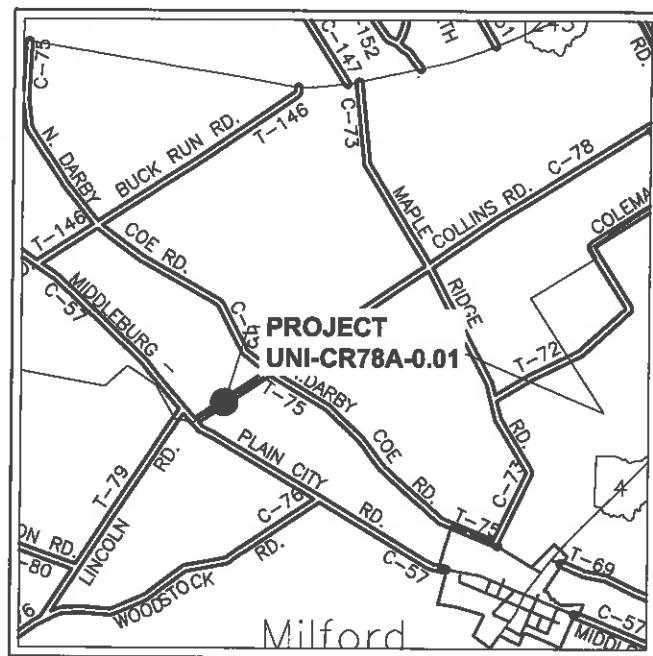


STATE OF OHIO
UNION COUNTY ENGINEER'S OFFICE
UNI-CR78A-0.01
COLLINS ROAD
ALLEN & UNION TOWNSHIPS
UNION COUNTY



LOCATION MAP

LATITUDE: 40°11'38" N LONGITUDE: 83°28'26" W



PORTION TO BE IMPROVED _____
 INTERSTATE & DIVIDED HIGHWAY _____
 UNDIVIDED STATE & FEDERAL ROUTES _____
 OTHER ROADS _____

DESIGN DESIGNATION (C.R. 78 - COLLINS ROAD)
 CURRENT ADT (2019) _____ 950
 DESIGN YEAR ADT (2039) _____ 1050
 DESIGN HOURLY VOLUME (2039) _____ 158
 DIRECTIONAL DISTRIBUTION _____ 50 %
 TRUCKS (24 HOUR B&C) _____ 5 %
 DESIGN SPEED _____ 55 MPH
 LEGAL SPEED _____ 55 MPH
 DESIGN FUNCTIONAL CLASSIFICATION:
 LOCAL

DESIGN EXCEPTIONS
 NONE

USACOE NWP-3 MARCH 31, 2020

UNDERGROUND UTILITIES
 CONTACT BOTH SERVICES
 CALL TWO WORKING DAYS
 BEFORE YOU DIG

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

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



ENGINEERS SEAL:

 SIGNED: _____
 DATE: _____

INDEX OF SHEETS

TITLE SHEET..... 1
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 TRAFFIC CONTROL..... 15
 STRUCTURE (20 FOOT AND OVER)..... 16-3B
 PATCHING & REPAIRS DETAILS..... 1A-6A

STANDARD DRAWING SPECIFICATIONS				SUPPLEMENTAL SPECIFICATIONS
BP-3.1 01/17/2020	AS-1-15 07/17/2015			SS-800 01/17/2020
	DS-1-92 01/19/2018			832 01/17/2014
DM-4.3 01/15/2016	PSBD-2-07 07/20/2018			
DM-4.4 01/15/2016	SICD-1-96 07/18/2014			
	TST-1-99 07/20/2018			
MGS-1.1 01/19/2018				
MGS-2.1 01/19/2018				
MGS-3.1 01/19/2018				
MGS-4.2 07/19/2013				
MGS-4.3 01/18/2013				
MT-97.11 01/20/2017				
MT-101.60 01/17/2020				
MT-101.90 07/21/2017				

PROJECT DESCRIPTION
 REHABILITATE THE UNI-CR78A-0010 (SFN 8031908) THREE SPAN STRUCTURE OVER BIG DARBY CREEK BY REPLACING THE SUPERSTRUCTURE WITH PRESTRESSED PRECAST CONCRETE BOX BEAMS (CB21X48) WITH A COMPOSITE REINFORCED CONCRETE DECK.

PROJECT EARTH DISTURBED AREA: 0.38 ACRES
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.12 ACRES
 NOTICE OF INTENT EARTH DISTURBED AREA: 0.50 ACRES

FULL CLOSURE
 THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR A FULL CLOSURE OF COUNTY ROUTE 78 (COLLINS ROAD) FOR REHABILITATION OF THE EXISTING STRUCTURE. THE CLOSURE PERIOD SHALL NOT EXCEED 90 DAYS WITHOUT WRITTEN APPROVAL BY THE ENGINEER.

2019 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.

APPROVED: _____
 DATE: _____ UNION COUNTY ENGINEER

APPROVED: _____
 DATE: _____ BOARD OF UNION COUNTY COMMISSIONER

APPROVED: _____
 DATE: _____ BOARD OF UNION COUNTY COMMISSIONER

APPROVED: _____
 DATE: _____ BOARD OF UNION COUNTY COMMISSIONER

REVISED
 6/24/2020

BID SET
 6/08/2020

FEDERAL PROJECT NO. N/A

PID NO. N/A

CONSTRUCTION PROJECT NO. N/A

RAILROAD INVOLVEMENT NONE

UNI-CR78A-0.01

1
38

GENERAL:

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

ROUNDING:

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

UTILITIES:

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

CENTURYLINK
124 N. MAIN STREET
SIDNEY, OH 43565
CONTACT: RICK KROGMAN
OFFICE PH: 937.642.2201
MOBILE PH: 937.498.5105
EMAIL: RICK.A.KROGMAN@CENTURYLINK.COM

UNION RURAL ELECTRIC COOPERATIVE
15461 US ROUTE 36 E
PO BOX 393
MARYSVILLE, OH 43040-0393
CONTACT: JOE LOVE
OFFICE PH: 937.642.1826
MOBILE PH: 937.537.0390
EMAIL: JLOVE@URE.COM

PIONEER RURAL ELECTRIC COOPERATIVE
767 3 MILE ROAD
URBANA, OH 43078
OFFICE PH: 937.653.7202

SURVEYING PARAMETERS:

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON THIS PROJECT. SEE TABLE ON THIS SHEET CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: VRS
MONUMENT TYPE: IRON PIN FOR CONTROL

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (CORS)
ELLIPSOID: WGS84
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH
COORDINATES GIVEN ARE GRID ONLY.

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH C&MS 623.

UNITS ARE IN U.S. SURVEY FEET.
CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS:

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE INSTALLATION AND OPERATION OF ALL 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 IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 - CLEARING AND GRUBBING. HOWEVER, ALL STREAMBANK VEGETATION SHOULD BE LEFT UNDISTURBED TO THE MAXIMUM EXTENT POSSIBLE. ANY DISTURBED STREAMBANKS SHOULD BE RETURNED TO PREVIOUSLY EXISTING CONTOURS AND ELEVATIONS. VERTICAL TRIMMING OF TREES IS PERMITTED WHERE NECESSARY. CARE SHOULD BE TAKEN TO NOT GIRDLE OR SCUFF TREE TRUNKS OR DAMAGE ANY STANDING TREES DURING CONSTRUCTION. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 - CLEARING AND GRUBBING.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL:

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICED FOR THE RESPECTIVE GUARDRAIL ITEMS.

SEE STANDARD DRAWING MGS-4.3 "GUARDRAIL TRANSITIONS" WHEN CONNECTING GUARDRAIL, TYPE MGS TO EXISTING TYPE 5 GUARDRAIL.

ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN:

ALL PROVISIONS OF ODOT C&MS APPLY EXCEPT AS SPECIFIED HEREIN. DUE TO THE BRIDGE WORK BEING LOCATED AT AN INTERSECTION; THE REAR ABUTMENT BRIDGE TERMINAL ASSEMBLIES (BOTH LEFT AND RIGHT) MUST BE ALTERED/MODIFIED FROM ODOT STD. DWG. MGS-3.1 TO MEET FIELD CONDITIONS. ALL LABOR, MATERIAL, EQUIPMENT, TOOLS AND INCIDENTALS TO CONSTRUCT THE BRIDGE TERMINAL ASSEMBLIES AT THE REAR ABUTMENT SHALL BE PAID IN ACCORDANCE WITH THE CONTRACT UNIT PRICE BID FOR ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN.

IT IS THE CONTRACTOR AND/OR SUBCONTRACTOR'S RESPONSIBILITY TO VERIFY FIT-UP. THE DETAILS PROVIDED BELOW ARE FOR GENERAL ILLUSTRATION ONLY AND MAKE NO GUARANTEE AS TO THE LIMITATIONS OF THE MANUFACTURER'S TOLERANCES.

ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF ITEM 202, REMOVAL OF SPECIFIED GUARDRAIL ITEMS SHALL INCLUDE BUT NOT BE LIMITED TO ANY ATTACHED POSTS, SIGNS AND DELINEATORS (NOT OTHERWISE SPECIFIED). THIS REMOVAL WILL INCLUDE ALL POSTS, ANCHORS AND HARDWARE UNDERGROUND.

THE CONTRACTOR SHALL EXPECT TO REMOVE ALL CONCRETE FOUNDATIONS COMPLETELY WITHIN THE LIMITS OF GUARDRAIL REMOVAL SPECIFIED IN THE PLANS. REMOVE EXISTING CONCRETE FOUNDATIONS A MINIMUM OF 1 FOOT BELOW THE PLAN PROPOSED FINISHED GRADE.

ALL HOLES AND VOIDS REMAINING AFTER REMOVAL OF GUARDRAIL POSTS AND FOUNDATIONS SHALL BE FILLED WITH GRANULAR MATERIAL CONFORMING TO ODOT C&MS 203.02R. FILL MATERIAL CONTAINING SOD SHALL NOT BE USED. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED OFF AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN (FOOT).

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. GUARDRAIL AND HARDWARE DESIGNATED FOR REMOVAL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT AN OFF-SITE LOCATION.

