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REFERENCE:

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

SUPERSTRUCTURE DETAILS	SD-1-69	SHEET 1 OF 4	DATED 6-12-69
RESURFACING	BP-5		DATED 4-16-79
BRIDGE RAILING	BR-1		DATED 5-29-79
STRUCTURE LIGHTING II	HL-5		DATED 6-9-73
TYPE 5 GUARDRAIL	GR-2B		DATED 12-6-76
ANCHOR ASSEMBLY	GR-4A		DATED 7-26-76
BRIDGE TERMINAL ASSEMBLIES	GR-3		DATED 12-6-76
DEEP BEAM BRIDGE GUARDRAIL WITH TUBULAR BACKUP	DBR-2-73		DATED 4-10-73

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

CONCRETE CURING AND PROTECTIVE MEMBRANE	836	DATED 3-12-75
BRIDGE DECK REPAIR AND OVERLAY WITH LATEX MODIFIED CONCRETE	845	DATED 3-2-81
LATEX FOR CONCRETE MODIFICATION	953	DATED 8-21-80
GROUT ANCHORING WITH NONSHRINKING EPOXY MORTAR	853	DATED 6-26-78
NONSHRINKING EPOXY MORTAR FOR GROUT ANCHORING	956	DATED 6-26-78
ASPHALT CONCRETE	848	DATED 3-4-80

DESIGN SPECIFICATIONS

THE REPAIR OF THESE STRUCTURES CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978 AND 1979 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING	- HS20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS C	- UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE
STRUCTURAL STEEL	- ASTM A36 - UNIT STRESS 20,000 P.S.I.
REINFORCING STEEL	- ASTM A615, A616 OR A617 - GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.

REMOVAL OF PORTIONS OF EXISTING STRUCTURE:

PORTIONS OF THE EXISTING STRUCTURE SHALL BE REMOVED AS INDICATED ON THE PLANS AND AS SPECIFIED IN 202.03. EXISTING WEARING COURSE TO BE REMOVED AS SPECIFIED IN 202.05.

MAINTENANCE OF TRAFFIC & CONSTRUCTION CLEARANCE:

SEE PROJECT GENERAL NOTES.

DIMENSIONS AND STATIONS:

DIMENSIONS AND STATIONS SHOWN ARE FROM EXISTING PLAN INFORMATION. ACTUAL FIELD INFORMATION INDICATES THAT THE STRUCTURES VARY FROM THE ORIGINAL PLANS. IT IS THE INTENT OF THESE PLANS THAT THE PROPOSED, ADDITIONS AND ALTERATIONS TO THESE STRUCTURES MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL PERTINENT DIMENSIONS BY CAREFUL FIELD MEASUREMENTS IN ORDER TO SATISFY HIMSELF OF THE CORRECTNESS THEREOF. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 105.02 AND 513.02.

ITEM SPECIAL - WATERPROOFING BRIDGE DECK:

MEMBRANE WATERPROOFING - SEE PROPOSAL NOTE.

ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECKS:

DESCRIPTION: THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECKS, INCLUDING THE REMOVAL OF ALL LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, SURFACE PREPARATIONS, BONDING COAT AND THE MIXING, PLACING FINISHING AND CURING OF THE CONCRETE PATCHES.

MATERIALS: MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

FINE AGGREGATE (NATURAL SAND)	- 703.02
COARSE AGGREGATE (No. 8)	- 703.02
PORTLAND CEMENT	- 701.05
AIR ENTRAINING ADMIXTURE	- 705.10

REMOVAL OF UNSOUND CONCRETE: THE ENGINEER SHALL SOUND THE ENTIRE DECK AND OUTLINE THE AREAS TO REMOVED. THE PERIMETERS OF ALL REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF 1" TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL. THE UNSOUND CONCRETE SHALL BE REMOVED BY CHIPPING HAMMERS OPERATED AT AN ANGLE OF LESS THAN 45° MEASURED FROM THE SURFACE OF THE SLAB. HAMMERS HEAVIER THAN THE NOMINAL 35-POUND CLASS SHALL NOT BE USED. CARE SHALL BE EXERCISED TO PREVENT CUTTING, STRETCHING OR DAMAGING ANY EXPOSED REINFORCING STEEL. AFTER COMPLETION OF THE INITIAL REMOVAL OPERATIONS, THE AREA SHALL BE CLEANED AND THE ENGINEER SHALL AGAIN SOUND THE AREA TO INSURE THE COMPLETE REMOVAL OF ALL UNSOUND CONCRETE. FINAL CLEANUP OF ALL FRACTURED AND LOOSE CONCRETE SHALL BE COMPLETED WITH HAND TOOLS. WHERE THE SLAB HAS DETERIORATED TO A DEPTH GREATER THAN 5" THE AREA SHALL BE REMOVED FULL DEPTH.

SURFACE PREPARATION: IMMEDIATELY BEFORE APPLYING THE BONDING GROUT THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE CLEANED BY SANDBLASTING FOLLOWED BY AN AIR BLAST. THE PREPARED SURFACE SHALL BE DRY TO ALLOW SOME ABSORPTION OF THE GROUT.

BONDING GROUT: THE GROUT FOR BONDING THE PATCHES SHALL CONSIST OF EQUAL PARTS BY WEIGHT OF PORTLAND CEMENT AND SAND, MIXED WITH SUFFICIENT WATER TO FORM A STIFF SLURRY. THE CONSISTENCY OF THIS SLURRY SHALL BE SUCH THAT IT CAN BE APPLIED WITH A STIFF BRUSH OR BROOM TO THE EXISTING SURFACE IN A THIN, EVEN COATING THAT WILL NOT RUN OR PUDDLE. A THIN COATING OF THE GROUT SHALL BE SCRUBBED INTO THE DRY SURFACE IMMEDIATELY BEFORE PLACING CONCRETE. CARE SHALL BE EXERCISED TO INSURE THAT ALL SURFACES RECIEVE A THOROUGH EVEN COATING AND THAT NO EXCESS GROUT IS PERMITTED TO COLLECT IN LOW SPOTS. IN NO CASE SHALL THE GROUT BE PERMITTED TO DRY BEFORE PLACING THE NEW CONCRETE. THINNED GROUT SHALL BE PAINTED OVER ALL JOINTS BETWEEN THE NEW AND EXISTING CONCRETE IMMEDIATELY AFTER THE FINISHING HAS BEEN COMPLETED.

PATCHING WITH CONCRETE: PATCHES SHALL BE MADE WITH HIGH-EARLY-STRENGTH-AIR-ENTRAINED PORTLAND CEMENT. THE MIXTURE SHALL CONSIST OF 1 PART PORTLAND CEMENT, 1 1/2 PARTS FINE AGGREGATE AND 1 1/2 PARTS COARSE AGGREGATE BY VOLUME. SUFFICIENT AIR-ENTRAINING AGENT SHALL BE ADDED TO MAINTAIN AN AIR CONTENT OF 8% ± 2. THE SLUMP SHALL BE THE MINIMUM PRACTICAL FOR PLACING AND IN NO CASE SHALL IT EXCEED 2". THE MATERIAL SHALL BE MIXED AT THE JOB SITE, READY-MIXED CONCRETE SHALL NOT BE PERMITTED. THE MIX SHALL BE PLACED IN THE AREA TO BE PATCHED, WHILE THE BONDING GROUT IS STILL WET, SLIGHTLY OVERFILLING AND STRUCK OFF WITH A VIBRATING SCREED, DRAWN SLOWLY ACROSS THE AREA. HAND FINISHING WITH A WOOD FLOAT MAY BE REQUIRED TO PRODUCE A TIGHT, UNIFORM SURFACE.

CURING: PATCHES SHALL BE CURED IN ACCORDANCE WITH SEC. 511.14 METHOD (A), FOR NOT LESS THAN 24 HOURS IF MEMBRANE WATERPROOFING IS TO BE APPLIED IMMEDIATELY. IF NOT, METHOD (A) SHALL BE USED FOR 72 HOURS, AFTER WHICH METHOD (B) SHALL BE APPLIED USING MATERIAL CONFORMING TO SUPPLEMENTAL SPECIFICATION No. 836. MEMBRANE CURING MATERIAL SHALL BE REMOVED PRIOR TO PLACING WATERPROOFING.

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

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. YD.	PATCHING CONCRETE BRIDGE DECKS

ITEM 513 - STRUCTURAL STEEL SHIM PLATES:

WORK UNDER THIS ITEM INCLUDES FURNISHING AND ATTACHING SHIM PLATES TO BRIDGE BEARINGS. WHERE ONLY SLIGHT SHIMMING IS NECESSARY (LESS THAN ONE INCH) THE RAISING OF THE SUPERSTRUCTURE SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT.

END DAMS AND SCUPPERS:

STEEL BAR STOCK UTILIZED FOR END DAMS AND SCUPPERS MAY BE ANY WELDABLE GRADE OF LOW OR MILD CARBON STEEL AVAILABLE COMMERCIALLY. THIS MATERIAL IS TO BE EXCLUDED FROM THE REQUIREMENTS OF 501.07 FOR TEST REPORTS.

ITEM 516 - MODIFICATION OF EXISTING END DAMS:

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO MODIFY EXISTING END DAMS IN ACCORDANCE WITH THE PLAN DETAILS. RAISING OF END OF SUPERSTRUCTURE IS INCLUDED WITH ITEM SPECIAL - RAISE, SUPPORT AND LOWER STRUCTURE. PAYMENT WILL BE MADE AT CONTRACT PRICE FOR: ITEM 516, MODIFICATION OF EXISTING END DAM - CASE I, II, II-A, OR III.

ITEM 519 - PATCHING CONCRETE STRUCTURES:

ALL LOOSE, DISINTEGRATED AND SPALLED AREAS OF BRIDGE CURBS, PARAPETS, ABUTMENTS, WINGWALLS AND PIERS SHALL BE PATCHED AS DIRECTED BY THE ENGINEER. THE ESTIMATED QUANTITIES FOR PATCHING WERE OBTAINED BY FIELD INSPECTION OF EACH STRUCTURE AND ARE INTENDED TO BE AN INDICATION OF THE AMOUNT OF PATCHING WORK REQUIRED, HOWEVER, ONLY AFTER REMOVAL OF THE UNSOUND CONCRETE AND SUBSEQUENT RESOUNDING CAN THE EXTENT OF REPAIR BE DETERMINED. FIELD EXAMINATION INDICATES THAT MOST PATCHING WILL BE CONFINED TO THE ABUTMENT BACKWALLS. WORK UNDER THIS ITEM, ALONG WITH ITEM 202, WILL BE CLOSELY DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SAFE, EASY MEANS OF INSPECTING, SOUNDING AND MARKING AREAS TO BE PATCHED. THE ENGINEER WILL SOUND AND MARK UNSOUND AREAS OF ALL EXPOSED CONCRETE SURFACES OF THE BRIDGE. DEPTH OF PATCHING UNDER THIS ITEM SHALL NOT EXCEED 6"; AREAS REQUIRING GREATER REMOVAL SHALL BE REPAIRED UNDER ITEMS 202 AND 511. ALL AREAS TO BE REPAIRED SHALL CONFORM TO THE EXISTING CONFIGURATION OF THE SURROUNDING AREAS SO THAT THE COMPLETED WORK SHALL HAVE A NEAT, UNIFORM APPEARANCE SATISFACTORY TO THE ENGINEER. PAYMENT FOR THE INCLUDED WORK WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 519 - SQ. FT. - PATCHING CONCRETE STRUCTURES.

REPLACEMENT OF EXISTING REINFORCING STEEL:

ANY EXISTING REINFORCING BARS MADE UNUSABLE BY CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL.

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ITEM 514 - FIELD PAINTING OF EXISTING ROCKERS AND SLIDING BEARINGS:
ALL ROCKERS AND SLIDING BEARINGS AS DIRECTED BY THE ENGINEER SHALL BE CLEANED AND PAINTED PER ITEM 514 AFTER JACKING, ALIGNING AND SHIMMING. ALL ROCKERS SHALL BE LUBRICATED AS DIRECTED BY THE ENGINEER. COST OF LUBRICATING ROCKERS TO BE INCLUDED WITH ITEM 514 - FIELD PAINTING OF EXISTING ROCKERS AND SLIDING BEARINGS. WORK UNDER THIS ITEM SHALL INCLUDE SURFACE PREPARATION, SPOT PRIME PAINTING, COMPLETE COAT PRIME PAINTING, COMPLETE COAT FINISH PAINTING. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE FOR EACH ROCKER OR BEARING CLEANED AND PAINTED.

ITEM 845 - BRIDGE DECK REPAIR :
WHERE INDICATED IN THE ESTIMATED BRIDGE QUANTITIES THE BRIDGE DECK SHALL BE REHABILITATED FOLLOWING THE SUPPLEMENTAL SPECIFICATION FOR LATEX MODIFIED CONCRETE OVERLAY. A PAY ITEM FOR FULL DEPTH REPAIR HAS BEEN ESTIMATED AT 2 CUBIC YARDS FOR EACH BRIDGE DECK TO BE REPAIRED BY THE CONCRETE OVERLAY METHOD. ACTUAL AMOUNT OF FULL DEPTH REPAIR WILL DEPEND UPON FIELD CONDITIONS AND THE ITEM IS SUBJECT TO NON-PERFORMANCE IF FOUND NOT TO BE REQUIRED. LONGITUDINAL JOINTS IN THE CONCRETE OVERLAY ARE PERMITTED BUT ONLY TO THE EXTENT NECESSARY TO ACCOMMODATE THE WIDTH OF THE FINISHING MACHINE, TO FACILITATE CHANGES IN ROADWAY CROWN, AND TO PERMIT MAINTENANCE OF VEHICULAR TRAFFIC. EXCEPT AS APPROVED BY THE ENGINEER, JOINTS SHALL NOT BE USED ADJACENT TO RAISED CURBS, BARRIERS OR EDGES OF DECKS.

CONCRETE OVERLAY - DECK PREPARATION:
NO TRAFFIC SHALL BE ALLOWED ON NEW CONCRETE DECKS WHICH ARE TO RECEIVE A CONCRETE OVERLAY UNTIL THE OVERLAY IS PLACE AND PROPERLY CURED.
THE NEW DECK SECTION ON THE GALBRAITH ROAD OVER I-75 S.B. BRIDGE, WILL NOT REQUIRE REMOVAL OF THE TOP 1/4 INCH AS CALLED FOR IN THE PREPARATION OF EXISTING DECK NOTE IN SUPPLEMENTAL SPECIFICATIONS 845. NEW STRUCTURAL DECK SHOULD BE FINISHED 1/4 INCH BELOW ADJACENT EXISTING SLAB BECAUSE THE EXISTING SLAB WILL STILL REQUIRE THE REMOVAL OF THE TOP 1/4 INCH. THE NEW CONCRETE WILL REQUIRE THE ABRASIVE BLASTING DESCRIBED IN SUPPLEMENTAL SPECIFICATIONS 845.

