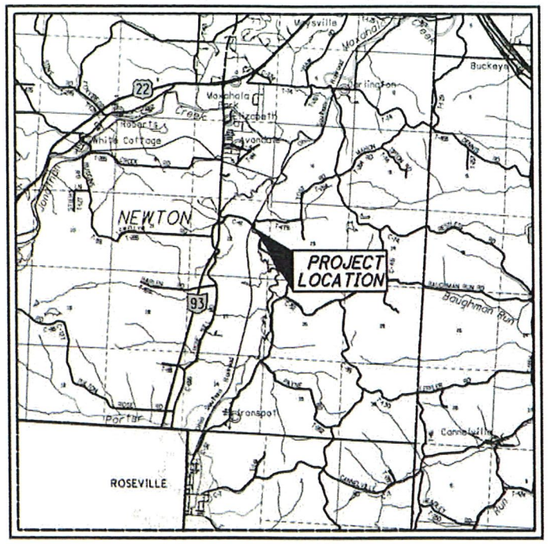


LOCATION MAP

LATITUDE: N 39°51'18" LONGITUDE: W 82°03'23"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2017)	467
DESIGN YEAR ADT (2037)	500
DESIGN HOURLY VOLUME (2037)	60
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	1%
DESIGN SPEED	40 MPH
LEGAL SPEED	40 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
LOCAL

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

PLAN PREPARED BY:

MUSKINGUM COUNTY MCEO ENGINEER'S OFFICE
DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

MUSKINGUM COUNTY

ENGINEER'S OFFICE

MUS-C.R.41-1.14

NEWTON TOWNSHIP

MUSKINGUM COUNTY

(Lambert Road Bridge)

INDEX OF SHEETS:

PROJECT DESCRIPTION

IMPROVEMENT OF 0.04 MILE OF C.R.41 IN NEWTON TOWNSHIP, BY REPLACING A SINGLE SPAN STEEL TRUSS BRIDGE OVER MOXAHALA CREEK WITH A STEEL TRUSS BRIDGE INCLUDING GUARDRAIL AND MINIMAL APPROACH WORK.

PROJECT EARTH DISTURBED AREA:	0.50 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.10 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

WE THE COMMISSIONERS OF MUSKINGUM COUNTY, IN FORMAL SESSION, HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

James W Porter — MUSKINGUM COUNTY COMMISSIONER — 11/30/17 DATE

Cindy S Cameron — MUSKINGUM COUNTY COMMISSIONER — 11-30-17 DATE

Mollie S Clarke — MUSKINGUM COUNTY COMMISSIONER — 11-30-17 DATE

MUSKINGUM COUNTY ENGINEER — 11/29/2017 DATE

ENGINEERS SEAL:

DOUGLAS R. DAVIS E-60345 REGISTERED PROFESSIONAL ENGINEER

SIGNED:

DATE: 11/29/2017

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/18/14	DS-1-92	7/18/03			
		GSD-1-96	7/19/02			
DM-1.1	7/21/17	TST-1-99	7/15/16			
DM-4.3	1/15/16					
DM-4.4	1/15/16					
MGS-1.1	7/21/17					
MGS-2.1	7/19/13					
MGS-3.1	7/21/17					
MGS-4.1	1/20/17					
MT-101.60	1/20/17					

SUPPLEMENTAL SPECIFICATIONS

800	1/19/18
832	1/17/14
846	4/17/15

SPECIAL PROVISIONS

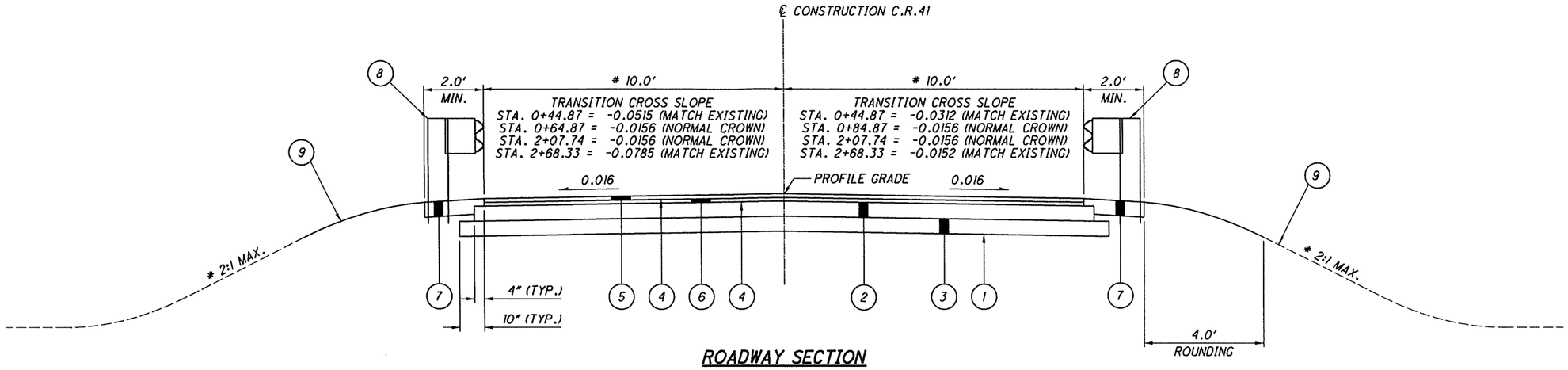
FEDERAL PROJECT NO. FAN E080 (943)

PID NO. 83287

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT OHIO SOUTHERN RAILROAD

MUS-C.R.41-1.14



ROADWAY SECTION

REAR

TAPER LEFT (9'-10') - STA. 0+44.87 TO STA. 0+64.87
TAPER RIGHT (9'-10') - STA. 0+44.87 TO STA. 0+84.87

FORWARD

NORMAL LEFT (10') - STA. 1+87.74 TO STA. 2+68.33
NORMAL RIGHT (10') - STA. 2+07.74 TO STA. 2+68.33

* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS OR PLAN VIEW

LEGEND

(1) ITEM 204 - SUBGRADE COMPACTION

(2) ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22

(3) ITEM 304 - 6" AGGREGATE BASE

(4) ITEM 407 - TACK COAT (@ 0.05 GAL./SQ.YD.)

(5) ITEM 441 - 1¼" - ASPHALT CONCRETE SURFACE COURSE, TYPE I, (448) PG64-22

(6) ITEM 441 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)

(7) ITEM 411 - 8" STABILIZED CRUSHED AGGREGATE

(8) ITEM 606 - GUARDRAIL, TYPE MGS

(9) ITEM 659 - SEEDING AND MULCHING

TYPICAL SECTIONS

MUS-C.R.41-1.14

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

CABLE:
TIME WARNER CABLE
3760 INTERCHANGE DRIVE
COLUMBUS, OHIO 43204
PHONE: (614) 481-5262
ATTN: RAY MAURER

ELECTRIC:
AMERICAN ELECTRIC POWER CO.
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
PHONE: (614) 883-6831
ATTN: PAUL PAXTON

PHONE:
AT&T (OHIO)
160 N 6TH STREET RM 106
ZANESVILLE, OH 43701
PHONE: (740) 454-3552
ATTN: BARRETT TAMASOVICH

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED WITHIN 72 HOURS.

GROUND MOUNTED SIGNS

COUNTY WILL REMOVE ALL GROUND MOUNTED SIGNS ONCE ROAD CLOSURE BEGINS, AND WILL REINSTALL SIGNS ONCE ROAD IS OPENED TO TRAFFIC.

TREE REMOVAL

NO REMOVAL OF TREES IS PERMITTED AS THERE WERE NO TREES THAT APPEARED TO BE WITHIN CONSTRUCTION LIMITS, HOWEVER, VERTICAL PRUNING AND REMOVING SMALL SHRUBS IS ALLOWABLE.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SEEDING AND MULCHING — 100 SY

659, COMMERCIAL FERTILIZER — 0.02 TON
[(100) X (1 TON/7410 SY)] = 0.013

659, LIME — 0.1 ACRE
(100) X (1 ACRE/4840 SY) = 0.02 ACRE

659, WATER — 1 M GAL
[(100) X (0.0054 M GAL/SY)] = 0.54 M GAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONTRACTOR'S USE OF RIGHT-OF-WAY

THE CONTRACTOR SHALL NOT USE OR ENTER ANY AREA OUTSIDE OF THE RIGHT-OF-WAY LIMITS THAT ARE SHOWN ON THE PLANS.

TRAFFIC CONTROL

ITEM 626 - BARRIER REFLECTOR, TYPE 2, BI-DIRECTIONAL IS INCLUDED IN THE PLANS FOR TRAFFIC CONTROL AND SAFETY MEASURES. BARRIER REFLECTORS SHALL BE PLACED ON ALL GUARDRAIL RUNS INCLUDING ANCHOR ASSEMBLIES AND BRIDGE TERMINAL ASSEMBLIES. AN ESTIMATED QUANTITY OF ITEM 626 - BARRIER REFLECTOR - 8 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

NO IN-STREAM WORK

NO WORK SHALL TAKE PLACE BELOW THE ORDINARY HIGH WATER MARK OF MOXAHALA CREEK. SHOULD WORK BELOW OHWM NEED TO TAKE PLACE, THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING THEIR OWN WATERWAY PERMITS FROM THE HUNTINGTON OFFICE OF THE US ARMY CORPS OF ENGINEERS.

FLOOD PLAIN

NO STORAGE OF MATERIALS OR STAGING SHALL OCCUR WITHIN THE FLOODPLAIN OF MOXAHALA CREEK.

CENTERLINE REFERENCES C.R. 41						
STATION	OFFSET (FT.)	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
0+00.00			676003.1574	2092995.3061		P.I.
0+44.87			675965.8472	2093020.2260		P.I.
2+56.89			675793.0692	2093143.1157		P.C.
3+44.48			675726.7079	2093200.0951		P.T.

CALCULATED SEJ CHECKED DRD

GENERAL NOTES

MUS-C.R.41-1.14

ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48"x30" ROAD CLOSED SIGNS, ADVANCED WARNING SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS AS SHOWN ON SCD MT-101.60 AT THE LOCATIONS SHOWN DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE 3 BARRICADES OF THE TYPE AND LOCATION AS SHOWN ON THE PLANS.

ALL WORK AND TRAFFIC DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE MCEO EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR SHALL THEN PROVIDE AND INSTALL ALL DEVICES NECESSARY TO DEFINE THE ROUTE OF THE DETOUR AND SHALL MAINTAIN THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

DETOUR SIGNAGE

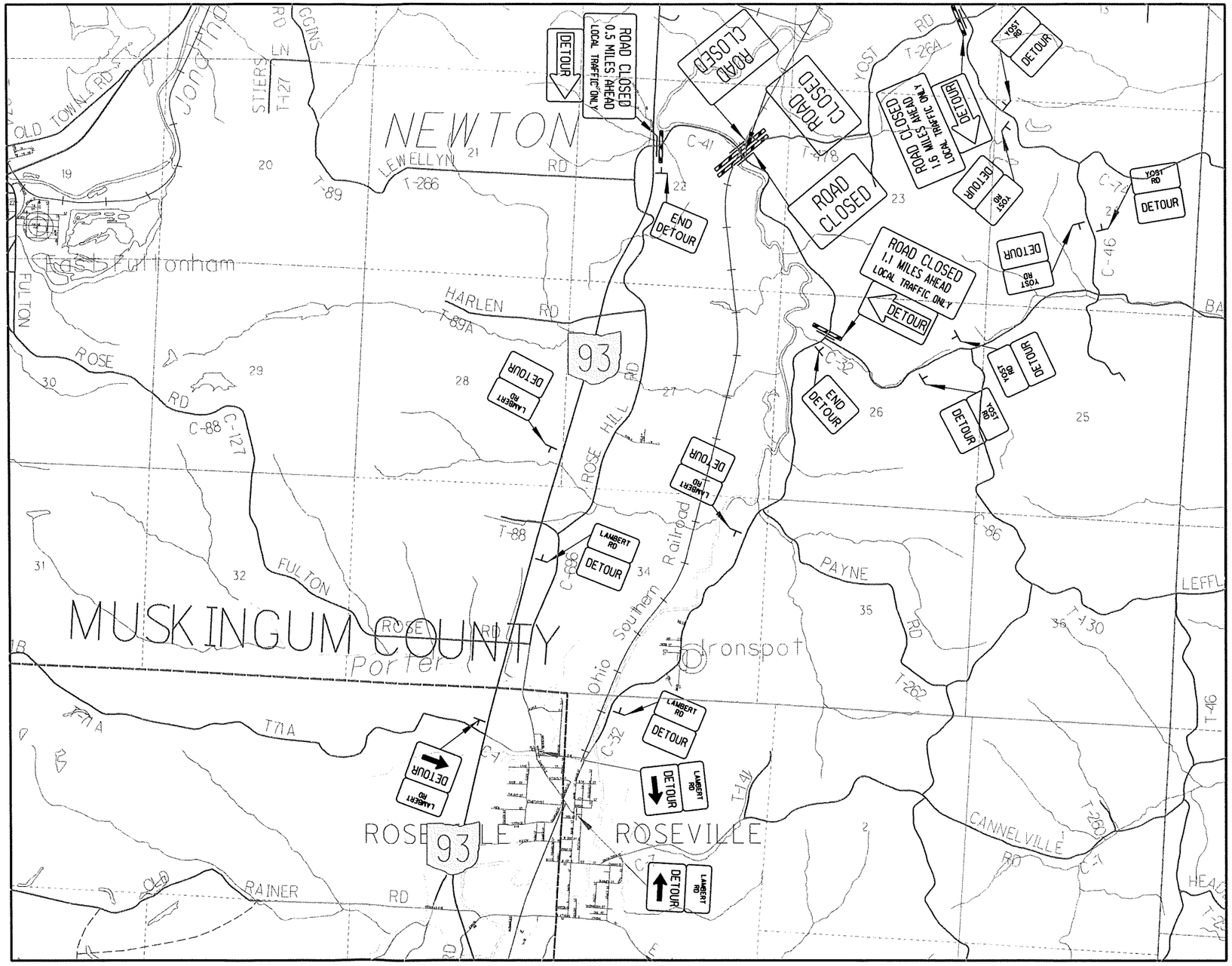
THE CONTRACTOR SHALL ERECT AND MAINTAIN DETOUR SIGNAGE AND ADVANCED NOTICE SIGNS.

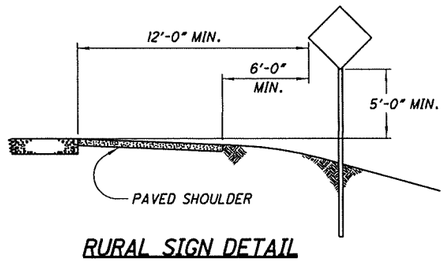
YOST ROAD SHALL ALSO BE CLOSED AT THE BRIDGE LOCATION.

THIS WORK SHALL BE PAID UNDER THE LUMP SUM PAY ITEM 614 - DETOUR SIGNING, AS PER PLAN

DETOUR LIMITATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL SIXTY (60) CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 TO BE ASSESSED. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.





