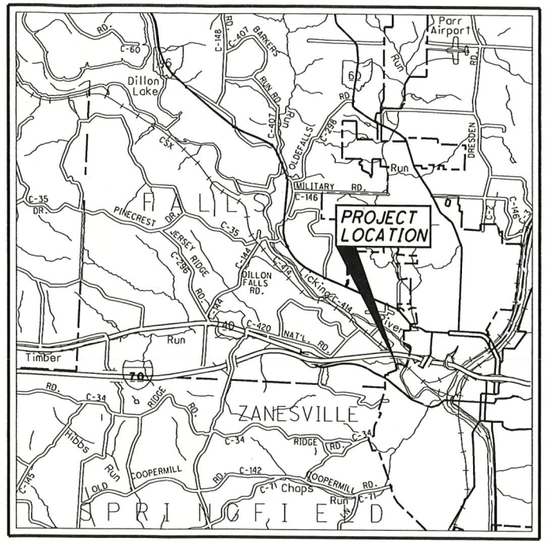


LOCATION MAP

LATITUDE: N39°56'51" LONGITUDE: W82°01'34"

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 (2008)	2800
DESIGN YEAR ADT (2028)	3220
DESIGN HOURLY VOLUME (2028)	354
DIRECTIONAL DISTRIBUTION	52%
TRUCKS (24 HOUR B&C)	6.5%
DESIGN SPEED	45 MPH
LEGAL SPEED	45 MPH

DESIGN FUNCTIONAL CLASSIFICATION: URBAN LOCAL

DESIGN EXCEPTIONS

	APPROVAL DATE	SHEET NO.
BRIDGE WIDTH	12/07/07	6

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:

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

MUSKINGUM COUNTY

ENGINEER'S OFFICE

(Licking Rd. Bridge)

MUS-C.R.414-2.40 PART 1

FALLS TOWNSHIP

MUSKINGUM COUNTY

FOR PART 2, SEE MUS-C.R.6-11.85

FOR PART 3, SEE MUS-C.R.71-5.74

INDEX OF SHEETS:

FINAL PLAN SUBMISSION

ENGINEERS SEAL:

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

SIGNED: _____

DATE: _____

STANDARD CONSTRUCTION DRAWINGS

AS-1-81	7/19/02	DS-1-92	7/18/03		
		PSBD-1-93	4/20/07		
BP-3.1	10/19/07	TST-1-99	10/17/03		
DM-1.4	4/21/06				
DM-4.2	1/21/05	MT-97.11	9/05/06		
DM-4.3	7/19/02	MT-101.60	9/20/06		
DM-4.4	7/19/02	MT-105.10	10/18/02		
		MT-105.11	10/18/02		
GR-1.1	7/16/04				
GR-2.1	1/16/04	TC-73.10	1/19/01		
GR-3.6	1/16/04				
GR-4.1	4/18/03				

SUPPLEMENTAL SPECIFICATIONS

800	1/18/08
832	4/25/06

SPECIAL PROVISIONS

2008-44-MUS

PROJECT DESCRIPTION

IMPROVEMENT OF 0.05 MILES OF C.R. 414 (LICKING ROAD) BY REPLACING A SINGLE SPAN TRUSS BRIDGE OVER TIMBER RUN AND APPROACH ROADWAY CONSTRUCTION INCLUDING GRADING, DRAINAGE AND ASPHALT CONCRETE PAVING.

PROJECT EARTH DISTURBED AREA:	0.38 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.14 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	NOT REQUIRED

2005 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.

Brian D. Hall — 3-13-08
MUSKINGUM COUNTY COMMISSIONER — DATE

John D. Bates — 3-13-08
MUSKINGUM COUNTY COMMISSIONER — DATE

_____ _____
MUSKINGUM COUNTY COMMISSIONER — DATE

APPROVED _____
DATE 3/13/08 MUSKINGUM COUNTY ENGINEER

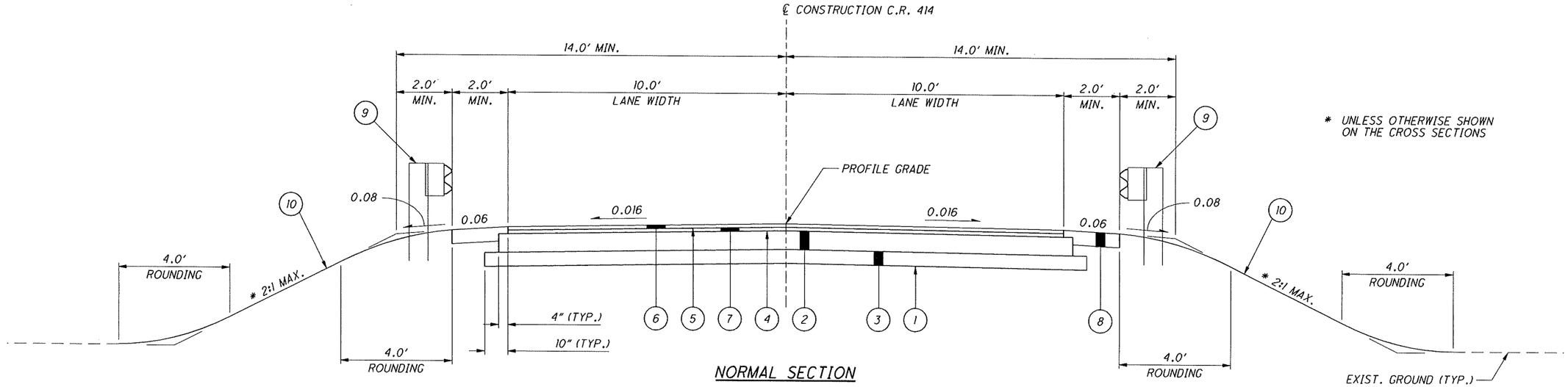
FEDERAL PROJECT NO. FAN E033592

PID NO. 24277

CONSTRUCTION PROJECT NO. _____

RAILROAD INVOLVEMENT NONE

MUS-C.R.414-2.40



* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS

NORMAL SECTION

STA. 1+28.67 TO STA. 2+13.67 = 85.00 FT.
STA. 3+11.34 TO STA. 3+80.37 = 69.00 FT.

TOTAL = 154.00 FT.

LEGEND

(1) ITEM 204 - SUBGRADE COMPACTION

(2) ITEM 301 - 8" ASPHALT CONCRETE BASE

(3) ITEM 304 - 6" AGGREGATE BASE

(4) ITEM 407 - TACK COAT

(5) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

(6) ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22

(7) ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22

(8) ITEM 411 - 8" STABILIZED CRUSHED AGGREGATE

(9) ITEM 606 - GUARDRAIL, TYPE 5

(10) ITEM 659 - SEEDING AND MULCHING

TYPICAL SECTIONS

MUS-C.R.414-2.40

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:

TELEPHONE: AT&T
150 EAST GAY STREET, ROOM 11
COLUMBUS, OH 43215
PHONE: (800) 362-2764

ELECTRIC: AEP OHIO
1 RIVERSIDE PLAZA
COLUMBUS, OH 43215-2373
PHONE: (800) 277-2177

WATER: CITY OF ZANESVILLE WATER DIVISION
1750 N RIVER RD
ZANESVILL, OHIO 43701
PHONE: (740) 452-7111

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 U.S.G.S. 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.

ITEM 203 - EXCAVATION, AS PER PLAN

A QUANITY OF 50 CY IS INCLUDED FOR POSSIBLE ROADWAY UNDERCUT. THIS ITEM SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER.

ITEM 204 - GRANULAR MATERIAL, TYPE C, AS PER PLAN

A QUANITY OF 50 CY IS INCLUDED FOR POSSIBLE ROADWAY UNDERCUT. THIS ITEM SHALL BE USED AS DIRECTED BY THE ENGINEER.

SEEDING AND MULCHING

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

659, REPAIR SEEDING AND MULCHING	15 SO. YD
659, COMMERCIAL FERTILIZER	0.04 TON
659, LIME	0.06 ACRES
659, WATER	1.53 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.

ENVIRONMENTAL CONCERNS

THE CONTRACTOR SHALL NOT IMPACT THE ENVIRONMENTALLY SENSITIVE AREA WHICH IS CLEARLY NOTED ON THESE PLANS AS "EXISTING MILL STRUCTURE".

THE ENVIRONMENTALLY SENSITIVE AREA SHALL BE AVOIDED FROM ALL ANCILLARY CONSTRUCTION ACTIVITIES SUCH AS STAGING AREA, ANY CONSTRUCTION OR MATERIAL STORAGE, WASTE, BORROW OR ANY OTHER TYPE OF WORK. ADDITIONAL DETAILS REGARDING THIS AREA OF AVOIDANCE CAN BE OBTAINED FROM THE DISTRICT 5 ENVIRONMENTAL L COORDINATOR (740) 323-4400 OR STAN BAKER (614) 466-5143.

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.

WATERWAY PERMIT DETERMINATION (404/401) - LOCAL LET LPA PROJECTS

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. THE OHIO DEPARTMENT OF TRANSPORTATION - OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THE PROJECT MEETS THE CRITERIA OF NATIONWIDE PERMIT (NWP) 3 - MAINTENANCE; BASED UPON THE ANTICIPATED IMPACTS TO STREAM(S) AND/OR WETLAND(S). HOWEVER, THIS PERMIT DETERMINATION DID NOT INCLUDE THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS THAT MAY BE REQUIRED FOR CONSTRUCTION (I.E. CAUSEWAY STREAM CROSSINGS, CONSTRUCTION ACCESS PADS, COFFERDAMS, ETC.). INFORMATION REGARDING THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS MAY NOT HAVE BEEN KNOWN AT THE TIME OF THE PERMIT DETERMINATION. THE CONTRACTOR SHOULD BE AWARE THAT THE USE OF TEMPORARY FILL BELOW THE ORDINARY HIGH WATER MARK (OHWM), WHICH IS THE USACE'S JURISDICTIONAL LIMITS, WILL REQUIRE A PRE-CONSTRUCTION NOTIFICATION (PCN) AND AUTHORIZATION BY THE USACE UNDER NWP 33 - TEMPORARY CONSTRUCTION ACCESS AND DEWATERING. SHOULD TEMPORARY CONSTRUCTION ACCESS FILL BE REQUIRED, THE CONTRACTOR OR LOCAL PROJECT SPONSOR SHALL COORDINATE SUCH ACTIVITIES, INCLUDING THE PCN, WITH THE APPROPRIATE USACE DISTRICT OFFICE AND ALLOW 60 DAYS MINIMUM FOR PROCESSING WITH THE USACE. THE CONTRACTOR SHALL NOT UTILIZE TEMPORARY FILLS 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 FOR TEMPORARY CONSTRUCTION ACCESS FILLS. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHEREM 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. 414

STATION	OFFSET (FT.)	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
0+00.00	0.00	℄	709891.87	2101275.82		P.C.
1+00.10	0.00	℄	709795.57	2101303.13		P.I.
2+00.16	0.00	℄	709689.02	2101325.59		P.T.
3+50.19	0.00	℄	709551.82	2101359.26		P.I.
5+00.28	0.00	℄	709405.02	2101390.52		P.O.T.

CALCULATED SEJ CHECKED ---

GENERAL NOTES

MUS-C.R.414-2.40

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 SIGNAGE

THE COUNTY SHALL ERECT AND MAINTAIN DETOUR SIGNAGE AS SHOWN ON THE PLANS.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE COUNTY EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE COUNTY 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, OTHER THAN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

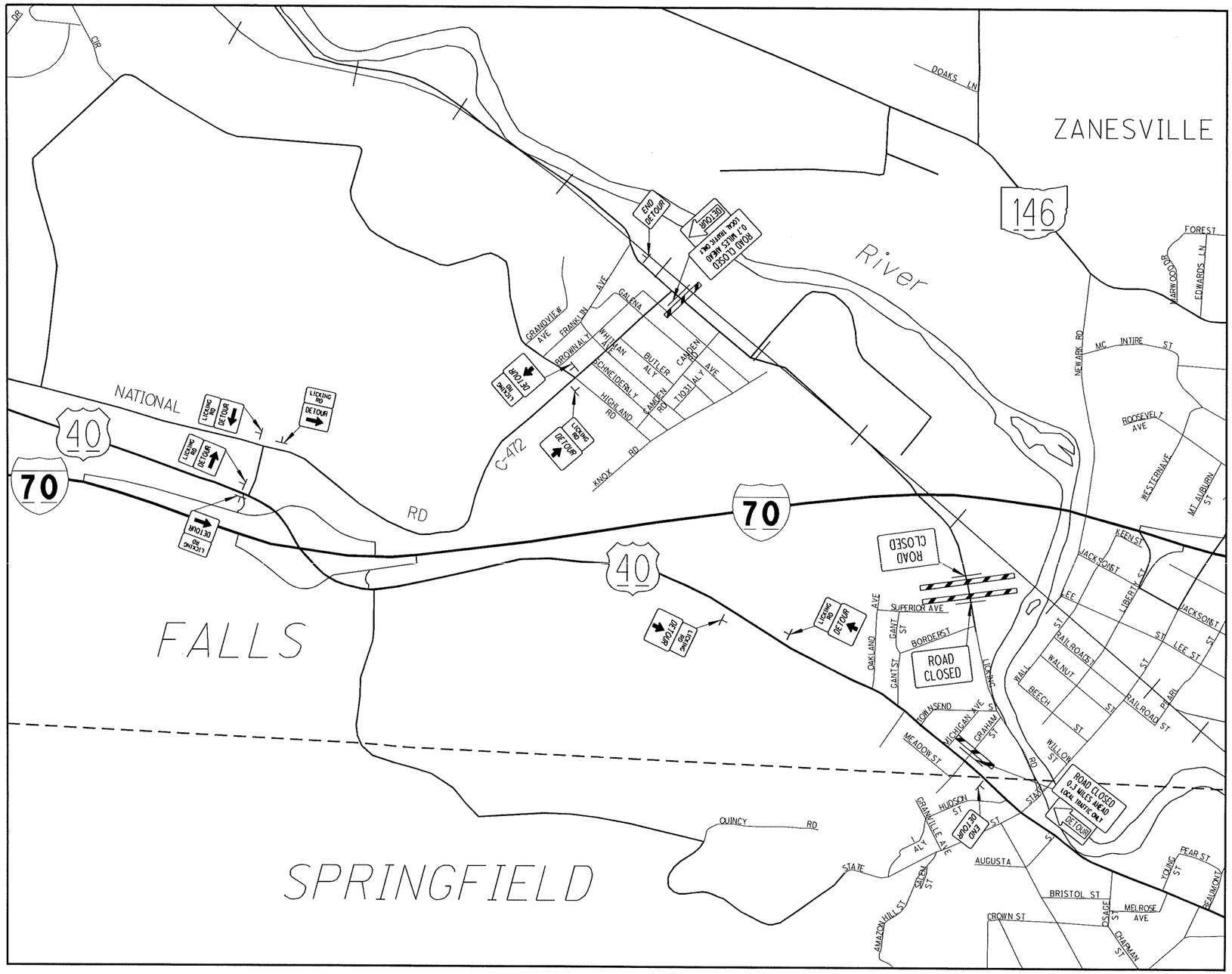
DETOUR LIMITATION

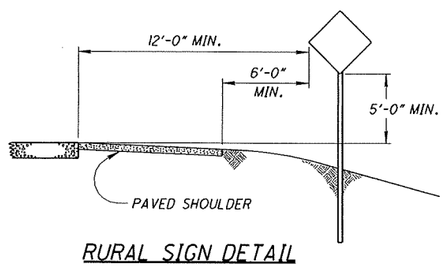
THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE NINETY (90) CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE 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 ENGINEER. 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 (30"x24")