DRIP STRIP:
PRIOR TO APPLYING DECK MEMBRANE WATERPROOFING, A BENT DRIP STRIP SHALL BE INSTALLED ALONG THE EDGES OF THE DESK AS SHOWN. THE STRIPS SHALL BE FASTENED AT 1'-6" CENTER TO CENTER MAXIMUM WITH 1 1/4" x 5/32" x 1/4" FLAT HEAD DRIVE PIN AND WASHER. (LENGTH X SHANK DIA. X HEAD DIA.) OR NO. 10 GALVANIZED SCREWS AND EXPANSION ANCHORS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK, ENDING AT THE FACE OF THE ABUTMENT WINGWALL OR STEEL END DAM ANGLE. WHERE SPLICES ARE REQUIRED A 3" (MIN.) LAP SHALL BE USED WITH A FASTENER THROUGH THE LAP. STEEL FOR GALVANIZED STRIPS SHALL BE 8" x 0.105" AND SHALL MEET THE REQUIREMENTS OF ASTM A568. GALVANIZING SHALL BE IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 20 GAUGE ASTM A167, TYPE 304, MILL FINISH. PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, SQ. FT., STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM SPECIAL - RAISE, SUPPORT AND LOWER STRUCTURE:
THE LUMP SUM PRICE BID FOR THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO RAISE, SUPPORT AND LOWER THE SUPERSTRUCTURE AS INDICATED ONTHE PLANS OR DIRECTED BY THE ENGINEER. SHIM PLATES, END DAM MODIFICATIONS AND ALIGNMENT OR RESETTING OF BEARING DEVICES ARE NOT INCLUDED WITH THIS ITEM. THIS ITEM IS TO BE USED ONLY ON THOSE BRIDGES WHICH REQUIRE SUBSTANTIAL JACKING (OVER ONE INCH). WHERE JACKING OF LESS THAN ONE INCH IS REQUIRED IT SHALL BE INCLUDED WITH THE UNIT BID FOR THE ITEM OF WORK BEING PERFORMED. THE SUPERSTRUCTURE SHALL NOT BE RAISED MORE THAN 3 INCHES ABOVE FINAL POSITION AND AT NO TIME SHALL THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE TEMPORARY RAMP AND THE TOP OF THE SUPERSTRUCTURE SIDE OF END DAM BE MORE THAN 1 INCH. AS THE SUPERSTRUCTURE IS RAISED TO THE ELEVATION NECESSARY TO COMPLETE THE REQUIRED WORK, A TEMPORARY RAMP SHALL BE SIMULTANEOUSLY PLACED ON THE APPROACH TO THE LEVEL OF THE TOP OF THE SUPERSTRUCTURE. THE CONTRACTOR SHALL SUBMIT DRAWINGS AND A DESCRIPTION OF THE METHODS TO BE USED TO RAISE AND SHIM THE SUPERSTRUCTURES TO THE ENGINEER AT LEAST 15 DAYS PRIOR TO COMMENCEMENT OF THIS OPERATION.
THIS WORK MUST BE PERFORMED UNDER TRAFFIC. SEE THE MAINTENANCE OF TRAFFIC NOTES.

ITEM 510 - DOWEL HOLES, AS PER PLAN :
DOWEL HOLES SHALL BE DRILLED, NOT CORED. ALL HOLES SHALL BE 1" IN DIAMETER.

IMMEDIATELY PRIOR TO PLACEMENT OF THE DOWEL BARS, THE HOLES SHALL BE THOROUGHLY CLEANED AND WETTED. NO STANDING WATER WILL BE PERMITTED IN THE DOWEL HOLES WHEN THE BARS ARE PLACED. AFTER PLACEMENT THE GROUT SHALL BE WATER CURED.

MORTAR = TYPE I PORTLAND CEMENT GROUT USING 4 GALLONS OF WATER PER 94 POUND SACK OF CEMENT.

COST OF DOWEL HOLES AND MORTAR SHALL BE PAID FOR UNDER THIS ITEM.

ITEM SPECIAL - ALIGNMENT OR RESETTING BEARING DEVICE:
THE UNIT PRICE BID FOR THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO CORRECT THE HORIZONTAL AND/OR VERTICAL ALIGNMENT AS DIRECTED BY THE ENGINEER. THIS WORK SHALL INCLUDE RAISING SUPERSTRUCTURE AS NECESSARY TO ALIGN BEARING DEVICES TO BRING THEM TO BEAR. WHERE ANCHOR BOLTS INTERFERE WITH THE ALIGNMENT OF THE BEARING DEVICE THE ANCHOR BOLTS SHALL BE CUT FLUSH WITH THE BRIDGE SEAT. CARE SHALL BE TAKEN NOT TO DAMAGE THE 1/8 INCH SHEET LEAD BEARING PAD DURING THIS OPERATION. ALL ROCKERS SHALL BE ADJUSTED TO HAVE A VERTICAL ALIGNMENT AT 60° F.

ITEM SPECIAL - CLEAN EXISTING DOWNSPOUTS AND STORM SEWERS:
THE LINEAR FOOT BID FOR THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO CLEAN 6" & 8" DOWNSPOUTS AND STORM SEWERS OF FOREIGN MATTER AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE ONLY FOR THOSE RUNS OF PIPE SPECIFICALLY DESIGNATED BY THE ENGINEER TO BE CLEANED.

ITEM 514 - FIELD PAINTING EXISTING STRUCTURAL STEEL AS PER PLAN:
WORK UNDER THIS ITEM SHALL BE PER ITEM 514 AND SHALL INCLUDE SURFACE PREPARATION, SPOT PRIME PAINTING, COMPLETE COAT PRIME PAINTING AND COMPLETE COAT FINISH PAINTING. PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE FOR FIELD PAINTING EXISTING STRUCTURAL STEEL AS PER PLAN.

ITEM 516 - ELASTOMERIC STRIP SEAL, AS PER PLAN:
THIS ITEM SHALL CONSIST OF FURNISHING THE STEEL AND ELASTOMERIC EXTRUSIONS, BONDING ADHESIVE AND ANY OTHER MATERIAL NECESSARY TO COMPLETE THIS ITEM. THIS ITEM SHALL ALSO INCLUDE ALL LABOR, TOOLS AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM. STRIP SEALS SHALL BE WABO S-200 WITH TYPE A EXTRUSION, ACME AS200 WITH TYPE A EXTRUSION OR APPROVED EQUIVALENT. STEEL EXTRUSIONS SHALL CONFORM TO ASTM A588, ELASTOMERIC EXTRUSIONS TO ASTM B2628, MODIFIED. ELASTOMERIC SEALS FOR EACH JOINT SHALL BE ONE CONTINUOUS PIECE. ADHESIVE BONDING SHALL BE AS FOLLOWS:
MATERIALS: ADHESIVES SHALL BE SIKASTIX 360, FEL-POXY FP-101 OR AN APPROVED ALTERNATE.

PREPARATIONS FOR INSTALLATION: THE BONDING SURFACES OF ELASTOMERIC STRIP SEALS (BULBED EDGES) SHALL BE WIPED CLEAN WITH A DRY CLOTH. THEN NOT MORE THAN 7 DAYS PRIOR TO THE SEAL INSTALLATION, A THIN COATING OF CYCLIZING PASTE* SHALL BE APPLIED TO THE BONDING SURFACES. AFTER 25 TO 40 MINUTES, THE PASTE SHALL BE WASHED FROM THE SURFACES WITH CLEAN WATER.
THE BONDING SURFACES OF THE STEEL EXTRUSION (THE INTERIOR OF THE ANCHOR GROOVES) SHALL BE PREPARED TO GRADE SA 3, ASTM D2200. GALVANIZED STEEL SHALL BE LIGHTLY SANDED. PREPARATION SHALL BE ACCOMPLISHED NOT MORE THAN 24 HOURS PRIOR TO ADHESIVE BONDING.
INSTALLATION: IMMEDIATELY PRIOR TO ADHESIVE APPLICATION, BONDING SURFACES SHALL BE CLEAN AND DRY. FOR BEST RESULTS, THE TEMPERATURE OF THE SUBSTRATE SHOULD BE WARMER THAN 45°F DURING SEAL APPLICATION AND ADHESIVE CURING. ADHESIVE SHALL BE APPLIED LIBERALLY TO BOTH STEEL AND ELASTOMERIC BONDING SURFACES USING A STIFF BRUSH IF NECESSARY TO ACHIEVE A COMPLETE AND RELATIVELY UNIFORM COAT. THEN THE BULBED EDGES OF THE ELASTOMERIC SEAL SHALL BE INSERTED INTO THE ANCHOR GROOVES. AFTER INSTALLATION, EXCESS ADHESIVE SHALL BE REMOVED FROM THE EXPOSED SEAL SURFACES.

*CYCLIZING PAST IS A MIXTURE OF 1 LB. OF HISIL AND 6 LBS. OF CONCENTRATED SULFURIC ACID (18 MOLAR). TO MIX THE PASTE, ADD HISIL TO ACID SLOWLY WHILE STIRRING MIXTURE TO ACHIEVE A SMOOTH VISCOUS PASTE. NOTE: SINCE CONCENTRATED SULFURIC ACID IS VERY CORROSIVE AND HISIL IS AN EXTREMELY FINE NON-TOXIC POWER, RUBBER GLOVES AND GLASSES SHOULD BE USED BY THOSE USING THE PASTE WHILE GLOVES, GLASSES AND A RESPIRATOR SHOULD BE USED BY THOSE MIXING THE PASTE.

ITEM 516 - MODULAR EXPANSION JOINT DEVICES
A. DESCRIPTION. THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING SHOP FABRICATED MODULAR EXPANSION JOINT SYSTEMS, OF THE SIZE, CONFIGURATION, AND JOINT MOVEMENT SPECIFIED INCLUDING SAFETY CURB COVER PLATES, IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND WITHIN REASONABLY CLOSE CONFORMITY TO THE LINES, ELEVATIONS, LOCATIONS, DETAILS, AND NOTES SHOWN ON THE PLANS.

THE EXPANSION JOINT NEOPRENE SEALS AND STEEL EXTRUSIONS ARE BASED UPON EXPANSION JOINT DEVICES BY THE ACME HIGHWAY PRODUCTS CORPORATION OF AMHERST, NEW YORK. OTHER JOINT SEAL DESIGNS BY ACME OR ESSENTIALLY SIMILAR DESIGNS BY OTHER MANUFACTURERS WHICH ARE COMPARABLE TO THE DESIGN DETAILS SHOWN IN THE PLANS WILL BE CONSIDERED IN LIEU OF THE DESIGN PRESENTLY SPECIFIED PROVIDED THAT THE CONTRACTOR FURNISHES SUFFICIENT DOCUMENTATION UPON WHICH SUCH A CONSIDERATION CAN BE MADE. THESE DOCUMENTS SHALL INCLUDE NOT ONLY SIMILAR AND COMPARABLE PLAN DETAILS, MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES, BUT ALSO A MARKED SET OF PROJECT DRAWINGS SHOWING THE CHANGES IN PLAN DETAILS THAT WILL BE NECESSARY TO ACCOMMODATE THE PROPOSED ALTERNATE DEVICES.

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In the evaluation of alternate devices, preference will be given to those devices which have a satisfactory performance record, including, but not limited to, watertightness, in similar application situations.

The approval of an alternate joint seal device and the issuance of revised project plans shall be based upon the understanding that such project modifications will be done without additional cost to the project or participating public agencies.

The expansion joints shall be designed to support, in all positions, a highway loading of class HS 20-44 as defined and established in accordance with the requirements of AASHTO standard specifications for highway bridges.

The expansion joint shall be of the type that will seal the deck surface, gutters and curbs to prevent water and other contaminants from descending on to the substructure. The anchorage system for the expansion joint shall be as detailed on the plans. There shall be no appreciable change in the deck surface due to the expansion and contraction movement of the expansion joint.

Expansion and contraction movements of the bridge deck shall be taken entirely by deformation of the neoprene seal element. The neoprene seal element shall be recessed and designed to be self-cleaning and positively gripped by the extruded steel sections throughout the range of the anticipated movement. The seal element shall be furnished in one piece and provided with an end plug.

B. Materials.

1. General. All parts and elements shall be of the material and design indicated in the manufacturer's catalog except as otherwise specified in these specifications or on the plans. The Contractor shall furnish a general certification stating that the materials furnished conform to the requirements of these specifications.

2. Metals. All metals used in fabrication of the expansion joint shall meet the requirements of Section 513 of the Construction and Material Specifications of the Ohio Department of Transportation (hereinafter referred to as standard specifications) and as specified in the general notes on the plans and the following:

The extruded steel sections and the support bars shall be fabricated from solid high-strength low alloy structural steel meeting the requirements of ASTM A588.

Stainless steel sheets for the sliding surfaces of the support bars shall conform to the requirements of ASTM A167, alloy 304, 20 micro-inches RMS finish. Minimum thickness of the stainless steel sheets shall be 1/4".

All other steel plates, bars and shapes shall be fabricated from high strength, low alloy steel conforming to the requirements of ASTM A588.

End welded studs shall be of the size shown on the plans and shall conform to ASTM A108.

Bolts, nuts, and lock washers for removable safety curb plates shall be stainless steel, ASTM A276, Type 302 with a minimum yield strength of 45,000 psi.

The upper exposed surfaces of all metallic components shall be painted in accordance with 514, system B. of the Construction and Material Specifications modified as follows: the field painting shall consist of two prime coats and one finish coat, in addition to the prime spot coat.

The metal surfaces in direct contact with the neoprene seal elements shall be sandblasted and an adhesvie used to provide a high strength bond between the neoprene seal and the mating metal surfaces.

All welding shall be in accordance with the requirements of Section 513.17 of the Standard Specifications.

Steel fabrication shall be in accordance with the applicable requirements of Section 513 of the Standard Specifications.

3. Neoprene Seal. The Neoprene seal elements shall conform to ASTM Designation D2628, except as noted herein: Hardness, Type A Durometer 60 ± 7 ASTM D2240 (modified). Exclude recovery test requirements.

4. Support Bar Bearings. Support bar bearings shall be fabricated from solid urethane bonded to a steel substrate, to which is bonded a TFE sheet conforming to manufacturer's specifications and the requirements listed herein. Methods and materials used in bonding the bearing components together shall be the manufacturer's standard and shall be subject to the Engineers approval.

5. Urethane. Urethane shall meet the following properties:

Property	ASTM Test Method	
Specific Gravity:	D792	1.25
Tensile Strength:	D638	3100 psi (220 kg/cm^2)
Tear Resistance:	D638	1400 psi (100 kg/cm^2)
Compression Set:		
70 hr. at 20°C (68°F)	D695	20%
24 hr. at 70°C (158°F)	D695	25%
24 hr. at 100°C (212°F)	D695	40%
Elongation:		
100% elongation	D638	1100 psi (80 kg/cm^2)
300% elongation	D638	2000 psi (140 kg/cm^2)
Elongation at Break	D638	25%

TFE

Filled or unfilled TFE sheets shall be manufactured from virgin TFE (polytetrafluoroethylene) resin. TFE resin shall meet the following requirements:

Specific Gravity	ASTM D792	2.13-2.19
Melting Point	ASTM D1457	623°F±2
Tensile Strength (min.)	ASTM D1457	2800 psi
Elongation (min.)	ASTM D1457	200%

Filler material, when used, shall be milled glass fibers, carbon or other approved inert filler material.

Finished TFE sheets containing glass fiber or carbon shall conform to the following requirements:

Mechanical	ASTM Method	15% Glass Fibers	25% Carbon
Tensile Strength (Min.)	D1457	2000 psi	1300 psi
Elongation (Min.)	D1457	150%	75%
Physical			
Specific Gravity (Min.)	D792	2.20	2.10
Melting Point	D1457	327°C ± 10°C	327°C ± 10°C

6. Control Springs, Compression Springs, and Plastic Moldings shall be the manufacturer's standard subject to the Engineer's approval.

7. Adhesive. Adhesive for bonding the neoprene seals in place shall be a one-part moisture-curing, polyurethane and hydrocarbon solvent mixture meeting or exceeding the following properties:

Average Weight Per Gallon	8 + 10%
Solids Content by Weight	65%
Material to be Fluid from	5°F to 120°F
Film Strength psi min.	2000
Elongation	250%
Low Temperature-60°C	Tensile - OK
	Elongation - Not Brittle

C. Joint Classifications. The movement classifications of the expansion joint shall in no case be less than the movement classification specified on the plans.

The expansion joint, when fully expanded or compressed, shall not exert a force greater than 270 lbs/lin.ft., onto the concrete deck. Tolerance of maximum 5% will be permitted.

D. Construction Requirements. The Contractor shall furnish shop drawings in conformance with the requirements of Section 501.05 of the Standard Specifications. The shop drawings shall indicate all material specifications and dimensions and any additional details not shown on the Plans. The Contractor shall furnish along with the shop drawings, design calculations showing that the joints are designed to support, in both the transverse and longitudinal directions and under all temperature conditions, a highway loading class HS-20-44. Approval of shop drawings by the Engineer shall be required prior to installation of the expansion joint.