RURAL SIGN DETAIL

SIGN KEY

END DETOUR
M4-8A (24"x18")

LAMBERT RD / DETOUR
SPECIAL (30"x12")
M4-8 (30"x15")

LAMBERT RD / DETOUR
SPECIAL (30"x12")
M4-9L (30"x24")

LAMBERT RD / DETOUR
SPECIAL (30"x12")
M4-9R (30"x24")

ROAD CLOSED X.X MILES AHEAD LOCAL TRAFFIC ONLY / DETOUR
R11-3a (60"x30")
M4-10L (48"x18")

ROAD CLOSED X.X MILES AHEAD LOCAL TRAFFIC ONLY / DETOUR
R11-3a (60"x30")
M4-10R (48"x18")

ROAD CLOSED
R11-2 (48"x30")

LEGEND

GATES AND BARRICADES AS SHOWN ON SCD MT-101.60

TYPE 3 BARRICADE

TYPICAL POST MOUNTED SIGN (SEE RURAL SIGN DETAIL)

CALCULATED SEJ
CHECKED DRD

0 750 1500 3000
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC DETOUR PLAN AND NOTES

MUS-C.R.41-1.14

4
23

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
						OFFICE CALCS	3	4	7			01/BRF/BR/MCEO							
																		ROADWAY	
							LS					LS		201	11000	LS		CLEARING AND GRUBBING	
									25			25		202	38000	25	FT	GUARDRAIL REMOVED	
									83			83		203	10000	83	CY	EXCAVATION	
									8			8		203	20000	8	CY	EMBANKMENT	
						287						287		204	10000	287	SY	SUBGRADE COMPACTION	
									2			2		606	25550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE A	
									1			1		606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
									2			2		606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
									1			1		606	35003	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN "A"	6
									1			1		606	35003	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN "B"	6
																		EROSION CONTROL	
							100					100		659	10000	100	SY	SEEDING AND MULCHING	
							0.02					0.02		659	20000	0.02	TON	COMMERCIAL FERTILIZER	
							0.1					0.1		659	31000	0.1	ACRE	LIME	
							2					2		659	35000	2	MGAL	WATER	
												2000		832	30000	2000	EACH	EROSION CONTROL	
																		PAVEMENT	
						50						50		301	46000	50	CY	ASPHALT CONCRETE BASE, PG64-22	
						52						52		304	20000	52	CY	AGGREGATE BASE	
						15						15		407	10000	15	GAL	TACK COAT	
						12						12		411	10000	12	CY	STABILIZED CRUSHED AGGREGATE	
						13						13		441	50000	13	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) PG64-22	
						18						18		441	50300	18	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
																		TRAFFIC CONTROL	
							8					8		626	00110	8	EACH	BARRIER REFLECTOR, TYPE 2, BI-DIRECTIONAL	
									0.04			0.04		642	00300	0.04	MILE	CENTER LINE	
																		MAINTENANCE OF TRAFFIC	
								LS				LS		614	12421	LS		DETOUR SIGNING, AS PER PLAN	4
																		STRUCTURE 20 FOOT SPAN AND OVER (MUS-041-0114)	
																		FOR BRIDGE ESTIMATED QUANTITIES SEE SHEET 11	11
																		INCIDENTALS	
												LS		614	11000	LS		MAINTAINING TRAFFIC	
												LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												LS		624	10000	LS		MOBILIZATION	

CALCULATED SEJ
CHECKED DRD

GENERAL SUMMARY

MUS-C.R.41-1.14

BEGIN WORK
STA. 0+00.00

BEGIN PROJECT
STA. 0+44.87

FEDERAL PROJECT
NO. E080 (943)

P.I. Sta. 0+44.87

MGS BTA, TYPE I,
AA, TYPE A

Ex SH

G-1

21.0' TAPER

W6x25 STEEL POST WITH
6" CONCRETE ENCASEMENT

EXISTING OVERHEAD
RAILROAD BRIDGE
(DO NOT DISTURB)

S 33° 44' 22" E

9.0'

9.0'

2'

10.0'

10.0'

℄ BRG. R.A.
STA. 0+77.06

41.0' TAPER

FIELD
DRIVE
GRASS

EXISTING RAILROAD
BRIDGE ABUTMENT
(DO NOT DISTURB)

G-2

R=5.25'

MGS BTA, TYPE I, AS PER PLAN "A"
OMIT FIRST POST OFF BRIDGE
(CURVED 10 GUAGE THRIE-BEAM WITH
TERMINAL CONNECTOR)

PROPOSED PREFABRICATED TRUSS SHOWN
(EXISTING TRUSS TO BE REMOVED)

CL-1

LAMBERT RD

S 35° 25' 21" E

MOXAHALA
CREEK

P.I. Sta. 3+00.81
Δ = 10° 27' 18" (LT)
Dc = 11° 56' 12"
R = 480.00'
T = 43.92'
L = 87.59'
E = 2.00'
C = 87.47'
C.B. = S 40° 39' 01" E

MGS BTA, TYPE I, AS PER PLAN "B"
OMIT FIRST POST OFF BRIDGE
(12'-6" CURVED 10 GUAGE THRIE-BEAM
WITH ASSYMETRICAL TRANSITION),
AA, TYPE T

GRAVEL

ASPHALT

℄ YOST RD (TR478)

G-3

R-1

R=7.5'

R=12'

10.0'

50.0'

R=35'

END WORK
STA. 2+73.33

END PROJECT
STA. 2+68.33

FEDERAL PROJECT
NO. E080 (943)

P.C. Sta. 2+56.89

2'

10.0'

℄ BRG. F.A.
STA. 1+95.56

℄ CONSTRUCTION & R/W C.R. 41

W6x25 STEEL POST WITH
6" CONCRETE ENCASEMENT

G-4

CONSTRUCTION
LIMITS

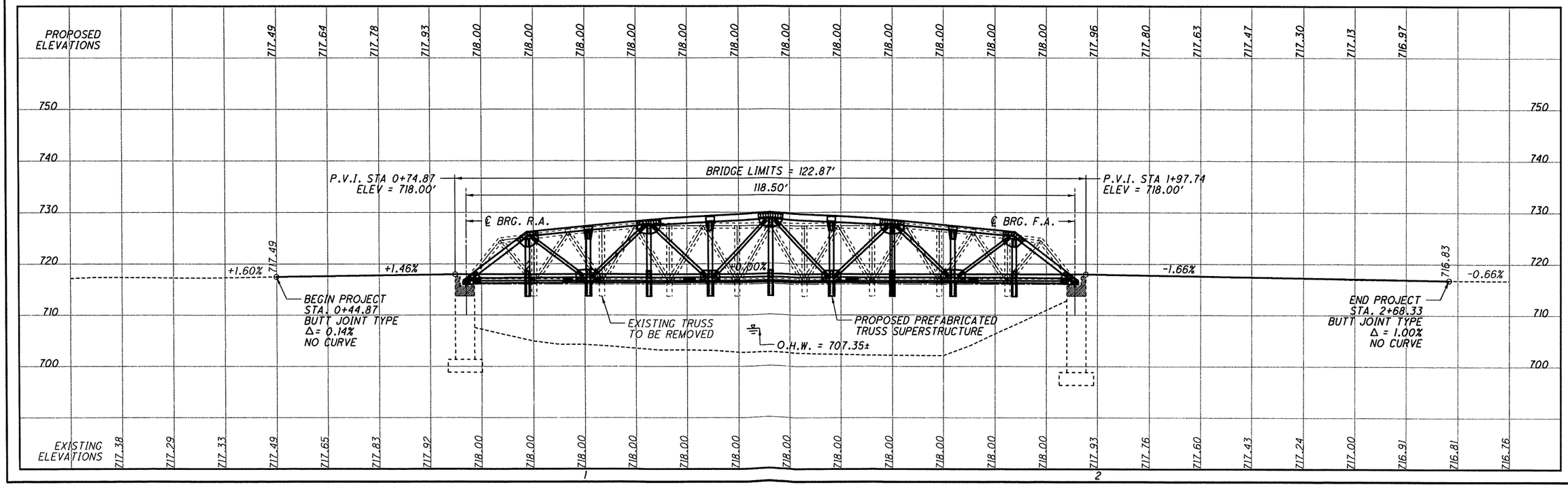
MGS BTA, TYPE I,
AA, TYPE A

NOTES

1. FOR CENTERLINE REFERENCES, SEE SHEET 3.
2. FOR QUANTITIES, SEE SHEET 7.

BENCHMARKS

BM#1 - MAG NAIL SET IN PAVEMENT X = 2093118.846 Y = 675827.823 STA. 2+14.503, 0.366' LT. ELEV. = 717.789	BM#2 - MAG NAIL SET IN PAVEMENT X = 2093183.273 Y = 675742.620 STA. 3+21.358, 0.847' RT. ELEV. = 716.725



HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED SEJ
CHECKED DRD

PLAN AND PROFILE LAMBERT RD
STA. 0+00 TO STA. 2+80

MUS-C.R.41-1.14

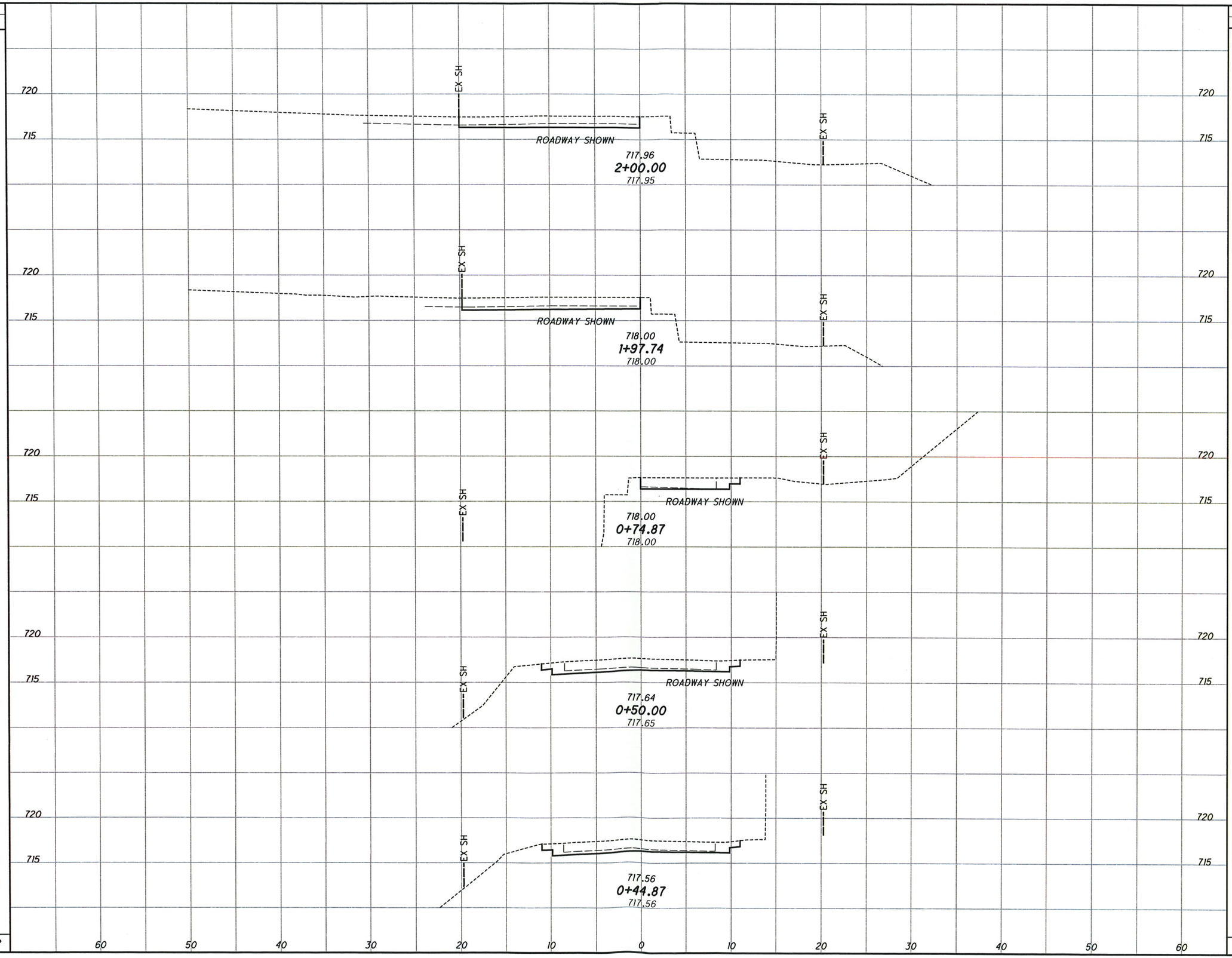
REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		202 GUARDRAIL REMOVED	203 EXCAVATION	203 EMBANKMENT	606 ANCHOR ASSEMBLY, MGS TYPE A	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE I	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE I, AS PER PLAN "A"	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE I, AS PER PLAN "B"	642 CENTER LINE DOUBLE SOLID								
						FT	CY	CY	EACH	EACH	EACH	EACH	EACH	MILE								
R-1	6	1+80.61	1+92.02	LT		25																
R-2	6	1+87.74	2+68.33	LT																		
G-1	6	0+03.79	0+54.05	LT					1		1											
G-2	6	0+81.87	0+87.11	RT								1										
G-3	6	1+85.50	1+93.21	LT						1			1									
G-4	6	2+18.56	2+68.21	RT					1		1											
CL-1	6	0+44.87	2+68.33	℄										0.04								
	8	0+44.87	2+00.00	LT&RT			24	2														
	9	2+25.00	2+68.33	LT&RT			59	6														
TOTALS CARRIED TO GENERAL SUMMARY						25	83	8	2	1	2	1	1	0.04								

CALCULATED SEJ
CHECKED DRD

ESTIMATED QUANTITIES

MUS-C.R.41-1.14

SEEDING END WIDTH	SEEDING SQ. YDS.
0.00	0
0.00	0
2.00	10
5.06	2
4.08	0
	12



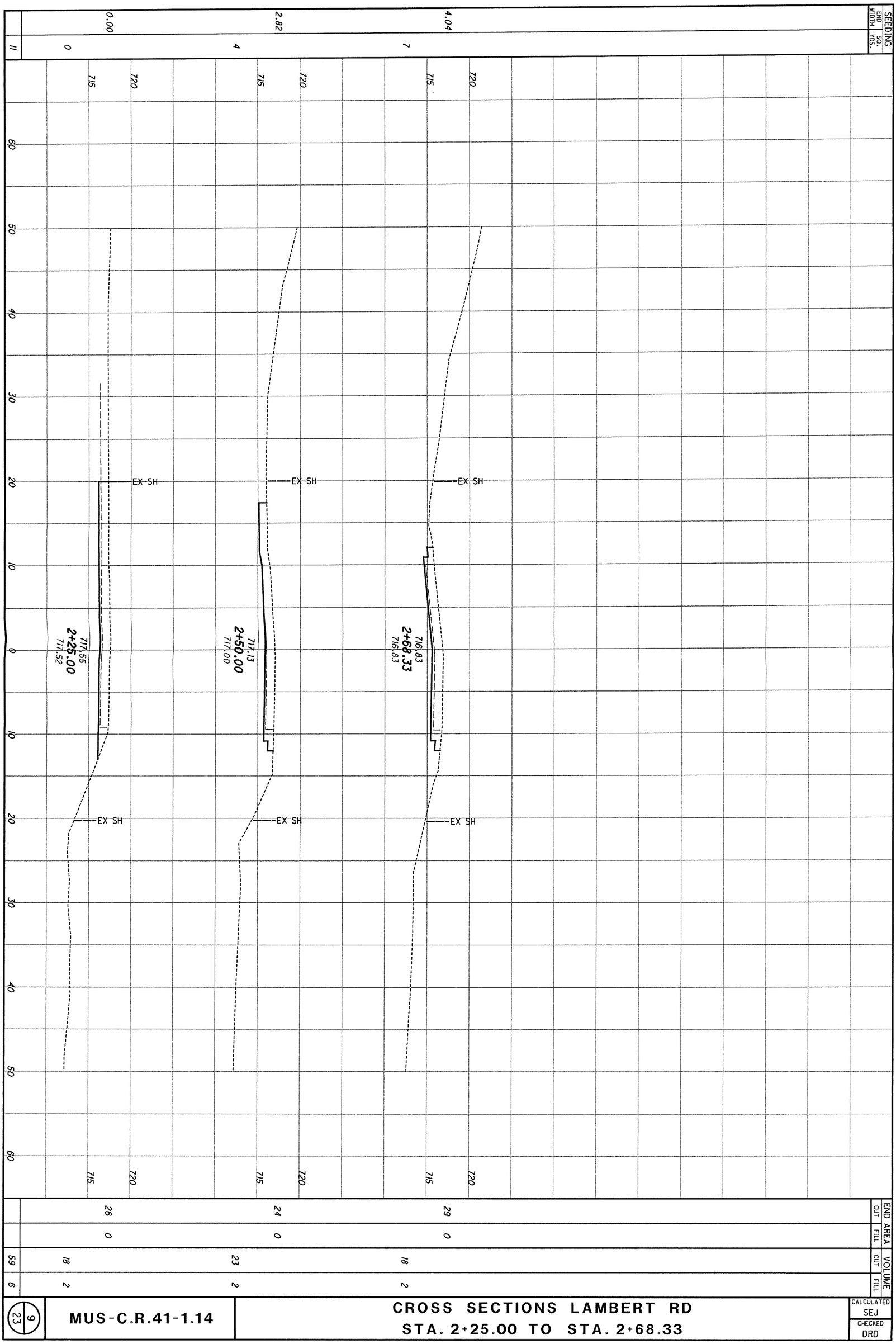
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12	0	1	0
13	0	0	0
13	0	18	2
27	0	5	0
26	0	0	0
		24	2