LICKING RD DETOUR
SPECIAL (30"x12")
M4-9C (30"x24")

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

LICKING 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
0 250 500 1000

CALCULATED SEJ
CHECKED ---

MAINTENANCE OF TRAFFIC DETOUR PLAN AND GENERAL NOTES

MUS-C.R.414-2.40

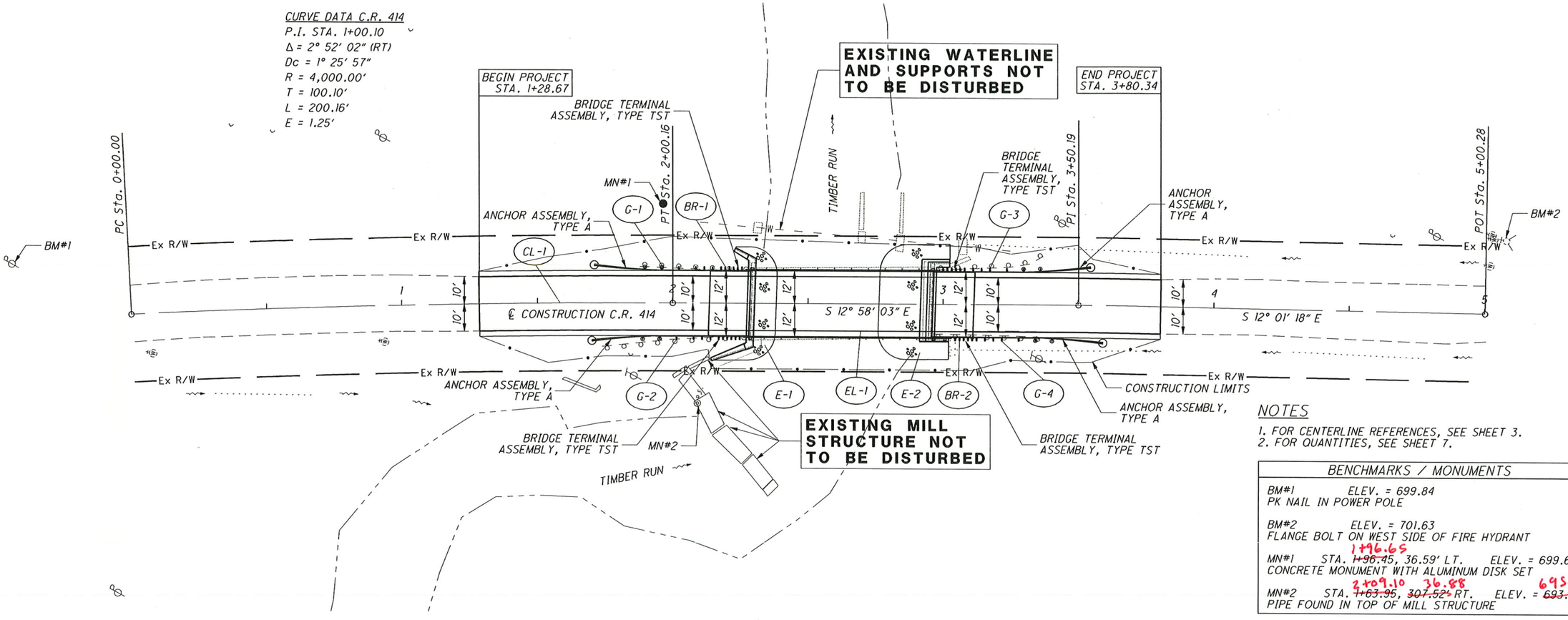
SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								OFFICE CALCS		3	4	7	12					
																	ROADWAY	
										LUMP				201	11000	LUMP		CLEARING AND GRUBBING	
													241	203	10000	241	CU YD	EXCAVATION	
										50				203	10001	50	CU YD	EXCAVATION, AS PER PLAN	3
													27	203	20000	27	CU YD	EMBANKMENT	
										50				204	30021	50	CU YD	GRANULAR MATERIAL, TYPE C, AS PER PLAN	3
								371						204	10000	371	SQ YD	SUBGRADE COMPACTION	
										1				204	45000	1	HOUR	PROOF ROLLING	
												125		606	13000	125	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	
												170		601	32204	170	CU YD	ROCK CHANNEL PROTECTION, TYPE C	
													283	659	10000	283	SQ YD	SEEDING AND MULCHING	
										15				659	14000	15	SQ YD	REPAIR SEEDING AND MULCHING	
										0.04				659	20000	0.04	TON	COMMERCIAL FERTILIZER	
										0.06				659	31000	0.06	ACRE	LIME	
										1.53				659	35000	1.53	M GAL	WATER	
														832	30000	500	EACH	EROSION CONTROL	
																		PAVEMENT	
								79						301	46000	79	CU YD	ASPHALT CONCRETE BASE, PG64-22	
								62						304	20000	62	CU YD	AGGREGATE BASE	
								35						407	10000	35	GALLON	TACK COAT	
								35						407	14000	35	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
								16						411	10000	16	CU YD	STABILIZED CRUSHED AGGREGATE	
								17						448	46050	17	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
								12						448	47020	12	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
																		TRAFFIC CONTROL	
												8		626	00100	8	EACH	BARRIER REFLECTOR, TYPE A	
												0.10		643	00100	0.10	MILE	EDGE LINE	
												0.05		643	00300	0.05	MILE	CENTER LINE	
																		MAINTENANCE OF TRAFFIC	
											2			616	10000	2	M GAL	WATER	
																		STRUCTURES (OVER 20')	
																		FOR BRIDGE NO. MUS-CR414-0240	14
														614	11000	LUMP		MAINTAINING TRAFFIC	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED SEJ
CHECKED ---

GENERAL SUMMARY

MUS-C.R.414-2.40

CURVE DATA C.R. 414
P.I. STA. 1+00.10
Δ = 2° 52′ 02″ (RT)
Dc = 1° 25′ 57″
R = 4,000.00′
T = 100.10′
L = 200.16′
E = 1.25′



NOTES

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

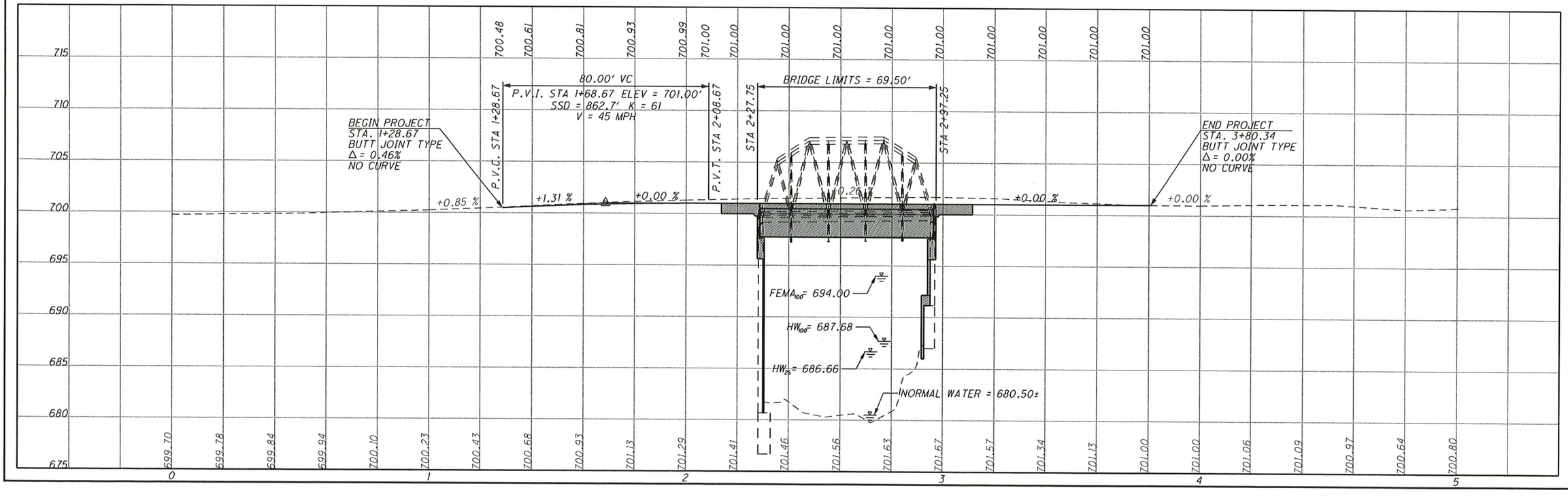
BENCHMARKS / MONUMENTS

BM#1 ELEV. = 699.84
PK NAIL IN POWER POLE

BM#2 ELEV. = 701.63
FLANGE BOLT ON WEST SIDE OF FIRE HYDRANT

MN#1 STA. ~~1+96.45~~ 1+96.65, 36.59′ LT. ELEV. = 699.66
CONCRETE MONUMENT WITH ALUMINUM DISK SET

MN#2 STA. ~~1+63.95~~ 2+09.10, ~~307.52~~ 36.88 RT. ELEV. = ~~693.24~~ 695.58
PIPE FOUND IN TOP OF MILL STRUCTURE



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SEJ
CHECKED ---

PLAN AND PROFILE
STA. 0+00 TO STA. 5+00

MUS-C.R. 414-2.40

6
26

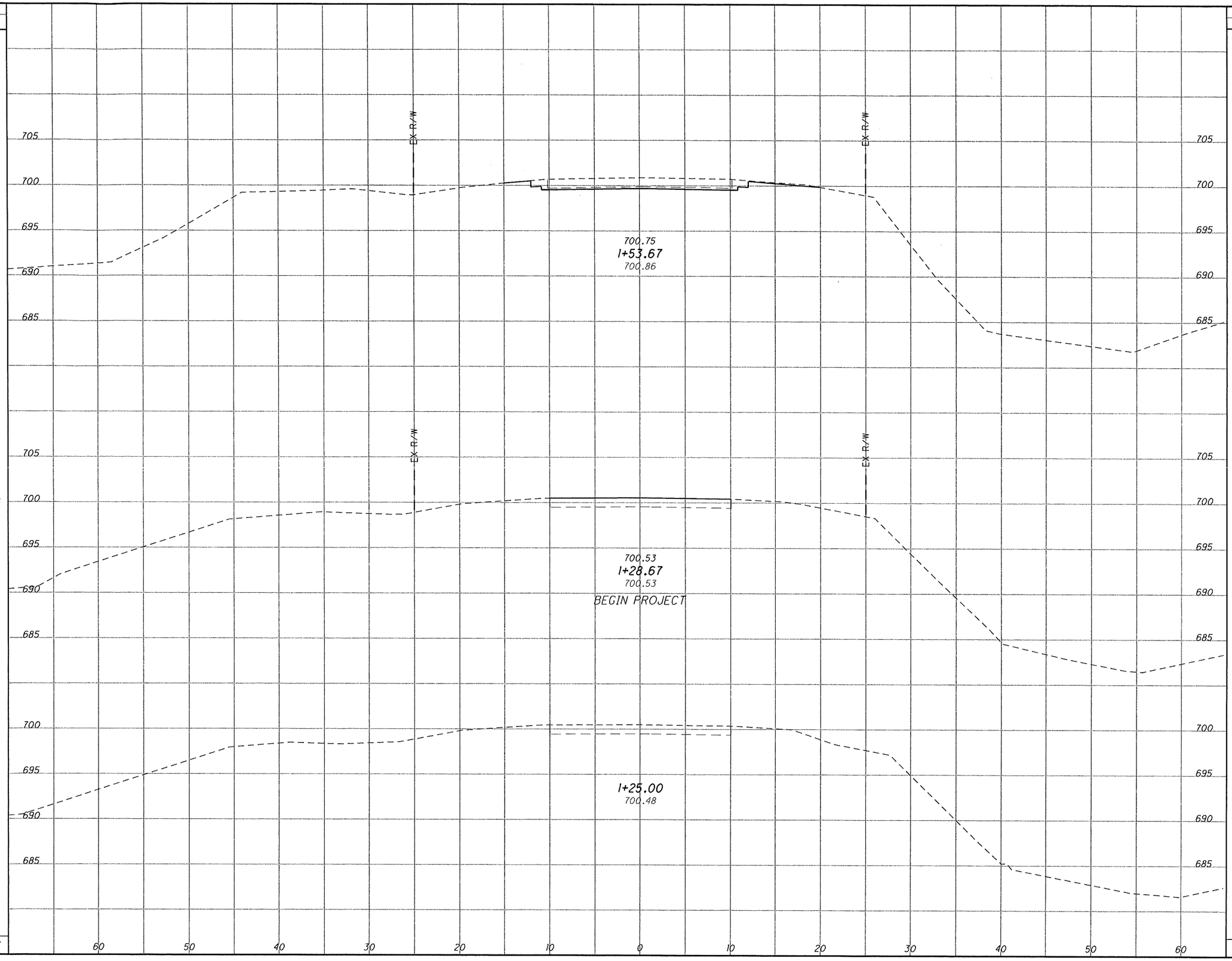
REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C	606 GUARDRAIL, TYPE 5	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST	606 ANCHOR ASSEMBLY, TYPE A	626 BARRIER REFLECTOR, TYPE A	643 EDGE LINE	643 CENTER LINE DOUBLE SOLID										
					CU YD	FT	EACH	EACH	EACH	MILE	MILE										
G-1	6	1+71.23	2+27.38	LT		31.25	1	1													
G-2	6	1+70.15	2+26.50	RT		31.25	1	1													
G-3	6	2+98.50	3+54.53	LT		31.25	1	1													
G-4	6	3+02.88	3+59.35	RT		31.25	1	1													
E-1	6	2+15.17	2+38.41	LT/RT	75																
E-2	6	2+76.31	3+02.58	LT/RT	95																
BR-1	6	1+71.23	3+54.53	LT					4												
BR-2	6	1+70.15	3+59.35	RT					4												
EL-1	6	1+28.67	3+80.34	LT/RT						0.10											
CL-1	6	1+28.67	3+80.34	℄							0.05										
TOTALS CARRIED TO GENERAL SUMMARY					170	125	4	4	8	0.10	0.05										

