ERI-2-1833

STRUCTURAL GENERAL NOTES

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

158
284

ERIE COUNTY
ERI-2-(16.13-17.39)

THE FOLLOWING GENERAL NOTES APPLY TO THESE STRUCTURES:

BRIDGE NO. ERI-2-1640	EASTBOUND THRU RAMP
BRIDGE NO. ERI-2-1701 L/R	S.R. 2 OVER BOGART ROAD
BRIDGE NO. ERI-2-1781	HURON AVERY ROAD OVER S.R. 2
BRIDGE NO. ERI-2-1833	S.R. 13 OVER S.R. 2

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

SUPERSTRUCTURE DETAILS	SD-1-69 SHEETS 1, 2, 3 AND 4 OF 4	DATED 6-12-69
ROCKER AND BOLSTER DETAILS	RB-1-55	REVISED 2-2-59
APPROACH SLAB DETAILS	AS-1-81 SHEETS 1, 2 AND 3 OF 3	DATED 11-27-81
BRIDGE RAILING DETAILS	BR-1	DATED 5-29-79
ELASTOMERIC JOINT SEAL TYPE 1A	TS-EJS-2-81	DATED 9-1-81

AND TO SUPPLEMENTAL SPECIFICATIONS:

836 CONCRETE CURING AND PROTECTIVE MEMBRANE	DATED 11-12-85
824 EPOXY COATED REINFORCING STEEL	DATED 10-8-82

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1969, AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING	HS20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS S	UNIT STRESS 1500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C	UNIT STRESS 1333 P.S.I. (SUBSTRUCTURE)
REINFORCING STEEL	ASTM A615, A616 OR A617
	GRADE 60 - UNIT STRESS 24,000 P.S.I.
	SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615
STRUCTURAL STEEL	ASTM A36 - UNIT STRESS 20,000 P.S.I.
DECK PROTECTION METHOD	EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.

ABUTMENT PILING:

BRIDGE NO. ERI-2-1701 L/R; ABUTMENT PILING BENDING STRESS MAY APPROACH, REACH OR EXCEED YIELD STRESS.

EMBANKMENT CONSTRUCTION

THE EMBANKMENTS AT BRIDGE NO. ERI-2-1640, BRIDGE NO. ERI-2-1701 L/R AND BRIDGE NO. ERI-2-1833 SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS STATED IN THE ROADWAY GENERAL NOTES, SHEET 8. THE FOLLOWING WAITING PERIODS SHALL BE OBSERVED AFTER COMPLETION OF THE EMBANKMENTS TO THE LEVEL OF SUBGRADE.

BRIDGE NO. ERI-2-1640; EASTBOUND THRU RAMP OVER S.R. 2: EXCAVATION FOR PIER NO. 2 AND DRIVING OF PIER NO. 2 PILES MAY BE STARTED AFTER COMPLETION OF THE EMBANKMENTS TO THE LEVEL OF SUBGRADE. THERE SHALL BE A MINIMUM ONE-MONTH WAITING PERIOD BEFORE STARTING ABUTMENT AND PIERS NO. 1 AND NO. 3 CONSTRUCTION AND DRIVING ABUTMENT AND PIERS NO. 1 AND NO. 3 PILES.

BRIDGE NO. ERI-2-1701 L/R; S.R. 2 OVER BOGART ROAD: THERE SHALL BE A MINIMUM THREE-MONTH WAITING PERIOD BEFORE STARTING ABUTMENT AND PIER CONSTRUCTION AND DRIVING ABUTMENT AND PIER PILES.

BRIDGE NO. ERI-2-1833; S.R. 13 OVER S.R. 2: EXCAVATION FOR PIER NO. 2 AND DRIVING OF PIER NO. 2 PILES MAY BE STARTED AFTER COMPLETION OF THE EMBANKMENTS TO THE LEVEL OF SUBGRADE. THERE SHALL BE A MINIMUM 5-MONTH WAITING PERIOD BEFORE STARTING ABUTMENT AND PIERS NO. 1 AND NO. 3 CONSTRUCTION AND DRIVING ABUTMENT AND PIERS NO. 1 AND NO. 3 PILES.

PILES:

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS RECEIVED AT LEAST 20 BLOWS.

PILE DESIGN LOADS

	ABUTMENT PILES	PIER PILES
BRIDGE NO. ERI-2-1640	34 TONS/PILE	35 TONS/PILE
BRIDGE NO. ERI-2-1701 L/R	32 TONS/PILE	34 TONS/PILE
BRIDGE NO. ERI-2-1781	33 TONS/PILE	34 TONS/PILE
BRIDGE NO. ERI-2-1833	34 TONS/PILE	35 TONS/PILE

UTILITY LINES:

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

MAINTENANCE AND PROTECTION OF TRAFFIC:

TRAFFIC SHALL BE MAINTAINED ON BOGART ROAD AS INDICATED ON THE ROADWAY PLANS (GENERAL NOTES).

REINFORCING BAR LAPPED SPLICES:

REINFORCING BARS SHALL BE LAPPED AS FOLLOWS, UNLESS OTHERWISE NOTED IN THESE PLANS.

NO. 4 BAR - 1'-10" MIN.
NO. 5 BAR - 2'-5" MIN.
NO. 6 BAR - 2'-10" MIN.
NO. 8 BAR - 4'-9" MIN.
NO. 10 BAR - 7'-8" MIN.

ITEM 511, CLASS S CONCRETE, AS PER PLAN

IN LIEU OF THE PROPORTIONING SPECIFIED IN 499.03 AND 511.02, THE FOLLOWING TABLE SHALL BE USED TO ESTABLISH THE QUANTITIES PER CUBIC YARD FOR CONCRETE, THE COARSE AGGREGATE SHALL BE LIMESTONE.

CONCRETE IN THE PARAPETS NEED NOT BE PLACED AT NIGHT.

QUANTITIES PER CUBIC YARD (USING NO. 8 LIMESTONE)

FINE AGGREGATE (LB)	COARSE AGGREGATE (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	WATER-CEMENT RATIO
1555	1100	2655	715	0.40

AIR CONTENT - 8±2%

HIGH RANGE WATER REDUCER MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE DOSAGE RATE WILL BE DETERMINED BY THE CONTRACTOR BASED ON MANUFACTURER'S RECOMMENDATION TO ACHIEVE THE DESIRED WORKABILITY LEVEL.

HIGH RANGE WATER REDUCER SHALL CONFORM TO 705.12, ASTM-C494 TYPE F AND SHALL NOT CONTAIN CALCIUM CHLORIDE.

THE CEMENT CONTENT SHALL BE MAINTAINED AND A MAXIMUM WATER-CEMENT RATIO OF 0.40 SHALL NOT BE EXCEEDED. THE SLUMP OF THE UNPLASTICIZED CONCRETE DELIVERED TO THE JOB SITE SHALL BE 1 1/2 1/2 INCH. THE SUPERPLASTICIZING ADMIXTURE SHALL BE ADDED AT THE JOB SITE AND MIXED A MINIMUM OF FIVE (5) MINUTES. AFTER THE SUPERPLASTICIZER HAS BEEN ADDED, THE SLUMP SHALL BE 6 1/2 1/2 INCH. THE CONTRACTOR SHALL FURNISH A VOLUMETRIC DISPENSER FOR THE SUPERPLASTICIZER.

CONCRETE MIXTURES CONTAINING A HIGH RANGE WATER REDUCER SHALL MEET THE SAME REQUIREMENTS FOR ENTRAINED AIR CONTENT, MINIMUM STRENGTH, AND MAXIMUM WATER-CEMENT RATIO AS REQUIRED FOR THE RESPECTIVE GRADE OF CONCRETE WITHOUT A HIGH RANGE WATER REDUCER.

SAMPLING AND TESTING FOR ENTRAINED AIR CONTENT AND MINIMUM STRENGTH SHOULD BE TAKEN FROM THE CONCRETE THAT HAS BEEN TREATED WITH A HIGH RANGE WATER REDUCER.

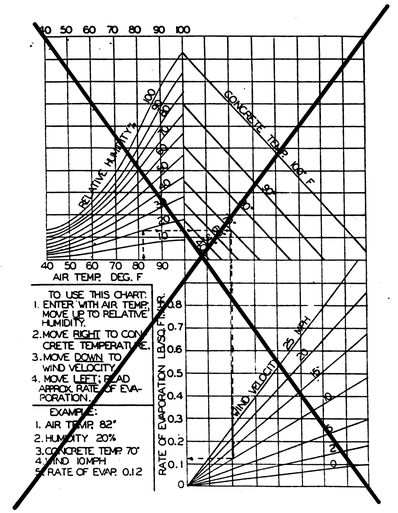
CURING SHALL BE IN ACCORDANCE WITH 511.14 TYPE "A" WATER CURING.

PLACEMENT

PLACEMENT OF CONCRETE SHALL BE COMPLETED UNDER FAVORABLE ATMOSPHERIC CONDITIONS. FAVORABLE ATMOSPHERIC CONDITIONS EXIST WHEN THE SURFACE EVAPORATION RATE AS AFFECTED BY AMBIENT AIR TEMPERATURE, CONCRETE TEMPERATURE, RELATIVE HUMIDITY AND WIND VELOCITY IS 0.1 POUNDS PER SQUARE FOOT PER HOUR OR LESS. FIGURE (1) SHALL BE USED TO DETERMINE GRAPHICALLY THE SURFACE EVAPORATION RATE. FAVORABLE ATMOSPHERIC CONDITIONS MAY REQUIRE PLACEMENT DURING LATE EVENING, NIGHT OR EARLY MORNING HOURS.

IF PLACEMENT OF THE OVERLAY IS TO BE MADE AT NIGHT, THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA AT LEAST 15 CALENDAR DAYS IN ADVANCE AND RECEIVE WRITTEN APPROVAL FROM THE ENGINEER BEFORE PLACING THE CONCRETE. THE LIGHTS SHALL BE SO DIRECTED THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511 CLASS S CONCRETE, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE.



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adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44130

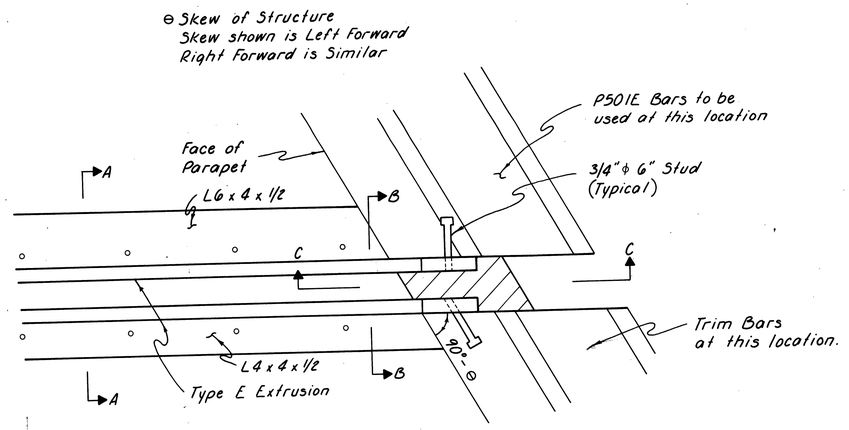
STRUCTURAL GENERAL NOTES
BRIDGE Nos. ERI-2-1640
ERI-2-1701 L/R
ERI-2-1781
ERI-2-1833

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	J.D.P.	E.A.F.	L.E.D.	9-23-85	

FHWA REGION	STATE	PROJECT	
5	OHIO		

158A
.284

ERIE COUNTY
ERI - 2 - (16.13 - 17.39)

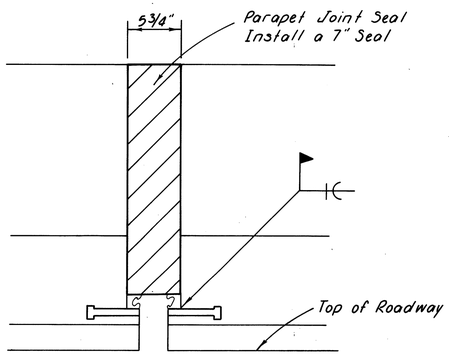


EXPANSION JOINT PLAN VIEW

EPOXY COATED REINFORCING STEEL

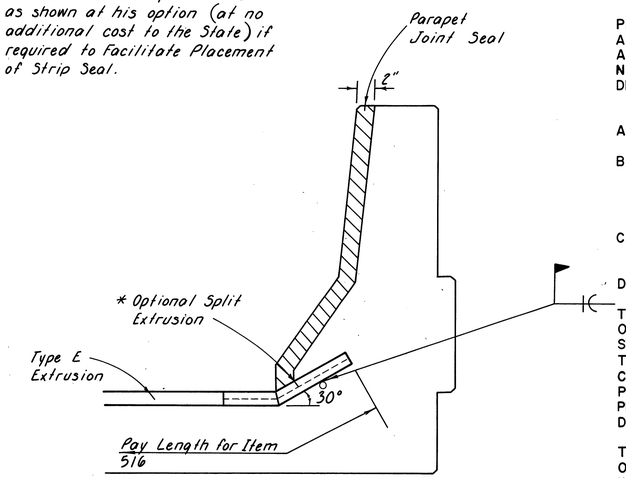
MARK	NO.	LENGTH	SHAPE
P501E ǂ	160	4'-0"	5

ǂ TO BE USED AS DIRECTED BY THE ENGINEER IN THE PARAPET EXPANSION JOINT AREA. PLAN REINFORCING STEEL DOES NOT ALLOW FOR SKEW OF EXPANSION JOINT. ALSO SOME BARS MAY BE TRIMMED AS DIRECTED BY THE ENGINEER. COST FOR ALL OF THE ABOVE SHALL BE INCLUDED IN ITEM 516 STRUCTURAL STEEL EXPANSION JOINT INCLUDING STRIP SEALS, AS PER PLAN.



