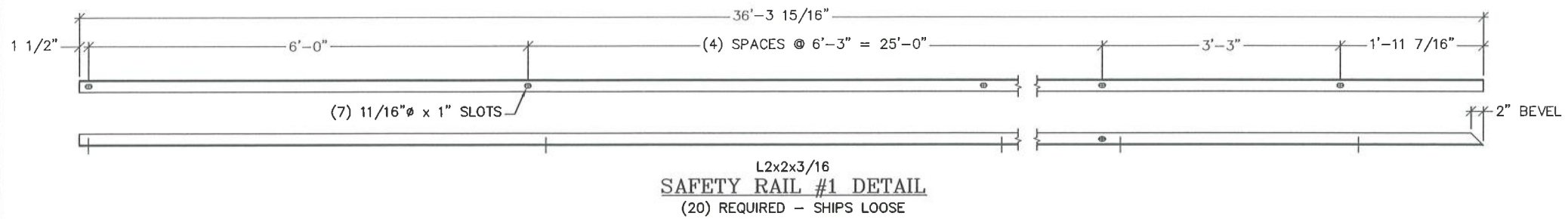
100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES OF AMERICA, INC  
FOUNTAIN, CO

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.conteches.com  
1986 G & Greeny, CO 80831  
800-328-2047 320-345-7126 320-566-148 FAX

**BIG BIRD**  
BRIDGE

DATE:	7/24/2020		
DESIGNED:	NBE	DRAWN:	RDH
CHECKED:	NBE	APPROVED:	NBE
PROJECT No.:	621715	SEQUENCE No.:	030
SHEET:	9 OF 11		

C:\AUTODESK VAULT WORKING\2020\BEAM62175\CAD\FABRICATION\REV-062175-030 REV-0 DWG 7/16/2021 9:53 AM



CONTECH  
**CONTRACT**  
 DRAWING



7-16-21



The design information shown on this drawing is the property of Contech Engineered Solutions LLC and is to be used only for the project and location specified herein. No part of this drawing may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Contech Engineered Solutions LLC. Contech Engineered Solutions LLC expressly disclaims any liability or responsibility for any damages, including consequential, special, or exemplary damages, that may result from the use of the information contained herein. If discrepancies between the supplied information and the actual field conditions are encountered, the user shall be responsible for the design. Contech Engineered Solutions LLC is not responsible for any design errors or omissions. Incomplete or inaccurate information supplied by the client.

DATE	BY	REVISION DESCRIPTION
7/16/2021	TLF	APPROVED FOR CONSTRUCTION
	MARK	

100'-0" x 30'-0"  
 MESA TOP DRIVE SOUTH BRIDGE  
 ELITE PROPERTIES OF AMERICA, INC  
 FOUNTAIN, CO

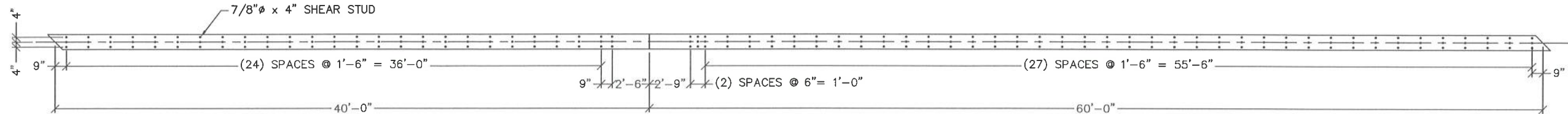
**CONTECH**  
 ENGINEERED SOLUTIONS LLC  
 www.conteches.com  
 1900 G ST. GREEK, CO 80631  
 303-565-3148 FAX  
 303-565-3148

**BIG R**  
 BRIDGE

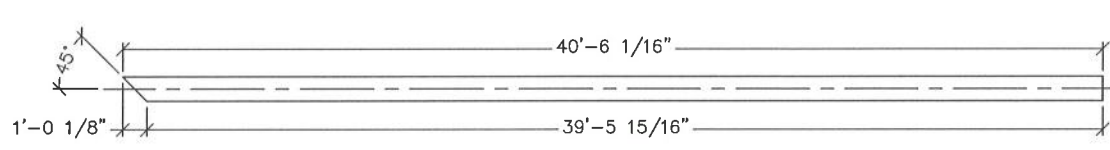
DATE: 7/24/2020

DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No.: 621715	SEQUENCE No.: 030
SHEET:	