A representative of the joint seal manufacturer shall be present prior to and during initial seal installation to furnish technical assistance and guidance to the Contractor and Engineer. He shall remain on the project until he is satisfied that the installation of the seals is being accomplished to his satisfaction. Where special instructions are not contained herein, direction for the installation shall be according to the recommendations of this representative.

The Contractor shall be responsible for notifying the manufacturer's representative of the date of the joint seal adjustment and installation and he shall coordinate the work as necessary to ensure that this representative will be at the site to give direction for this phase of the work. All joint adjustments made prior to installation and during final attachment of the joint seal to the structure shall be under the direct supervision of this representative.

Each joint shall be fabricated and fully shop assembled in three pieces to accommodate two lanes of traffic during construction. Neoprene seals shall be continuous full length of joints.

After each joint is placed, the setting dimension shall be adjusted to the proper ambient temperature dimension by means of devices furnished by the manufacturer which shall accompany the expansion joint assemblies to the job site.

Reinforcing anchor bars may be welded to slab reinforcement.

Each complete, installed expansion device shall be tested for watertightness, by filling the joint opening, or portions thereof designated by the Engineer, with water for a period of not less than one hour.

The expansion joint installation shall be adequately protected to ensure that it is not damaged during the placement and finishing of the concrete.

E. Measurement. Modular expansion joints will be measured by the linear foot of the joint in place, measured end to end along the top surface at the centerline of the joint.

F. Basis of Payment. Payment will be made at the contract unit price per linear foot of Modular Expansion Joint Device, which shall constitute full compensation for all material, labor, tools, and equipment necessary to complete this item in accordance with the plans and specifications. No extra payment will be made for furnishing and installing the safety curb plates, but the cost thereof shall be included in the unit price bid per linear foot of Modular Expansion Joint Device.

BRIDGE GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAM-75-9.30

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ITEM	TOTAL	UNIT	DESCRIPTION	BRIDGE NAME	I-75 Over Mill Creek		Galbraith Over I-75 S.B.			I-75 S.B. Over Mill Creek	Lock St. Over I-75 S.B.	Wyoming St. Over I-75 S.B.	I-75 N.B. Over Galbraith	I-75 N.B. Over Clark St.	I-75 N.B. Over Davis St	I-75 N.B. Over Benson	Shepherd Ln. Over I-75	Ramp C Over I-75	Ramp J Over I-75	S.R. 126 Over I-75		PARTICIPATION	
				BRIDGE NUMBER	HAM-75-1010-L	HAM-75-1010-R	HAM-75-1089-L			HAM-75-1160-L	HAM-75-1187-L	HAM-75-1198-L	HAM-75-1102-R	HAM-75-1152-R	HAM-75-1184-R	HAM-75-1192-R	HAM-75-1292	HAM-75-1338	HAM-75-1390	HAM-75-1426		I Funds	FI Funds
202	5403	S.Y.	Pavement Removed (Existing Berm)										902	902	902	980	80	347	329	961			5403
202	113	C.Y.	Portions of Ex. Conc. Struct. Removed (Sidewalk, Safety Curb, Conc. Median, Top of Backwall, & Conc. Slab)		19	30	26							1		26		2	1	8			113
202	8	L.F.	Portion of Ex. Structure Removed (End Dam Angle Leg)		4	4																	8
202	Lump	Lump	Portion of Ex. Structure Removed		Lump	Lump				Lump	Lump												Lump
202	5701	S.Y.	Asphalt Wearing Course Removed				1114			1111	668	713								2095			5701
202	234	L.F.	Guardrail Removed		—	234																	234
202	360	S.F.	Sidewalk Removed				360																360
202	45625	Lbs.	Portion of Ex. Structure Removed (Exp. Joint Structural Steel)													45625						45625	
301	1391	C.Y.	Bituminous Aggregate Base										226	226	226	245	20	87	121	240			1391
848	12	C.Y.	Asphalt Concrete Intermediate course, Type 2 AC-20										12										12
848	1632	C.Y.	Asphalt Concrete Surface Course, Type 1 AC-20				11			70	8	11	196	49	45	931	88	130	78	15		1632	
407	1.3	Tons	Cover Aggregate							1.3												1.3	
407	184	Gallons	Tack Coat: - RC-250, — SS-1, SS-1H, MS-2 or RS-1				30			37	27	37								53		184	
509	24,708	Lbs.	Reinforcing Steel, Grade 60		4877	4877	1000			4469	297	188											24708
510	876	L.F.	Dowel Holes, As Per Plan		247	247	123			152	57	50											876
511	91	C.Y.	Class "S" Conc. (Superstructure)				25			35						31							91
511	6	C.Y.	Class "C" Conc. (Wingwall Safety Curbs, & Sidewalk)											1		1		2	1	1			6
511	112	C.Y.	Class "C" Conc. (Median, Top of Backwall, & Median Barrier)		51	53	1													7			112
511	22	C.Y.	Class "C" Conc. (Raised Curbs)				12				5	5											22
511	1	C.Y.	Class "C" Conc. (Railing Posts)								1												1
513	2258	Lbs.	Structural Steel Crossframes				2258																2258
513	16841	Lbs.	Structural Steel				379			450						13932				2090		13932	2909
513	11,492	Lbs.	Structural Steel Shim Plates				1845						2240	1788		1460	29	1689	916	1525			11492
513	132	Ea.	Steel Anchor Rod Extensions										28	28		28		32	16				132
513	264	Lbs.	Structural Steel Curb Plates		44	44								32		36		36	37	35			264
513	Lump	Lump	Bearing Sole Plate Repair										Lump	Lump			Lump						Lump
513	75	Ea.	Flame Cut Ends of Beams		8	8	2						14	14			9	1	2	17			75
514	12717	Lbs.	Field Painting of New Structural Steel - System B		44	44	4432							1848		4904	29	1757	963	3640		4904	12813
516	363	L.F.	Modification of Ex. End Dam - Case I		102	102							50				109					363	
516	535	L.F.	Modification of Ex. End Dam - Case II										100	100		100		104	52	79		535	
516	116	L.F.	Modification of Ex. End Dam - Case II-A				116															116	
516	79	L.F.	Modification of Ex. End Dam - Case III																	79		79	
516	250	L.F.	Modular Expansion Joint Devices													250						250	
516	497	L.F.	Joint Sealer		102	102									101		59	75	52	6			497
516	21	S.F.	1" Preformed Expansion Joint Filler																	21			21
517	643.73	L.F.	Railing (Deep Beam Rail w/ Steel Tubular Back-up, Steel Posts, &		200.2	200.2				243.33												643.73	
517	273	L.F.	Existing Aluminum Railing & Posts (Remove, shim, & Reset) Bolts)										64	33		55		52	44	25			273
518	295	Ea.	Vertical Extension of Existing Scuppers (As per plan)		13	13							30	8	16	160	12	17	12	14			295
518	8026	L.F.	Subdrainage for Wearing Course (As per plan)										1009	253	230	4829	228	700	777			8026	
519	1755	S.F.	Patching Conc. Structures		20	20	63			375	1000			28		20	103	17	35	74			1755
516	127	L.F.	Elastomeric Strip Seals, as per plan							127												127	

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8830 Vistory Parkway, Cincinnati, Ohio, 45208 (513)281-7723

ESTIMATED BRIDGE QUANTITIES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	REP	—	JAS	WBS	2/1/79	9-2-81

FHWA REGION	STATE	PROJECT	
5	OHIO		

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HAM - 75 - 9.30

BRIDGE NAME	I-75 over Millcreek		Gallor Rd. over I-75 S.B.			I-75 S.B. over Millcreek	Lock St. over I-75 S.B.	Wyoming St. over I-75 S.B.	I-75 N.B. over Gallor Rd.	I-75 N.B. over Clark St.	I-75 N.B. over Davis St.	I-75 N.B. over Benson St.	Shepherd Lane over I-75	Ramp C over I-75	Ramp J over I-75	S.R. 126 over I-75		PARTICIPATION	
BRIDGE NUMBER	HAM-75-1010-L	HAM-75-1010-R	HAM-75-1089-L			HAM-75-1160-L	HAM-75-1187-L	HAM-75-1198-L	HAM-75-1102-R	HAM-75-1152-R	HAM-75-1184-R	HAM-75-1192-R	HAM-75-1292	HAM-75-1338	HAM-75-1390	HAM-75-1426		I Funds	FI Funds
ITEM TOTAL UNIT DESCRIPTION																			
606 50 L.F. Guardrail, Type S						50													50
606 2 Ea. Anchor Assembly, Type T						2													2
606 8 Ea. Bridge Terminal Assembly, Type B	2	2				4													8
608 360 S.F. Concrete Sidewalk			360																360
653 1 C.Y. Topsoil Furnished & Placed													1						1
659 2 S.Y. Repair Seeding & Mulching													2						2
514 Lump Lump Field Painting of Ends of Beams, as Per Plan	Lump	Lump	Lump						Lump	Lump			Lump	Lump	Lump	Lump			Lump
514 Lump Lump Clean & Paint Ex. Bulb Angle Gutter & Scuppers			Lump																Lump
514 154 Ea. Field Painting of Existing Rockers & Sliding Bearings	16	16	20						14	14		14	14	16	8	22			154
845 167 C.Y. Latex Modified Concrete Overlay (Variable Thickness)	25	25	47				6	8								56			167
845 4944 S.Y. Latex Modified Concrete Overlay (1¼" thick)	977	977					401	494								2095		4944	
845 1113 S.Y. Latex Modified Concrete Overlay (2½" thick)			1113															1113	
845 12 C.Y. Full Depth Repair	2	2	2				1	3								2			12
Special 22682 S.Y. Membrane Waterproofing						861			2817	701	639	13,811	1267	1865	1121			22682	
Special 609 S.Y. Patching Conc. Bridge Decks						33			18	7	3	295	152	56	45				609
Special 189 S.F. Steel Drip Strip						189												189	
Special Lump Lump Raise, Support, and Lower Structure			Lump						Lump	Lump		Lump		Lump	Lump	Lump			Lump
Special 3606 L.F. Clean Ex. Downspouts			180									3606	75	111		114			3606
Special 54 Ea. Alignment or Resetting of Bearing Devices	8	8	20													18			54
Special 16 Ea. Plug Existing Scuppers with Class "S" Conc.						16													16
625 See Sheet 76 for Lighting General Summary																			

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8050 Vickery Parkway, Cincinnati, Ohio, 45208 (513) 281-7733

ESTIMATED BRIDGE QUANTITIES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	KEP	—	JAS	WBS	2/11/79	9-2-81

FHWA REGION	STATE	PROJECT	
5	OHIO		

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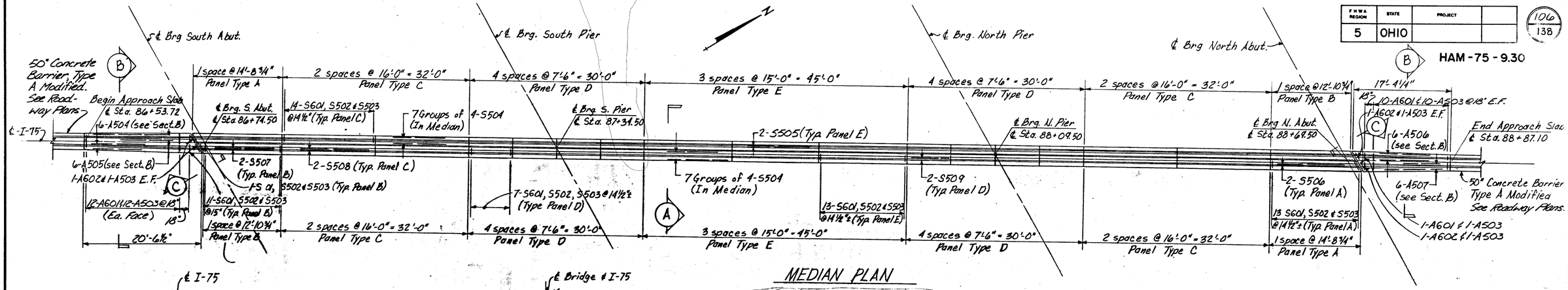
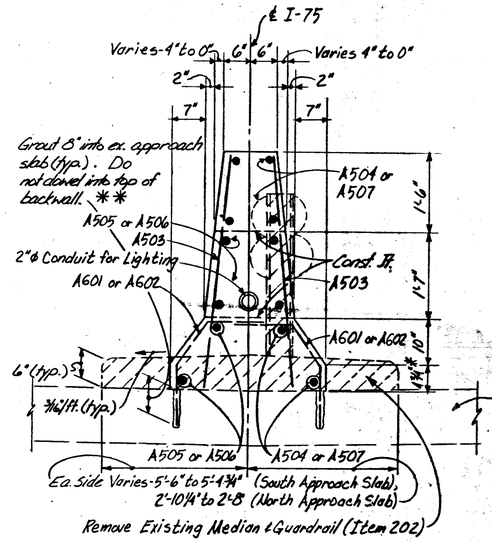
HAM - 75 - 9.30



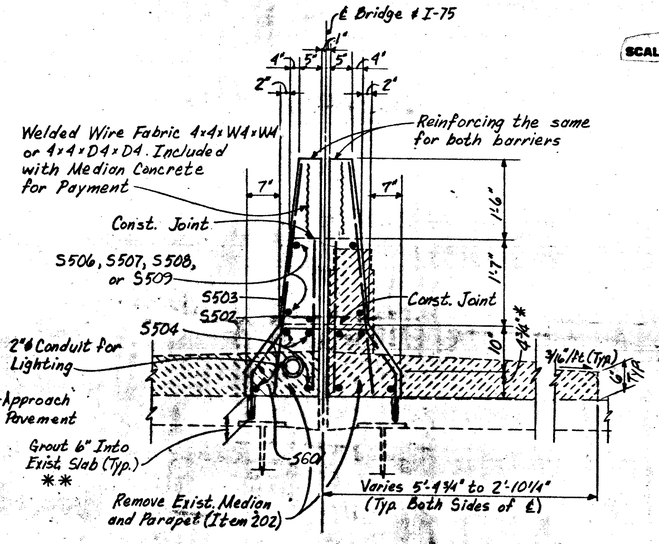
MEDIAN PLAN

SCALE 0 4 8 16 24 ft.



Section B

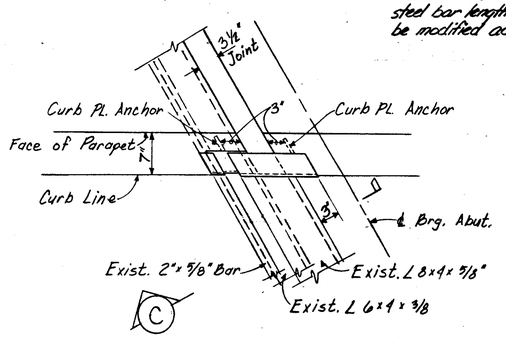
SCALE 0 1 2 3ft.



Section A

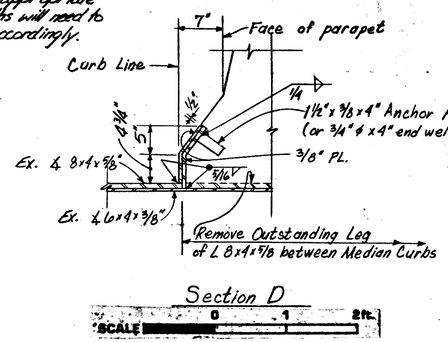
SCALE 0 1 2 3ft.

* - This dimension and resulting reinforcing steel lengths were set for use of 1 1/4" Dense Conc. Overlay. If another thickness of dect overlay is used, this dimension and appropriate steel bar lengths will need to be modified accordingly.



