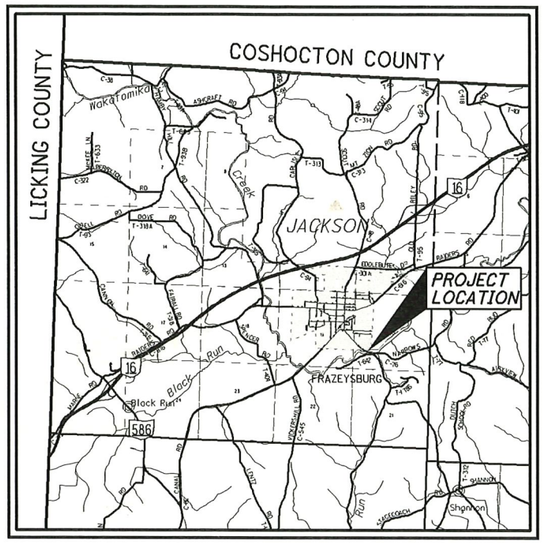


LOCATION MAP

LATITUDE: N 40°06'39" LONGITUDE: W 82°06'40"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED _____

INTERSTATE & DIVIDED HIGHWAY _____

UNDIVIDED STATE & FEDERAL ROUTES _____

OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (2011)	1870
DESIGN YEAR ADT (2031)	2000
DESIGN HOURLY VOLUME (2031)	220
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	22%
DESIGN SPEED	50 MPH
LEGAL SPEED	50 MPH

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-929-0988**

PLAN PREPARED BY:

MUSKINGUM COUNTY
MCEO
ENGINEER'S OFFICE

DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

MUS-C.R.48-4.10

Jackson ~~CASS~~ TOWNSHIP

MUSKINGUM COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

IMPROVEMENT OF 0.08 MILE OF C.R.48 IN JACKSON TOWNSHIP, BY REPLACING THE SUPERSTRUCTURE OVER THE WAKATOMIKA CREEK, INCLUDING REHABILITATING THE EXISTING SUBSTRUCTURE, APPROACH SLABS, 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

2010 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS APPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

WE THE COMMISSIONERS OF MUSKINGUM COUNTY, IN FORMAL SESSION, HEREBY APPROVE THESE PLANS.

James W Porter — 2/16/2012
MUSKINGUM COUNTY COMMISSIONER — DATE

Stan A. Stamper — 2/16/2012
MUSKINGUM COUNTY COMMISSIONER — DATE

Jeffrey L. Lacy — 02/16/2012
MUSKINGUM COUNTY COMMISSIONER — DATE

Douglas R. Davis — 2-15-12
MUSKINGUM COUNTY ENGINEER — DATE

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

ENGINEERS SEAL:

STATE OF OHIO
DOUGLAS R. DAVIS
#56345
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: _____
DATE: 2-15-12

STANDARD CONSTRUCTION DRAWINGS

BP-3.1 1/20/12	AS-1-81 7/19/02				
	DS-1-92 7/18/03				
GR-1.1 7/16/04	GSD-1-96 7/19/02				
GR-2.1 1/16/04	SIDC-1-96 7/19/02				
GR-3.6 10/16/09	TST-1-99 4/18/08				
GR-4.1 1/21/11					
MT-97.10 10/15/10					
MT-97.11 10/15/10					
MT-101.60 4/17/09					

SUPPLEMENTAL SPECIFICATIONS

800	1/20/12
832	5/05/09

SPECIAL PROVISIONS

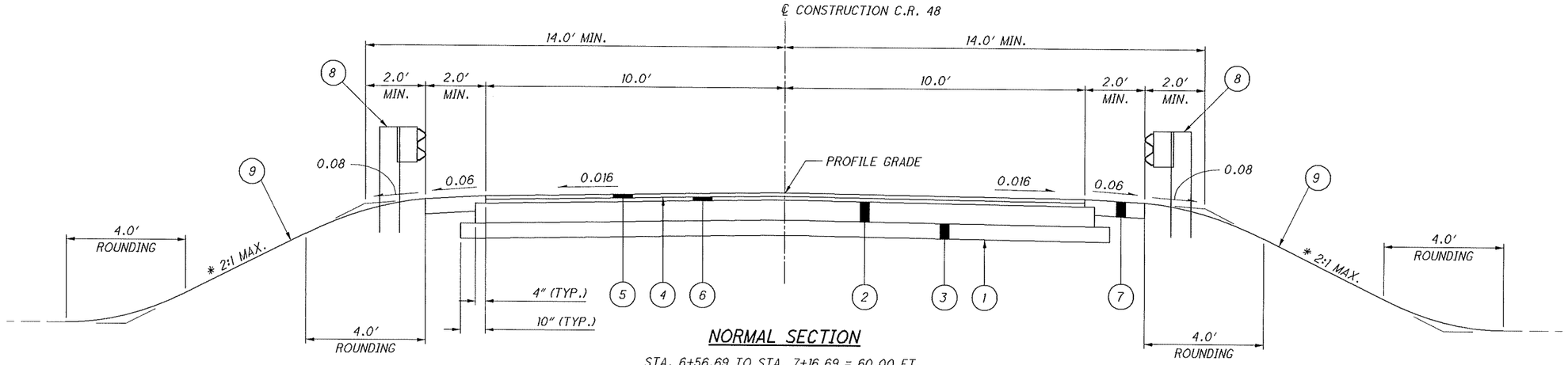
513	2/08/12

FEDERAL PROJECT NO. FAN E070 (323)

PID NO. 82217

CONSTRUCTION PROJECT NO. MUS-C.R.48-4.10

RAILROAD INVOLVEMENT NONE

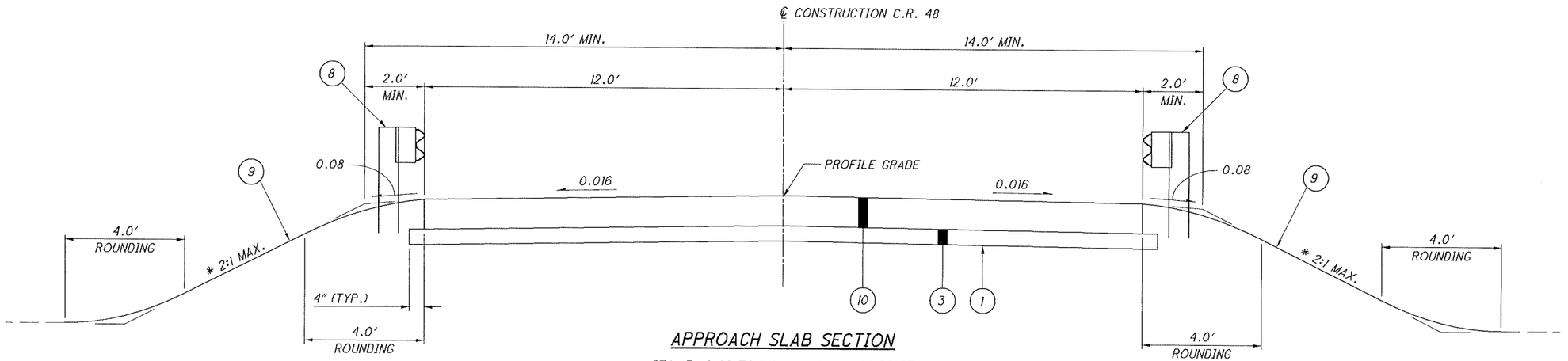


NORMAL SECTION

STA. 6+56.69 TO STA. 7+16.69 = 60.00 FT.
STA. 9+70.30 TO STA. 10+30.30 = 60.00 FT.

TOTAL = 120.00 FT.

* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS



APPROACH SLAB SECTION

STA. 7+16.69 TO STA. 7+31.69 = 15.00 FT.
STA. 9+55.30 TO STA. 9+70.30 = 15.00 FT.

TOTAL = 30.00 FT.

* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS

LEGEND

1. ITEM 204 - SUBGRADE COMPACTION
2. ITEM 301 - 8" ASPHALT CONCRETE BASE
3. ITEM 304 - 6" AGGREGATE BASE
4. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
5. ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
6. ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
7. ITEM 411 - 8" STABILIZED CRUSHED AGGREGATE
8. ITEM 606 - GUARDRAIL, TYPE 5
9. ITEM 659 - SEEDING AND MULCHING
10. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T-12")

TYPICAL SECTIONS

MUS-C.R.48-4.10

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:

ELECTRIC:	PHONE:
AEP OHIO	AT&T (SBC)
1900 LICKING RD	3935 NORTH POINT DRIVE
ZANESVILLE, OH 43701	ZANESVILLE, OH 43701
PHONE: (800) 450-4862	PHONE: (740) 455-3415
ATTN: BRIAN MILLER	ATTN: SANDI RANDOLPH

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.

INDIANA BAT NOTE

CLEARING OF ANY TREES THAT HAVE SUITABLE SUMMER BROOD REARING OR ROOSTING HABITAT FOR THE FEDERALLY ENDANGERED INDIANA BAT (E.G. TREES WITH EXFOLIATING BARK AND/OR CAVITIES), SHALL OCCUR BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE BATS WOULD NOT BE USING SUCH HABITAT.

SEEDING AND MULCHING

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

659, REPAIR SEEDING AND MULCHING	13 SQ. YD
659, COMMERCIAL FERTILIZER	0.03 TON
659, LIME	0.05 ACRES
659, WATER	2 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.

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 AS SOON AS POSSIBLE.

BANK STABILIZATION

BANK STABILIZATION WILL BE LIMITED TO WITHIN 50 FEET UPSTREAM AND DOWNSTREAM OF THE EXISTING STRUCTURE. BANK STABILIZATION WILL BE LIMITED TO REGRADING OF THE BANKS FROM TOE-OF-SLOPE (INSTREAM) TO THE TOP OF BANK AND WILL INCLUDE PLACEMENT OF ROCK CHANNEL PROTECTION WHERE REQUIRED. THIS EXCLUDES WORK SUCH AS WIDENING, DEEPENING OR RELOCATION. THE EXTENT OF SUCH STABILIZATION WILL BE KEPT TO A MINIMUM.

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 A 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 - 10 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 203 - EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6" LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STA 7+16.69 TO 7+31.69 AND STA. 9+55.30 TO 9+70.30.

NO IN-STREAM WORK
THE PROJECT DOES NOT HAVE A PERMIT FOR ANY WORK IN THE WATER

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW.

A PERMIT DETERMINATION WAS NOT MADE FOR THIS PROJECT. THE CONTRACTOR SHOULD BE AWARE THAT THE ANY DISCHARGE OF MATERIAL BELOW THE ORDINARY HIGH WATER MARK (OHWM), WHICH IS THE USACE'S JURISDICTIONAL LIMITS, WILL REQUIRE AUTHORIZATION BY THE USACE.

SHOULD ANY FILL BE REQUIRED BELOW THE ORDINARY HIGH WATER MARK (OHWM) ON THE WAKATOMIKA CREEK, THE CONTRACTOR SHALL COORDINATE SUCH ACTIVITIES, INCLUDING THE USACE'S PRE CONSTRUCTION NOTICE, THROUGH THE DISTRICT 5 PLANNING DEPARTMENT AND ALLOW 90 DAYS MINIMUM FOR PROCESSING WITH THE USACE. THE CONTRACTOR SHALL NOT COORDINATE THESE ACTIVITIES DIRECTLY WITH THE USACE. THE CONTRACTOR SHALL NOT PLACE FILL BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. SHOULD A PCN BE REQUIRED, THE PCN SHALL INCLUDE PERTINENT INFORMATION (I.E. VOLUME AND SURFACE AREA OF TEMPORARY FILLS) AND DRAWINGS (PLAN AND PROFILE VIEW) OF TEMPORARY FILLS BELOW OHWM. ONLY CLEAN, NON-ERODIBLE MATERIALS SHALL BE USED. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHERE TEMPORARY FILL WAS LOCATED SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION.

USACE DEFINITION OF OHWM - THE ORDINARY HIGH WATER MARK IS THE LINE ON THE SHORES ESTABLISHED BY THE FLUCTUATIONS OF WATER AND INDICATED BY PHYSICAL CHARACTERISTICS SUCH AS A CLEAR, NATURAL LINE IMPRESSED ON THE BANK; SHELVING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

CENTERLINE REFERENCES C.R. 48						
STATION	OFFSET (FT.)	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
7+33.00	NONE	N/A	769067.5724	2077202.3878	742.85	℄ BRG. R.A. - BEAM SEAT
8+01.00	NONE	N/A	769040.9239	2077264.9486	743.50	℄ BRG. PIER 1 - BEAM SEAT
8+86.00	NONE	N/A	769007.6132	2077343.1496	743.73	℄ BRG. PIER 2 - BEAM SEAT
9+51.00	NONE	N/A	768980.9647	2077405.7104	743.45	℄ BRG. F.A. - BEAM SEAT

CALCULATED SEJ CHECKED DRD

GENERAL NOTES

MUS-C.R.48-4.10

ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48"x30" ROAD CLOSED 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 III 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 DEPARTMENT 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.