CALCULATED SEJ
CHECKED DRD

CROSS SECTIONS LAMBERT RD
STA. 0+44.87 TO STA. 2+00.00

MUS-C.R.41-1.14

8
23



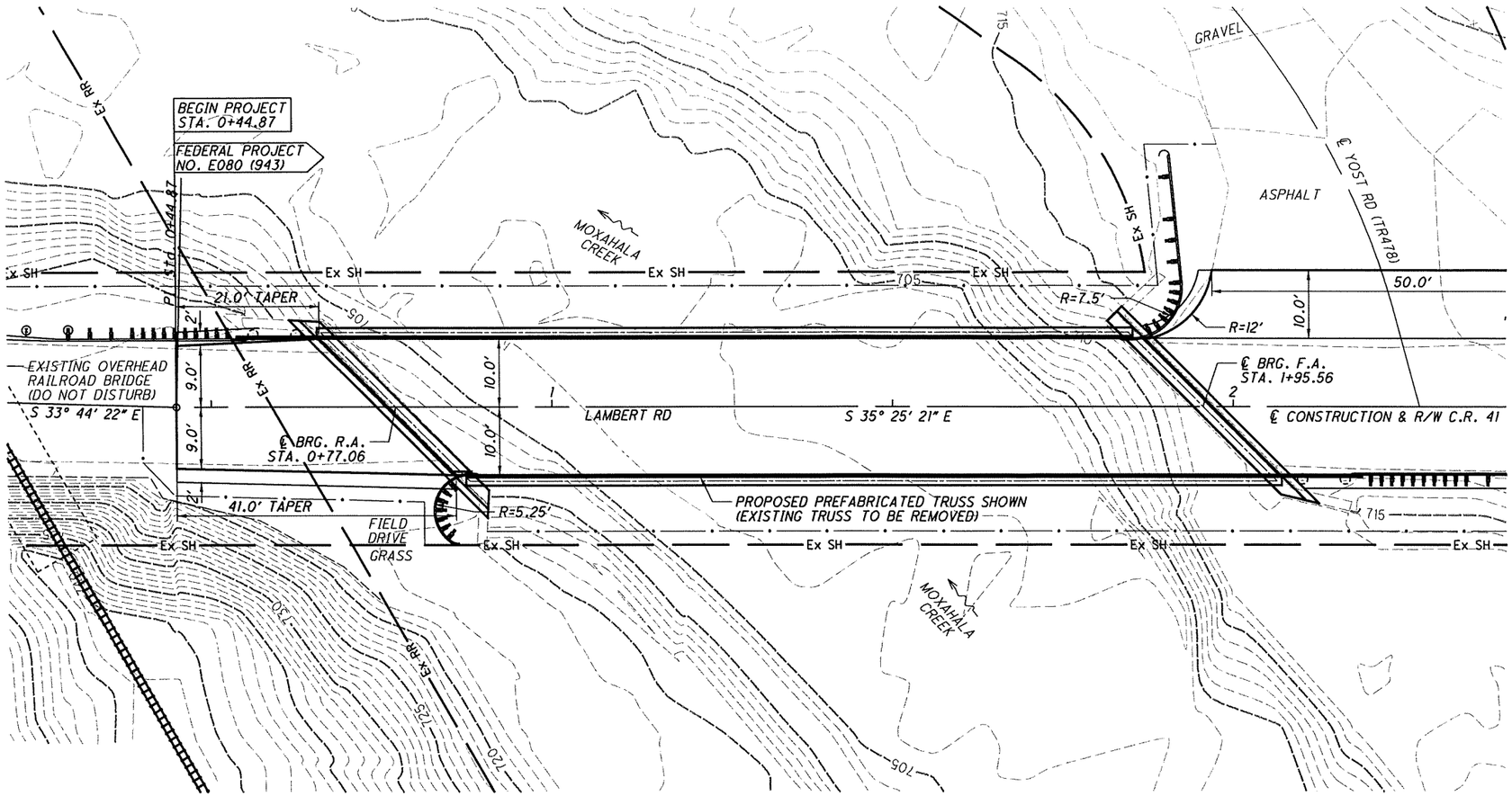
MUS-C.R.41-1.14

CROSS SECTIONS LAMBERT RD
STA. 2+25.00 TO STA. 2+68.33

9/23

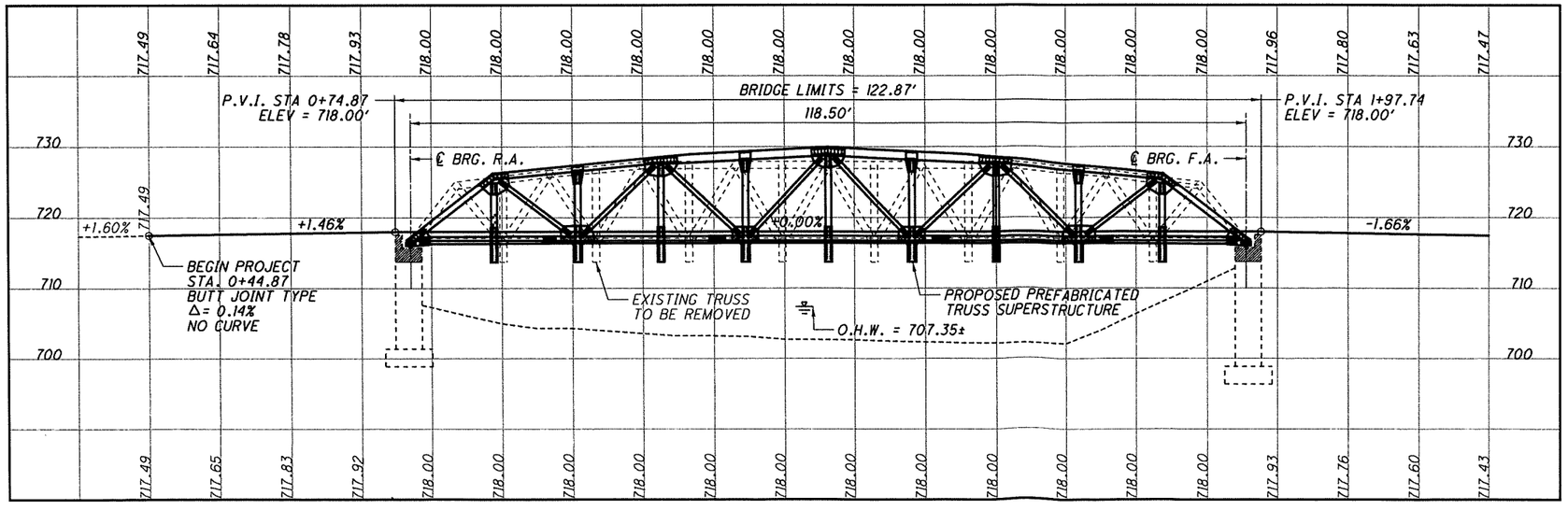
CALCULATED SEJ

CHECKED DRD



PLAN

FOR BENCHMARK / MONUMENT INFORMATION
SEE ROADWAY PLAN SHEET 6.



PROFILE ALONG ℄ CONSTRUCTION C.R. 41

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS AND MATCH EXISTING SLOPES.
2. STEEL GUARDRAIL POST OFF BRIDGE STATIONING AS FOLLOWS:

   STA. 0+56.24 & STA. 0+62.49 - LEFT REAR
   STA. 2+10.12 & STA. 2+16.37 - RIGHT FORWARD

   MEASURED ALONG WINGWALL AT FACE OF GUARDRAIL POST.

TRAFFIC DATA

DESIGN TRAFFIC:

2017 ADT = 467	2017 ADTT = 5
2037 ADT = 500	2037 ADTT = 6

DIRECTIONAL DISTRIBUTION = 55%

HYDRAULIC DATA

DRAINAGE AREA = 98.1 SQ. MILES

Q (10) = 4770	V (10) = 3.41 FT/S
Q (100) = 7560	V (100) = 5.40 FT/S

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL TRUSS BRIDGE WITH CONCRETE DECK AND ASPHALT WEARING SURFACE, ON CONCRETE ABUTMENTS AND CONCRETE FOOTINGS.

SPANS: 118'-6" ± C/C BEARINGS
ROADWAY: 20'-0" ± F/F GUARDRAIL
LOADING: S-15
SKEW: 45°00'00" RIGHT FORWARD
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.0156 (±) FT/FT
STRUCTURAL FILE NUMBER: 6037224
DATE BUILT: 1956
DISPOSITION: TRUSS SUPERSTRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN A 709 GALV. PREFABRICATED STEEL TRUSS SUPERSTRUCTURE WITH REINFORCED CONCRETE DECK ON REHABILITATED CONCRETE ABUTMENTS.

SPANS: 118'-6" C/C BEARINGS
ROADWAY: 20'-0" F/F GUARDRAIL
LOADING: HL-93
SKEW: 45°00'00" RIGHT FORWARD
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT
COORDINATES: LATITUDE N 39°51'18"
LONGITUDE W 82°03'23"

DOUG DAVIS
PROJECT ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

MUSKINGUM COUNTY MCEO ENGINEER'S OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
DRD	SEJ	XXX	YY/MM/DD
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XXX	XXX	6037224	

MUSKINGUM COUNTY
STA. 0+74.87
STA. 1+97.74

SITE PLAN
BRIDGE NO. MUS-041-0114
OVER MOXAHALA CREEK

MUS-C.R.41-1.14
PID No. 83287

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

DS-1-92	REVISED 7-18-03
GSD-1-96	REVISED 7-19-02
TST-1-99	REVISED 7-15-16

AND THE FOLLOWING STANDARD SUPPLEMENTAL SPECIFICATIONS:

800	REVISED 1/19/18
832	REVISED 1/17/14
846	REVISED 4/17/15

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 6TH EDITION 2012, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE: 0.060 KSF

DESIGN DATA

CONCRETE CLASS QC2 -	COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
REINFORCING STEEL -	ASTM A615 OR A996 GRADE 60 - MIN. YIELD STRENGTH 60 KSI
STRUCTURAL STEEL -	ASTM A709 GRADE 50 GALVANIZED PER CMS 711.02, YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
STEEL DRIP STRIP
CONCRETE WATERPROOFING ADMIXTURE

MONOLITHIC WEARING SURFACE

ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1 KIPS FOR A TOTAL MACHINE LOAD OF 8 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE OWNER WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ESTIMATED QUANTITIES

CALCULATED: SEJ DATE: 11/28/17 — CHECKED: DRD DATE: 11/28/17

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	SUPER	GEN'L	SPEC & AS PER PLAN BRIDGE SHEET NO.
						LS		
202	11002	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN	LS			5/14
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				
202	23500	270	SY	WEARING COURSE REMOVED		270		
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING			LS	
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN			LS	2/14
509	10000	12321	LB	EPOXY COATED REINFORCING STEEL	3687	8634		
510	10000	92	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	92			
511	21533	65	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN		65		2/14
511	45511	24	CY	CLASS QC1 CONCRETE, ABUTMENT	24			
512	10100	300	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	200	100		
513	10121	LS		STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN		LS		2/14
517	70001	264	FT	RAILING (TWIN STEEL TUBE), AS PER PLAN		264		1/14 11/14
SPECIAL	51822300	242	FT	STEEL DRIP STRIP		141		
846	00111	28	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM, AS PER PLAN			28	8/14

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS FOR THE CONSTRUCTION OF THE BACKWALL SHALL BE ITEM 613, LOW STRENGH MORTAR BACKFILL, AS SHOWN ON SHEET 8/14. THIS COST SHALL BE INCLUDED IN THIS PAY ITEM.

ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN

THE CONTRACTOR SHALL ENSURE THAT IPANEX WATERPROOFING, OR APPROVED EQUAL, IS ADDED TO THE CONCRETE MIXTURE AS REQUIRED BY THE ENGINEER. STANDARD CLASS QC2 CONCRETE SHALL BE USED WITH THE ADDITION OF IPANEX WATERPROOFING AT A RATE OF 13.8 OZ PER 100 LB OF CEMENT OR CEMENTATIOUS MATERIAL. THIS COST SHALL BE INCLUDED IN THIS PAY ITEM.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN

THIS ITEM SHALL CONSIST OF DESIGNING, FURNISHING, TRANSPORTING. ERECTING AND INSTALLING IN PLACE THE COMPLETE TRUSS SUPERSTRUCTURE, INCLUDING ALL FRAMING, RAILINGS, DECK, BEARINGS AND ALL INCIDENTALS, IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS AND THESE SPECIFICATIONS.

SEPARATE PAYMENT WILL BE MADE FOR DECK CONCRETE, EXPANSION JOINT, TST RAIL AND SUBSTRUCTURE ITEMS LISTED ON THE ESTIMATED QUANTITIES SHEET. HOWEVER, ALL OTHER WORK OR ITEMS NECESSARY TO PROVIDE THE COMPLETED IN-PLACE TRUSS SUPERSTRUCTURE ARE INCIDENTAL TO AND INCLUDED FOR PAYMENT WITH THIS ITEM.

THESE SPECIFICATIONS ARE FOR A TRUSS STRUCTURE OF BOLTED STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND CONSTRUCTION. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ODOT CMS SECTION 513.

DESIGNER

1. THE DESIGN FIRM SHALL BE AN ODOT PREQUALIFIED LEVEL 2 CONSULTANT WITH TRUSS DESIGN EXPERIENCE OF SIMILAR OR LARGER SIZE OR THE DESIGN FIRM SHALL HAVE EXPERIENCE OF THE DESIGNING AT LEAST 5 TRUSS BRIDGES OF SIMILAR SIZE OR LARGER.
2. THE DESIGNER SHALL PROVIDE THE ENGINEER WITH SHOP DRAWINGS AS PER SECTION 501.04 OF THE CMS AND LOAD RATING REPORT PER LATEST ODOT BRIDGE DESIGN MANUAL. INCLUDE PROOF OF CONSULTANT PREQUALIFICATION AND TRUSS DESIGN EXPERIENCE WITH THE SHOP DRAWING SUBMITTAL.
3. THE DESIGNER SHALL DESIGNATE THE TENSION AND COMPRESSION ZONE IN THE FRACTURE CRITICAL MEMBERS.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN (CONTINUED)

FABRICATOR

1. FABRICATOR SHALL BE AN ODOT LEVEL 6 QUALIFIED FABRICATOR AS PER ODOT CMS 513.
2. WORKMANSHIP, FABRICATION, AND SHOP DESIGN SHALL BE IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS SPECIFICATIONS (AASHTO).
3. THE DESIGN OF THE TRUSS SUPERSTRUCTURE, INCLUDING ALL FRAMING, RAILINGS, FLOOR SYSTEM, BEARINGS AND ALL INCIDENTALS, IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS IS THE RESPONSIBILITY OFMANUFACTURER OF THE TRUSS SUPERSTRUCTURE UNIT.
4. TRUSS, STRINGERS AND FLOOR BEAMS SHALL MEET CHARPY V-NOTCH REQUIREMENTS PER CMS 711.01 15 FT-LBS @ 40 F.
5. FAYING SURFACES OF THE BOLTED SPLICES SHALL BE ROUGHENED IN THE SHOP AFTER GALVANIZING BY HAND WIRE BRUSH. POWER WIRE BRUSHING IS NOT PERMITTED. ALL FIELD SPLICE BOLT HOLES SHALL BE FREE OF ZINC BUILD UP AND EACH HOLE SHALL BE CHECKED IN THE SHOP AFTER GALVANIZING TO RECEIVE A 7/8" DIAMETER DRIFT PIN.
6. AREAS OF FIELD CONNECTIONS SHALL HAVE A UNIFORM GALVANIZED COATING THICKNESS FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT SPLICE PLATES BEARINGS, OR OTHER FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT.
7. MATERIAL SHALL BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE FABRICATOR, GALVANIZER, AND ERECTOR SHALL USE LIFTING CLAMPS OR SOFT HANDLING. PRIOR TO GALVANIZING, IMPERFECTIONS THAT ARE GREATER THAN THE LIMITS ALLOWED BY GRINDING PER A6 SHALL BE DOCUMENTED.
8. AFTER GALVANIZING, MATERIAL SHALL BE PLACED IN SHOP ASSEMBLY PER SECTION 513.24 OF THE SPECIFICATION 513 TO CHECK ALIGNMENT OF HOLES, SWEEP, AND CAMBER AGAINST THE FABRICATORS ORIGINAL RECORDED LAY DOWN DIMENSIONS.
9. ROLLED, SHEARED, AND FLAMED CUT SURFACES SHALL BE FINISHED IN ACCORDANCE WITH ODOT CMS 513.12. WHERE STEEL BEAM SURFACES ARE TO RECEIVE A COATING OR GALVANIZING, ALL FOUR ROLLED EDGES OF THE BOTTOM FLANGE AND THE TWO BOTTOM EDGES OF THE TOP FLANGE SHALL BE GROUND TO A 1/8" RADIUS ± 1/16" IN ACCORDANCE WITH ODOT CMS 514.13 B.
10. BEAM HOLES SHALL BE DRILLED FULL SIZE IN ASSEMBLY USING A TEMPLATE AND ROTO-BROACH, SHELL DRILL OR OTHER SIMILAR TOOL AS PER 513.19.
11. CAMBER TOLERANCE: - 0" TO + 3/4".
12. ALL WELDING SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5 BRIDGE WELDING CODE AS AMENDED BY SUPPLEMENT 1011 PER 513.21.
13. SUBMIT ERECTION PLANS ACCORDING TO C&MS 501.05.
14. IN ADDITION TO THE REQUIREMENTS OF CMS 513 & 711.02, GALVANIZED COATING SYSTEM SHALL MEET THE REQUIREMENTS OF THE NOTE "GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL BRIDGE" ON SHEETS 3/14 AND 4/14.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN (CONTINUED)

DIMENSIONS

1. WIDTH: INSIDE CLEAR WIDTH OF BRIDGE SHALL BE 20'-0".
2. LENGTH: BRIDGE CENTER TO CENTER BEARING LENGTH IS TO BE 118'-6".
3. MINIMUM VERTICAL CLEARANCE ABOVE BRIDGE DECK SHALL BE 18'-6".