SURVEY CONTROL DATA

CONTROL POINT	CAD POINT	NORTHING	EASTING	ELEV	DESCRIPTION
			1696356.85		
BM #1	001	193581.180	0	1005.73	IRON ROD WITH CAP
			1696786.31		
BM #2	179	193888.913	8	1000.35	IRON ROD WITH CAP
			1696801.23		
BM #3	180	193866.819	3	1000.46	IRON ROD WITH CAP

SEEDING AND MULCHING:

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

ITEM 659 - SEEDING AND MULCHING, CLASS 3B
1,300 SY

ITEM 659 - COMMERCIAL FERTILIZER
1 TON PER 7,410 SY OF PERMANENT SEEDED AREA
1300 SY /7410 = 0.18

ITEM 659 - WATER
0.0054M GAL PER SY OF PERMANENT SEEDED AREA
1300 SY X 0.0054 = 7.02 M GAL

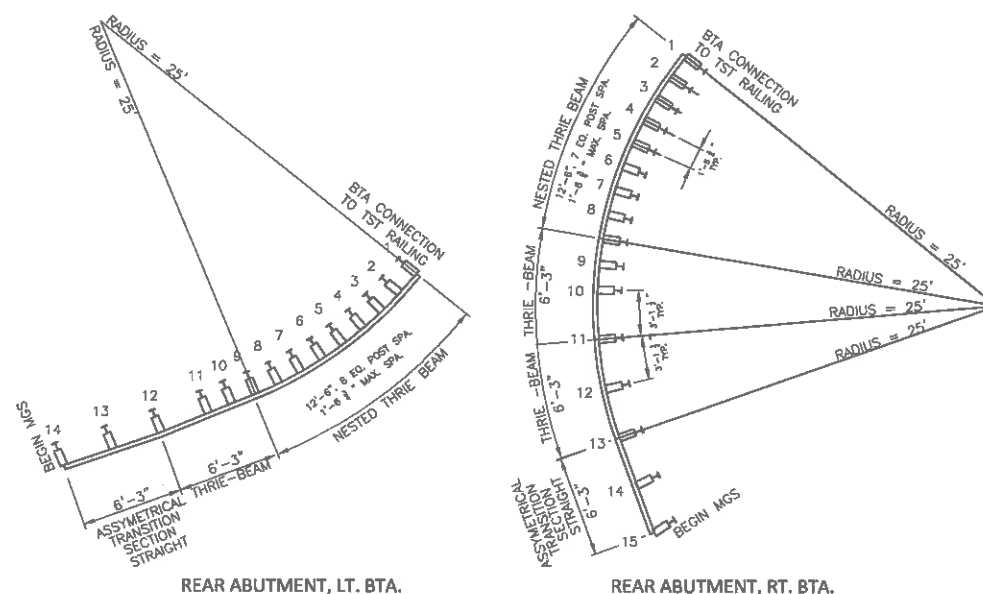
SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL DUE TO CONSTRUCTION ACTIVITIES AS DIRECTED BY THE ENGINEER.

EROSION CONTROL, AS PER PLAN:

A SEDIMENT AND EROSION CONTROL PLAN SHOULD BE DEVELOPED FOR THE SITE AND IMPLEMENTED BEFORE EARTHWORK COMMENCES. PARTICULAR ATTENTION SHOULD BE GIVEN TO ANY DRAINAGE WAYS, DITCHES AND STREAMS THAT COULD CONVEY SEDIMENT LADEN WATER DIRECTLY TO STATE SCENIC RIVERS. PROPERLY INSTALLED (FRAMED AND ENTRENCHED) SEDIMENT FENCE SHOULD BE UTILIZED AROUND THE DISTURBED WORK SITE PERIMETER. APPROPRIATELY DESIGNED EROSION CONTROLS SHOULD BE UTILIZED IN DITCHES AND DRAINAGE WAYS. ALL CONTROLS SHOULD BE PROPERLY MAINTAINED UNTIL FINAL SITE STABILIZATION IS ACHIEVED. ALL SEDIMENT AND EROSION CONTROLS SHOULD BE REMOVED UPON STABILIZATION OF THE PROJECT AREA WITH VEGETATION. STRAW BALES SHOULD NOT BE PERMITTED AS A FORM OF EROSION CONTROL. ALL DENUDED AREAS, INCLUDING DITCHES, CULVERTS AND RIVER/STREAM BANKS SHOULD BE PERMANENTLY SEEDED AND MULCHED (OR FIBER MAT) IMMEDIATELY UPON COMPLETION OF EARTHWORK OR TEMPORARILY SEEDED AND MULCHED (OR FIBER MAT) WITHIN 7 DAYS IF THE AREA IS TO REMAIN IDLE FOR MORE THAN 30 DAYS. THIS ITEM SHALL BE PAID FOR UNDER 832 EROSION CONTROL, AS PER PLAN.

ITEM 203 - EXCAVATION, AS PER PLAN:

THIS PAY ITEM AND QUANTITY IS INTENDED TO ACCOUNT FOR THE EXCAVATION OF THE AREAS IN ADVANCE OF THE NEW APPROACH SLABS AND FULL DEPTH PAVEMENT IN ADDITION TO THE CROSS-SECTION EXCAVATION. THE NECESSARY PAVEMENT SAW CUTS FOR THE BUTT JOINTS SHALL ALSO BE INCLUDED IN THIS PAY ITEM.

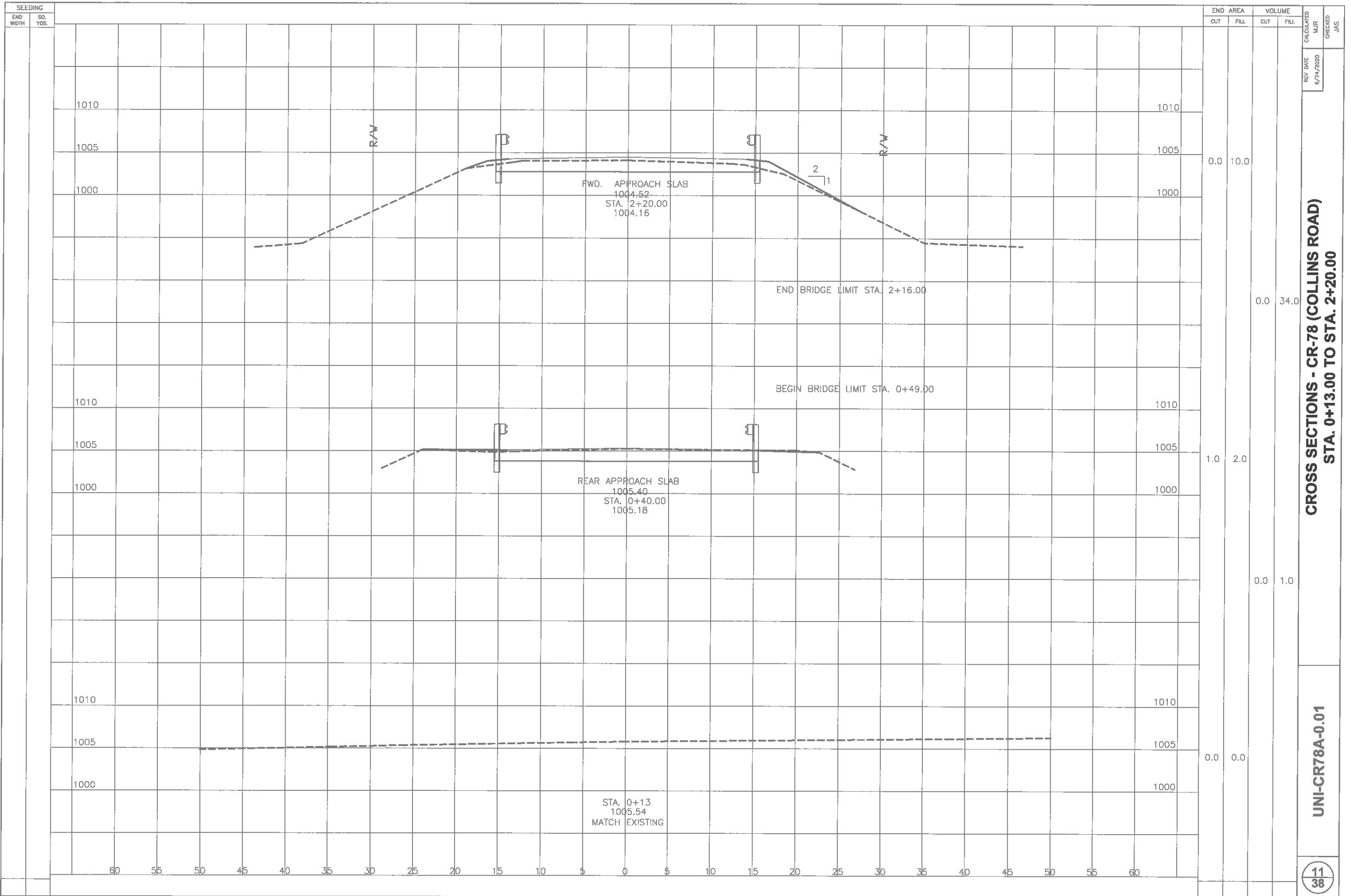


SHEET NUM.										ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.		
5	9			19						LS	201	11000	LS		ROADWAY		
	725									725	202	38001	725	FT	GUARDRAIL REMOVED, AS PER PLAN	5	
	1									1	202	42000	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A		
91										91	203	10001	91	CY	EXCAVATION, AS PER PLAN		
										110	203	20000	110	CY	EMBANKMENT		
										319	204	10000	319	SY	SUBGRADE COMPACTION		
										534	254	01000	534	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.25"		
										267	254	01000	267	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 2"		
										110	254	01000	110	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 4"		
	700									700	606	15050	700	FT	GUARDRAIL, TYPE MGS		
	1									1	606	26500	1	EACH	ANCHOR ASSEMBLY, MGS, TYPE B		
	4									4	606	35003	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	5	
											204	45000	1	HOUR	PROOF ROLLING		
															EROSION CONTROL		
1,300										1,300	659	00530	1,300	SY	SEEDING AND MULCHING, CLASS 3B	16	
0.18										0.18	659	20000	0.18	TON	COMMERCIAL FERTILIZER		
	7									7	659	35000	7	MGAL	WATER		
	3500									3500	832	30001	3500	EACH	EROSION CONTROL, AS PER PLAN		
										400	670	00520	400	SY	SLOPE EROSION PROTECTION MAT, TYPE B		
															PAVEMENT		
											22	301	46000	22	CY	ASPHALT CONCRETE BASE, PG64-22	
											74	304	20000	74	CY	AGGREGATE BASE	
											110	407	10000	110	GAL	TACK COAT	
											39	441	10000	39	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
											9	441	50300	9	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
											9	441	50000	9	CY	ASPHALT CONCRETE LEVELING COURSE, TYPE 1, (448)	
															TRAFFIC CONTROL		
	18									18	626	00110	18	EACH	BARRIER REFLECTOR, TYPE 2, BIDIRECTIONAL		
	9									9	630	86010	9	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION		
	9									9	630	86010	9	FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
	0.28									0.28	646	00094	0.28	MILE	EDGE LINE, 6"		
	0.18									0.18	646	00290	0.18	MILE	CENTER LINE		
	20									20	646	00490	20	FT	STOP LINE		
															STRUCTURE OVER 20 FOOT SPAN (UNI-CR78-0010) SEE SHEET 18/38 (3/23)		
															MAINTENANCE OF TRAFFIC		
										40	614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE		
										LS	614	12420	LS		DETOUR SIGNING		
										3	619	16010	3	MNTH	FIELD OFFICE, TYPE B		
										LS	614	11000	LS		MAINTAINING TRAFFIC		
															INCIDENTALS		
										LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING		
										LS	624	10000	LS		MOBILIZATION		