CALCULATED SEJ
CHECKED ---

ESTIMATED QUANTITIES

MUS-C.R.414-2.40

SEEDING END WIDTH	SEEDING SQ. YDS.
10	31
15	36
	67



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32	1	30	0
0	0	0	0
		30	0

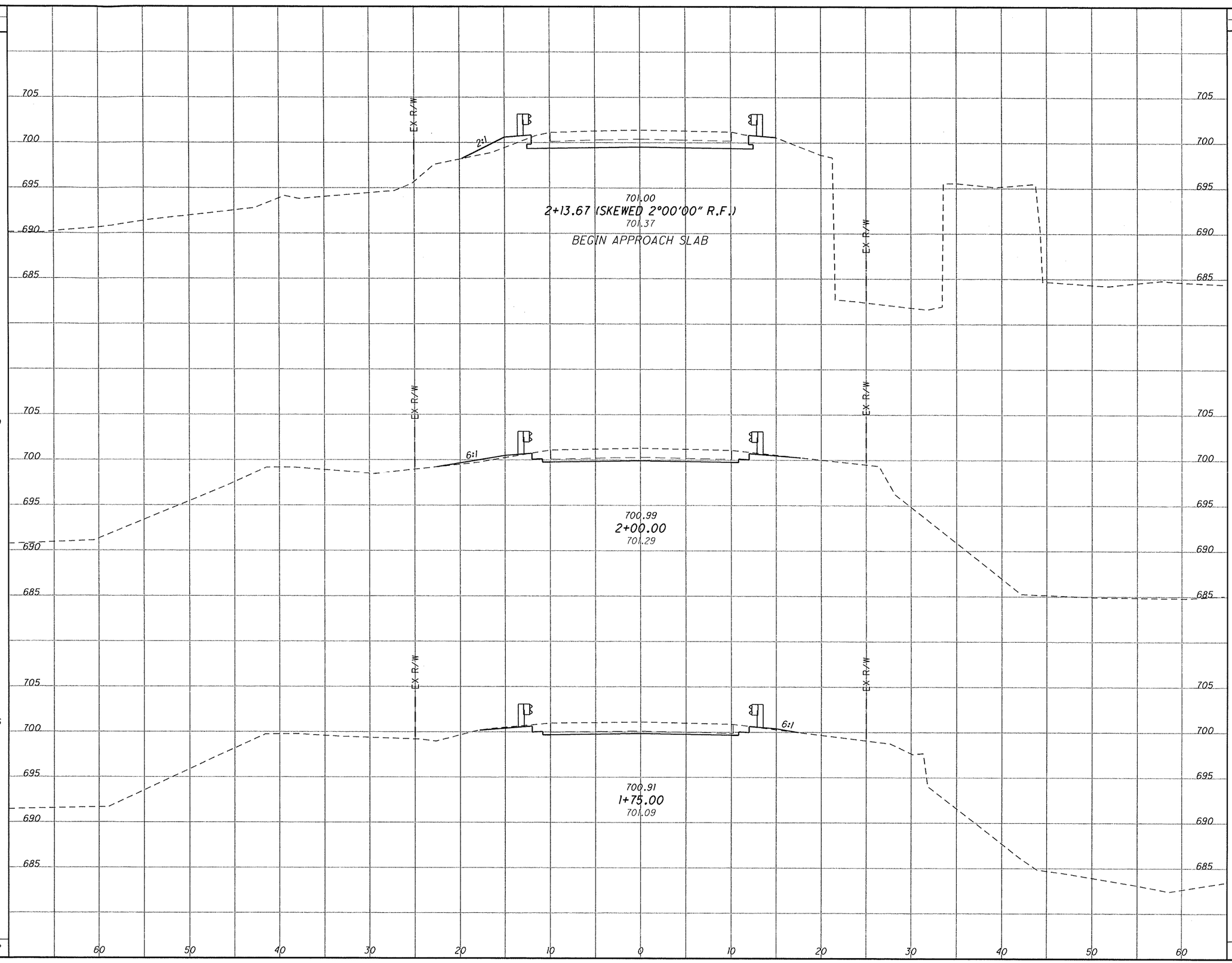
CALCULATED SEJ
CHECKED ---

CROSS SECTIONS
STA. 1+25.00 TO STA. 1+53.67

MUS-C.R.414-2.40

8
26

SEEDING END WIDTH	SEEDING SQ. YDS.
15	16
	20
10	
	36
14	
	72



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36	16	18	5
36	3	32	2
34	2	26	1
		76	8

CALCULATED SEJ
CHECKED ---

CROSS SECTIONS
STA. 1+75.00 TO STA. 2+13.67

MUS-C.R.414-2.40

9
26

SEEDING	
END WIDTH	SQ. YDS.
	22
9	
	53
3	
	75

710
705
700
695
690
685
680

701.00
2+97.25 (SKEWED 2°00'00" R.F.)
701.67
BEGIN APPROACH SLAB (BRIDGE LIMIT)

701.00
2+27.75 (SKEWED 2°00'00" R.F.)
701.37
END APPROACH SLAB (BRIDGE LIMIT)

EX R/W

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	0
0	0		
		21	4
		21	4

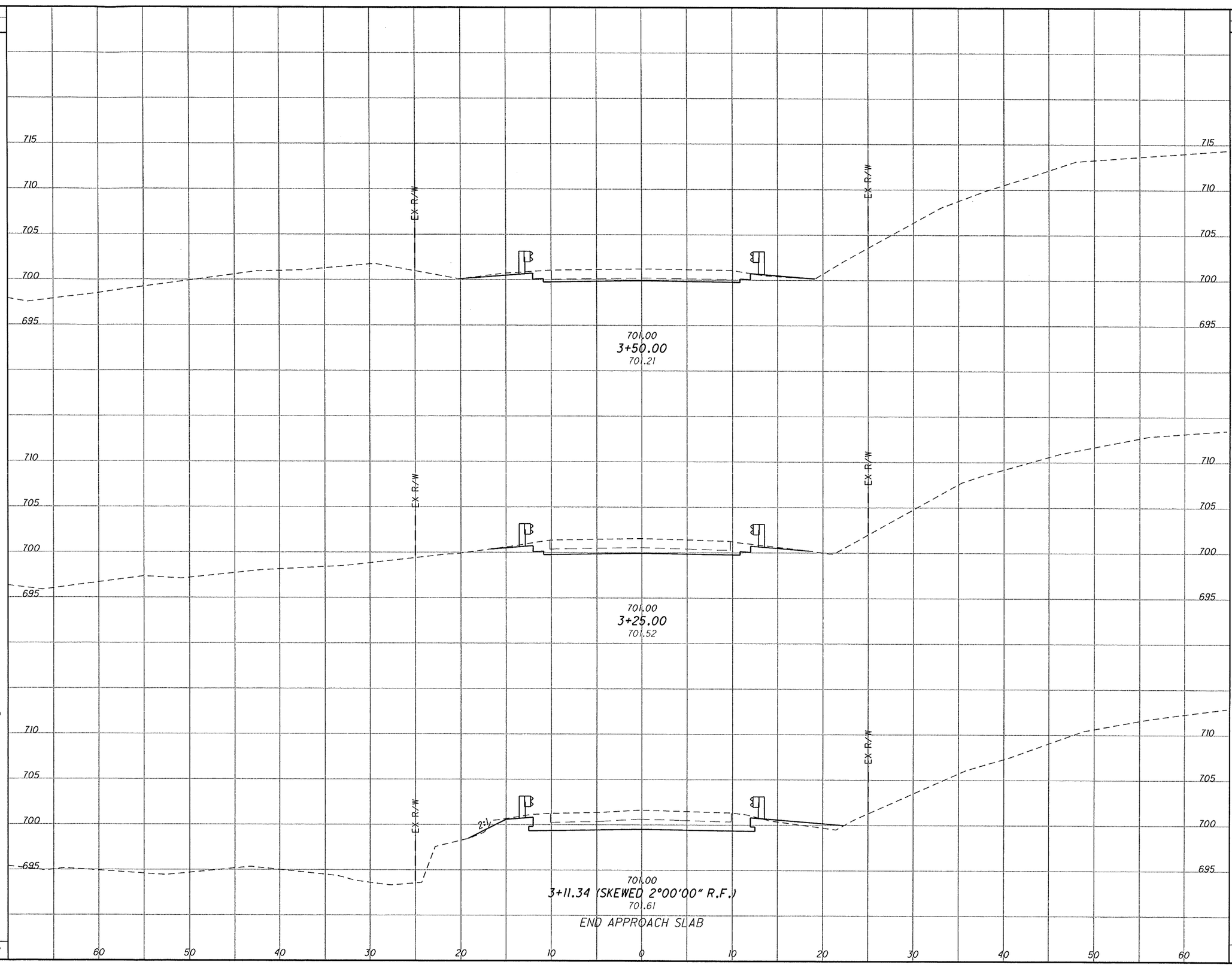
CALCULATED SEJ
CHECKED ---

CROSS SECTIONS
2+27.75 TO STA. 2+97.25

MUS-C.R.414-2.40

10
26

SEEDING	
END WIDTH	SQ. YDS.
9	4
	28
10	20
15	
	52



END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	1	36	1
42	1	21	2
42	6	23	11
		80	14

CALCULATED SEJ
CHECKED ---

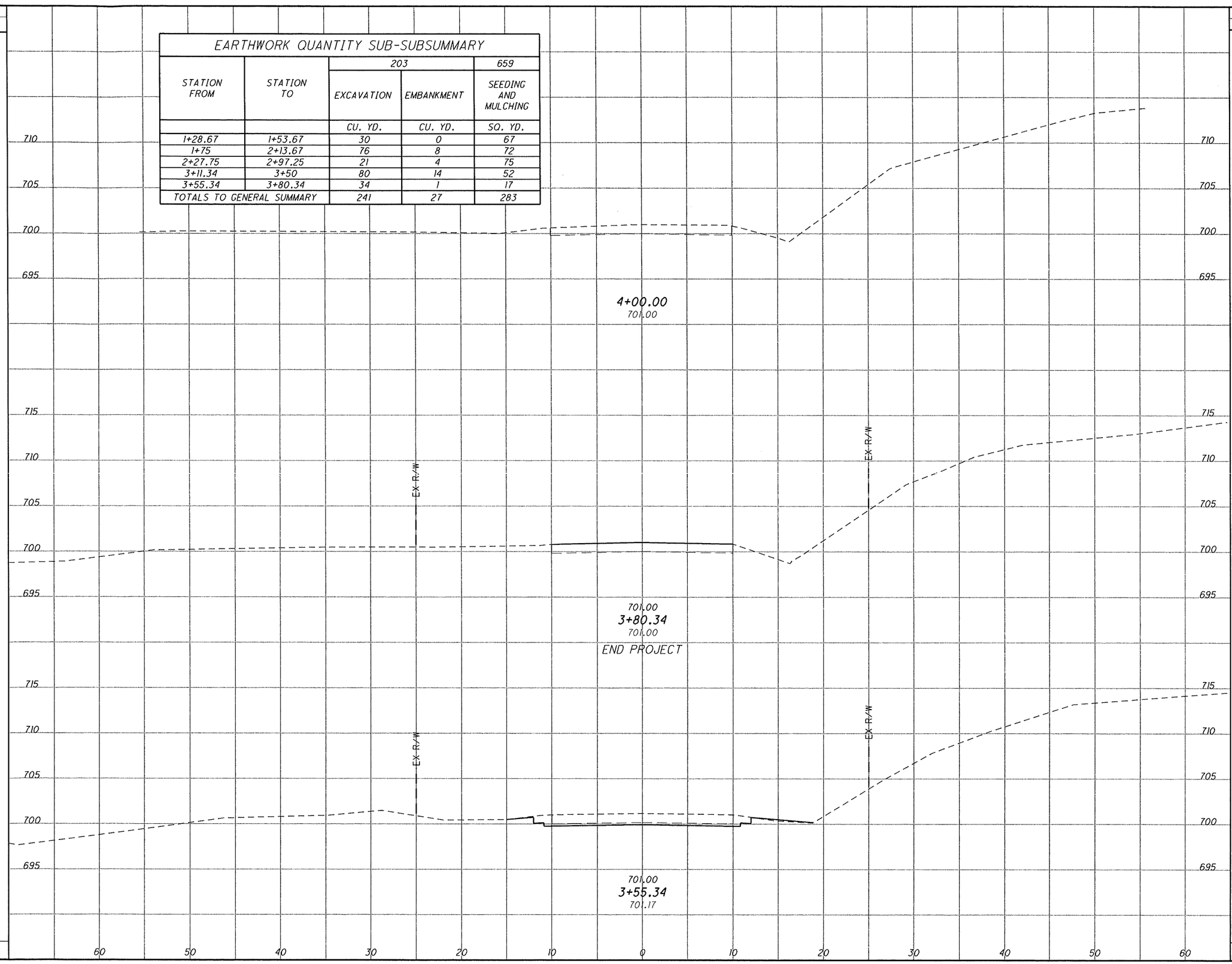
CROSS SECTIONS
STA. 3+11.34 TO STA. 3+50.00

MUS-C.R.414-2.40

EARTHWORK QUANTITY SUB-SUBSUMMARY

STATION FROM	STATION TO	203 EXCAVATION	203 EMBANKMENT	659 SEEDING AND MULCHING
		CU. YD.	CU. YD.	SQ. YD.
1+28.67	1+53.67	30	0	67
1+75	2+13.67	76	8	72
2+27.75	2+97.25	21	4	75
3+11.34	3+50	80	14	52
3+55.34	3+80.34	34	1	17
TOTALS TO GENERAL SUMMARY		241	27	283