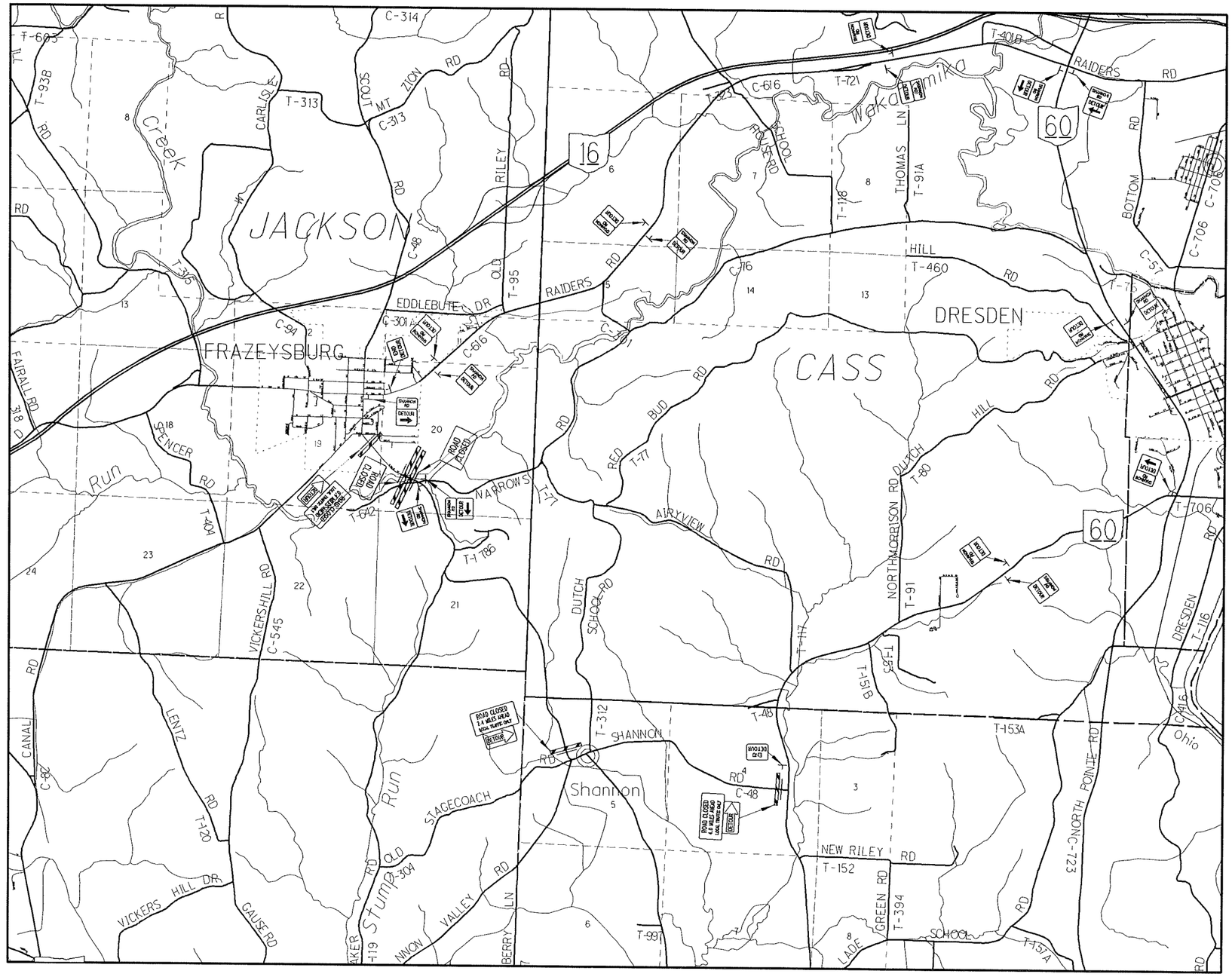
DETOUR LIMITATION

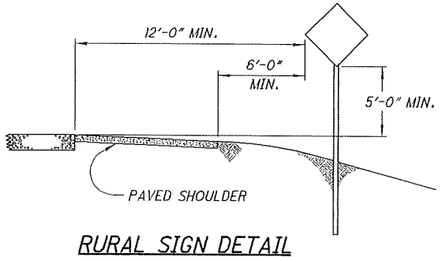
THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE ONE HUNDRED AND TWENTY (120) CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE 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.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE DEPARTMENT. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 2 M. GAL.





RURAL SIGN DETAIL

SIGN KEY

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

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

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

SHANNON 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 III BARRICADE

TYPICAL POST MOUNTED SIGN (SEE RURAL SIGN DETAIL)

HORIZONTAL SCALE IN FEET
0 1000 2000 4000

CALCULATED SEJ
CHECKED DRD

MAINTENANCE OF TRAFFIC
DETOUR PLAN AND NOTES

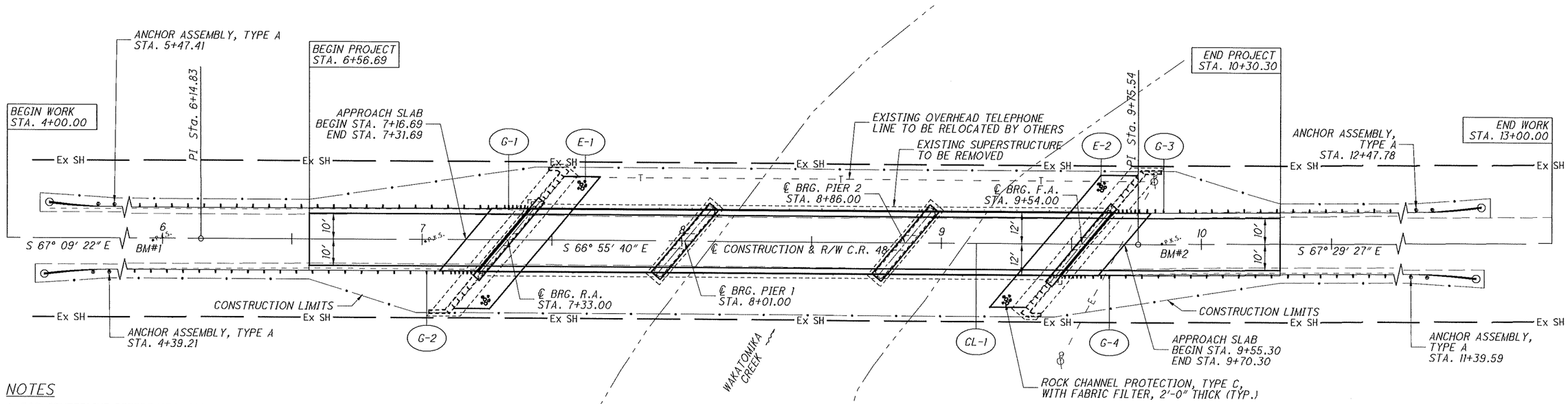
MUS-C.R.48-4.10

SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								OFFICE CALCS		3	4	7	10					
										LUMP				201	11000	LUMP		CLEARING AND GRUBBING	
													192	203	10000	192	CU YD	EXCAVATION	
													11	203	20000	11	CU YD	EMBANKMENT	
								220						203	20001	220	CU YD	EMBANKMENT, AS PER PLAN	3
								328						204	10000	328	SQ YD	SUBGRADE COMPACTION	
												949		606	13000	949	FT	GUARDRAIL, TYPE 5	
												4		606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A	
												4		606	32160	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
																		EROSION CONTROL	
												90		601	32204	90	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
													243	659	10000	243	SQ YD	SEEDING AND MULCHING	
										13				659	14000	13	SQ YD	REPAIR SEEDING AND MULCHING	
										0.03				659	20000	0.03	TON	COMMERCIAL FERTILIZER	
										0.05				659	31000	0.05	ACRE	LIME	
										2				659	35000	2	M GAL	WATER	
														832	30000	2000	EACH	EROSION CONTROL	
																		PAVEMENT	
								62						301	46000	62	CU YD	ASPHALT CONCRETE BASE, PG64-22	
								62						304	20000	62	CU YD	AGGREGATE BASE	
								14						407	14000	14	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
								12						411	10000	12	CU YD	STABILIZED CRUSHED AGGREGATE	
								13						448	46050	13	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
								10						448	47020	10	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
																		TRAFFIC CONTROL	
												8		626	00100	10	EACH	BARRIER REFLECTOR	
												0.14		644	00100	0.14	MILE	EDGE LINE	
												0.07		644	00300	0.07	MILE	CENTER LINE	
																		MAINTENANCE OF TRAFFIC	
											2			616	10000	2	M GAL	WATER	
																		STRUCTURES (OVER 20')	
																		FOR BRIDGE ESTIMATED QUANTITIES SEE SHEET 13	13
														614	11000	LUMP		MAINTAINING TRAFFIC	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED SEJ
CHECKED DRD

GENERAL SUMMARY

MUS-C.R.48-4.10



NOTES

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

BENCHMARKS / MONUMENTS

BM#1 - MAG NAIL SET IN PAVEMENT

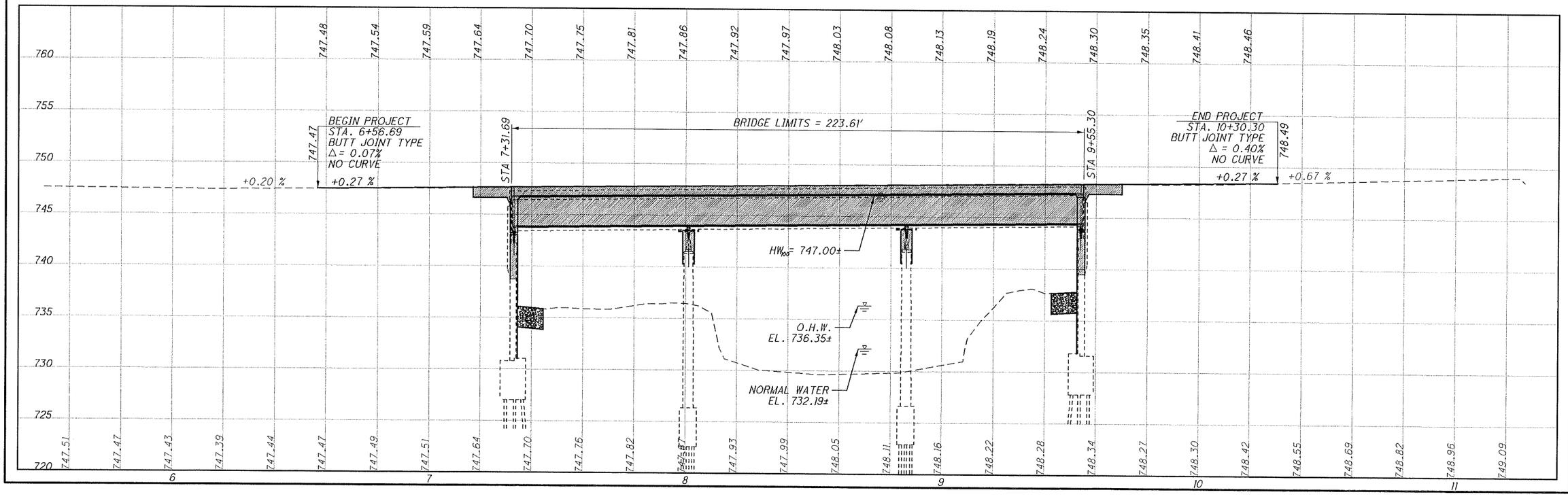
X = 2077076.2300 Y = 769120.4891

STA. 5+96.1952, 0.6818' RT. ELEV. = 747.4420

BM#2 - MAG NAIL SET IN PAVEMENT

X = 2077434.0400 Y = 768969.1644

STA. 9+84.6899, 0.1558' LT. ELEV. = 748.2610



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SEJ
CHECKED DRD

PLAN AND PROFILE
STA. 5+40 TO STA. 11+40

MUS-C.R.48-4.10

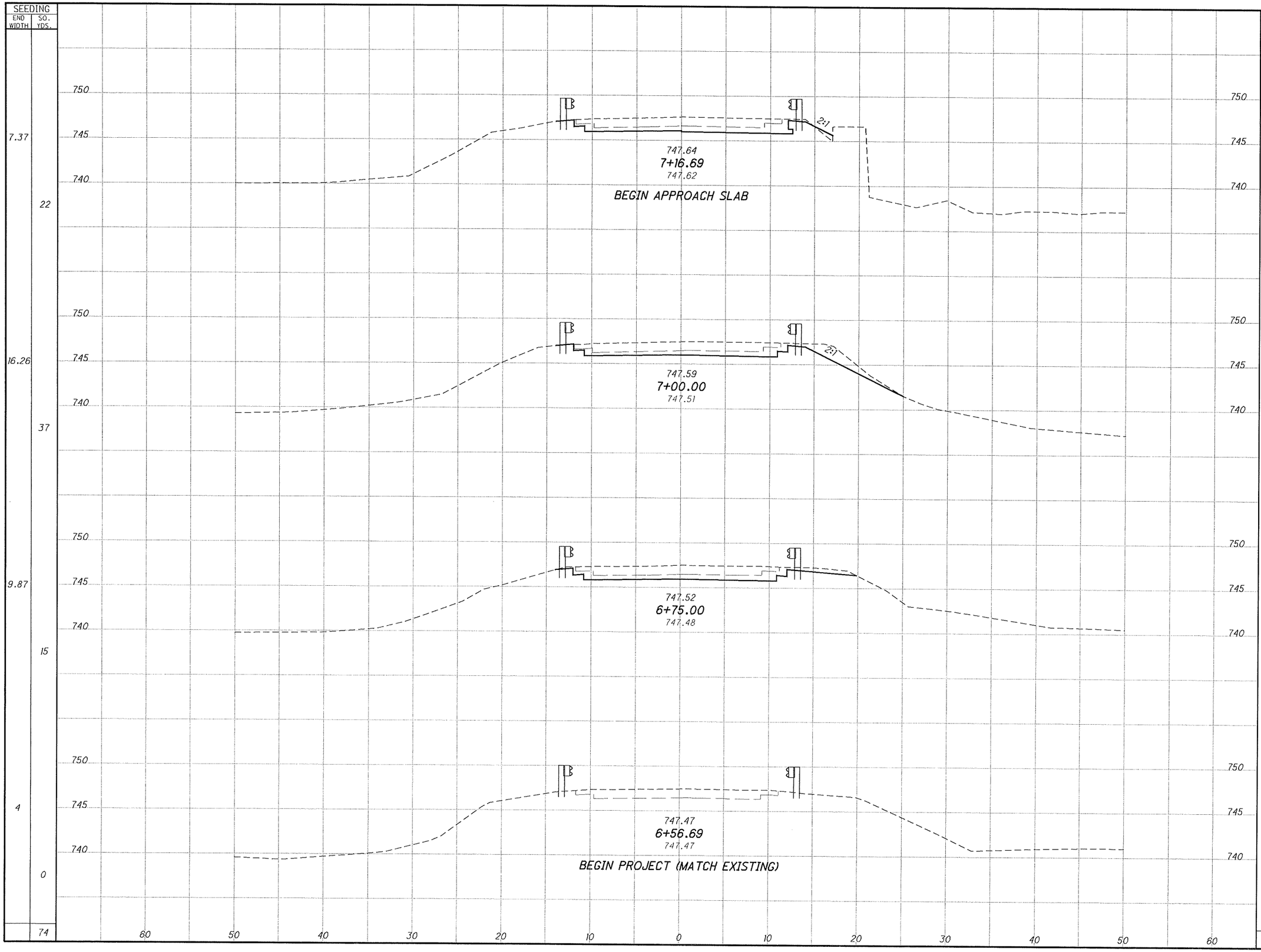
REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	606 GUARDRAIL, TYPE 5	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST	606 ANCHOR ASSEMBLY, TYPE A	644 EDGE LINE	644 CENTER LINE
					CU YD	FT	EACH	EACH	MILE	MILE
E-1	6	7+34.96	7+48.01	LT&RT	45					
E-2	6	9+38.99	9+52.04	LT&RT	45					
G-1	6	5+47.41	7+41.16	LT		193.25	1	1		
G-2	6	4+39.21	7+20.46	RT		281.25	1	1		
G-3	6	9+66.54	12+47.79	LT		281.25	1	1		
G-4	6	9+45.84	11+39.59	RT		193.25	1	1		
CL-1	6	6+56.69	10+30.30	℄						0.07
EL-1	6	6+56.69	10+30.30	LT&RT					0.14	
TOTALS CARRIED TO GENERAL SUMMARY					90	949	4	4	0.14	0.07

