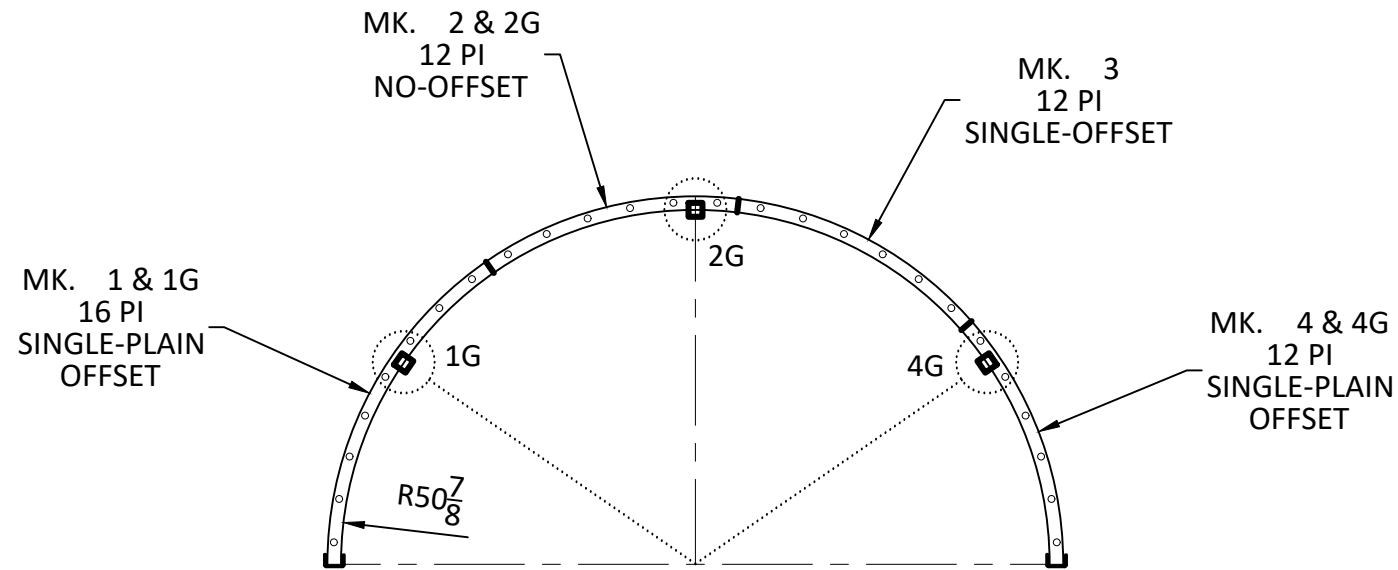
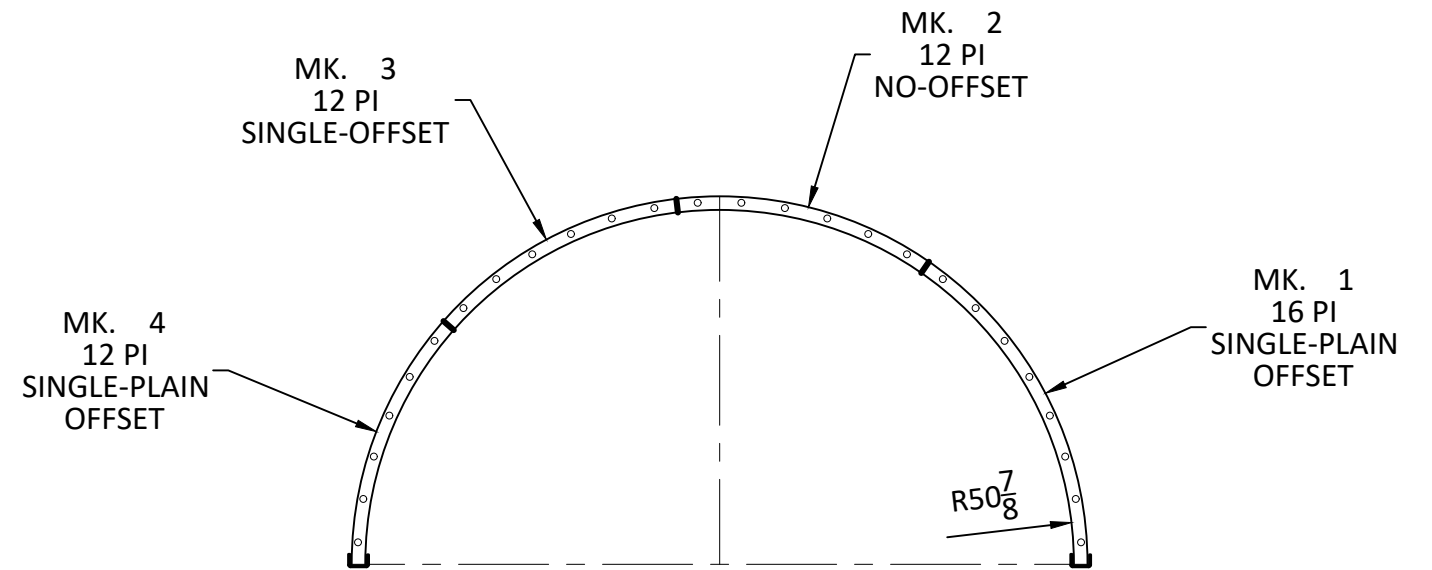