SEEDING END WIDTH	SEEDING SQ. YDS.
5	17
5	17
	17



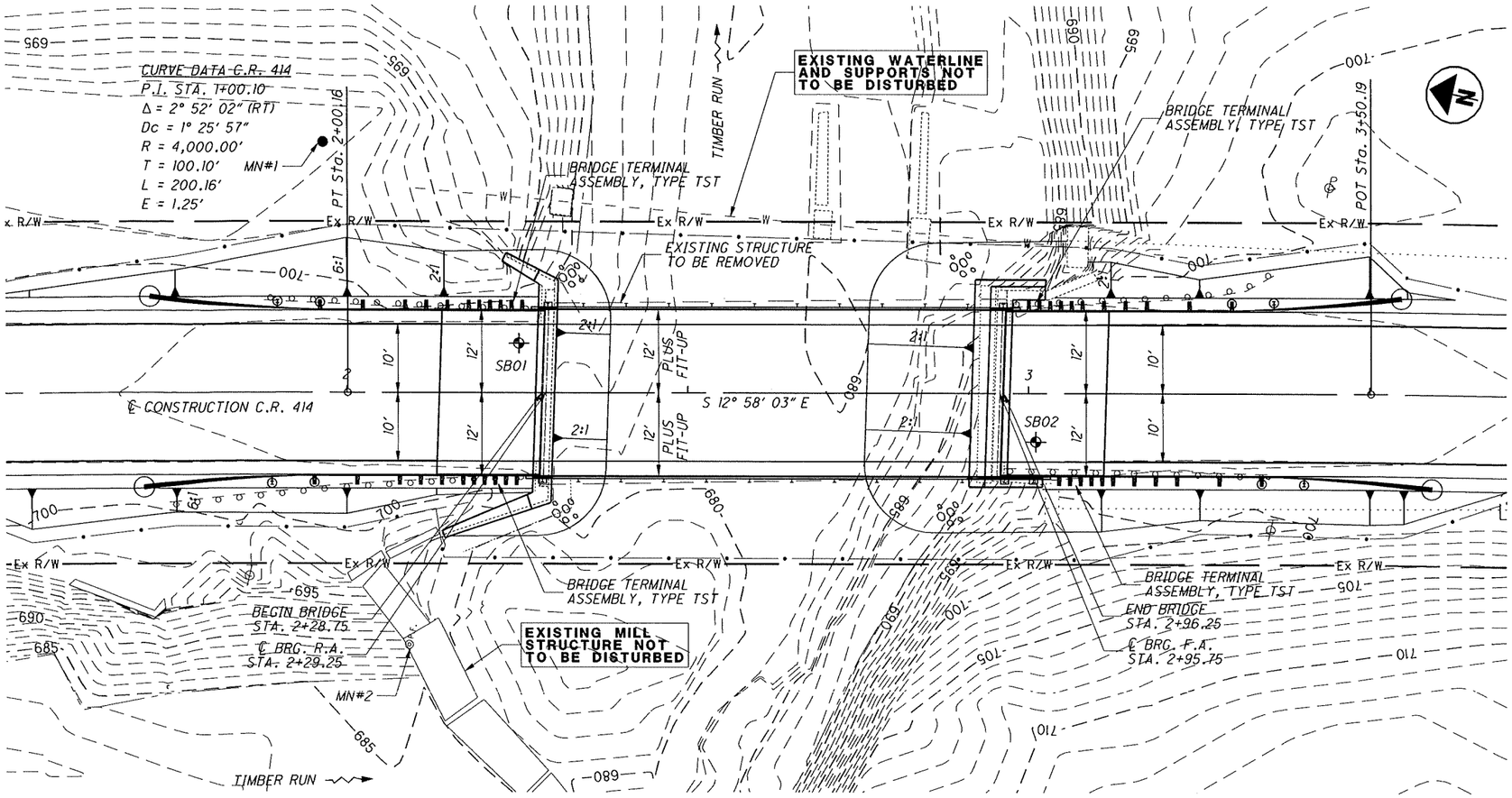
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24	2		
34	1	27	1
		7	0
		34	1

CALCULATED SEJ
CHECKED ---

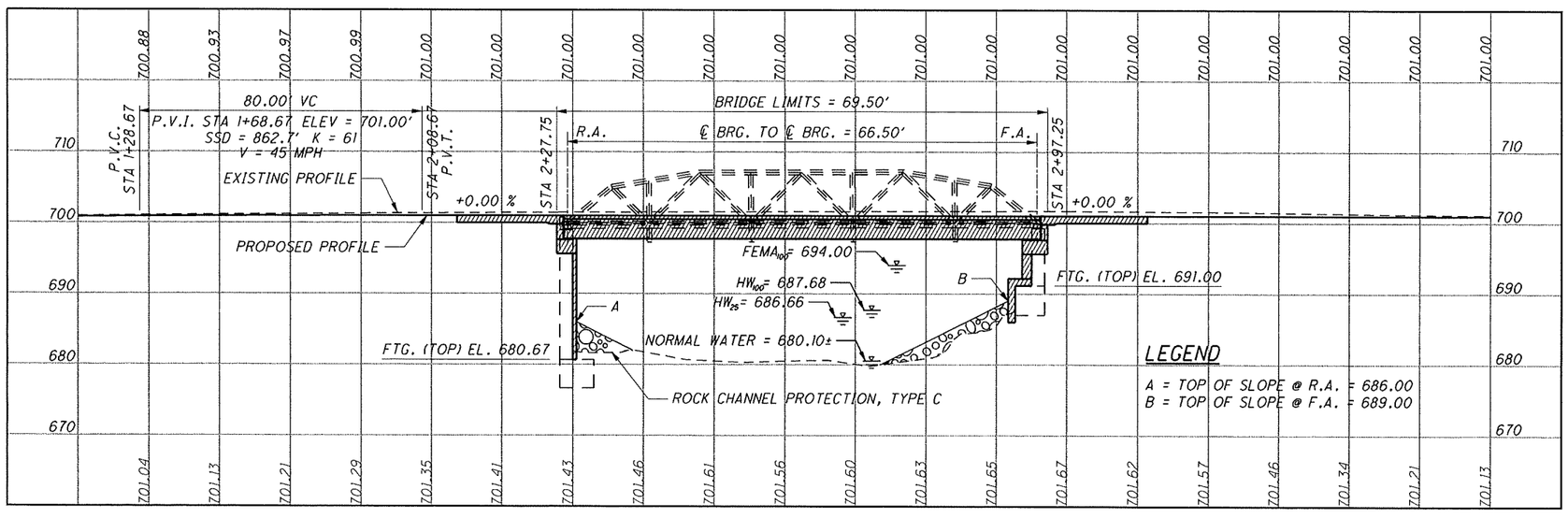
CROSS SECTIONS
STA. 3+55.34 TO STA. 4+00.00

MUS-C.R.414-2.40

12
26



PLAN



PROFILE ALONG ℄ CONSTRUCTION C.R. 414

NOTES

1. FOR ADDITIONAL BENCHMARK / MONUMENT INFORMATION SEE ROADWAY PLAN SHEET 6.
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2008 ADT = 2800 2008 ADTT = 183
2028 ADT = 3220 2028 ADTT = 190
DIRECTIONAL DISTRIBUTION = 52%

LEGEND

⊕ ORIGINAL SOIL BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 11.77 SQ. MILES
Q (25) = 1800 CFS V (25) = 5.32 FT/S
Q (100) = 2400 CFS V (100) = 6.11 FT/S
STRUCTURE CLEARS THE 25 YEAR DESIGN HW BY 11.09 FEET.

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL TRUSS BRIDGE SUPPORTED ON CONCRETE WALL ABUTMENTS WITH CONCRETE FOOTING ON ROCK

SPANS: 66'-6" ± C/C BEARINGS
ROADWAY: 24'-0" ± F/F GUARDRAIL
LOADING: H10
SKEW: 2°00'00" R.F.
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
STRUCTURAL FILE NUMBER: 6040314
DATE BUILT: 1952
DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE SUPPORTED ON CONCRETE ABUTMENTS WITH CONCRETE FOOTING ON ROCK

SPANS: 66'-6" C/C BEARINGS
ROADWAY: 24'-0" (PLUS FIT-UP) F/F GUARDRAIL
LOADING: HS25 AND ALTERNATE MILITARY LOADING
SKEW: 2°00'00" R.F.
WEARING SURFACE: CONCRETE
FUTURE WEARING SURFACE: 60 PSF
APPROACH SLABS: 15'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE 39°56'51" N
LONGITUDE 82°01'34" W

MUSKINGUM COUNTY ENGINEER'S OFFICE
155 RHL ROAD
ZANESVILLE, OHIO 43701
MCEO

REVIEWED ---
DATE ---
STRUCTURE FILE NUMBER 6040314
DRAWN SEJ
REVISED
DESIGNED DRD
CHECKED ---

STA. 2+28.67
STA. 2+96.34

SITE PLAN
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

DS-1-92 REVISED 07-18-03
PSBD-1-93 REVISED 07-21-06
TST-1-99 REVISED 10-17-03

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 INCLUDING THE 2003 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE: 60 PSF.

DESIGN DATA:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4000 PSI (DECK)

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

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 5500 PSI
COMPRESSIVE STRENGTH (RELEASE) - 4000 PSI

PRESTRESSING STRAND:
AREA = 0.167 IN²
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

IPANEX CONCRETE WATERPROOFING
STEEL DRIP STRIP
SEALING OF CONCRETE SURFACES

UTILITY LINES

THE UTILITY 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.

BEARING PAD SHIMS

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 10 INCHES BY 6 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE COUNTY WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - 1/8" PREFORMED BEARING PADS. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF MUSKINGUM COUNTY.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THE EXISTING STEEL TRUSS AND GUARDRAIL SHALL BE REMOVED FOR STORAGE AND SHALL BECOME PROPERTY OF MUSKINGUM COUNTY. THE EXISTING TRUSS SHALL BE CUT INTO MANAGEABLE PIECES AS DIRECTED BY THE COUNTY ENGINEER. BOTH THE TRUSS AND GUARDRAIL SHALL BE DELIVERED TO A LOCATION DESIGNATED BY THE MUSKINGUM COUNTY ENGINEER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

CONTACT DOUG DAVIS AT THE MUSKINGUM COUNTY ENGINEER'S OFFICE AT (740) 454-0155 TO ARRANGE FOR MATERIALS TO BE RECEIVED BY THE COUNTY.

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 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT

THE EMBEDMENT DEPTH OF ALL DOWELS SHALL BE 6".

ESTIMATED QUANTITIES

CALCULATED: SEJ DATE: 08/25/07 CHECKED: DRD DATE: 08/25/07

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	SUPER	GEN'L	SPEC & AS PER PLAN SHEET NO.
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	2
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING			LUMP	
503	21101	80	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN			80	2
509	10000	9654	POUND	EPOXY COATED REINFORCING STEEL	5566	4088		
510	10000	340	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	340			
511	34435	30	CU YD	CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN		30		2
511	43501	77	CU YD	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	77			2
512	10100	250	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	190	60		
512	44400	15	SQ YD	TYPE B WATERPROOFING		15		
515	12090	6	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB33-48		6		
516	13600	135	SQ FT	1" PREFORMED EXPANSION JOINT FILLER			135	
516	31001	48	FT	JOINT SEALER, AS PER PLAN			48	13
516	41100	12	EACH	1/8" PREFORMED BEARING PAD			12	
516	43100	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), 10"x6"x1 1/2"			24	
517	70000	147.50	FT	RAILING (TWIN STEEL TUBE)		147.50		
518	21200	40	CU YD	POROUS BACKFILL WITH FILTER FABRIC	40			
518	22300	165	FT	STEEL DRIP STRIP		165		
518	40000	80	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	80			
518	40010	30	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	30			
526	10000	80	SY	REINFORCED CONCRETE APROACH SLAB (T=12")			80	

ITEM 511 - CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, 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 AT A TURNED BACK PORTION THE WINGWALL. 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 INCLUDING FOOTING, 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

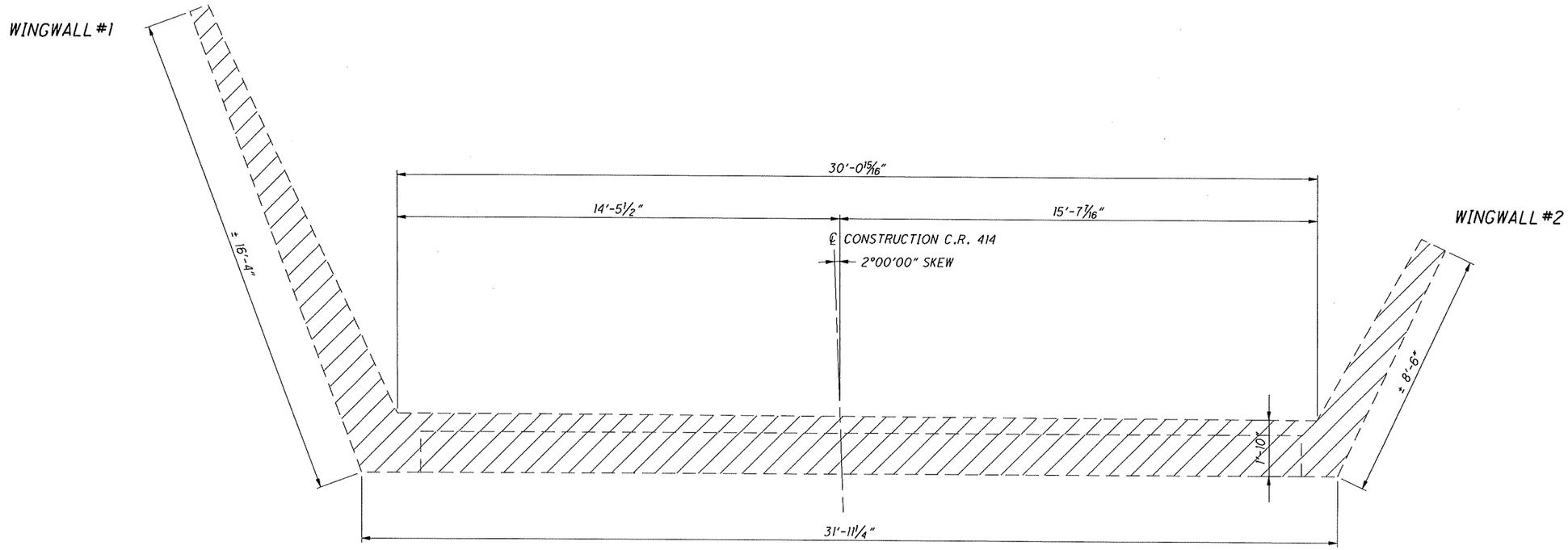
THE CONTRACTOR SHALL ENSURE THAT IPANEX WATERPROOFING IS ADDED TO THE CONCRETE MIXTURE AS REQUIRED BY THE ENGINEER. STANDARD CLASS S CONCRETE SHALL BE USED WITH THE ADDITION OF IPANEX WATERPROOFING AT A RATE OF 13.8 OZ PER 100 LB OF CEMENT OR CEMENTATIOUS MATERIAL. THIS COST SHALL BE INCLUDED IN ITEM 511-CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN.