GENERAL SUMMARY

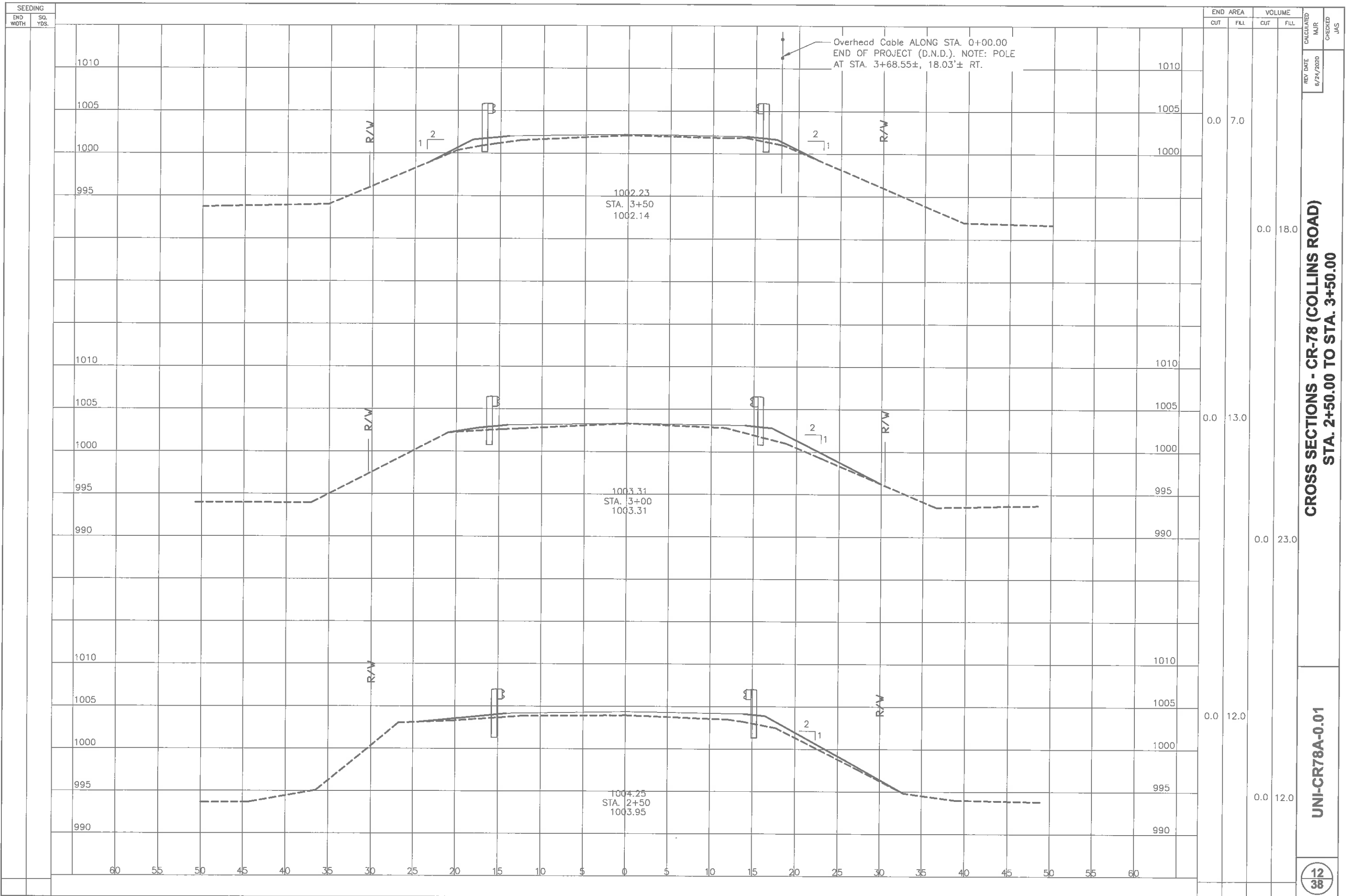
UNI-CR-78A-0.01

CALCULATED
 JAS
 CHECKED
 MJR
 6/24/2020



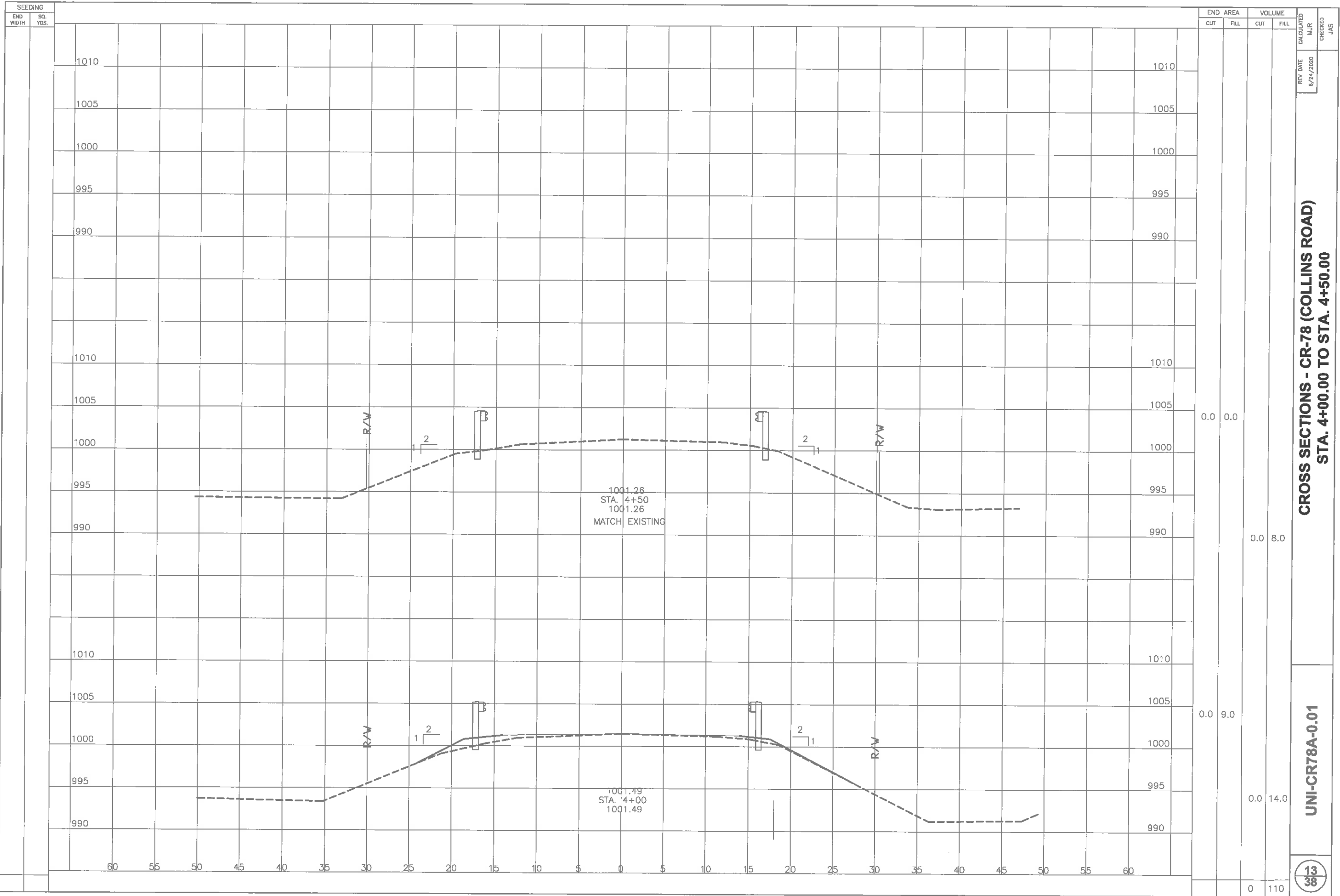
**CROSS SECTIONS - CR-78 (COLLINS ROAD)
STA. 0+13.00 TO STA. 2+20.00**

UNI-CR78A-0.01



**CROSS SECTIONS - CR-78 (COLLINS ROAD)
 STA. 2+50.00 TO STA. 3+50.00**

UNI-CR78A-0.01



CROSS SECTIONS - CR-78 (COLLINS ROAD)
STA. 4+00.00 TO STA. 4+50.00

UNI-CR78A-0.01

13
88

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED 7/17/2015
DS-1-92	REVISED 7/18/2003
PSBD-2-07	REVISED 7/20/2018
SICD-1-96	REVISED 7/18/2014
TST-1-99	REVISED 7/20/2018

DESIGN SPECIFICATIONS:

SUPERSTRUCTURE: THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2019

DESIGN LOADING:

HL-93
FUTURE WEARING SURFACE (FWS) = 0.060 KSF

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, 2019.