DESIGN

1. DESIGN TRUSS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL WITH AN ALLOWANCE FOR A 0.060 KSF FUTURE WEARING SURFACE.
2. BRIDGE TYPE: THE BRIDGE SHALL BE GIRDER TRUSS TYPE. TRUSS TO CONSIST OF A CONTINUOUS TOP CHORD CAMBERED ON A SMOOTH RADIUS WITH INTERMEDIATE VERTICAL MEMBERS AT THE INTERIOR BOTTOM CHORD PANEL POINTS AND AT LEAST ONE DIAGONAL PER PANEL. A CHORDED APPEARANCE WILL BE ACCEPTABLE FOR THE TOP CHORD.
3. GUSSET PLATES TO BE DESIGNED TO ADEQUATELY TRANSFER MEMBER STRESSES AT PANEL POINTS. ALL GUSSET PLATE CORNERS SHALL HAVE A 1" RADIUS.
4. CLEARLY IDENTIFY MEMBERS OR THEIR COMPONENTS THAT ARE FRACTURE CRITICAL (FCM) IN THE PLANS.
5. ALL SHOP AND FIELD BOLTED CONNECTIONS SHALL UTILIZE ZINC COATED ASTM A-325 TYPE 1 HIGH STRENGTH BOLTS.
6. BEARING DEVICES SHALL BE ELASTOMERIC BEARING IN ACCORDANCE WITH ODOT SPECIFICATION SECTION 516.
7. RAILING SHALL BE IN ACCORDANCE WITH ODOT SPECIFICATION SECTION 517.

DECK

1. MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.
2. MINIMUM THICKNESS OF CONCRETE DECK SHALL BE 6" ABOVE CORRUGATIONS.
3. DECK CONCRETE SHOULD BE AS PER ITEM 511.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE TRUSS SUPERSTRUCTURE AS LUMP SUM. THE LUMP SUM PRICE INCLUDES DESIGNING, FURNISHING, DELIVERING, ERECTING AND INSTALLING.

BASIS OF PAYMENT:

THE DEPARTMENT WILL PAY THE CONTRACT LUMP SUM UNIT PRICE FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN.

MUSKINGUM COUNTY MCEO ENGINEER'S OFFICE
DOUG DAVIS, COUNTY ENGINEER, 1594 SPILLMAN ROAD, ZANESVILLE, OHIO 43701

DESIGNED DRD | DRAWN SEJ | REVIEWED XXX | DATE YY/MM/DD | CHECKED XXX | REVISED XXX | STRUCTURE FILE NUMBER 6037224

GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. MUS-041-0114
OVER MOXAHALA CREEK

MUS-C.R.41-1.14
PID No. 83287

2 / 14

11 / 23

GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL BRIDGES

1.1.1 DESCRIPTION

IN ADDITION TO THE REQUIREMENTS OF CMS ITEM 513, THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO CLEAN AND GALVANIZE ALL STRUCTURAL STEEL SURFACES, AS SPECIFIED HEREIN. THE GALVANIZED COATING SYSTEM MAY BE APPLIED BY A GALVANIZER NOT QUALIFIED AS A FABRICATION SHOP UNDER CMS ITEM 513, BUT THE APPROVED FABRICATOR OF THE STRUCTURAL STEEL SHALL BE RESPONSIBLE FOR THE QUALITY OF THE APPLIED GALVANIZED COATING SYSTEM AND ANY REPAIRS, RE-FABRICATING, ADDITIONAL LAYDOWNS REQUIRED TO ASSURE THE FABRICATED STEEL MEETS ALL REQUIREMENTS OF THIS SPECIFICATION. CMS SECTIONS 513.27 AND 513.28 SHALL NOT APPLY.

THIS ITEM SHALL ALSO INCLUDE GALVANIZING, PER 711.02, OF ALL NUTS, WASHERS, BOLTS, ANCHOR BOLTS.

GRIND THE GALVANIZED COATING OFF THE TOP FLANGE AT EACH SHEAR STUD PRIOR TO FIELD WELDING IT.

1.1.2 PRE-FABRICATION MEETING

IN ADDITION TO THE PRE-FABRICATION MEETING REQUIREMENTS UNDER CMS SECTION 513.07, BOTH THE FABRICATOR'S QUALITY CONTROL SPECIALIST, (QCPS) AND GALVANIZED COATING APPLICATOR SHALL BE PRESENT AND DISCUSS METHODS OF OPERATION, QUALITY CONTROL, INCLUDING REPAIRS, TRANSPORTATION, ERECTION METHODS TO ACCOMPLISH ALL PHASES OF THE PREPARATION AND COATING WORK REQUIRED BY THIS SPECIFICATION.

1.1.3 QUALITY CONTROL

1.1.3.1 QUALITY CONTROL SPECIALIST

THE QCPS (QUALITY CONTROL PAINT SPECIALIST) REQUIRED UNDER CMS SECTION 514.04A, IS RESPONSIBLE FOR ALL QUALITY CONTROL REQUIREMENTS OF THIS SPECIFICATION. THE QCPS SHALL HAVE THE TESTING EQUIPMENT SPECIFIED IN CMS SECTION 514.05.

1.1.3.2 QUALITY CONTROL POINTS (QCP)

QUALITY CONTROL POINTS (QCP) ARE POINTS IN TIME WHEN ONE PHASE OF THE WORK IS COMPLETE AND READY FOR INSPECTION BY THE FABRICATOR'S QCPS AND THE DEPARTMENT'S QA REPRESENTATIVE. THE NEXT OPERATIONAL STEP MUST NOT PROCEED UNLESS THE QCP HAS BEEN ACCEPTED OR QA INSPECTION WAIVED BY THE DEPARTMENT'S QA REPRESENTATIVE. AT THESE POINTS THE FABRICATOR MUST AFFORD ACCESS TO INSPECT ALL AFFECTED SURFACES. IF INSPECTION INDICATES A DEFICIENCY, THAT PHASE OF THE WORK MUST BE CORRECTED IN ACCORDANCE WITH THESE SPECIFICATIONS PRIOR TO BEGINNING THE NEXT PHASE OF WORK. DISCOVERY OF DEFECTIVE WORK OR MATERIAL AFTER A QUALITY CONTROL POINT IS PAST OR FAILURE OF THE FINAL PRODUCT BEFORE FINAL ACCEPTANCE, MUST NOT IN ANY WAY PREVENT REJECTION OR OBLIGATE THE DEPARTMENT TO FINAL ACCEPTANCE.

1.1.3.2.1 SOLVENT CLEANING (QCP #1)

THE STEEL MUST BE SOLVENT CLEANED WERE NECESSARY TO REMOVE ALL TRACES OF ASPHALTIC CEMENT, OIL, GREASE, DIESEL FUEL DEPOSITS, AND OTHER SOLUBLE CONTAMINANTS PER SSPC-SP 1 SOLVENT CLEANING. UNDER NO CIRCUMSTANCES MUST ANY ABRASIVE BLASTING BE DONE TO AREAS WITH ASPHALTIC CEMENT, OIL, GREASE, OR DIESEL FUEL DEPOSITS. STEEL MUST BE ALLOWED TO DRY BEFORE BLAST CLEANING BEGINS. THE QCPS SHALL INSPECT AND DOCUMENT THAT THE CLEANING CONFORMS TO SSPC-SP1 AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

1.1.3.2.2 GRINDING EDGES (QCP #2)

ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES MUST HAVE A 1/16 INCH [1.6 MM] RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. THERMALLY CUT MATERIAL THICKER THAN 1 1/2 INCH [40 MM] MUST HAVE THE SIDES GROUND TO REMOVE THE HEAT EFFECTED ZONE, AS NECESSARY TO ACHIEVE THE SPECIFIED SURFACE CLEANING. THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE GRINDING CONFORMS TO THIS SPECIFICATION AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

1.1.3.2.3 ABRASIVE BLASTING (QCP #3)

BEAMS AND GIRDERS MUST BE PREPARED BY THE FABRICATOR TO STEEL STRUCTURES PAINTING COUNCIL (SSPC) GRADE SIX (6) COMMERCIAL BLAST CLEANING PRIOR TO GALVANIZING. ALL MATERIAL MUST BE FREE OF PAINT MARKS. SECONDARY ANGLE, PLATES, BARS AND SHAPES NEED NOT BE BLAST CLEANED.

ABRASIVES MUST ALSO BE CHECKED FOR OIL CONTAMINATION BEFORE USE. A SMALL SAMPLE OF ABRASIVES MUST BE ADDED TO ORDINARY TAP WATER. ANY DETECTION OF AN OIL FILM ON THE SURFACE OF THE WATER MUST BE CAUSE FOR REJECTION. THE QCPS MUST PERFORM AND RECORD THIS TEST AT THE START OF EACH SHIFT.

ALL FINS, TEARS, SLIVERS AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER OR THAT APPEAR AFTER THE BLASTING OPERATION MUST BE CONDITIONED PER ASTM A6. WELDING REPAIRS MUST ONLY BE PERFORMED BY THE ITEM 513 FABRICATOR.

THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE BLAST CONFORMS TO SSPC-SP6, THAT ALL CONDITIONING IS PERFORMED PER ASTM A6, AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

1.1.3.2.4 GALVANIZING (QCP #4)

GALVANIZED PER 711.02 AND THIS SPECIFICATION. COATING THICKNESS MUST BE A MINIMUM OF 4 MILS [100 µm] MEASURED AS SPECIFIED. MATERIAL MUST BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE FABRICATOR, GALVANIZER AND ERECTOR MUST USE LIFTING CLAMPS OR SOFTENERS FOR HANDLING. PRIOR TO GALVANIZING, SURFACE IMPERFECTIONS MAY BE REPAIRED BY THE FABRICATOR IN CONFORMANCE WITH ASTM A6. IMPERFECTIONS GREATER THAN THE LIMITS ALLOWED BY ASTM A6 MUST BE DOCUMENTED. REPAIR OR REPLACEMENT OF THIS MEMBER WILL BE AT THE DISCRETION OF THE DEPARTMENT.

ALL DAMAGED GALVANIZING MUST BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3.

DOCUMENTATION OF COATING THICKNESS MUST BE PERFORMED BY THE QCPS. THE QCPS MUST RECORD THE GAGE READINGS AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

1.1.3.2.5 FAYING SURFACE CLEANING (QCP #5)

AREAS OF FIELD CONNECTIONS MUST HAVE A UNIFORM GALVANIZED COATING THICKNESS FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT SPLICE PLATES, BEARINGS OR OTHER FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT.

FAYING SURFACES OF THE BOLTED SPLICES MUST BE ROUGHENED IN THE SHOP AFTER GALVANIZING BY HAND WIRE BRUSHING. POWER WIRE BRUSHING IS NOT PERMITTED. ALL FIELD SPLICE BOLT HOLES MUST BE FREE OF ZINC BUILD UP. AFTER GALVANIZING, EACH HOLE MUST BE CHECKED IN THE SHOP BY USING A DRIFT PIN WITH A DIAMETER 1/16 INCH [1.6 MM] GREATER THAN THE DIAMETER OF THE BOLT TO BE USED IN THAT HOLE. CONSIDERATION WILL BE GIVEN TO OTHER METHODS OF TREATING THE FAYING SURFACES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF STRUCTURAL ENGINEERING (OSE) IN ACCORDANCE WITH CMS 108.05.

INSPECTION OF THE ROUGHENING OF THE FAYING SURFACES AND CHECKING OF HOLES WITH DRIFT PINS MUST BE PERFORMED BY THE QCPS. ACCEPTANCE OF THE FAYING SURFACES AND HOLES SHALL BE DOCUMENTED BY THE QCPS.

1.1.3.2.6 SECOND LAY DOWN (QCP # 6)

AFTER GALVANIZING, MATERIALS MUST BE PLACED IN A SECOND SHOP ASSEMBLY PER CMS SECTION 513.24 TO CHECK ALIGNMENT OF HOLES, SWEEP AND CAMBER AGAINST THE FABRICATORS ORIGINAL RECORDED LAY DOWN DIMENSIONS. THIS SHOP ASSEMBLY MAY BE PERFORMED AT THE GALVANIZERS FACILITY, BY THE FABRICATORS PERSONNEL, IF APPROVED BY THE OSE. THE SECOND LAY DOWN MAY BE WAIVED BY THE OSE IF THE FABRICATOR RECORDS INDIVIDUAL BEAM CAMBERS AND SWEEPS DURING THE FIRST LAY DOWN, AND THE NEW INDIVIDUAL BEAM CAMBERS AND SWEEPS, AFTER GALVANIZING, COMPARED TO THE FIRST LAY DOWN ARE WITHIN THE FOLLOWING TOLERANCES:

BEARING POINTS AFTER GALVANIZING MUST BE WITHIN ± 1/8 INCH [3.2 MM] OF THE APPROVED SHOP DRAWING LAY DOWN.

CAMBER POINTS AFTER GALVANIZING MUST BE + 1/4 INCH [6 MM] OR - 0 INCHES FROM THE FIRST LAY DOWN.

SWEEP POINTS AFTER GALVANIZING MUST BE +/- 3/8 INCH [9 MM] FROM THE FIRST LAY DOWN.

INDIVIDUAL BEAMS THAT EXCEED THE LISTED TOLERANCES MUST BE PLACED WITH AT LEAST TWO ADJACENT BEAMS IN LAY DOWN FOR CHECKING AGAINST THE RECORDED SHOP ASSEMBLY RECORDS PER CMS SECTION 513.04. DOCUMENTATION OF THE SECOND LAY DOWN OR INDIVIDUAL MEMBER CAMBERS MUST BE RECORDED BY THE QCPS PER CMS SECTION 513.24.

1.1.3.2.7 FIELD REPAIR OF DAMAGED AREAS (QCP #7)

MATERIAL MUST BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE CONTRACTOR MUST USE LIFTING CLAMPS OR SOFTENERS FOR HANDLING. IMPERFECTIONS MAY BE REPAIRED BY GRINDING AS ALLOWED BY ASTM A6 BY THE CONTRACTOR. IMPERFECTIONS THAT ARE GREATER THAN THE GRINDING LIMITS ALLOWED BY ASTM A6, MUST BE DOCUMENTED. REPAIR OR REPLACEMENT OF THIS MEMBER WILL BE AT THE DISCRETION OF THE OSE.