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

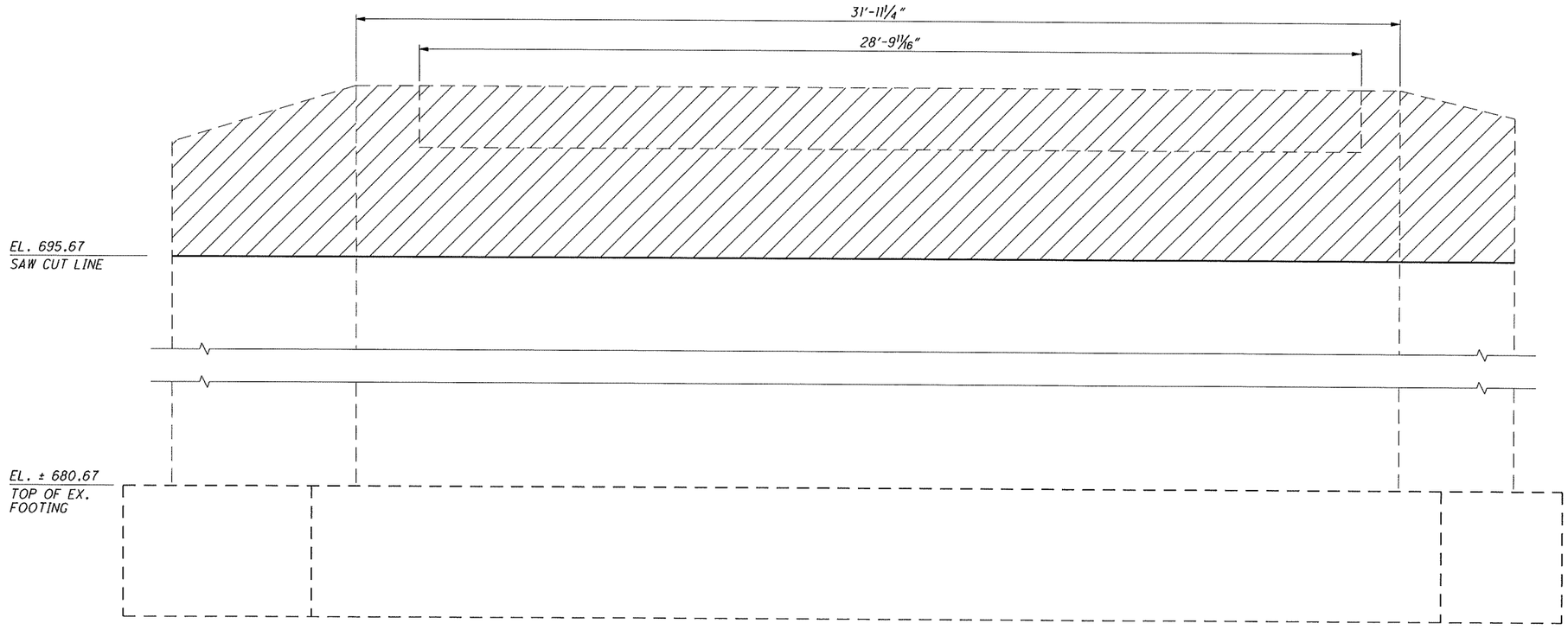
REVIEWED ---
DATE ---
STRUCTURE FILE NUMBER 6040314
DRAWN SEJ
REVISED ---
DESIGNED DRD
CHECKED ---

GENERAL NOTES AND ESTIMATED QUATITIES
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277



PLAN



ELEVATION

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

DESIGNED	DRAWN	REVIEWED	DATE
DRD	SEJ	---	---
CHECKED	REVISED	STRUCTURE FILE NUMBER	
---	---	6040314	

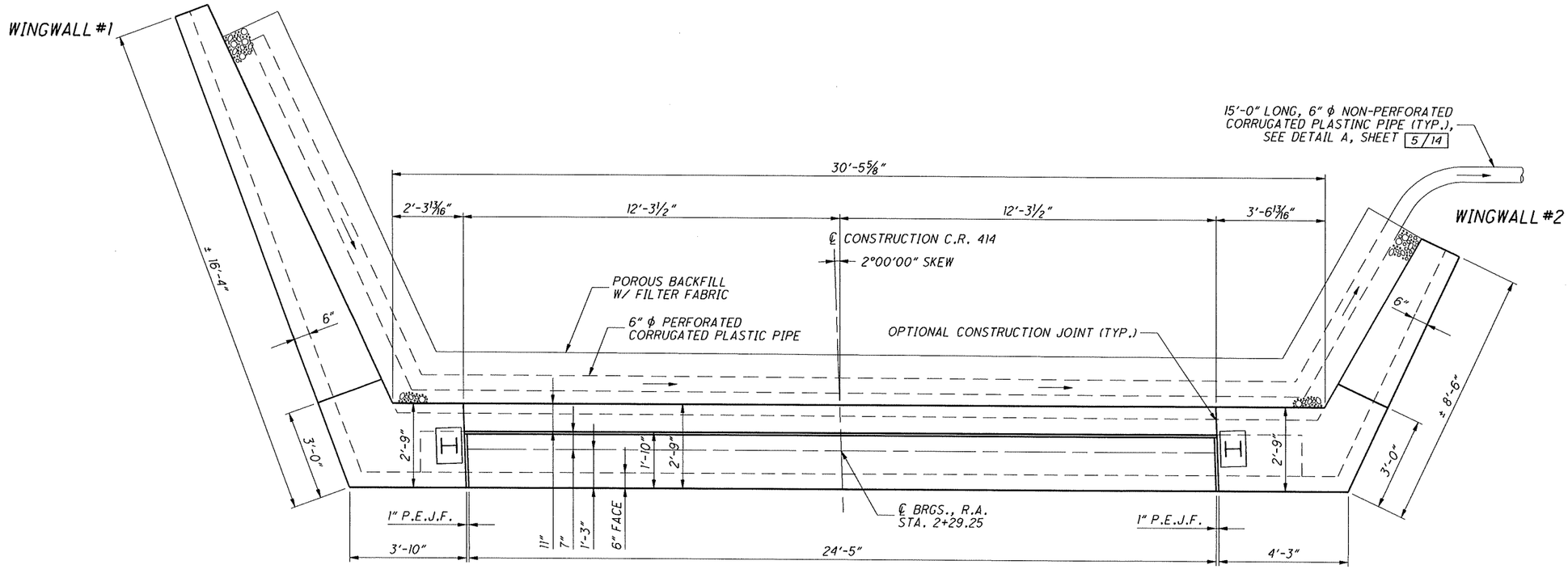
REAR ABUTMENT REMOVAL DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

3 / 14

15 / 26



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

MCEO

REVIEWED	DATE
---	---
STRUCTURE FILE NUMBER	6040314
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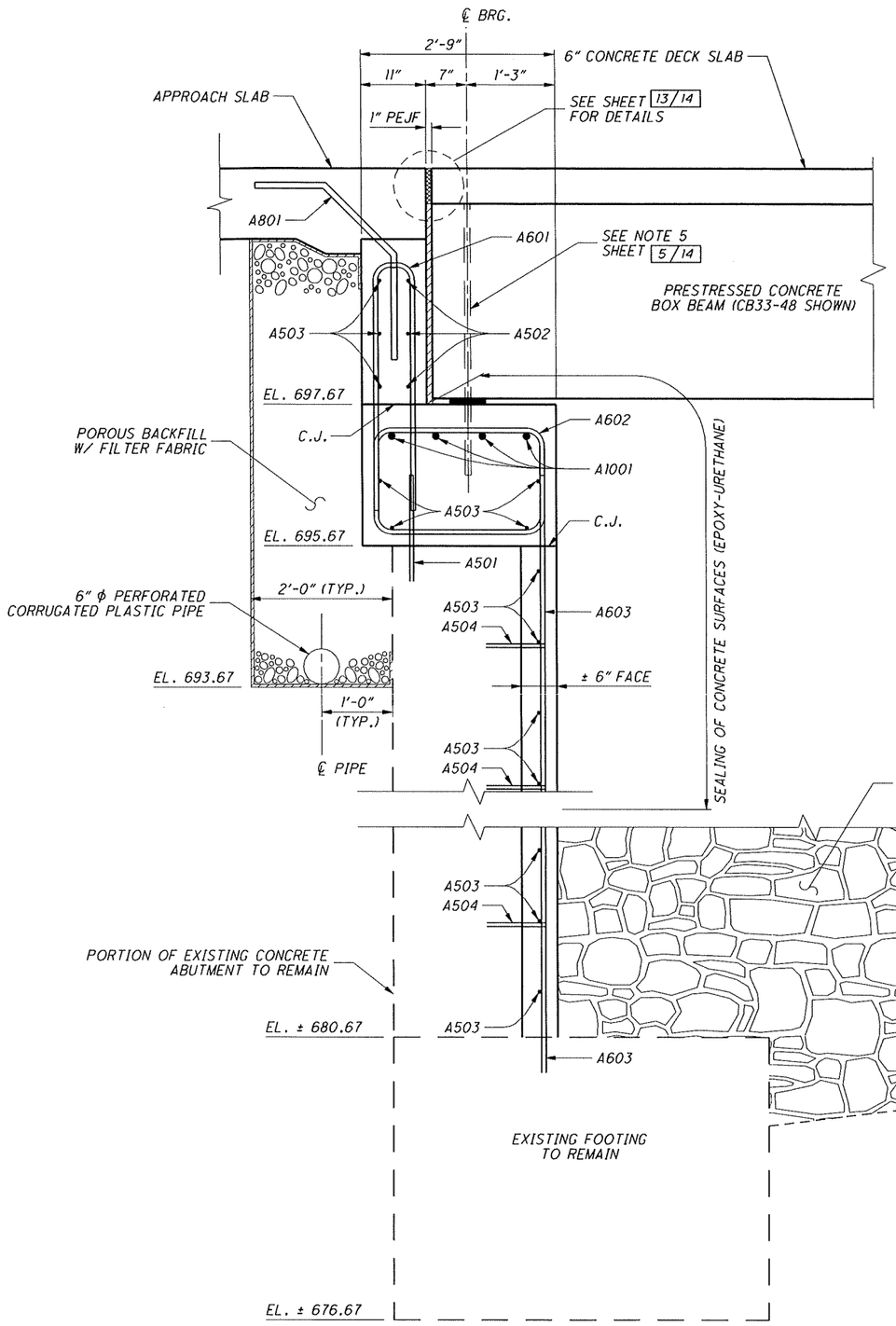
DESIGNED DRD	CHECKED ---

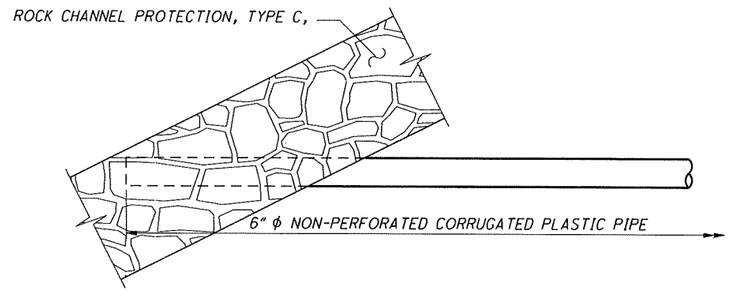
REAR ABUTMENT DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277



REAR ABUTMENT SECTION
AT ℄ OF CONSTRUCTION



DETAIL A
END TREATMENT OF 6" ϕ NON-PERFORATED CORRUGATED PLASTIC PIPE

LEGEND

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
EQ. = EQUAL
F.F. = FAR FACE
N.F. = NEAR FACE
SPA. = SPACING
U.N.O. = UNLESS NOTED OTHERWISE

NOTES

1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES.
2. ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
3. SEALING OF BEAM SEATS: IF THE BEAM SEATS ARE SEALED WITH AN EPOXY SEALER PRIOR TO SETTING BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE COUNTY WILL NOT PAY FOR THIS REMOVAL.
4. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE WINGWALLS.
5. SEE STD. DWG. PSBD-1-93 FOR ANCHOR DOWEL DETAILS (EXPANSION FOR BOTH THE REAR AND FORWARD ABUTMENTS).
6. TYPE B WATERPROOFING SHALL BE APPLIED TO ALL BEAM ENDS PER STD. DWG. PSBD-1-93.
7. SEE SHEET 13/14 FOR EXPANSION GAP JOINT SEALER DETAILS AND NOTES.
8. FLUSH MOUNTER POST LOCATIONS SHALL BE LOCATED BY THE ENGINEER AFTER FIT-UP DIMENSIONS HAVE BEEN VERIFIED.
9. LAP SPLICE LENGTHS:
   #5 BAR = 33 INCHES, U.N.O.
   #8 BAR = 87 INCHES, U.N.O.

MUSKINGUM COUNTY ENGINEER'S OFFICE
155 REHL ROAD
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REAR ABUTMENT DETAILS
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
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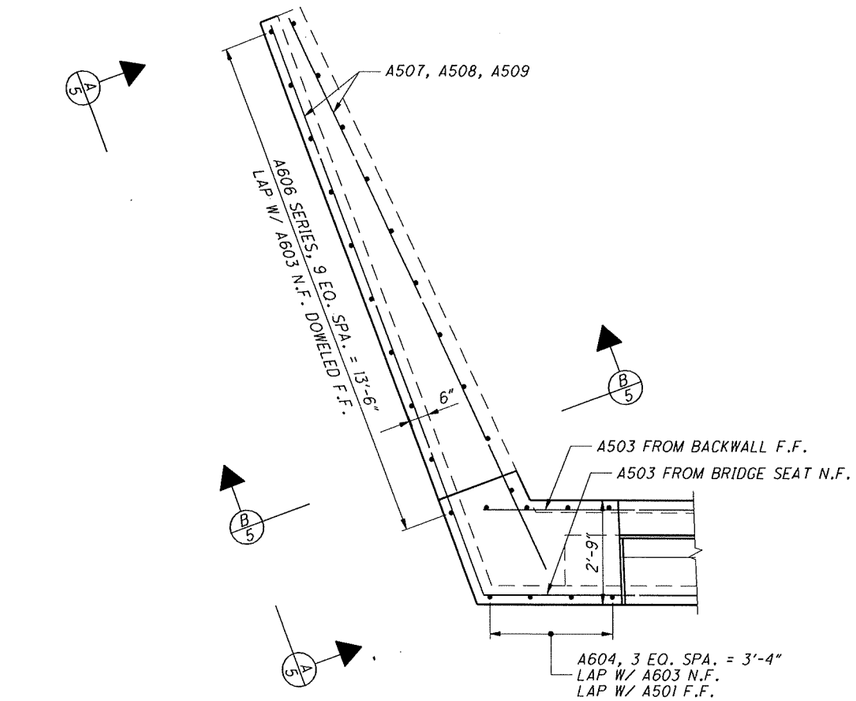
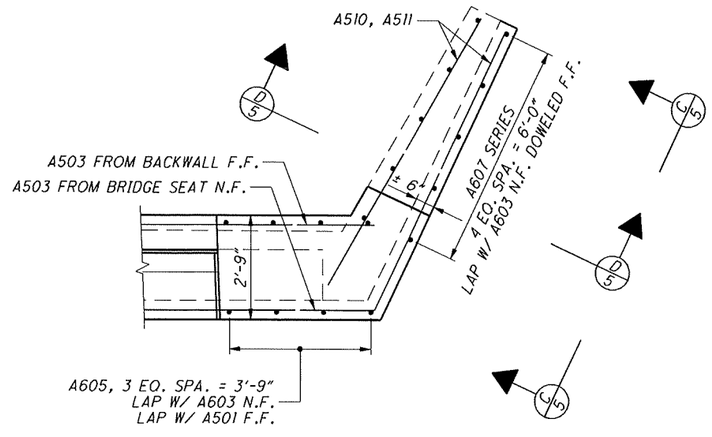
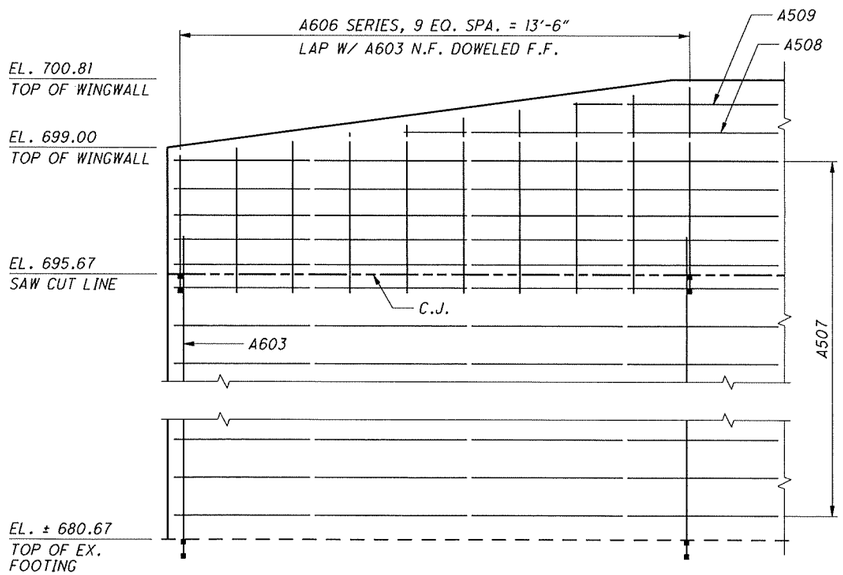
17
26