SECTION B-B
JOINT NORMAL THROUGH PARAPET

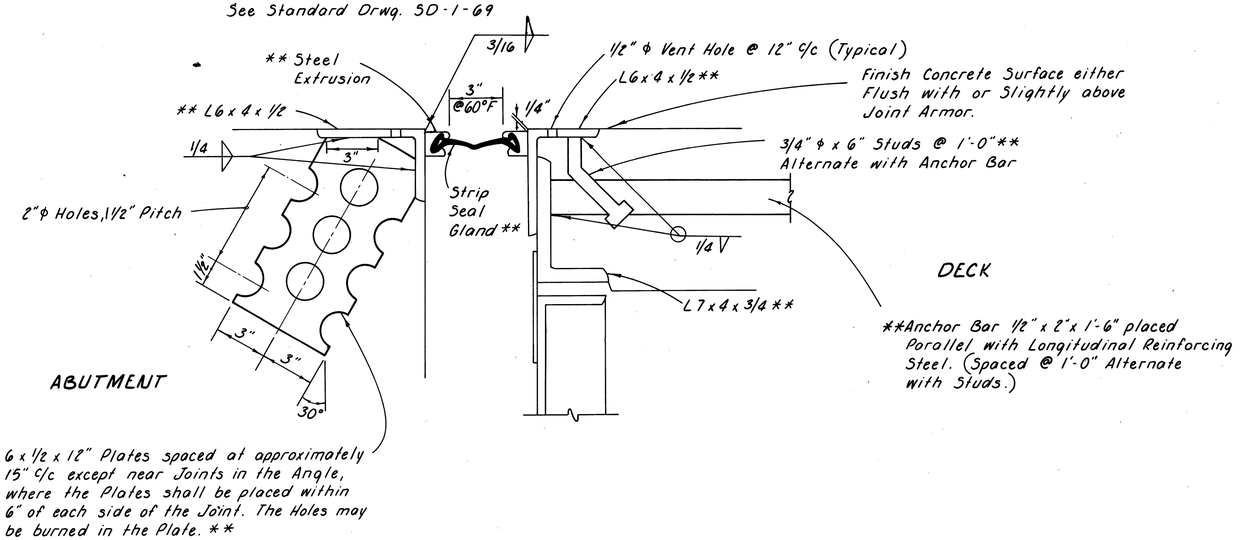
* Contractor shall Split Extrusions as shown at his option (at no additional cost to the State) if required to facilitate Placement of Strip Seal.



SECTION C-C
JOINT TRANSVERSE THROUGH PARAPET

** Included with Item 516 for Payment.
The Angeles, Plates, Studs and Steel Extrusions Shall Be Galvanized As Per 711.02. The Grooves in the Steel Extrusions shall be cleaned to Grade SA 3, ASTM D 2200.

For Details not shown
See Standard Drwg. SD-1-69



SECTION A-A
JOINT NORMAL THROUGH ROADWAY

ITEM 516 STRUCTURAL STEEL EXPANSION JOINTS INCLUDING STRIP SEALS, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL THE WORK REQUIRED TO CONSTRUCT THE STEEL EXPANSION JOINTS AS PER DETAILS IN THE PLAN.

THE STEEL EXTRUSION SHALL BE TYPE E WITH S400E NEOPRENE EXTRUSION AS MANUFACTURED BY WATSON BOWMAN ASSOCIATES, INC., 1280 NIAGARA STREET, BUFFALO, NEW YORK 14213; OR APPROVED EQUAL AS NOTED BELOW.

THE NEOPRENE EXTRUSION SHALL BE ONE CONTINUOUS PIECE. THE NEOPRENE SHALL NOT BE INSTALLED UNTIL ALL OTHER WORK IS COMPLETE UPON THE STRUCTURE. AN ADHESIVE SHALL BE USED TO FACILITATE PLACEMENT OF THE NEOPRENE EXTRUSION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

PHYSICAL PROPERTIES:

A. THE STEEL EXTRUSION SHALL CONFORM TO ASTM A36 OR, A588.
B. ADHESIVES SHALL BE ONE-PART MOISTURE CURING POLY-URETHANE AND HYDRCARBON MIXTURES AS DISTRIBUTED UNDER THE TRADE NAME BON-LASTIC BY WATSON BOWMAN ASSOCIATES, INC., OF BUFFALO, NEW YORK; OR AN APPROVED EQUIVALENT.
C. THE NEOPRENE EXTRUSION SHALL CONFORM TO THE PHYSICAL PROPERTIES SPECIFIED FOR AASHTO M220 EXCEPT FOR THE RECOVERY TEST.
D. SET SCREWS FOR FASTENING OF OPTIONAL SPLIT EXTRUSION SHALL BE STAINLESS STEEL.

THE D.S. BROWN COMPANY, P.O. BOX 158, NORTH BALTIMORE, OHIO 45872, WILL BE ACCEPTED AS ONE ALTERNATE. THE STEEL EXTRUSION SHALL BE TYPE SS-E WITH NO. 500 SEAL. THE CONTRACTOR SHALL FURNISH MATERIAL SPECIFICATION, CERTIFIED MATERIAL TEST RESULTS. CERTIFICATION THAT THE PRODUCT MEETS SPECIFICATIONS, APPROPRIATE INSTALLATION PROCEDURES NECESSARY TO ACCOMMODATE ANY ALTERNATE DESIGN.

THE APPROVAL OF AN ALTERNATE JOINT SEAL DESIGN AND THE ISSUANCE OF REVISED PROJECT PLANS SHALL BE BASED ON THE UNDERSTANDING THAT SUCH PROJECT MODIFICATIONS WILL BE DONE WITHOUT COST TO THE STATE.

THE PARAPET JOINT SHALL BE SEALED AS PART OF THIS ITEM. THE PARAPET JOINT SEAL SHALL BE EVAZOTE 50 AS MANUFACTURED BY E-POXY INDUSTRIES INC., 14 WEST SHORE STREET, RAVENA, NEW YORK 12143, TELEPHONE (518) - 756 - 6193 OR E.V.A. AS MANUFACTURED BY THERMAL - CHEM INC, 1400 LOUIS AVENUE, ELK GROVE VILLAGE, IL. 60007 USA, TELEPHONE (323) - 364 - 0364.

THE SEAL SHALL BE CEMENTED IN WITH AN ADHESIVE AS RECOMMENDED BY THE MANUFACTURER OF THE JOINT SEAL. ALL LAITANCIES OR SURFACES CONTAMINANTS SHALL BE REMOVED TO INSURE MAXIMUM ADHESION.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LINEAL FOOT FOR ITEM 516, STRUCTURAL STEEL EXPANSION JOINTS INCLUDING STRIP SEALS, AS PER PLAN, WHICH SHALL INCLUDE ALL THE LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

11/1

EXPANSION JOINT DETAILS

ERI - 2 - 1640
ERI - 2 - 1678
ERI - 2 - 1781
ERI - 2 - 1833

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K W 10-85	MA 10-85	MA 10-85				

REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:

BR-1	DATED	7/19/02	MT-98.15	DATED	7/16/04
BXJ-4-87	DATED	7/19/02	MT-98.16	DATED	4/19/02
MT-35.10	DATED	4/20/01	MT-105.10	DATED	10/18/02
MT-95.30	DATED	7/16/04	MT-105.11	DATED	10/18/02
MT-97.10	DATED	4/19/02			

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 AND 2004 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION:

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

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

EXISTING PLANS:

THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OH.

DESIGN DATA:

CONCRETE CLASS FS - COMPRESSIVE STRENGTH 4,500 PSI
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4,500 PSI

PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES; SPECIFICALLY, THE CONTRACTOR SHALL PROVIDE A 600:1 TAPER RATE FOR PLANING OPERATIONS.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL IN PLACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

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

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN.

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE CURB, APPROACH SLAB, AND PARAPET AS INDICATED IN THE PLANS.

THE USE OF HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER.

THE EXISTING REINFORCING STEEL SHALL BE PRESERVED AS INDICATED IN THE PLANS. EXISTING CURB, APPROACH SLAB, AND PARAPET CONCRETE SHALL BE REMOVED IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 202- PORTIONS OF STRUCTURE REMOVED, AS PER PLAN WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202- REMOVAL MISC.: ELASTOMERIC STRIP SEAL:

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING SEAL IN THE EXPANSION JOINT RETAINERS.

ANY DAMAGED DONE TO THE JOINT OR STEEL RETAINERS SHALL BE REPAIRED BY THE CONTRACTOR, AFTER APPROVAL BY THE ENGINEER, WITH NO ADDITIONAL COST TO THE STATE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR ITEM 202- REMOVAL MISC.: ELASTOMERIC STRIP SEAL, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 511 - CONCRETE, MISC.: ABUTMENT REPAIR:

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE CONCRETE SHALL BE CLASS FS AND MEET THE REQUIREMENTS OF CMS EXCEPT THAT LIMESTONE FOR THE COARSE AGGREGATE SHALL BE USED.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND AND ALL PRESERVED REINFORCING STEEL SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CONCRETE, MISC.: ABUTMENT REPAIR WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 511 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION):

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 512 - TREATING CONCRETE BRIDGE DECK WITH GRAVITY-FED RESIN:

THIS WORK SHALL CONSIST OF PREPARING AND TREATING THE CONCRETE BRIDGE DECK AND APPROACH SLAB PATCH JOINTS WITH A GRAVITY-FED CRACK WELDING SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURES RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

SEAL THE CONSTRUCTION JOINTS AROUND THE PATCHES ON THE APPROACH SLABS ON ERI-2-1781 4" WIDE, 2" ON EACH SIDE OF CRACK. THE QUANTITY SHALL BE THE AREA IN SQUARE YARDS OF THE EXPOSED SURFACE, IRRESPECTIVE OF THE DEPTH OF THE JOINT, COMPLETE, IN PLACE AND ACCEPTED.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 512- TREATING CONCRETE BRIDGE DECK WITH GRAVITY-FED RESIN, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN:

THE ELASTOMERIC STRIP SEAL REPLACEMENT SHALL MATCH THE EXISTING TYPE. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE TYPE AND MANUFACTURER OF THE EXISTING STRIP SEAL. THE EXISTING PLANS CALLED FOR THE S400E NEOPRENE EXTRUSION AS MANUFACTURED BY WATSON BOWMAN ACME, 95 PINEVIEW DRIVE, AMHERST, NEW YORK 14228, PHONE# 800-677-4922 EXT. 253; OR APPROVED EQUAL AS NOTED. THE EXISTING PLANS CALLED FOR THE NO. 500 SEAL MANUFACTURED BY THE D.S. BROWN COMPANY, 300 EAST CHERRY ST, NORTH BALTIMORE, OHIO, 45872, PHONE # 419-257-3561.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR ITEM 516- ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

A. DESCRIPTION

ITEM 526 - APPROACH SLABS, MISC.: PATCHING:

THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR THE EXISTING CONCRETE APPROACH SLABS INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, SURFACE PREPARATION, SAW CUTTING, AND THE STRENGTH TESTING OF ALL THE PATCHES AS DIRECTED BY THE ENGINEER.

B. REMOVAL OF UNSOUND CONCRETE

THE ENGINEER SHALL VISUALLY INSPECT THE EXISTING CONCRETE APPROACH SLABS AND OUTLINE THE AREAS TO BE REMOVED.

THE PERIMETER OF THE REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF ¾INCH TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. AT EACH CORNER OF THE PATCH THE SAW CUTS SHALL COME TOGETHER WITHOUT ANY OVERCUTTING WITH THE SAW. THE CORNERS SHALL BE CHIPPED DOWN TO THE SAW MARKS. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL WITHOUT ANY OVERCUTTING. COOLING WATER FROM WET SAWING AND DUST FROM SAWING SHALL BE IMMEDIATELY REMOVED FROM THE EXPOSED PATCH HOLES BEFORE ANY DRYING CAN OCCUR.

UNSOUND CONCRETE INCLUDING ALL PATCHES OTHER THAN SOUND PORTLAND CEMENT CONCRETE, AND ALL OBVIOUSLY LOOSE AND DISINTEGRATED CONCRETE SHALL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 15 POUND CLASS AND SHALL BE OPERATED AT AN ANGLE LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM ¾INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE SHALL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE. ALL REMOVED ASPHALT AND CONCRETE SHALL BE DISPOSED OF PROPERLY OUTSIDE THE RIGHT OF WAY.

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tjackson 3/1/2006

ITEM 526 - APPROACH SLABS, MISC.: PATCHING (CONTINUED):

C. SURFACE PREPARATION

CLEANING SHALL CLOSELY PRECEDE APPLICATION OF THE PATCHING MATERIAL. THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING (SILICA SAND SHALL NOT BE USED) FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE SHALL BE PREVENTED BY PLACEMENT OF A CLEAN 4 MIL POLYETHYLENE SHEET (OR ANY OTHER COVERING AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEANING.

WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORTS FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE MIXER, OR SHALL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER TO THE PATCH LOCATIONS.

D. MATERIALS, PLACING, AND CURING

THE APPROACH SLABS SHALL BE PATCHED WITH CLASS FS CONCRETE WHICH SHALL MEET THE REQUIREMENTS OF CMS EXCEPT THAT LIMESTONE FOR COARSE AGGREGATE SHALL BE USED.

E. PLACING

WHEN NIGHT WORK IS USED THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA. THE PLAN SHALL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS SHALL BE SO DIRECTED THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

THE PATCHING MATERIAL SHALL BE PLACED, CONSOLIDATED AND FINISHED TO THE EXISTING GRADE AND ELEVATION. PATCHES GREATER THAN 50 SQUARE FEET IN AREA SHALL HAVE TEMPORARY BULKHEADS INSTALLED TO FACILITATE PLACEMENT AND FINISHING. THE TEMPORARY BULKHEADS SHALL GO AS DEEP AS THE PATCH AND BE PULLED PRIOR TO THE CONCRETE SETTING. PATCHES EXCEEDING 50 SQUARE FEET SHALL BE STRUCK OFF WITH A SCREED. SMALLER PATCHES THAT ARE UNDER 10 FEET IN LENGTH SHALL BE SCREED LONGITUDINALLY. FOR PATCHES OVER 10 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE ROADWAY CENTERLINE.

THE CONTRACTOR SHALL TEST THE SURFACE OF THE PLASTIC CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A 10 FOOT STRAIGHTEDGE. FOR PATCHES 10 FEET OR LESS IN LENGTH, THE STRAIGHTEDGE SHALL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH ENDS RESTING ON THE EXISTING WEARING SURFACE AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. ANY HIGH OR LOW AREAS EXCEEDING 1/8 INCH IN 10 FEET SHALL BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE SHALL BE RECHECKED.

