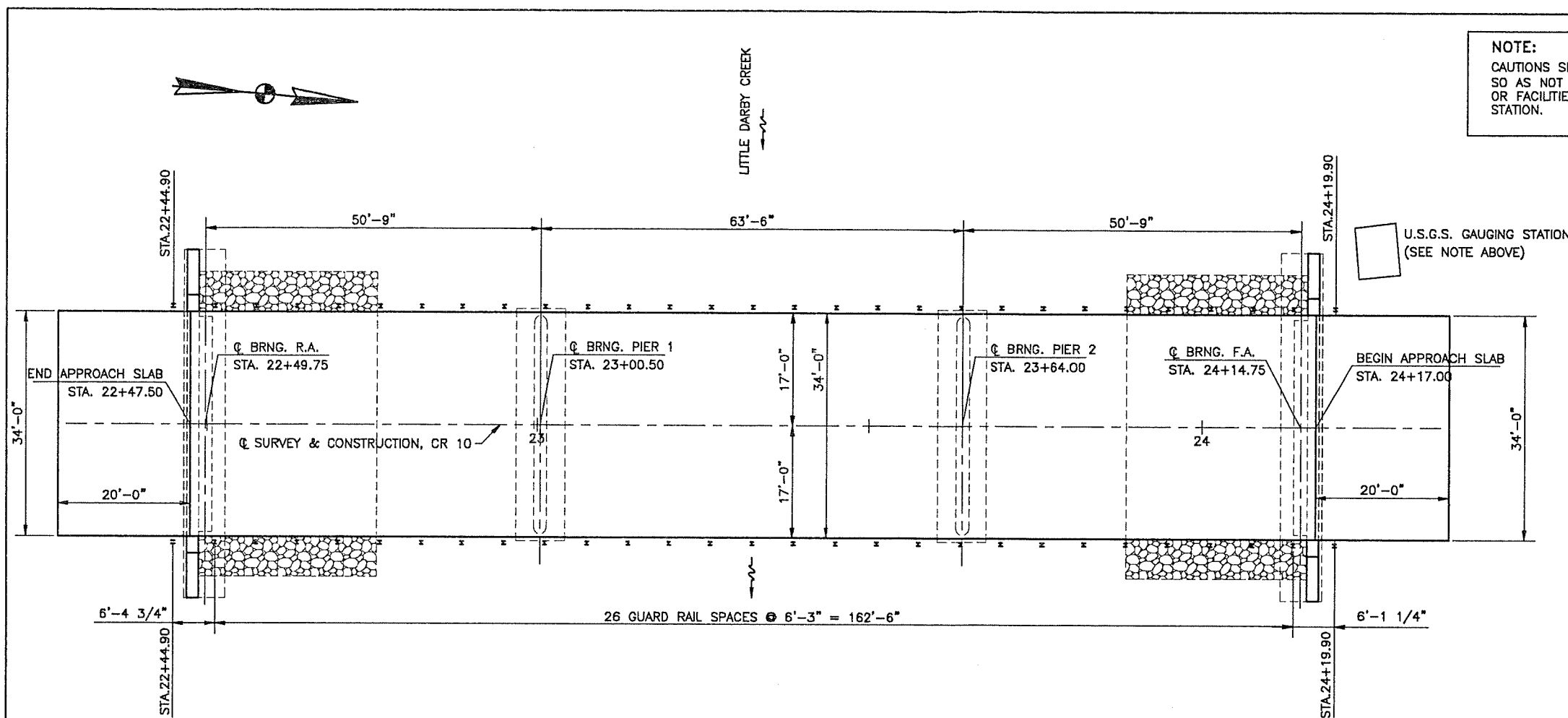
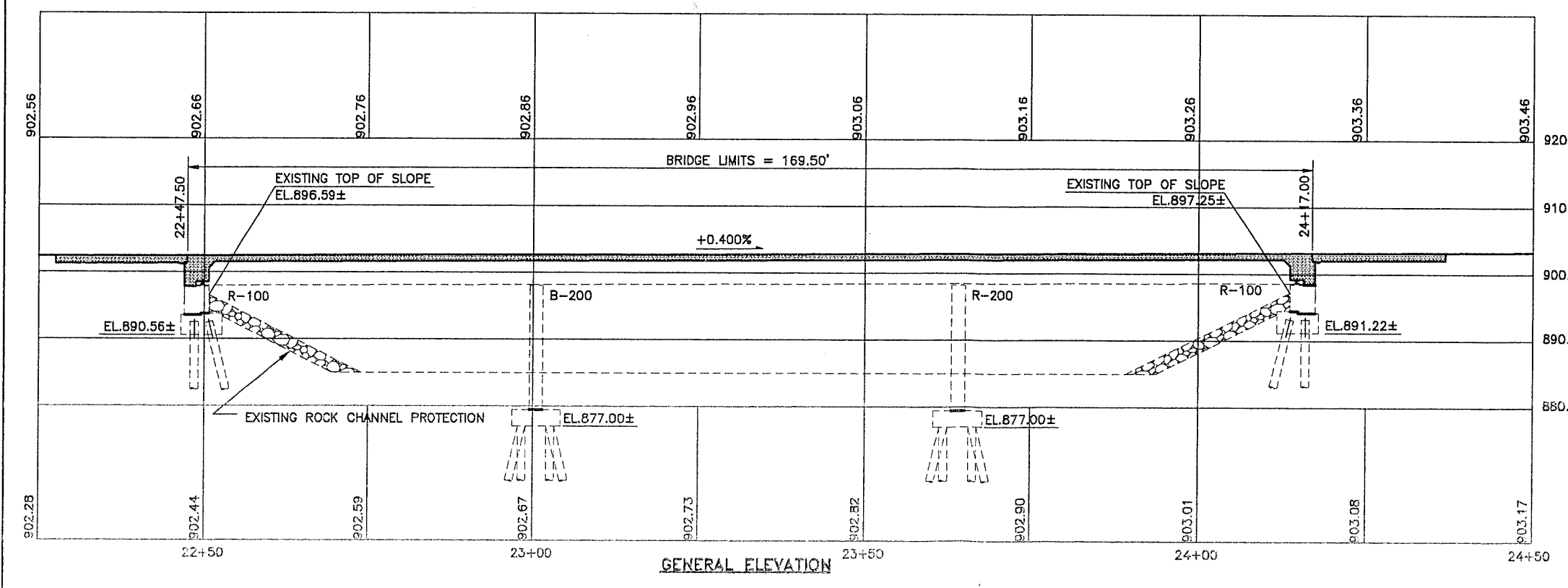


NOTE:
CAUTIONS SHALL BE EXERCISED BY THE CONTRACTOR SO AS NOT TO DISTURB OR DAMAGE ANY EQUIPMENT OR FACILITIES BELONGING TO THE U.S.G.S. GAUGING STATION.



GENERAL PLAN



GENERAL ELEVATION

REFERENCE POINTS			
E/P C.R. 10 22+00	E/P C.R. 10 25+00	E/P IP SET 20.55'	E/P IP SET 15.68'
HUB W/ TACK SET 3.71'	HUB W/ TACK SET 29.60'	HUB W/ TACK SET 18.91'	HUB W/ TACK SET 8.32'
DESIGNED YSJ	CHECKED RT	DESIGNED YSJ	CHECKED RT
CONTROL POINT NO. 1 STA. 21+94.23, 22.81' RT.		CONTROL POINT NO. 1 STA. 24+78.37, 21.11' RT.	
COORDINATES & ELEVATIONS			
LOCATION	NORTHING	EASTING	ELEVATION
CONTROL PNT. #1	5000.0000	5000.0000	900.67
CONTROL PNT. #2	5284.1544	5000.0000	902.58
STA. 22+00.00	5005.9110	4977.2278	N/A
STA. 25+00.00	5305.9057	4979.0190	N/A
EXISTING STRUCTURE			
TYPE: 3-SPAN CONTINUOUS STEEL BEAM ON WALL-TYPE PIERS AND STUB ABUTMENTS			
ROADWAY: 34'-0" F/F GUARDRAILS			
SPAN: 50'-9" / 63'-6" / 50'-9" C/C BEARINGS			
ALIGNMENT: TANGENT			
SKEW: NONE			
LOADING: HS-20 AND THE ALTERNATE MILITARY LOADING			
APPROACH SLABS: AS-1-67, 25'-0" LONG			
WEARING SURFACE: 1" MONOLITHIC CONCRETE			
PROPOSED STRUCTURE			
TYPE: 3-SPAN CONTINUOUS STEEL BEAM ON EXISTING WALL-TYPE PIERS AND MODIFIED SEMI-INTEGRAL ABUTMENTS			
ROADWAY: 34'-0" F/F GUARDRAILS			
SPAN: 50'-9" ± / 63'-6" ± / 50'-9" ± C/C BEARINGS			
ALIGNMENT: TANGENT			
SKEW: NONE			
LOADING: HS-25 AND THE ALTERNATE MILITARY LOADING			
CROWN: 0.0156			
APPROACH SLABS: AS-1-61, 20'-0" LONG			
WEARING SURFACE: 1" MONOLITHIC CONCRETE			

DESIGN AGENCY
COLUMBUS ENGINEERING
CONSULTANTS, INC.
240 MICHIGAN AVE., COLUMBUS, OH 43215
TEL: (614) 228-3500

DATE
04/02

REVIEWED
JJ

STRUCTURE FILE NO.