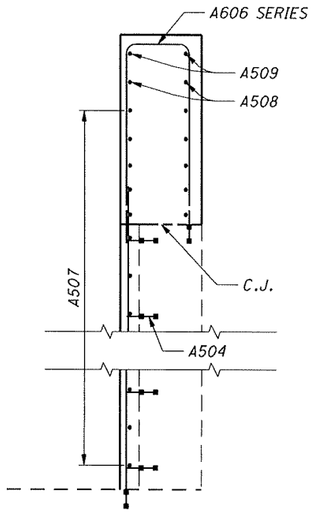
WINGWALL #1 PLAN



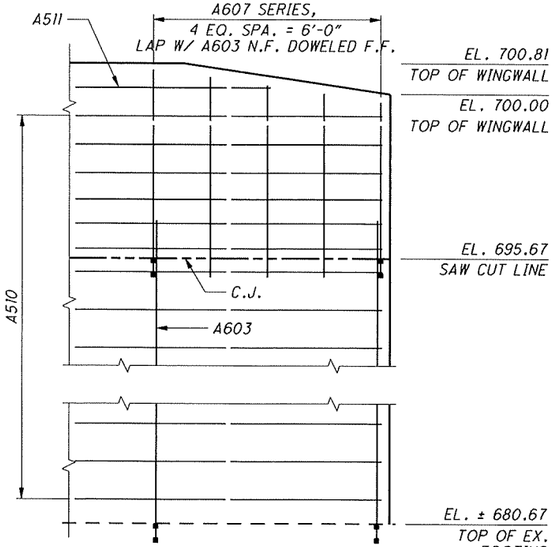
WINGWALL #2 PLAN



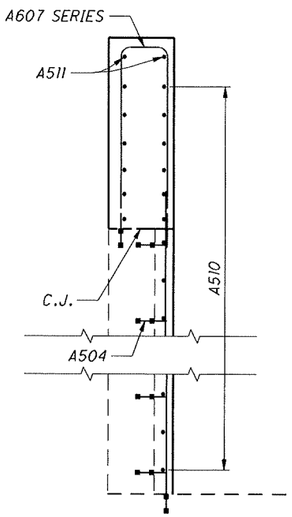
A/5 WINGWALL #1 ELEVATION



B/5 WINGWALL #1 SECTION



C/5 WINGWALL #2 ELEVATION



D/5 WINGWALL #2 SECTION

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

MCEO

DESIGNED	DRAWN	REVIEWED	DATE
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---	---	6040314	

REAR ABUTMENT DETAILS
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

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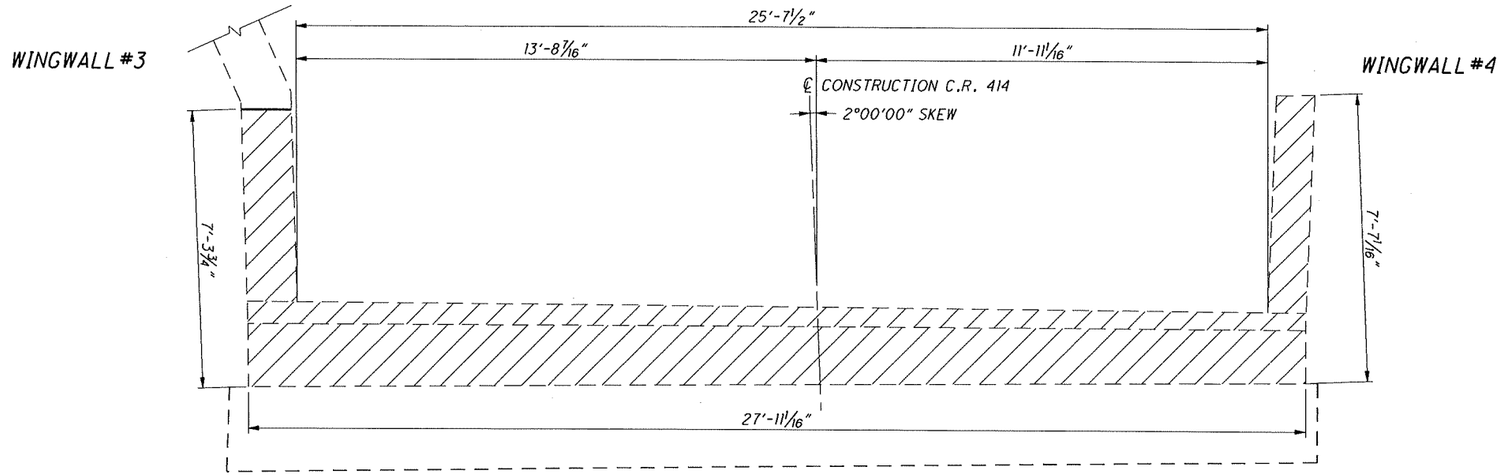
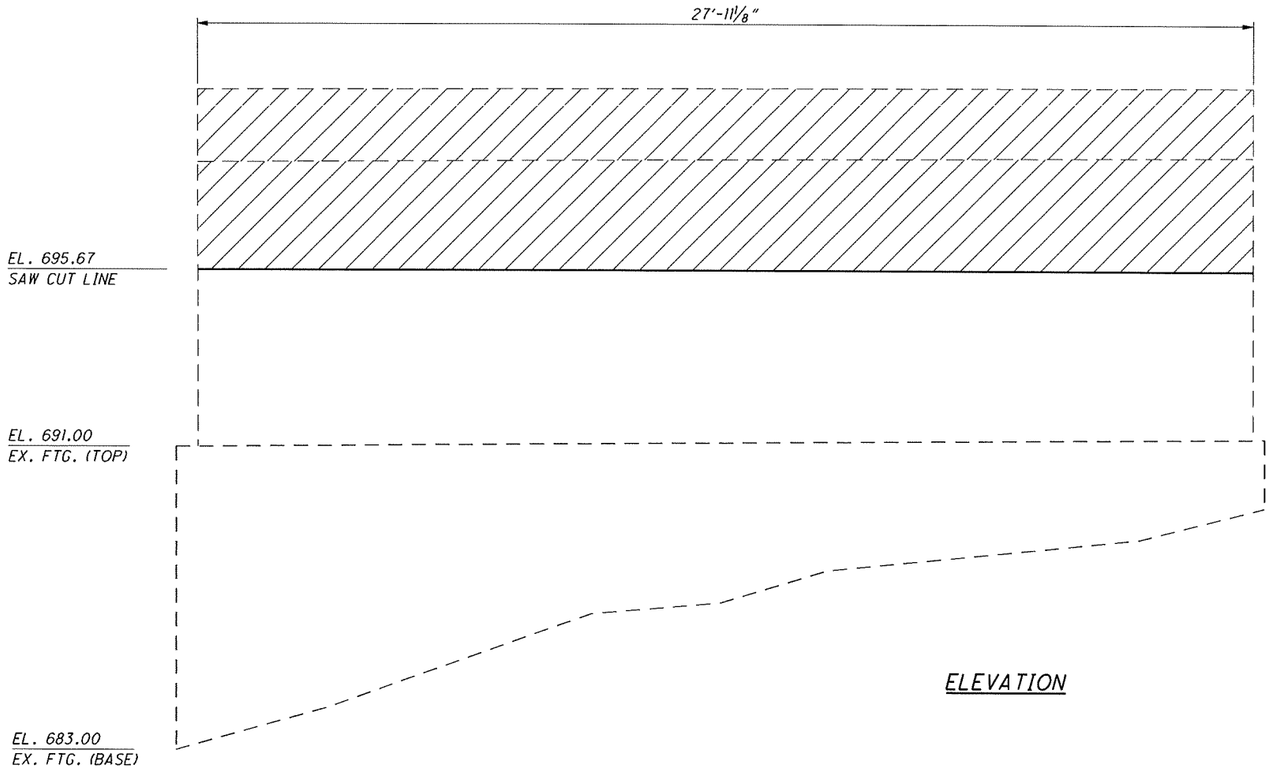


PLAN



ELEVATION

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

MCEO

DESIGNED	DRAWN	REVIEWED	DATE
DRD	SEJ	---	---
CHECKED	REVISED	STRUCTURE FILE NUMBER	
---	---	6040314	

FORWARD ABUTMENT REMOVAL DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

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19
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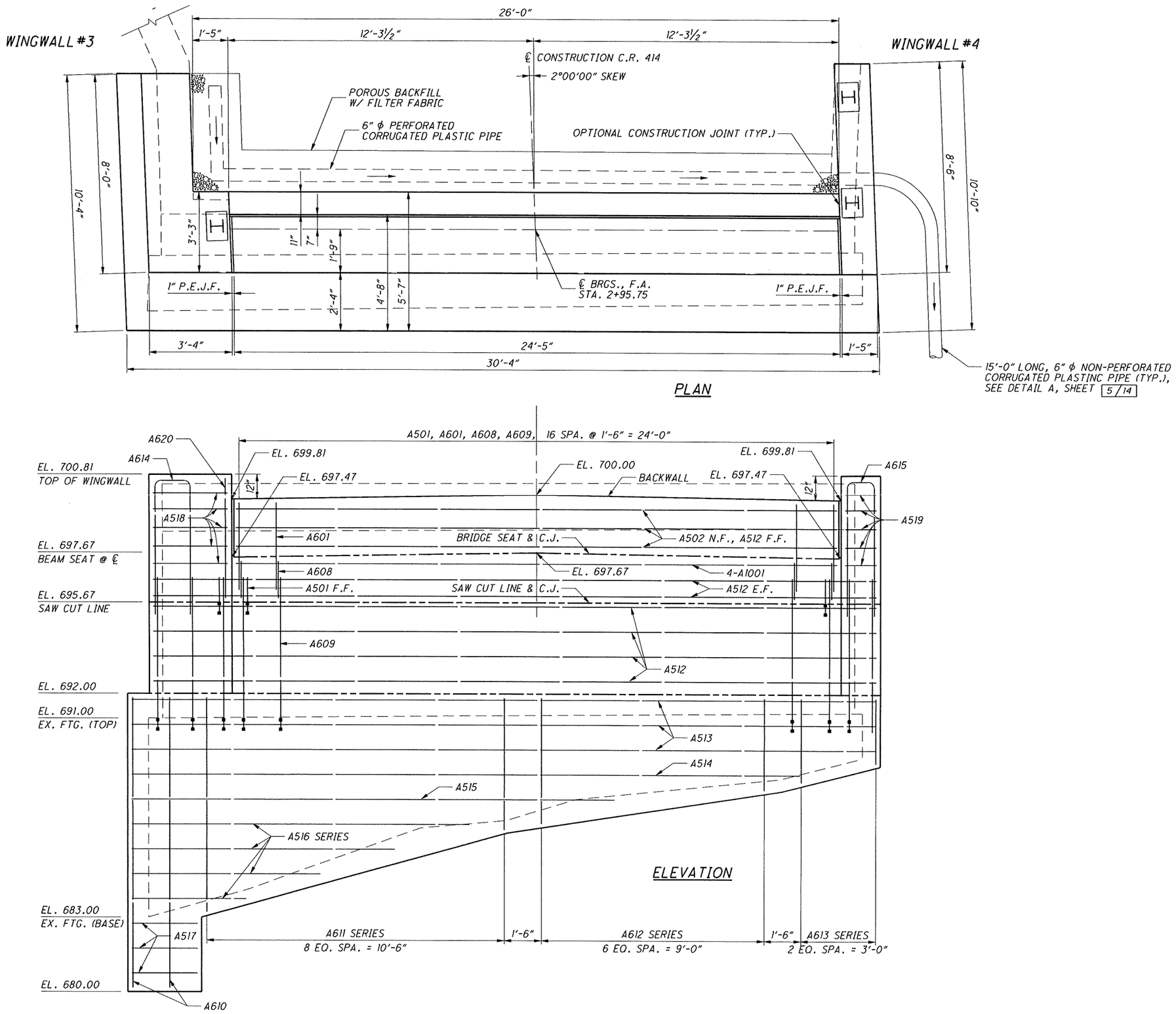

MUSKINGUM COUNTY
ENGINEER'S OFFICE
155 REHL ROAD
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MCE

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FORWARD ABUTMENT DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40