F. FINISHING

AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED, THEY SHALL BE TEXTURED IN ACCORDANCE TO SECTION 451.09 OF THE CMS.

G. INSPECTION, SOUNDING, AND REPAIR OF CONCRETE PATCHES

AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHED AREAS SHALL BE INSPECTED AND SOUNDED. ALL DELAMINATED AREAS SHALL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE.

ALL CRACKS IN BONDED PATCHES SHALL BE SEALED WITH AN APPROVED HIGH MOLECULAR WEIGHT METHACRYLATE SEALER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SECTION 512.04 OF CMS.

ALL REPLACEMENT OF REJECTED AREAS AND SEALING OF CRACKS IN NEW BONDED PATCHES WILL BE THE REPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

H. METHOD OF MEASUREMENT

THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE YARDS OF THE EXPOSED SURFACE OF ALL PATCHES, IRRESPECTIVE OF THE DEPTH OF THE PATCH, COMPLETE, IN PLACE AND ACCEPTED.

I. BASIS OF PAYMENT

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
526	SQUARE YARD	APPROACH SLABS, MISC.: PATCHING

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tjackson 3/1/2006

ERI-2-1833

STRUCTURE FILE NO.	BRIDGE NO.	STRUCTURE TYPE	LOCATION	SKEW	DECK LENGTH	DECK WIDTH	PROPOSED WORK
2201860	ERI-2-1640	4-SPAN STEEL BEAM	UNDER EB RAMP U.S. 6	36°2'3" L.F.	316'-10"±	28'-10"±	SEAL DECK/DECK EDGE, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL
2201186	ERI-2-1678L	3-SPAN STEEL BEAM	OVER NORFOLK SOUTHERN R.R.	36°16'40" L.F.	185'-9"±	38'-10"±	SEAL DECK, FACE/TOP PARAPET, WINGWALL AND ABUTMENT. PARAPET TRANSITION UPGRADE
2201194	ERI-2-1678R	3-SPAN STEEL BEAM	OVER NORFOLK SOUTHERN R.R.	36°16'40" L.F.	185'-9"±	38'-10"±	SEAL DECK, FACE/TOP PARAPET, WINGWALL, AND ABUTMENT. PARAPET TRANSITION UPGRADE, AND REPLACE STRIP SEAL AT BOTH ABUTMENTS
2200953	ERI-2-1694	PIPE	STARR HEIMBERGER DITCH	90°			NO WORK
2201208	ERI-2-1701L	3-SPAN STEEL BEAM	OVER BOGART RD.	2°34'37" L.F.	141'-6"±	38'-10"±	SEAL DECK/DECK EDGE, PARAPET, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL, PARAPET TRANSITION UPGRADE, DUMP ROCK UNDER FORWARD ABUTMENT SCUPPERS
2201216	ERI-2-1701R	3-SPAN STEEL BEAM	OVER BOGART RD.	2°34'37" L.F.	141'-6"±	38'-10"±	SEAL DECK/DECK EDGE, PARAPET, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL, PARAPET TRANSITION UPGRADE, DUMP ROCK UNDER FORWARD ABUTMENT SCUPPERS
2000988	ERI-2-1737	PIPE	WASHBURN DITCH	10°			NO WORK
2201224	ERI-2-1781	4-SPAN STEEL BEAM	UNDER HURON AVERY RD.	39°32'10" L.F.	306'-0"±	42'-10"±	SEAL DECK/DECK EDGE, PARAPET, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL, PATCH TOP OF BACKWALLS, SEAL PATCH JOINTS WITH GRAVITY FED RESIN
2201003	ERI-2-1798L	8-SPAN PRESTRESSED I-BEAM	OVER MUD BROOK	0°	660'-0"±	VARIES 51'-11" TO 65'-10"±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET
2201011	ERI-2-1798R	10-SPAN PRESTRESSED I-BEAM	OVER MUD BROOK	0°	780'-0"±	50'±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET
2202425	ERI-2-1833	4-SPAN STEEL BEAM	UNDER S.R. 13	14°45'39" L.F.	240'-7"±	42'-10"±	SEAL DECK/DECK EDGE, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL
2201038	ERI-2-1911L	27-SPAN STEEL & CONCRETE BEAM	OVER HURON RIVER, NORFOLK SOUTHERN RAILROAD & C.R. 126	VARIES 0° TO 16°29'53"L.F.	2588'-0"±	40'±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET
2201046	ERI-2-1911R	27-SPAN STEEL & CONCRETE BEAM	OVER HURON RIVER, NORFOLK SOUTHERN RAILROAD & C.R. 126	VARIES 0° TO 16°29'53"L.F.	2588'-0"	40'±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET

DESIGN AGENCY
DISTRICT THREE
PRODUCTION OFFICE

DESIGNED	DRAWN	REVISED	DATE
BTR	BTR	DCM	2/06

CHECKED DJV
REVISED
STRUCTURE FILE NUMBER

STRUCTURE INFORMATION

ERI-2-16.13

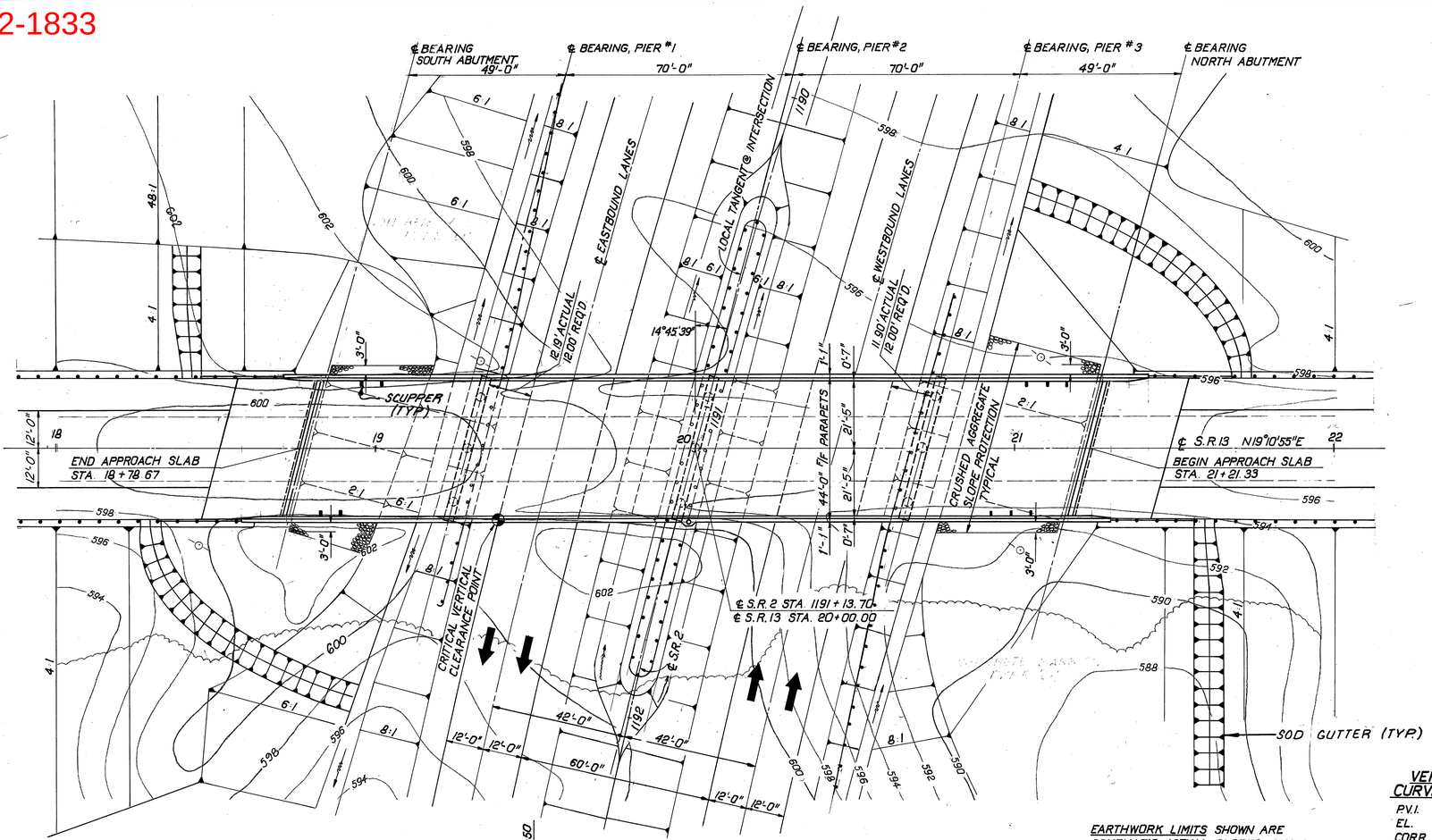
40
61

DESIGN FILE: I:\projects\18296\struct\strinform.dgn
WORKSTATION: tjackson
DATE: 3/1/2006

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

209
284

ERIE COUNTY
ERI.-2-(16.13-17.39)



PLAN

S.R. 2 CURVE DATA

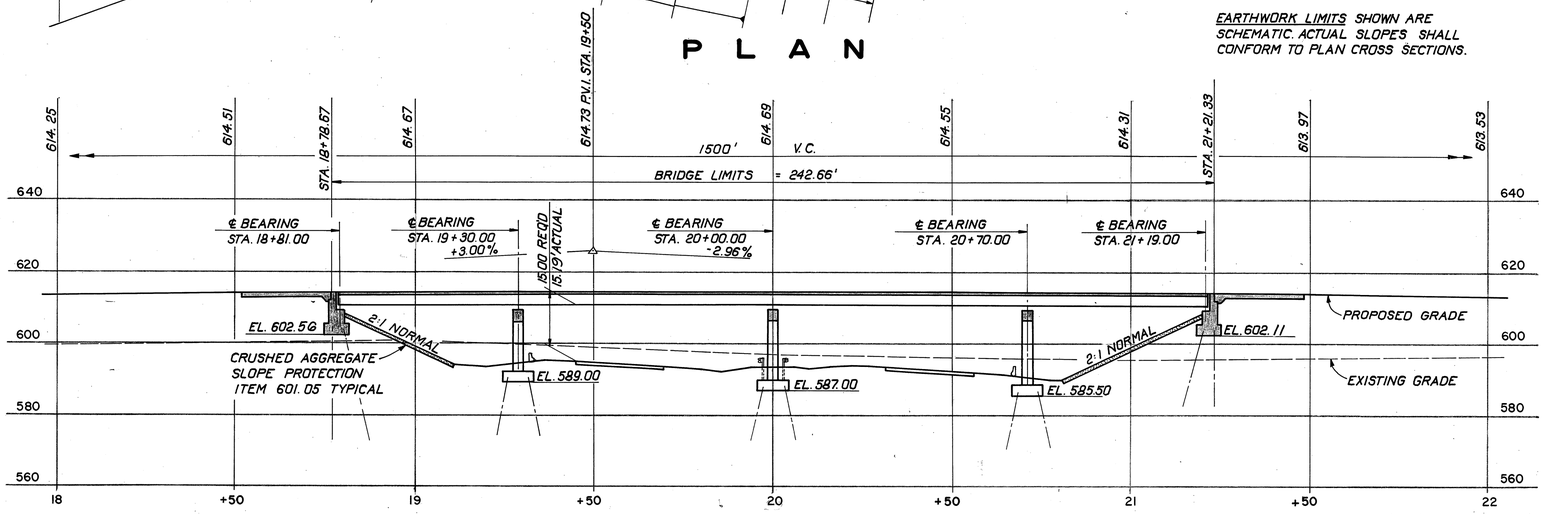
P.I.	=	1191+14.95
Δ	=	87°18'50"
Dc	=	2°00'
R	=	2864.79'
T	=	2884.77'
Lc	=	4065.69'
Ls	=	300.00'
θs	=	3°00'

EARTHWORK LIMITS SHOWN ARE SCHEMATIC. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

VERTICAL CURVE DATA

P.V.I.	=	STA. 19+50
EL.	=	625.90'
CORR.	=	11.17'
P.G.	=	614.73
V.C.	=	1500'
G_1	=	+3.00%
G_2	=	-2.96%

DESIGN TRAFFIC
ADT(2001) = 4630
ADTT(2001) = 325



℄ PROFILE

NOTE:
ALL ABUTMENT PILES AND ALL PIER PILES SHALL BE HP10×42 STEEL H BEARING PILES.
ESTIMATED AVERAGE PAY LENGTH:
BOTH ABUTMENTS 50 FT.
PIER Nº 1 38 FEET
PIERS Nº2&3 35 FEET

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 49'-0", 70'-0", 70'-0", 49'-0" ℄/c BRG'S.
ROADWAY: 44'-0" F/F PARAPETS
LOADING: HS 20-44 AND THE ALTERNATE MILITARY LOADING
SKEW: 14°45' 39" LEFT FORWARD W/R TO LOCAL TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
APPROACH SLABS: AS-1-81 (25' LONG)