ALL DAMAGED GALVANIZING MUST BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3.

DAMAGED GALVANIZING WHICH WILL BE INACCESSIBLE FOR REPAIR AFTER ERECTION MUST BE REPAIRED PRIOR TO ERECTION.

IN ORDER TO MINIMIZE DAMAGE TO THE GALVANIZED STEEL, CONCRETE SPLATTER AND FORM LEAKAGE MUST BE WASHED FROM THE SURFACE OF THE STEEL SHORTLY AFTER THE CONCRETE IS PLACED AND BEFORE IT IS DRY. IF THE CONCRETE DRIES, IT MUST BE REMOVED.

TEMPORARY ATTACHMENTS, SUPPORTS FOR SCAFFOLDING AND FINISHING MACHINE OR FORMS MUST NOT DAMAGE THE COATING SYSTEM. IN PARTICULAR, SUFFICIENT SIZE SUPPORT PADS MUST BE USED ON THE FASCIAS WHERE BRACING IS USED.

DOCUMENTATION OF GALVANIZING REPAIRS MUST BE PERFORMED BY THE QCPS BY A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

1.1.3.2.8 FINAL REVIEW (QCP # 8)

AFTER THE ERECTION WORK HAS BEEN COMPLETED, INCLUDING ALL CONNECTIONS AND THE APPROVED REPAIR OF ANY DAMAGED BEAMS, GIRDERS OR OTHER STEEL MEMBERS, AND THE DECK HAS BEEN PLACED, THE CONTRACTOR AND ENGINEER MUST INSPECT THE STRUCTURE FOR DAMAGED COATING. (QCP #8). DAMAGED AREAS MUST BE REPAIRED BY QCPS #7. AT THE COMPLETION OF CONSTRUCTION, THE GALVANIZING MUST BE UNDAMAGED AND THE SURFACES FREE FROM GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPLATTER OR OTHER SILAGE. SUCH SILAGE WILL BE REMOVED BY SOLVENT CLEANING PER SSPC-SP1 (QCP #1)

DOCUMENTATION OF FINAL REVIEW MUST BE PERFORMED BY THE QCPS BY A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

1.1.4 TESTING EQUIPMENT

THE FABRICATOR MUST PROVIDE THE QCPS INSPECTOR THE FOLLOWING TESTING EQUIPMENT IN GOOD WORKING ORDER FOR THE DURATION OF THE PROJECT.

ONE (POSITECTOR 2000 OR 6000, QUANIX 2200, OR ELCOMETER A345FBII) AND THE CALIBRATION PLATES, 38-200 MM AND 250-625 MM [1.5 -8 MILS AND 10-25 MILS] AS PER THE NBS CALIBRATION STANDARDS IN ACCORDANCE WITH ASTM D-1186.

GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL, CONT.

1.1.5 COATING THICKNESS

GALVANIZED THICKNESS MUST BE DETERMINED BY USE OF TYPE 2 MAGNETIC GAGE IN ACCORDANCE WITH THE FOLLOWING:

FIVE SEPARATE SPOT MEASUREMENTS MUST BE MADE, SPACED EVENLY OVER ONE (1) RANDOMLY SELECTED, 100 SQUARE FEET [9 SQUARE METERS] OF SURFACE AREA ON EACH STRUCTURAL MEMBER. THREE GAGE READINGS MUST BE MADE FOR EACH SPOT MEASUREMENT. THE PROBE MUST BE MOVED A DISTANCE OF 1 TO 3 INCHES [25 TO 75 MM] FOR EACH NEW GAGE READING. ANY UNUSUALLY HIGH OR LOW GAGE READING THAT CANNOT BE REPEATED CONSISTENTLY MUST BE DISCARDED. THE AVERAGE (MEAN) OF THE 3 GAGE READINGS MUST BE USED AS THE SPOT MEASUREMENT. THE AVERAGE OF FIVE SPOT MEASUREMENTS FOR EACH SUCH 100 SQUARE FOOT [9 SQUARE METERS] AREA MUST NOT BE LESS THAT THE SPECIFIED THICKNESS. NO SINGLE SPOT MEASUREMENT IN ANY 100 SQUARE FOOT [9 SQUARE METERS] AREA MUST BE LESS THAN 80% OF THE SPECIFIED MINIMUM THICKNESS. ANY ONE OF 3 READINGS WHICH ARE AVERAGED TO PRODUCE EACH SPOT MEASUREMENT, MAY UNDER-RUN OR OVER-RUN BY A GREATER AMOUNT. THE 5 SPOT MEASUREMENTS MUST BE MADE FOR ONE(1) RANDOMLY SELECTED, 100 SQUARE FEET [9 SQUARE METER] OF AREA ON EACH STRUCTURAL MEMBER. ALL SPLICE MATERIAL AND SECONDARY MEMBERS MUST HAVE AT LEAST ONE SPOT MEASURED ON EACH PIECE. THE PROBE MUST BE MOVED SO THAT ONE READING IS TAKEN AT EACH END AND MIDDLE OF THE PIECE FOR A TOTAL OF THREE READINGS.

THE QCPS MUST INSPECT AND PROVIDE DOCUMENTATION OF ACTUAL DATA, THE GALVANIZED THICKNESS CHECKS WERE PERFORMED PER SPECIFICATION, AND THE COATING THICKNESS MEETS SPECIFICATION REQUIREMENTS.

1.1.6 HANDLING AND SHIPPING

REASONABLE CARE MUST BE EXERCISED IN HANDLING THE GALVANIZED STEEL DURING SHIPPING, ERECTION, AND SUBSEQUENT CONSTRUCTION OF THE BRIDGE. THE STEEL MUST BE INSULATED FROM THE BINDING CHAINS BY SOFTENERS. HOOKS AND SLINGS USED TO HOIST STEEL MUST BE PADDED. DIAPHRAGMS AND SIMILAR PIECES MUST BE SPACED IN SUCH A WAY THAT NO RUBBING WILL OCCUR DURING SHIPMENT THAT MAY DAMAGE THE GALVANIZING. THE STEEL MUST BE STORED ON PALLETS AT THE JOB SITE, OR BY OTHER MEANS, SO THAT IT DOES NOT REST ON THE GROUND OR SO THAT COMPONENTS DO NOT FALL OR REST ON EACH OTHER.

1.1.7 SAFETY REQUIREMENTS AND PRECAUTIONS

THE CONTRACTOR MUST MEET THE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), IN ADDITION TO THE SCAFFOLDING REQUIREMENTS BELOW.

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION IN ADDITION TO TH SCAFFOLDING REQUIREMENTS SPECIFIED BELOW.

1.1.8 SCAFFOLDING

RUBBER ROLLERS, OR OTHER PROTECTIVE DEVICES MEETING THE APPROVAL OF THE ENGINEER, MUST BE USED ON SCAFFOLD FASTENINGS. METAL ROLLERS OR CLAMPS AND OTHER TYPES OF FASTENINGS WHICH WILL MAR OR DAMAGE COATED SURFACES MUST NOT BE USED.

1.1.9 INSPECTION ACCESS FOR FIELD REPAIR

IN ADDITION TO THE REQUIREMENT OF 105.11, THE CONTRACTOR MUST FURNISH, ERECT, AND MOVE SCAFFOLDING AND OTHER APPROPRIATE EQUIPMENT, TO PERMIT THE INSPECTOR THE OPPORTUNITY TO INSPECT CLOSELY OBSERVE), ALL AFFECTED SURFACES. THIS OPPORTUNITY MUST BE PROVIDED TO THE INSPECTOR DURING ALL PHASES OF THE WORK AND CONTINUE FOR A PERIOD OF AT LEAST TEN (10) WORKING DAYS AFTER THE TOUCH-UP WORK HAS BEEN COMPLETED. WHEN SCAFFOLDING IS USED, IT MUST BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

WHEN SCAFFOLDING, OR THE HANGERS ATTACHED TO THE SCAFFOLDING ARE SUPPORTED BY HORIZONTAL WIRE ROPES, OR WHEN SCAFFOLDING IS PLACED DIRECTLY UNDER THE SURFACE TO BE PAINTED, THE FOLLOWING REQUIREMENTS MUST BE COMPLIED WITH:

WHEN SCAFFOLDING IS SUSPENDED 43" [1100 MM] OR MORE BELOW THE COATED SURFACE TO BE REPAIRED, TWO ROWS OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF THE SCAFFOLDING. ONE ROW OF GUARDRAIL MUST BE PLACED AT 42" [1050 MM] ABOVE THE SCAFFOLDING AND THE OTHER ROW AT 20" [500 MM] ABOVE THE SCAFFOLDING.

WHEN THE SCAFFOLDING IS SUSPENDED AT LEAST 21" [530 MM], BUT LESS THAN 43" [1100 MM] BELOW THE COATED SURFACE TO BE REPAIRED, A ROW OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF THE SCAFFOLDING AT 20" [500 MM] ABOVE THE SCAFFOLDING.

TWO ROWS OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF SCAFFOLDING NOT PREVIOUSLY MENTIONED. THE ROWS OF GUARDRAIL MUST BE PLACED AT 42" [1050 MM] AND 20" 500 MM] ABOVE SCAFFOLDING, AS PREVIOUSLY MENTIONED.

ALL SCAFFOLDING MUST BE AT LEAST 24" [610 MM] WIDE WHEN GUARDRAIL IS USED AND 28" [710 MM] WIDE WHEN THE SCAFFOLDING IS SUSPENDED LESS THAN 21" [530 MM] BELOW THE COATED SURFACE TO BE REPAIRED AND GUARDRAIL IS NOT USED. IF TWO OR MORE SCAFFOLDING ARE LAID PARALLEL TO ACHIEVE THE PROPER WIDTH, THEY MUST BE RIGIDLY ATTACHED TO EACH OTHER TO PRECLUDE ANY DIFFERENTIAL MOVEMENT.

ALL GUARDRAIL MUST BE CONSTRUCTED AS A SUBSTANTIAL BARRIER WHICH IS SECURELY FASTENED IN PLACE AND IS FREE ROM PROTRUDING OBJECTS SUCH AS NAILS, SCREWS AND BOLTS. THERE MUST BE AN OPENING IN THE GUARDRAIL, PROPERLY LOCATED, TO ALLOW THE INSPECTOR ACCESS ONTO THE SCAFFOLDING.

THE RAILS AND UPRIGHTS MUST BE EITHER METAL OR WOOD. IF PIPE RAILING IS USED, THE RAILING MUST HAVE A NOMINAL DIAMETER OF NO LESS THAN ONE AND ONE HALF INCHES. IF STRUCTURAL STEEL RAILING IS USE, THE RAILS MUST BE 2 X 2 X 3/8 INCH [50 X 50 X 10 MM] STEEL ANGLES OR OTHER METAL SHAPES OF EQUAL OR GREATER STRENGTH. IF WOOD RAILING IS USED, THE RAILING MUST BE 2 X 4 INCH [50 X 100 MM] (NOMINAL) STOCK. ALL UPRIGHTS MUST BE SPACED AT NO MORE THAN 8 FEET [2.4 M] ON CENTER. IF WOOD UPRIGHTS ARE USED, THE UPRIGHTS MUST BE 2 X 4 INCHES [50 X 100 MM] (NOMINAL) STOCK.

WHEN THE SURFACE TO BE INSPECTED IS MORE THAN 15 FEET [4.6 M] ABOVE THE GROUND OR WATER, AND THE SCAFFOLDING IS SUPPORTED FROM THE STRUCTURE BEING PAINTED, THE CONTRACTOR MUST PROVIDE THE INSPECTOR WITH A SAFETY BELT AND LIFELINE. THE LIFELINE MUST NOT ALLOW A FALL GREATER THAN 6 FEET [2 M]. THE CONTRACTOR MUST PROVIDE A METHOD OF ATTACHING THE LIFELINE TO THE STRUCTURE INDEPENDENT OF THE SCAFFOLDING, CABLES, OR BRACKETS SUPPORTING THE SCAFFOLDING.

WHEN SCAFFOLDING IS MORE THAN TWO AND ONE HALF FEET [0.75 M] ABOVE THE GROUND, THE CONTRACTOR MUST PROVIDE A LADDER FOR ACCESS ONTO THE SCAFFOLDING. THE LADDER AND ANY EQUIPMENT USED TO ATTACH THE LADDER TO THE STRUCTURE MUST BE CAPABLE OF SUPPORTING 250 POUNDS [115 KG] WITH A SAFETY FACTOR OF AT LEAST FOUR (4). ALL RUNGS, STEPS, CLEATS, OR TREADS MUST HAVE UNIFORM SPACING AND MUST NOT EXCEED 12" [305 MM] ON CENTER. AT LEAST ONE SIDE RAIL MUST EXTEND AT LEAST 36" [915 MM] ABOVE THE LANDING NEAR THE TOP OF THE LADDER.

AN ADDITIONAL LANDING MUST BE REQUIRED WHEN THE DISTANCE FROM THE LADDER TO THE POINT WHERE THE SCAFFOLDING MAY BE ACCESSED, EXCEEDS 12" [305 MM]. THE LANDING MUST BE A MINIMUM OF AT LEAST 24" [610 MM] WIDE AND 24" [610 MM] LONG. IT MUST ALSO BE OF ADEQUATE SIZE AND SHAPE SO THAT THE DISTANCE FROM THE LANDING TO THE POINT WHERE THE SCAFFOLDING IS ACCESSED DOES NOT EXCEED 12" [305 MM]. THE LANDING MUST BE RIGID AND FIRMLY ATTACHED TO THE LADDER; HOWEVER, IT MUST NOT BE SUPPORTED BY THE LADDER. THE SCAFFOLDING MUST BE CAPABLE OF SUPPORTING A MINIMUM OF 1000 LBS [455 KG].

IN ADDITION TO THE AFOREMENTIONED REQUIREMENTS, THE CONTRACTOR IS STILL RESPONSIBLE TO OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS, ORDERS AND DECREES.

THE CONTRACTOR MUST FURNISH ALL NECESSARY TRAFFIC CONTROL TO PERMIT INSPECTION DURING AND AFTER ALL PHASES OF THE PROJECT.

1.1.10 PROTECTION OF PERSONS AND PROPERTY

THE CONTRACTOR MUST INSTALL AND MAINTAIN SUITABLE SHIELDS OR ENCLOSURES TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS, TRUCKS, BOATS, OR VEHICLES TRAVELING ON, OVER, OR UNDER STRUCTURES HAVING GALVANIZED REPAIRS. THEY MUST BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES.

PAYMENT FOR THE SHIELDS MUST BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING OPERATION. WORK MUST BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, MOTOR VEHICLES, BOATS, OR OTHER PROPERTY IS OCCURRING.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR MUST RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY, TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE.

1.1.11 POLLUTION CONTROL

THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES.

1.1.12 WARRANTY

THE STEEL GALVANIZER OF THE BRIDGE ELEMENTS (OTHER THAN BRIDGE FLOORING) SHALL BE A MEMBER OF THE AMERICAN GALVANIZER'S ASSOCIATION AND SHALL PROVIDE THE BRIDGE OWNER A WRITTEN LIMITED WARRANTY AGAINST CORROSION OF THE SUPERSTRUCTURE COMPONENTS FOR A PERIOD OF NOT LESS THAN 35 YEARS.