PLAN - Median Curb Plates

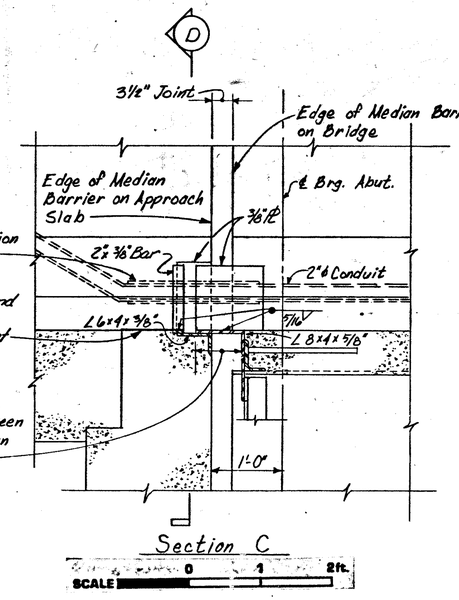
SCALE 0 1 2ft.



Section D

SCALE 0 1 2ft.

DETAILS - MEDIAN BARRIER AT END DAMS



Section C

SCALE 0 1 2ft.

PROPOSED WORK

1. Remove existing median and parapet on bridge, and existing median and guard rail on approach slabs.
2. Cut existing angle 8"x8"x 7/8" at both abutments as shown on this sheet.
3. Install new median barrier on approach slabs and bridge.

REFERENCE DRAWINGS

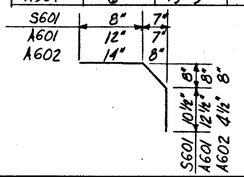
1. For Bridge General Notes, see sheets 102 & 103.
2. For quantities, see sheets 104 & 105.
3. For Maintenance of Traffic, see sheet 9.
4. For Roadway Plan, see sht. 15.

Notes:

1. For Parapet Deflection Joint Details and Notes see Std. Drawing BR-1, Dated 5-29-79. Expansion joint filler shape shall match the parapet diminsions as shown on this sheet. Exp. joint filler shall be included with Median Concrete for payment.
2. Dowel Bars to be grouted into place using portland cement grout. **
3. For Lighting Conduit Details - see state of Ohio Std. Drawing HL-5.

** For additional information refer to "Item 510- Dowel holes, as per plan" note on sheet 103.

Mark	Number	Length	Weight	Shape
S601	350	2'-3 1/2"	1205	Bt.
S502	350	2'-8"	975	Str.
S503	350	4'-2"	1522	Str.
S504	56	30'-0"	1752	Str.
S505	12	14'-8"	184	Str.
S506	2	14'-0"	29	Str.
S507	2	13'-0"	27	Str.
S508	16	15'-8"	262	Str.
S509	32	7'-2"	239	Str.
A601	46	2'-9 1/2"	193	Bt.
A602	6	2'-4"	21	Bt.
A503	52	4'-2"	226	Str.
A504	6	20'-2 1/2	126	Str.
A505	6	18'-7 1/2"	117	Str.
A506	6	17'-0"	106	Str.
A507	6	15'-5"	96	Str.



EXISTING STRUCTURE

TYPE: Continuous steel beam with concrete deck and substructure

SPANS: 60'-0", - 75'-0", - 60'-0" ℄ Brgs

ROADWAY: 41'-0" with two 1'-9" safety curbs

LOADING: S-20-44

SKEW: 30° R.F.

WEARING SURFACE: 3/4" monolithic concrete

ALIGNMENT: Tangent

APPROACH SLAB: 15' long, AS-44-S type II. AS-44-F, types IV & V

YEAR BUILT:

CONDITION:

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8930 Vietory Parkway, Cincinnati, Ohio, 45206 (513)861-7733

MEDIAN DETAILS

BRIDGE NO. HAM - 75 - 1010 L&R

I-75 OVER MILL CREEK

HAMILTON COUNTY I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	JAS	TAB	JAS	WBS	4/1/79	9-2-81

FHWA REGION	STATE	PROJECT	
5	OHIO		

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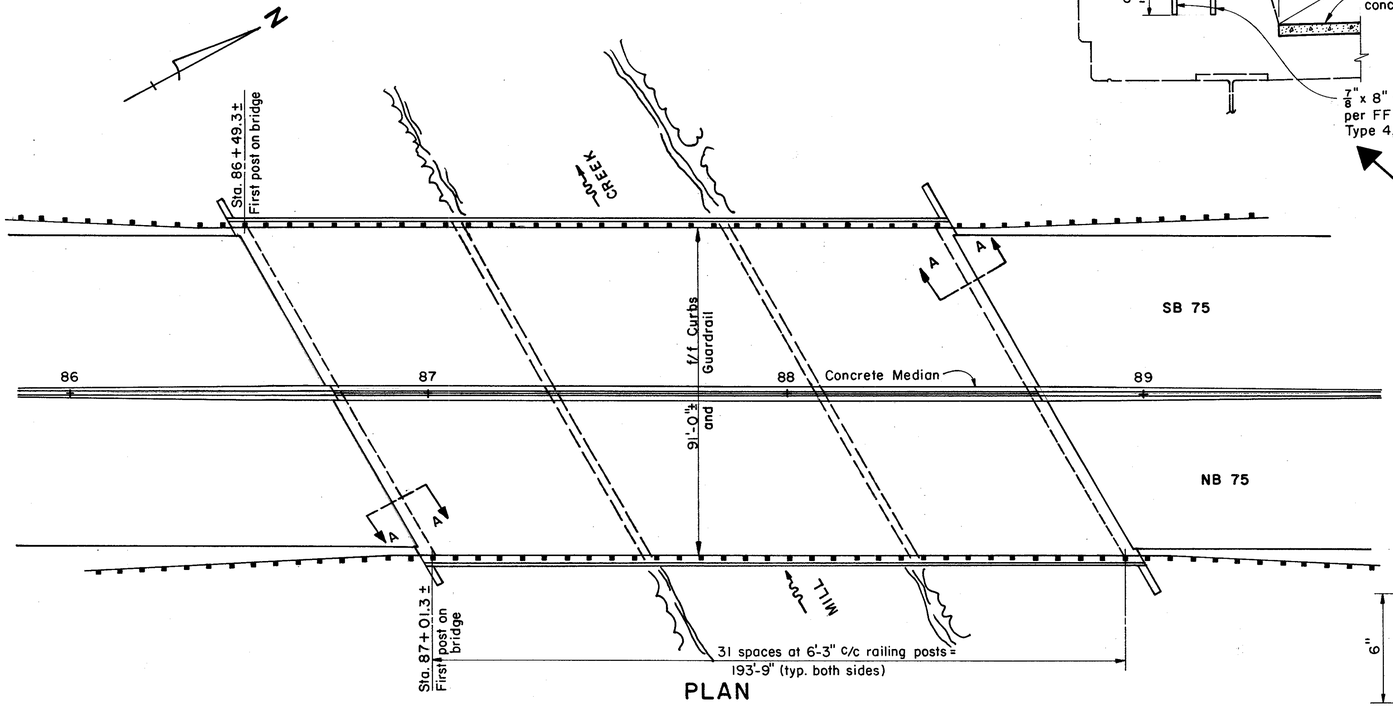
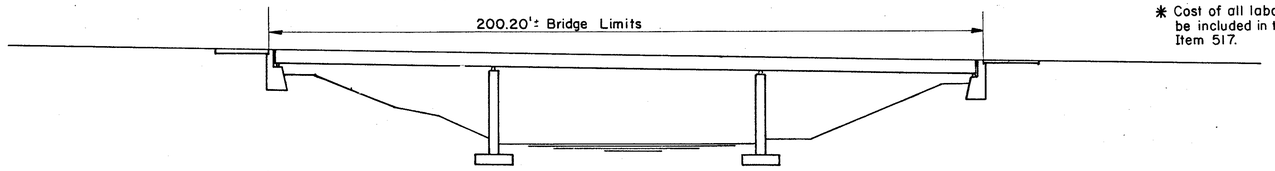
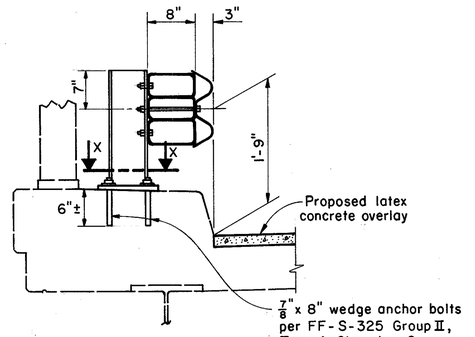
HAM-75-9.30



PLAN



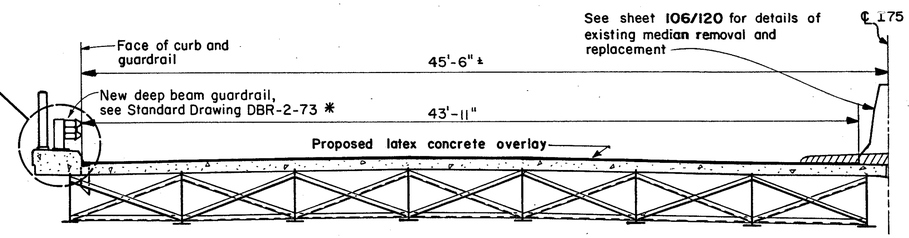
PROFILE



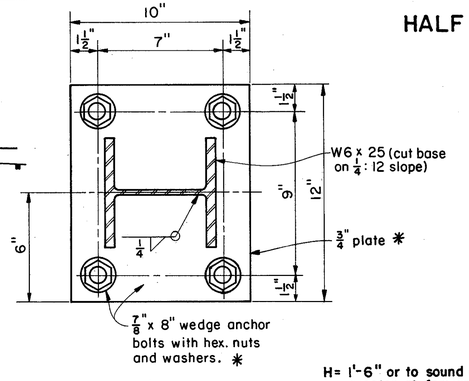
PROPOSED WORK

In addition to the work shown on sheet 106/120, the following work is to be done on Bridge No. HAM-75-1010 L/R:

1. Raise scuppers (similar to sheet 119) and end dams (Case 1 sheet 120). Seal end dams as per BP-5.
2. Repair backwalls as shown.
3. Patch and overlay bridge deck as per Item 845.
4. Flame cut beam ends at rear abutment to provide 2" minimum clearance.
5. Realign forward abutment rockers so that they are vertical at 60° F.
6. Patch left and right deck corners at forward abutment as per Item 519 and as directed by the Engineer.
7. Install deep beam guardrail with steel tubular backup as shown.

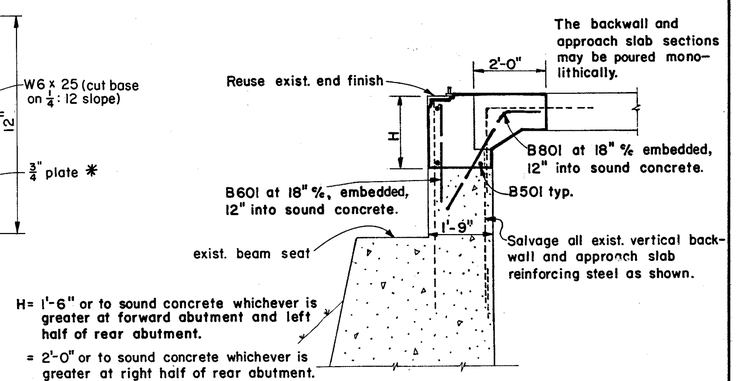


HALF TRANSVERSE SECTION



SECTION X-X

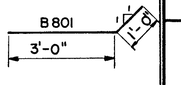
* Cost of all labor and materials shall be included in the unit price bid for Item 517.



SECTION A-A

REINFORCING STEEL

MARK	NO.	LENGTH	WEIGHT	SHAPE
B501	24	27'-6"	688	S
B601	140	2'-4"	491	S
B801	140	4'-0"	1495	B



DISTRICT 8 — STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN

SITE PLAN

BRIDGE NO. HAM-75-1010 L/R
I-75 OVER MILL CREEK

HAMILTON CO. I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLE	JSC		RE			9-2-81

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAM - 75 - 9.30

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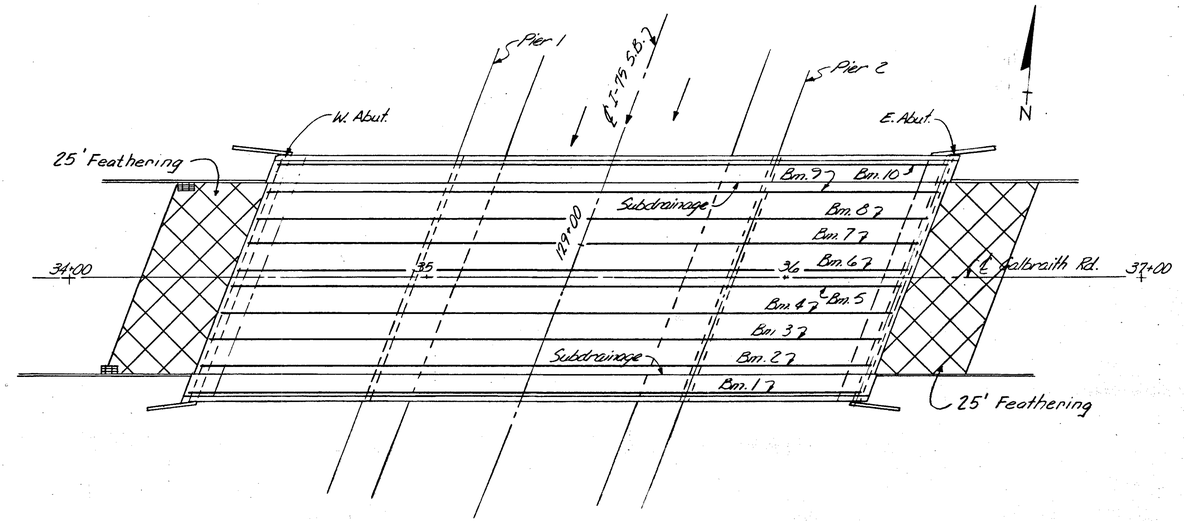
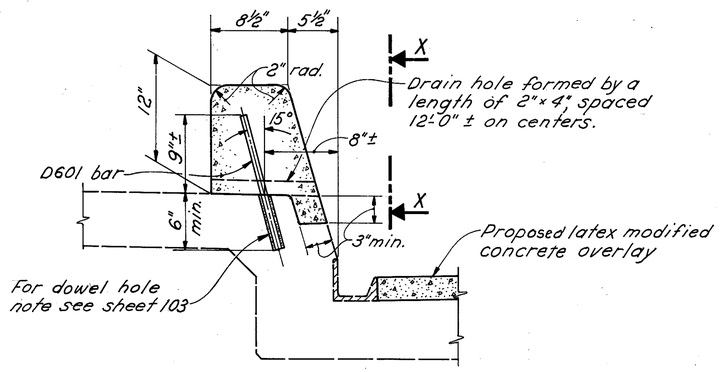


PLAN

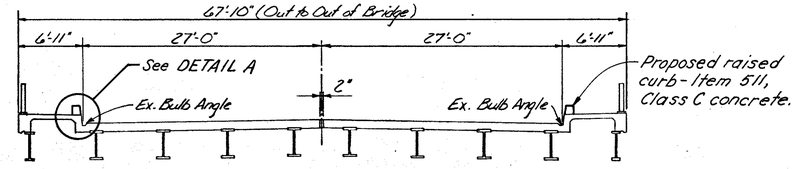
Beam Number	Approx. thickness of new shim plates	By jacking, raise bridge end at W. abutment
1	3 1/16"	3 5/16"
2	3 1/16"	3 7/16"
3	3 3/16"	3 1/2"
4	3 5/16"	3 9/16"
5	3 7/16"	3 11/16"
6	3 3/4"	3 3/4"
7	3 13/16"	3 9/16"
8	4 1/16"	3 7/8"
9	4 1/16"	4"
10	4 5/16"	4 1/16"

Beam Number	Approx. thickness of new shim plates	By jacking, raise bridge end at E. abutment
1	1/16"	7/16"
2	3/16"	1/2"
3	5/16"	9/16"
4	7/16"	5/8"
5	7/8"	5/8"
6	1 5/16"	11/16"
7	1 1/16"	3/4"
8	1"	3/4"
9	1 1/16"	13/16"
10	1 1/16"	7/8"



DETAIL A

For VIEW X-X see sheet 111.