MADISON COUNTY
STA. 22+47.50
TO STA. 24+17.00

GENERAL PLAN AND ELEVATION
BRIDGE NO. MAD-CR10-0043
OVER LITTLE DARBY CREEK

MAD-CR10-0.43

1/13

3/15

GENERAL NOTES

PROPOSED WORK:

1. REMOVE EXISTING CONCRETE BRIDGE DECK.
2. REMOVE EXISTING BACKWALLS AND PORTIONS OF WINGWALLS TO THE BRIDGE SEATS.
3. REMOVE THE EXISTING EXPANSION JOINTS AND END CROSSFRAMES.
4. INSTALL SHEAR CONNECTORS ON EXISTING STEEL BEAMS.
5. CONSTRUCT SEMI-INTEGRAL ABUTMENTS AND RE-BUILD THE REMOVED PORTIONS.
6. REFURBISH THE WINGWALLS, EXISTING ROCKER AND BOLSTER BEARINGS.
7. PROVIDE A NEW REINFORCED CONCRETE DECK.
8. SEAL CONCRETE SURFACES.
9. REPLACE EXISTING APPROACH SLABS.

(IT IS NOT INTENDED THAT THE ABOVE WORK SHOULD BE PERFORMED IN SEQUENTIAL ORDER AS LISTED).

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81 DATED 04-20-01
 DBR-2-73 DATED 10-20-00
 DS-1-92 DATED 12-15-94
 GSD-1-96 DATED 04-20-01
 SICD-1-96 DATED 04-20-01

AND TO SUPPLEMENTAL SPECIFICATIONS:

815 DATED 05-30-96
 842 DATED 10-12-99
 863 DATED 10-12-99
 864 DATED 07-11-00
 899 DATED 10-21-98
 905 DATED 04-01-98
 907 DATED 10-21-98
 910 DATED 04-21-97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 INCLUDING THE INTERIM SPECIFICATIONS THRU 2001 AND THE O.D.O.T BRIDGE DESIGN

MANUAL:

DESIGN LOADING:

HS25-44, CASE II AND THE ALTERNATE MILITARY LOADING.
 FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN STRESSES:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
 CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616 OR A617
 GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
 2-1/2" CONCRETE COVER
 SEALING OF CONCRETE SURFACES
 STEEL DRIP STRIP

MONOLITHIC WEARING SURFACE:

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:

THIS WORK SHALL CONSIST OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE

STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

PROTECTION OF STEEL SUPPORT SYSTEMS

BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2" OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL CUTS MADE OUTSIDE 2" OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS

CONCRETE SHALL BE REMOVED BY CUTTING. HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS MAY BE USED FOR AREAS NEAR STEEL SUPERSTRUCTURE. CARE SHALL BE TAKEN TO CONTAIN ALL CONCRETE TO BE REMOVED. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90-POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS

DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURE STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE ENGINEER.

EXTRANEIOUS MEMBERS

EXISTING EXTRANEIOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS

NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT

THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL, LABOR EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

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 CMS SECTIONS 102.05, 105.02 AND 513.02/863.07.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

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

INSTALL A 3 FOOT WIDE STRIP, 3/32 INCH THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 3 FOOT WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 1 1/4" X 3/32" (LENGTH X SHANK DIA.) #10 GALVANIZED BUTTON HEAD SPIKE THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED 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 SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST ONE FOOT IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, 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 INCH 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	D 751	0.094 +/- .01
BREAKING STRENGTH, GRAB WXF, LBS, MINIMUM	D 751	700 X 700
ADHESIVE 1" STRIP, 2" MINIMUM, LBS, MINIMUM	D 751	9
BURST STRENGTH (MULLEN) PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS T 212' F, 180 BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40' F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN FOR PAYMENT.

ITEM 516, REFURBISHING BEARING DEVICES, AS PER PLAN:

THE ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS. HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING AS REQUIRED BY SYSTEM OZEU, REPLACEMENT OF ANY DAMAGED SHEET LEAD (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. THE CONTRACTOR SHALL ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND /OR BEARING DEVICES ARE "FLOATING". AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, NEW BEARINGS OF THE SAME TYPE AS THE EXISTING MAY BE INSTALLED IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

DESIGN AGENCY: COLUMBUS ENGINEERING CONSULTANTS, INC. 840 MERRIAM AVENUE, COLUMBUS, OH 43218 TEL: (614) 222-5900
 DATE: 04/02
 REVIEWED: JU
 DRAWN: CEC
 DESIGNED: YSU
 CHECKED: RT
 STRUCTURE FILE NO.:
 GENERAL NOTES
 BRIDGE NO. MAD-CR10-0043
 OVER LITTLE DARBY CREEK
 MAD-CR10-0.43
 2/13
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GENERAL NOTES, CONT.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION ANY EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTION JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE ENGINEER SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH.

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1" OR LESS.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, THE JACKING OPERATION SHALL IMMEDIATELY CEASE AND APPROVED SUPPORTS SHALL BE INSTALLED. THE CONTRACTOR SHALL THEN ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. ANY BEAMS THAT SEPARATE FROM THE DECK SHALL BE EPOXY INJECTED FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH THE PROPOSAL NOTE "CONCRETE REPAIR BY EPOXY INJECTION". COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED BETWEEN ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUITABLE MEANS OF REPAIR, SUBJECT TO THE APPROVAL OF THE ENGINEER, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE JACKING OPERATION SHALL BE DIRECTED BY A PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR. FAILURE TO HAVE A PROFESSIONAL ENGINEER PRESENT SHALL BE CAUSE FOR CEASING JACKING OPERATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 864, SEALING OF CONCRETE SURFACES, (EPOXY-URETHANE):

THE COLOR OF THE URETHANE TOP COAT SHALL BE FEDERAL COLOR NO. 17778 (LIGHT NEUTRAL).

UTILITY LINES:

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

COMPUTED BY : YSJ DATE : 05/02
CHECKED BY : DATE :

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIER	SUPER	GEN	AS PER PLAN SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/13
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				2/13
516	13600	119	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	119				
516	13900	34	SQ. FT.	2" PREFORMED EXPANSION JOINT FILLER	34				
516	14021	86	FT.	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	86				2/13
516	45305	16	EACH	REFURBISH BEARING DEVICES, AS PER PLAN	8	8			2/13
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN		LUMP			2/13 3/13
517	72300	350	FT.	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND ANCHOR BOLTS) *			350		
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	LUMP				
SPECIAL	51822300	332	FT.	STEEL DRIP STRIP			332		
611	15000	151	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=13")			151		
842	33400	208	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE			208		
842	46000	14	CU. YD.	CLASS C CONCRETE, ABUTMENT	14				
863	20000	2160	EACH	WELDED STUD SHEAR CONNECTORS			2160		
864	10100	189	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	26		163		

DESIGN AGENCY
COLUMBUS ENGINEERING
CONSULTANTS, INC.
690 HERRING AVENUE, COLUMBUS, OH 43215
TEL: (614) 228-3800

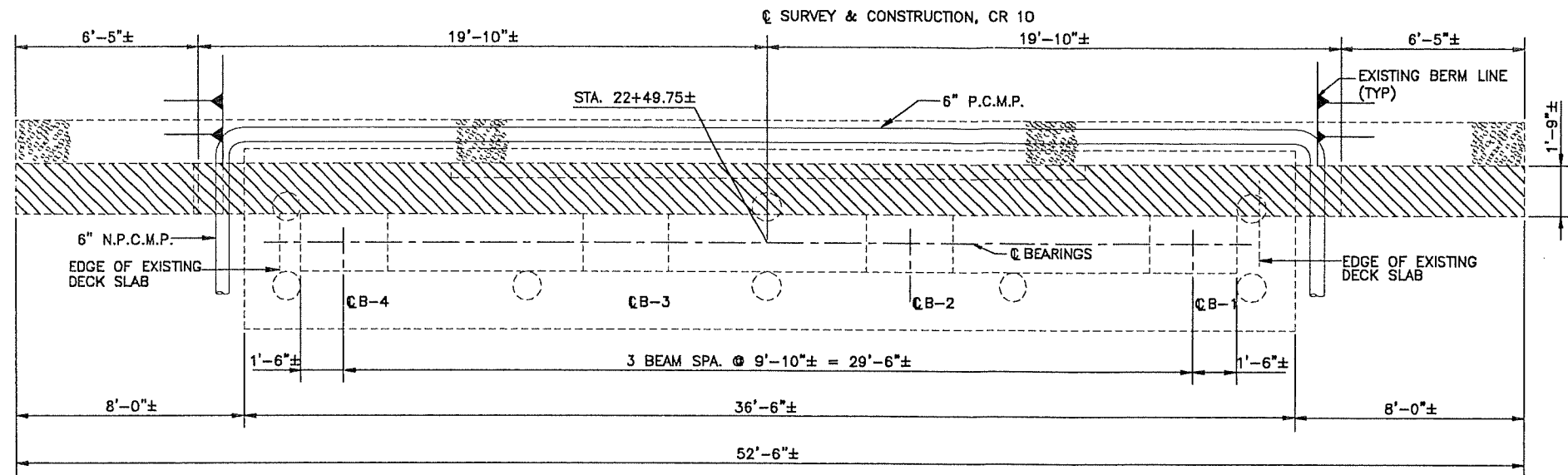
DATE 04/02
REVIEWED JU
DRAWN CEC
DESIGNED YSJ
CHECKED RT

GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. MAD-CR10-0043
OVER LITTLE DARBY CREEK

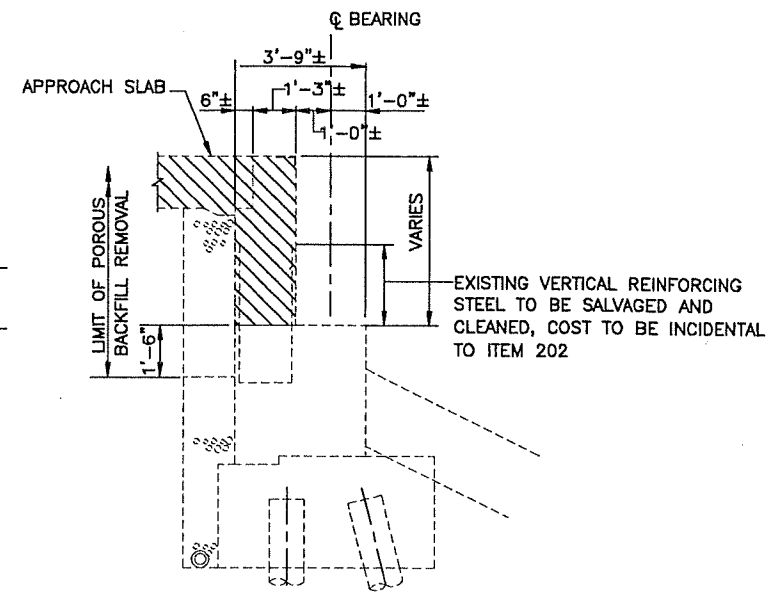
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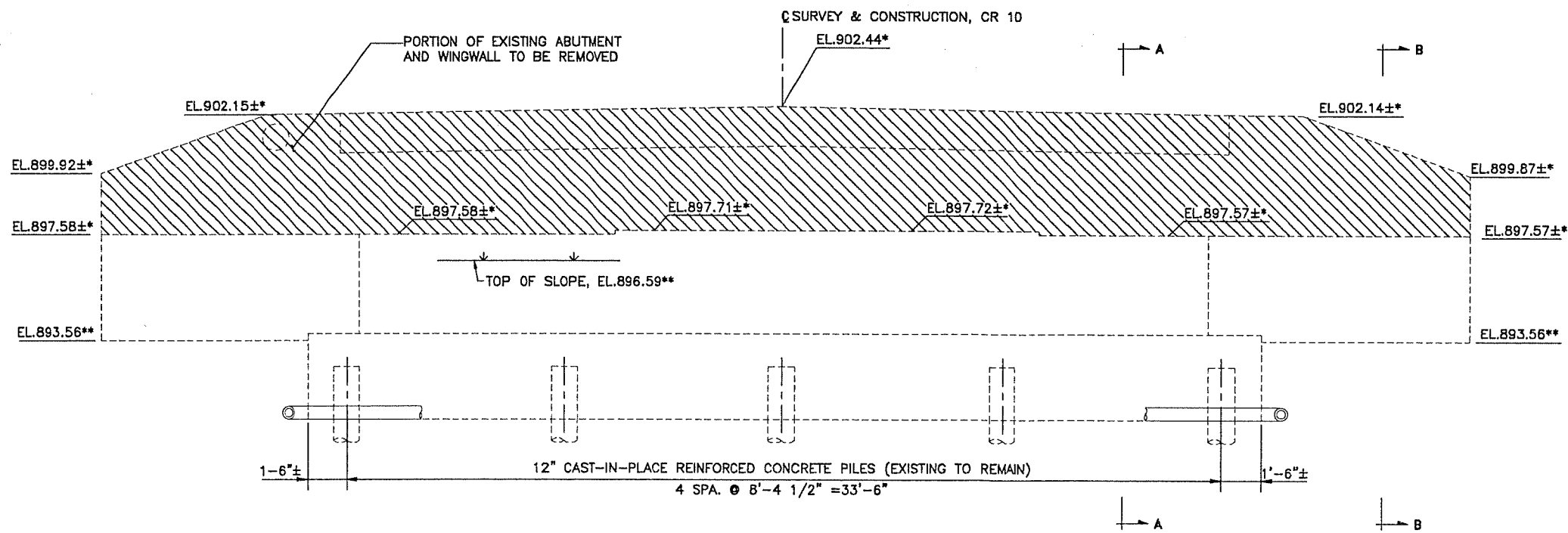


PLAN - EXISTING REAR ABUTMENT

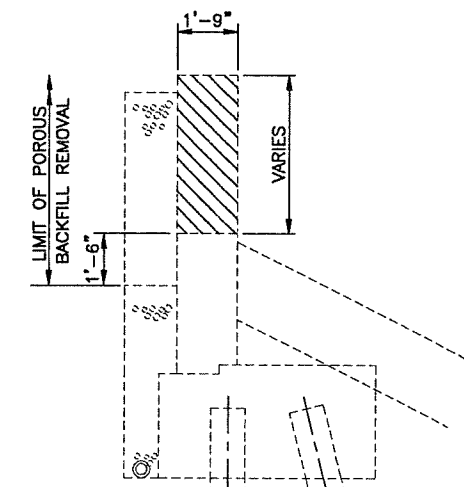


SECTION A-A

- * ELEVATIONS ARE BASED ON FIELD SURVEY
- ** ELEVATIONS ARE BASED ON EXISTING PLANS



ELEVATION - EXISTING REAR ABUTMENT



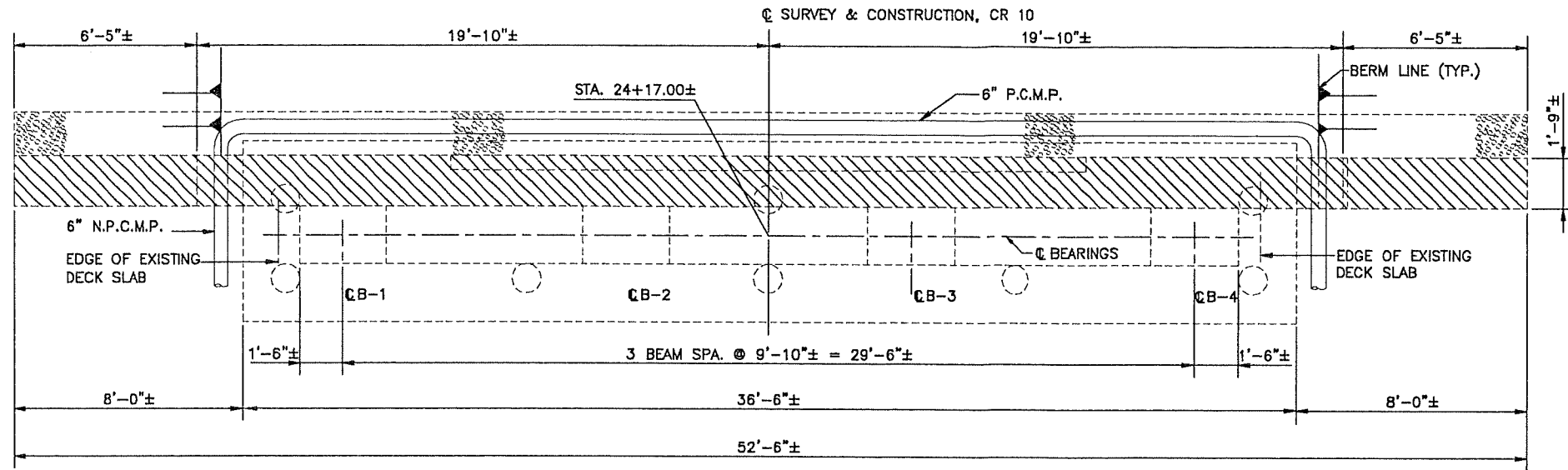
SECTION B-B

PROPOSED STRUCTURE REMOVAL

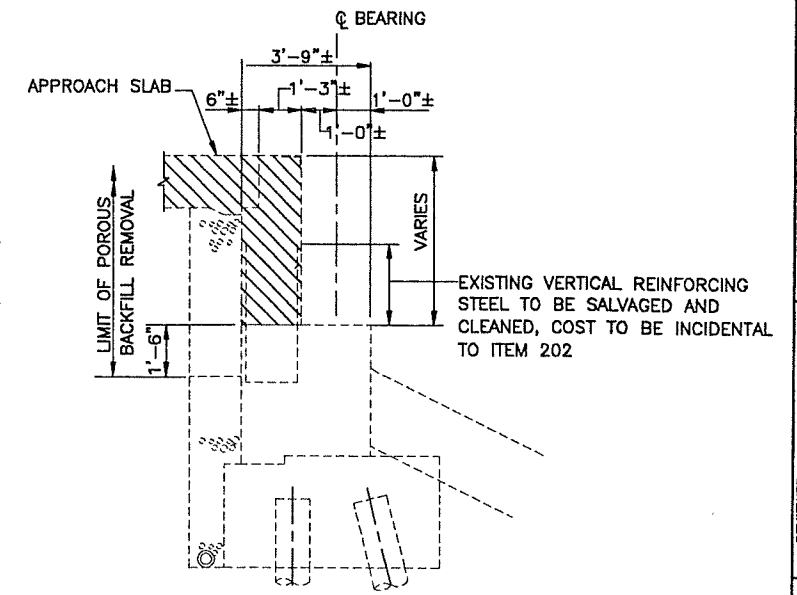
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DESIGN AGENCY COLUMBUS ENGINEERING CONSULTANTS, INC. 640 MICHIGAN AVENUE, COLUMBUS, OH 43215 TEL: (614) 228-3990	DATE 04/02	REVIEWED JJ	STRUCTURE FILE NO.
DRAWN CEC	DESIGNED YSJ	CHECKED LXL	REVIS
EXISTING REAR ABUTMENT REMOVAL DETAILS BRIDGE NO. MAD-CR10-0043 OVER LITTLE DARBY CREEK			
MAD-CR10-0.43			
4 / 13			
6 / 15			