DOUG DAVIS
COUNTY ENGINEER
155 JEFFERSON ROAD
ZANESVILLE, OHIO 43701

MUSKINGUM COUNTY **MCEO** ENGINEER'S OFFICE

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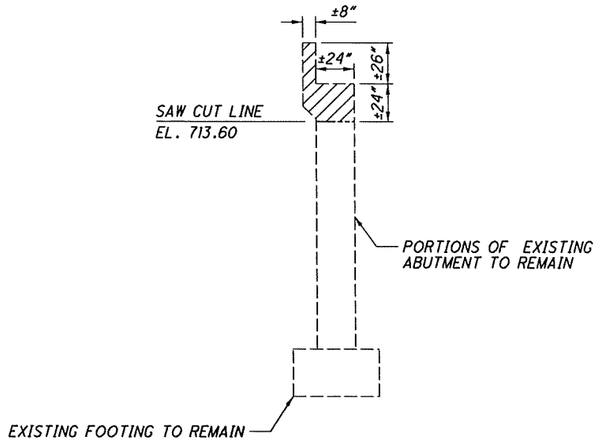
XXX	XXX	6037224	

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. MUS-041-0114
OVER MOXAHALA CREEK

MUS-C.R.41-1.14
PID No. 83287



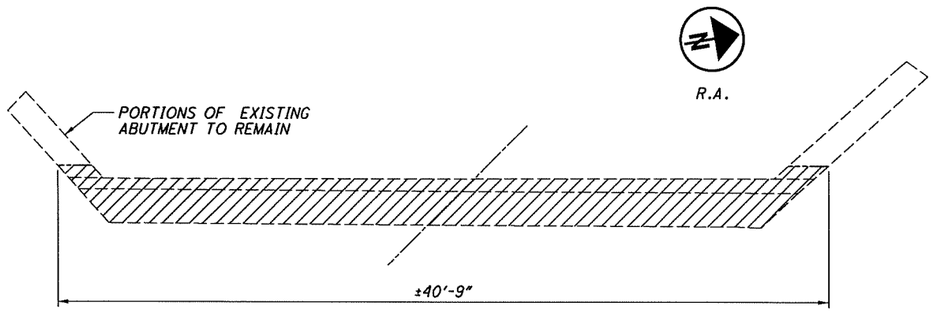
TYPICAL SECTION

NOTES

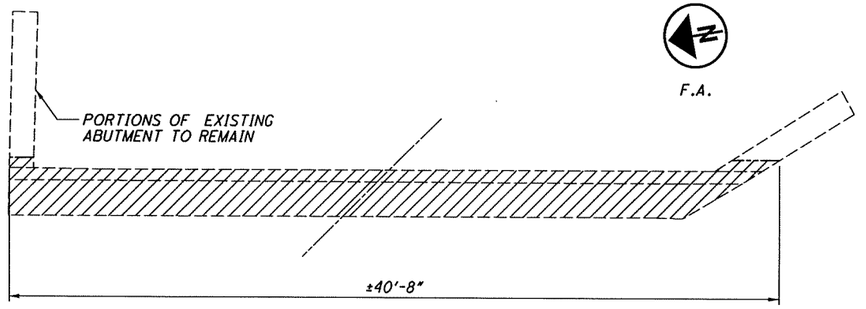
1. ABUTMENT REMOVAL:
   THE CONTRACTOR SHALL REMOVE ALL MATERIAL DOWN TO THE CUT LINE SHOWN ON THIS SHEET.
2. BASIS OF PAYMENT:
   PAYMENT FOR ALL REMOVAL SHALL BE MADE AT THE LUMP SUM CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURES REMOVED, AS PER PLAN.

LEGEND

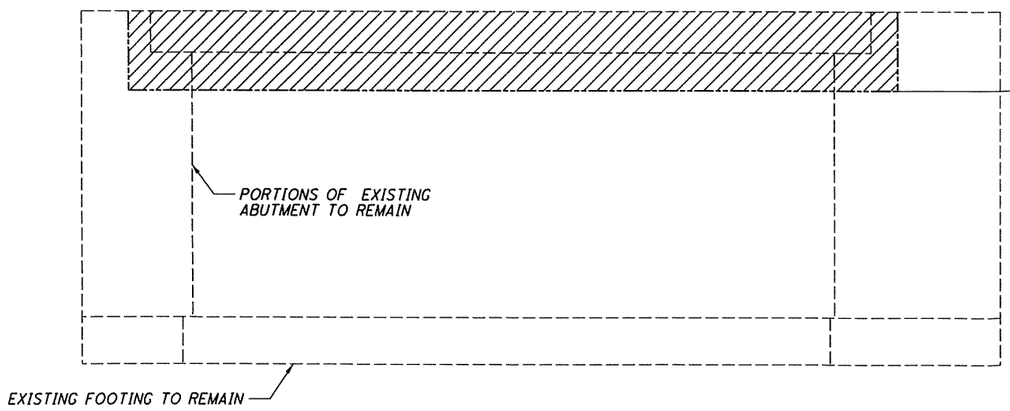
PORTIONS OF STRUCTURE REMOVED



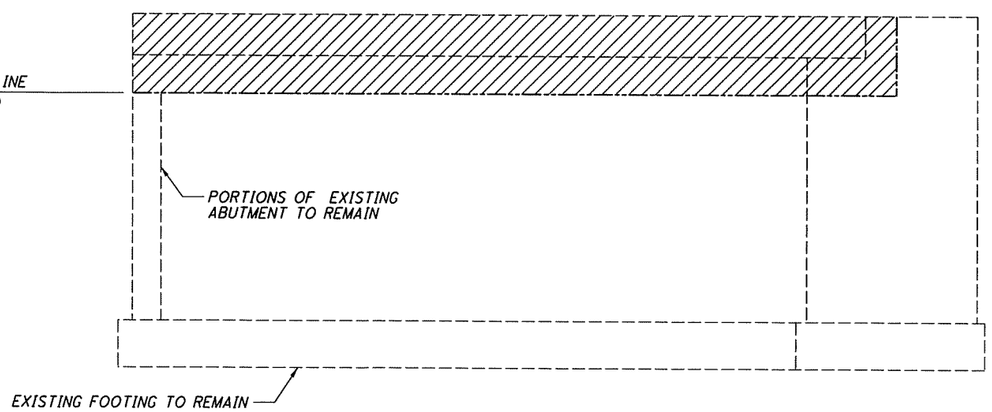
PLAN VIEW (REAR ABUTMENT)



PLAN VIEW (FORWARD ABUTMENT)



ELEVATION VIEW (REAR ABUTMENT)



ELEVATION VIEW (FORWARD ABUTMENT)

DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

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ABUTMENT REMOVAL DETAILS
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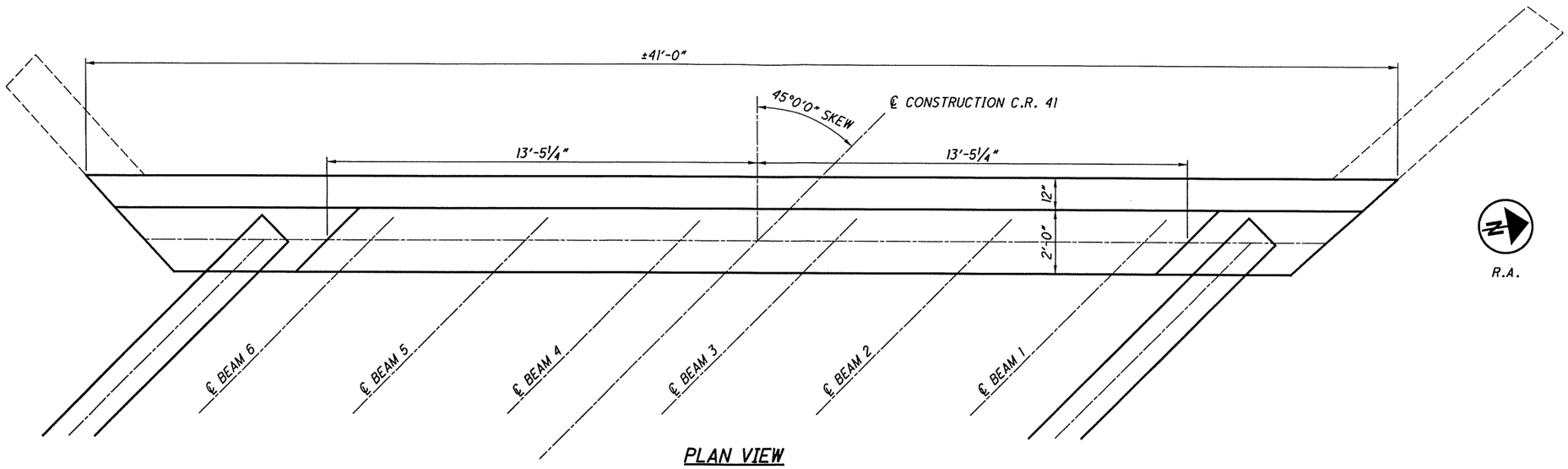
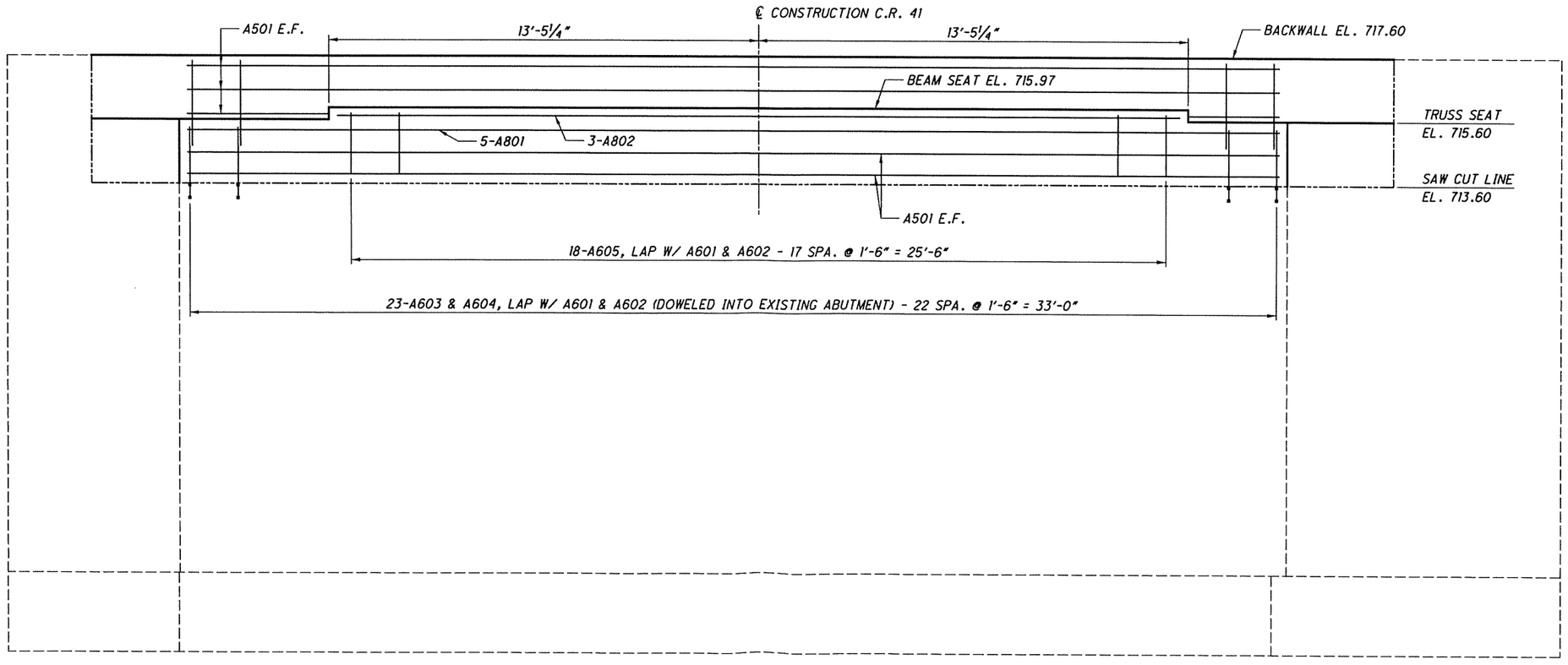


PLAN VIEW



ELEVATION VIEW

DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

MUSKINGUM COUNTY
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REAR ABUTMENT PLAN

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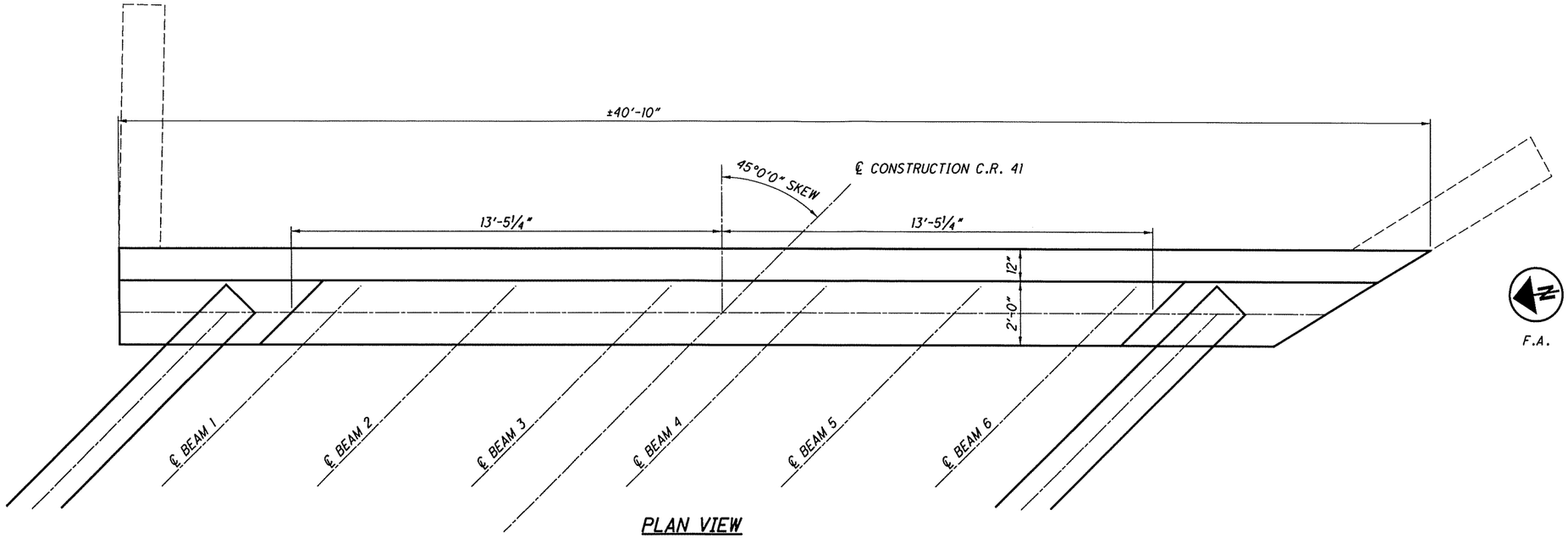
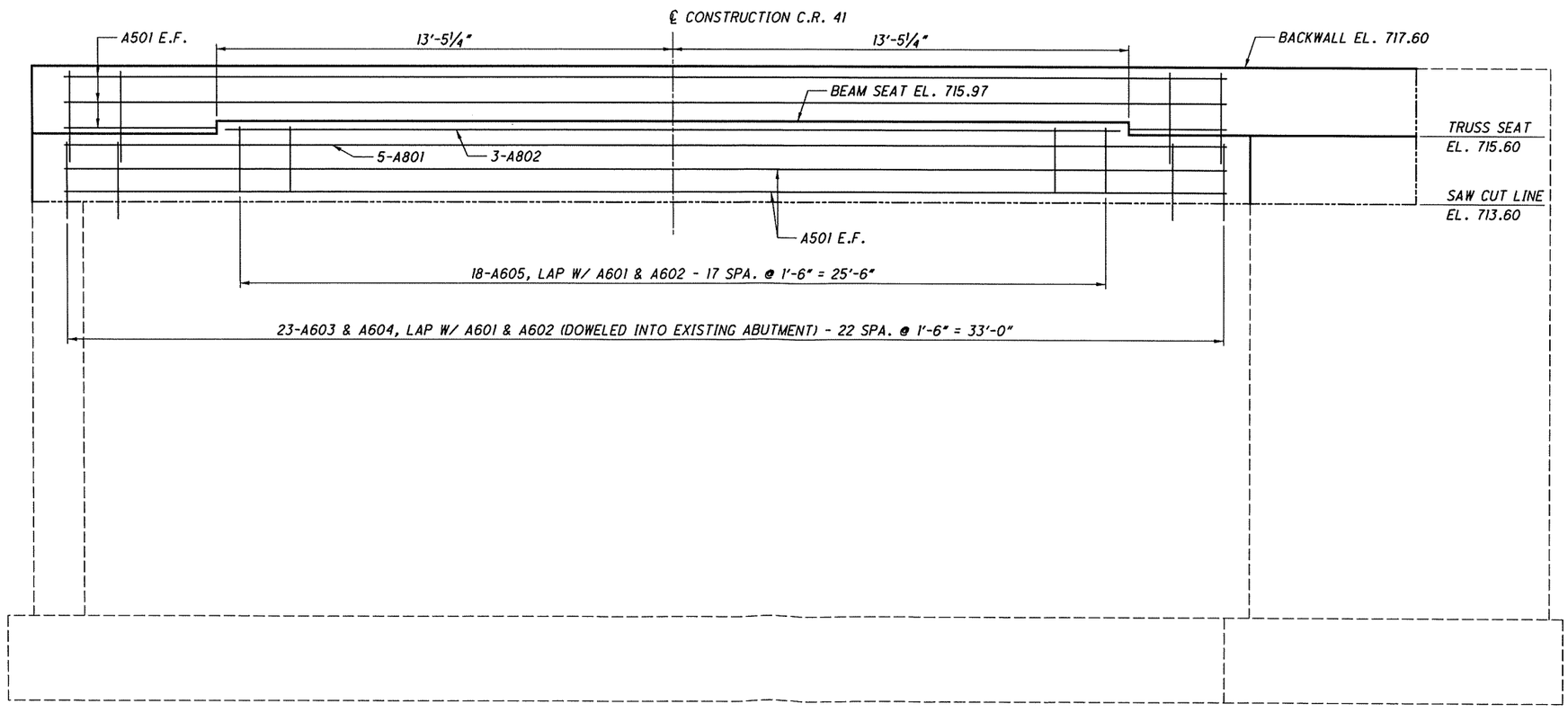