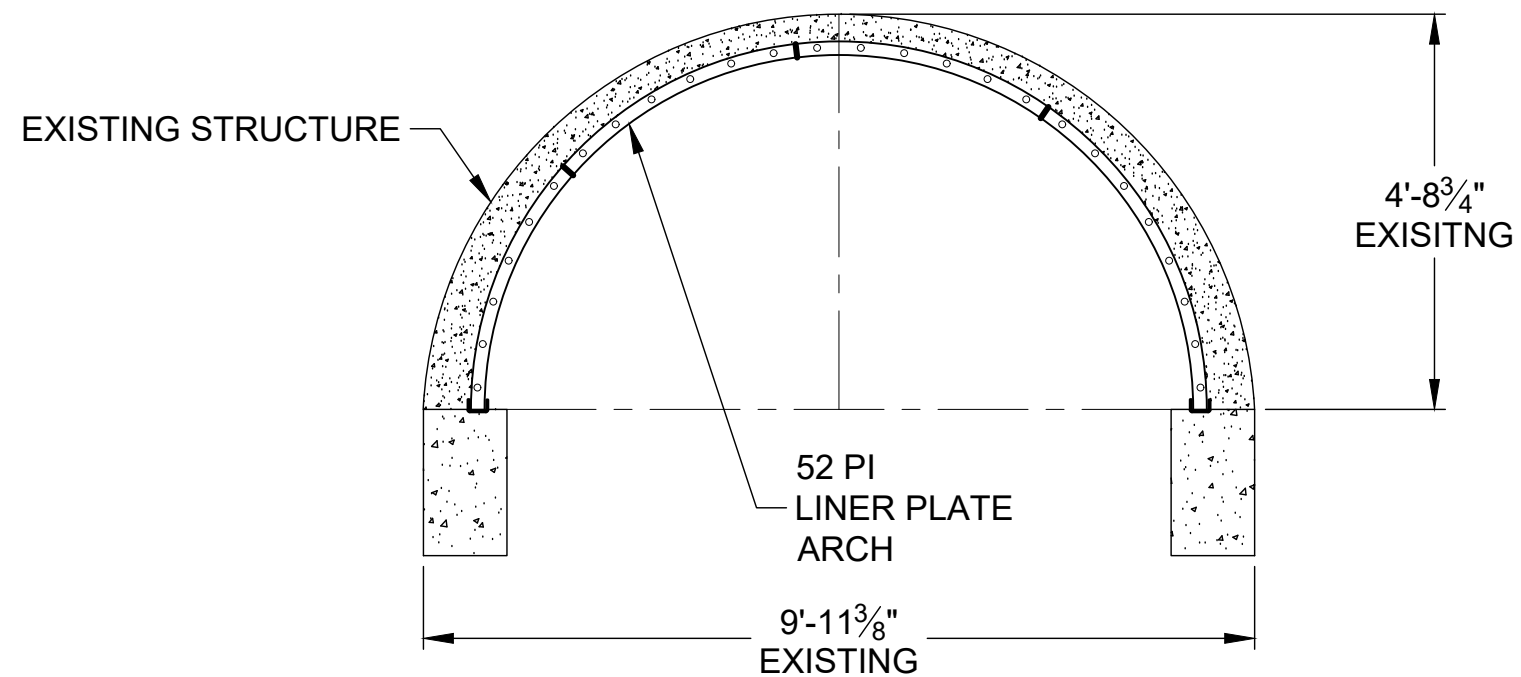
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END VIEW - "ODD" RINGS
OCCURS: 7,13,19