FORWARD ABUTMENT

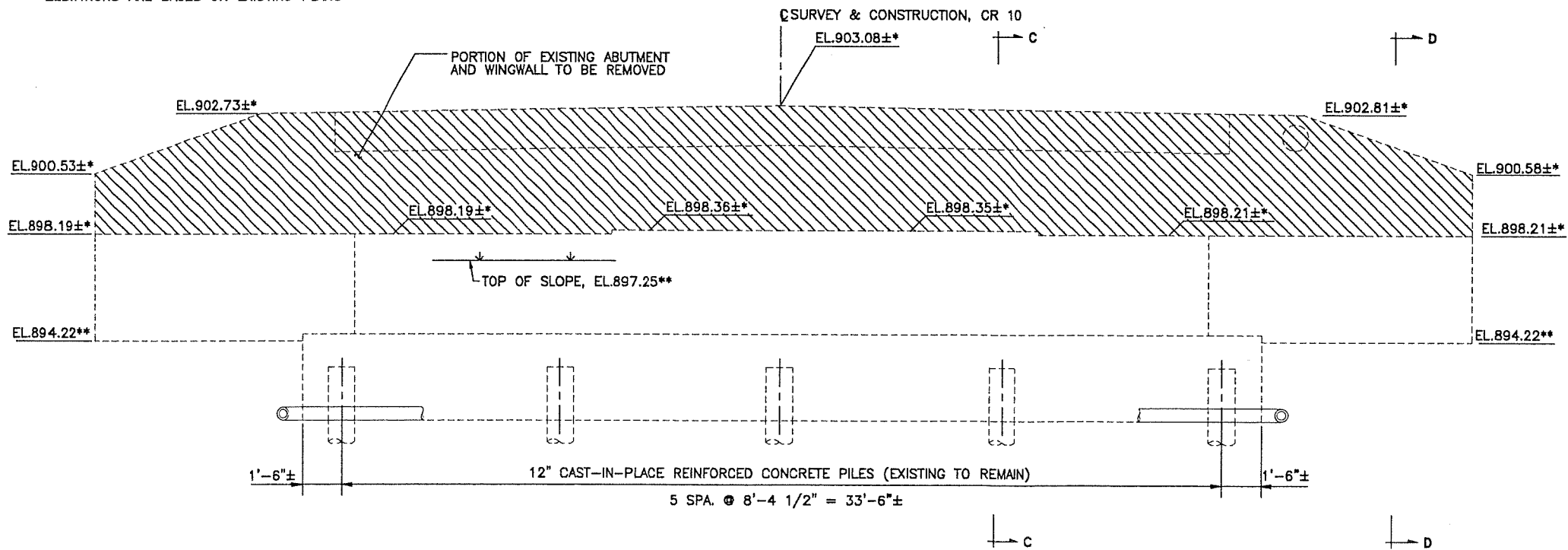


PLAN - EXISTING FORWARD ABUTMENT

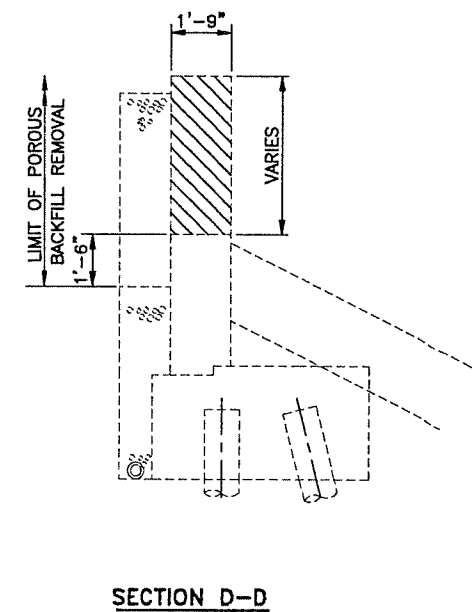


SECTION C-C

* ELEVATIONS ARE BASED ON FIELD SURVEY
 ** ELEVATIONS ARE BASED ON EXISTING PLANS



ELEVATION - EXISTING FORWARD ABUTMENT

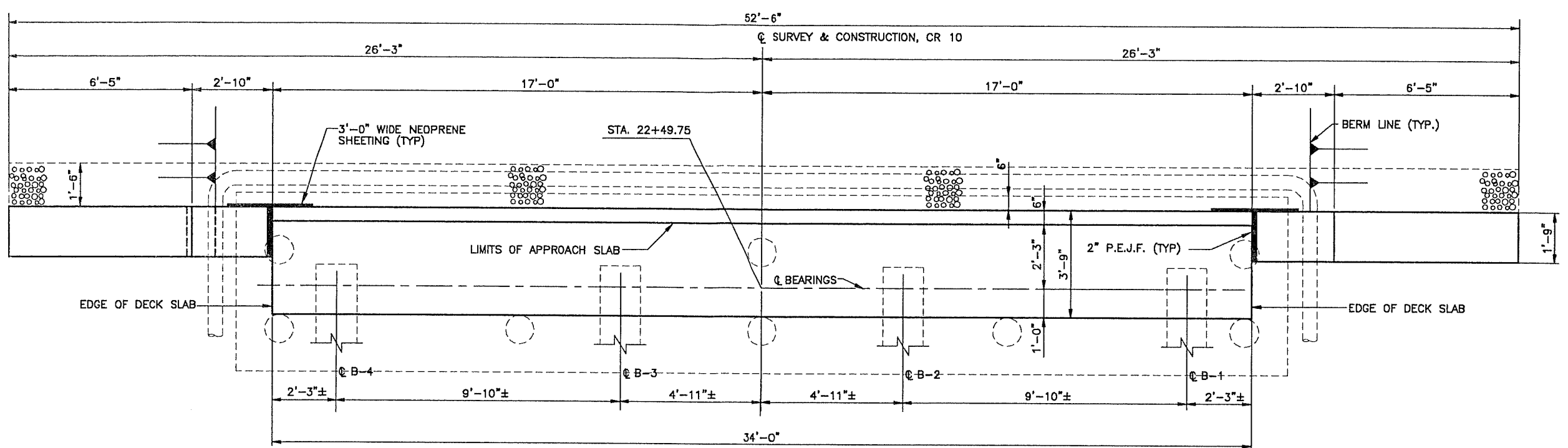


SECTION D-D

PROPOSED STRUCTURE REMOVAL

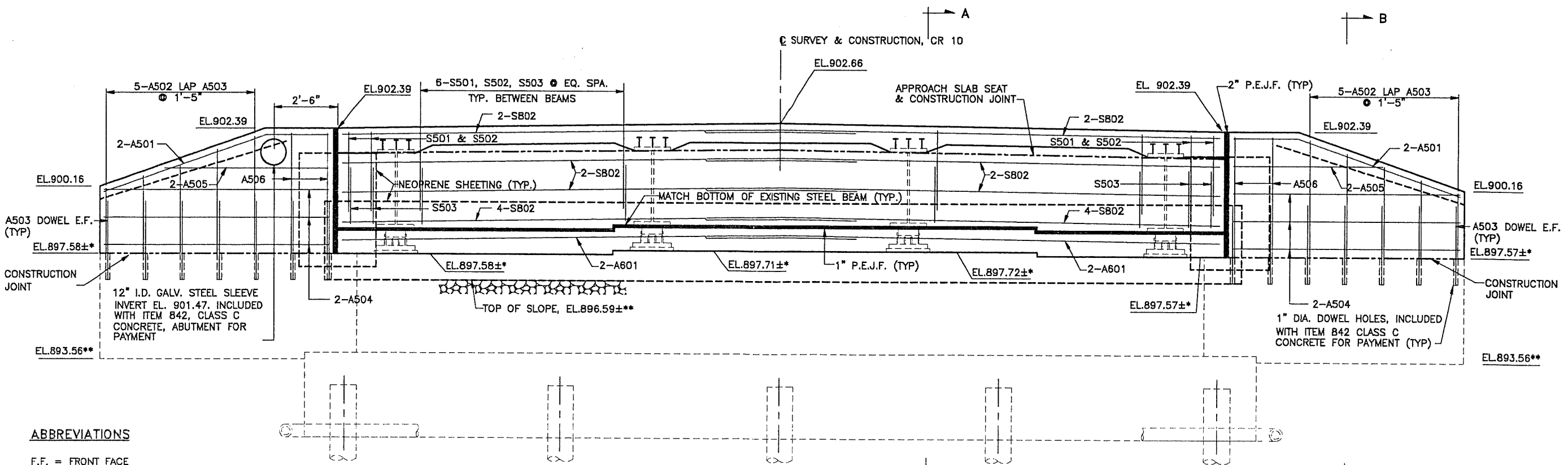
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DESIGN AGENCY COLUMBUS ENGINEERING CONSULTANTS, INC. 640 MADISON AVENUE, COLUMBUS, OH 43215 TEL: (614) 228-3900	
DATE 04/02	REVIEWED JJ
DESIGNED YSJ	DRAWN CEC
CHECKED LXL	REVISOR
STRUCTURE FILE NO.	
EXISTING FORWARD ABUTMENT REMOVAL DETAILS BRIDGE NO. MAD-CR10-0043 OVER LITTLE DARBY CREEK	
MAD-CR10-0.43	
5/13	
7/15	



* ELEVATIONS ARE BASED ON FIELD SURVEY
 ** ELEVATIONS ARE BASED ON EXISTING PLANS.