TYPICAL SECTION

PROPOSED WORK

1. Raise ends of beams at abutments by jacking.
2. Install shim plates.
3. Flame cut ends of beams 1 & 10 at the West abutment to provide 2" minimum clearance.
4. Remove jacking equipment.
5. Remove the asphalt wearing surface on the ex. slab & portions of both abutment backwalls as indicated.
6. Install 3'-0" end dam connection at each abutment.
7. Place and weld proposed crossframes.
8. Cut end dam angles to provide 2" minimum clearance.
9. Remove bridge concrete walk as necessary to provide a 2" joint between the bridge and the face of the abutment at both East and West abutments.
10. Modify roadway end dams at abutments using Case II-A, which is defined by note 3 on sheet 108.
11. Place the concrete in the deck slab and abutment backwall areas.
12. Scarify and repair deck. This work shall be done as outlined in Supplemental Specifications 845.
13. Patch abutment backwalls and other areas as directed by the Engineer.
14. Overlay bridge deck with 2½" of latex modified concrete overlay.
15. Clean and paint abutment bearings.
16. Repair sidewalks at all four corners of the bridge.
17. Clean and paint bulb angle gutters, and scuppers.
18. Remove portions of existing slab.
19. Paint new structural steel.
20. Clean existing downspouts.
21. Apply 848 Asphalt wedges 25' long on approaches with tack coat at 0.10 Gal. per sq. yd. to provide smooth profile to bridge deck.
22. Reset Bearing Devices.
23. Construct raised curb on sidewalks as per plan.

REFERENCE DRAWINGS

1. For Bridge General Notes, see shts. 102, 103
2. For Quantities, see shts. 104 & 105.
3. For Maintenance of Traffic, see sheet 9.
4. For End Dam Modification Details, see sheets 108 & 120.
5. For Curb Plate Modification Details, see sheet 120.
6. For shim plate sizes, see sht 119.
7. For Roadway Plan, see sht. 18.
8. For raised curb layout see sht. 108.

EXISTING STRUCTURE

TYPE: Continuous Steel Beam with Conc. deck and substructure
SPANS: 48'-88.36'-48'
ROADWAY: 54'-0 face to face of curbs with 2'-6" Sidewalks.
LOADING: S-20-A6
SKEW: 21° 24'-14" L.F.
WEARING SURFACE: 2½" Asphalt Concrete.
ALIGNMENT: Tangent
APPROACH SLAB: 15' Long
YEAR BUILT: 1948
CONDITION:

KZF INCORPORATED
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
8230 Vistory Parkway, Cincinnati, Ohio. 45808 (513) 281-7783

SITE PLAN

BRIDGE NO. HAM-75-1089 L
I-75 SOUTH BOUND UNDER GALBRAITH ROAD

HAMILTON COUNTY — I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	KEP	—	JAS	WBS	2/1/79	9-2-81

F H W A REGION	STATE	PROJECT	
5	OHIO		

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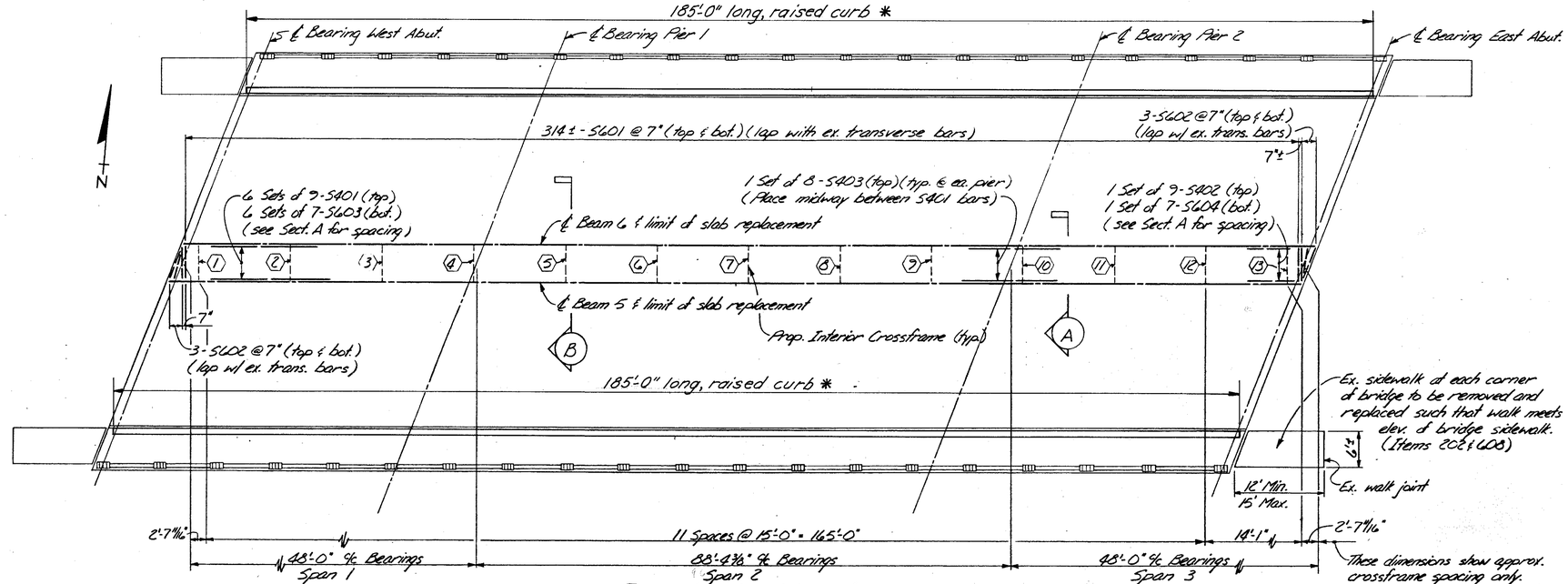
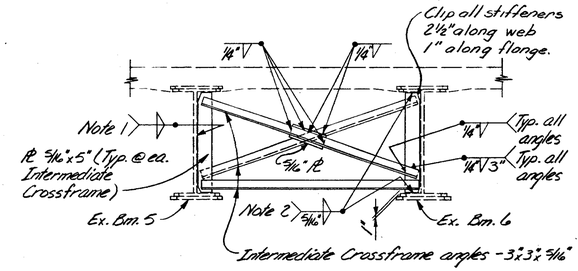
HAM - 75 - 9.30



(5) - Denotes Intermediate Crossframe number.

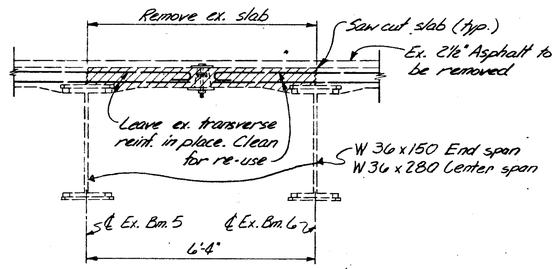
* - For raised curb details see sheet 107

PLAN

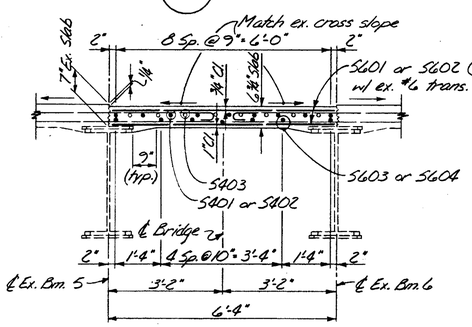


SECTION (B) - NEW INTERMEDIATE CROSSFRAME

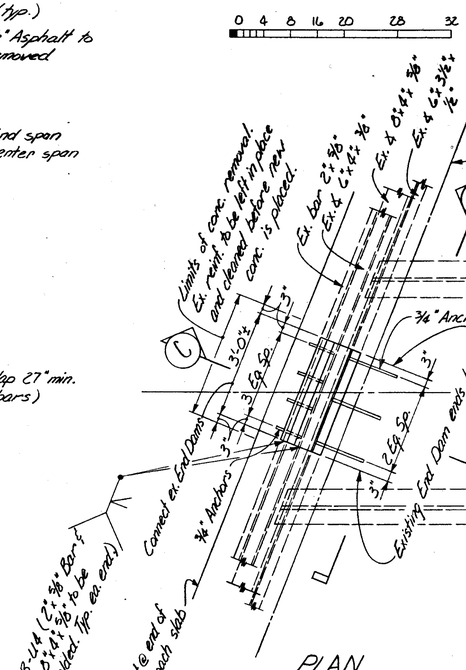
Mark	Number	Length	Weight	Shape
S401	54	30'-0"	1082	Str.
S402	9	14'-8"	88	Str.
S403	16	35'-0"	374	Str.
S601	628	6'-2"	5020	Str.
S602	2 Series of 3	6'-4"+6'-8" (2" incr.)	59	Str.
S603	42	30'-0"	1893	Str.
S604	7	18'-2"	191	Str.
D601	246	1'-4"	493	Str.



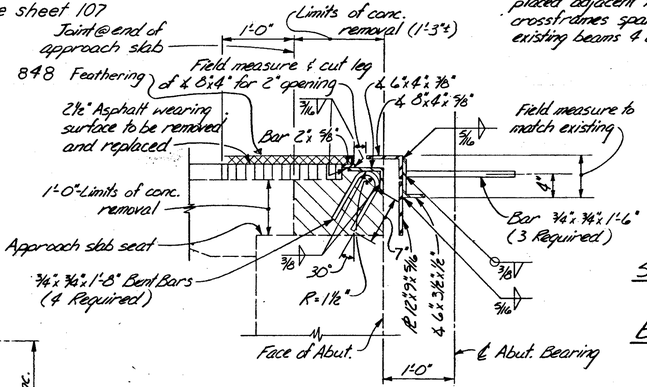
SECTION (A) - STRUCT. REMOVAL



SECTION (A) - PROP. STRUCTURE

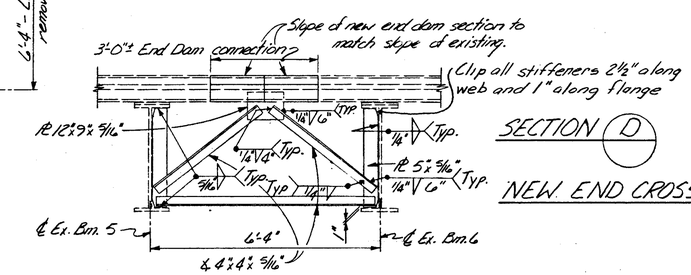


PLAN

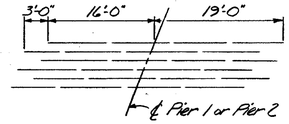


SECTION (C) END DAM REPAIR

Notes (Sect. C): 1. End crossframe not shown for clarity.
2. End dam shown after bridge jacking and before modification to Case II-A.



SECTION (D) NEW END CROSSFRAME



TYP. DIAGRAM SHOWING STAGGER OF S403 BARS OVER PIERS

Notes:

1. Use ⅛" fillet weld for W36 x 150 beams, and 5/16" fillet weld for W36 x 280 beams.
2. 5/16" Plate to be welded to bottom flange only at intermediate crossframes 3, 4, 10, & 11. Weld to top flange only at all other inter. x-frames.
3. End Dam to be a Case II-A, which is the same as Case II shown on sht. 120 with the following exceptions: The 7" wide bar on top of the superstructure end dam angle is not required. After scarification, the Latex concrete overlay shall be placed level with the top of the superstructure end dam angle. Also, in Note C, the height of the bulkhead will be made level with the top of the exist. superstructure end dam angle.

END DAM REPAIR & END CROSSFRAME (West Abut. shown - East Abut. similar)

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SLAB & END DAM REPAIR

BRIDGE NO. HAM-75-1089 L
I-75 SOUTH BOUND UNDER GALBRAITH ROAD
HAMILTON COUNTY I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	JAS	RLP	JAS	WDS	2/11/79	9-2-81

FHWA REGION	STATE	PROJECT	
5	OHIO		

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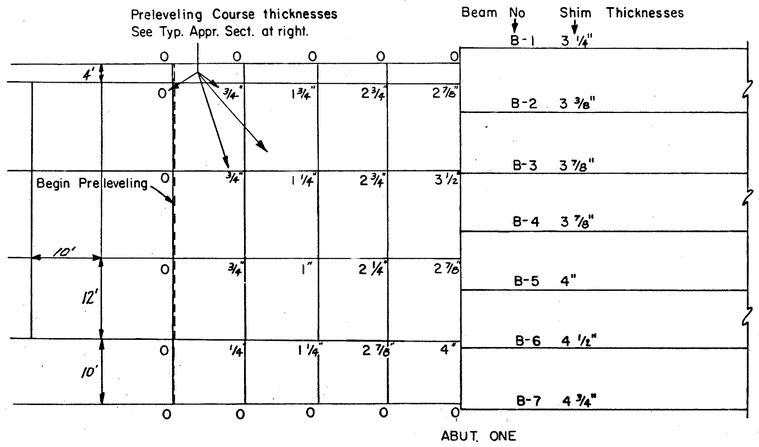
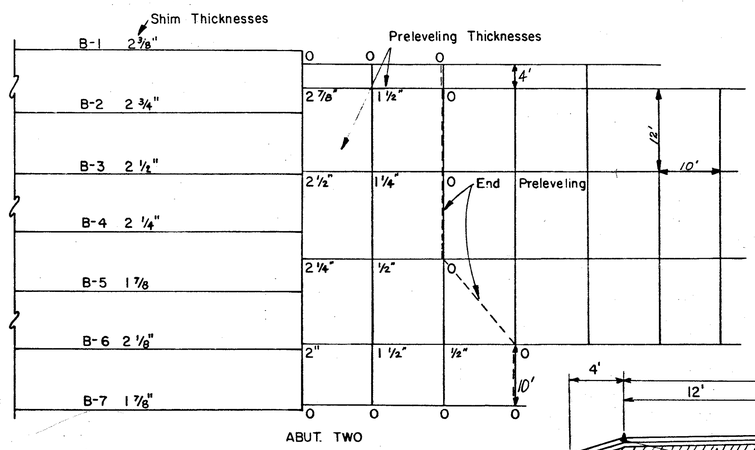
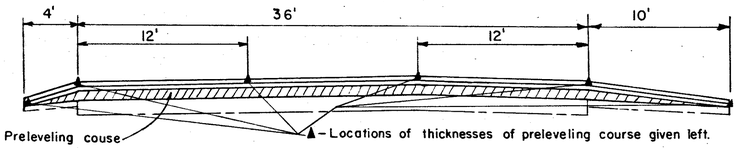
PRELEVELING ASPHALT COURSE AND SHIM THICKNESSES





TYPICAL APPROACH SECTION



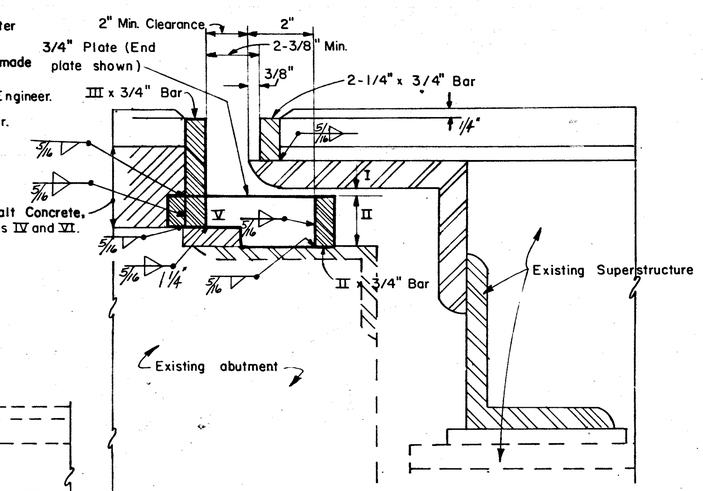
ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
202	902	S.Y.	Pavement removed (Existing berm)
848	12	C.Y.	Asphalt concrete Intermediate course, Type 2 AC-20
513	2,240	LBS.	Structural steel bearing shims
Special	LUMP	LUMP	Raise, support, and lower structure
517	64	LIN. FT.	Existing Alum. rail and post, remove, shim and reset
301	226	C.Y.	Bituminous Aggregate Base
848	196	C.Y.	Asphalt Concrete, Surface course, Type 1 AC-20
516	100	LIN. FT.	Modification of Existing End Dams Case II
516	50	LIN. FT.	" " " " " Case I
513	28	EA.	Steel Anchor Rod Extensions
513	LUMP	LUMP	Bearing Sole Plate Repair
513	14	EA.	Flame Cut Ends of Beams
514	14	EA.	Field Painting of Existing Bearings
518	30	EA.	Vertical Extension of Existing Scuppers
518	1009	LIN. FT.	Sub-drainage for Wearing Course
514	LUMP	LUMP	Field Painting of Ends of Beams
Special	2817	S.Y.	Membrane Waterproofing
Special	18	S.Y.	Patching Concrete Bridge Decks

NORTHBOUND 75 OVER WESTFORK MILL CREEK GALBRAITH ROAD

END DAM DETAIL

I. 0" to 1/8" clear
II. Height of bulkhead (to be measured in field after shim plates have been installed).
III. Height of bulkhead (to be measured in field and made level with top of 2-1/4" x 3/4" bar).
IV. Bituminous temporary ramps as directed by the Engineer.
V. Fill voids between plates with rich cement mortar.
VI. Where traffic is to be routed over the bars before resurfacing, temporary ramps shall be constructed to the tops of the bars using 848 feathering at a maximum slope of 1" in ten feet. The ramps shall be removed as directed by the Engineer prior to resurfacing. Cost of placing and removing the ramps shall be included with Item 614 for payment.