END VIEW - "EVEN" RINGS



APPROVAL SIGNATURE/STAMP :

	INLET	OUTLET
SKREW	90	90
BEVEL	0	0

TYPE STRUCTURE
SIZE 52 Pi
SPAN = 8'-8"
RISE = 4'-4"
LENGTH @ C 31'-8"

PLANT ORDER NO.

N/A

SALES ORDER NO.

DRAWING #:

666535-010-TLP-CON-A

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STRUCTURAL PLATE

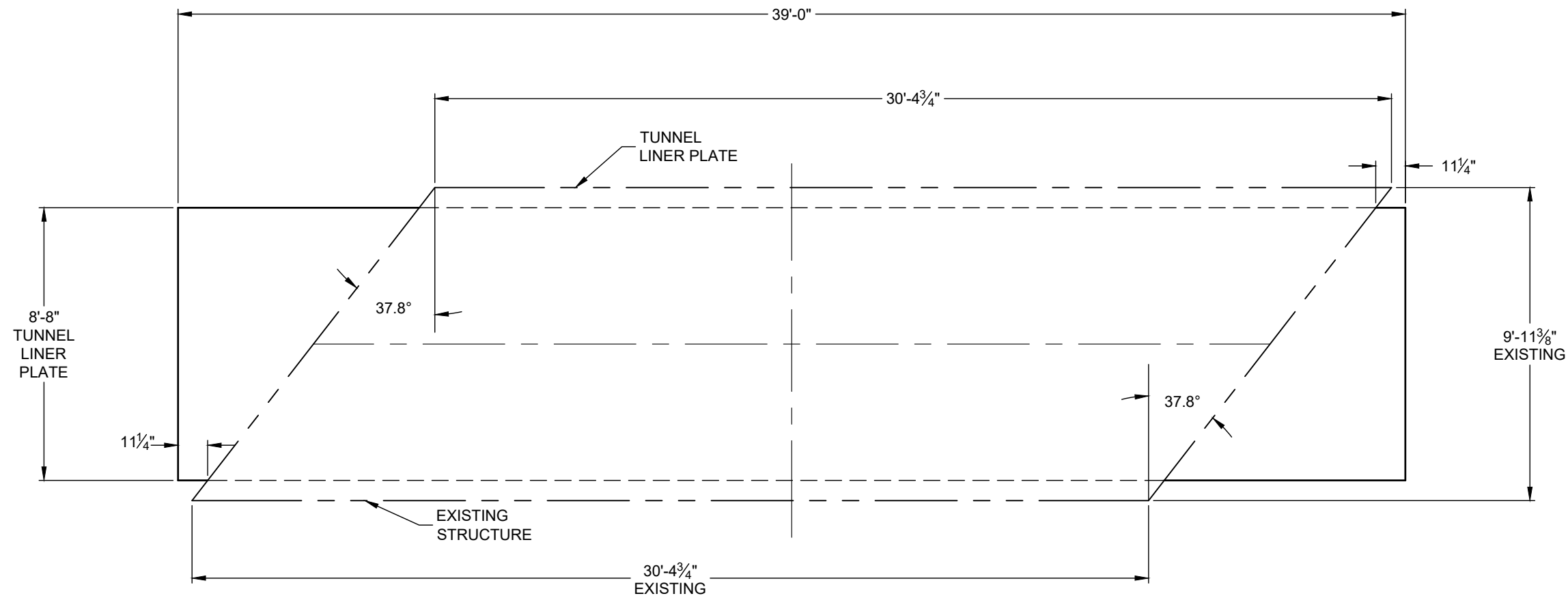
CONTRACT
DRAWING

Logan County Bridge 44-1.76

Bellefontaine, OH

PROJECT No.: 666535	SEQ. No.: 010	DATE: 3/4/2021
DESIGNED:	DRAWN: JMM / JSC	
CHECKED: JSC	APPROVED:	
SHEET NO.: 2	OF 6	

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PLAN VIEW

APPROVAL SIGNATURE/STAMP :