CALCULATED SEJ
CHECKED DRD

ESTIMATED QUANTITIES

MUS-C.R.48-4.10

SEEDING	
END WIDTH	SQ. YDS.
7.37	22
16.26	37
9.87	15
4	0
	74



END AREA		VOLUME	
CUT	FILL	CUT	FILL
37	0		
		25	0
43	0		
		38	0
39	0		
		14	0
0	0		
		0	0
		77	0

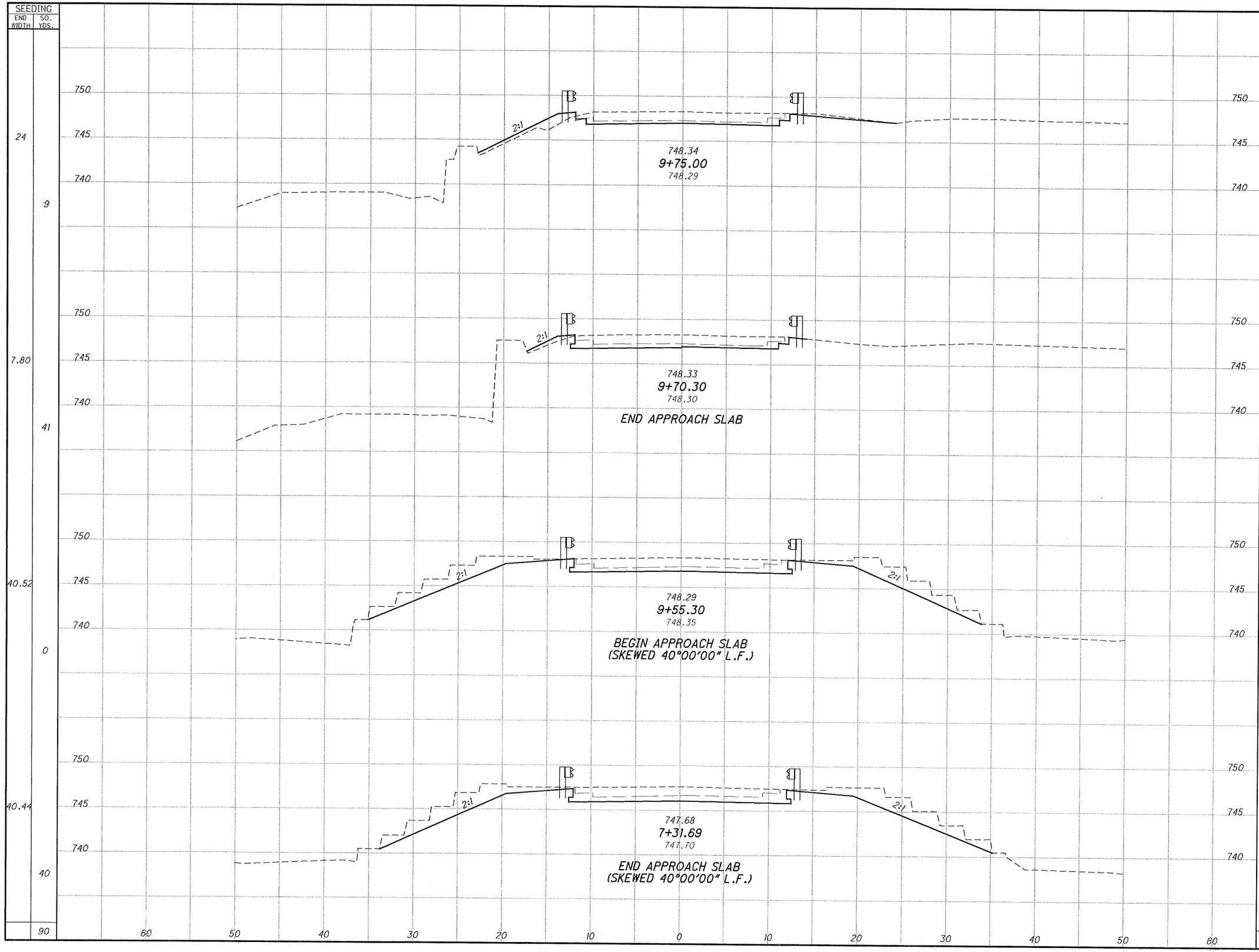
CALCULATED SEJ

CHECKED DRD

CROSS SECTIONS
STA. 6+56.69 TO STA. 7+16.69

MUS-C.R.48-4.10

SEEDING	
END WIDTH	SQ. YDS.
24	9
7.80	41
40.52	0
40.44	40
	90



END AREA		VOLUME	
CUT	FILL	CUT	FILL
32	7		
		6	1
33	2		
		24	1
50	0		
		0	0
50	0		
		25	0
		55	2

CALCULATED SEJ
CHECKED DRD

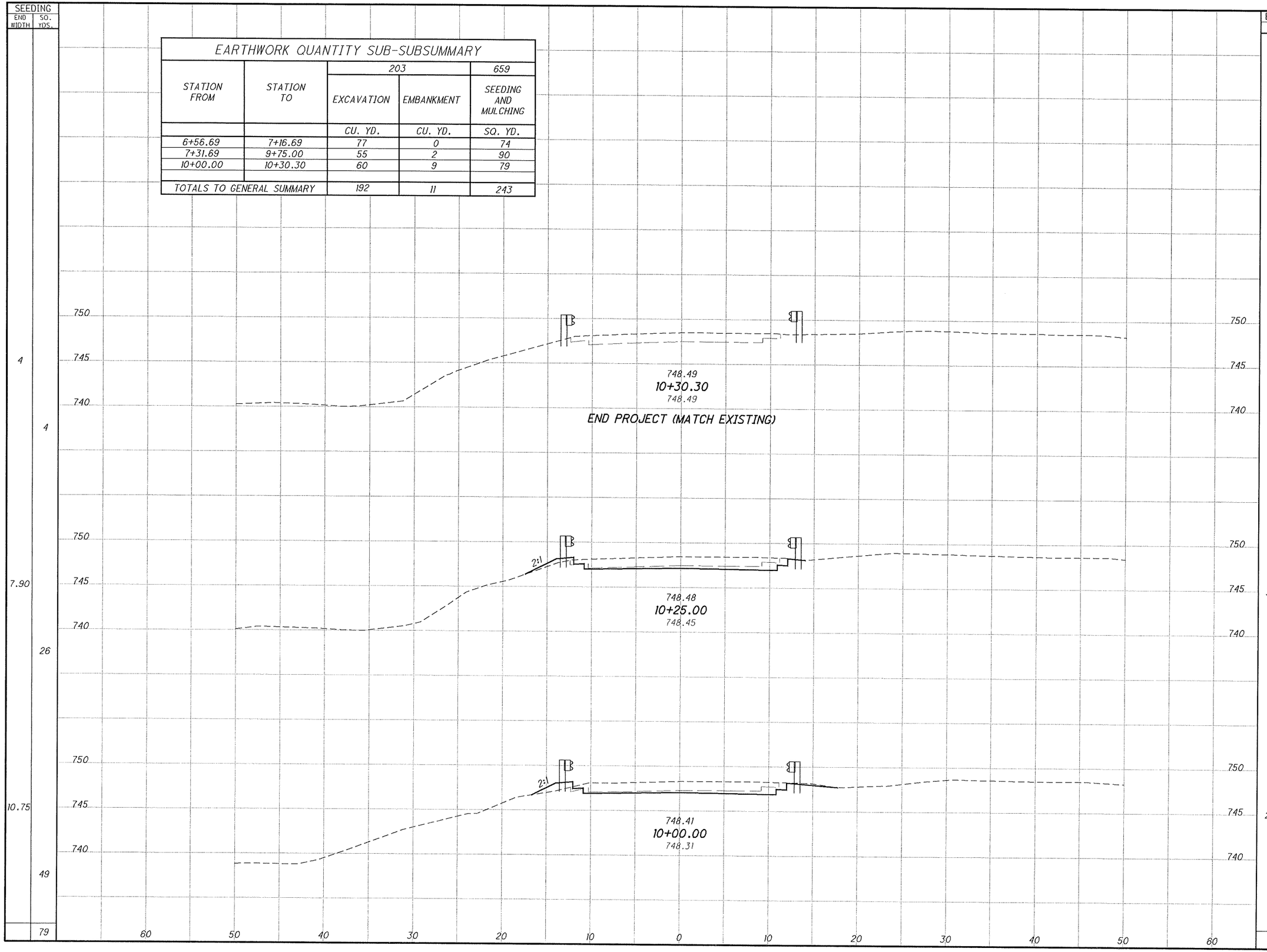
CROSS SECTIONS
STA. 7+31.69 TO STA. 9+75.00

MUS-C.R.48-4.10

9
23

EARTHWORK QUANTITY SUB-SUBSUMMARY

STATION FROM	STATION TO	203 EXCAVATION	203 EMBANKMENT	659 SEEDING AND MULCHING
		CU. YD.	CU. YD.	SQ. YD.
6+56.69	7+16.69	77	0	74
7+31.69	9+75.00	55	2	90
10+00.00	10+30.30	60	9	79
TOTALS TO GENERAL SUMMARY		192	11	243



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4	4	0	0	3	1
7.90	26	30	2	28	3
10.75	49	29	3	29	5
	79			60	9