DESIGN DATA:

CONCRETE CLASS QC2: COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

REINFORCING STEEL: MINIMUM YIELD STRENGTH 60 KSI

PRESTRESSED CONCRETE BOX BEAM DESIGN DATA:

CONCRETE FOR PRESTRESSED BOX BEAMS:
COMPRESSIVE STRENGTH (FINAL), $F'_c = 7.0$ KSI
COMPRESSIVE STRENGTH (RELEASE), $F'_{ci} = 5.0$ KSI

REINFORCING STEEL FOR PRESTRESSED BOX BEAMS:
MINIMUM YIELD STRENGTH = 60 KSI

PRESTRESSING STRANDS:
AREA = 0.167 SQ. IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION)

DECK PROTECTIVE METHOD:

EPOXY COATED REINFORCING STEEL
STEEL DRIP STRIP
2.5" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES TO BE 1" THICK.

ITEM SPECIAL - STEEL DRIP STRIP

INSTALLATION AND CONSTRUCTION OF THE STEEL DRIP STRIP SHALL BE IN ACCORDANCE WITH STANDARD DRAWING DS-1-92 (DATED: 7-18-03). ALL LABOR AND MATERIALS WILL BE PAID IN THE LENGTH MEASUREMENT (FT) FOR ITEM SPECIAL - STEEL DRIP STRIP.

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 OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05 AND 105.02.

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

EXISTING STRUCTURE PLANS:

THE ORIGINAL CONSTRUCTION PLANS (PROJECT: COLLINS ROAD C.H. 78-A BRIDGE OVER BIG DARBY CREEK), BUILT IN 1980 MAY BE EXAMINED AT THE UNION COUNTY ENGINEER'S OFFICE LOCATED AT 233 W. 6TH STREET, MARYSVILLE, OHIO 43040, OR SENT UPON REQUEST.

UTILITIES:

CENTURYLINK
124 N. MAIN STREET
SIDNEY, OH 43565
CONTACT: RICK KROGMAN
OFFICE PH: 937.642.2201
MOBILE PH: 937.498.5105
EMAIL: RICK.A.KROGMAN@CENTURYLINK.COM

UNION RURAL ELECTRIC COOPERATIVE
15461 US ROUTE 36 E
PO BOX 393
MARYSVILLE, OH 43040-0393
CONTACT: JOE LOVE
OFFICE PH: 937.642.1826
MOBILE PH: 937.537.0390
EMAIL: JLOVE@URE.COM

PIONEER RURAL ELECTRIC COOPERATIVE
767 3 MILE ROAD
URBANA, OH 43078
OFFICE PH: 937.653.7202

REMOVAL OVER WATER:

THE CONTRACTOR MUST EXERCISE REASONABLE CARE AND TAKE ALL PRECAUTIONS NECESSARY WHEN REMOVING MATERIAL OVER WATER. NO DEBRIS OR REMOVED MATERIAL SHALL ENTER BIG DARBY CREEK. APPROPRIATE APRONS, SUSPENDED TARPS, FALSEWORK, PLATFORMS, OR OTHER BARRIERS SHALL BE USED DURING REMOVALS OR REPAIRS TO CONTAIN FALLING DEBRIS. IF ANY MATERIAL FALLS INTO THE WATER, IT SHOULD BE REMOVED IMMEDIATELY. THESE REQUIREMENTS SHALL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE REPLACING ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE COUNTY WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE COUNTY.

ODNR NOTES:

- STORAGE OF FUELS, PETROCHEMICALS & EQUIPMENT:** IDLE EQUIPMENT, PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHOULD NOT BE STORED IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES OR STREAMS THAT COULD CONVEY SUCH MATERIALS TO THE BIG DARBY CREEK STATE AND NATIONAL SCENIC RIVER OR ITS TRIBUTARIES. PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHOULD NOT BE DISCHARGED INTO ANY STATE SCENIC RIVERS, THEIR FLOODPLAINS OR ANY OF THEIR TRIBUTARY DRAINAGE WAYS, DITCHES OR STREAMS. REFUELING OF EQUIPMENT SHOULD NOT OCCUR IN THE FLOODPLAIN OR NEAR ANY TRIBUTARY DRAINAGE WAYS, DITCHES OR STREAMS.
- THE CONTRACTOR SHALL KEEP AND MAINTAIN AN "OIL SPILL KIT" ONSITE FOR THE DURATION OF THE PROJECT. THE CONTENTS (E.G. WITHIN A 55 GAL. DRUM OR EQUIVALENT) ARE INTENDED FOR A FAST RESPONSE TO AN EMERGENCY OIL OR LIQUID MATERIAL SPILL. THE KIT SHALL BE INCIDENTAL TO THE PROJECT.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY AND WITHIN REASON TO PREVENT CONCRETE DEBRIS FROM ENTERING THE STREAM DURING PATCHING.
- PATCHING OF CONCRETE BELOW THE OHWM SHALL BE DONE DURING "LOW TIDE" WHEN THE WATER LEVEL IS BELOW THE OHWM AND THE WEATHER FORECAST DOES NOT INDICATE RAINFALL EVENTS TWO DAYS BEYOND THE PATCH TO ALLOW PROPER CURING OF THE CONCRETE.
- SIGNAGE SHALL BE PLACED A MINIMUM OF 500 FEET UPSTREAM AND DOWNSTREAM ALONG THE BIG DARBY CREEK NOTIFYING CANOERS AND KAYAKERS OF THE CONSTRUCTION AHEAD. SIGNAGE SHALL BE PLACED AT THE BRIDGE NOTIFYING CANOERS AND KAYAKERS TO EXIT THE WATERWAY AND REENTER THE WATERWAY ON THE OPPOSITE SIDE OF THE BRIDGE. SIGNAGE WILL BE PROVIDED.
- MATERIAL DISPOSAL:** ANY AND ALL CONSTRUCTION DEBRIS, EARTHEN DEBRIS, EXCESS ASPHALT OR CONCRETE, WOOD DEBRIS FROM CLEARING, EXCESS FILL MATERIAL, MATERIAL EXCAVATED FROM THE RIVER BOTTOM AND TRASH SHOULD BE DISPOSED OF AT AN APPROVED UPLAND SITE OR LAND FILL ABOVE 100 YEAR FLOOD ELEVATIONS. DISPOSAL OF ANY SUCH MATERIAL IN WETLANDS, FLOODPLAINS, OR WITHIN 1000 FEET OF BIG DARBY CREEK STATE AND NATIONAL SCENIC RIVER IS PROHIBITED.
- PAINTING AND SAND/WATER BLASTING:** IF PAINTING, SAND OR WATER BLASTING ANY PORTION OF THE BRIDGE IS NECESSARY THEN APPROPRIATE APRONS OR PLATFORMS SHOULD BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT OR CONCRETE DEBRIS PARTICLES. APPROPRIATE APRONS SHOULD BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT AND/OR SEALANT OVER-SPRAY. ANY SUCH DEBRIS SHOULD BE REMOVED IMMEDIATELY FROM 1000 FEET OF THE STATE SCENIC RIVERS AND DISPOSED OF AT AN APPROVED UPLAND SITE ABOVE 100 YEAR FLOOD ELEVATIONS. DISPOSAL IN WETLANDS, FLOODPLAINS OR WITHIN 1000 FEET OF STATE SCENIC RIVERS IS PROHIBITED.
- ODNR NOTIFICATION:** HEATHER DOHERTY, CENTRAL REGIONAL SCENIC RIVER MANAGER, SHOULD BE INVITED TO A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR PRESENT AND BE NOTIFIED OF THE PROJECT START DATE ONE WEEK PRIOR TO THE COMMENCEMENT OF WORK. PERIODIC INSPECTIONS OF THE PROJECT SHOULD TAKE PLACE TO ENSURE SCENIC RIVER REQUIREMENTS ARE BEING MET. MS. DOHERTY SHOULD ALSO BE CONTACTED ONE WEEK PRIOR TO COMPLETION OF THE PROJECT TO CONDUCT A FINAL SITE INSPECTION. THE FINAL SITE INSPECTION SHOULD BE SCHEDULED WHILE THE CONTRACTOR IS PRESENT TO ENSURE THAT FINAL SITE STABILIZATION HAS BEEN ACHIEVED.

ITEM 516 - 3" DEEP JOINT SEALER, AS PER PLAN:

A 3" DEEP X 1" WIDE STRIP SHALL BE SAWCUT OUT OF ALL APPROACH SLAB CONCRETE BUTTING AGAINST THE CONCRETE BACKWALL AFTER THE APPROACH SLABS HAVE BEEN CONSTRUCTED. JOINT SEALER AS PER C&MS SECTION 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

ITEM 516 - 1/8" PREFORMED BEARING PAD:

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 10 INCHES BY 10 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE OWNER WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE OWNER 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 THE OWNER.

ITEM 516 - 2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

ALL PREFORMED EXPANSION JOINT FILLER SHALL BE PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE C&MS 705.03). RECESS ALL EXPOSED JOINT FILLER 1/2" AT ALL JOINTS. SEAL ALL EXPOSED JOINTS WITH DECK-O-SEAL GUN GRADE-JOINT SEALANT OR AN APPROVED EQUAL. THE COLOR SHALL BE STONE GRAY. APPROVED MANUFACTURER'S APPLICATION METHODS SHALL BE FOLLOWED DURING SURFACE PREPARATION AND APPLICATION FOR MAXIMUM EFFECTIVENESS.

DECK-O-SEAL
P.O. BOX 397
HAMPSHIRE, IL 60140
PHONE: 800-542-7665

BEAM SEAT ELEVATIONS:

THE UNION COUNTY ENGINEER'S OFFICE SHALL BE NOTIFIED DURING BEAM REMOVAL TO ALLOW THE ENGINEER TO SURVEY THE EXISTING BEAM SEAT ELEVATIONS. ANY DEVIANCIES BETWEEN THE EXISTING BEAM SEAT ELEVATIONS AND THE PROPOSED BEAM SEAT ELEVATIONS WILL BE RECORDED BY THE ENGINEER. THE ENGINEER WILL DIRECT THE CONTRACTOR AS TO WHETHER SHIM ARE NEEDED. NO PARTIAL REMOVAL/LOWERING OF THE EXISTING BEAM SEATS ARE PLANNED. ANY DEVIANCIES WILL BE MADE UP WITH SHIMS AND/OR ADJUSTMENTS TO THE DECK THICKNESS AT THE BEARING LOCATION.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL OF THE EXISTING STRUCTURE AND THE WEIGHT OF APPLIED HAMMERS SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL REMOVAL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL AND STRUCTURE TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90 POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

SUBMIT CONSTRUCTION REMOVAL PLANS/DEMOLITION PLANS ACCORDING TO C&MS 501.05 PRIOR TO ANY STRUCTURE REMOVAL.