	INLET	OUTLET	TYPE STRUCTURE
SKREW	90	90	SIZE 52 Pi
BEVEL	0	0	SPAN = 8'-8"
			RISE = 4'-4"
			LENGTH @ 31'-8"

PLANT ORDER NO.
N/A
SALES ORDER NO.

DRAWING #:
666535-010-TLP-CON-A

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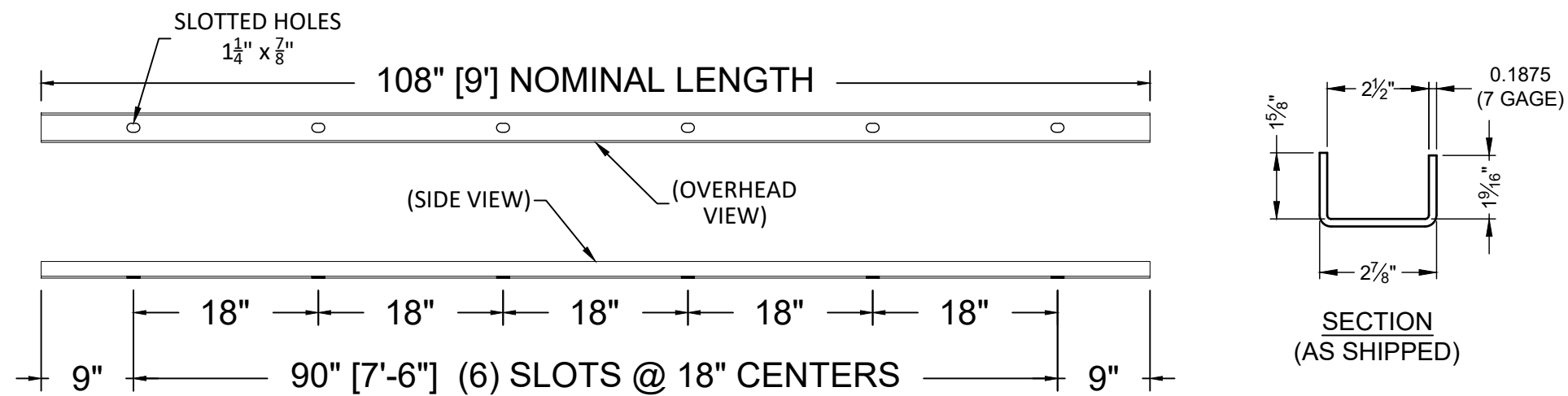
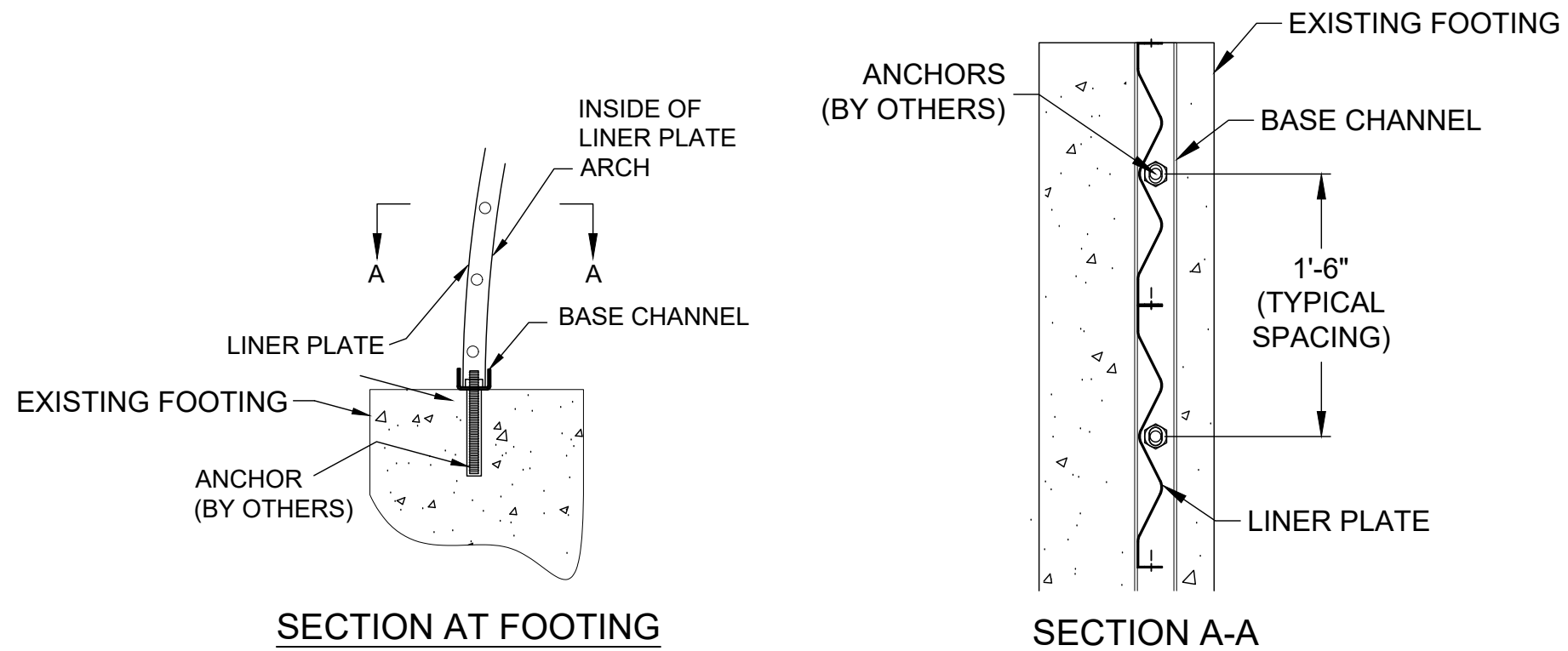
STRUCTURAL PLATE