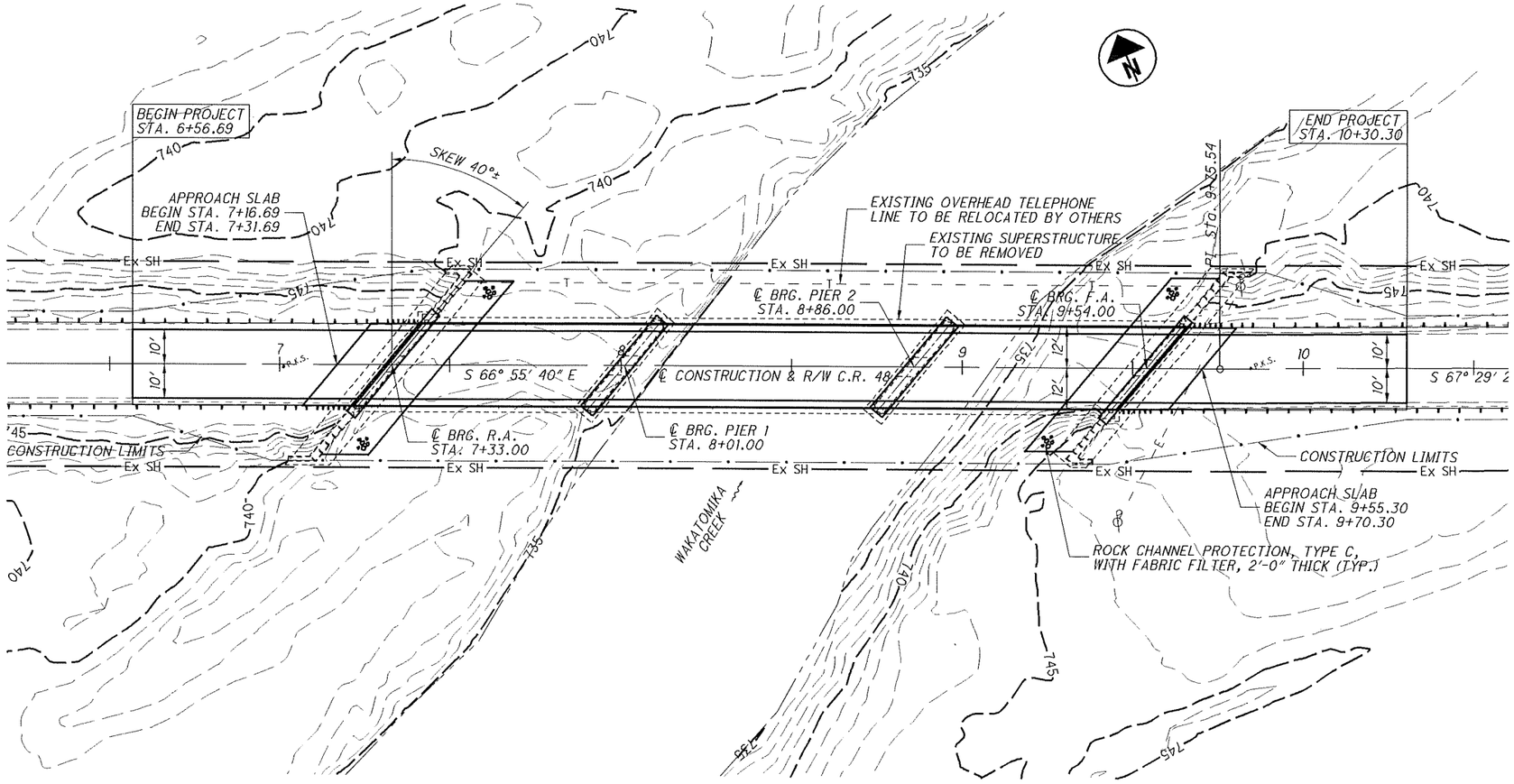
CALCULATED

CHECKED

CROSS SECTIONS
STA. 10+00.00 TO STA. 10+30.30

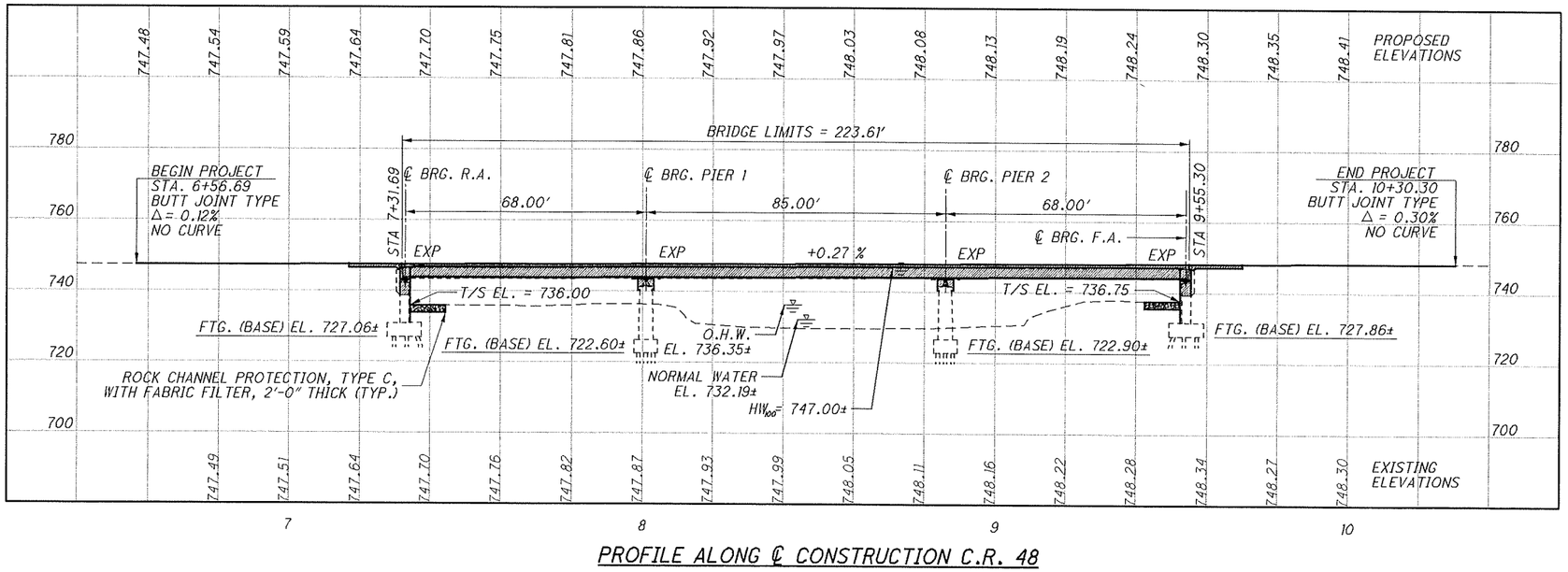
MUS-C.R.48-4.10

10
23



PLAN

FOR BENCHMARK / MONUMENT INFORMATION
SEE ROADWAY PLAN SHEET 6.



PROFILE ALONG ℄ CONSTRUCTION C.R. 48

NOTES

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

   STA. 7+43.35 - LEFT REAR
   STA. 7+22.65 - RIGHT REAR
   STA. 9+64.35 - LEFT FORWARD
   STA. 9+43.65 - RIGHT FORWARD

   MEASURED AT ℄ BRG. OF ABUTMENT AND FACE OF GUARDRAIL POST.

TRAFFIC DATA

DESIGN TRAFFIC:
2011 ADT = 1870 2011 ADTT = 415
2031 ADT = 2000 2031 ADTT = 440
DIRECTIONAL DISTRIBUTION = 50%

HYDRAULIC DATA

DRAINAGE AREA = 155 SQ. MILES
HW_{00}= 747.00± (2010 FEMA FIRM PANEL #305)

EXISTING STRUCTURE

TYPE: THREE SPAN CONTINUOUS STEEL GIRDER WITH CONCRETE DECK, CONCRETE WALL ABUTMENTS AND CONCRETE PIERS WITH CONCRETE FOOTINGS ON TIMBER PILING

SPANS: 68'-0" ±, 85'-0" ±, 68'-0" ±, C/C BEARINGS
ROADWAY: 24'-0" ± TOE/TOE CURB
LOADING: H-15-33
SKEW: 40°00'00" ± LEFT FORWARD
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
STRUCTURAL FILE NUMBER: 6043240
DATE BUILT: 1936
DISPOSITION: SUPERSTRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

TYPE: THREE SPAN CONTINUOUS A572 GALV. ROLLED STEEL BEAM COMPOSITE WITH REINFORCED CONCRETE DECK ON SEMI-INTEGRAL WALL TYPE ABUTMENTS

SPANS: 68'-0" ±, 85'-0" ±, 68'-0" ±, C/C BEARINGS
ROADWAY: 24'-0" F/F GUARDRAIL
LOADING: HL93
SKEW: 40°00'00" ± LEFT FORWARD
WEARING SURFACE: 1" MONOLITHIC CONCRETE
FUTURE WEARING SURFACE: 60 PSF
APPROACH SLABS: 15'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT

COORDINATES: LATITUDE N 40°06'39"
LONGITUDE W 82°06'40"

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

DESIGNED	DRAWN	REVIEWED	DATE
DRD	SEJ		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		6043240	

MUSKINGUM COUNTY
STA. 7+31.69
STA. 9+55.30

SITE PLAN
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

1 / 13

11
23

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED 7-19-02
DS-1-92	REVISED 7-18-03
GSD-1-96	REVISED 7-19-02
SIDC-1-96	REVISED 7-19-02
TST-1-99	REVISED 4-18-08

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 5TH EDITION 2010, 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: 60 PSF

DESIGN DATA:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

CONCRETE CLASS S MODIFIED - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A572 GRADE 50 GALV. - MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

2½" CONCRETE COVER
IPANEX CONCRETE WATERPROOFING
STEEL DRIP STRIP
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE

ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK

UTILITY LINES

THE UTILITY COMPANIES SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE ANDTE ROSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04'

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

EXISTING BRIDGE PLANS ARE ON FILE AT THE MUSKINGUM COUNTY ENGINEER'S OFFICE AND ARE AVAILIABLE FOR REFERENCE.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND NOTES AND THAT ARE NOT SEPARETLY LISTED FOR PAYMENT. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

AT ABUTMENT, REMOVE CONCRETE TO A ROUGH SURFACE AND INSTALL DOWELS AS SPECIFIED.

PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN SURFACES IN CONTACT WITH NEW CONCRETE AND EXISTING EXPOSED REINFORCMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE DIRT, DUST, RUST OR FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDERPRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFASES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

EXCAVATION REQUIRED TO PERFORM FACING OF ABUTMENT SHALL BE INCLUDED FOR PAYMENT UNDER THIS ITEM.

SEE SHEET 4/13 FOR ADDITIONAL NOTES AND DETAILS.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6" LIFTS.

ITEM 511 - CLASS C CONCRETE, ABUTMENT, AS PER PLAN

THE CONTRACTOR SHALL INSTALL A METAL BENCHMARK DISK ON TOP OF NORTHEAST WINGWALL. THE DISK SHALL BE PLACED CAREFULLY ON A LEVELED SECTION AS DIRECTED. BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE AN ELEVATION OF THE BENCHMARK, WHICH SHALL BE VERIFIED BY A PROFESSIONAL SURVEYOR. THE ELEVATION MEASURED SHALL USE NAVD 88 DATUM. THE DISK SHALL BE PROVIDED BY THE MUSKINGUM COUNTY ENGINEER. PAYMENT FOR ALL OTHER MATERIALS, LABOR AND INCIDENTALS NECESSARY TO INSTALL THE BENCHMARK DISK SHALL BE INCLUDED IN ITEM 511 - CLASS C CONCRETE, ABUTMENT, AS PER PLAN. IF THE METAL BENCHMARK IS DISTURBED PRIOR TO THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUPPLY A NEW DISK, RESET AND VERIFY ITS ELEVATION AT NO ADDITIONAL COST TO THE COUNTY.

ITEM 511 - CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN

THE CONTRACTOR SHALL ENSURE THAT IPANEX WATERPROOFING IS ADDED TO THE CONCRETE MIXTURE AS REQUIRED BY THE ENGINEER. STANDARD CLASS S 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 ITEM 511 - CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 513, GALVANIZED COATING SYSTEM SHALL CONFORM TO SPECIAL PROVISION INCLUDED IN THE BID DOCUMENTS, AND PAID FOR UNDER THIS ITEM.

AT THE CONTRACTOR'S OPTION TO FACILITATE GALVANIZING OF STEEL BEAMS, ADDITIONAL FIELD SPLICES LOCATED IN THE END SPANS MAY BE PROPOSED. NO ADDITIONAL COST TO THE COUNTY WILL OCCUR. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS AND MAKE ANY REQUIRED ADJUSTMENTS TO THE PLANS AT HIS COST BEFORE PREPARING SHOP DRAWINGS.

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 IN.

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

ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1-1/4" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES(±) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES(±) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. X TRANS.)	D751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 DEGREES F, 180 DEGREES BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, 40 DEGREES F, BEND AROUND ¼" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

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

DESIGNED DRD | DRAWN SEJ | REVIEWED — | DATE —

CHECKED DFT | REVISED — | STRUCTURE FILE NUMBER 6043240

GENERAL NOTES
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

ESTIMATED QUANTITIES

CALCULATED: SEJ DATE: 02/08/12 CHECKED: DFT DATE: 02/08/12

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SPEC & AS PER PLAN SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	2
202	23500	597	SQ YD	WEARING COURSE REMOVED	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING	
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	2
509	10000	47576	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	302	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34435	179	CU YD	CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN	2
511	34450	23	CU YD	CLASS S CONCRETE, MISC.: ABUTMENT DIAPHRAGM	
511	42500	28	CU YD	CLASS C CONCRETE, PIER CAP	
511	45701	60	CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN	2
512	10100	364	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
513	10041	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN	2
513	20000	2556	EACH	WELDED STUD SHEAR CONNECTORS	
516	13900	72	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
516	14021	96	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	2
516	44201	8	EACH	3 1/8"x11"x13" NEOPRENE ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE 1 1/2"x12"x14", AS PER PLAN	11
516	44201	8	EACH	3 1/8"x13"x18" NEOPRENE ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE 2"x14"x19", AS PER PLAN	11
517	70000	452	FT	RAILING (TWIN STEEL TUBE)	
518	21200	80	CU YD	POROUS BACKFILL WITH FILTER FABRIC	
SPECIAL	51822300	539	FT	STEEL DRIP STRIP	
518	40000	100	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
518	40010	10	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
526	10000	82	SY	REINFORCED CONCRETE APROACH SLAB (T=12")	

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

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DRAWN SEJ
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REVISED —

ESTIMATED QUANTITIES
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

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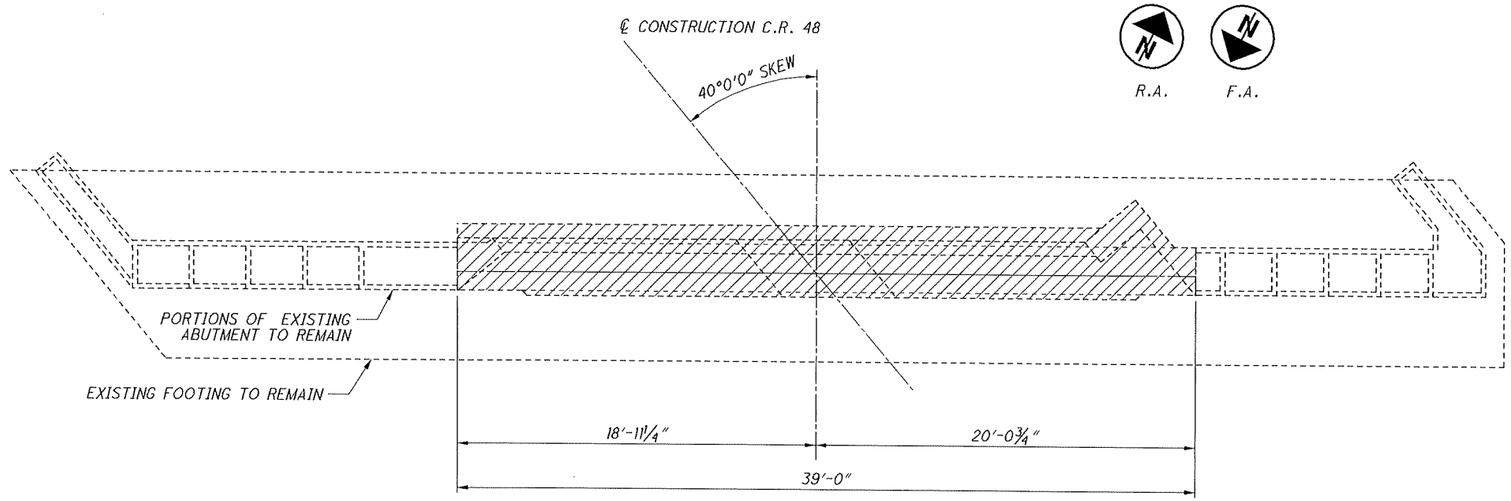
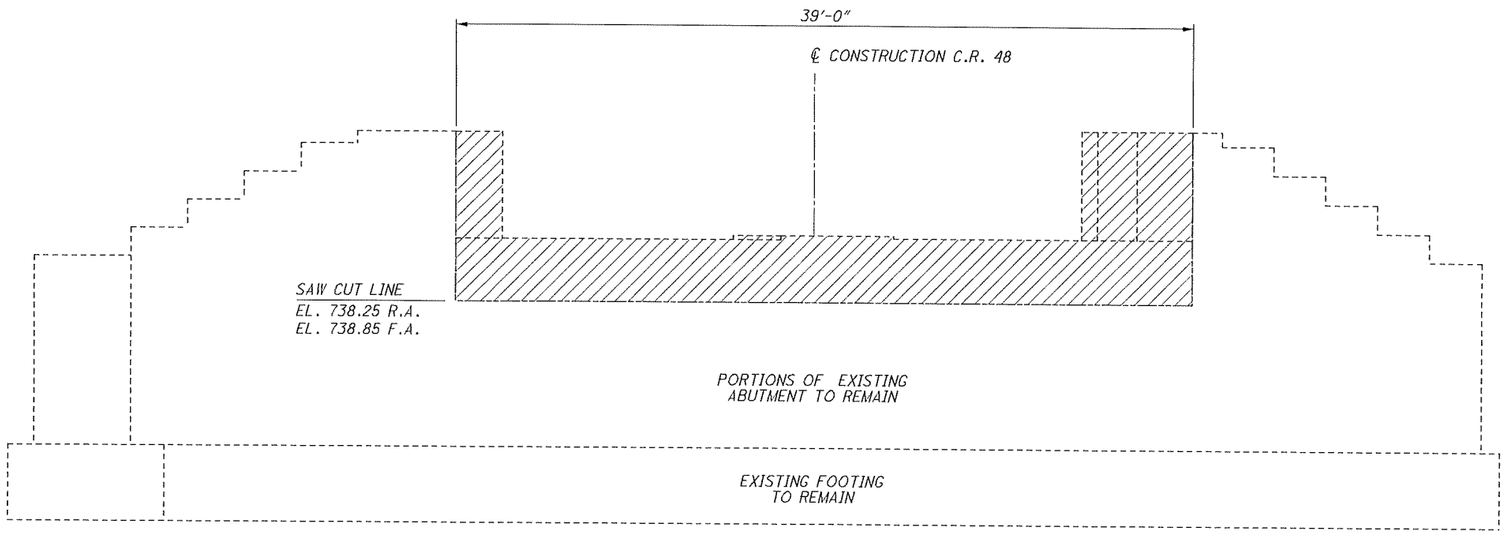
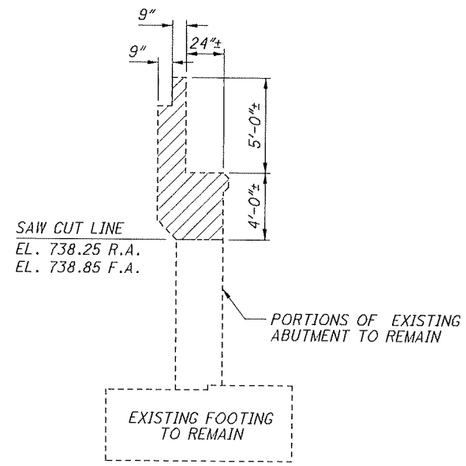