PLAN - REAR ABUTMENT



ABBREVIATIONS

- F.F. = FRONT FACE
- B.F. = BACK FACE
- E.F. = EACH FACE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- I.D. = INTERNAL DIAMETER

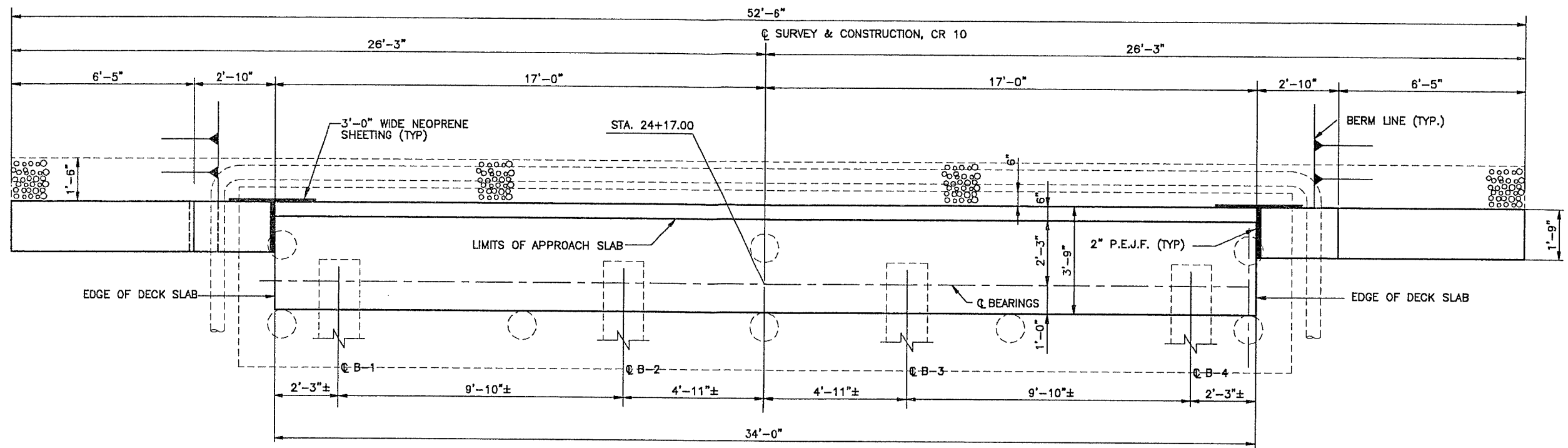
NOTES

1. FOR NOTES AND SECTIONS A-A & B-B SEE SHEET 8 OF 13.
2. MINIMUM BAR LAPS
 LAP NO.5 BARS 2'-11"
 LAP NO.6 BARS 3'-5"
 LAP NO.8 BARS 5'-9"

ELEVATION - REAR ABUTMENT

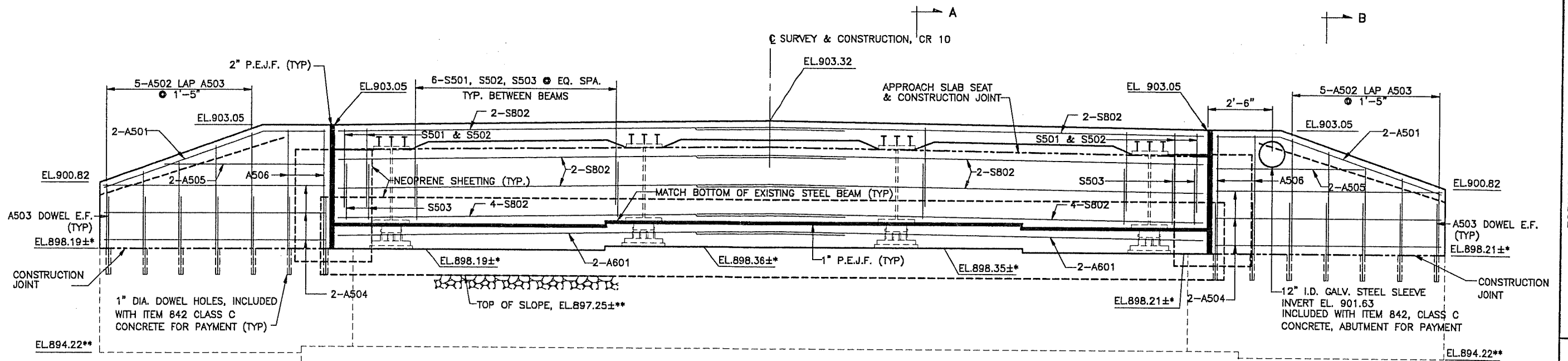
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DESIGN AGENCY COLUMBUS ENGINEERING CONSULTANTS, INC. 840 MICHIGAN AVENUE, COLUMBUS, OH 43215 TEL: (614) 222-3500	DATE 04/02	REVIEWED JJ	DRAWN CEC	DESIGNED YSJ	CHECKED LXL	STRUCTURE FILE NO.
REAR ABUTMENT DETAILS BRIDGE NO. MAD-CR10-0043 OVER LITTLE DARBY CREEK						
MAD-CR10-0.43						
6 / 13						
8 / 15						



* ELEVATIONS ARE BASED ON FIELD SURVEY
** ELEVATIONS ARE BASED ON EXISTING PLANS.

PLAN - FORWARD ABUTMENT



ABBREVIATIONS

- F.F. = FRONT FACE
- B.F. = BACK FACE
- E.F. = EACH FACE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- I.D. = INTERNAL DIAMETER

NOTES

- FOR NOTES AND SECTIONS A-A & B-B SEE SHEET 8 OF 13.
- MINIMUM BAR LAPS
LAP NO.5 BARS 2'-11"
LAP NO.6 BARS 3'-5"
LAP NO.8 BARS 5'-9"