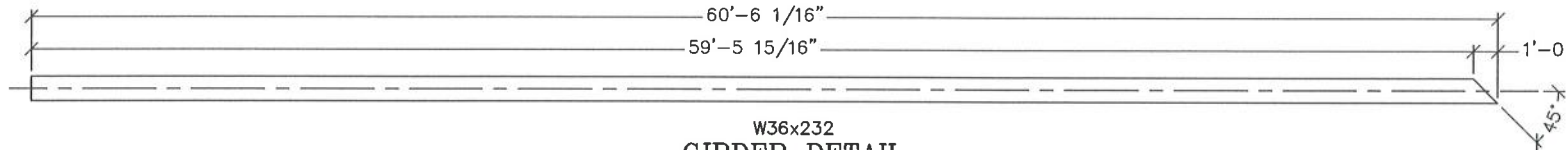
10 OF 11



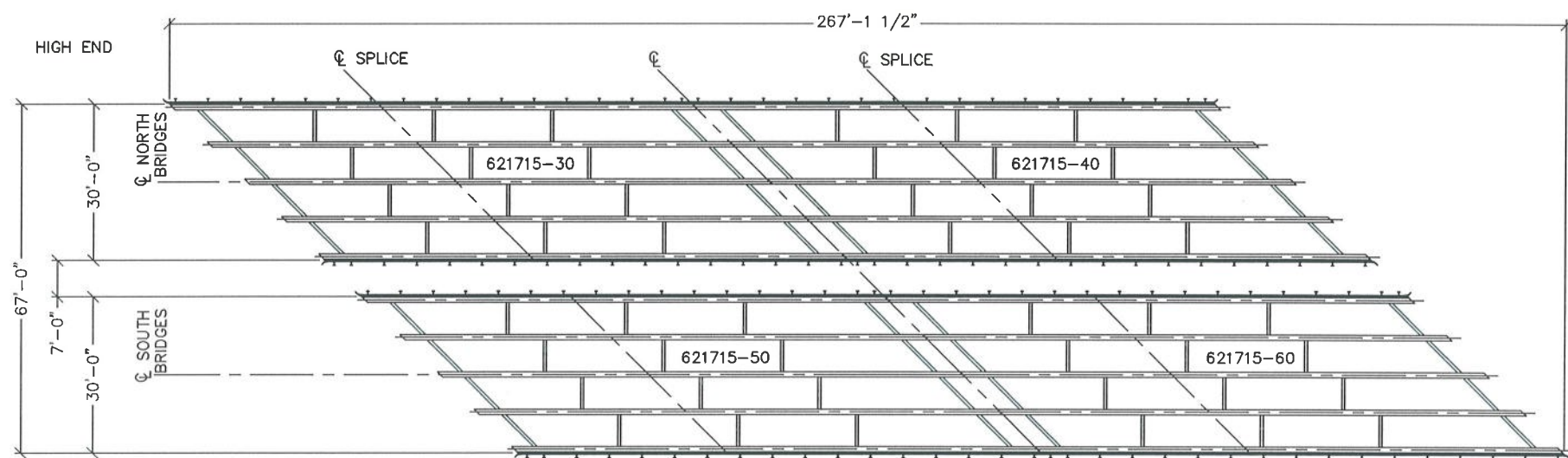
**SHEAR STUD DETAIL**



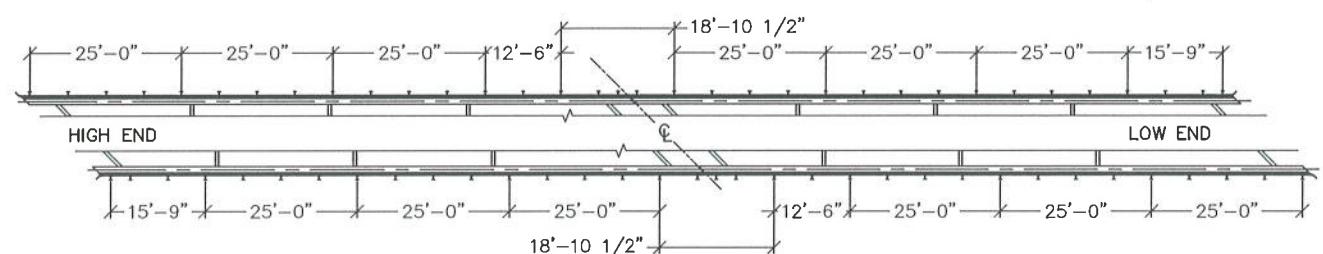
**W36x232  
GIRDER DETAIL  
(5) REQUIRED**