PLAN VIEW



ELEVATION VIEW



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

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

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TYPICAL ABUTMENT REMOVAL DETAILS
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

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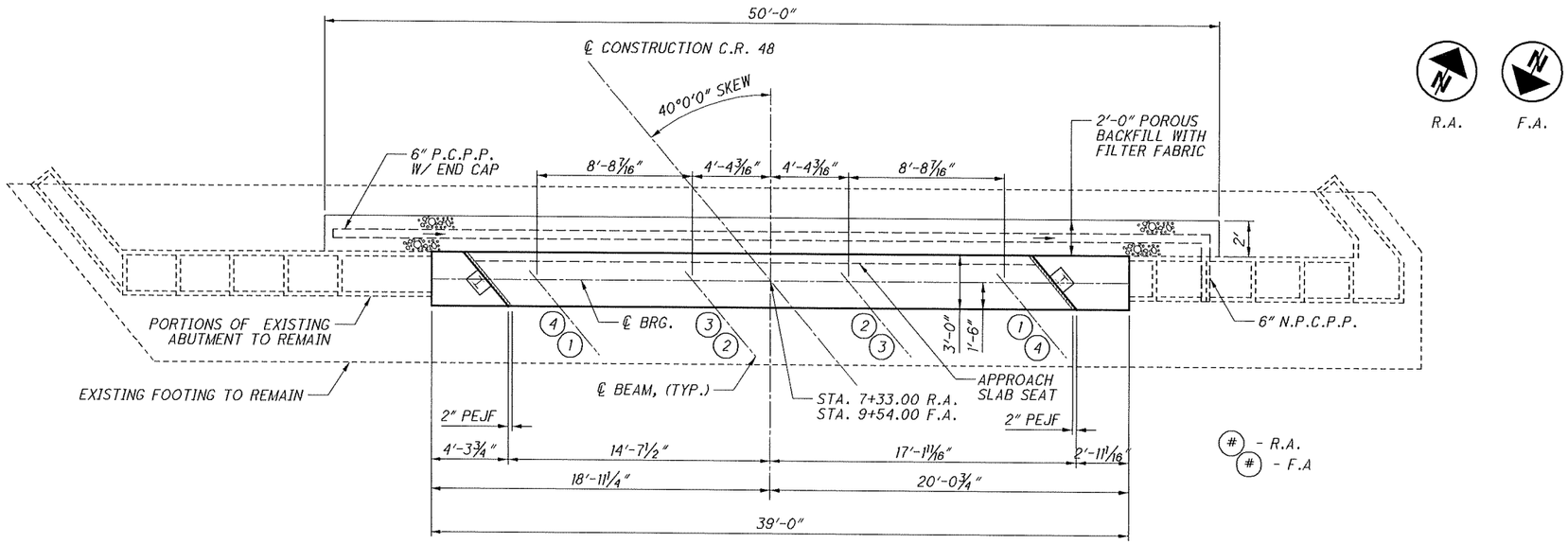
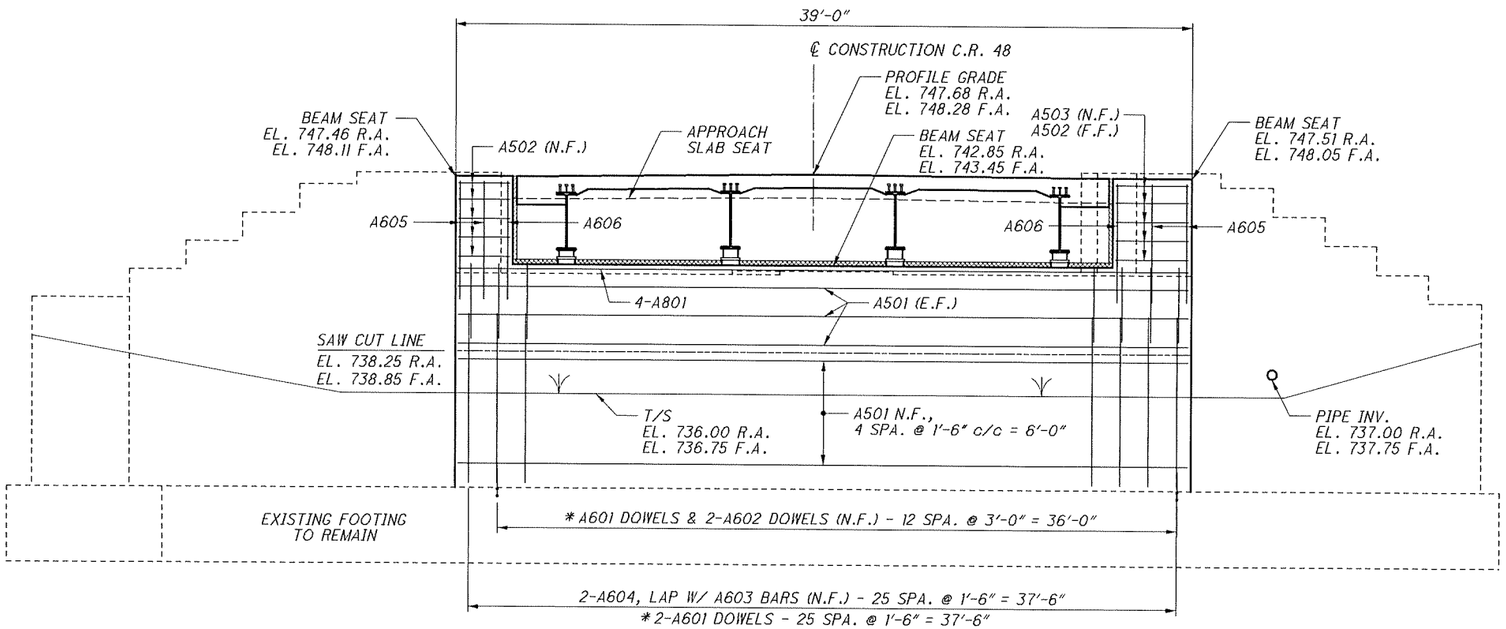


PLAN VIEW



ELEVATION VIEW

* A601 ARE DOWELED INTO EXISTING FOOTING @ 3'-0" SPACING, AND AT SAWCUT SPACED @ 1'-6"

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

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DRD	SEJ	—	—
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT	—	6043240	

TYPICAL ABUTMENT DETAILS
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

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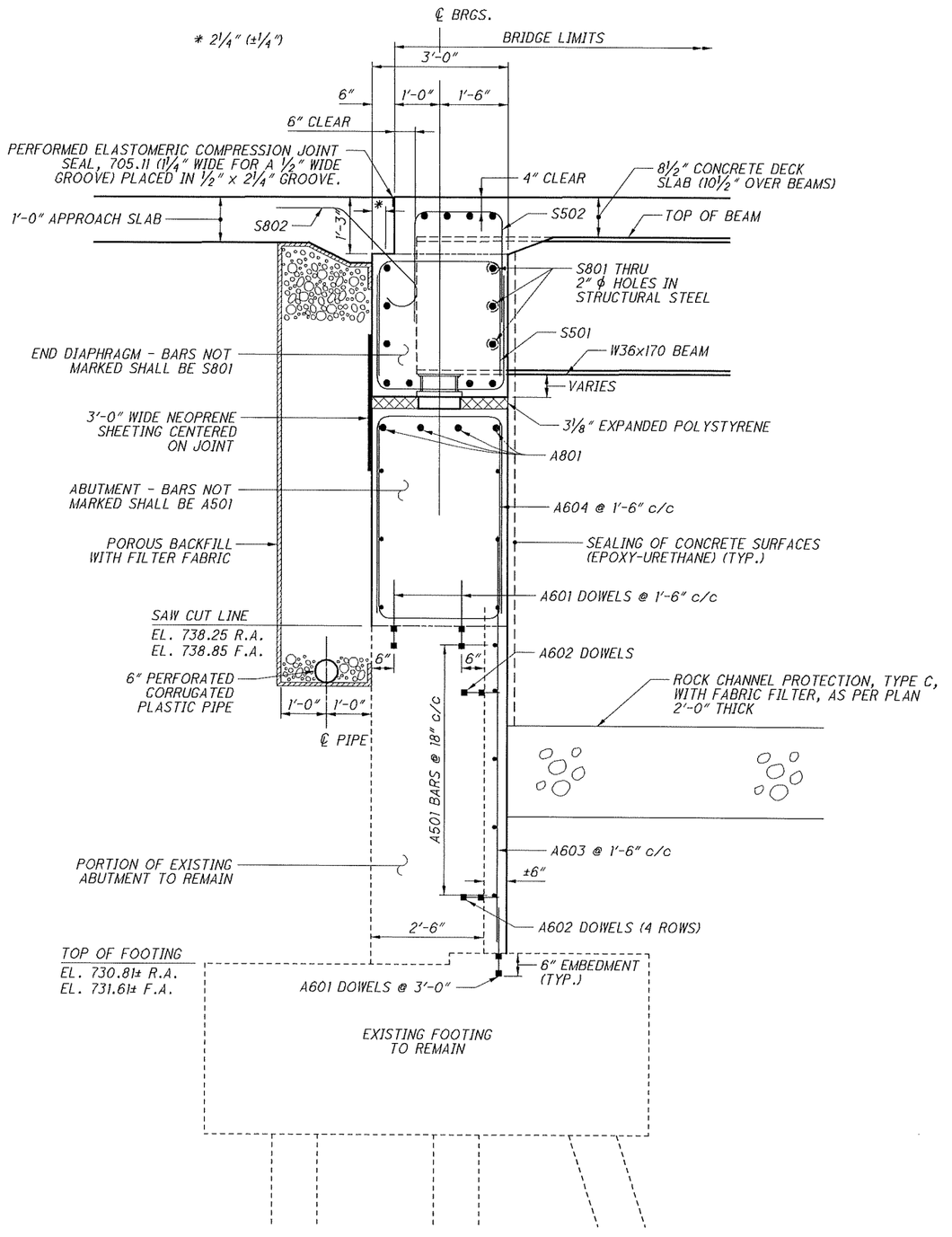

TYPICAL ABUTMENT SECTION

NOTES

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW EMBANKMENT SURFACE AND LATERALLY TO THE WINGWALLS AS SHOWN IN THE ABUTMENT PLAN VIEW.

ADAMS COUNTY / MCEO — ENGINEER'S OFFICE
DOUG DAVIS
COUNTY ENGINEER
155 RAHL ROAD
ZANESVILLE, OHIO 43701

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DRD	SEJ	—	—
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DFT	—	6043240	