ELEVATION - FORWARD ABUTMENT

DESIGN AGENCY
COLUMBUS ENGINEERING
CONSULTANTS, INC.
610 MICHIGAN AVENUE, COLUMBUS, OH 43215
TEL: (614) 226-3500

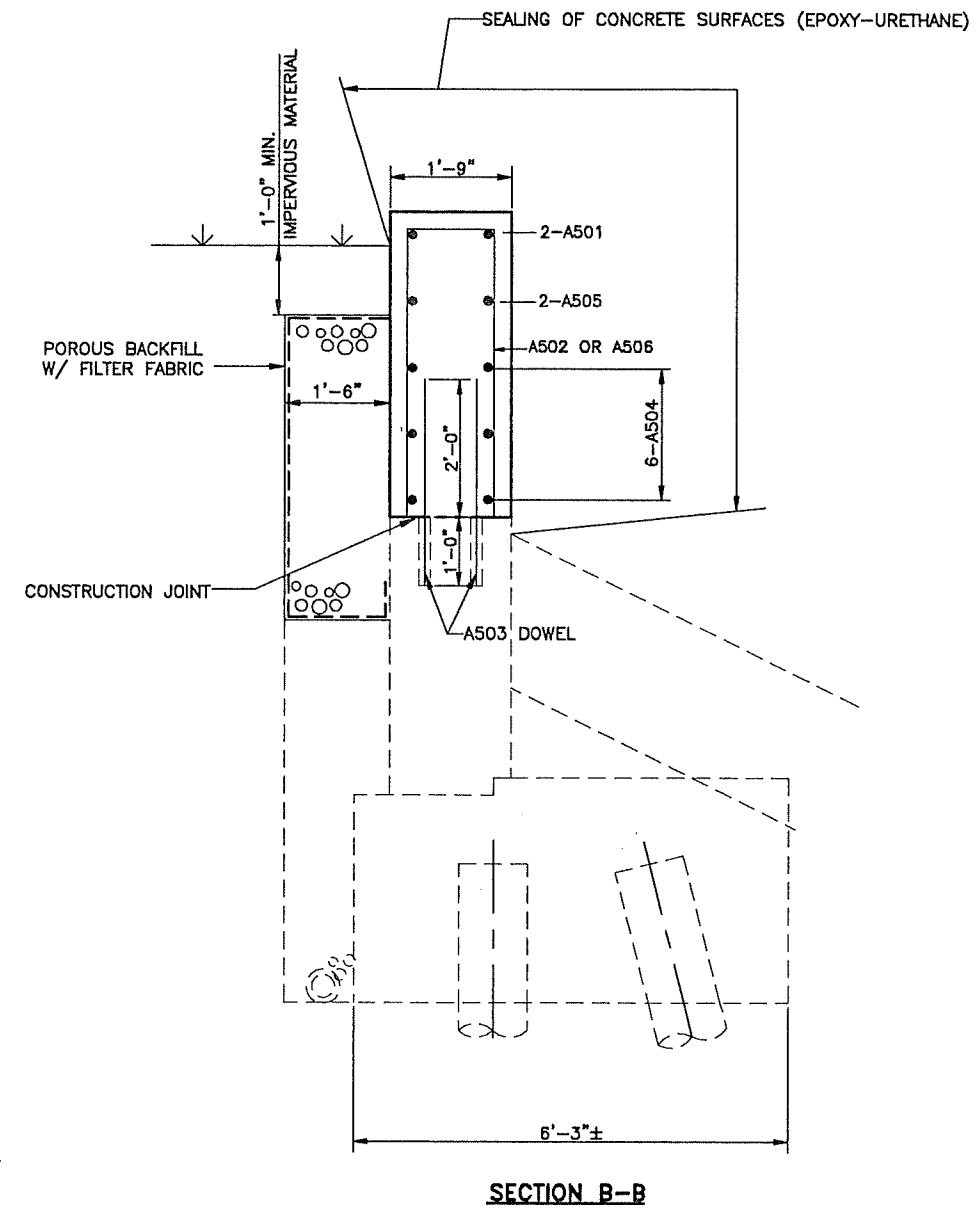
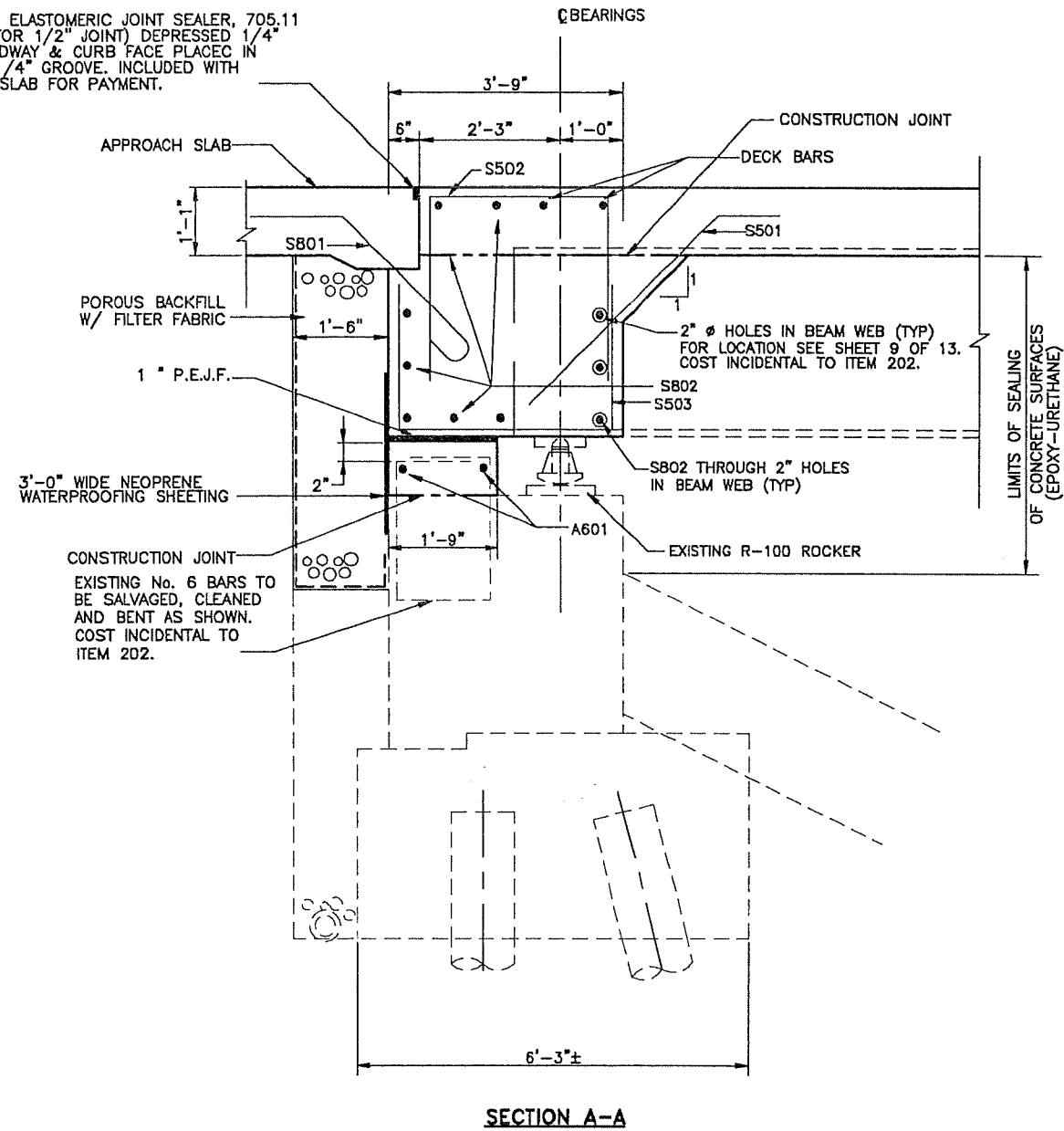
DATE 04/02
REVIEWED JU
DRAWN CEC
DESIGNED YSJ
CHECKED LXL

FORWARD ABUTMENT DETAILS
BRIDGE NO. MAD-CR10-0043
OVER LITTLE DARBY CREEK

MAD-CR10-0.43

7/13
9
15

PREFORMED ELASTOMERIC JOINT SEALER, 705.11
 (1 1/4" FOR 1/2" JOINT) DEPRESSED 1/4"
 BELOW ROADWAY & CURB FACE PLACED IN
 1/2" x 2 1/4" GROOVE, INCLUDED WITH
 APPROACH SLAB FOR PAYMENT.



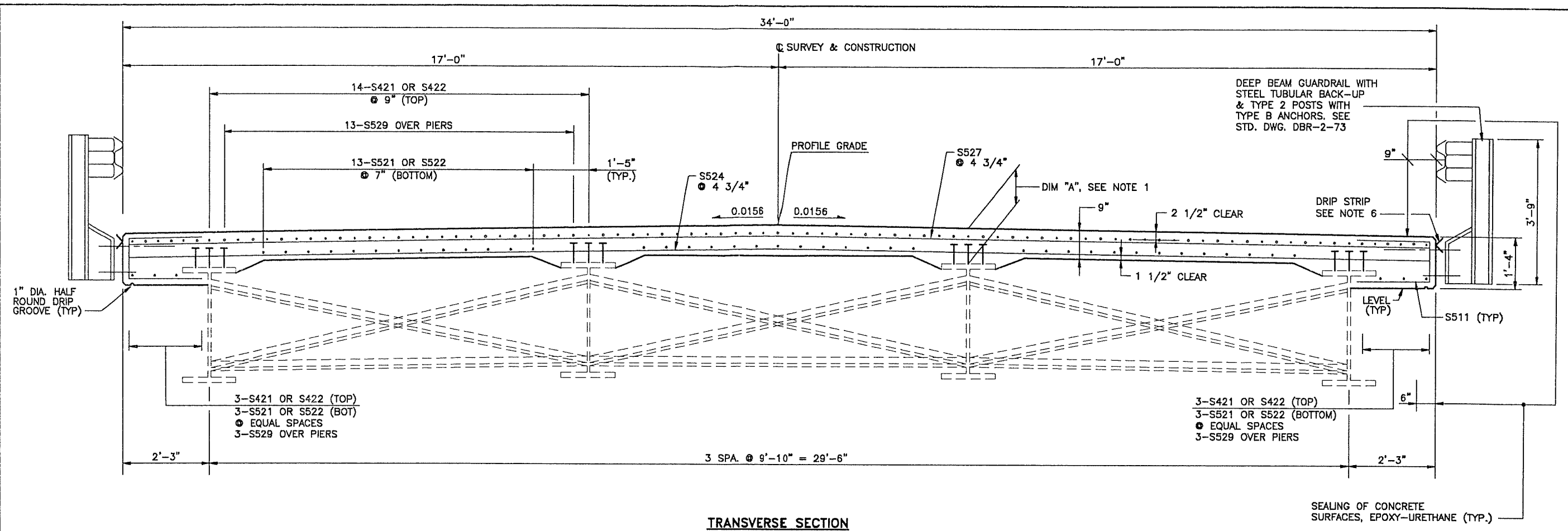
NOTES:

- POROUS BACKFILL**
 WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. GEOTEXTILE FABRIC SHALL CONFORM WITH 712.09, TYPE A. GEOTEXTILE FABRIC IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.
- DIAPHRAGM**
 CONCRETE ENCASING THE STRUCTURAL SECTIONS SUPPORTED SEMI-INTEGRAL TYPE ABUTMENTS SHALL BE PLACED AT LEAST 48 HOURS BEFORE THE ACUTAL DECK CONCRETE IS PLACED.
- FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96.
- FOR LOCATION OF SECTIONS A-A & B-B SEE SHEETS 6 AND 7 OF 13.