DESIGN AGENCY
UNION COUNTY ENGINEER

DATE
6/24/2020
REVISED
JE
STRUCTURE FILE NUMBER
8031909

DRAWN
MJR
REVISOR
TM
DESIGNED
MJR
CHECKED
JAS

STRUCTURE GENERAL NOTES
BRIDGE NO. UNI-CR78A-0010
OVER BIG DARBY CREEK

UNI-CR78A-0.01
PID No. N/A

2 / 23

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STRUCTURE ESTIMATED QUANTITIES					UNI-78-0010 OVER BIG DARBY CREEK				REPAIRS	REPAIRS
					SUPER.	ABUT.	PIERS	GENERAL	ABUTMENTS	PIERS
ITEM	EXT.	TOTAL	UNIT	DESCRIPTION						
202	11201	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN						
202	23500	610	SQ. YD.	WEARING COURSE REMOVED	516			94		
202	22900	99	SQ. YD.	APPROACH SLAB REMOVAL				99		
503	21300	LUMP	LUMP	UNCLASSIFIED EXCAVATION						
509	10000	17643	LB	EPOXY COATED REINFORCING STEEL	16471	1172				
509	20001	400	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN					400	
510	10000	194	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		184			10	
519	11101	100	SQ. FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN				25	75	
511	21520	102	CU. YD.	CLASS QC2 CONCRETE, SUPERSTRUCTURE	102					
511	45710	8	CU. YD.	CLASS QC1 CONCRETE, ABUTMENT		8		31		
512	10100	95	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	31		64			
512	33010	4	SQ. YD.	TYPE 2 WATERPROOFING	4					
515	12050	21	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21X48 (55'-2")	21					
516	13600	36	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		36				
516	13901	84	SQ. FT.	2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	84					
516	31011	56	FEET	3" DEEP JOINT SEALER, AS PER PLAN				56		
516	41100	42	EACH	1/8" PREFORMED BEARING PAD	42					
516	43200	84	EACH	ELASTOMERIC BEARING PAD WITH INTERNAL LAMINATES ONLY (NEOPRENE) (10" X 10" X 2.4238" THICK)	84					
517	70000	339.83	FEET	RAILING (TWIN STEEL TUBE)	339.83					
518	22300	407	FEET	SPECIAL - STEEL DRIP STRIP	407					
518	21200	14	CU. YD.	POROUS BACKFILL WITH GEOTEXTILE FABRIC				14		
518	40000	80	FEET	6" PERFORATED CORRUGATED PLASTIC PIPE (P.C.P.P.)				80		
518	40010	40	FEET	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS (N.P.C.P.P.)				40		
526	10001	47	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN (FORWARD)				47		
526	15001	67	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN (REAR)				67		

NOTE: REFER TO CONCRETE PATCHING PLANS FOR ADDITIONAL REPAIR DETAILS AND NOTES [SHTS 1A-6A].

DESIGN AGENCY
UNION COUNTY ENGINEER

DATE
6/24/2020
REVIEWED
JAS
STRUCTURE FILE NUMBER
8031909

DRAWN
MJR
REVIS
TM
DESIGNED
MJR
CHECKED
JE

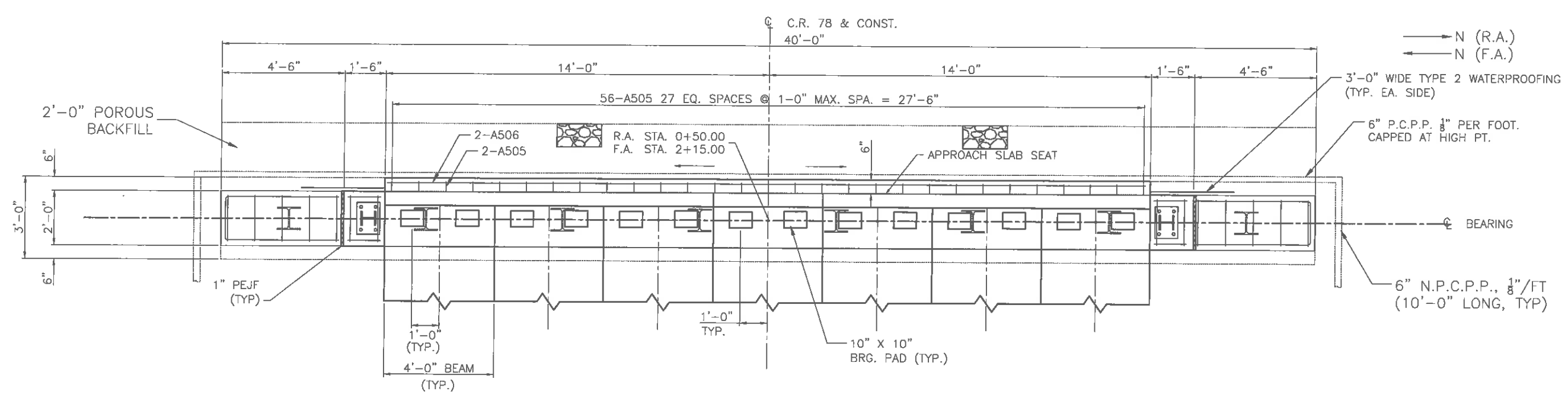
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BRIDGE NO. UNI-CR78A-0010
OVER BIG DARBY CREEK

UNI-CR78A-0.01
PID No. N/A

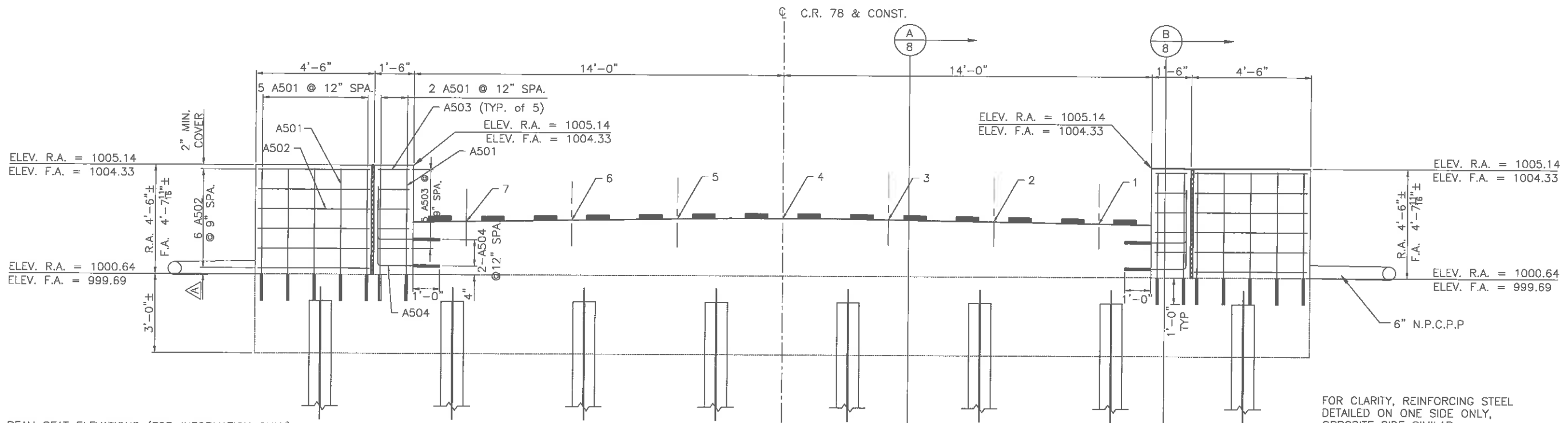
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PLAN VIEW



ELEVATION VIEW

BEAM SEAT ELEVATIONS (FOR INFORMATION ONLY):
SEE GENERAL NOTES FOR ADDITIONAL INFO.

BEAM LINE	REAR ABUTMENT	FORWARD ABUTMENT
1	1002.44	1001.63
2	1002.50	1001.69
3	1002.56	1002.75
4	1002.59	1002.70
5	1002.56	1002.75
6	1002.50	1001.69
7	1002.44	1001.63

ALTER FIRST A502 BAR (FIRST BAR ABOVE FOOTING) AS NEEDED TO PERMIT 5 EQUAL 9" SPACES LEAVING 2" OF CLEARANCE OF THE LAST BAR FROM THE TOP OF WINGWALL.