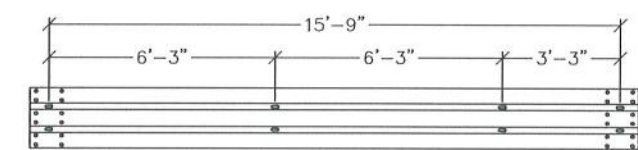
**W36x232  
GIRDER DETAIL  
(5) REQUIRED**



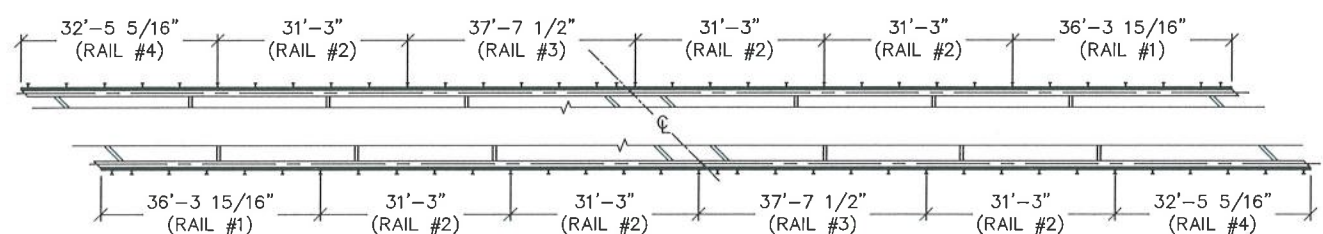
**PROJECT LAYOUT**



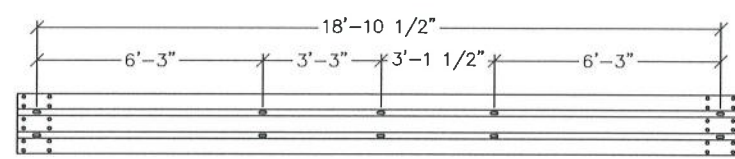
**THRIE-BEAM BRIDGE RAIL LAYOUT**  
TYPICAL 621715-30 & 621715-40  
TYPICAL 621715-50 & 621715-60



**END THRIE-BEAM RAIL LAYOUT**  
(TYPICAL AT SHORT CORNER OF EACH BRIDGE)  
(4) REQUIRED



**ANGLE SAFETY RAIL LAYOUT**  
TYPICAL 621715-30 & 621715-40  
TYPICAL 621715-50 & 621715-60



**THRIE-BEAM RAIL  
AT BRIDGE GAP LAYOUT**  
(TYPICAL BETWEEN 621715-30 & 621715-40)  
(TYPICAL BETWEEN 621715-50 & 621715-60)  
(4) REQUIRED

NOTE: ALL RAIL SECTIONS NOT SHOWN ARE STANDARD MILL PUNCH.

CONTECH  
**CONTRACT**  
DRAWING



7-16-21

The design and information shown on this drawing is the property of Contech Engineering Solutions, LLC and contractor by Contech Engineering Solutions, LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the express written consent of Contech. Contech expressly disclaims any liability or responsibility for such use. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, the contractor shall immediately notify Contech in writing. Contech accepts no liability for design based on missing, incomplete or inaccurate information supplied by the client.

NO.	DATE	REVISION DESCRIPTION	BY
1	7/16/2021	APPROVED FOR CONSTRUCTION	TLF
2			
3			
4			
5			

100'-0" x 30'-0"  
MESA TOP DRIVE SOUTH BRIDGE  
ELITE PROPERTIES OF AMERICA, INC  
FOUNTAIN, CO

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.conteches.com  
1990 S. E. Greer, CO 80531  
800-328-2047 303-345-9132 303-550-148 FAX

**BIG R**  
BRIDGE

DATE: 7/24/2020

DESIGNED: NBE	DRAWN: RDH
CHECKED: NBE	APPROVED: NBE
PROJECT No.: 621715	SEQUENCE No.: 030
SHEET:	



C:\AUTODESK VAULT WORKING\2020\BEM\621715\CAD\FABRICATION\REV\0621715-030 REV-0.DWG 7/16/2021 9:53 AM