ABBREVIATIONS

- F.F. = FRONT FACE
 B.F. = BACK FACE
 E.F. = EACH FACE
 P.E.J.F. = PREFORMED EXPANSION JOINT FILLER

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TRANSVERSE SECTION

SLAB DEPTH OVER EXISTING BEAMS					
SUPPORT	LOCATION	STATION	TOP OF DECK	TOP OF BEAM*	SLAB DEPTH
☉ BRNG. REAR ABUTMENT	BEAM NO.1	22+49.75	902.43	901.51±	11 1/16"
	BEAM NO.2	22+49.75	902.58	901.66±	11 1/16"
	BEAM NO.3	22+49.75	902.58	901.65±	11 3/16"
	BEAM NO.4	22+49.75	902.43	901.51±	11 1/16"
☉ BRNG. PIER NO. 1	BEAM NO.1	23+00.50	902.63	901.67±	11 9/16"
	BEAM NO.2	23+00.50	902.79	901.81±	11 11/16"
	BEAM NO.3	23+00.50	902.79	901.82±	11 5/8"
	BEAM NO.4	23+00.50	902.63	901.68±	11 7/16"
☉ BRNG. PIER NO. 2	BEAM NO.1	23+64.00	902.89	901.91±	11 3/4"
	BEAM NO.2	23+64.00	903.04	902.04±	1'-0"
	BEAM NO.3	23+64.00	903.04	902.07±	11 5/8"
	BEAM NO.4	23+64.00	902.89	901.91±	11 3/4"
☉ BRNG. FORWARD ABUTMENT	BEAM NO.1	24+14.75	903.09	902.13±	11 1/2"
	BEAM NO.2	24+14.75	903.24	902.30±	11 5/16"
	BEAM NO.3	24+14.75	903.24	902.29±	11 7/16"
	BEAM NO.4	24+14.75	903.09	902.15±	11 1/4"

* = TOP OF BEAM ELEVATIONS FROM FIELD SURVEY

NOTES:

- CONCRETE DECK SLAB DEPTH**
FOR DIMENSION "A" SEE TABLE OF SLAB DEPTH OVER EXISTING BEAMS ON THIS SHEET. THIS IS A NOMINAL DIMENSION FROM THE TOP OF BEAM FLANGE TO TOP OF CONCRETE DECK. THE QUANTITY OF THAT PORTION OF THE DECK CONCRETE OVER THE BEAMS SHALL BE BASED ON THIS DIMENSION EVEN THOUGH DEVIATION FROM THE DIMENSION MAY OCCUR BECAUSE THE TOP OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION TO PLACE IT PARALLEL TO FINISH GRADE.
- CONCRETE DECK HAUNCH WIDTH**
A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 1'-0".
- MINIMUM LAP LENGTHS**
LAP NO.4 BARS 2'-3".
LAP NO.5 BARS 2'-11".
LAP NO.6 BARS 3'-5".
- WELDED STUD SHEAR CONNECTORS**
FOR WELDED STUD SHEAR CONNECTORS SPACING AND DETAILS, SEE SHEET 9 OF 13.
- FOR BAR STAGGER DIAGRAM OVER PIERS SEE SHEET 10 OF 13.**
- STAINLESS STEEL DRIP STRIP**
PRIOR TO THE CONCRETE DECK PLACEMENT A BENT DRIP STRIP SHALL BE INSTALLED ALONG THE EDGES OF DECK BY ANCHORING TO THE TOP LAYER OF REINFORCING STEEL AND BEING BUTTED, WITH A 90 DEGREE BEND, AGAINST THE FORMWORK. AN ADDITIONAL 1'-0" LONG DRIP STRIP SHALL BE INSTALLED CENTERED ON EACH POST.

THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK, ENDING AT THE ABUTMENTS. WHERE SPLICES ARE REQUIRED THE INDIVIDUAL PIECES SHALL BE BUTTED TOGETHER. STAINLESS STEEL SHALL BE 22 GAUGE ASTM A167, TYPE 304, MILL FINISH.

THE FINAL PAY QUANTITY SHALL BE THE ACTUAL OVERALL LENGTH OF THE DRIP STRIP. ADDITIONAL STRIPS AT POSTS SHALL NOT BE MEASURED FOR PAYMENT.

PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, LINEAR FOOT, STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

FOR ADDITIONAL DETAILS REFER TO STD. DWG. DS-1-92.

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DESIGN AGENCY
COLUMBUS ENGINEERING
CONSULTANTS, INC.
840 BUCKEYE AVENUE, COLUMBUS, OH 43215
TEL: (614) 229-3500

DATE 04/02

REVIEWED JJ

DRAWN CEC

DESIGNED YSJ

CHECKED RT

STRUCTURE FILE NO.