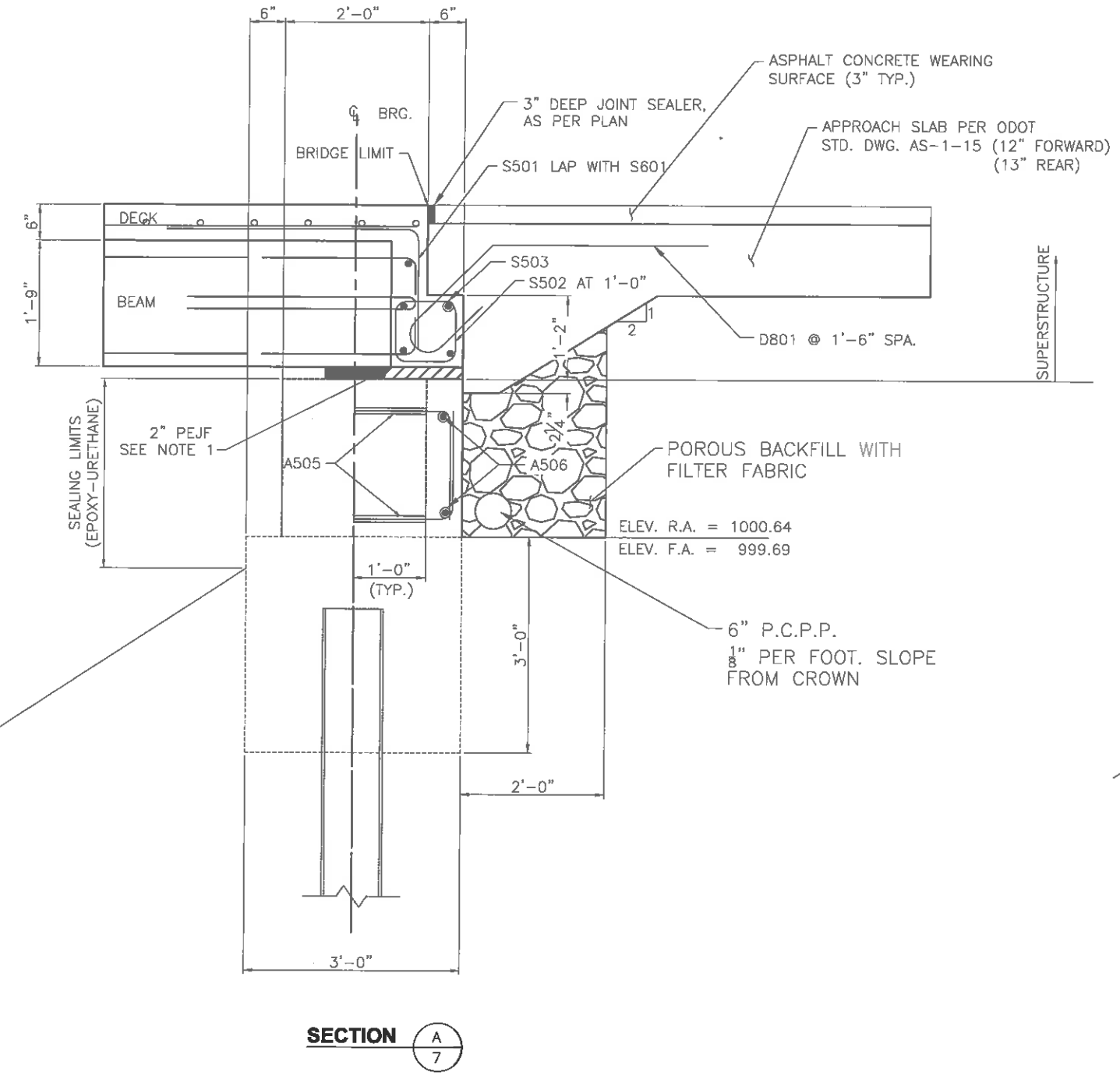
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND)
ELEVATIONS AND DIMENSIONS SHOWN ABOUT ϕ OF BEARING

NOTES
1. SEE CONCRETE PATCHING PLANS FOR ADDITIONAL REPAIRS

LEGEND
P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE

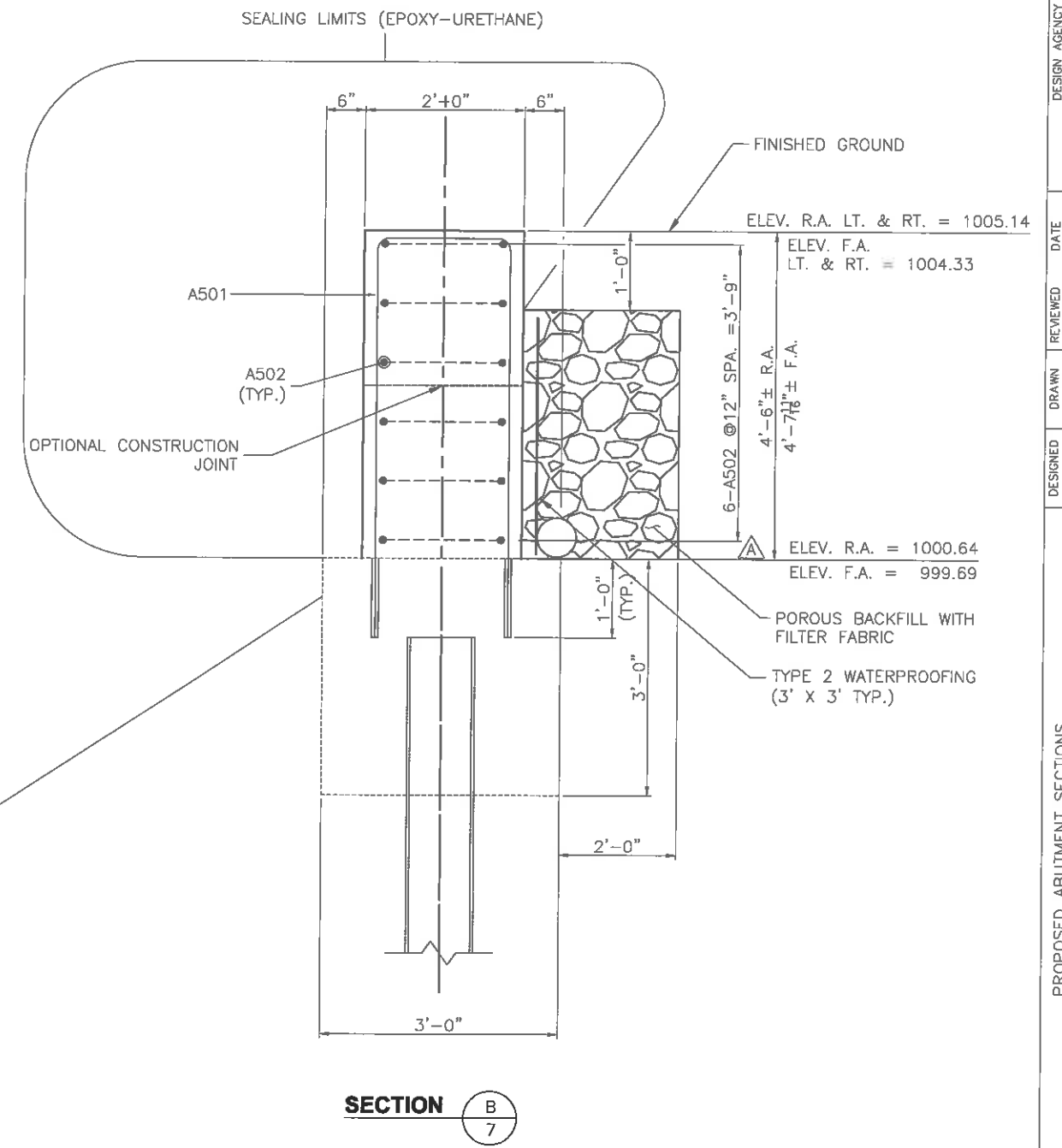
DESIGN AGENCY: UNION COUNTY ENGINEER
 DATE: 6/24/2020
 REVIEWED: JAS
 DRAWN: MJR
 CHECKED: JE
 STRUCTURE FILE NUMBER: 8031909
 TM
 PROPOSED ABUTMENT DETAILS
 BRIDGE NO. UNI-CR78A-0010
 OVER BIG DARBY CREEK
 UNI-CR78A-0.01
 PID No. N/A
 7/23
 22/38

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SECTION A
7

NOTES:
1. ANY OPENING BETWEEN THE BOTTOM OF THE PRE-STRESSED BOX BEAM AND THE TOP OF THE 2" PEJF SHALL BE SEALED USING A WOODEN OR PLASTIC SHIM PRIOR TO POURING THE DIAPHRAGM/APPROACH SLAB SEAT.

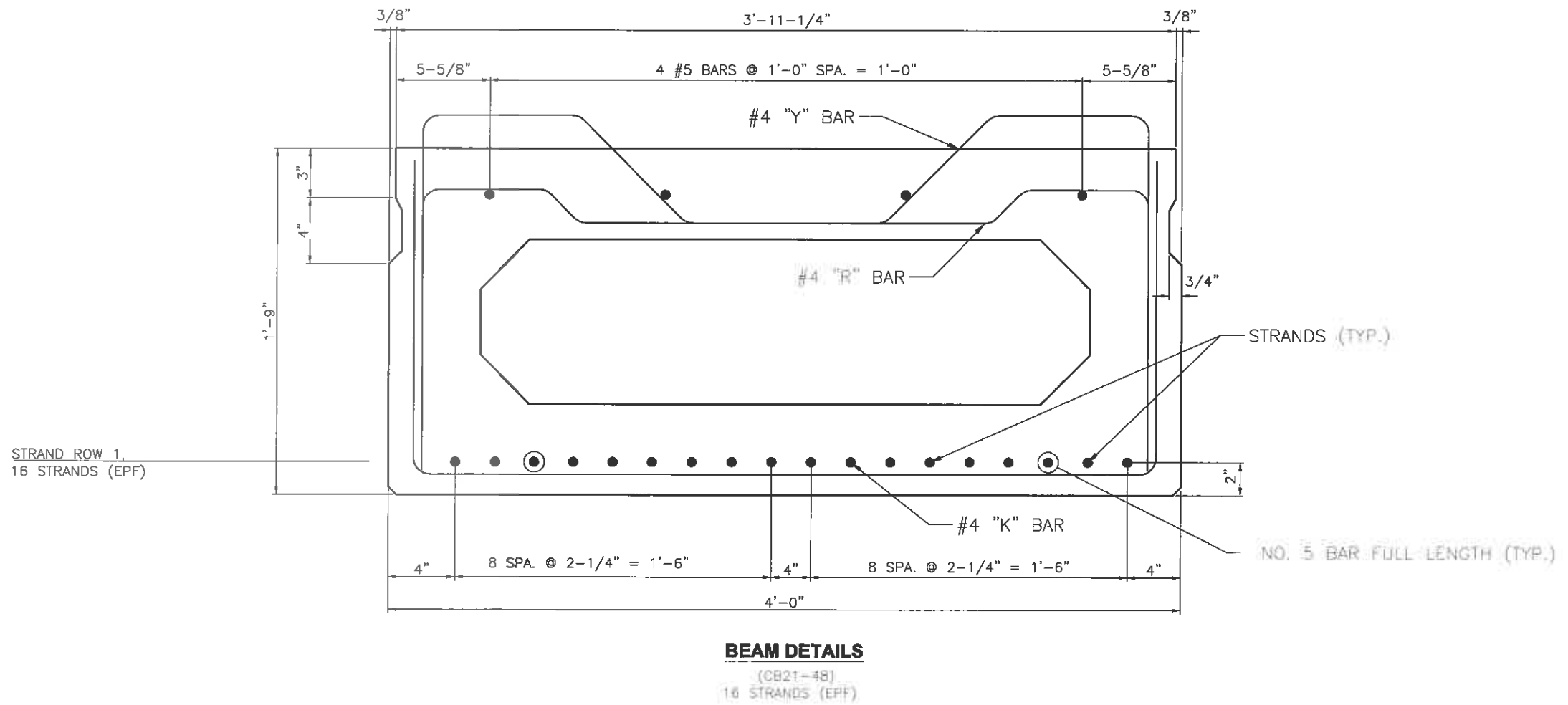
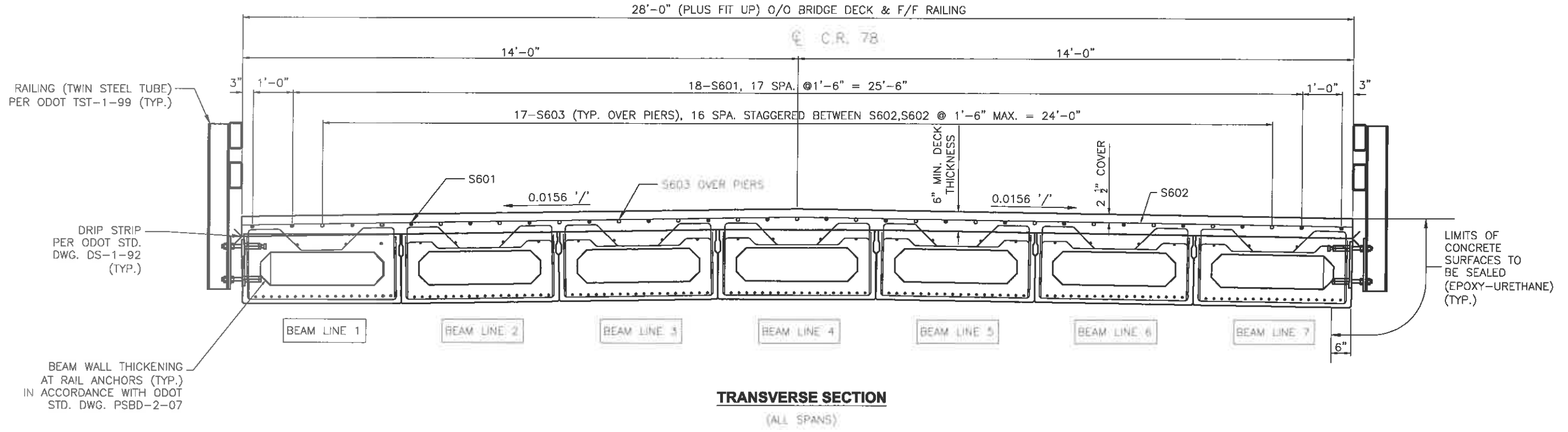