TYPICAL ABUTMENT DETAILS
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

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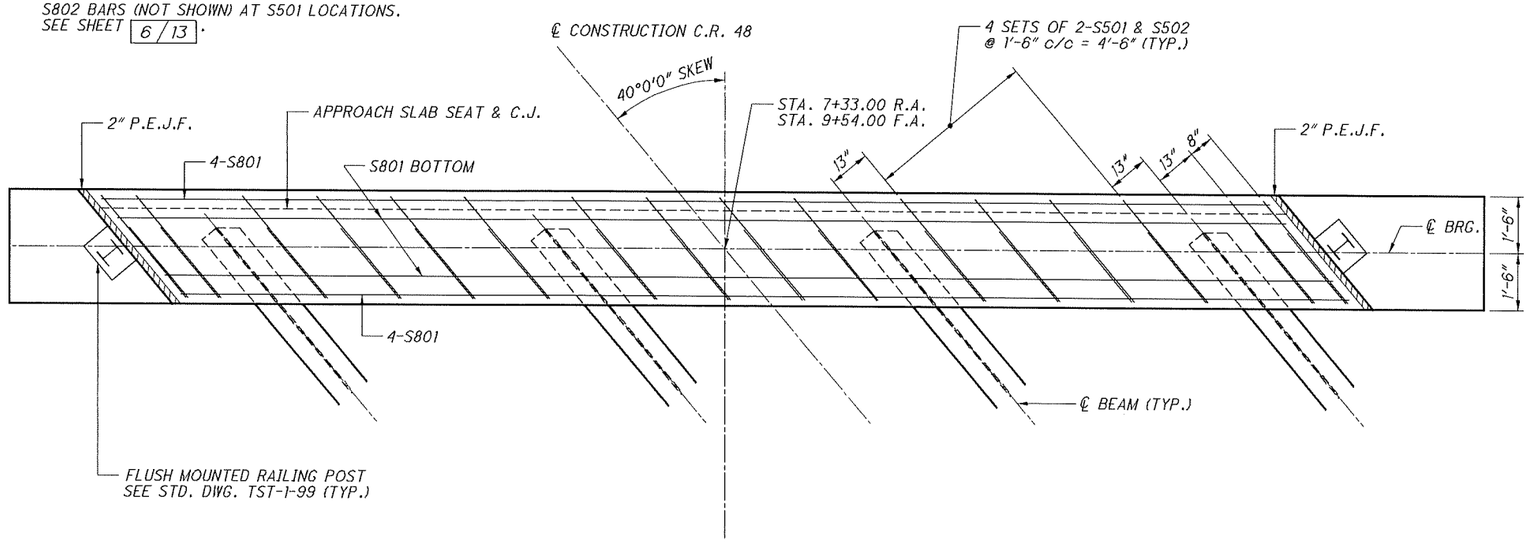
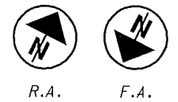
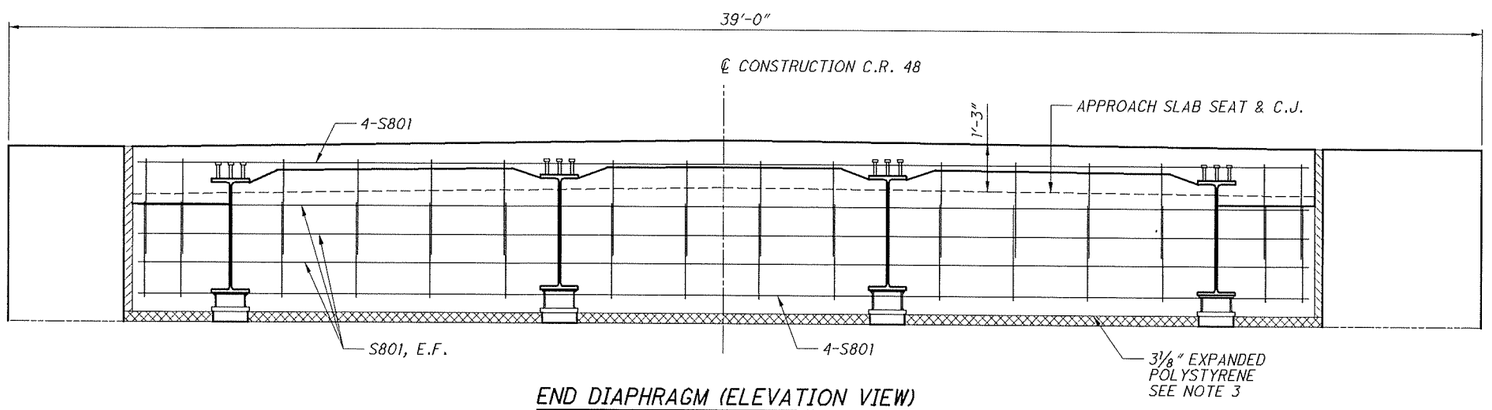
4-S801 BARS (NOT SHOWN) ABOVE APPROACH SLAB SEAT & C.J. SEE ELEVATION VIEW BELOW.

S802 BARS (NOT SHOWN) AT S501 LOCATIONS. SEE SHEET 6/13.



END DIAPHRAGM (PLAN VIEW)





END DIAPHRAGM (ELEVATION VIEW)

NOTES

1. ABUTMENT DIAPHRAGM CONCRETE:
   PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.

2. REINFORCING STEEL:
   ALL VERTICAL REINFORCING BARS IN THE END DIAPHRAGM SHALL BE PLACED PARALLEL TO THE BEAMS.

   S801 BARS MAY BE SPLICED TO FACILITATE BAR PLACEMENT. SPLICE AT NO COST TO COUNTY. MIN. LAP = 4'-6"

3. POLYSTYRENE:
   ALL POLYSTYRENE SHALL BE INCLUDED WITH ITEM 511, CLASS S CONCRETE, MISC.: ABUTMENT DIAPHRAGM FOR PAYMENT.

MUSKINGUM COUNTY
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155 RENLROYD
ZANESVILLE, OHIO 43701

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TYPICAL ABUTMENT DETAILS
BRIDGE NO. MUS-048-0410
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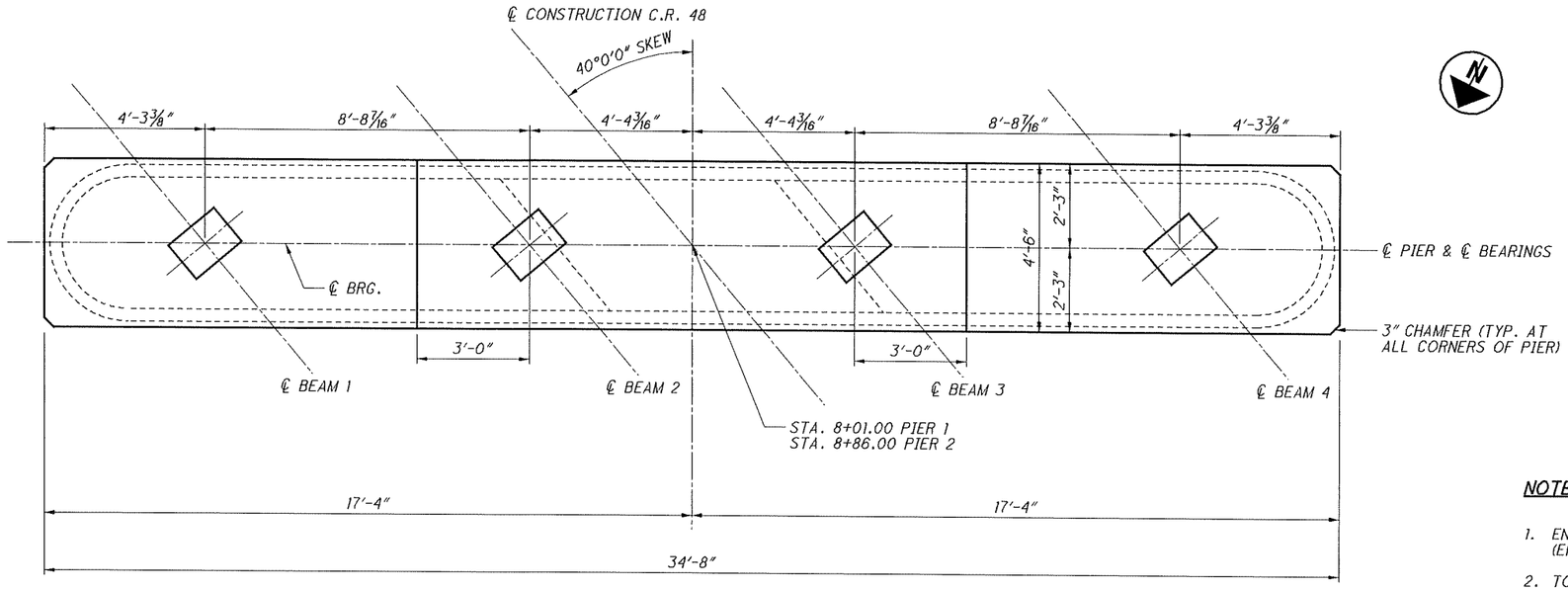
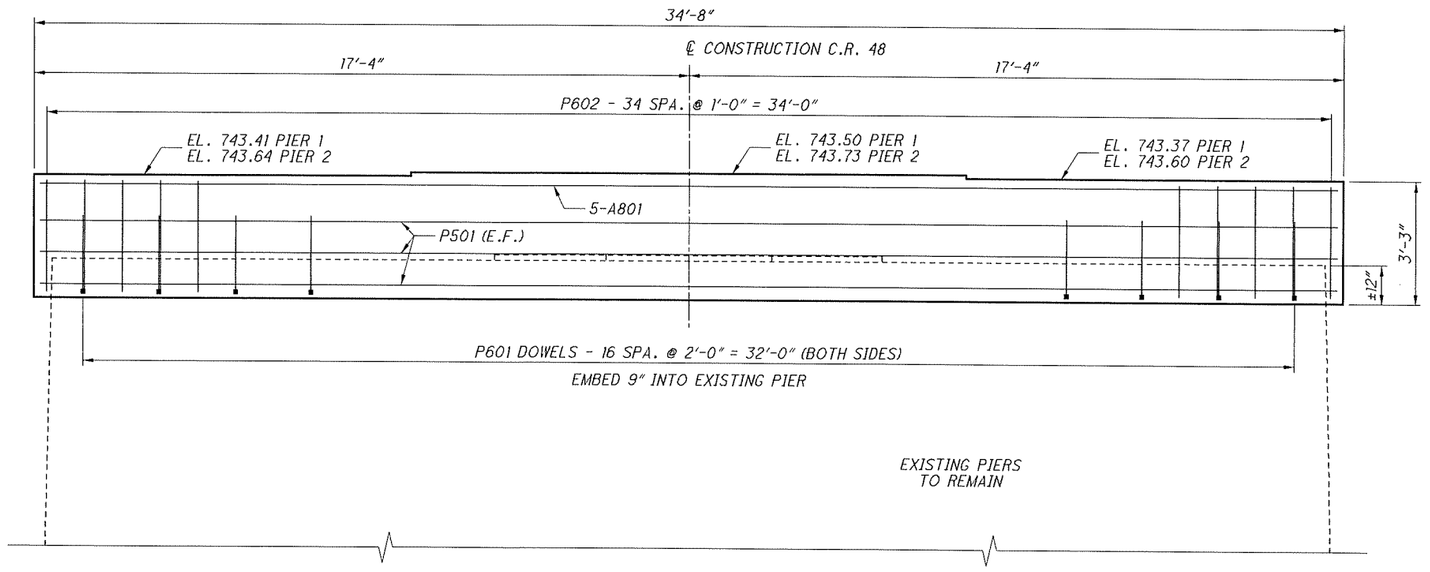
MUS-C.R.48-4.10
PID No. 82217

7/13

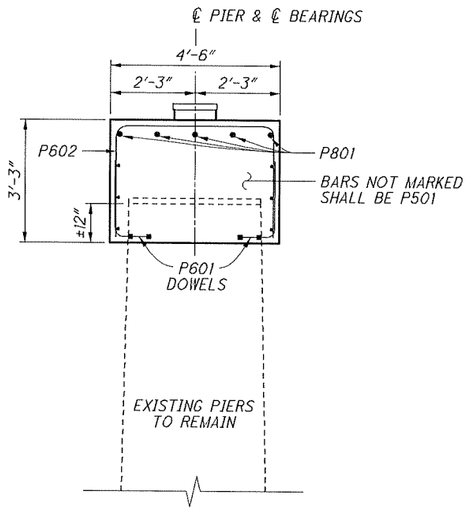
17/23



PLAN VIEW



PARTIAL ELEVATION



PARTIAL SECTION

NOTES

1. ENTIRE SURFACE OF NEW PIER CAPS SHALL BE SEALED (EPOXY-URETHANE).
2. TOP SURFACE OF PIER CAP SHALL BE SCARIFIED AND EXISTING ROCKERS AND BASE PLATES OF BOLSTERS CAN REMAIN IN PLACE AFTER CLEANING IF DESIRED BY CONTRACTOR, AND DOES NOT CONFLICT WITH PROPOSED REINFORCING.

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

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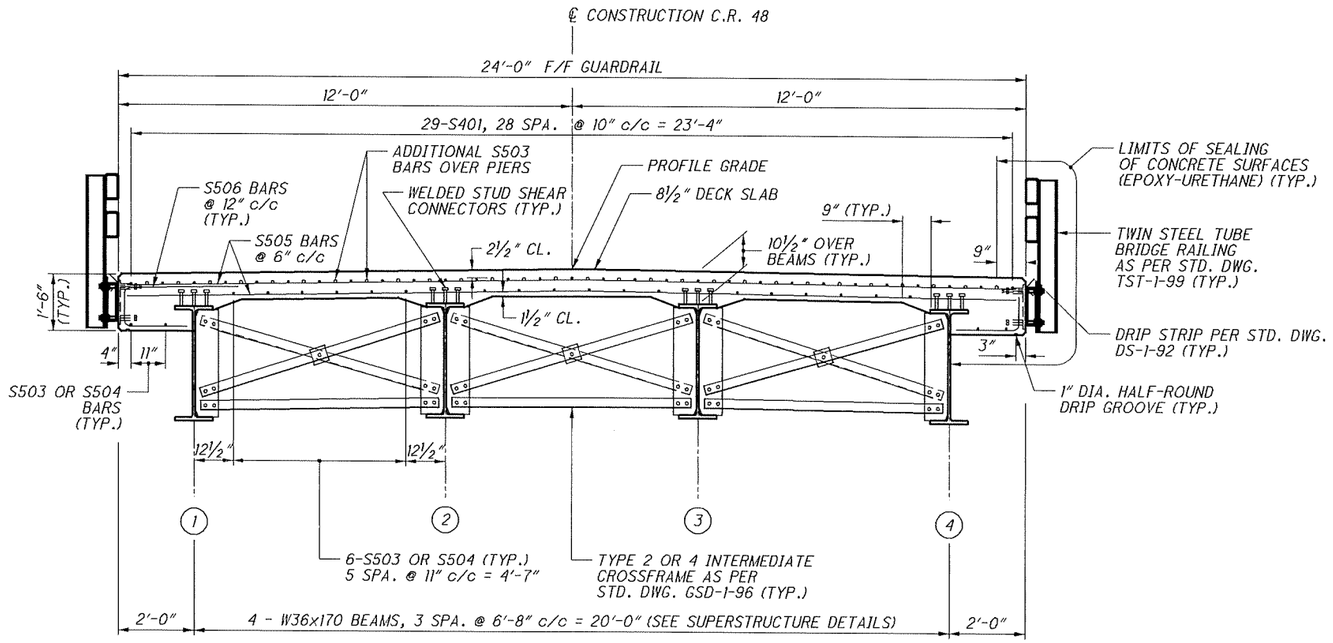
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT	—	6043240	

TYPICAL PIER DETAILS
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

8 / 13

18
23



TRANSVERSE SECTION

NOTES

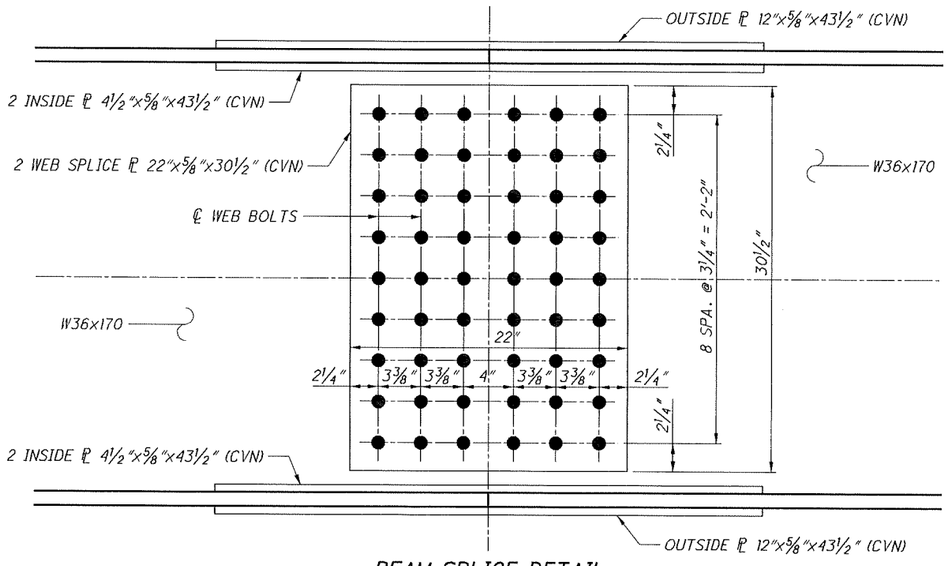
1. MINIMUM LAP SPLICES:
   #4 BAR = 2'-3" (ACTUAL SPLICE 3'-3")
   #5 BAR = 2'-11"