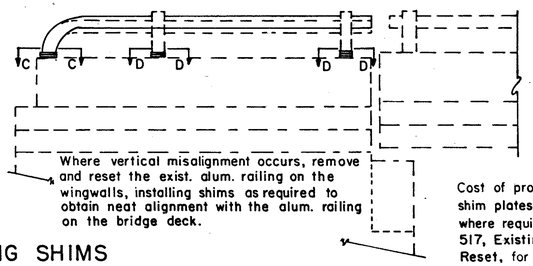


END DAM DETAIL

Payment for providing and installing vertical extension of end dams to be included with Item 516, Modification of Existing End Dams.

SHIMMING EXISTING ALUMINUM RAILING

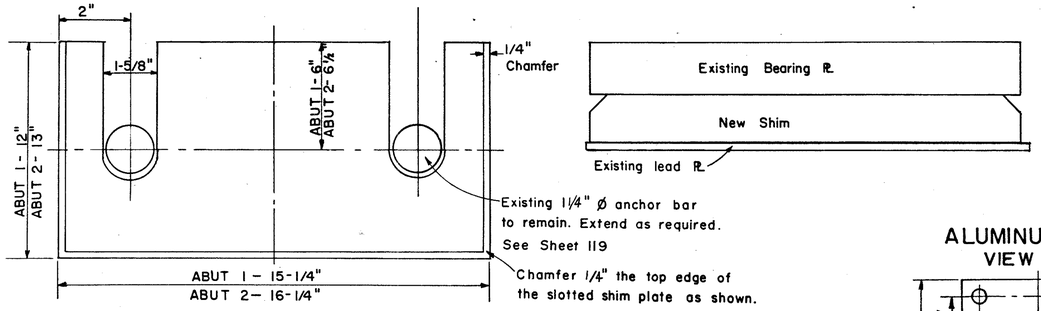
SIDE VIEW



Where vertical misalignment occurs, remove and reset the exist. alum. railing on the wingwalls, installing shims as required to obtain neat alignment with the alum. railing on the bridge deck.

Cost of providing and installing alum. shim plates and extending anchor bolts, where required, to be included with Item 517, Existing Alum. Rail and Post Remove, Shim & Reset, for payment. Where extension of existing bolts is required, cut off and weld extension of like material, at a point below the nut elevation after shimming.

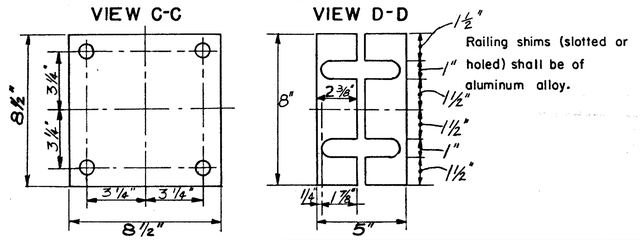
STEEL BEARING SLOTTED SHIM PLATE



Notes:
1. Weld the slotted shim plate to the existing bearing base plate with 1/4" groove weld where chamfered.
2. Shim plates shall not exceed 3/4" in thickness.

Payment for providing shim plates and welding to be included with Item 513, Structural Steel Bearing Shims.

ALUMINUM RAILING SHIMS



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF BRIDGES

DIST. 8

PROFILE RESTORATION
BRIDGE NO. HAM-75-1102 R
OVER WEST FORK MILL CREEK AND GALBRAITH ROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JSC					

FHWA REGION	STATE	PROJECT	
5	OHIO		

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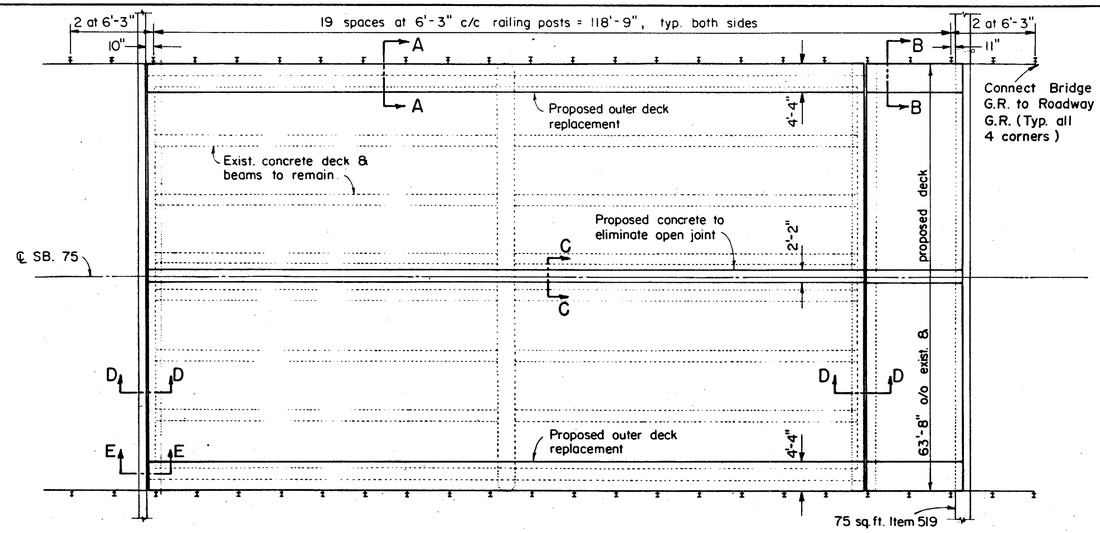
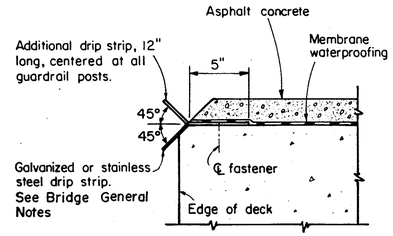


PLAN BRIDGE NO. HAM-75-1160L

PROPOSED WORK

1. INSTALL NECESSARY MAINTENANCE OF TRAFFIC DEVICES AS PER PLATES C-20 AND C-21 OF THE OHIO MANUAL OF TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE OPERATIONS AND AS DIRECTED BY THE ENGINEER.
2. REMOVE EXISTING ASPHALT WEARING SURFACE, CONCRETE CURBS, AND RAILINGS AS PER PLAN FROM BRIDGE DECK.
3. PATCH EXISTING BRIDGE DECK AND PLACE NEW CONCRETE AT DECK EDGES AND ALONG CENTERLINE JOINT.
4. REPAIR STEEL END FINISHES BY INSTALLING STRIP SEALS.
5. APPLY MEMBRANE WATERPROOFING AND 2 1/2" OF ASPHALT OVERLAY ON BRIDGE DECK.
6. APPLY 848 ASPHALT WEDGES 30' LONG ON APPROACHES WITH TACK COAT AT 0.10 GAL. SQ. YD. TO PROVIDE SMOOTH PROFILE TO BRIDGE DECK.
7. INSTALL NEW BRIDGE RAILING AND APPROACH GUARDRAIL.
8. PATCH DETERIORATED CONCRETE ON SUBSTRUCTURE AS DIRECTED BY THE ENGINEER.
9. REMOVE MAINTENANCE OF TRAFFIC DEVICES AND REOPEN ENTIRE BRIDGE TO TRAFFIC.



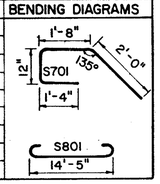
DRIP STRIP DETAIL

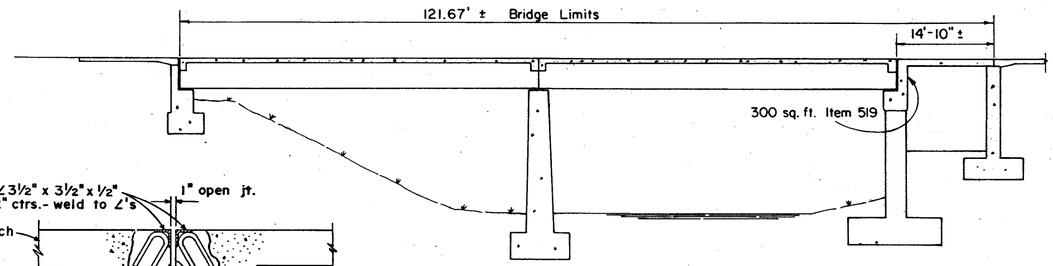
ESTIMATED QUANTITIES, HAM-75-1160L

ITEM	TOTAL	UNIT	DESCRIPTION
202	Lump	Lump	Portions of structure removed
202	1111	Sq. Yds.	Wearing course removed
848	70	Cu. Yds.	Asphalt concrete, Surface Course, Type 1 AC-20
407	37	Gals.	Tack coat: 702.02, RC-250; or 702.04, SS-1, SS-1H, MS-2 or RS-1
407	1.3	Tons	Cover aggregate
513	450	Lbs.	**Structural steel**
509	4469	Lbs.	Reinforcing steel, *Grade 60*
510	152	Lin. Ft.	Dowel holes
511	35	Cu. Yds.	Class S concrete, superstructure
Special	189	Sq. Ft.	Steel drip strip
Special	33	Sq. Yds.	Patching concrete bridge decks, type 1
Special	861	Sq. Yds.	Membrane waterproofing
Special	16	Ea.	Plug existing scuppers, as per plan
517	243.33	Lin. Ft.	Railing (deep beam rail with steel tubular back-up, steel posts & bolts)
519	375	Sq. Ft.	Patching concrete structures
606	50	Lin. Ft.	Guardrail, type 5
606	2	Each	Anchor assembly, type T
606	4	Each	Bridge terminal assembly, type B
614	Lump	Lump	Maintaining traffic
516	127	Lin. Ft.	Elastomeric strip seals, as per plan

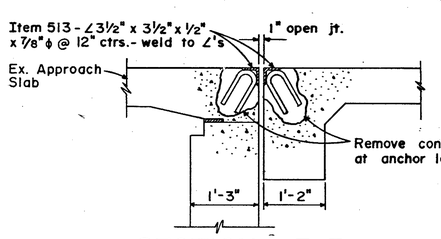
REINFORCING STEEL LIST

MARK	NO.	LENGTH	WT.	SHP.	BENDING DIAGRAMS
S501	64	28'-0"	1869	S	
S502	5	14'-5"	75	S	
S601	182	2'-0"	547	S	
S701	152	5'-8"	1761	B	
S801	5	16'-3"	217	B	
		Total =	4469	Lbs.	

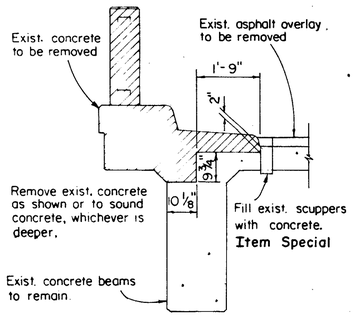




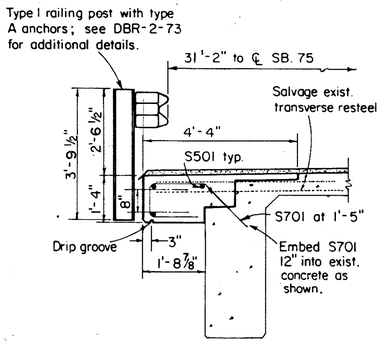
SECTION ALONG ℄



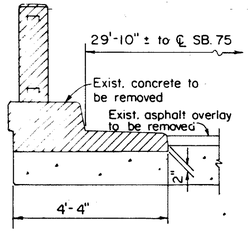
SECTION E-E
(TYP. 4 CORNERS)



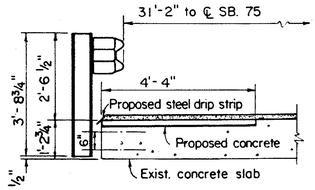
SECTION A-A
EXISTING



SECTION A-A
PROPOSED

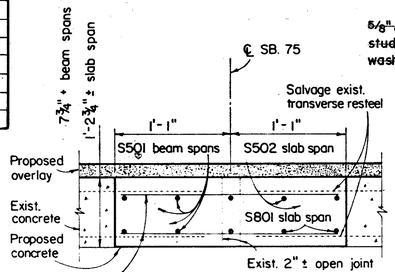


SECTION B-B
EXISTING

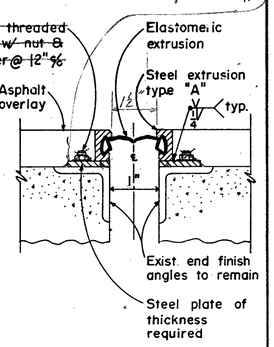


SECTION B-B
PROPOSED

A 2½"x½" plate shall be placed ½" back of vertical leg of angle. Plates shall be welded to L's with continuous 5/16 fillet welds on both sides of plate. (Typ)



SECTION C-C



SECTION D-D

DISTRICT 8
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

BRIDGE REPAIRS

BRIDGE NO. HAM-75-1160L
OVER WEST FORK OF MILL CREEK

HAMILTON CO. I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLE	RLE					9-2-81