PID No. 24277

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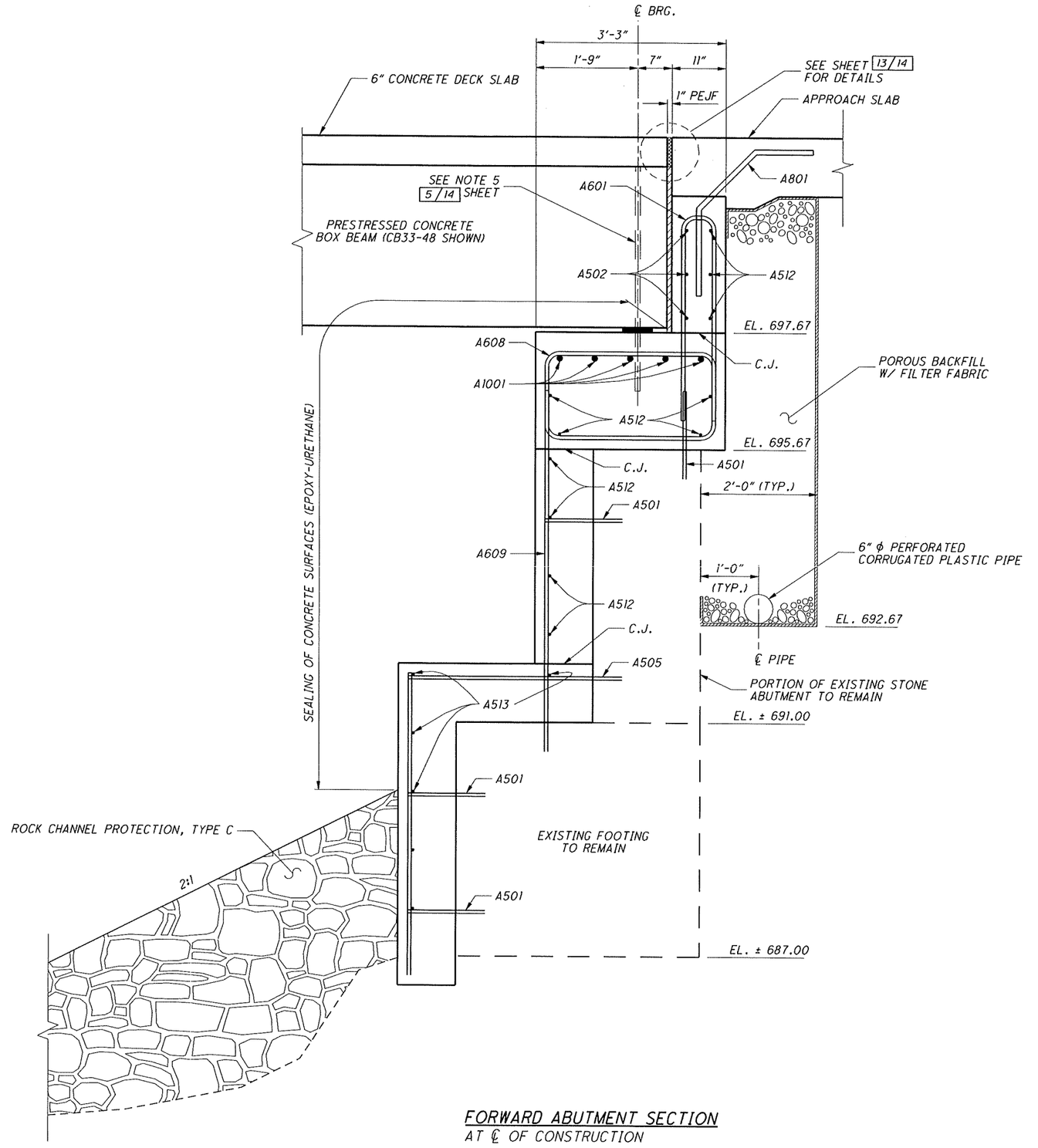
20
26



FORWARD ABUTMENT SECTION
AT ℄ OF CONSTRUCTION

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

DESIGNED	DRAWN	REVIEWED	DATE
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FORWARD ABUTMENT DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

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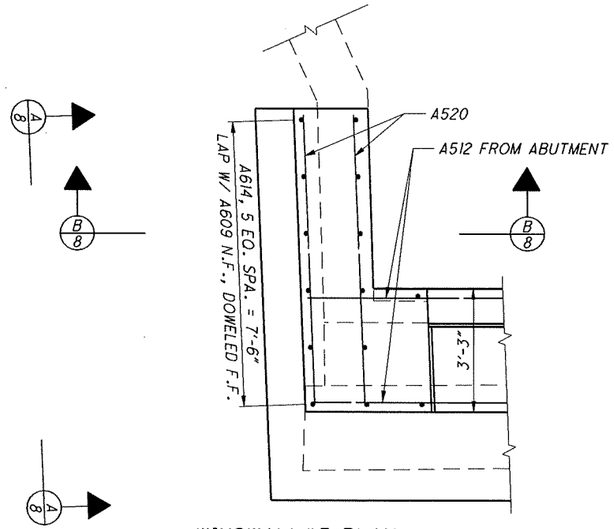
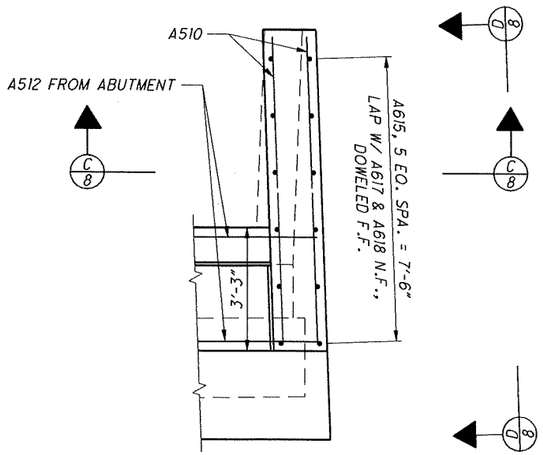
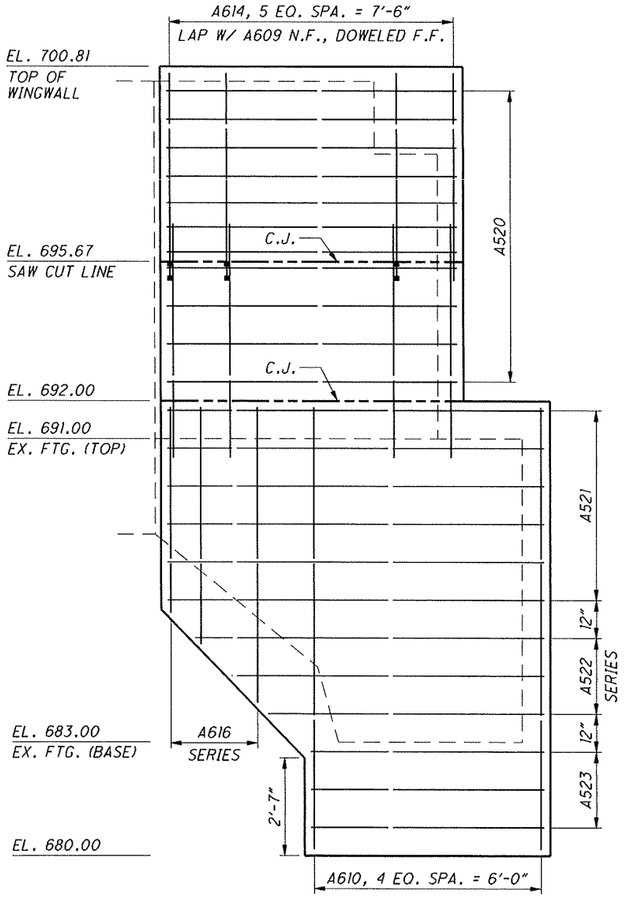


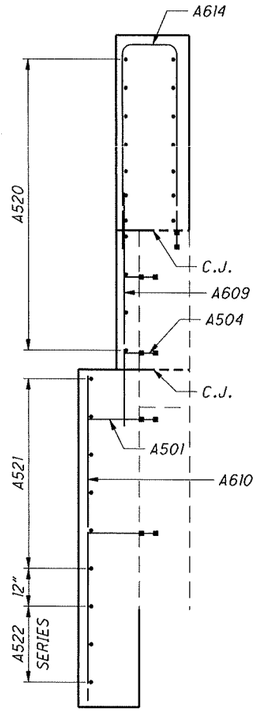
WINGWALL #3 PLAN



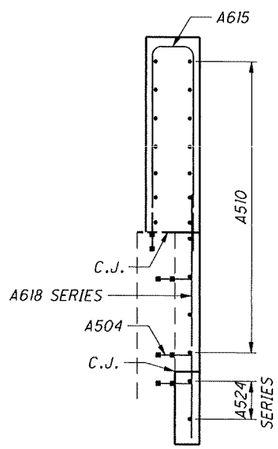
WINGWALL #4 PLAN



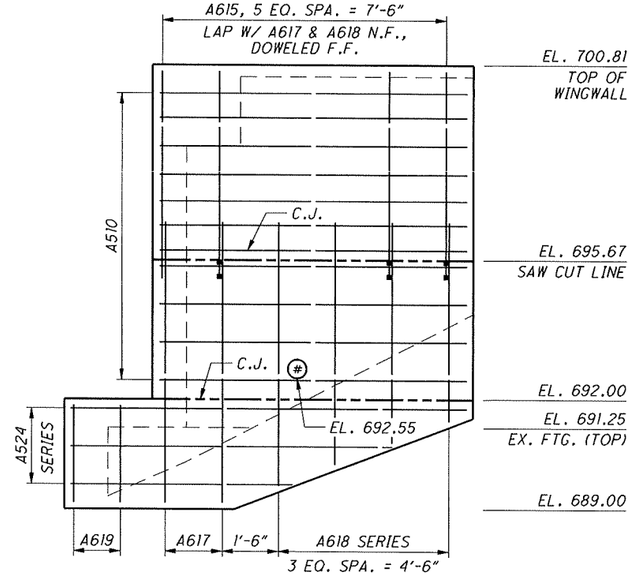
A8 WINGWALL #1 ELEVATION



B8 WINGWALL #1 SECTION



C8 WINGWALL #2 ELEVATION



D8 WINGWALL #2 SECTION

6" PERFORATED PLASTIC PIPE THROUGH WINGWALL. A HOLE SHALL BE CREATED IN THE EXISTING WINGWALL AND THAT COST SHALL BE INCLUDED IN ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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

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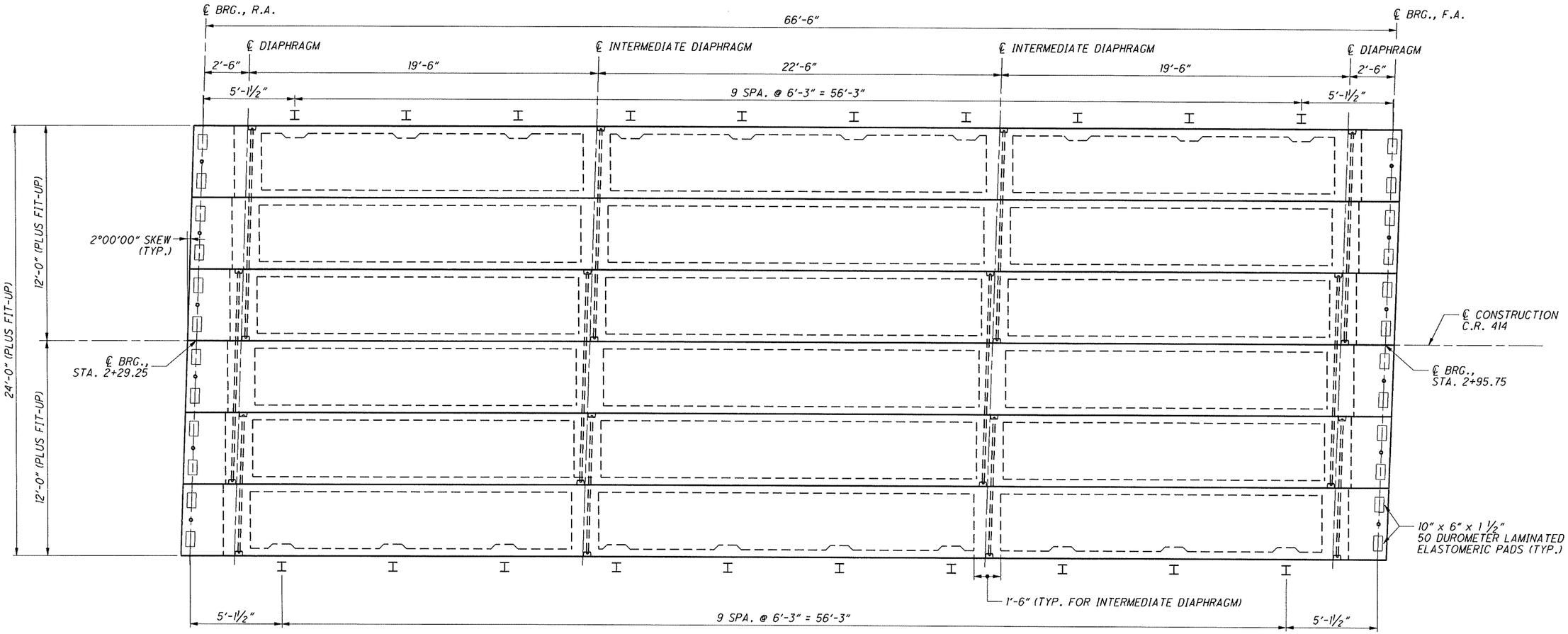
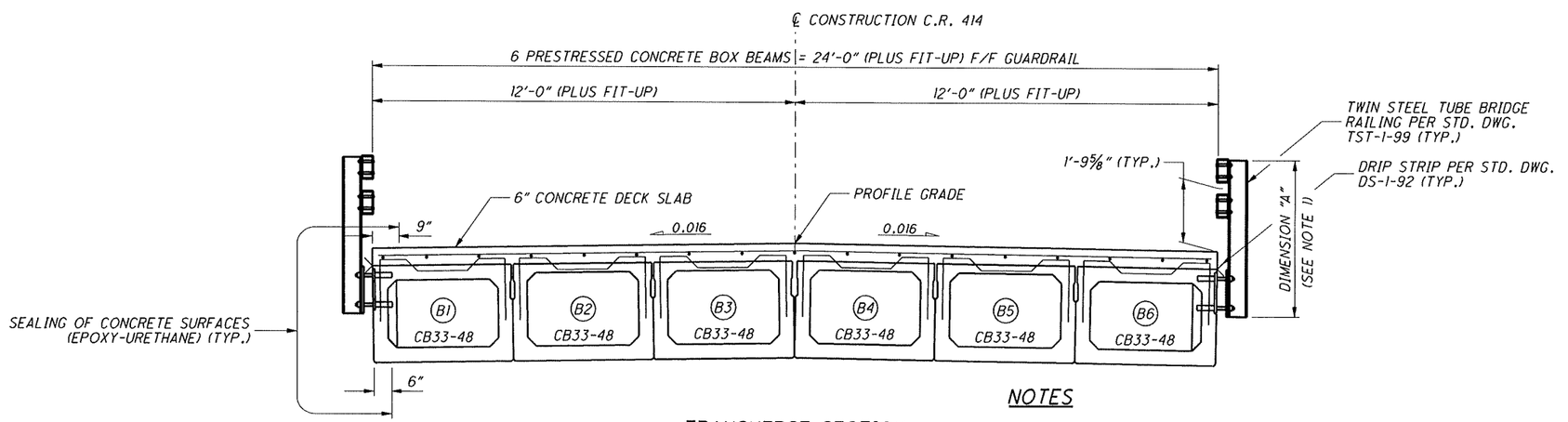
CHECKED	REVISED	STRUCTURE FILE NUMBER	
---	---	6040314	

FORWARD ABUTMENT DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277





TRANSVERSE SECTION

NOTES

1. DIMENSION "A" SHALL BE EQUAL TO 4'-6", UNLESS SHOWN OTHERWISE IN THE PLANS. REFER TO STD. DWG. TST-1-99 FOR LOCATION OF ANCHOR BOLTS AND TUBING.