PLAN VIEW



ELEVATION VIEW

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DOUG DAVIS
COUNTY ENGINEER
155 REIL ROAD
ZANESVILLE, OHIO 43701

FORWARD ABUTMENT PLAN

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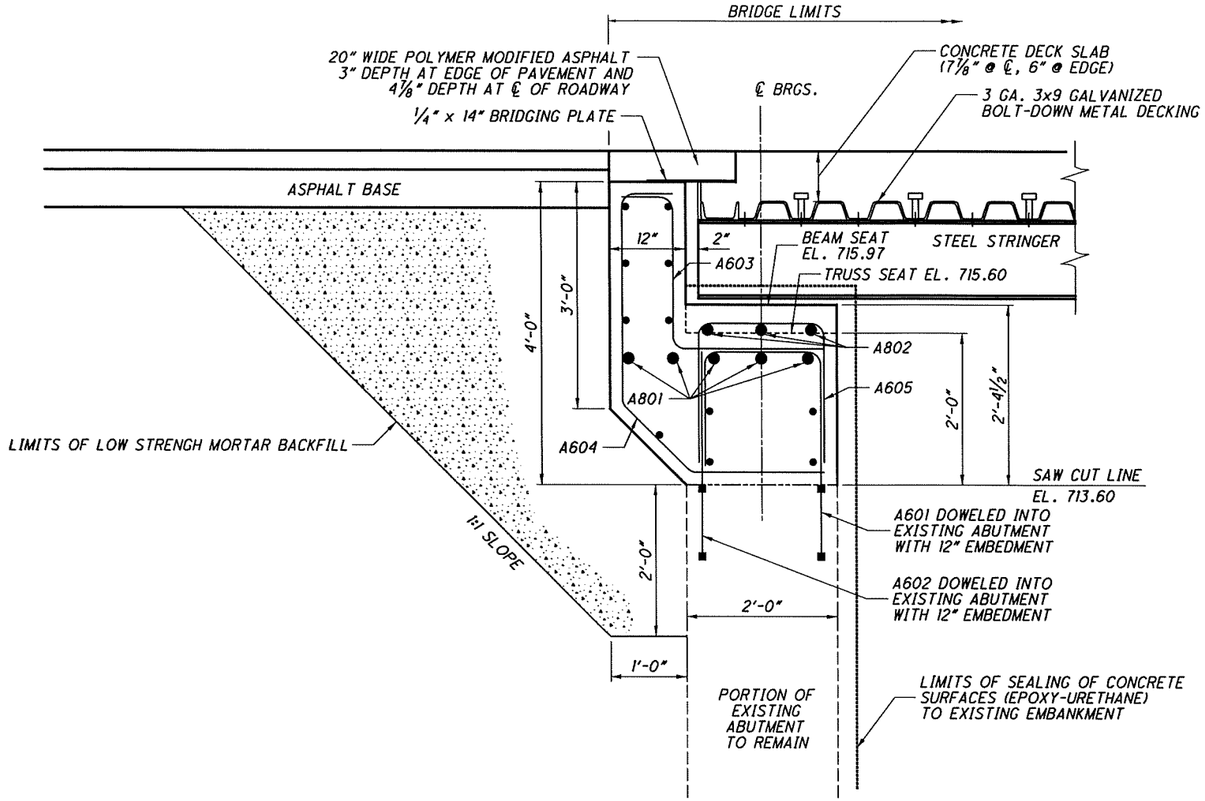
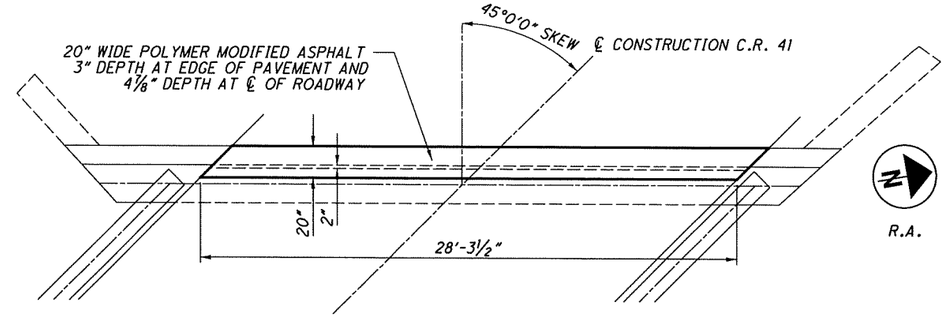
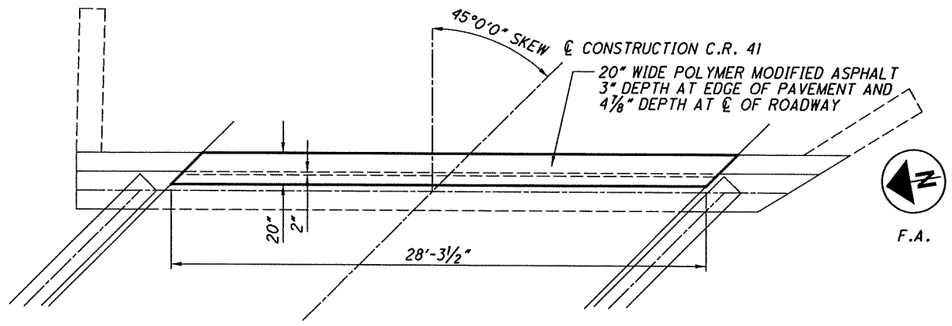


TYPICAL ABUTMENT SECTION



REAR ABUTMENT POLYMER MODIFIED JOINT



FORWARD ABUTMENT POLYMER MODIFIED JOINT

PLAN ABBREVIATIONS

ABUT.	ABUTMENT
BRG.	BEARING
℄	CENTERLINE
c/c	CENTER TO CENTER
C.J.	CONSTRUCTION JOINT
DIA.	DIAMETER
EL.	ELEVATION
E.F.	EACH FACE
F.A.	FOREWARD ABUTMENT
F.F.	FAR FACE
FWD.	FORWARD
MAX.	MAXIMUM
MIN.	MINIMUM
N.F.	NEAR FACE
ℙ	PLATE
PEJF	PREFORMED EXPANSION JOINT FILLER
R.A.	REAR ABUTMENT
SPA.	SPACE, SPACES, SPACED
STA.	STATION
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE

DOUG DAVIS
COUNTY ENGINEER
155 RICHL ROAD
ZANESVILLE, OHIO 43701

MUSKINGUM COUNTY ENGINEER'S OFFICE

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ABUTMENT DETAILS
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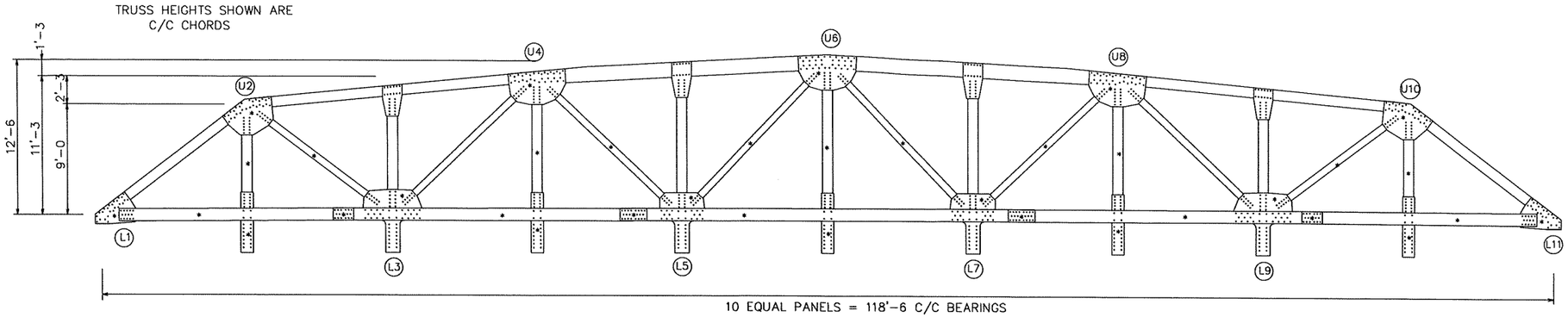
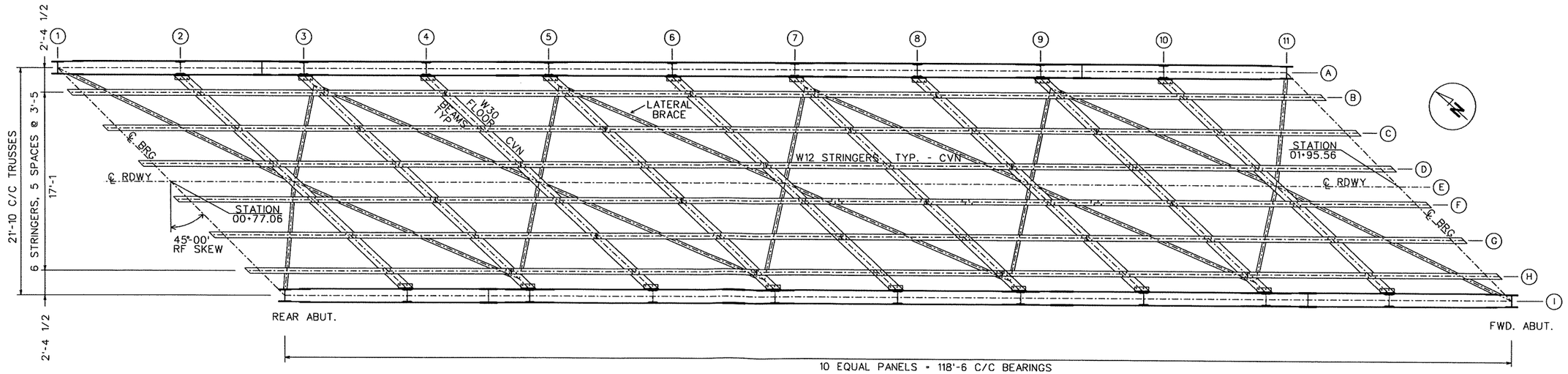


TRUSS ELEVATION

*DESIGNATED MEMBERS THAT UNDERGO AXIAL TENSION FORCES AND ARE CONSIDERED FRACTURE CRITICAL MEMBERS FOR FABRICATION PURPOSES

TRUSS VERTICALS, DIAGONALS AND TOP CHORD MEMBERS SHALL BE FABRICATED FROM W14 ROLLED MEMBERS
TRUSS BOTTOM CHORD SHALL BE FABRICATED FROM TWO PLATE MEMERS

TRUSSES TO BE CAMBERED FOR DEAD LOADS ONLY AND SHALL BE FLAT AFTER ALL DEAD LOADS APPLIED
REQUIRED TRUSS CAMBER TO BE DETERMINED BY TRUSS BRIDGE MANUFACTURER



FRAMING PLAN

W12 STRINGERS TO SPAN A MINIMUM OF TWO PANELS. ADJACENT STRINGERS MAY NOT SPLICE OVER THE SAME FLOOR BEAM

NOTES:

1. ALL ITEMS DESIGNATED FCM ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS AND SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 12 OF AASHTO AWS BRIDGE WELDING CODE D1.5.
2. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01

DOUG DAVIS
COUNTY ENGINEER
155 REIFL ROAD
ZANESVILLE, OHIO 43701
MUSKINGUM COUNTY
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SUPERSTUCTURE DETAILS

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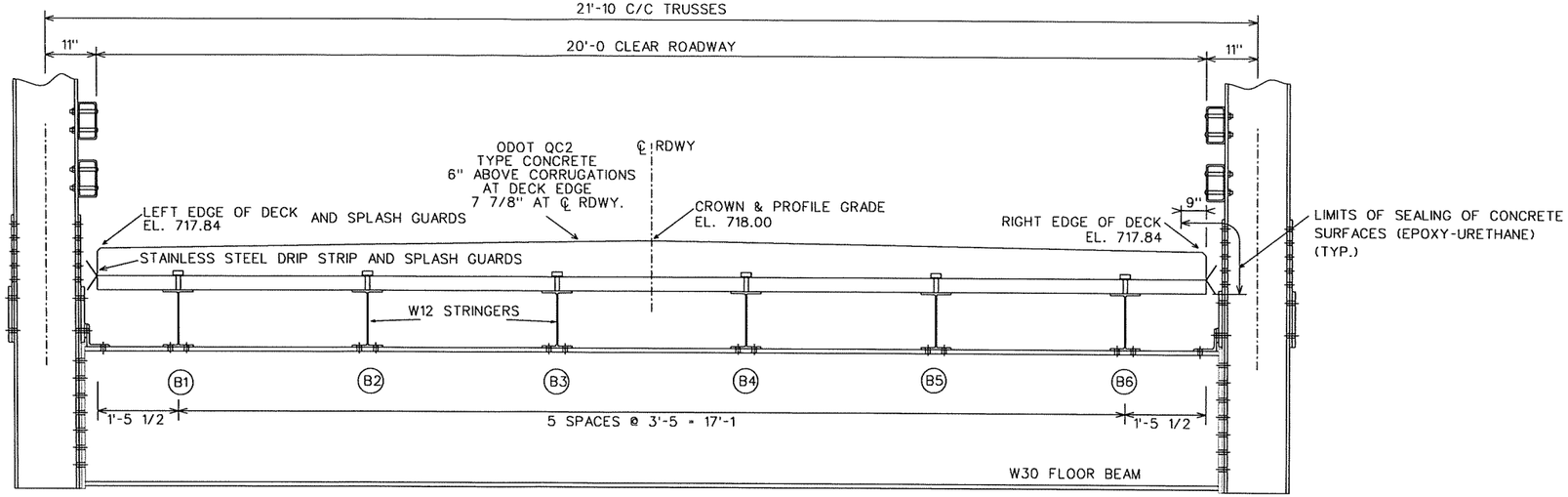
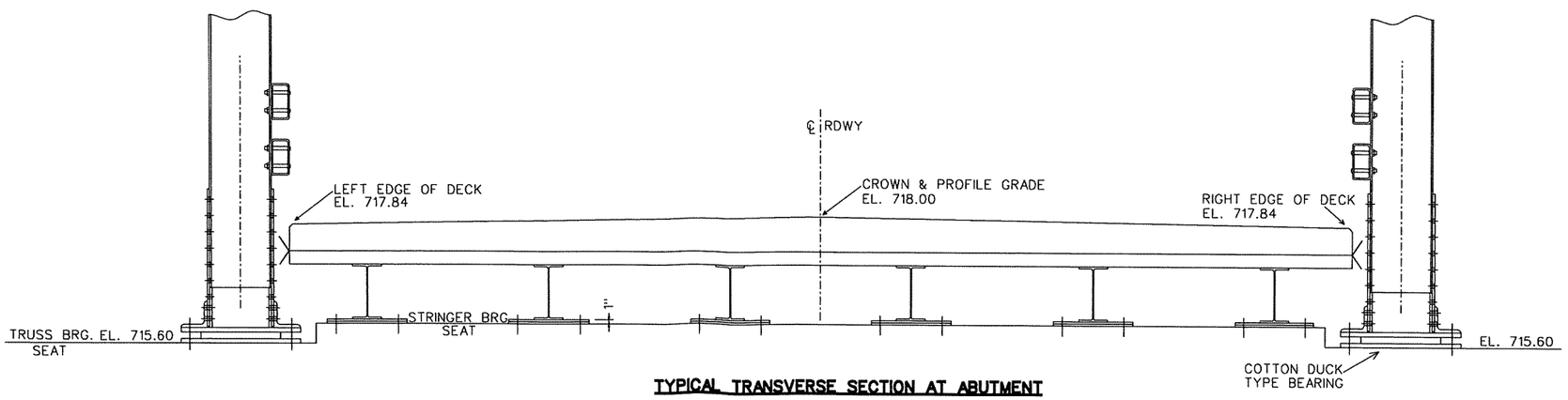
NOTE:

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.