Revised 3-10-82

FHWA REGION	STATE	PROJECT	
5	OHIO		

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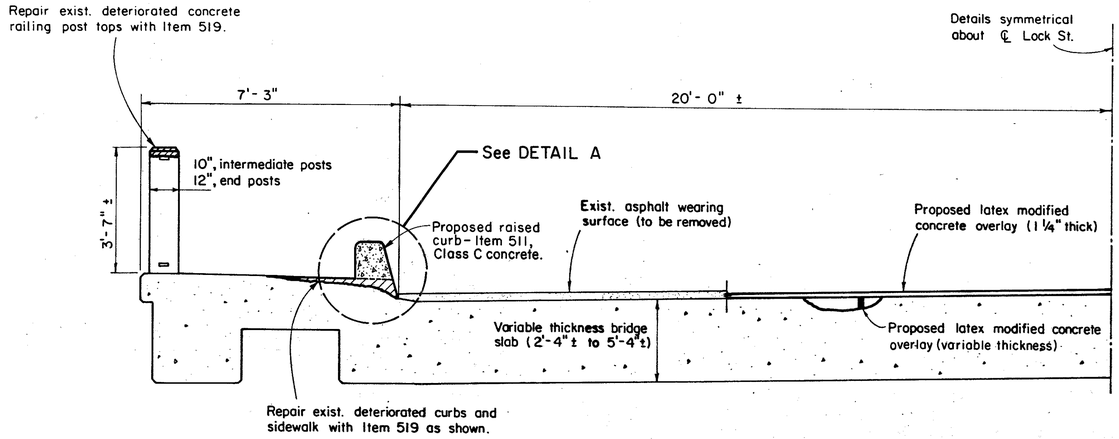
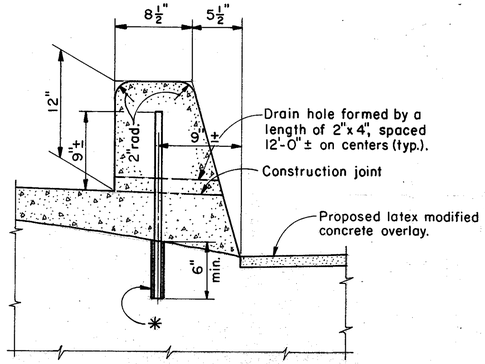
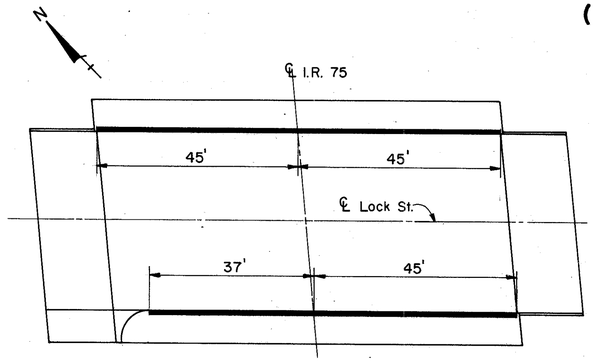
Bridge length = 90.30'



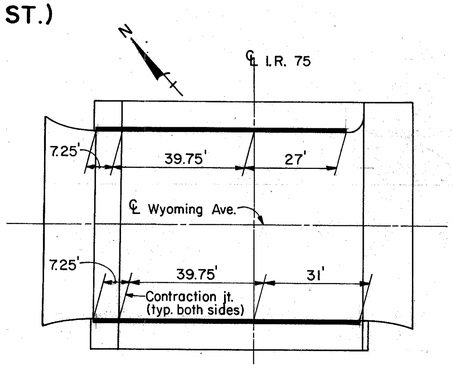
TRANSVERSE BRIDGE SECTION
(LOCK ST.)



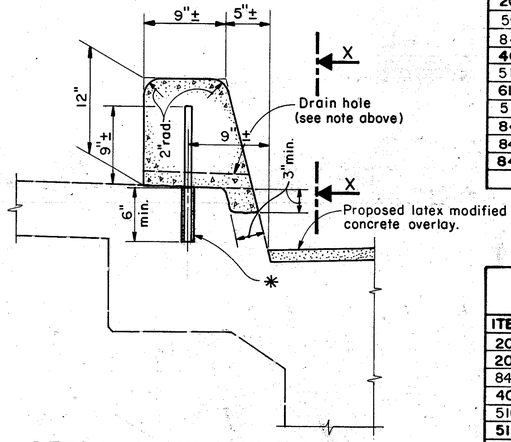
DETAIL A - LOCK ST.



DECK PLAN - LOCK ST.



DECK PLAN - WYOMING AVE.



DETAIL A - WYOMING AVE.

ESTIMATED QUANTITIES , HAM-75-1198L

ITEM	TOTAL	UNIT	DESCRIPTION
202	713	Sq. Yds.	Wearing course removed
509	188	Lbs.	Reinforcing steel, *Grade 60*
848	11	Cu. Yds.	Asphalt concrete, Surface Course, Type I AC-20
407	37	Gals.	Tack coat: 702.02, RC-250; 702.04, SS-1, SS-1H, MS-2 or RS-1
510	50	Lin. Ft.	Dowel holes, as per plan
614	Lump	Lump	Maintaining traffic
511	5	Cu. Yds.	Class C concrete, raised curb
845	494	Sq. Yds.	Latex modified concrete overlay (1¼" thick)
845	8	Cu. Yds.	Latex modified concrete overlay (variable thickness)
845	3	Cu. Yds.	Full-depth repair

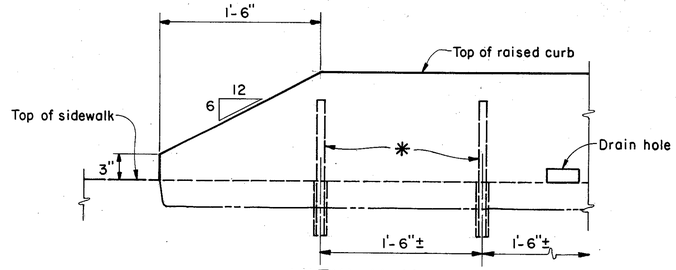
ESTIMATED QUANTITIES , HAM-75-1187L

ITEM	TOTAL	UNIT	DESCRIPTION
202	Lump	Lump	Portion of existing structure removed
202	668	Sq. Yds.	Wearing course removed
848	8	Cu. Yds.	Asphalt concrete, Surface Course, Type I AC-20
407	27	Gals.	Tack coat: 702.02, RC-250; 702.04, SS-1, SS-1H, MS-2 or RS-1
510	57	Lin. Ft.	Dowel holes, as per plan
511	1	Cu. Yd.	Class C concrete, railing posts
519	1000	Sq. Ft.	Patching concrete structures
511	5	Cu. Yds.	Class C concrete, raised curb
614	Lump	Lump	Maintaining traffic
509	297	Lbs.	Reinforcing steel, *Grade 60*
845	401	Sq. Yds.	Latex modified concrete overlay (1¼" thick)
845	6	Cu. Yds.	Latex modified concrete overlay (variable thickness)
845	1	Cu. Yd.	Full-depth repair

PROPOSED WORK - LOCK STREET

Wyoming similar except no sidewalk work

1. INSTALL NECESSARY MAINTENANCE OF TRAFFIC DEVICES AS PER PLATE C-22 OF THE OHIO MANUAL OF TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE OPERATIONS AND AS DIRECTED BY THE ENGINEER.
2. REMOVE EXISTING ASPHALT WEARING SURFACE FROM BRIDGE DECK.
3. REMOVE 30' OF EXISTING ASPHALT FROM EACH BRIDGE APPROACH TO PROVIDE A SMOOTH TRANSITION FROM THE EXISTING PAVEMENT TO THE PROPOSED BRIDGE SURFACE. AN ADDITIONAL 1" OF ASPHALT SHALL BE REMOVED AND REPLACED WITH TACK COAT AT 0.1 GAL./SQ. YD. AND 1" OF 848 FOR A SMOOTH RIDING SURFACE ON THE APPROACHES.
4. PATCH BRIDGE DECK AND OVERLAY AS PER 845.
5. REPAIR BRIDGE CURBS, SIDEWALKS AND RAILING POSTS AS PER PLAN AND TO THE SATISFACTION OF THE ENGINEER. CONCRETE END RAILING POSTS 1' X 2.25' X 3.58' AT THE NORTHEAST AND SOUTHWEST CORNERS OF THE BRIDGE SHALL BE COMPLETELY REPLACED WITH 511 CONCRETE. EXISTING REINFORCING STEEL SHALL BE REUSED OR AT THE OPTION OF THE CONTRACTOR NO. 4 BARS MAY BE USED INSTEAD.
6. REMOVE MAINTENANCE OF TRAFFIC DEVICES AND REOPEN ENTIRE BRIDGE TO TRAFFIC.



VIEW X-X
(AT END OF RAISED CURB-
LOCK ST. IS SIMILAR)

* NO. 6 DOWEL BARS SHALL BE SET IN 1"ø HOLES, SPACED AT 1'-6"℄ ±, USING PORTLAND CEMENT GROUT. REFER TO ITEM 510 NOTE ON SHEET 103.

DISTRICT 8

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF BRIDGES

BRIDGE REPAIRS
BRIDGE NO. HAM-75-1187L
LOCK STREET OVER S.B. 75
BRIDGE NO. HAM-75-1198L
WYOMING AVE. OVER S.B. 75

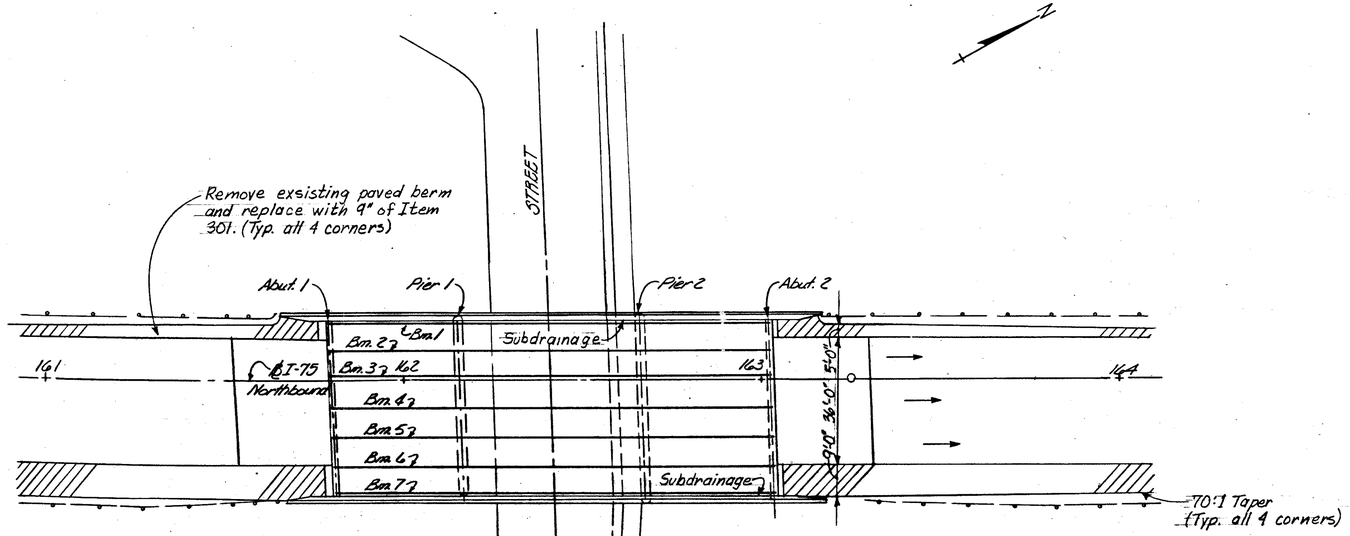
HAMILTON CO. I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLE	RLE					9-2-81

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

HAM - 75 - 9.30

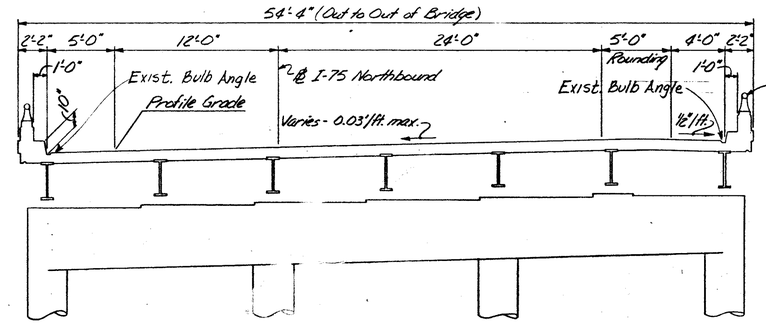
112
138



PLAN AT CLARK ST.

Beam Number	Approx. thickness of new shims required under bearing	By jacking, raise bridge end at Abutment #1
1	2 5/16"	2 7/8"
2	2 1/16"	2 7/8"
3	2 7/8"	2 7/8"
4	2 3/4"	2 3/4"
5	2 3/4"	2 3/4"
6	2 3/4"	2 3/4"
7	2 13/16"	2 3/4"

Beam Number	Approx. thickness of new shims required under bearing	By jacking, raise bridge end at Abutment #2
1	3/16"	0"
2	1/16"	3/16"
3	1/16"	3/16"
4	1/16"	1/16"
5	1 3/16"	1 3/16"
6	2 1/16"	2 3/16"
7	2 7/8"	2 7/8"



TYPICAL SECTION
(Clark Street)

REFERENCE DRAWINGS

1. For Bridge General Notes - see shs. 102 & 103.
2. For Quantities - see sheets 104 & 105.
3. For Maintenance of Traffic - see sheet
4. For Drainage Details - see sheet 119.
5. For End Dam Modification Details see sheet 120.
6. For Curb Plate Modification Details see sheet 120.
7. For Shim plate sizes - see sheet 119.
8. For Roadway Plan - see sheet 22.

PROPOSED WORK - Clark St.

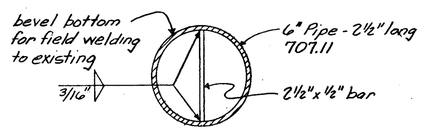
1. Remove Exist. Paved Berm and replace with 9" of Item 301.
2. Extend height of Steel Anchor Rods at abutment bearings.
3. Raise ends of beams at abutments by jacking.
4. Reposition sole plates on Bms. #1 thru #7 Abut #1 and Beam #1 Abut #2, as per detail on sheet 119
5. Install shim plates.
6. Flame cut ends of Bms. #1 thru #7 at Abut. #1 and Bms. #1 thru #7 at Abutment #2, to provide 2" min. clearance.
7. Remove jacking equipment.
8. Cut End Dam Angle to provide 2" min. opening.
9. Remove bridge conc. safety curb and parapet as necessary to provide 2" joint between bridge & Abut. at Abut. #1.
10. Modify approach slab, safety curb and curb plates as shown on sheet 120.
11. Modify existing Roadway End Dams at abutments - Case II.
12. Repair Deck. *
13. Patch abutment backwalls and other areas as directed by the Engineer.
14. Extend height of existing scuppers.
15. Waterproof Bridge Deck.
16. Modify existing bulb angle.
17. Overlay bridge deck with 2 1/2" Item 848 Asphalt Conc.
18. Clean and paint abutment bearings.
19. Remove, shim, and reset aluminum railing on wingwalls.

* This work shall be done as outlined in Bridge General Notes, Item Special - "Patching Concrete Bridge Decks".

PROPOSED WORK - Davis St

1. Remove existing paved berm and replace with 9" of Item 301.
2. Extend scuppers as per plan.
3. Patch concrete bridge deck. *
4. Waterproof bridge deck.
5. Install subdrainage for wearing course.
6. Overlay bridge deck with 2 1/2" of Item 848 asphalt concrete.
7. Seal joint between bridge deck and approach slab.

* This work shall be done as outlined in Bridge General Notes, Item Special - "Patching Concrete Bridge Decks".



SCUPPER

EXISTING STRUCTURE

TYPE: Continuous reinforced concrete, slab bridge, with reinforced concrete substructure.
SPANS: 35'-0", 45'-6", 35'-0"
ROADWAY: 52'-0" face to face of parapets.
LOAD FREQUENCY: C.F. 2000 (57) adequate for AASHO alternate loading
SKEW: 5°07'-24" L.F.
WEARING SURFACE: 1" monolithic concrete
ALIGNMENT: 1°45' Curve left.
APPROACH SLABS: AS-1-54 (25' long)
SUPERELEVATION: 0.042'/ft.