1 / 10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND 42, OHIO

SITE PLAN

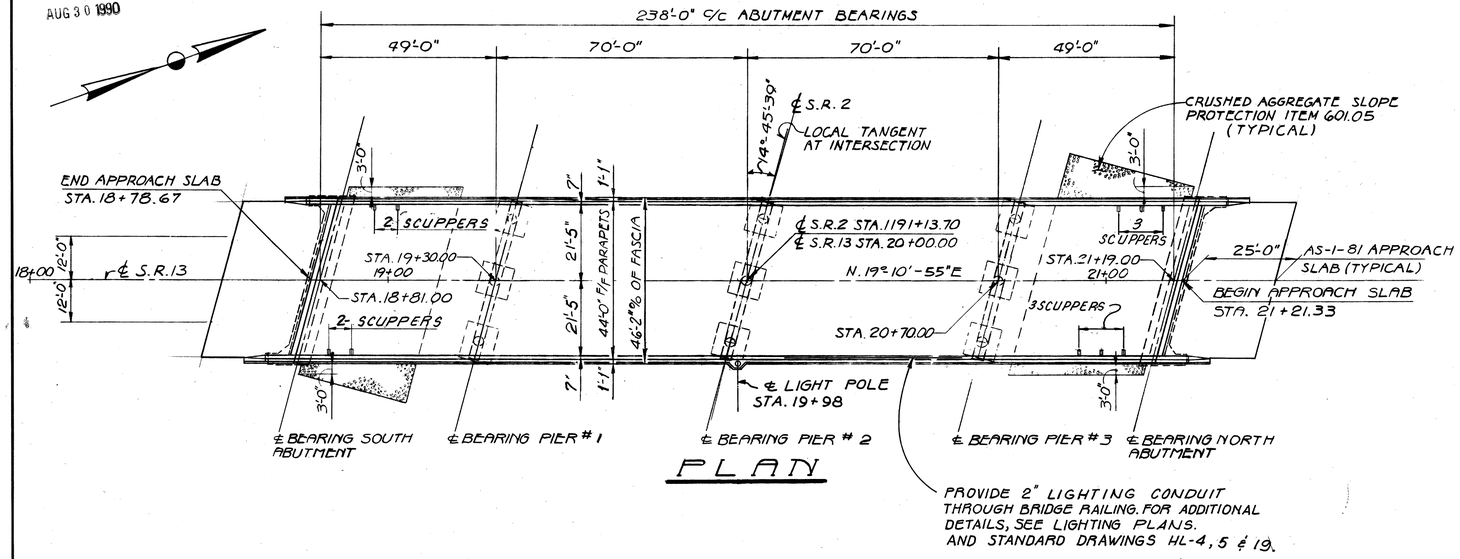
BRIDGE NO. ERI-2-1833
S.R. 13 OVER S.R. 2
ERIE COUNTY STA. 18+78.67 TO
ERI-2-16.13 STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
V.N.	J.T.	H.G.	L.E.D.	9-21-85

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

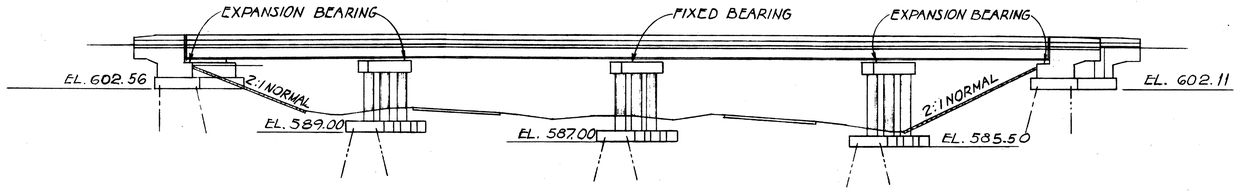
210/284

ERIE COUNTY
ERI.- 2-(16.13-17.39)



PLAN

PROVIDE 2" LIGHTING CONDUIT THROUGH BRIDGE RAILING. FOR ADDITIONAL DETAILS, SEE LIGHTING PLANS. AND STANDARD DRAWINGS HL-4, 5 & 19.



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN'L		
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP		
503	455	CU. YDS.	UNCLASSIFIED EXCAVATION		220	235			
505	LUMP	SUM.	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP		
507	3,240	LIN. FT.	STEEL PILES HP 10×42		1,300	1,940			
509	73, 730	LBS.	REINFORCING STEEL, GRADE 60	30,411	11,831	31,488			
511	367	CU. YDS.	CLASS 'S' CONC. SUPERSTRUCTURE, AS PER PLAN	367					
511	95	CU. YDS.	CLASS 'C' CONCRETE PIER CAPS & COLUMNS.			95			
511	103	CU. YDS.	CLASS 'C' CONCRETE ABUTMENTS ABOVE FOOTINGS		103				
511	161	CU. YDS.	CLASS 'C' CONCRETE FOOTINGS.		80	81			
512	5	SQ. YDS.	TYPE 'B' WATERPROOFING		5				
513	262,200	LBS	STRUCTURAL STEEL A-36 (AISC CATEGORY - I)	262,200					
516	91	Lin. Ft.	Structural Steel Expansion Joints including Strip Seals, As Per Plan	91					
514	262,200	LBS.	FIELD PAINTING OF NEW STRUCTURAL STEEL, (SYSTEM - A)	262,200					
518	43	CU. YDS.	POROUS BACKFILL.		43				
518	84	LIN. FT.	6" PERFORATED HELICAL C.S.P., 707.01		84				
518	56	LIN. FT.	6" NON-PERFORATED HELICAL C.S.P. INCLUDING SPECIALS, 707.01		56				
518	10	EACH	SCUPPERS INCLUDING SUPPORTS,	10					
601	465	SQ. YDS	CRUSHED AGGREGATE SLOPE PROTECTION.				465		
625			SEE SHEET 258 FOR LIGHTING SUMMARY						
824	49,004	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60	46,254	2,750				
516	30	Each	Rockers and Bolsters Galvanized *	30					
Spec.	364	Sq. Yd.	Sealing of Concrete Surfaces * (See Proposal Note)	213		151			

* See General Note on Sht. 159/284

NOTES

FOR SCUPPER LOCATIONS AND SPACING SEE SHEET NO. 6/10
FOR APPROACH SLAB DETAILS SEE STANDARD DRAWING AS-1-81.
FOR GENERAL NOTES, SEE SHEET 158/284.

2/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

GENERAL PLAN, ELEV. & ESTIMATED QUANTITIES

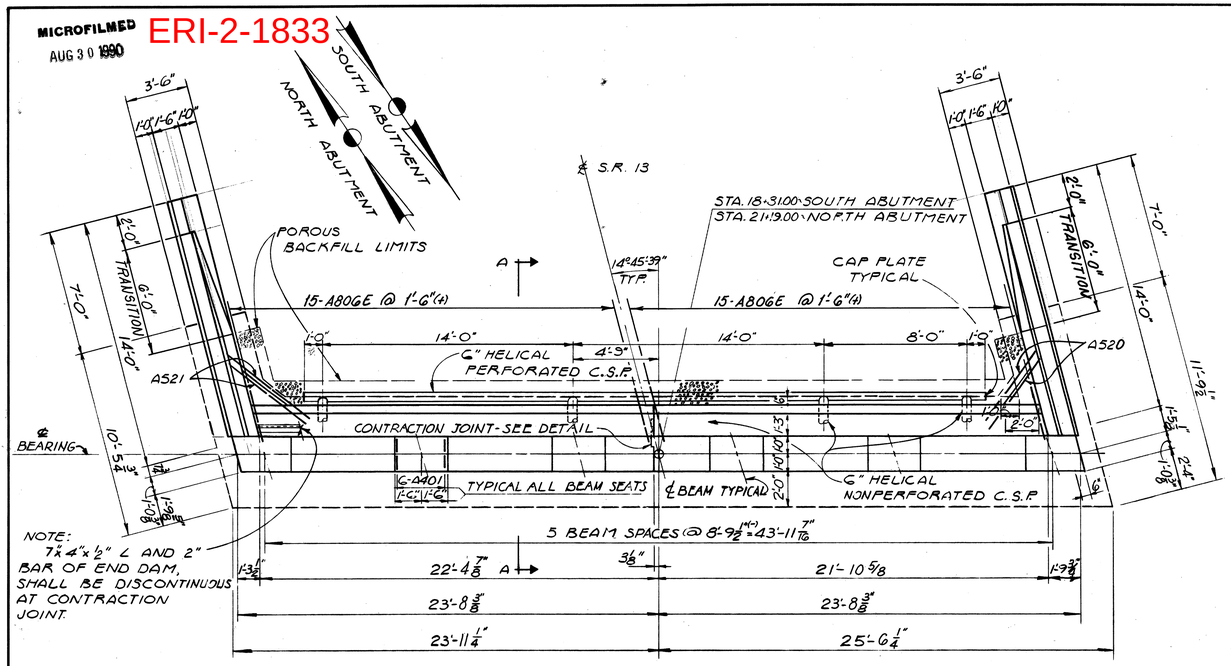
BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY
ERI-2-16.13
STA. 18+78.67 TO STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D. 7-7-69	V.I.P.	L.A. 7-14-69	L.E.D.	9-21-85	

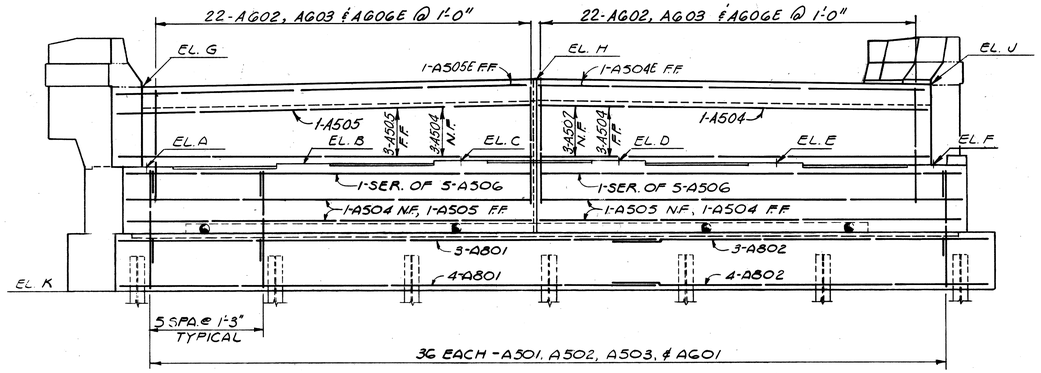
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

211
284

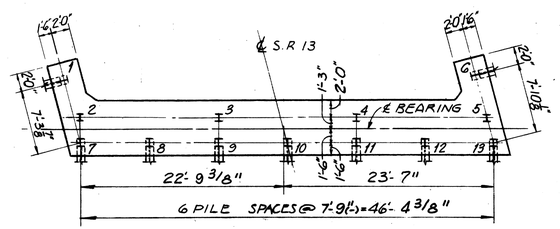
ERIE COUNTY
ERI.- 2-(16.13-17.39)



PLAN
NORTH ℄ SOUTH ABUTMENTS

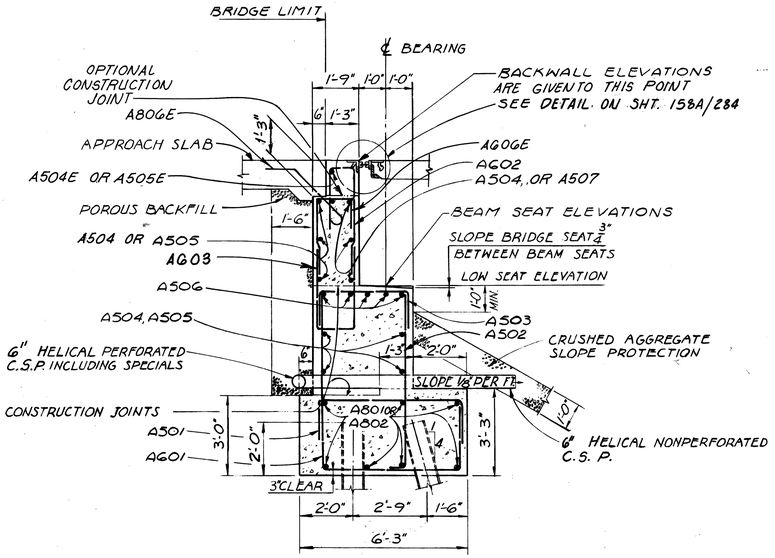


ELEVATION



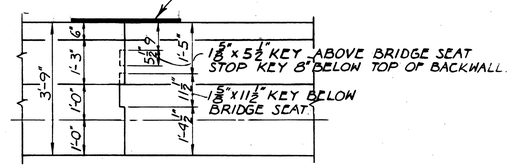
PILING LAYOUT

NOTE: USE 13 PILES EACH ABUTMENT



SECTION A-A

TYPE 'B' WATERPROOFING, 36" WIDE CENTERED ON ℄ OF CONTRACTION JOINT, FROM TOP OF FOOTING TO BOTTOM OF APPROACH SLAB



CONTRACTION JOINT-DETAIL

ELEVATION TABLE										
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"
SOUTH ABUTMENT	609.59	609.73	609.87	609.87	609.75	609.62	614.26	614.61	614.30	602.56
NORTH ABUTMENT	609.14	609.29	609.44	609.45	609.33	609.21	613.82	614.18	613.89	602.11

NOTES

POROUS BACKFILL 1.5 AND 2.0 FEET THICK AS SHOWN, SHALL EXTEND UP TO THE PLANE OF SUBGRADE AND TO THE LIMITS SHOWN ON THE PLAN.

ABUTMENT PILES ARE HP10x42. BATTERED PILES SHALL BE BATTERED 1 IN 4 IN THE DIRECTION SHOWN.

WINGWALL DETAILS - SEE SHEET NO. 4/10
REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS SEE SHEET NO. 9/10 AND 10/10
ABBREVIATIONS USED: E.F. = EACH FACE, N.F. = NEAR FACE, F.F. = FAR FACE.
ALL FOOTING REINFORCEMENT SHALL HAVE 3" MINIMUM CONCRETE COVER.

IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED

3/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

ABUTMENT DETAILS

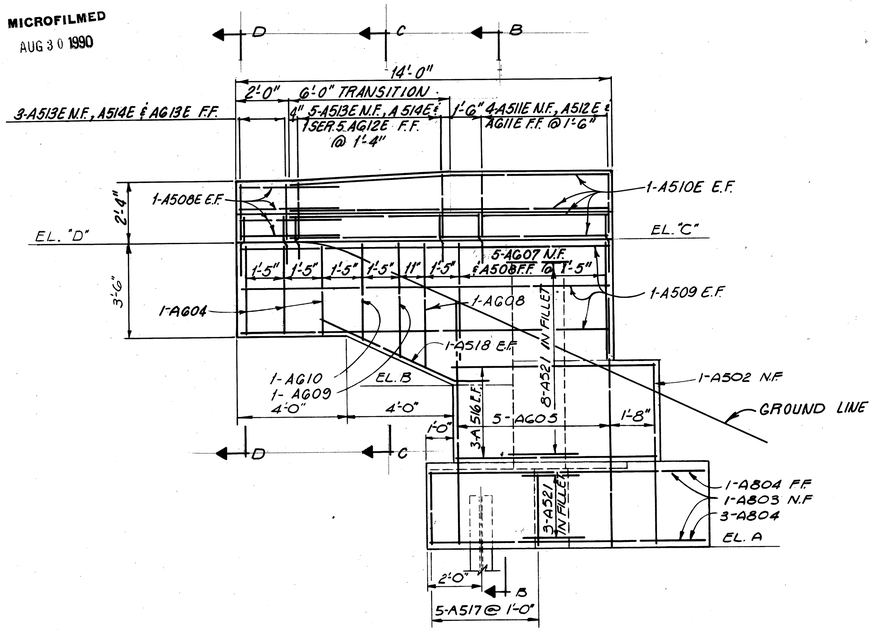
BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY
ERI - 2 - 16.13
STA. 18 + 78.67 TO
STA. 21 + 21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	W.J.S.	L.A. L.E.D.	L.E.D.	9-21-85	

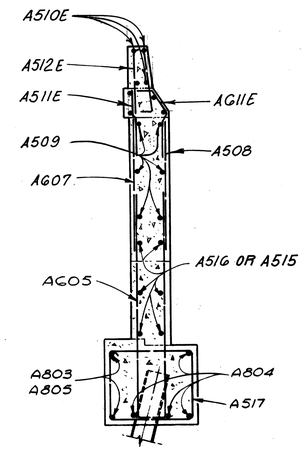
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

212
284

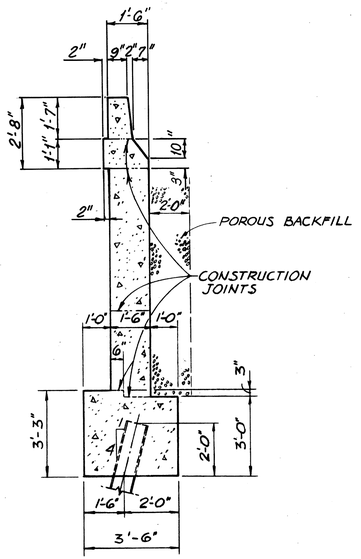
ERIE COUNTY
ERI.- 2-(16.13-17.39)



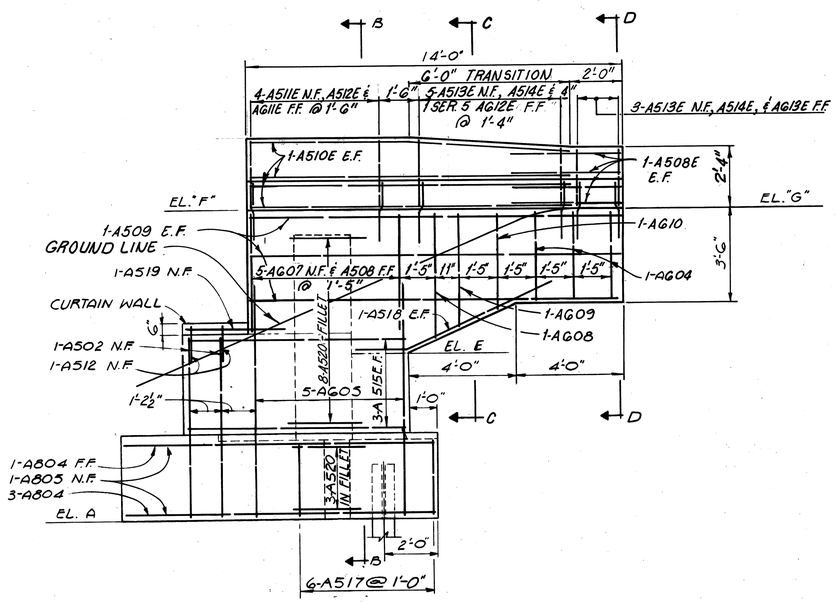
WINGWALL ELEVATION
SOUTH ABUTMENT - EAST WINGWALL
NORTH ABUTMENT - WEST WINGWALL



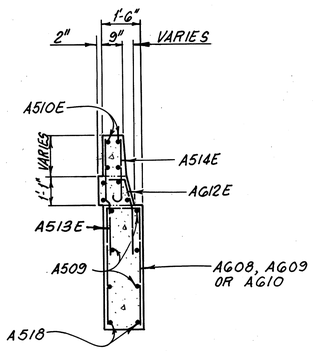
SECTION B-B
SEE DETAIL "A"



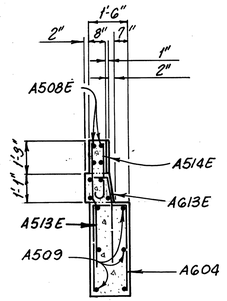
DETAIL "A"
REINFORCEMENT NOT SHOWN



WINGWALL ELEVATION
SOUTH ABUTMENT -WEST WINGWALL
NORTH ABUTMENT - EAST WINGWALL



SECTION C-C



SECTION D-D

NOTES

ABUTMENT PLAN AND ELEVATION DETAILS SEE SHEET NO. 3/10

ADDITIONAL NOTES - SEE SHEET NO. 3/10

FOR ADDITIONAL RAILING DETAILS SEE STANDARD DRAWING BR-1, SHEET NO. 1 OF 1. PROVIDE 2" CONDUIT THROUGH THE EAST WINGWALL OF BOTH THE NORTH AND THE SOUTH ABUTMENTS PER STANDARD DRAWING HL-5 AND THE LIGHTING PLANS.

ELEVATION TABLE

LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"
SOUTH ABUTMENT	602.56	608.88	614.26	614.2	608.92	614.30	614.26
NORTH ABUTMENT	602.11	608.40	613.82	613.72	608.47	613.89	613.80

4/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

WINGWALL DETAILS

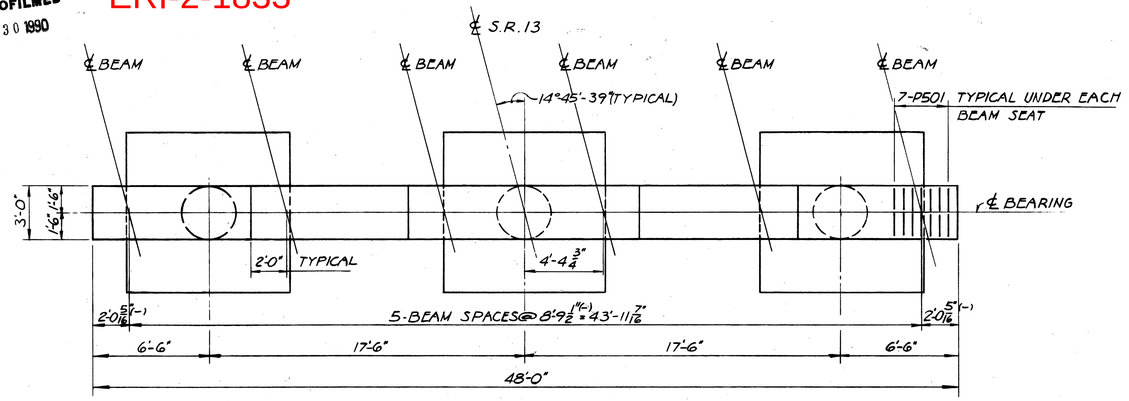
BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY
ERI - 2 - 16.13
STA. 18+78.67 TO STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	W.J.S.	L.A. L.E.D.	L.E.D.	9.21.85	

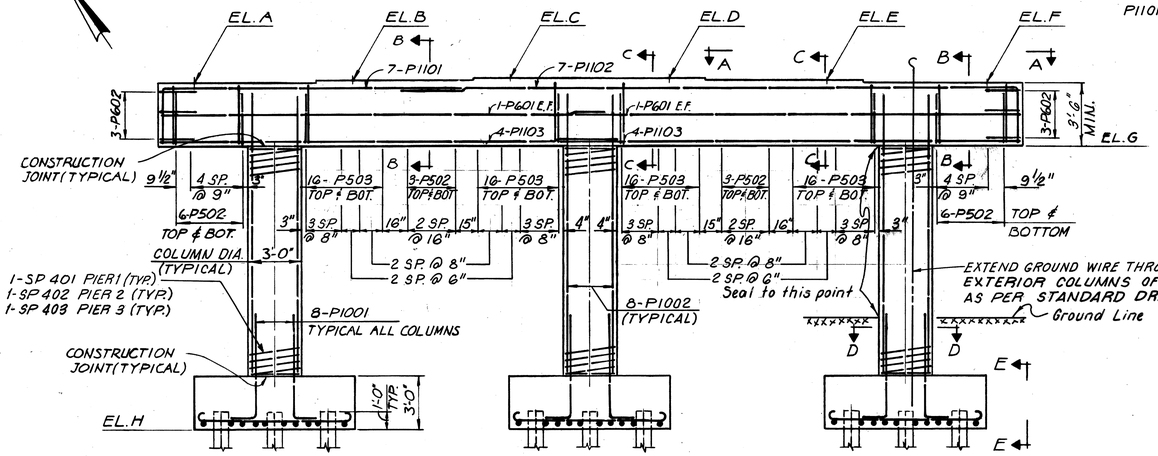
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

213/284

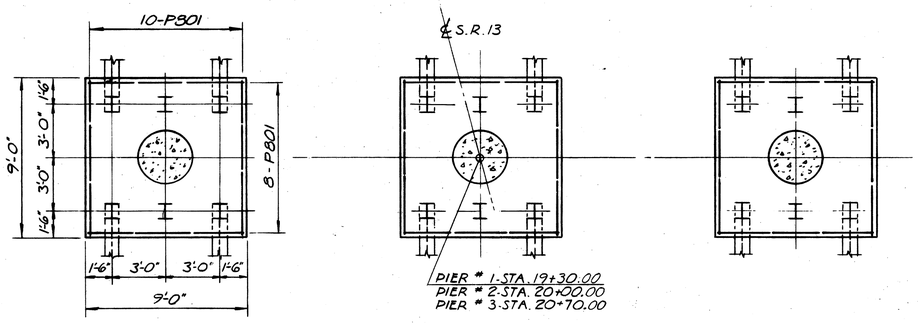
ERIE COUNTY
ERI - 2-(16.13-17.39)



PLAN



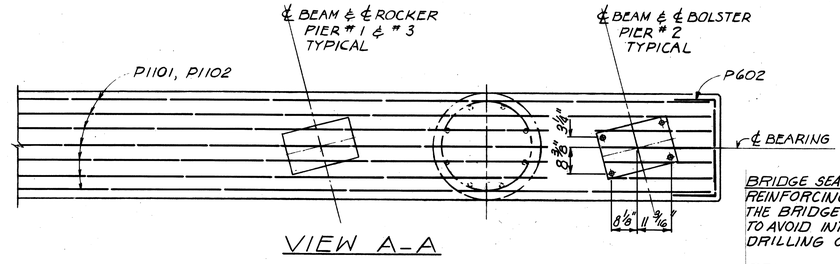
ELEVATION



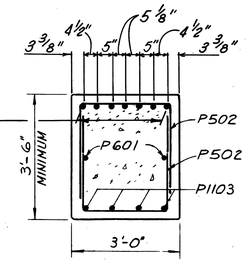
TYPICAL FOOTING

FOOTING PLAN

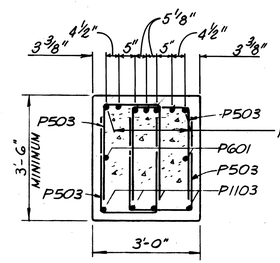
NOTE:
LAP TOP CAP BEAM STEEL VERTICALLY TO PROVIDE CLEARANCE FOR ANCHOR BOLTS.



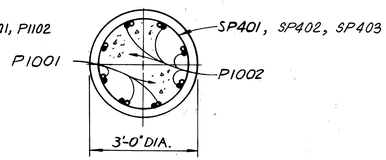
VIEW A-A



SECTION B-B



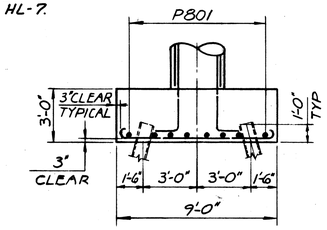
SECTION C-C



SECTION D-D

BRIDGE SEAT REINFORCING
REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES

BEARING ANCHORS
AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.