SECTION B
7

▲ ALTER FIRST A502 BAR (FIRST BAR ABOVE FOOTING) AS NEEDED TO PERMIT 5 EQUAL 9" SPACES LEAVING 2" OF CLEARANCE OF THE LAST BAR FROM THE TOP OF WINGWALL.
P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE

DESIGNED	MJR	CHECKED	JE
DRAWN	MJR	REVISED	TM
REVIEWED	JAS	DATE	6/24/2020
DESIGN AGENCY	UNION COUNTY ENGINEER		
PROPOSED ABUTMENT SECTIONS	BRIDGE NO. UNI-CR78A-0010		
	OVER BIG DARBY CREEK		
STRUCTURE FILE NUMBER	8031909		
UNI-CR78A-0.01	PID No. N/A		
8	23		
23	38		

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DESIGNED	M.J.R.	CHECKED	J.E.
DRAWN	M.J.R.	REVISED	T.M.
REVIEWED	J.A.S.	DATE	6/24/2020
REGION AGENCY	UNION COUNTY ENGINEER		
PROJECT NO.	UNI-CR78A-0010		
PID NO.	N/A		
BRIDGE NO.	UNI-CR78A-0010		
LOCATION	OVER BIG DARBY CREEK		
DATE	14/23		
SCALE	29/38		

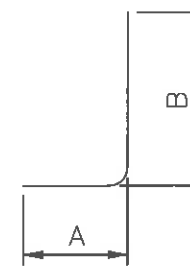
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ABUTMENTS

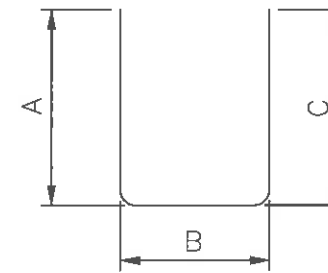
MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A						
	14		14		176.44		2	5'-4"	1'-8"	5'-4"			
RA502	12		12	9'-9"	122.03	2	4'-2"	1'-8"	4'-2"				
RA503	10		10	6'-2"	64.32	3	1'-2"	1'-8"					
RA504	4		4	3'-0"	12.52	1	2'-4"	1'-0"					
RA505	56		56	2'-7"	150.89	1	1'-6"	1'-3"					
RA506	2		2	27'-6"	57.37	STR							
FA501		14	14	12'-5"	181.31	2	5'-6"	1'-8"	5'-6"				
FA502		12	12	9'-9"	122.03	2	4'-2"	1'-8"	4'-2"				
FA503		10	10	6'-2"	64.32	3	1'-2"	1'-8"					
FA504		4	4	3'-0"	12.52	1	2'-4"	1'-0"					
FA505		56	56	2'-7"	150.89	1	1'-6"	1'-3"					
FA506		2	2	27'-6"	57.37	STR							
TOTAL					1171.98								

SUPERSTRUCTURE

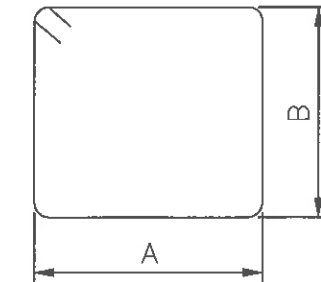
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
S401		27'-8"	147.85	STR								
S501	40	9'-7 1/2"	401.56	1	8'-0"	1'-9"						
S502	56	3'-11"	228.77	3	10"	10"						
S503	10	27'-6"	286.83	STR								
S504	56	3'-5"	199.56	17	2'-3"							
S601	60	40'-0"	3604.80	STR								
S603	40	30'-0"	1802.40	STR								
S602	223	27'-8"	9266.85	STR								
D801	38	4'-10"	532.00	18	2'-3"	2'-0"	2'-0"					
TOTAL			16470.60									



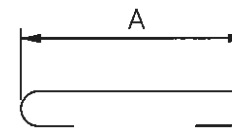
TYPE-1



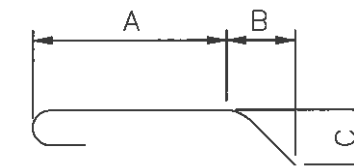
TYPE-2



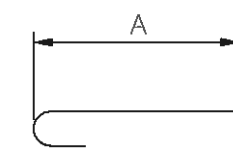
TYPE-3



TYPE-17



TYPE-18



TYPE-16

REINFORCING STEEL SCHEDULE
BRIDGE NO. UNI-CR78A-0010
OVER BIG DARBY CREEK

UNI-CR78A-0.01
PID No. N/A

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31
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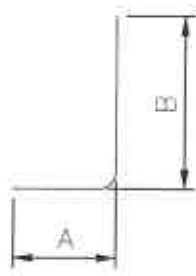
DESIGNED	MJR	CHECKED	JE
DRAWN	MJR	REVISED	TM
REVIEWED	JAS	DATE	6/24/2020
STRUCTURE FILE NUMBER	8031909		
DESIGN AGENCY	UNION COUNTY ENGINEER		

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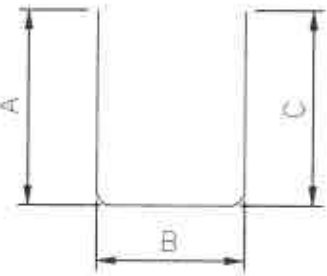
APPROACH SLABS (FOR INFORMATION ONLY)

MARK	NUMBER		LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
	REAR	FWD				A	B	C	D	E	R	INC.	
FAS501		20	14'-6"	302.47	STR								
FAS502		11	27'-6"	166.36	STR								
FAS503		22	27'-6"	332.72	STR								
FAS1001		34	15'-11"	2328.64	16	14'-6"							
RAS501	11		19'-9"	226.59	STR								
RAS502	1		15'-9"	16.43	STR								
RAS503	1		8'-1"	8.43	STR								
RAS504	1		7'-2"	7.47	STR								
RAS505	1		17'-9"	18.51	STR								
RAS506	1		17'-0"	17.73	STR								
RAS507	14		10'-0"	146.02	STR								
RAS508	1		11'-4"	11.82	STR								
RAS509	1		3'-3"	3.39	STR								
RAS510	1		6'-4"	6.61	STR								
RAS511	1		10'-1"	10.52	STR								
RAS512	1		15'-4"	15.99	STR								
RAS513	1		27'-8"	28.86	STR								
RAS514	1		28'-0"	29.20	STR								
RAS515	1		28'-5"	29.73	STR								
RAS516	1		29'-0"	30.25	STR								
RAS517	1		28'-9"	31.03	STR								
RAS518	1		30'-0"	31.29	STR								
RAS519	1		31'-9"	33.12	STR								
RAS520	1		33'-0"	34.42	STR								
RAS521	3		27'-6"	86.05	STR								
RAS522	1		28'-5"	29.73	STR								
RAS523	1		28'-8"	29.90	STR								
RAS524	1		28'-11"	30.16	STR								
RAS525	1		29'-5"	30.77	STR								
RAS526	1		28'-11"	31.20	STR								
RAS527	1		30'-4"	31.64	STR								
RAS528	1		30'-10"	32.16	STR								
RAS529	1		31'-4"	32.68	STR								
RAS530	1		31'-11"	33.29	STR								
RAS531	1		32'-7"	33.98	STR								
RAS532	1		33'-3"	34.68	STR								
RAS533	1		34'-0"	35.46	STR								
RAS534	1		34'-9"	36.24	STR								
RAS535	1		35'-7"	37.11	STR								
RAS536	1		34'-6"	35.98	STR								
RAS537	1		36'-3"	37.81	STR								
RAS538	1		31'-1"	32.42	STR								