EXISTING STRUCTURE - CLARK

TYPE: Continuous rolled steel beam with reinforced concrete deck and substructure.
SPANS: 36'-6", 52'-0", 36'-6"
ROADWAY: 52'-0" face to face of parapets
LOAD FREQUENCY C.F. 2000 (57) adequate for AASHO alternate loading
SKEW: 1°46'31" AT.
WEARING SURFACE: 1" monolithic concrete
ALIGNMENT: Spiral (Ls = 450', Dc = 2°30')
APPROACH SLABS: AS-1-54 (25' long)
SUPERELEVATION: Varies
YEAR BUILT:
CONDITION:

KZF INCORPORATED
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
8930 Vistory Parkway, Cincinnati, Ohio. 45208 (513) 281-7723

SITE PLAN & REPAIRS

BRIDGE NO. HAM - 75 - 1152 R
I-75 N.B. OVER CLARK ST.
BRIDGE NO. HAM - 75 - 1184 R
I-75. N.B. OVER DAVIS ST.
HAMILTON COUNTY I-75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	REP	—	JAS	WBS	2/1/79	

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

HAM - 75 - 9.30

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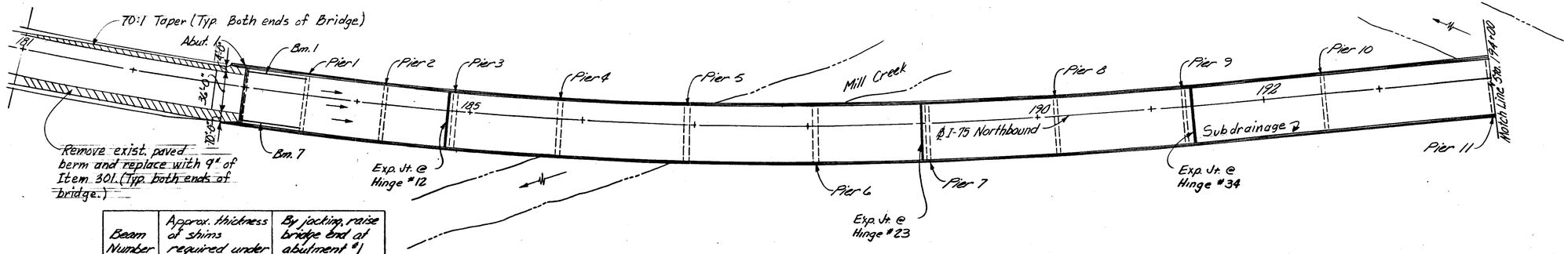
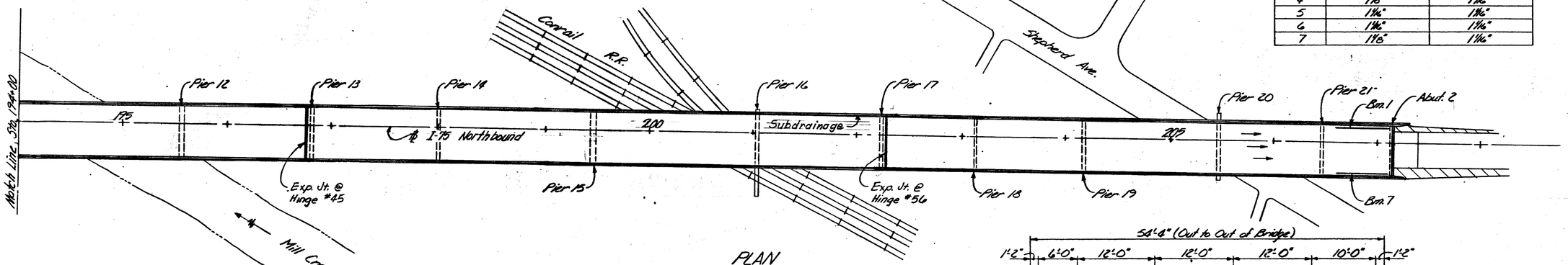
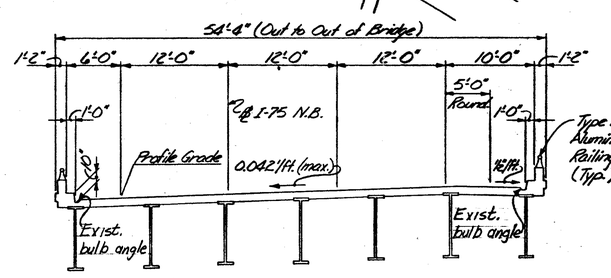


Beam Number	Approx. thickness of shims required under bearings	By jacking, raise bridge end at abutment #1
1	1 1/16"	1 3/8"
2	1 3/16"	1 7/16"
3	1 3/16"	1 3/16"
4	1 3/16"	1 1/16"
5	1 7/8"	1 3/8"
6	1 15/16"	1 7/16"
7	2 1/8"	2"

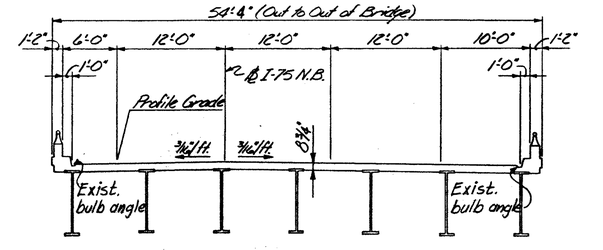
Beam Number	Approx. thickness of shims required under bearings	By jacking, raise bridge end at abutment #2
1	1 5/16"	1 1/16"
2	1 1/8"	1 1/16"
3	1 1/16"	1 1/16"
4	1 1/8"	1 1/16"
5	1 1/16"	1 1/16"
6	1 1/16"	1 1/16"
7	1 1/8"	1 1/16"



PLAN



TYPICAL SUPERELEVATED SECTION



TYPICAL NORMAL SECTION

PROPOSED WORK

1. Remove Existing Paved Berm and replace with 9" of Item 301.
2. Extend height of steel Anchor Rods at abutment bearings.
3. Raise ends of beams at abutments by jacking.
4. Install Shim Plates.
5. Remove jacking equipment.
6. Modify existing Roadway End Dams at abutments - Case II.
7. Modify ex. Super. Exp. Jts. @ Piers 3, 7, 9, 13, & 17 per Deck Exp. Jt. Seal Detail.
8. Modify approach slab, safety curb, & curb plates as shown on sheet 120.
9. Repair Deck. *
10. Patch Abutment backwalls and other areas as directed by the Engineer.
11. Extend height of existing scuppers.
12. Waterproof bridge deck.
13. Modify existing bulb angle.
14. Overlay Bridge Deck with 2 1/2" Item #848, Asphalt Conc.
15. Clean and paint abutment bearings.
16. Remove, shim, & reset aluminum railing on wingwalls.
17. Clean Existing Downspouts.

* This work shall be done as outlined in Bridge General Notes, Item Special - Patching Concrete Bridge Decks.

REFERENCE DRAWINGS

1. For Bridge General Notes - see sheets 102 & 103.
2. For Quantities - see sheets 104 & 105.
3. For Maintenance of Traffic - see sheet 9.
4. For Drainage Details - see sheet 119.
5. For End Dam Modification Details - see sheet 120.
6. For Curb Plate Modification Details at the Abutments see sheet 120.
7. For shim plate sizes - see sheet 119.
8. For Roadway Plan - see sheet 23.
9. For Expansion Joint Seal Details - See Sht. 114.

EXISTING STRUCTURE

TYPE: Continuous rolled beam and welded plate girder with reinforced concrete deck and substructure.

SPANS: 55'-6"-70'-0"-6'-6"; 93'-0"-111'-3"-111'-3"; 59'-0"-113'-6"-113'-6"-126'-0"-149'-9"; 154'-0"-124'-0"-120'-0"-145'-5"-54'-0"; 118'-0"-89'-0"-105'-0"-129'-0"-100'-0"-70'-0"

ROADWAY: 50'-0" face to face of 1'-0" safety curbs.

LOAD FREQUENCY: C.F. - 2000 (57) adequate for AASHO alternate loading.

SKEW: 0°00'00"

WEARING SURFACE: 1" Monolithic concrete

ALIGNMENT: 1°45' curve to left, 350'-0" spiral & Tangent

APPROACH SLABS: AS-1-54 (25' long)

YEAR BUILT:

CONDITION:

KZF INCORPORATED
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
8930 Vistory Parkway, Cincinnati, Ohio, 45808 (513) 821-7783

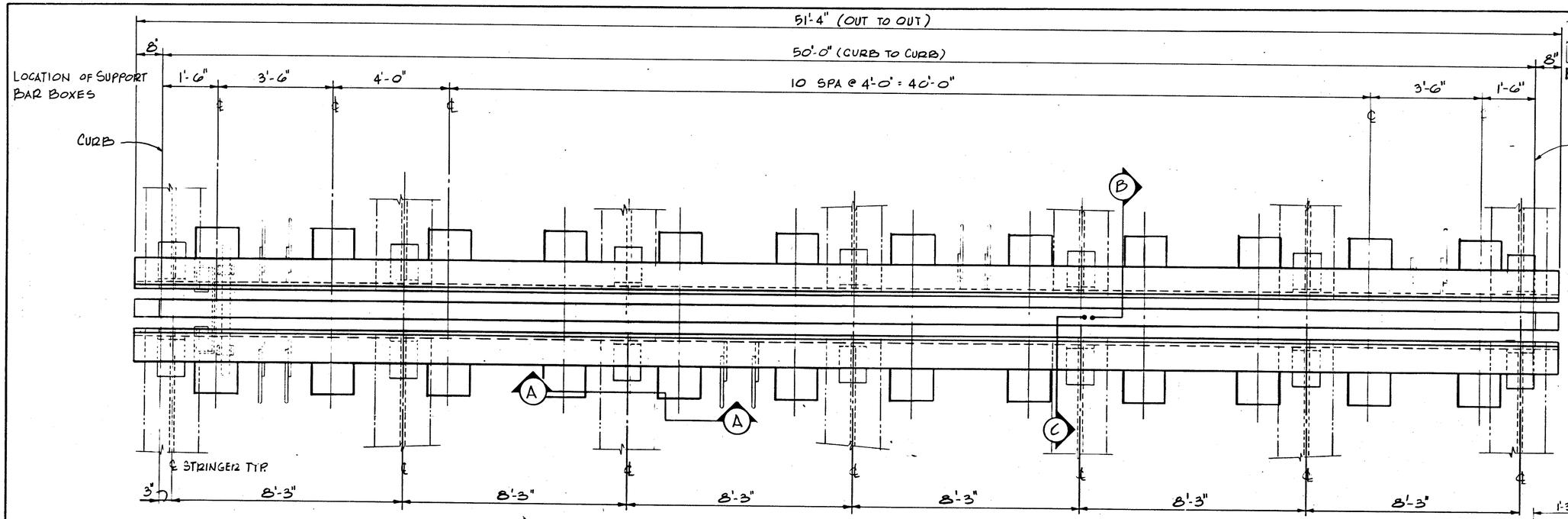
SITE PLAN

BRIDGE NO. HAM-75-1192 R
I-75 NORTHBOUND OVER MILL CREEK, BENSON ST., CON. R.R. & SHEPHERD LN.
HAMILTON COUNTY. I-75

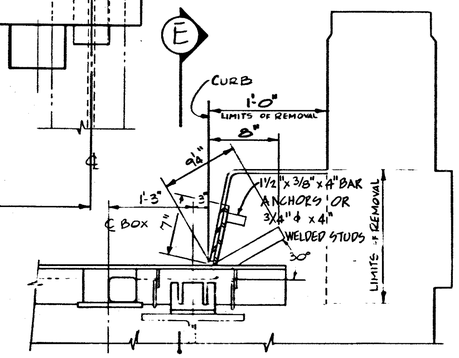
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAS	REP	—	JAS	WBS	2/11/79	

REGION	STATE	PROJECT
5	OHIO	

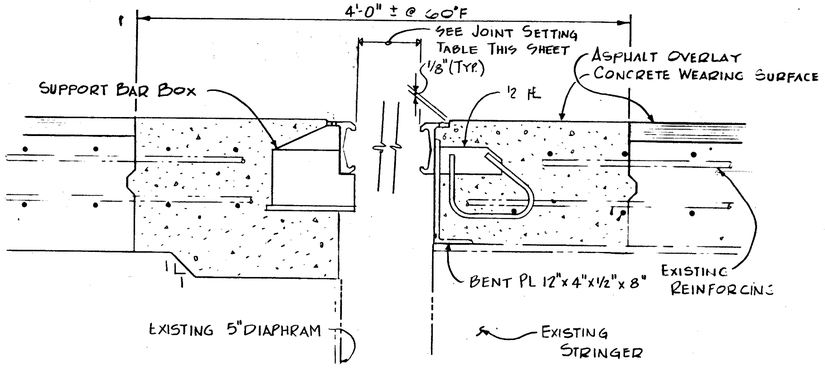
HAM-75-9.30



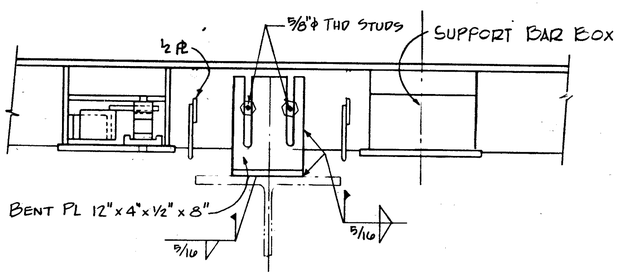
PLAN VIEW



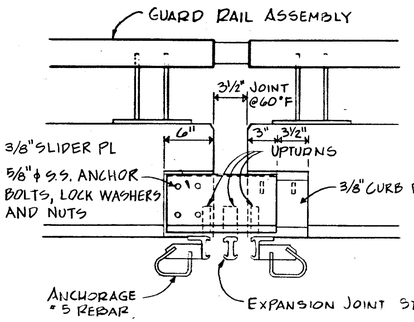
VIEW AT PARAPET



B SECTION
TYP. SIDE VIEW OF SUPPORT-BAR BOX



A SECTION



E SECTION

C SECTION
TYP. VIEW OF ANCHORAGE SYSTEM

TYPICAL JOINT SETTING TABLE
BASED ON A TEMPERATURE RANGE OF -30 TO 120

PIER NO.	TYPE	OPENING MIN.	OPENING MAX.	30°F -1.11°C	40°F 4.44°C	50°F 10°C	60°F 15.56°C	70°F 21.11°C	80°F 26.67°C	90°F 32.22°C
3	B600	4¾	6½	5 13/16	5 11/16	5 9/16	5 7/16	5 5/16	5 3/16	5 1/16
7	B600	3 1/16	8 3/16	6⅛	5 13/16	5 7/16	5⅛	4¾	4 7/16	4⅛
9	B600	3⅜	7⅞	6 1/16	5¾	5½	5 3/16	4 7/8	4 9/16	4¼
13	B900	6½	12 7/8	10 5/16	9 7/8	9½	9 1/16	8 5/8	8 3/16	7¾
17	B600	2 7/8	8⅜	6 3/16	5 13/16	5 7/16	5 1/16	4 11/16	4 5/16	4

NOTES:

1. FOR EXPANSION JOINT SEAL INSTALLATION INSTRUCTIONS - SEE BRIDGE GENERAL NOTES.
2. FOR SUPPORT BAR ASSEMBLY DETAILS - SEE DETAILS ON SHEETS 114C & 114D.
3. FOR BRIDGE SITE PLAN - SEE SHEETS 115 & 23.
4. FOR QUANTITIES - SEE SHEETS 104 & 105.
5. DETAILS SHOWN ON THIS SHEET ARE TYPICAL JOINT DETAILS - SEE SHEET 114B FOR REQ'D MOVEMENTS.

KZF DESIGN
ARCHITECTS | ENGINEERS
2830 Victory Parkway, Cincinnati, Ohio 45206 513 281 7292

EXP. JOINT SEAL DETAILS

BRIDGE NO. HAM-75-1192-R
I-75 NORTHBOUND OVER MILL CREEK, BENSON ST., CON.R.R. & SHEPHERD LN.
HAMILTON COUNTY I-75

DES. UNIT	DRAWN	QUANTITIES	CHECKED	APPROVED	WBS 2-2-81
—	—	JW	JAS		