VIEW E-E

NOTES
PIER PILES ARE HP 10x42
BATTERED PILES SHALL BE BATTERED 1 ON 4 IN DIRECTION SHOWN.
ABBREVIATIONS USED: E.F. = EACH FACE T & B. = TOP & BOTTOM.
REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS SEE SHEET NO. 9/10 AND 10/10

ELEVATION TABLE

LOCATION	A	B	C	D	E	F	G	H
PIER # 1	609.27	609.40	609.53	609.53	609.40	609.26	605.77	589.00
PIER # 2	609.12	609.26	609.39	609.40	609.27	609.14	605.62	587.00
PIER # 3	608.99	609.13	609.28	609.29	609.16	609.04	605.49	585.50

5/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

PIER DETAILS

BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY
ERI - 2 - 16.13
STA. 18+78.67 TO STA. 21+21.33

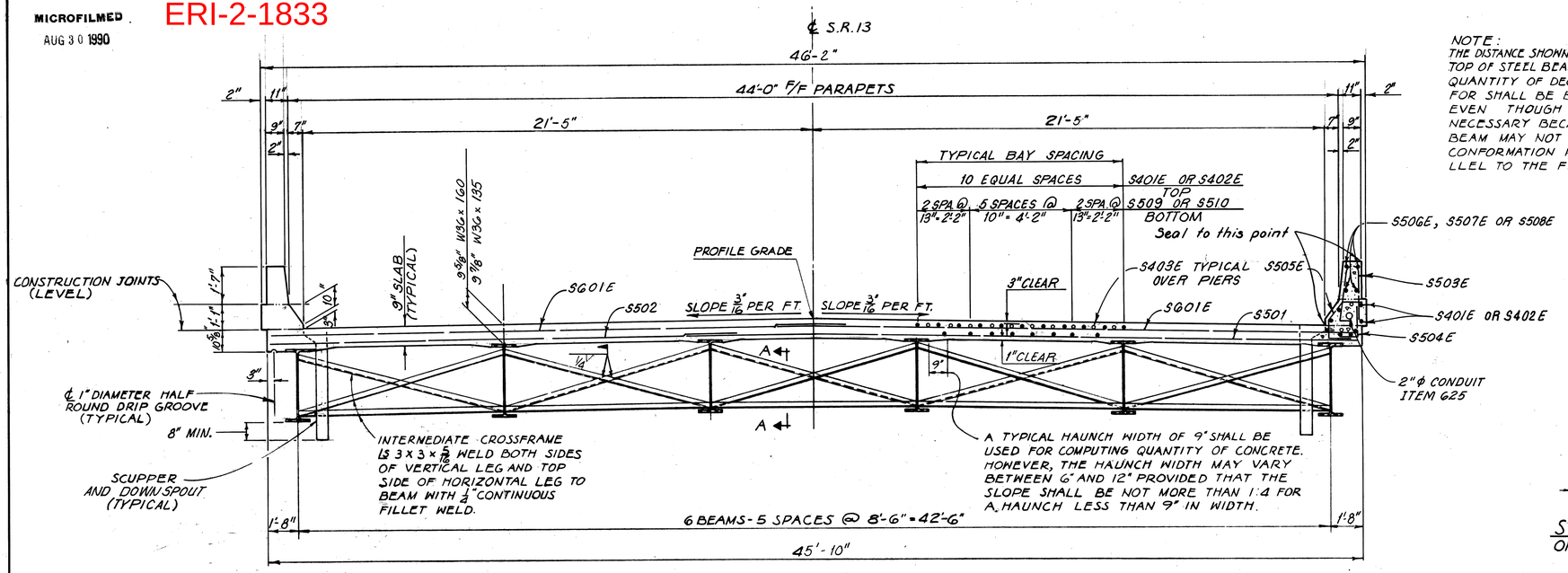
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	V.I.P.	L.A.	L.E.D.	9-21-85	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

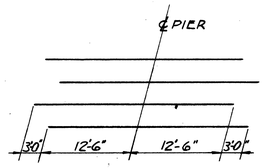
214
284

ERIE COUNTY
ERI - 2-(16.13-17.39)

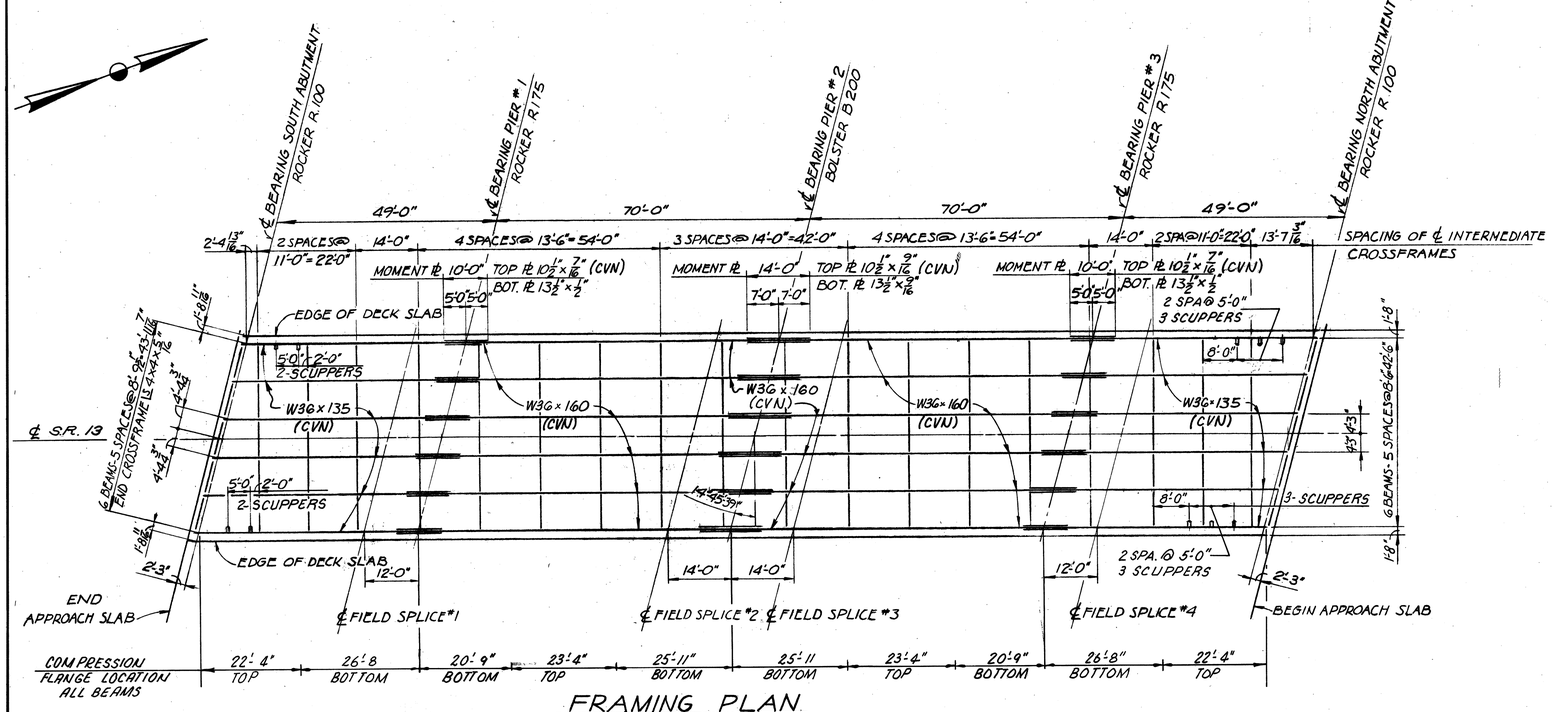
NOTE:
THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO TOP OF STEEL BEAM IS THE DESIGN DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.



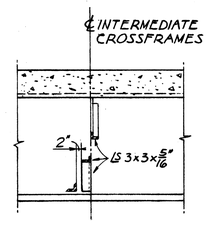
TRANSVERSE SECTION



STAGGER DIAGRAM
OF S403E BARS OVER PIERS



FRAMING PLAN



SECTION A-A

NOTES

FOR DECK SLAB PLAN SEE SHEET NO. 8/10

FOR SUPERSTRUCTURE DETAILS SEE SHEET NO. 7/10

FOR ROCKERS AND BOLSTERS SEE STANDARD DRAWING RB-1-55.

SCUPPERS SHALL BE IN ACCORDANCE WITH STD. DWG. SD-1-69 EXCEPT THAT SCUPPER PIPES SHALL EXTEND 8" BELOW THE BOTTOM OF THE BEAMS INSTEAD OF 2".

WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINES MAY BE MADE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO. 6/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

TRANSVERSE SECTION & FRAMING PLAN

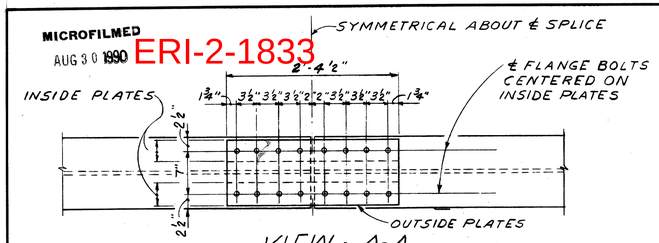
BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R.2
ERIE COUNTY
ERI-2-16.13
STA. 18+78.67 TO
STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	V.I.P.	L.A.	L.E.D.	9.21.85	

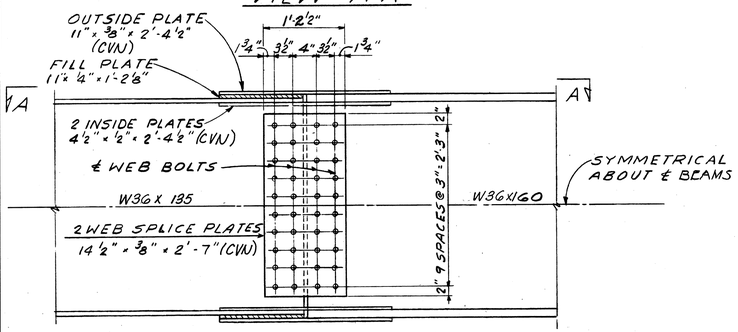
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

215/284

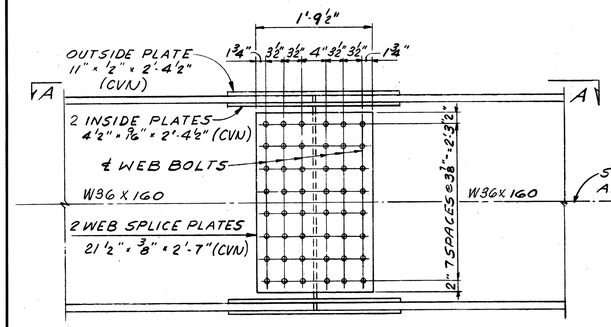
ERIE COUNTY
ERI - 2-(16.13-17.39)



VIEW - A-A

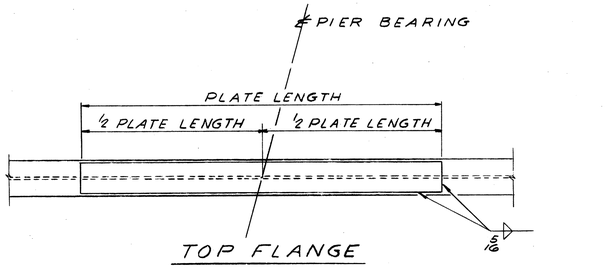


FIELD SPLICES #1 & #4

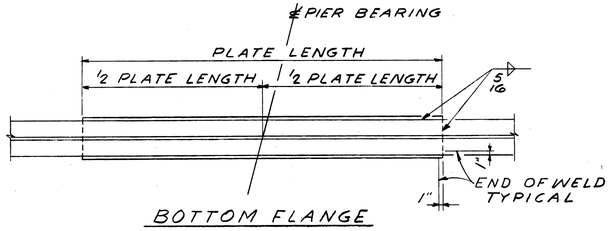


FIELD SPLICES #2 & #3

BEAM SPLICE DETAILS



TOP FLANGE

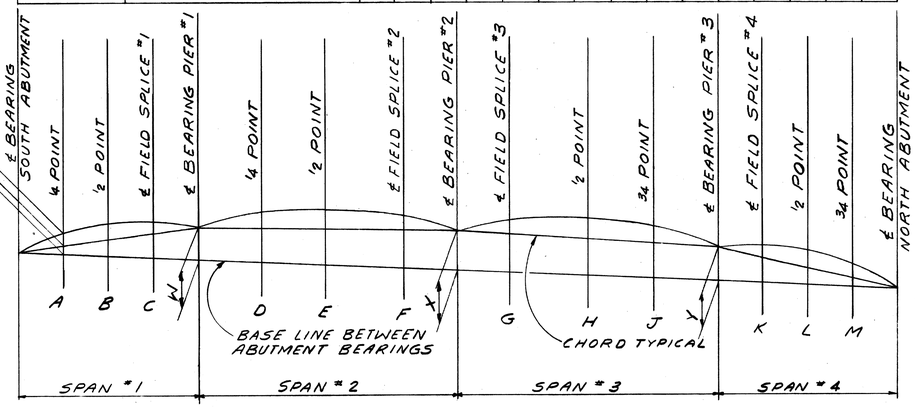


BOTTOM FLANGE

MOMENT PLATE DETAILS

DEFLECTION AND CAMBER TABLE

BEAMS	DESCRIPTION	A	B	C	D	E	F	G	H	J	K	L	M	W	X	Y
APPLIES TO ALL BEAMS	DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	1/16"	1/16"	0"	0"	1/16"	1/16"	0"	0"	0"	2 3/16"	3 3/8"	2 3/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	1/8"	3/16"	1/16"	1/4"	3/8"	1/8"	1/8"	3/8"	1/4"	1/16"	3/16"	1/8"			
	VERTICAL CURVE ADJUSTMENT	1/8"	1/8"	1/8"	1/4"	5/16"	3/16"	3/16"	5/16"	1/4"	1/8"	1/8"	1/8"			
	REQUIRED CAMBER	1/4"	5/16"	3/16"	9/16"	3/4"	5/16"	5/16"	3/4"	9/16"	3/16"	5/16"	1/4"			
	ORDINATE BETWEEN CHORD AND BASE LINE	9/16"	1 1/8"	1 11/16"	2 1/2"	2 13/16"	3 1/16"	3 1/16"	2 13/16"	2 1/2"	1 11/16"	1 1/8"	9/16"			



CAMBER DIAGRAM

NOTES

HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER UNLESS OTHERWISE NOTED.

FOR FRAMING PLAN SEE SHEET NO. 6/10

FOR ADDITIONAL FIELD SPLICE DETAILS SEE STANDARD DRAWING SD-1-69

~~FOR END DAM AND END CROSSFRAME DETAILS, SEE STANDARD DRAWING SD-1-69, SHEETS 1 AND 2 OF 4. THE 2" x 1/2" x 1'-0" ANCHOR BARS SHALL BE 4 1/4" FROM THE TOP OF SLAB INSTEAD OF 3" AS SHOWN IN SECTION A-A. PROVIDE 3" BEVELED BAR, 1/4" MINIMUM THICKNESS, WELDED TO MAIN ANGLE OF END DAM EVEN THOUGH ROADWAY GRADIENT AT END DAM MAY BE LESS THAN 2%.~~

WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.02 OF C.M.S.