SUPERSTRUCTURE DETAILS
BRIDGE NO. MAD-CR10-0043
OVER LITTLE DARBY CREEK

MAD-CR10-0.43

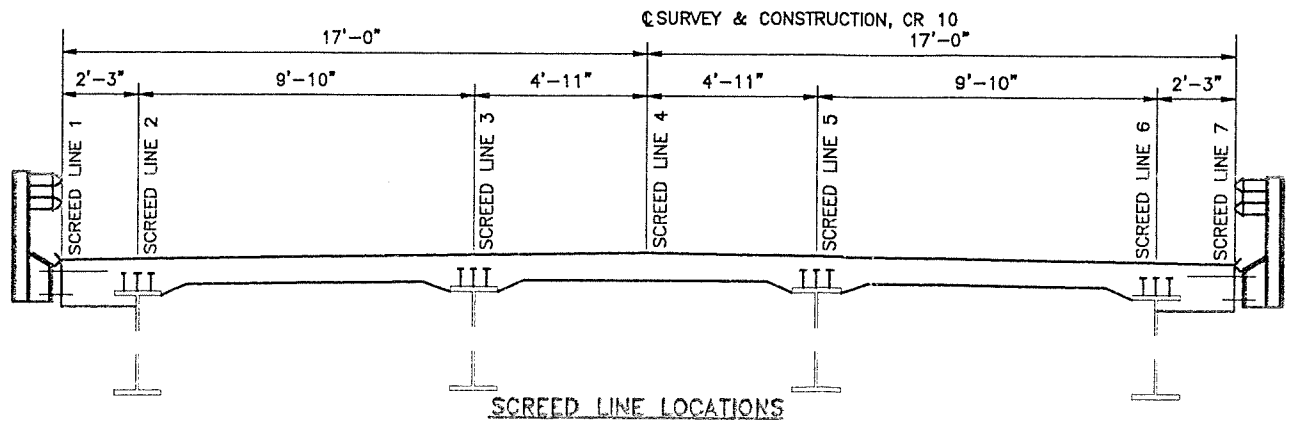
11/13

13

15

SCREED ELEVATIONS TABLE

SPAN NO.	LOCATION	SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5		SCREED LINE 6		SCREED LINE 7	
		STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO.1	0.00 L	22+49.75	902.39	22+49.75	902.43	22+49.75	902.58	22+49.75	902.66	22+49.75	902.58	22+49.75	902.43	22+49.75	902.39
	0.10 L	22+54.83	902.42	22+54.83	902.46	22+54.83	902.61	22+54.83	902.69	22+54.83	902.61	22+54.83	902.46	22+54.83	902.42
	0.20 L	22+59.90	902.45	22+59.90	902.48	22+59.90	902.64	22+59.90	902.71	22+59.90	902.64	22+59.90	902.48	22+59.90	902.45
	0.30 L	22+64.97	902.47	22+64.97	902.51	22+64.97	902.66	22+64.97	902.74	22+64.97	902.66	22+64.97	902.51	22+64.97	902.47
	0.40 L	22+70.05	902.50	22+70.05	902.53	22+70.05	902.68	22+70.05	902.76	22+70.05	902.68	22+70.05	902.53	22+70.05	902.50
	0.50 L	22+75.13	902.51	22+75.13	902.55	22+75.13	902.70	22+75.13	902.78	22+75.13	902.70	22+75.13	902.55	22+75.13	902.51
	0.60 L	22+80.20	902.53	22+80.20	902.57	22+80.20	902.72	22+80.20	902.80	22+80.20	902.72	22+80.20	902.57	22+80.20	902.53
	0.70 L	22+85.28	902.55	22+85.28	902.58	22+85.28	902.74	22+85.28	902.81	22+85.28	902.74	22+85.28	902.58	22+85.28	902.55
	0.80 L	22+90.35	902.56	22+90.35	902.60	22+90.35	902.75	22+90.35	902.83	22+90.35	902.75	22+90.35	902.60	22+90.35	902.56
0.90 L	22+95.42	902.58	22+95.42	902.61	22+95.42	902.77	22+95.42	902.84	22+95.42	902.77	22+95.42	902.61	22+95.42	902.58	
SPAN NO.2	0.00 L	23+00.50	902.60	23+00.50	902.63	23+00.50	902.79	23+00.50	902.86	23+00.50	902.79	23+00.50	902.63	23+00.50	902.60
	0.10 L	23+06.85	902.63	23+06.85	902.66	23+06.85	902.82	23+06.85	902.89	23+06.85	902.82	23+06.85	902.66	23+06.85	902.63
	0.20 L	23+13.20	902.66	23+13.20	902.69	23+13.20	902.85	23+13.20	902.92	23+13.20	902.85	23+13.20	902.69	23+13.20	902.66
	0.30 L	23+19.55	902.69	23+19.55	902.72	23+19.55	902.88	23+19.55	902.95	23+19.55	902.88	23+19.55	902.72	23+19.55	902.69
	0.40 L	23+25.90	902.72	23+25.90	902.76	23+25.90	902.91	23+25.90	902.99	23+25.90	902.91	23+25.90	902.76	23+25.90	902.72
	0.50 L	23+32.25	902.75	23+32.25	902.78	23+32.25	902.94	23+32.25	903.01	23+32.25	902.94	23+32.25	902.78	23+32.25	902.75
	0.60 L	23+38.60	902.77	23+38.60	902.81	23+38.60	902.96	23+38.60	903.04	23+38.60	902.96	23+38.60	902.81	23+38.60	902.77
	0.70 L	23+44.95	902.79	23+44.95	902.83	23+44.95	902.98	23+44.95	903.06	23+44.95	902.98	23+44.95	902.83	23+44.95	902.79
	0.80 L	23+51.30	902.81	23+51.30	902.84	23+51.30	903.00	23+51.30	903.07	23+51.30	903.00	23+51.30	902.84	23+51.30	902.81
0.90 L	23+57.65	902.83	23+57.65	902.86	23+57.65	903.02	23+57.65	903.09	23+57.65	903.02	23+57.65	902.86	23+57.65	902.83	
SPAN NO.3	0.00 L	23+64.00	902.85	23+64.00	902.89	23+64.00	903.04	23+64.00	903.12	23+64.00	903.04	23+64.00	902.89	23+64.00	902.85
	0.10 L	23+69.08	902.87	23+69.08	902.91	23+69.08	903.06	23+69.08	903.14	23+69.08	903.06	23+69.08	902.91	23+69.08	902.87
	0.20 L	23+74.15	902.90	23+74.15	902.93	23+74.15	903.09	23+74.15	903.16	23+74.15	903.09	23+74.15	902.93	23+74.15	902.90
	0.30 L	23+79.22	902.92	23+79.22	902.96	23+79.22	903.11	23+79.22	903.19	23+79.22	903.11	23+79.22	902.96	23+79.22	902.92
	0.40 L	23+84.30	902.95	23+84.30	902.98	23+84.30	903.14	23+84.30	903.21	23+84.30	903.14	23+84.30	902.98	23+84.30	902.95
	0.50 L	23+89.38	902.97	23+89.38	903.01	23+89.38	903.16	23+89.38	903.24	23+89.38	903.16	23+89.38	903.01	23+89.38	902.97
	0.60 L	23+94.45	902.99	23+94.45	903.03	23+94.45	903.18	23+94.45	903.26	23+94.45	903.18	23+94.45	903.03	23+94.45	902.99
	0.70 L	23+99.53	903.01	23+99.53	903.05	23+99.53	903.20	23+99.53	903.28	23+99.53	903.20	23+99.53	903.05	23+99.53	903.01
	0.80 L	24+04.60	903.03	24+04.60	903.06	24+04.60	903.22	24+04.60	903.29	24+04.60	903.22	24+04.60	903.06	24+04.60	903.03
	0.90 L	24+09.67	903.04	24+09.67	903.08	24+09.67	903.23	24+09.67	903.31	24+09.67	903.23	24+09.67	903.08	24+09.67	903.04
1.00 L	24+14.75	903.05	24+14.75	903.09	24+14.75	903.24	24+14.75	903.32	24+14.75	903.24	24+14.75	903.09	24+14.75	903.05	



NOTES
 1. SCREED ELEVATIONS
 SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.
 L = SPAN LENGTH

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DESIGN AGENCY
 COLUMBUS ENGINEERING CONSULTANTS, INC.
 840 MICHIGAN AVENUE, COLUMBUS, OH 43215
 TEL: (614) 222-3900

DATE
 04/02

REVIEWED
 JJ
 STRUCTURE FILE NO.

DRAWN
 CEC
 REVISION

DESIGNED
 YSJ
 CHECKED
 RT

SCREED ELEVATIONS
 BRIDGE NO. MAD-CR10-0043
 OVER LITTLE DARBY CREEK

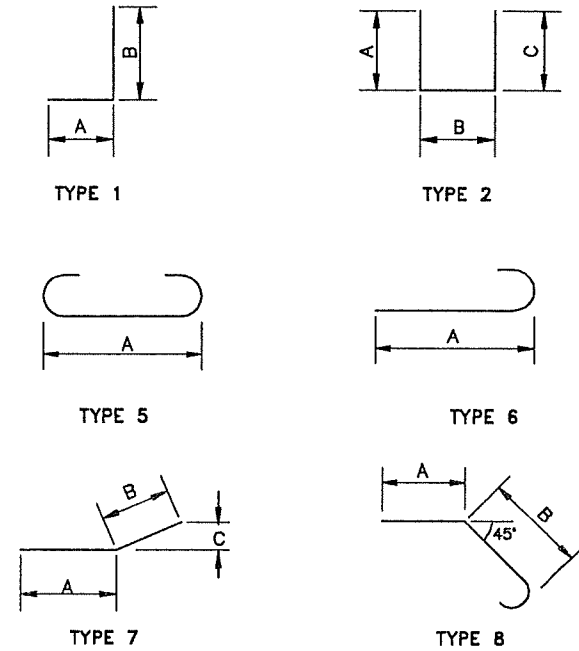
MAD-CR10-0.43

12/13
 14
 15

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	INCR.
REARABUTMENT-DIAPHRAGM									
S501	22	5'-3"	120	7	1'-0"	4'-4"	3'-0"		
S502	22	9'-2"	210	2	2'-11"	2'-11"	2'-11"		
S503	22	8'-0"	184	2	2'-5"	3'-5"	2'-5"		
S801	22	4'-11"	289	8	1'-5"	2'-7"			
S802	20	19'-8"	1050	STR					
REARABUTMENT									
A501	4	9'-1"	122	7	2'-5"	6'-8"	2'-2"		
A502	2	5'-11"	165	2	2'-5"	1'-4"	2'-5"		
	S.O.	TO			TO	TO			
	5	9'-11"			4'-5"	1'-4"	4'-5"		
A503	28	3'-0"	88	STR					
A504	12	8'-9"	110	STR					
A505	4	5'-9"	24	STR					
A506	4	10'-6"	44	2	4'-8"	1'-4"	4'-8"		
A601	4	18'-7"	112	STR					
FORWARDABUTMENT-DIAPHRAGM									
S501	22	5'-3"	120	7	1'-0"	4'-4"	3'-0"		
S502	22	9'-2"	210	2	2'-11"	2'-11"	2'-11"		
S503	22	8'-0"	184	2	2'-5"	3'-5"	2'-5"		
S801	22	4'-11"	289	8	1'-5"	2'-7"			
S802	20	19'-8"	1050	STR					
FORWARDABUTMENT									
A501	4	9'-1"	122	7	2'-5"	6'-8"	2'-2"		
A502	2	5'-11"	165	2	2'-5"	1'-4"	2'-5"		
	S.O.	TO			TO	TO			
	5	9'-11"			4'-5"	1'-4"	4'-5"		
A503	28	3'-0"	88	STR					
A504	12	8'-9"	110	STR					
A505	4	5'-9"	24	STR					
A506	4	10'-6"	44	2	4'-8"	1'-4"	4'-8"		
A601	4	18'-7"	112	STR					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	INCR.
SUPERSTRUCTURE									
S401	184	40'-0"	4916	STR					
S402	46	18'-2"	557	STR					
S501	180	40'-0"	7510	STR					
S502	45	20'-10"	978	STR					
S504	428	33'-8"	15029	STR					
S507	428	33'-8"	15029	STR					
S509	90	32'-6"	3051	STR					
S511	332	4'-7"	1587	2	1'-11"	1'-0"	1'-11"		
			53693	lbs. **					



NOTES:

1. 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 ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
 2. ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH APPROPRIATE ITEM 842 CONCRETE ITEMS.
 3. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.
 4. S.O. DENOTES SERIES OF.
 5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.
 6. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.
- ** FOR INFORMATION PURPOSE ONLY.

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DESIGN AGENCY: COLUMBUS ENGINEERING CONSULTANTS, INC.
 840 MADISON AVENUE, COLUMBUS, OH 43215
 TEL: (614) 229-5600

DATE: 04/02
 REVIEWED: JJ
 DRAWN: CEC
 DESIGNED: YSJ
 CHECKED: RT

STRUCTURE FILE NO.

REINFORCING STEEL LIST
 BRIDGE NO. MAD-CR10-0043
 OVER LITTLE DARBY CREEK

MAD-CR10-0.43

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