TYPICAL TRANSVERSE SECTION AT FLOOR BEAM



TYPICAL TRANSVERSE SECTION AT ABUTMENT

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COUNTY ENGINEER
155 RIGHL ROAD
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SUPERSTUCTURE DETAILS
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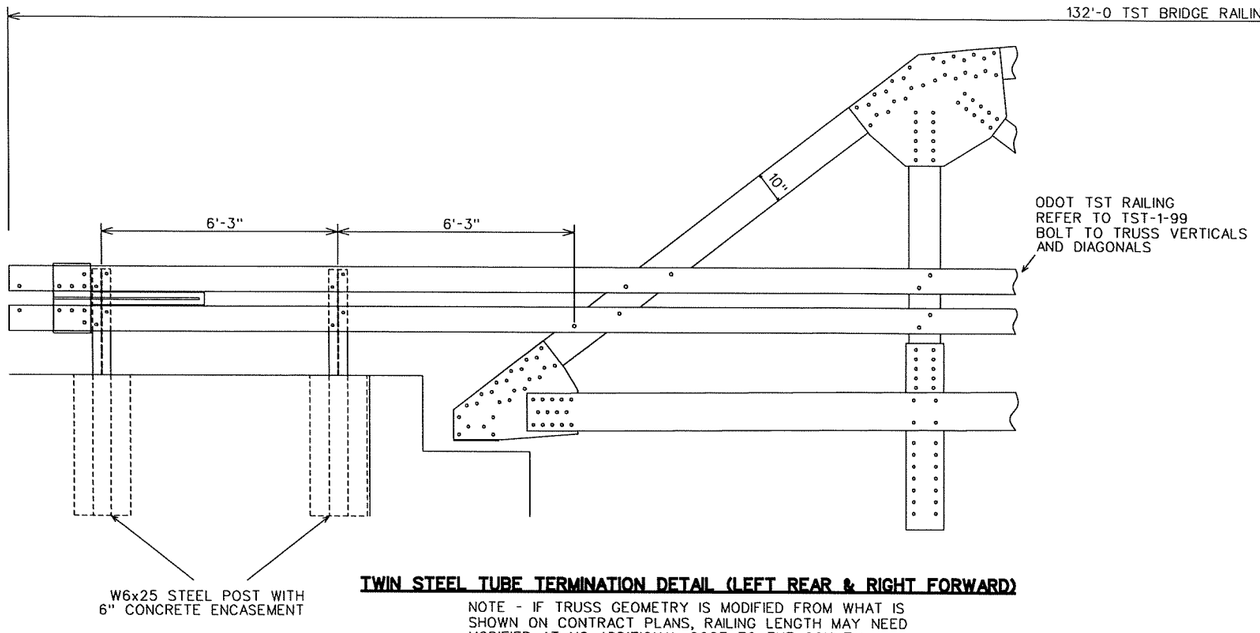
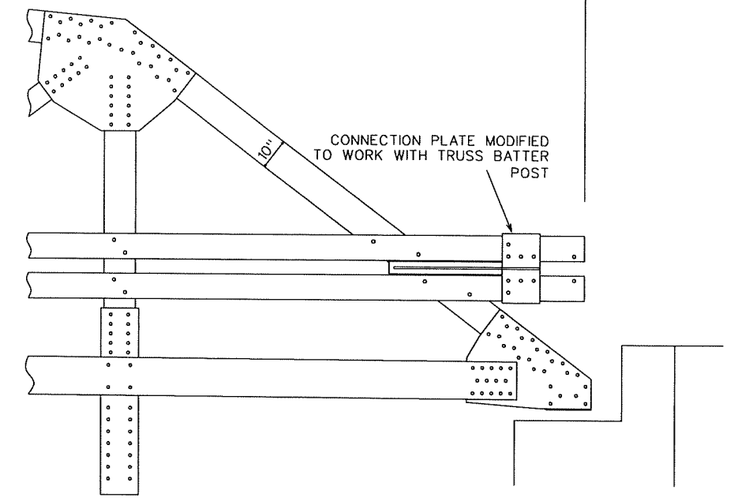


TWIN STEEL TUBE TERMINATION DETAIL (LEFT REAR & RIGHT FORWARD)

NOTE - IF TRUSS GEOMETRY IS MODIFIED FROM WHAT IS SHOWN ON CONTRACT PLANS, RAILING LENGTH MAY NEED MODIFIED AT NO ADDITIONAL COST TO THE COUNTY.



TWIN STEEL TUBE TERMINATION DETAIL (RIGHT REAR & LEFT FORWARD)

NOTE - IF TRUSS GEOMETRY IS MODIFIED FROM WHAT IS SHOWN ON CONTRACT PLANS, RAILING LENGTH MAY NEED MODIFIED AT NO ADDITIONAL COST TO THE COUNTY.

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COUNTY ENGINEER
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ZANESVILLE, OHIO 43701

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SUPERSTUCTURE DETAILS

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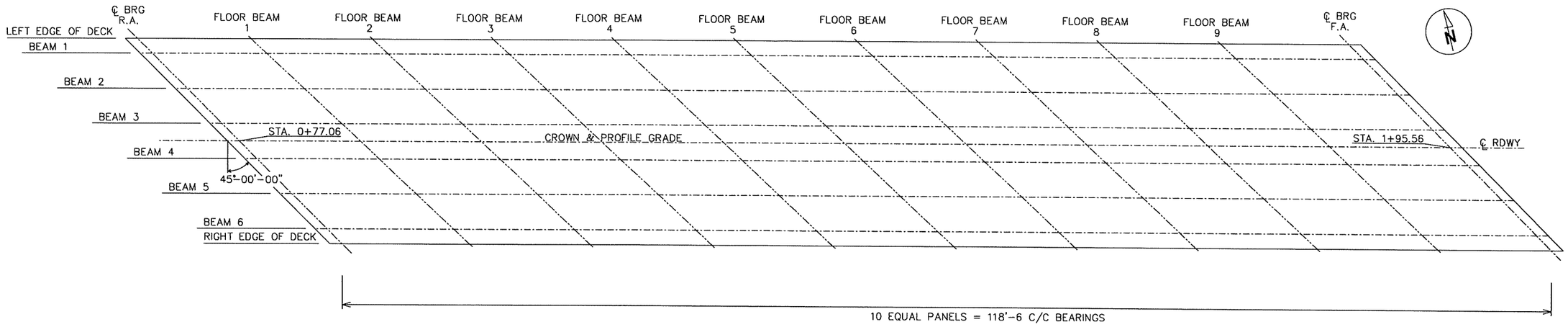

PLAN

FINAL DECK SURFACE ELEVATIONS (FT)

LOCATION	DESCRIPTION	℄ BRG R.A.	FLOOR BEAM 1	FLOOR BEAM 2	FLOOR BEAM 3	FLOOR BEAM 4	FLOOR BEAM 5	FLOOR BEAM 6	FLOOR BEAM 7	FLOOR BEAM 8	FLOOR BEAM 9	℄ BRG F.A.
LEFT EDGE OF DECK	STATION +	0+67.06	0+78.91	0+90.76	1+02.61	1+14.46	1+26.31	1+38.16	1+50.01	1+61.86	1+73.71	1+85.56
	ELEVATION	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84
CENTER BEAM 1	STATION +	0+68.52	0+80.37	0+92.22	1+04.07	1+15.92	1+27.77	1+39.62	1+51.47	1+63.32	1+75.17	1+87.02
	ELEVATION	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87
CENTER BEAM 2	STATION +	0+71.94	0+83.79	0+95.64	1+07.49	1+19.34	1+31.19	1+43.04	1+54.89	1+66.74	1+78.59	1+90.44
	ELEVATION	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92
CENTER BEAM 3	STATION +	0+75.35	0+87.20	0+99.05	1+10.90	1+22.75	1+34.60	1+46.45	1+58.30	1+70.15	1+82.00	1+93.85
	ELEVATION	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97
CENTER PROFILE GRADE	STATION +	0+77.06	0+88.91	1+00.76	1+12.61	1+24.46	1+36.31	1+48.16	1+60.01	1+71.86	1+83.71	1+95.56
	ELEVATION	718.00	718.00	718.00	718.00	718.00	718.00	718.00	718.00	718.00	718.00	718.00
CENTER BEAM 4	STATION +	0+78.77	0+90.62	1+02.47	1+14.32	1+26.17	1+38.02	1+49.87	1+61.72	1+73.57	1+85.42	1+97.27
	ELEVATION	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97	717.97
CENTER BEAM 5	STATION +	0+82.19	0+94.04	1+05.89	1+17.74	1+29.59	1+41.44	1+53.29	1+65.14	1+76.99	1+88.84	2+00.69
	ELEVATION	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92	717.92
CENTER BEAM 6	STATION +	0+85.60	0+97.45	1+09.30	1+21.15	1+33.00	1+44.85	1+56.70	1+68.55	1+80.40	1+92.25	2+04.10
	ELEVATION	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87	717.87
RIGHT EDGE OF DECK	STATION +	0+87.06	0+98.91	1+10.76	1+22.61	1+34.46	1+46.31	1+58.16	1+70.01	1+81.86	1+93.71	2+05.56
	ELEVATION	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84	717.84

MUSKINGUM COUNTY
MCEO
ENGINEER'S OFFICE
DOUG DAVIS
COUNTY ENGINEER
731 REHL ROAD
ZANESVILLE, OHIO 43701

DESIGNED DRD
DRAWN SEJ
CHECKED XXX
REVIEWED XXX
DATE YY/MM/DD
REVISED XXX
STRUCTURE FILE NUMBER 6037224

SUPERSTUCTURE DETAILS
BRIDGE NO. MUS-041-0114
OVER MOXAHALA CREEK

MUS-C.R.41-1.14
PID No. 83287

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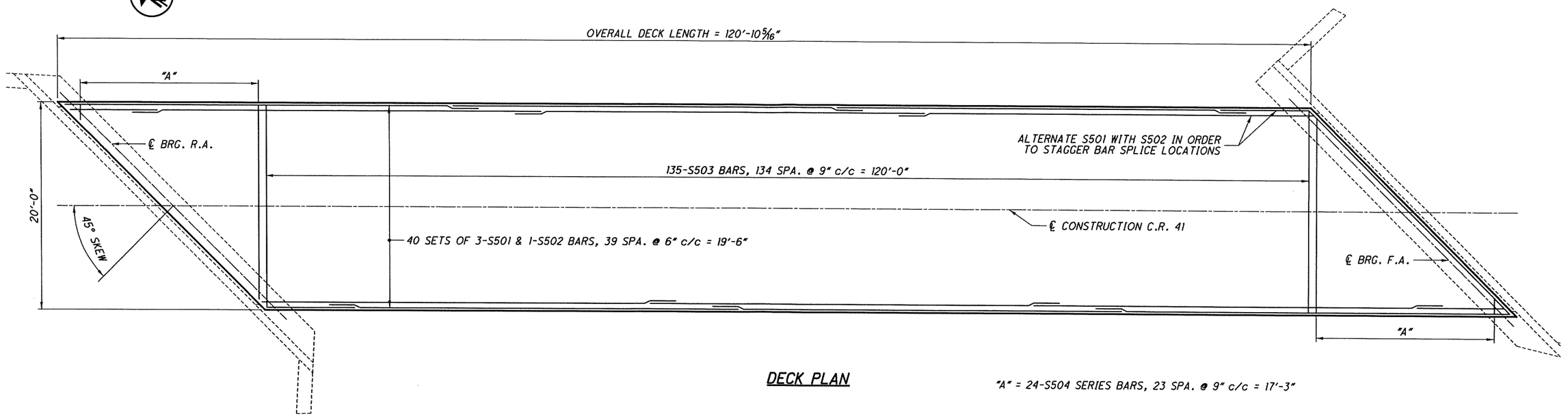
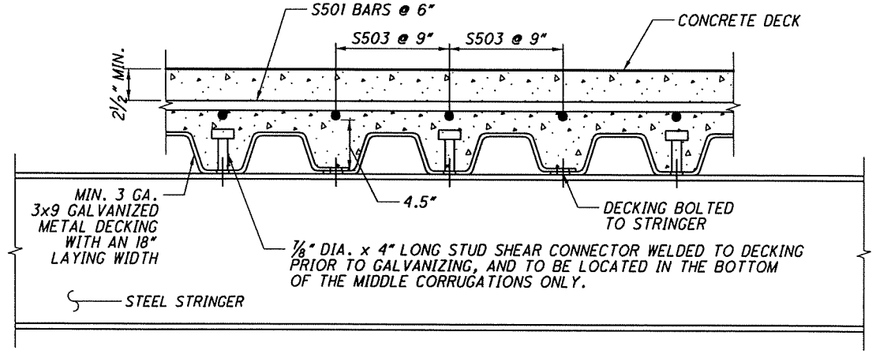
23



DECK PLAN

"A" = 24-S504 SERIES BARS, 23 SPA. @ 9" c/c = 17'-3"



TYPICAL SECTION (ALONG STRINGERS)

MUSKINGUM COUNTY
MCEO
ENGINEER'S OFFICE
DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

DESIGNED	DRAWN	REVIEWED	DATE
DRD	SEJ	XXX	YY/MM/DD
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XXX	XXX	6037224	

DECK PLAN
BRIDGE NO. MUS-041-0114
OVER MOXAHALA CREEK

MUS-C.R.41-1.14
PID No. 83287

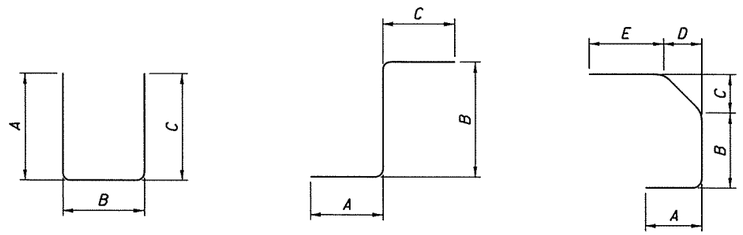
13 / 14

22
23

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A501	11	11	22	34'-0"	780	STR							
A601	23	23	46	5'-7"	386	2	2'-9"	1'-8"	1'-6"				
A602	23	23	46	2'-9"	190	STR							
A603	23	23	46	4'-4"	299	8	2'-0"	2'-0"	8"				
A604	23	23	46	6'-3"	432	14	8"	2'-9"	10 3/4"	10 3/4"	1'-9"		
A605	18	18	36	5'-0"	270	2	1'-10"	1'-8"	1'-10"				
A801	5	5	10	34'-0"	908	STR							
A802	3	3	6	26'-4"	422	STR							
SUB-TOTAL					3,687								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S501			120	40'-0"	5006	STR							
S502			40	9'-0"	375	STR							
S503			135	19'-6"	2746	STR							
S504			2 SERIES OF 24	1'-6" TO 18'-9"	507	STR							0'-9"
SUB-TOTAL					8,634								

BENDING DIAGRAMS



NOTES

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

DOUG DAVIS
COUNTY ENGINEER
155 E. MAIN ST.
ZANESVILLE, OHIO 43701
MUSKINGUM COUNTY MCEO ENGINEER'S OFFICE

REVIEWED XXX DATE YY/MM/DD
STRUCTURE FILE NUMBER 6037224
DESIGNED DRD
DRAWN SEJ
CHECKED XXX
REVISED XXX

REINFORCING STEEL LIST

BRIDGE NO. MUS-041-0114
OVER MOXAHALA CREEK

MUS-C.R.41-1.14
PID No. 83287