7/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

SUPERSTRUCTURE DETAILS

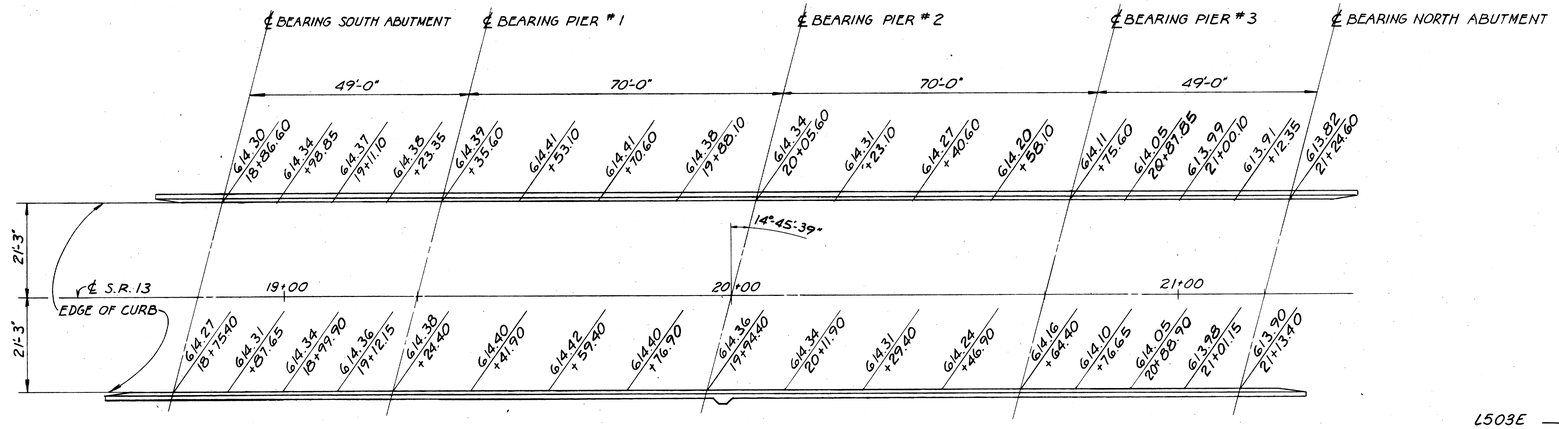
BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY
ERI - 2 - 16.13
STA. 18+78.67 TO
STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	Z	L.A.	L.E.D.	9.21.85	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

216
284

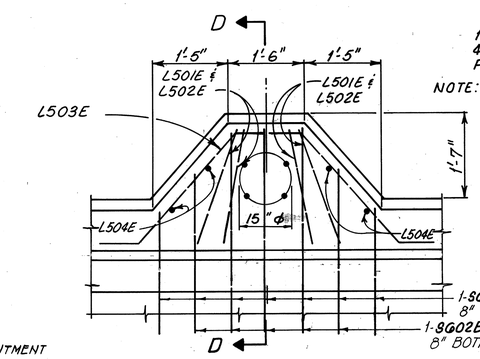
ERIE COUNTY
ERI - 2-(16.13-17.39)



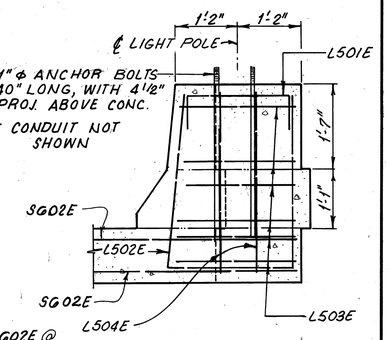
DECK ELEVATION PLAN

THE ELEVATIONS SHOWN ARE TOP OF CONCRETE SLAB ELEVATIONS WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR THE DEADLOAD DEFLECTIONS CAUSED BY THE WEIGHT OF THE CONCRETE SLAB.

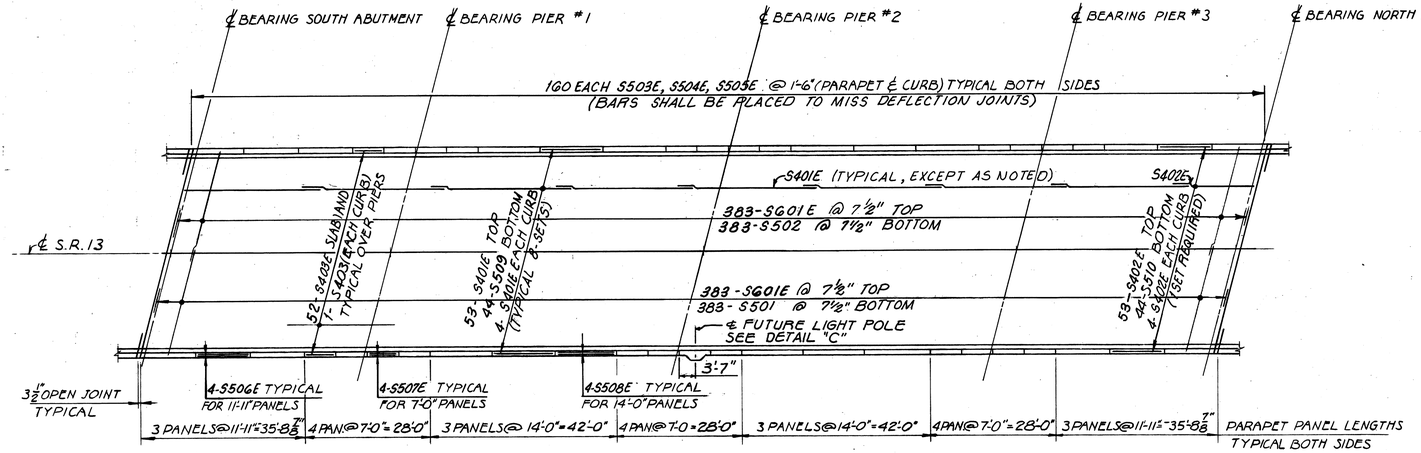
NOTE: FOR ADDITIONAL DETAILS OF STRUCTURE MOUNTED LIGHT POLE, SEE STANDARD DRAWING HL-3, 4, 5, 7 & 19. AND LIGHTING PLANS.



DETAIL "C"



SECTION D-D

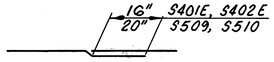


NOTE: FOR SPACING OF LONGITUDINAL REINFORCEMENT SEE TRANSVERSE SECTION.

DECK SLAB PLAN

NOTES

FOR TRANSVERSE SECTION SEE SHEET NO. 6/10
FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS SEE SHEET NO. 9/10 AND 10/10.
FOR RAILING DETAILS NOT SHOWN SEE STANDARD DRAWING BR-1, SHEET NO. 1 OF 1.



BAR LAP DETAIL

8/10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

DECK SLAB PLAN & DECK ELEVATION PLAN

BRIDGE NO. ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY STA. 18+78.67 TO
ERI-2-16.13 STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
L.E.D.	V.I.P.	L.A.	L.E.D.	9-21-85	

ABUTMENTS

MARK	Nº REQUIRED NORTH ABUTMENT	Nº REQUIRED SOUTH ABUTMENT	Nº REQUIRED TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
A501	36	36	72	7'-9"	1	1'-4"	5'-4"	1'-4"			582
A502	36	36	72	7'-4"	13	6'-7"	10"				551
A503	36	36	72	8'-0"	1	2'-5"	3'-5"	2'-5"			601
A504	11	11	22	22'-10"	ST.						524
A505	8	8	16	23'-8"	ST.						395
A506	2 SETS OF 5 BARS	2 SETS OF 5 BARS	4 SETS OF 5 BARS	22'-10" TO 23'-8"	ST.					2-1/2"	485
A507	3	3	6	21'-11"	ST.						137
A508	10	10	20	4'-4"	ST.						90
A509	12	12	24	13'-8"	ST.						342
A515	6	6	12	7'-8"	ST.						96
A516	6	6	12	7'-3"	ST.						91
A517	11	11	22	11'-6"	3	2'-6"	3'-0"				264
A518	4	4	8	7'-6"	8	6'-0"	1'-7"	1'-5"	8"		63
A519	1	1	2	4'-3"	ST.						9
A520	11	11	22	4'-7"	ST.						105
A521	11	11	22	5'-4"	ST.						122
A601	36	36	72	14'-4"	1	6'-7"	5'-4"	2'-9"			1,550
A602	44	44	88	6'-3"	1	2'-7"	1'-5"	2'-7"			826
A603	44	44	88	9'-7"	1	4'-3"	1'-5"	4'-3"			1,267
A604	6	6	12	7'-2"	1	3'-2"	1'-2"	3'-2"			129
A605	10	10	20	18'-8"	1	8'-11"	1'-2"	8'-11"			561
A607	10	10	20	4'-6"	ST.						135
A608	2	2	4	9'-8"	1	4'-5"	1'-2"	4'-5"			58
A609	2	2	4	8'-10"	1	4'-0"	1'-2"	4'-0"			53
A610	2	2	4	7'-6"	1	3'-4"	1'-2"	3'-4"			45
A801	7	7	14	30'-0"	ST.						1,121
A802	7	7	14	23'-1"	ST.						863
A803	2	2	4	13'-8"	8	10'-0"	3'-8"	3'-6"	11"		146
A804	8	8	16	10'-10"	ST.						463
A805	2	2	4	14'-8"	4	3'-6"	11'-3"		11"		157
										TOTAL ABUTMENTS =	11,831

PIER NO. 1

MARK	Nº REQUIRED TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
1P501	42	4'-1"	7	2'-8"					179
1P502	36	8'-5"	1	3'-0"	2'-8"	3'-0"			316
1P503	128	7'-8"	1	3'-0"	1'-11"	3'-0"			1,024
1P601	4	24'-11"	ST.						150
1P602	6	6'-8"	1	2'-2"	2'-8"	2'-2"			60
1P801	54	10'-4"	11	8'-6"					1,490
1P1001	24	9'-7"	13	8'-1"	1'-10"				990
1P1002	24	17'-0"	ST.						1,756

PIER NO. 1 (CONT.)

MARK	Nº REQUIRED TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
1P1101	7	22'-8"	13	19'-10"	3'-2"				843
1P1102	7	40'-2"	13	37'-4"	3'-2"				1,494
1P1103	8	27'-3"	ST.						1,158
							TOTAL SPIRALS		770
							TOTAL PIER NO. 1		10,230

PIER NO. 2

MARK	Nº REQUIRED TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
2P501	42	4'-1"	7	2'-8"					179
2P502	36	8'-5"	1	3'-0"	2'-8"	3'-0"			316
2P503	128	7'-8"	1	3'-0"	1'-11"	3'-0"			1,024
2P601	4	24'-11"	ST.						150
2P602	6	6'-8"	1	2'-2"	2'-8"	2'-2"			60
2P801	54	10'-4"	11	8'-6"					1,490
2P1001	24	9'-7"	13	8'-1"	1'-10"				990
2P1002	24	18'-10"	ST.						1,945
2P1101	7	22'-8"	13	19'-10"	3'-2"				843
2P1102	7	40'-2"	13	37'-4"	3'-2"				1,494
2P1103	8	27'-3"	ST.						1,158
							TOTAL SPIRALS		869
							TOTAL PIER NO. 2		10,518

PIER NO. 3

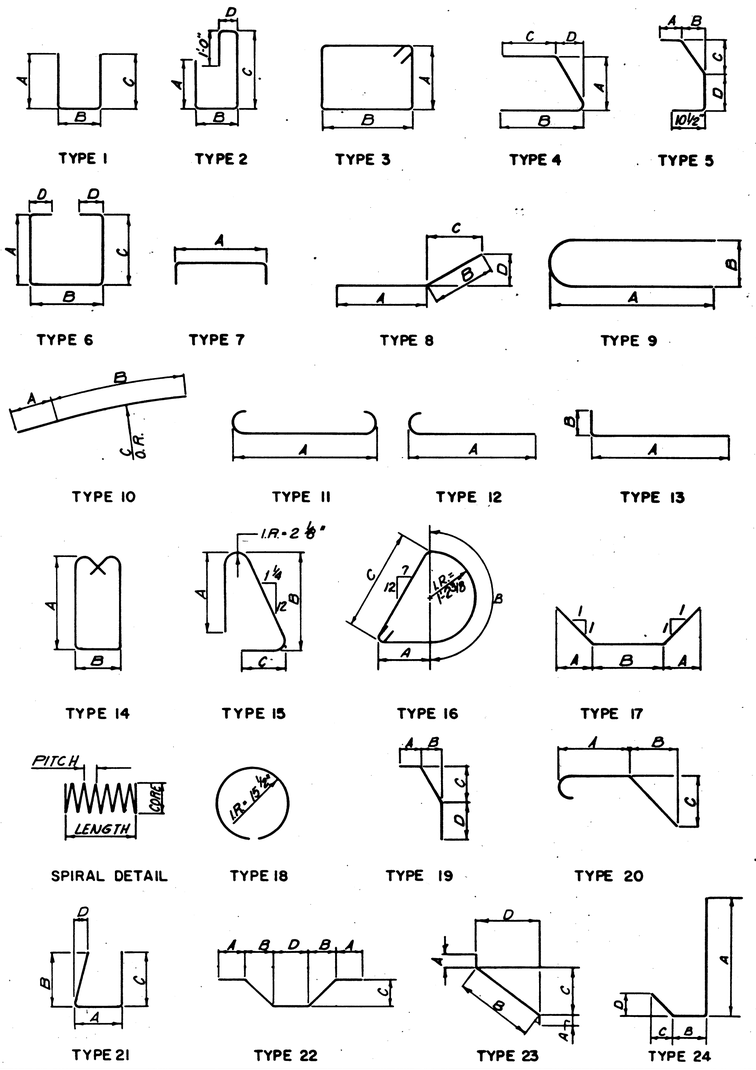
MARK	Nº REQUIRED TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
3P501	42	4'-1"	7	2'-8"					179
3P502	36	8'-5"	1	3'-0"	2'-8"	3'-0"			316
3P503	128	7'-8"	1	3'-0"	1'-11"	3'-0"			1,024
3P601	4	24'-11"	ST.						150
3P602	6	6'-8"	1	2'-2"	2'-8"	2'-2"			60
3P801	54	10'-4"	11	8'-6"					1,490
3P1001	24	9'-7"	13	8'-1"	1'-10"				990
3P1002	24	20'-3"	ST.						2,091

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

217 / 284

ERIE COUNTY
ERI-2-(16.13-17.39)

BENDING DIAGRAMS



REINFORCING STEEL SAMPLES:

REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

NOTE:
BAR DIMENSIONS GIVEN ARE OUT TO OUT.

9 / 10

ADACHE ASSOCIATES INC., ENGINEERS
CLEVELAND, OHIO 44142

REINFORCING STEEL LIST

BRIDGE Nº ERI - 2 - 1833
S.R. 13 OVER S.R. 2
ERIE COUNTY STA. 18+78.67 TO
ERI-2-16.13 STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.R.J.	D.R.J.	K.L.M.	L.E.D.	9-23-85	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

2174
284

ERIE COUNTY
ERI-2-(16.13-17.39)

PIER NO. 3 (CONT.)