CONTRACT DRAWING

Logan County Bridge 44-1.76

Bellefontaine, OH

PROJECT No.:	SEQ. No.:	DATE:
666535	010	3/4/2021
DESIGNED:	DRAWN:	
	JMM / JSC	
CHECKED:	APPROVED:	
JSC		
SHEET NO.:		
3	OF	6



TUNNEL LINER PLATE
BASE CHANNEL

MATERIAL: 7 GAGE STEEL
FINISH: HOT-DIP GALVANIZED

SKEW	INLET	OUTLET	TYPE STRUCTURE SIZE 52 Pi SPAN = 8'-8" RISE = 4'-4" LENGTH @ C 31'-8"	PLANT ORDER NO. N/A	DRAWING #: 666535-010-TLP-CON-A
	90	90		SALES ORDER NO.	
	BEVEL	0		0	

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DRAWING

Logan County Bridge 44-1.76

Bellefontaine, OH

APPROVAL SIGNATURE/STAMP :

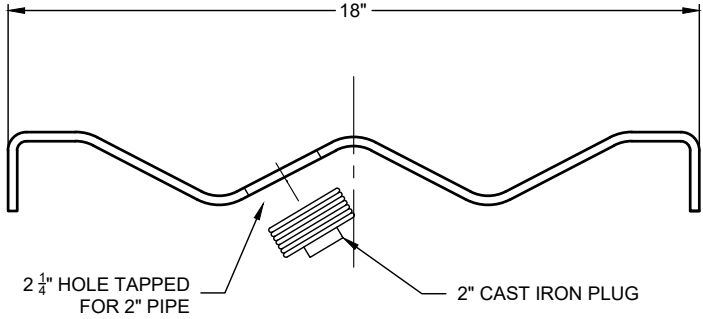
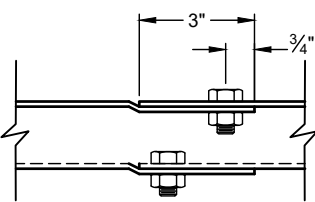
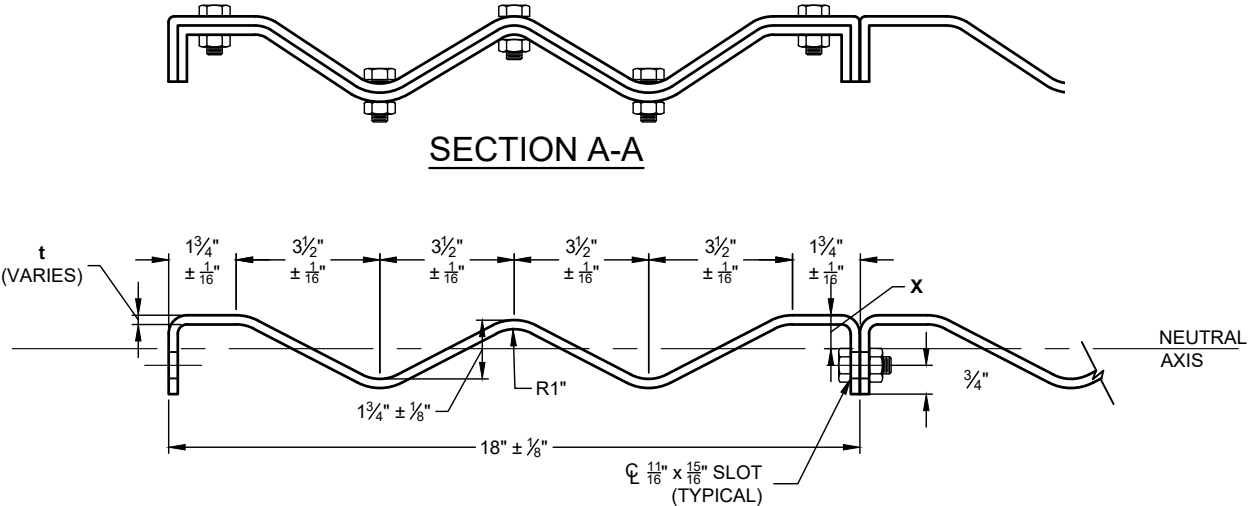
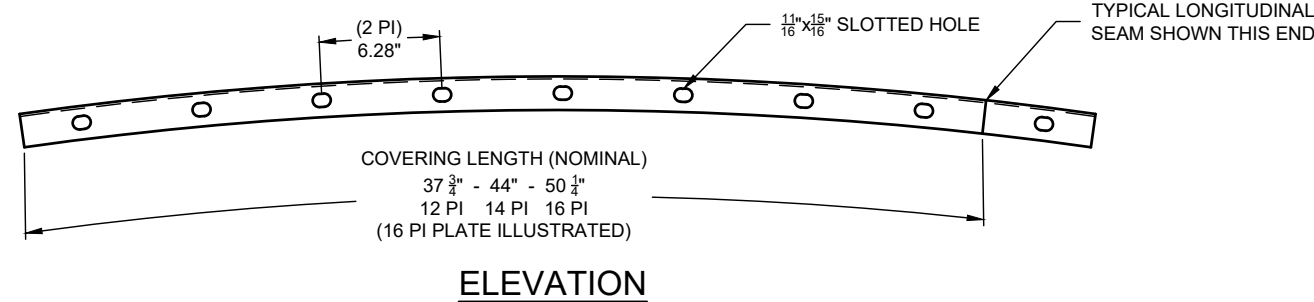
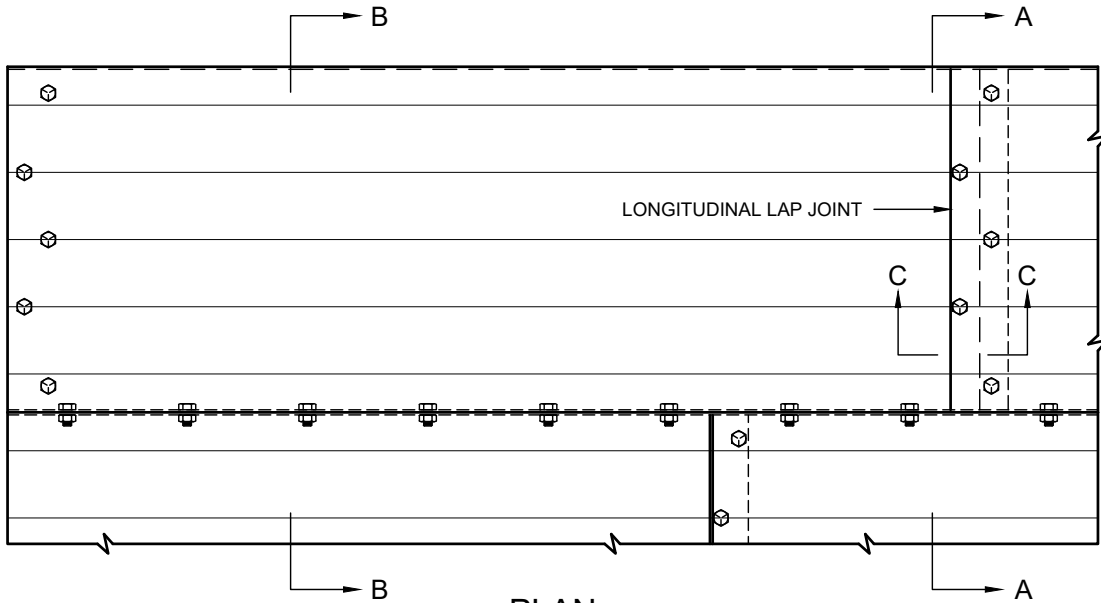
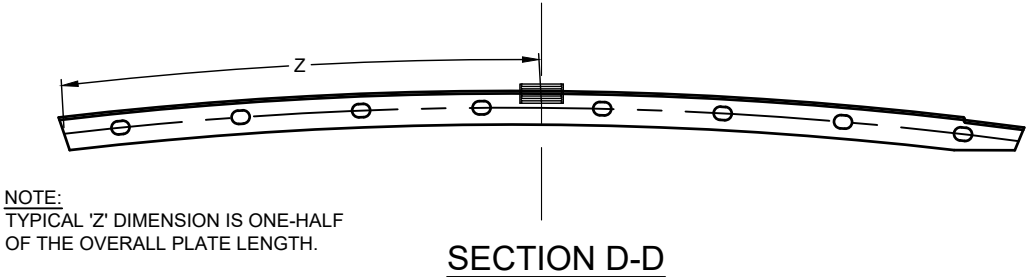
PROJECT No.:	SEQ. No.:	DATE:
666535	010	3/4/2021
DESIGNED:	DRAWN:	
	JMM / JSC	
CHECKED:	APPROVED:	
JSC		
SHEET NO.:		
4	OF	6