2. DECK SLAB CONCRETE QUANTITY:
   THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2" INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

3. MAINTAIN A 3" CLEARANCE TO THE EDGE OF DECK FOR ALL TRANSVERSE REINFORCING STEEL.

4. ALL REINFORCING STEEL IS EPOXY COATED.



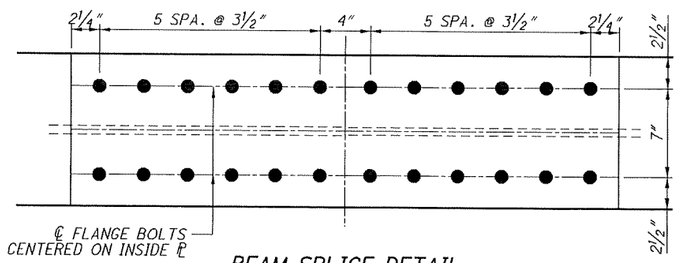
BEAM SPLICE DETAIL

WEB SPLICE (SIDE VIEW)

BOLT SPLICE NOTES

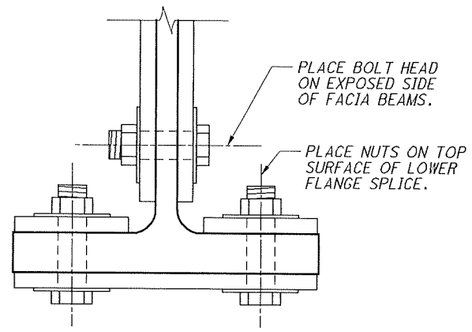
1. ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN). AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.0 OF CMS.

2. ALL FASTENERS ARE ⅞" DIAMETER HIGH STRENGTH BOLTS. ASTM A-325, TYPE 1. BOLT HOLES SHALL BE 1¼" DIA.



BEAM SPLICE DETAIL

FLANGE SPLICE TYP. TOP AND BOTTOM



BEAM SPLICE DETAIL

PARTIAL SECTION

ADJUNCTUM COUNTY
MCEO
DOUG DAVIS
COUNTY ENGINEER
55 RENLEO-O
ZANESVILLE, OHIO 43701
ENGINEER'S OFFICE

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SUPERSTRUCTURE DETAILS
BRIDGE NO. MUS-048-0410
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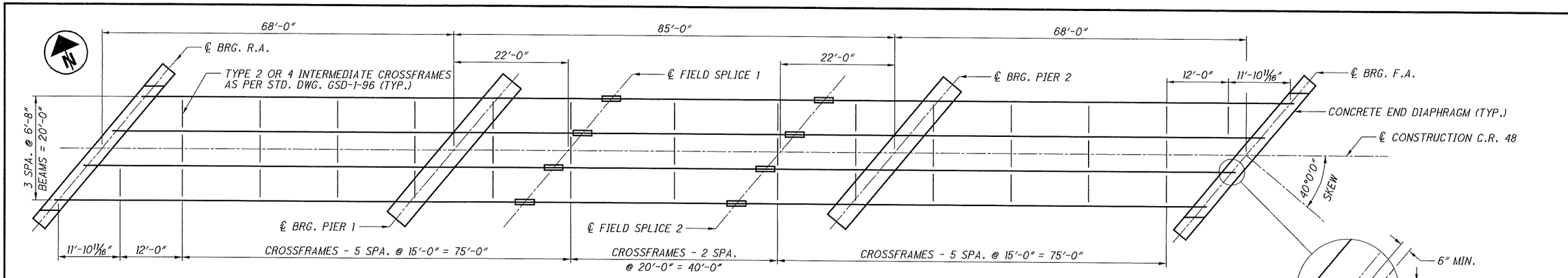
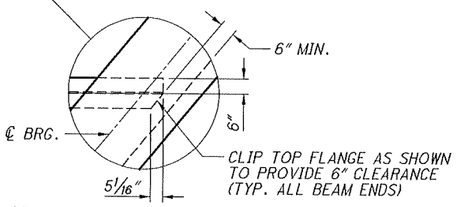
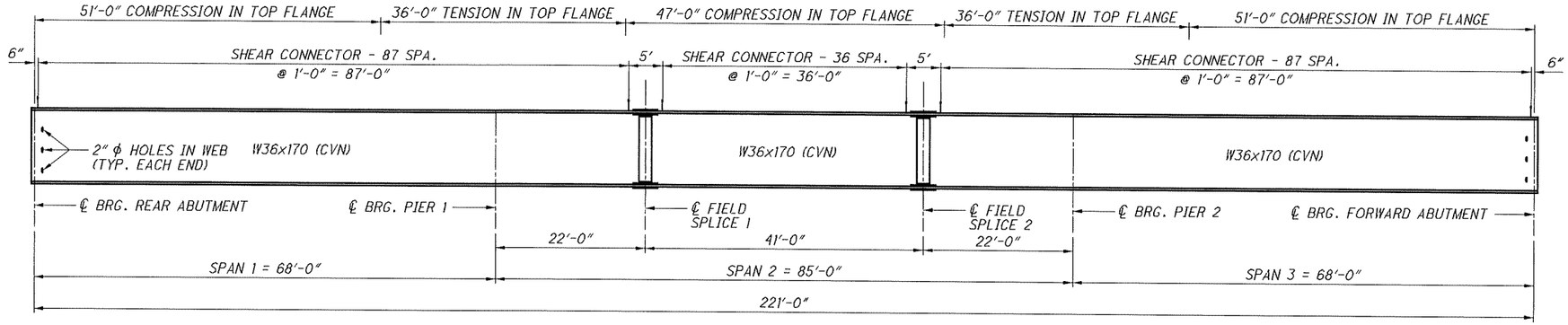


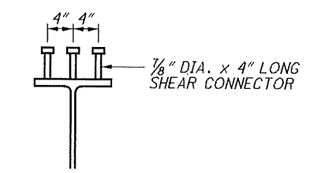
FRAMING PLAN



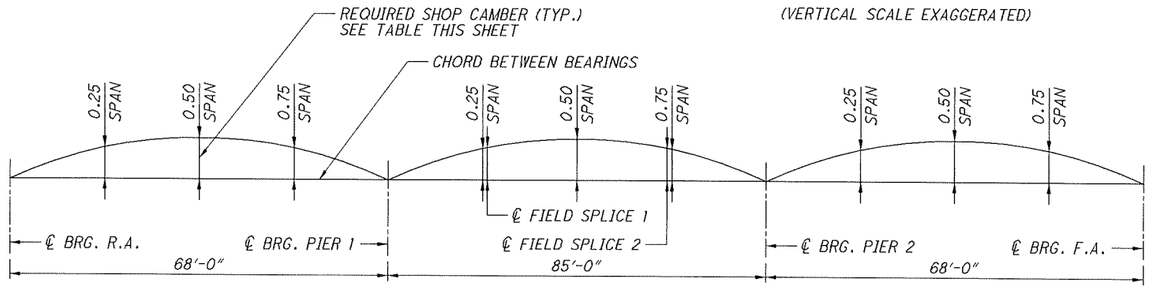


BEAM ELEVATION

(VERTICAL SCALE EXAGGERATED)



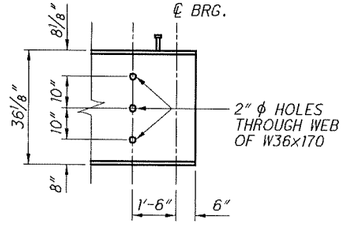
SHEAR CONNECTOR DETAIL



CAMBER DIAGRAM

NOTES

1. STRUCTURAL STEEL: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. WELDED STUD SHEAR CONNECTORS SHALL CONFORM TO AASHTO M-169 AND ITEM 513.
3. ALL STRUCTURAL STEEL, BOLTS, FASTENERS, PLATES, AND STUD SHEAR CONNECTORS SHALL BE HOT DIPPED GALVANIZED.



BEAM END DETAIL

DEFLECTION AND CAMBER TABLE - BEAMS 1 AND 4

	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	1/4 SPAN 2	FIELD SPLICE 1	1/2 SPAN 2	FIELD SPLICE 2	3/4 SPAN 2	1/4" SPAN 3	1/2" SPAN 3	3/4 SPAN 3
DEFLECTION DUE TO WEIGHT OF STEEL	1/8"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/8"
DEFLECTION DUE TO REMAINING DEAD LOAD	7/16"	1/2"	1/4"	3/8"	7/16"	11/16"	7/16"	3/8"	1/4"	1/2"	7/16"
REQUIRED SHOP CAMBER	9/16"	5/8"	5/16"	7/16"	1/2"	13/16"	1/2"	7/16"	5/16"	5/8"	9/16"

DEFLECTION AND CAMBER TABLE - BEAMS 2 AND 3

	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	1/4 SPAN 2	FIELD SPLICE 1	1/2 SPAN 2	FIELD SPLICE 2	3/4 SPAN 2	1/4" SPAN 3	1/2" SPAN 3	3/4 SPAN 3
DEFLECTION DUE TO WEIGHT OF STEEL	1/8"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/8"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/8"	1/2"	3/16"	3/8"	3/8"	5/8"	3/8"	3/8"	3/16"	1/2"	3/8"
REQUIRED SHOP CAMBER	1/2"	5/8"	1/4"	7/16"	7/16"	3/4"	7/16"	7/16"	1/4"	5/8"	1/2"

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

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SUPERSTRUCTURE DETAILS
BRIDGE NO. MUS-048-0410
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MUS-C.R.48-4.10
PID No. 82217

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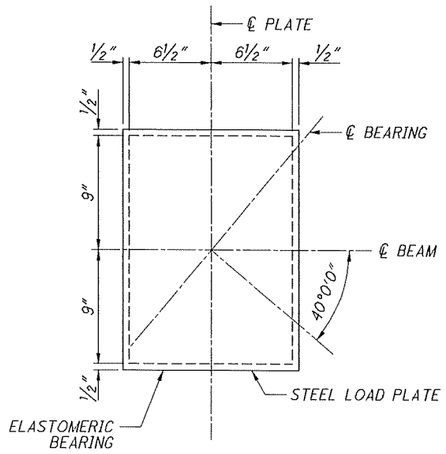
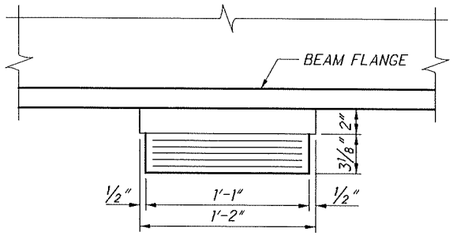


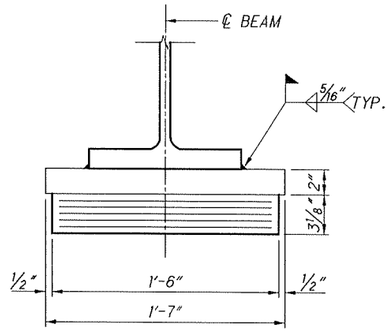
PLAN (PIER)

13"x18"x3⅛" PAD WITH
14"x19"x2" STEEL LOAD PLATE

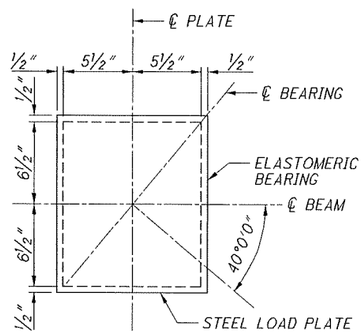
2 EXTERIOR LAYERS, te @ 0.250" = 0.50"
6 INTERIOR LAYERS, ti @ 0.375" = 2.25"
5 STEEL LAMINATES, ts @ 0.075" = 0.375"
T = 3⅛"



SIDE ELEVATION (PIER)



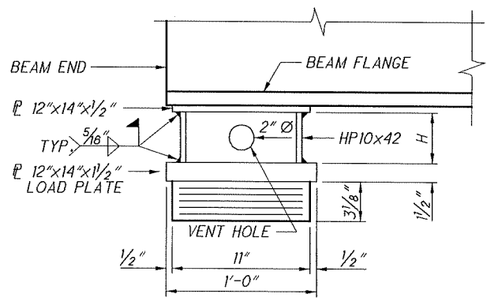
END ELEVATION (PIER)



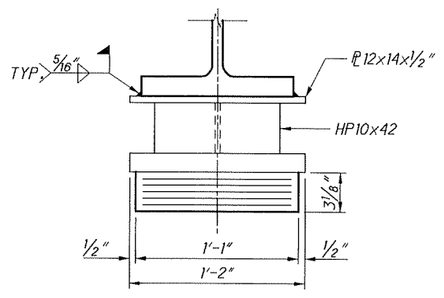
PLAN (ABUTMENT)

11"x13"x3⅛" PAD WITH
12"x14"x1½" STEEL LOAD PLATE

2 EXTERIOR LAYERS, te @ 0.250" = 0.50"
6 INTERIOR LAYERS, ti @ 0.375" = 2.25"
5 STEEL LAMINATES, ts @ 0.075" = 0.375"
T = 3⅛"



SIDE ELEVATION (ABUTMENT)



END ELEVATION (ABUTMENT)

HP10x42 HEIGHTS, "H"		
BEAM #	R.A.	F.A.
1	4½"	4½"
2	5⅝"	5⅝"
3	5⅞"	5⅞"
4	4"	4"

BEARING PAD NOTES

1. MATERIALS:
   ALL ELASTOMER FOR BEARINGS SHALL BE 50 DUROMETER. THE STEEL LOAD PLATE SHALL ASTM A572, GRADE 50 GALV. THE HP SHAPE (SUPPORT MEMBER) AND ½" PLATE MAY BE ASTM A709, GRADE 36. FIELD WELD TO BE REPAIRED PER 711.02.