MARK	NO REQUIRED		TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
3P1101			7	22'-8"	13	19'-10"	3'-2"				843
3P1102			7	40'-2"	13	37'-4"	3'-2"				1,494
3P1103			8	27'-3"	ST.						1,158
									TOTAL SPIRALS		945
									TOTAL PIER NO. 3		10,740

SPIRAL REINFORCEMENT

MARK	Nº	LENGTH	WEIGHT	CORE	PITCH	SPACERS
1SP401	3	13'-5"	770	32"	4-1/2"	12 - L S 1 X 1 X 1/8
2SP402	3	15'-3"	869	32"	4-1/2"	12 - L S 1 X 1 X 1/8
3SP403	3	16'-8"	945	32"	4-1/2"	12 - L S 1 X 1 X 1/8

SUPERSTRUCTURE

MARK	NO REQUIRED		TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
S501			383	27'-10"	ST.						11,119
S502			383	19'-4"	ST.						7,723
S509			352	30'-0"	ST.						11,014
S510			44	12'-1"	ST.						555
									TOTAL SUPERSTRUCTURE BARS		30,411

EPOXY COATED REINFORCING

ABUTMENTS

MARK	NO REQUIRED NORTH ABUTMENT	SOUTH ABUTMENT	TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
A504E	1	1	2	22'-10"	ST.						48
A505E	1	1	2	23'-8"	ST.						49
A508E	16	16	32	4'-4"	ST.						145
A510E	16	16	32	11'-10"	ST.						395
A511E	8	8	16	3'-0"	ST.						50
A512E	8	8	16	5'-3"	15	2'-2"	2'-5"	7-1/2"			88
A513E	16	16	32	4'-7"	ST.						153
A514E	16	16	32	2'-8"	12	2'-1"					89
A606E	44	44	88	5'-3"	1	2'-4"	11"	2'-4"			694
A611E	8	8	16	3'-9"	19	9"	6"	8-1/2"	2'-5"		90
A612E	2 SETS OF 5 BARS	2 SETS OF 5 BARS	4 SETS OF 5 BARS	3'-7" TO 3'-9"	19	7" TO 9"	2" TO 6"	8-1/2"	2'-5"	1/2"	110
A613E	6	6	12	3'-7"	19	7"	2"	8-1/2"	2'-5"		65
A306E	30	30	60	4'-10"	20	2'-7"	1'-0"	1'-0"			774
									TOTAL ABUTMENTS EPOXY BARS		2,750

SUPERSTRUCTURE

MARK	NO REQUIRED		TOTAL	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
S401E			488	30'-0"	ST.						9,780
S402E			61	9'-5"	ST.						384
S403E			162	28'-0"	ST.						3,030
S503E			320	5'-3"	15	2'-2"	2'-5"	7-1/2"			1,752
S504E			320	2'-5"	13	1'-8"	10-1/2"				807
S505E			320	3'-1"	5	9"	6"	8-1/2"	9-1/2"		1,029
S506E			48	11'-7"	ST.						580
S507E			96	6'-8"	ST.						668
S508E			48	13'-8"	ST.						684
S601E			766	23'-9"	ST.						27,325
S602E			12	6'-0"	ST.						108
										SUBTOTAL	46,147
				LIGHT POLE PILASTER							
L501E			4	3'-3"	1	10"	1'-10"	10"			14
L502E			4	8'-5"	21	2'-4"	3'-2"	3'-2"	6-1/2"		35
L503E			6	7'-3"	22	6"	1'-10"	1'-10"	1'-4"		45
L504E			4	3'-2"	ST.						13
										SUBTOTAL	107
									TOTAL SUPERSTRUCTURE EPOXY BARS		46,254

10/10

adache - ciuni - lynn associates
CONSULTING ENGINEERS CLEVELAND, OHIO 44130

REINFORCING STEEL LIST

BRIDGE Nº ERI - 2 - 1833
S.R. 13 OVER S.R. 2

ERIE COUNTY
ERI - 2 - 16.13

STA. 18+78.67 TO
STA. 21+21.33

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.R.J.	D.R.J.	K.L.M.	L.E.D.	9.23.85	

ERI-2-1833

STRUCTURE ERI-2-1798L (SFN 2201003)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	3	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	704	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	52	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	5	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	23	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
516	13600	14	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	

STRUCTURE ERI-2-1798R (SFN 2201011)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	4	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	1056	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	78	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	7	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	35	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
516	13600	20	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	

STRUCTURE ERI-2-1833 (SFN 2202425)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
512	10100	928	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	1145	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	

DESIGN AGENCY ODOT DISTRICT THREE
REVISED DCW DATE 2/06
DRAWN BTR REVISED
DESIGNED BTR CHECKED DJV
STRUCTURE FILE NUMBER
STRUCTURE SUMMARY
ERI-2-16.13
35 / 61

WORKSTATION tjackson DATE 3/1/2006
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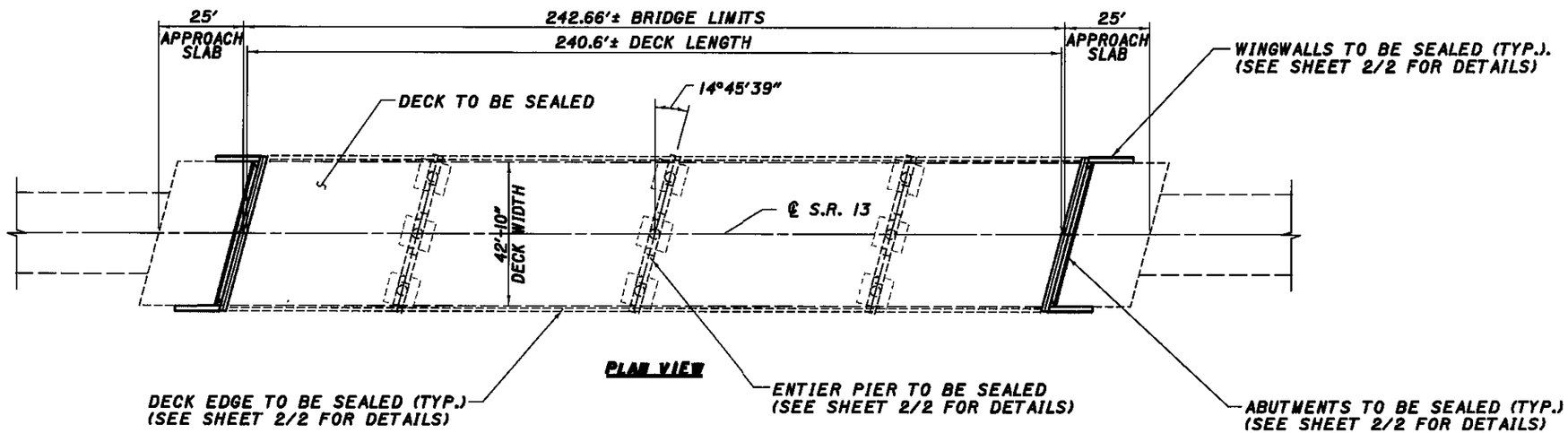
ERI-2-1833



ITEM	QUANTITY	UNIT	DESCRIPTION
512	1145	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

1) THE EXISTING GUARDRAIL IS NOT SHOWN.

DESIGN AGENCY: DISTRICT THREE, OFFICE OF PRODUCTION

DESIGNED: GTS | DRAWN: GTS | CHECKED: DJV | REVISED: DCM | DATE: 2/06 | STRUCTURE FILE NUMBER: 2202425

PLAN VIEW
ERI - 2 - 1833
UNDER SR 13

ERI-2-16.13

1 | 2

57
61

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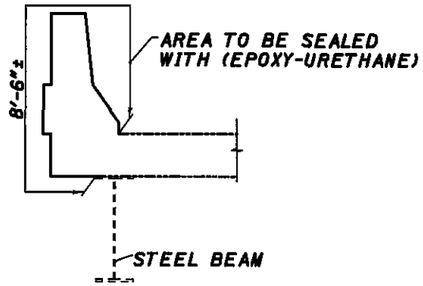
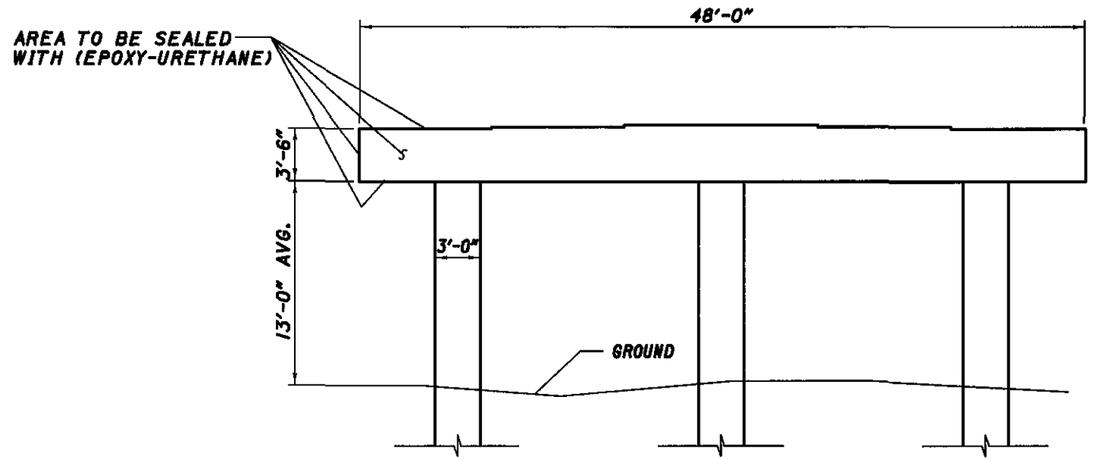
tjackson DATE 3/1/2006

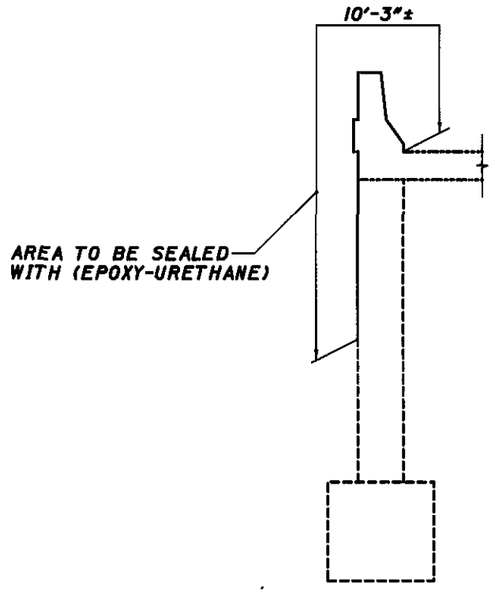
ERI-2-1833



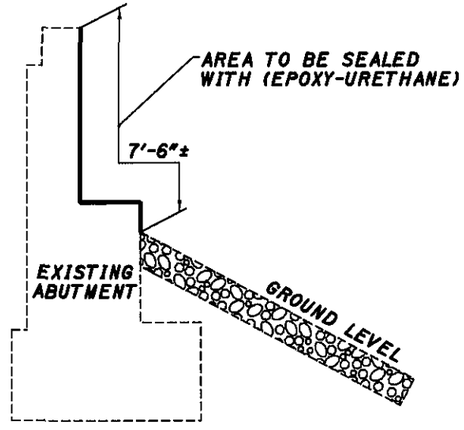
TYPICAL SECTION AT PARAPET
LENGTH = 240'-6"±



PIER CAP ELEVATION VIEW
WIDTH = 3'-0"±



TYPICAL SECTION AT WINGWALL
LENGTH = 14'-0"± AVG.



TYPICAL SECTION AT ABUTMENT
(ABUTMENTS ARE 47'-5" LONG)

ITEM	QUANTITY	UNIT	DESCRIPTION
512	928	SQ YD	SEALING OF CONCRETE STRUCTURES (EPOXY-URETHANE)

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

1) THE PARAPETS AND ALL EXPOSED AREAS OF THE ABUTMENTS, WINGWALLS AND ENTIRE PIER CAP AND COLUMNS SHALL BE SEALED WITH ITEM 512.

2) THE SEALING AREA DETAILS ARE NOT TO SCALE.

DESIGN AGENCY
DISTRICT THREE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
GTS	GTS	DCM	02/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJV		2202425	

SEALING DETAILS
ERI - 2 - 1833
UNDER SR 13

ERI-2-16.13

2 | 2

58
61

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tjackson 3/1/2006

ERI-2-1833

BRIDGE DECK DATA								ROADWAY DATA		
COUNTY, ROUTE, BRIDGE NO.	LOCATION	STRUCTURE TYPE	LENGTH (BRIDGE DECK)	WIDTH	BRIDGE DECK AREA	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	EXISTING APPROACH SLAB WIDTH	EXISTING APPROACH SLAB LENGTH
			FT.	FT.	SQ. YD.			FT.	FT.	FT.
+ ERI-13-0293	OVER IR 80	4-SPAN STEEL BEAM	264±	33'-10"±	992	16° L.F.	CONCRETE	26.0	33	25
* ERI-13-0367	OVER RAILROAD	3-SPAN STEEL BEAM	132±	37'-8"±	552	24°18' R.F.	CONCRETE	36.0	20	25
+ ERI-13-0650	OVER SR 2	4-SPAN STEEL BEAM	243±	42'-10"±	1157	15°45'39" L.F.	CONCRETE	26.0	44	25

+ BUTT JOINT AT APPROACH SLABS. OMIT RESURFACING ON THE APPROACH SLABS AND BRIDGE DECK. (NO STRUCTURE WORK, SEE ROADWAY FOR PLANING AND PAVING QUANTITIES)

* BUTT JOINT AT STRUCTURE. PLANE AND PAVE OVER APPROACH SLAB. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK), (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES)

DESIGN FILE: i:\projects\80184\structures\brtreat.dgn
WORKSTATION: nfoster
DATE: 7/30/2013
MODEL NAME: Design

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED NRF | DRAWN NRF | REVIEWED DCM | DATE 5/28
CHECKED DJV | REVISED

STRUCTURE TREATMENT

ERI-13-1.84