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PROPERTIES AND DIMENSIONS OF 2-FLANGE ALUMINUM TUNNEL LINER PLATE								
NOMINAL THICKNESS (INCHES) t	AREA (IN ² PER INCH) A	SECTION MODULUS (IN ³ PER INCH) S	MOMENT OF INERTIA (IN ⁴ PER INCH) I	RADIUS OF GYRATION (INCHES) r	APPROX. PLATE WEIGHTS INCLUDING BOLTS (POUNDS)			x* (IN.)
					12 PI PLATE	14 PI PLATE	16 PI PLATE	
0.125	0.160	0.0540	0.0583	0.603	15	17	19	0.782
0.150	0.191	0.0649	0.0711	0.610	17	19	22	0.799
0.175	0.227	0.0756	0.0842	0.610	19	22	25	0.827
0.200	0.260	0.0864	0.0972	0.611	21	24	27	0.842
0.225	0.292	0.0972	0.1108	0.615	24	27	30	0.851
0.250	0.325	0.1080	0.1230	0.615	26	30	33	0.874

ULTIMATE LONGITUDINAL SEAM STRENGTH OF 2-FLANGE ALUMINUM LINER PLATE (INCH LB / LIN. FT.)						
NOMINAL THICKNESS	0.125	0.150	0.175	0.200	0.225	0.250
STRENGTH LB. / FT.	35,000	45,000	50,000	60,000	70,000	74,000

* X = DISTANCE FROM OUTER FACE TO NEUTRAL AXIS, IN INCHES .
REFER TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES SECTION 12, AND AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.14 FOR t, A, I and r.



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Logan County Bridge 44-1.76

Bellefontaine, OH

PROJECT No.: 666535	SEQ. No.: 010	DATE: 3/4/2021
DESIGNED:	DRAWN: JMM / JSC	
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SHEET NO.: 5	OF 6	

SPECIFICATION
ALUMINUM
TUNNEL LINER PLATE

SCOPE:

THESE SPECIFICATIONS COVER ALUMINUM TUNNEL LINER PLATES, FABRICATED TO PERMIT IN-PLACE ASSEMBLY OF A CONTINUOUS SUPPORT SYSTEM. TUNNEL OR RELINED STRUCTURES SHALL BE OF THE DIAMETER AND/OR SHAPE AND GAGE AS SHOWN ON THE PLANS.

MATERIAL:

LINER PLATES SHALL BE FABRICATED FROM ALUMINUM PLATES CONFORMING TO THE CHEMICAL AND MECHANICAL PROPERTIES OF THE BASE METAL FOR ALLOY 5052-H141 TEMPER. PLATES SHALL BE OF THE GAGE SHOWN ON THE PLANS AND SHALL BE CURVED TO SUIT THE TUNNEL CROSS SECTION SHOWN.

ALL PLATES SHALL BE PUNCHED FOR BOLTING ON BOTH LONGITUDINAL AND CIRCUMFERENTIAL SEAMS AND SHALL BE SO FABRICATED AS TO PERMIT COMPLETE ERECTION FROM THE INSIDE OF THE TUNNEL. THE LONGITUDINAL SEAM SHALL BE OF THE LAPPED TYPE, WITH AN OFFSET EQUAL TO THE GAGE OF METAL FOR THE FULL WIDTH OF PLATE TO ALLOW THE CROSS SECTION OF THE PLATE TO BE CONTINUOUS THROUGH THE SEAM. CIRCUMFERENTIAL BOLT HOLE SPACING SHALL BE 6-1/4".

GROUT HOLES SHALL BE TWO INCHES (2") IN DIAMETER AND SHALL BE PROVIDED AS SHOWN ON THE PLANS TO PERMIT GROUTING AS THE ASSEMBLY OF THE LINER PLATE PROCEEDS.

BOLTS AND NUTS:

STEEL BOLTS AND NUTS SHALL BE 5/8" IN DIAMETER AND LENGTH AS RECOMMENDED BY THE MANUFACTURER. BOLTS SHALL CONFORM TO ASTM A 307. NUTS SHALL CONFORM TO ASTM A 563, GRADE A, HEX. BOLTS AND NUTS SHALL BE MECHANICALLY GALVANIZED AND CONFORM TO ASTM B695.

INSTALLATION:

LINER PLATE SHALL BE ASSEMBLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. LONGITUDINAL SEAMS SHALL BE STAGGERED BETWEEN RINGS. VOIDS OCCURRING BETWEEN LINER PLATE AND EXISTING STRUCTURE OR GROUND SHALL BE GROUTED UNTIL COMPLETELY FILLED. GROUT MATERIAL AND METHOD OF GROUTING SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

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