MUSKINGUM COUNTY ENGINEER'S OFFICE
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SUPERSTRUCTURE DETAILS

BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

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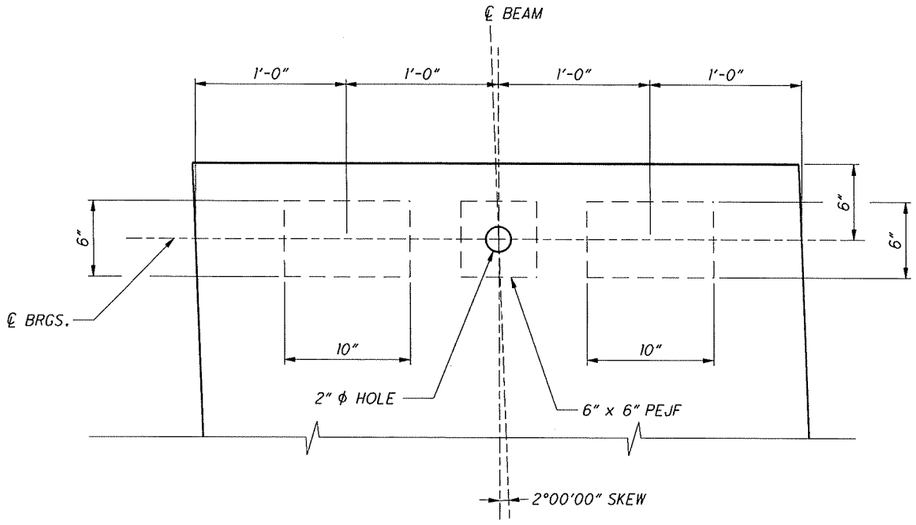
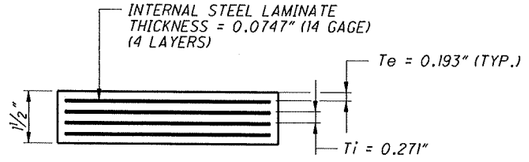
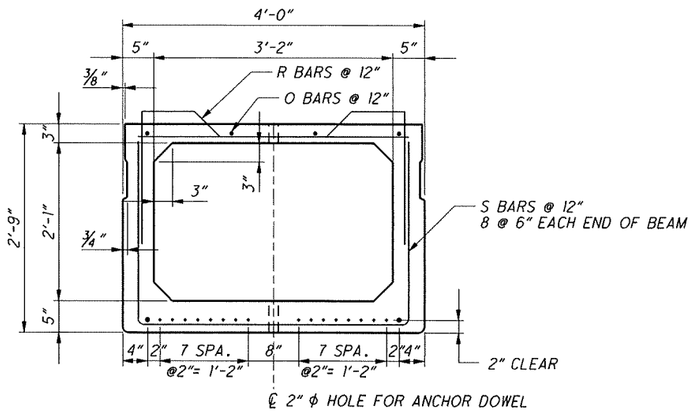


BEARING PAD LAYOUT (B33-48)



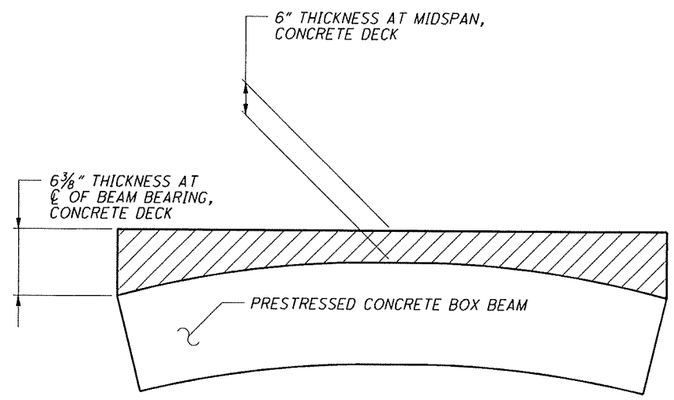
LAMINATED ELASTOMERIC BEARING PAD (B33-48)
10" x 6" x 1½"

DEAD LOAD = 26.50 KIPS
LIVE LOAD = 13.50 KIPS
TOTAL LOAD = 46.00 KIPS



CB33-48

FOR ADDITIONAL DETAILS SEE STD. DWG. PSBD-1-93.



CONCRETE THICKNESS DIAGRAM

NOTES

1. CALCULATED CAMBER AT THE TIME OF RELEASE IS ⅝ INCH.

   CALCULATED CAMBER AT THE TIME OF PAVING IS 1 INCH.

   LONG TERM CAMBER IS 2½ INCHES.

   CALCULATED DEFLECTION DUE TO DEAD LOAD APPLIED AFTER THE BEAMS ARE SET (WEIGHT OF CONCRETE DECK, RAILINGS, ETC.) IS ¼ INCH.

2. THE ELASTOMERIC BEARINGS SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

MUSKINGUM COUNTY
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155 REHL ROAD
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SUPERSTRUCTURE DETAILS
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

ITEM 516 - JOINT SEALER, AS PER PLAN

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A HOT APPLIED JOINT SEALER.

MATERIALS:

BINDER:

TYPE:	HOT APPLIED JOINT SEALER
SOFTENING POINT:	180 DEGREES F. MIN.
FLOW:	3 mm. MAX. AT 140 DEGREES F.
PENETRATION:	9 mm. MAX. AT 77 DEGREES F. 1 mm. MIN. AT 0 DEGREES F. ASTM D 3407
DUCTILITY:	40 cm. MIN. ASTM D 113
RESILIENCE:	60% MIN. AT 77 DEGREES F.
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1.10 * 0.05
POURING TEMP:	350 - 390 DEGREES F.

BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE BINDER.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE APPROVED ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SURFACE PREPARATION:

REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SLABS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT VELOCITY OF 3,000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION.

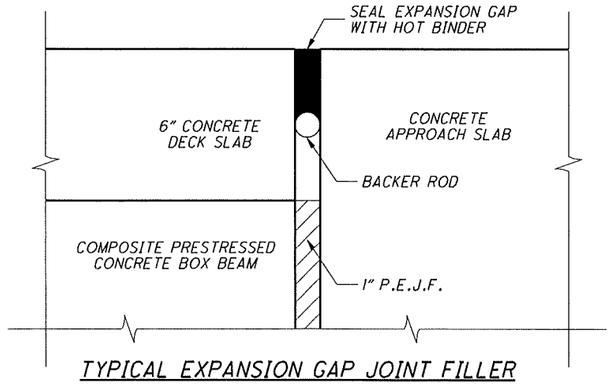
SEALING OF EXPANSION JOINT:

THE EXPANSION JOINT GAP IS TO BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1 1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

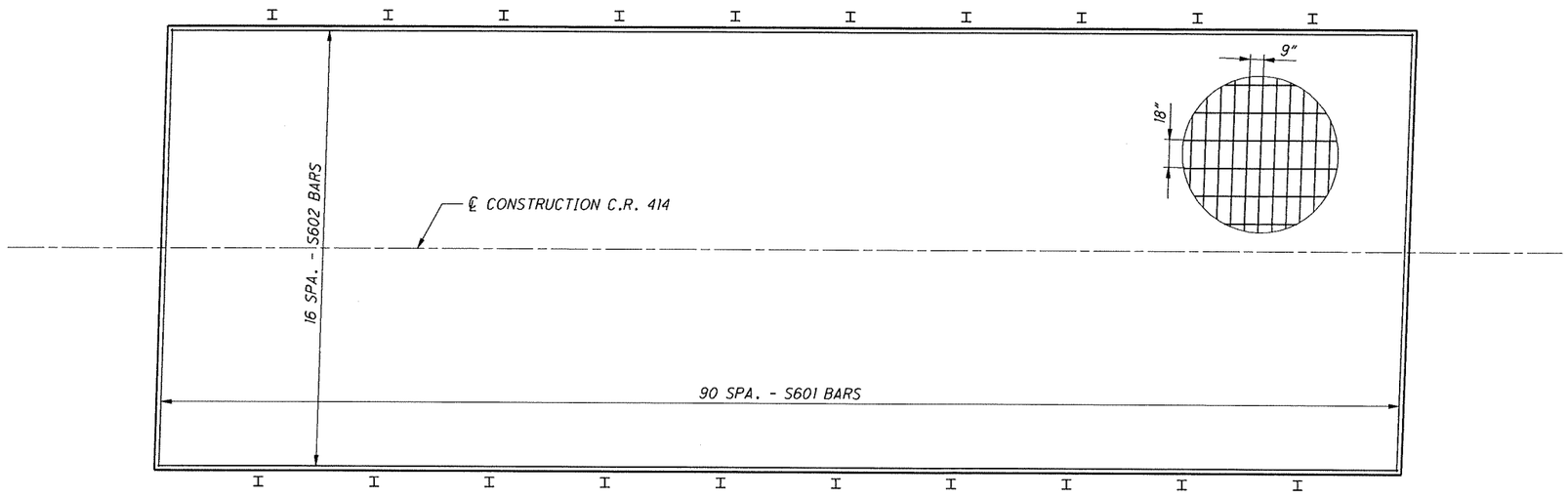
ONCE THE BACKER ROD IS PLACED, POUR THE HOT BINDER INTO THE EXPANSION GAP. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL METER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS: ITEM 516 - JOINT SEALER, AS PER PLAN.



TYPICAL EXPANSION GAP JOINT FILLER



DECK SLAB PLAN

SCREED ELEVATIONS (FEET)

LOCATION			℄ BRG. REAR ABUT.	0.25 SPAN	0.50 SPAN	0.75 SPAN	℄ BRG. FWD. ABUT.
LEFT EDGE	12.00' LT	STATION	2+29.18	2+46.06	2+62.93	2+79.81	2+96.68
		ELEVATION	700.27	700.29	700.31	700.29	700.27
CROWN	0.00'	STATION	2+28.75	2+45.63	2+62.50	2+79.38	2+96.25
		ELEVATION	700.46	700.48	700.50	700.48	700.46
RIGHT EDGE	12.00' RT	STATION	2+28.33	2+45.20	2+62.08	2+78.95	2+95.83
		ELEVATION	700.27	700.29	700.31	700.29	700.27

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.

MUSKINGUM COUNTY ENGINEER'S OFFICE
155 REHL ROAD
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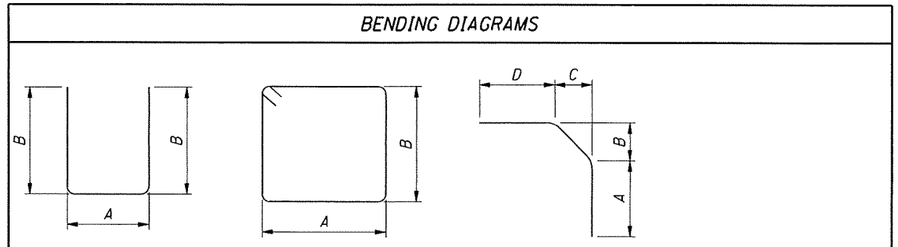
DECK SLAB PLAN
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS				
	REAR	FWD	TOTAL				A	B	C	D	INC
ABUTMENTS											
A501	17	80	97	1'-6"	152	STR					
A502	3	3	6	24'-3"	152	STR					
A503	3		3	32'-4"	102	STR					
A504	140	20	160	10"	134	STR					
A505	5	20	25	3'-6"	88	STR					
A506	5		5	3'-11"	21	STR					
A507	10		10	16'-0"	167	STR					
A508	2		2	9'-11"	21	STR					
A509	2		2	5'-5"	12	STR					
A510	12	11	23	8'-2"	196	STR					
A511	2		2	5'-2"	11	STR					
A512		11	11	29'-2"	335	STR					
A513		4	4	30'-0"	126	STR					
A514		1	1	27'-0"	29	STR					
A515		1	1	19'-6"	21	STR					
A516		1 SERIES OF 4	1 SERIES OF 4	4'-8" TO 13'-8"	48	STR					
A517		3	3	2'-8	9	STR					
A518		5	5	3'-0	16	STR					
A519		5	5	1'-3	7	STR					
A520		11	11	7'-8	88	STR					
A521		6	6	10'-0	63	STR					
A522		1 SERIES OF 3	1 SERIES OF 3	7'-3" TO 9'-3"	26	STR					
A523		3	3	6'-2"	20	STR					
A524		1 SERIES OF 3	1 SERIES OF 3	5'-10" TO 10'-5"	26	STR					
A601	17	17	34	7'-4½"	377	1	7"	3'-6"			
A602	17		17	7'- 4⅞"	190	2	2'-5"	1'-6"			
A603	40		40	16'-6"	992	STR					
A604	4		4	30'-10⅞"	124	1	2'-5"	4'-9"			
A605	4		4	30'-10⅞"	124	1	2'-5"	4'-9"			
A606	1 SERIES OF 10		1 SERIES OF 10	8'-0" TO 12'-7"	155	1	0'-9" TO 1'-9"	3'-8" TO 5'-6"			
A607	1 SERIES OF 5		1 SERIES OF 5	10'-2" TO 12'-4"	85	1	0'-11" TO 1'-6"	4'-8" TO 5'-6"			
A608		17	17	8'-4⅞"	215	2	2'-11"	1'-6"			
A609		28	28	6'-2"	260	STR					
A610		2	2	11'-8"	36	STR					
A611		1 SERIES OF 9	1 SERIES OF 9	5'-3" TO 6'-5"	79	STR					
A612		1 SERIES OF 7	1 SERIES OF 7	3'-8" TO 5'-0"	46	STR					
A613		1 SERIES OF 3	1 SERIES OF 3	2'-6" TO 3'-4"	14	STR					
A614		6	6	12'-2⅜"	110	1	1'-5"	5'-5"			
A615		6	6	11'-8⅜"	106	1	1'-1"	5'-5"			
A616		1 SERIES OF 3	1 SERIES OF 3	5'-5" TO 7'-9"	30	STR					
A617		2	2	7'-4"	22	STR					
A618		1 SERIES OF 4	1 SERIES OF 4	5'-3" TO 7'-0"	37	STR					
A619		2	2	2'-6"	8	STR					
A801		17	17	3'-10⅜"	176	3	1'-6"	1'-0"	1'-0"	1'-0"	
A1001		5	5	24'-3"	522	STR					
			ABUTMENT TOTAL		5566						

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS				
	REAR	FWD	TOTAL				A	B	C	D	INC
SUPERSTRUCTURE											
S601			34	35'-8"	1822	STR					
S602			91	23'-8"	2266	STR					
		SUPERSTRUCTURE TOTAL			4088						

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.

MUSKINGUM COUNTY ENGINEER'S OFFICE
155 REHL ROAD
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REINFORCING STEEL LIST
BRIDGE NO. MUS-414-0240
OVER TIMBER RUN

MUS-C.R.414-2.40
PID No. 24277

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