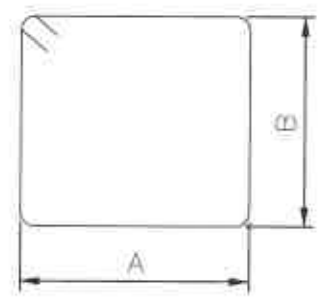
RAS539	1		25'-3"	26.34	STR								
RAS540	1		19'-4"	20.16	STR								
RAS541	1		27'-6"	28.68	STR								
RAS542	2		18'-7"	36.76	STR								
RAS543	1		18'-2"	18.95	STR								
RAS544	2		19'-5"	40.68	STR								
RAS545	1		16'-3"	16.95	STR								
RAS546	1		27'-9"	28.94	STR								
RAS547	1		27'-10"	29.03	STR								
RAS548	1		26'-0"	29.20	STR								
RAS549	1		28'-2"	29.36	STR								
RAS550	1		36'-0"	37.55	STR								
RAS551	1		33'-0"	34.42	STR								
RAS552	1		30'-1"	31.36	STR								
RAS553	1		27'-2"	28.34	STR								
RAS554	1		24'-3"	25.29	STR								
RAS555	1		21'-4"	22.25	STR								
RAS556	1		18'-5"	19.30	STR								
RAS1001	21		21'-0"	459.96	16	19'-7"							
RAS1002	1		1'-8"	7.17	STR								
RAS1003	1		5'-5"	23.31	STR								
RAS1004	1		15'-9"	67.77	STR								
RAS1005	1		16'-3"	69.92	STR								
RAS1006	1		1'-7"	6.81	STR								
RAS1007	1		3'-1"	13.27	STR								
RAS1008	1		4'-9"	20.44	STR								
RAS1009	1		6'-6"	27.97	STR								
RAS1010	1		6'-6"	36.58	STR								
RAS1011	1		10'-10"	46.61	STR								
RAS1012	1		13'-8"	58.60	STR								
RAS1013	1		18'-2"	78.17	STR								
RAS1014	1		6'-6"	36.58	STR								
RAS1015	1		9'-8"	41.59	STR								
RAS1016	1		16'-8"	80.32	STR								
RAS1017	1		19'-0"	81.76	STR								
RAS1018	1		16'-8"	71.71	STR								
RAS1019	1		17'-1"	73.51	STR								
RAS1020	1		17'-8"	75.30	STR								
RAS1021	1		17'-11"	77.10	STR								
RAS1022	1		18'-4"	78.89	STR								
RAS1023	1		18'-9"	80.68	STR								
RAS1024	1		19'-2"	82.48	STR								
RAS1025	1		10'-2"	43.75	STR								
RAS1026	1		7'-6"	32.27	STR								
RAS1027	1		10'-10"	46.61	STR								
RAS1028	1		19'-6"	83.91	STR								
				TOTAL	6927.89								



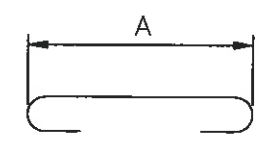
TYPE-1



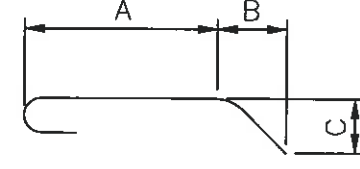
TYPE-2



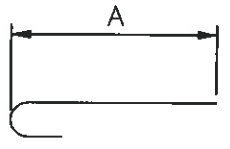
TYPE-3



TYPE-17

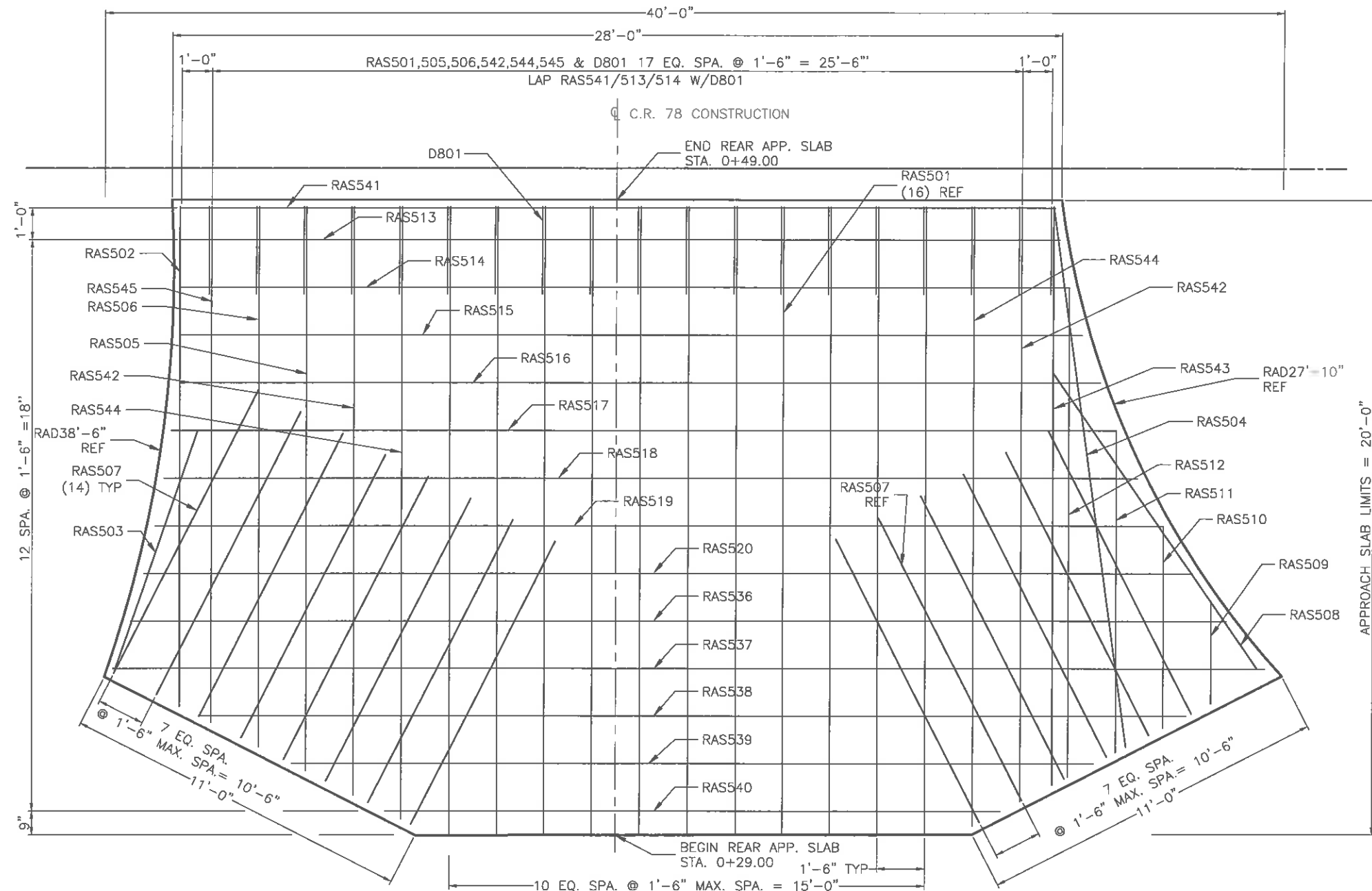


TYPE-18



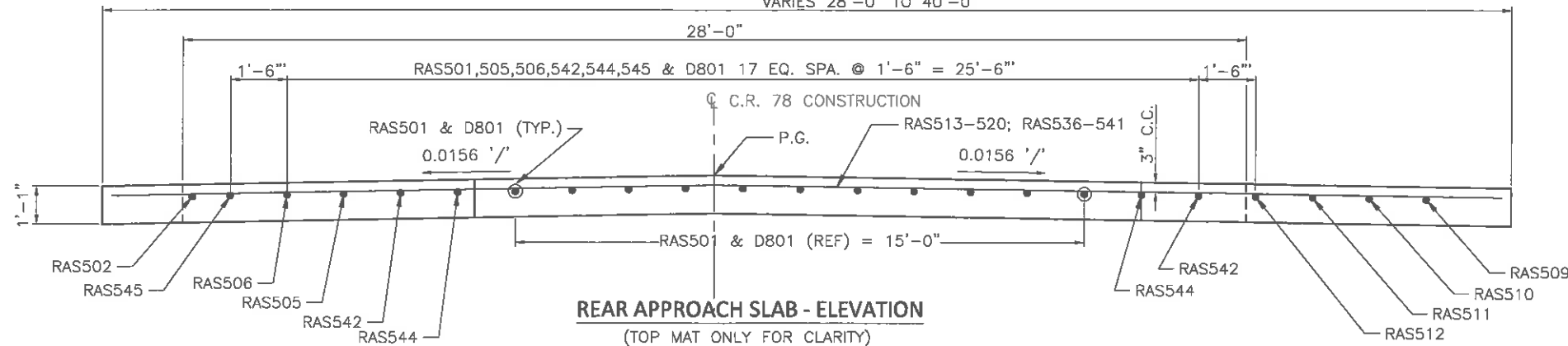
TYPE-16

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REAR APPROACH SLAB - PLAN

(TOP MAT)
VARIES 28'-0" TO 40'-0"



REAR APPROACH SLAB - ELEVATION

(TOP MAT ONLY FOR CLARITY)

NOTES:

1. BOTTOM MAT NOT SHOWN FOR CLARITY.
2. RAS503,504,507,508,543 BARS NOT SHOWN IN ELEVATION VIEW FOR CLARITY. PLACE THESE BARS BELOW TOP TRANSVERSE BARS SAME AS OTHER TOP LONGITUDINAL BARS.
3. REFER TO ODOT STD. DWG. AS-1-15 FOR ADDITIONAL DETAILS NOT SHOWN.

P.G. = PROFILE GRADE APPROACH SLAB

C.C. = CLEAR COVER

DESIGN AGENCY
UNION COUNTY ENGINEER

REVIEWED DATE
JAS 6/24/2020
STRUCTURE FILE NUMBER
8031909

DRAWN M.J.R.
CHECKED J.E.
REVISED TM

REAR APPROACH SLAB - PLAN
BRIDGE NO.: UNI-CR-78-0010
OVER BIG DARBY CREEK

UNI-CR78A-0.01
PID No. N/A

18/23

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