2. WELDING:
   CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMERIC DURING THE MOLDING PROCESS.

3. BEARING REPOSITIONING:
   IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F±10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F±10°F.

4. ELASTOMERIC BEARINGS:
   THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNATED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES.

5. BASIS OF PAYMENT:
   THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, HP10x42, STEEL PLATES, AND INSTALLATION AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 516, ELASTOMERIC BEARING, AS PER PLAN.

   BEARINGS HAVE BEEN DESIGNED FOR THE FOLLOWING REACTIONS:

	MAX. DEAD LOAD	LIVE LOAD	TOTAL
ABUTMENTS	56 KIPS	72 KIPS	128 KIPS
PIER	114 KIPS	114 KIPS	228 KIPS

LOADS ARE UNFACTORED, LIVE LOAD DOES NOT INCLUDE IMPACT.

MUSKINGUM COUNTY
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155 REHL ROAD
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ENGINEER'S OFFICE

DESIGNED DRD | DRAWN SEJ | REVIEWED — | DATE —
CHECKED DFT | REVISED — | STRUCTURE FILE NUMBER 6043240

SUPERSTRUCTURE DETAILS
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
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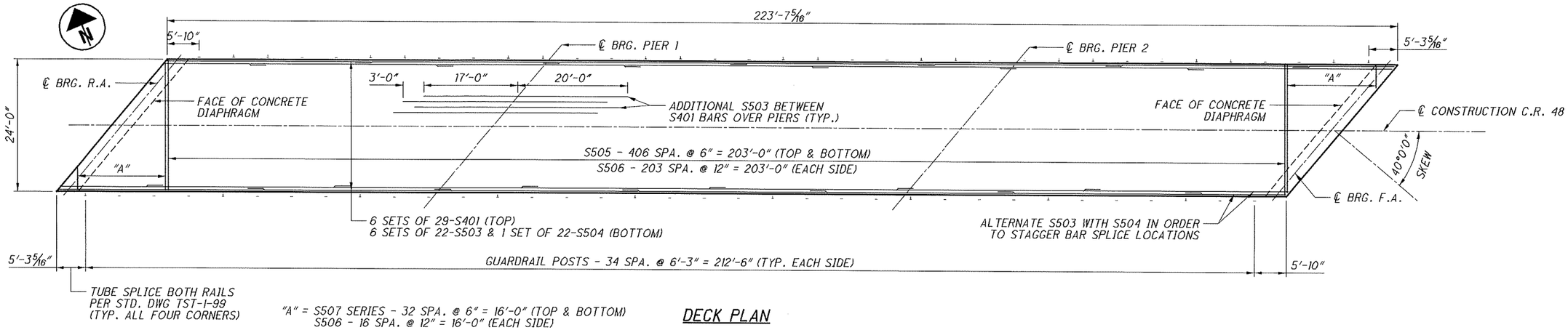


"A" = S507 SERIES - 32 SPA. @ 6" = 16'-0" (TOP & BOTTOM)
S506 - 16 SPA. @ 12" = 16'-0" (EACH SIDE)

DECK PLAN

SCREED ELEVATIONS

		℄ BRG. R.A.	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	℄ BRG. PIER 1	1/4 SPAN 2	FIELD SPLICE 1	1/2 SPAN 2	FIELD SPLICE 2	3/4 SPAN 2	℄ BRG. PIER 2	1/4 SPAN 3	1/2 SPAN 3	3/4 SPAN 3	℄ BRG. F.A.
LEFT EDGE	STATION	7+43.07	7+60.07	7+77.07	7+94.07	8+11.07	8+32.32	8+33.07	8+53.57	8+74.07	8+74.82	8+96.07	9+13.07	9+30.07	9+47.07	9+64.07
	ELEVATION	747.51	747.59	747.64	747.67	747.69	747.78	747.79	747.87	747.90	747.90	747.92	747.99	748.06	748.10	748.11
PGL	STATION	7+33.00	7+50.00	7+67.00	7+84.00	8+01.00	8+22.25	8+23.00	8+43.50	8+64.00	8+64.75	8+86.00	9+03.00	9+20.00	9+37.00	9+54.00
	ELEVATION	747.68	747.75	747.81	747.83	747.86	747.95	747.95	748.03	748.06	748.06	748.09	748.15	748.22	748.26	748.27
RIGHT EDGE	STATION	7+22.93	7+39.93	7+56.93	7+73.93	7+90.93	8+12.18	8+12.93	8+33.43	8+53.93	8+54.68	8+75.93	8+92.93	9+09.93	9+26.93	9+43.93
	ELEVATION	747.46	747.54	747.59	747.62	747.64	747.73	747.74	747.81	747.85	747.84	747.87	747.94	748.00	748.04	748.05

TOP OF HAUNCH ELEVATIONS

		℄ BRG. R.A.	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	℄ BRG. PIER 1	1/4 SPAN 2	FIELD SPLICE 1	1/2 SPAN 2	FIELD SPLICE 2	3/4 SPAN 2	℄ BRG. PIER 2	1/4 SPAN 3	1/2 SPAN 3	3/4 SPAN 3	℄ BRG. F.A.
BEAM 1	STATION	7+41.39	7+58.39	7+75.39	7+92.39	8+09.39	8+30.64	8+31.39	8+51.89	8+72.39	8+73.14	8+94.39	9+11.39	9+28.39	9+45.39	9+62.39
	ELEVATION	746.83	746.91	746.96	746.99	747.01	747.10	747.11	747.19	747.22	747.22	747.24	747.31	747.38	747.42	747.43
BEAM 2	STATION	7+35.80	7+52.80	7+69.80	7+86.80	8+03.80	8+25.05	8+25.80	8+46.30	8+66.80	8+67.55	8+88.80	9+05.80	9+22.80	9+39.80	9+56.80
	ELEVATION	746.92	747.00	747.06	747.08	747.11	747.19	747.20	747.27	747.31	747.31	747.34	747.40	747.47	747.50	747.52
BEAM 3	STATION	7+30.20	7+47.20	7+64.20	7+81.20	7+98.20	8+19.45	8+20.20	8+40.70	8+61.20	8+61.95	8+83.20	9+00.20	9+17.20	9+34.20	9+51.20
	ELEVATION	746.91	746.98	747.04	747.06	747.09	747.18	747.18	747.26	747.29	747.29	747.32	747.38	747.45	747.49	747.50
BEAM 4	STATION	7+24.61	7+41.61	7+58.61	7+75.61	7+92.61	8+13.86	8+14.61	8+35.11	8+55.61	8+56.36	8+77.61	8+94.61	9+11.61	9+28.61	9+45.61
	ELEVATION	746.79	746.87	746.92	746.94	746.97	747.06	747.06	747.14	747.18	747.17	747.20	747.26	747.33	747.37	747.38

FINAL DECK SURFACE ELEVATIONS

		℄ BRG. R.A.	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	℄ BRG. PIER 1	1/4 SPAN 2	FIELD SPLICE 1	1/2 SPAN 2	FIELD SPLICE 2	3/4 SPAN 2	℄ BRG. PIER 2	1/4 SPAN 3	1/2 SPAN 3	3/4 SPAN 3	℄ BRG. F.A.
LEFT EDGE	STATION	7+43.07	7+60.07	7+77.07	7+94.07	8+11.07	8+32.32	8+33.07	8+53.57	8+74.07	8+74.82	8+96.07	9+13.07	9+30.07	9+47.07	9+64.07
	ELEVATION	747.51	747.56	747.60	747.65	747.69	747.75	747.75	747.81	747.86	747.87	747.92	747.97	748.02	748.06	748.11
BEAM 1	STATION	7+41.39	7+58.39	7+75.39	7+92.39	8+09.39	8+30.64	8+31.39	8+51.89	8+72.39	8+73.14	8+94.39	9+11.39	9+28.39	9+45.39	9+62.39
	ELEVATION	747.54	747.58	747.63	747.68	747.72	747.78	747.78	747.84	747.89	747.89	747.95	748.00	748.04	748.09	748.14
BEAM 2	STATION	7+35.80	7+52.80	7+69.80	7+86.80	8+03.80	8+25.05	8+25.80	8+46.30	8+66.80	8+67.55	8+88.80	9+05.80	9+22.80	9+39.80	9+56.80
	ELEVATION	747.63	747.68	747.72	747.77	747.81	747.87	747.87	747.93	747.98	747.99	748.04	748.09	748.14	748.18	748.23
PGL	STATION	7+33.00	7+50.00	7+67.00	7+84.00	8+01.00	8+22.25	8+23.00	8+43.50	8+64.00	8+64.75	8+86.00	9+03.00	9+20.00	9+37.00	9+54.00
	ELEVATION	747.68	747.72	747.77	747.81	747.86	747.92	747.92	747.97	748.03	748.03	748.09	748.14	748.18	748.23	748.27
BEAM 3	STATION	7+30.20	7+47.20	7+64.20	7+81.20	7+98.20	8+19.45	8+20.20	8+40.70	8+61.20	8+61.95	8+83.20	9+00.20	9+17.20	9+34.20	9+51.20
	ELEVATION	747.62	747.66	747.71	747.75	747.80	747.86	747.86	747.91	747.97	747.97	748.03	748.07	748.12	748.17	748.21
BEAM 4	STATION	7+24.61	7+41.61	7+58.61	7+75.61	7+92.61	8+13.86	8+14.61	8+35.11	8+55.61	8+56.36	8+77.61	8+94.61	9+11.61	9+28.61	9+45.61
	ELEVATION	747.49	747.54	747.59	747.63	747.68	747.73	747.74	747.79	747.85	747.85	747.91	747.95	748.00	748.04	748.09
RIGHT EDGE	STATION	7+22.93	7+39.93	7+56.93	7+73.93	7+90.93	8+12.18	8+12.93	8+33.43	8+53.93	8+54.68	8+75.93	8+92.93	9+09.93	9+26.93	9+43.93
	ELEVATION	747.46	747.50	747.55	747.59	747.64	747.70	747.70	747.76	747.81	747.81	747.87	747.92	747.96	748.01	748.05

NOTES

1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED, CALCULATED DEAD LOAD DEFLECTIONS.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

   MAINTAIN A 3" CLEARANCE TO THE EDGE OF DECK FOR ALL TRANSVERSE REINFORCING STEEL.
3. MINIMUM LAP SPLICES:
   #4 BAR = 2'-3"
   #5 BAR = 2'-11"

SEE SHEET 9/13 FOR TRANSVERSE SECTION.

KLICKITAT COUNTY
MCEO
DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANEVILLE, OHIO 43701
ENGINEER'S OFFICE

DESIGNED DRD
DRAWN SEJ
CHECKED DFT
REVISED —
REVIEWED —
DATE —
STRUCTURE FILE NUMBER 6043240

DECK PLAN
BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

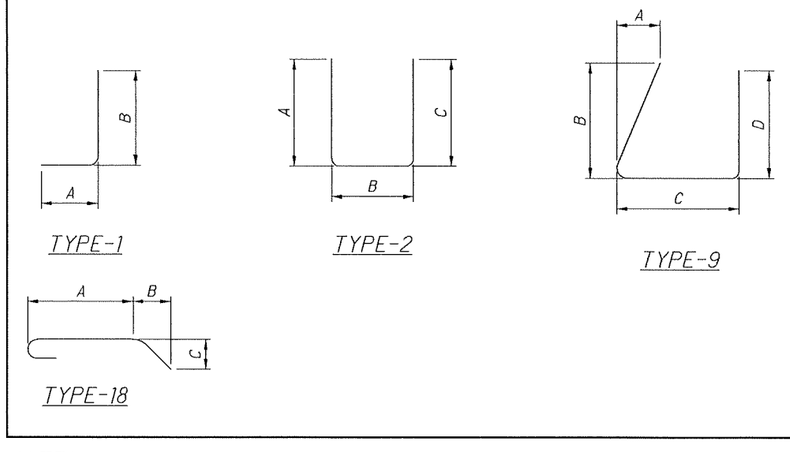
MUS-C.R.48-4.10
PID No. 82217

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A501	11	11	22	38'-8"	888	STR							
A502	10	10	20	3'-10"	80	STR							
A503	5	5	10	2'-8"	28	STR							
A601	65	65	130	1'-6"	293	STR							
A602	52	52	104	0'-10"	131	STR							
A603	26	26	52	9'-0"	703	STR							
A604	52	52	104	10'-4"	1614	2	4'-0"	2'-8"	4'-0"				
A605	4	4	8	14'-10"	178	2	6'-3"	2'-8"	6'-3"				
A606	2	2	4	15'-7"	94	2	6'-3"	3'-5"	6'-3"				
A801	4	4	8	38'-8"	826	STR							
ABUTMENT TOTAL					4835								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS				
	PIER#1	PIER#2	TOTAL				A	B	C	D	E
PIER											
P501	6	6	12	34'-4"	430	STR					
P601	34	34	68	2'-10"	289	1	1'-0"	2'-0"			
P602	35	35	70	9'-8"	1017	2	2'-11"	4'-2"	2'-11"		
A801	5	5	10	34'-4"	917	STR					
PIER TOTAL					2653						

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401			174	40'-0"	4650	STR							
S501	32	32	64	8'-2"	545	2	2'-6"	3'-5"	2'-6"				
S502	16	16	32	6'-11"	231	2	2'-5"	2'-4"	2'-5"				
S503			188	37'-0"	7255	STR							
S504			22	18'-6"	425	STR							
S505			814	23'-6"	19952	STR							
S506			442	5'-4"	2459	9	0'-½"	3'-0"	1'-1"	1'-6"			
S507			4 SERIES OF 33	4'-0" TO 23'-0"	1859	STR							7⅛"
S801	14	14	28	30'-10"	2306	STR							
S802	16	16	32	4'-9"	406	18	2'-7"	1'-0"	1'-0"				
SUPERSTRUCTURE TOTAL					40088								

BENDING DIAGRAMS



NOTES

1. ALL REINFORCING STEEL IS TO 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 PENAL ROAD
ZANESVILLE, OHIO 43701

MUSKINGUM COUNTY MCEO ENGINEER'S OFFICE

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REINFORCING STEEL LIST

BRIDGE NO. MUS-048-0410
OVER WAKATOMIKA CREEK

MUS-C.R.48-4.10
PID No. 82217

13 / 13

23
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