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HUR-99(2.00-14.46)
Resurfacing etc.

Proj 863(94)

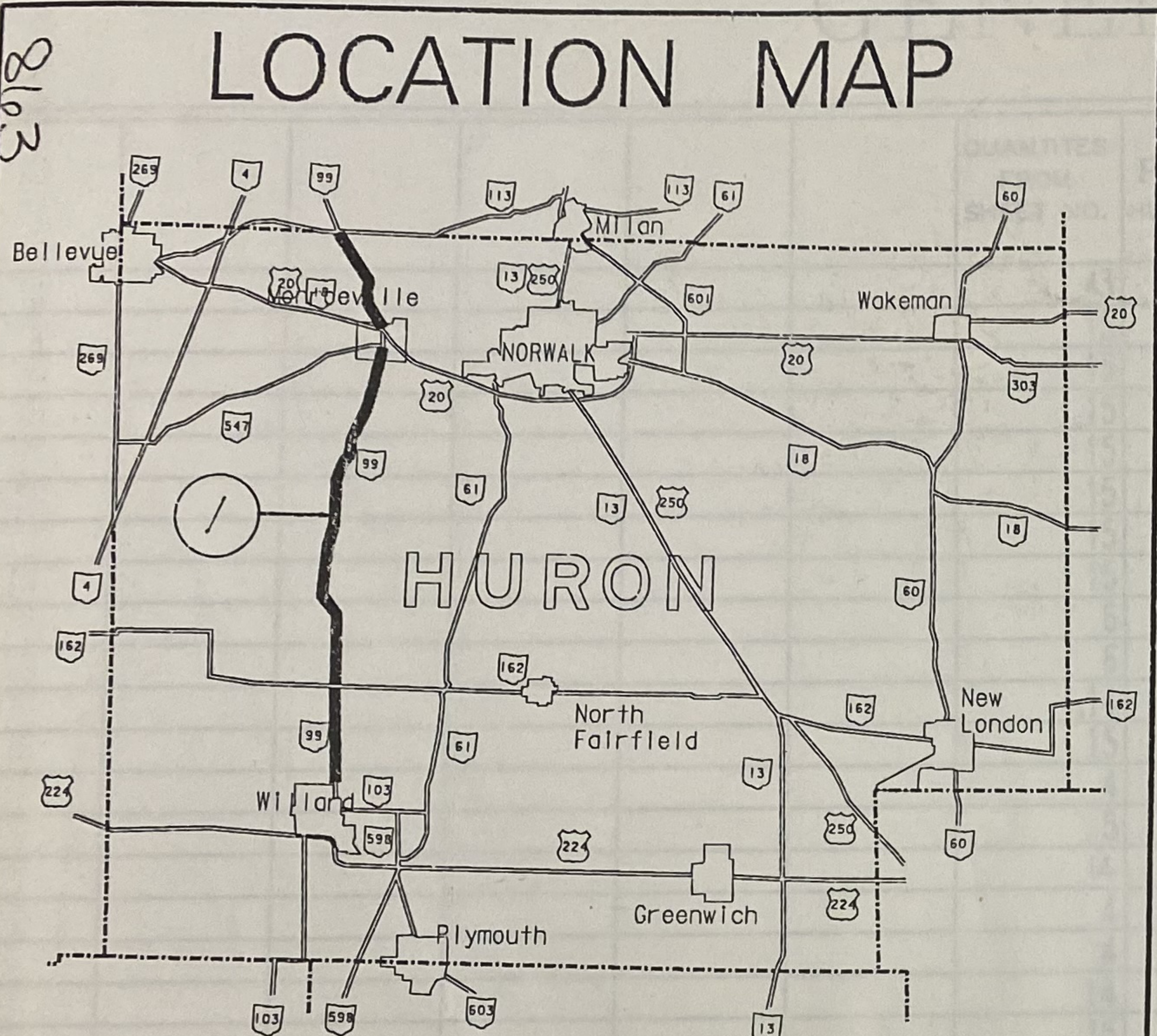
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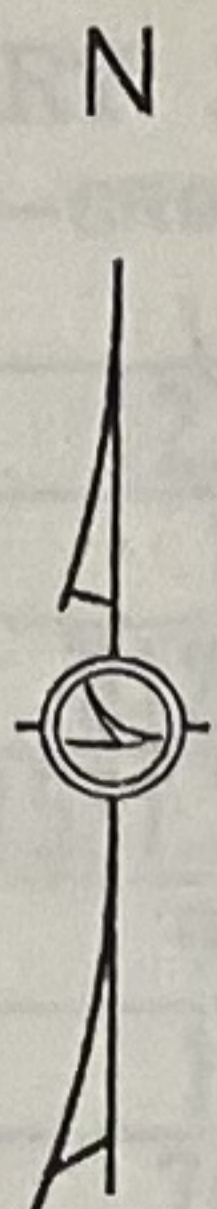
PLAN NO. 61

Boyd

LOCATION MAP



PORTIONS TO BE IMPROVED



PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH MILES	CITY	VILLAGE
				BEGIN	END			
1	HUR	SR-99	(2.00-14.46) (15.04-15.14)	2.00	18.02	15.45		MONROEVILLE

INDEX OF SHEETS:

- 1 - TITLE SHEET
- 2.3 - GENERAL SUMMARY
- 4 - STRAIGHT LINE DIAGRAM
- 4 - PAVEMENT DATA
- 5 - TYPICAL SECTIONS
- 5 - SHOULDER DATA
- 6 THRU 13 - GENERAL NOTES
- 14 - BRIDGE DECK TREATMENT
- 15 THRU 18 - ESTIMATED QUANTITIES
- 19 THRU 38 - STRUCTURE/GUARDRAIL DETAILS
- 39 THRU 42 - TRAFFIC CONTROL DETAILS
- 43 - PAVEMENT MARKING INFORMATION
- 44 - PAVEMENT MARKING TYPICALS

1993 SPECIFICATIONS

THE STANDARD 1993 SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND THE PROPOSAL SHALL GOVERN THESE IMPROVEMENTS

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THESE IMPROVEMENTS WILL REQUIRE THE CLOSING OF THE HIGHWAY AND DETOURS WILL BE PROVIDED BY STATE FORCES. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS INDICATED IN THE PLAN AND PROPOSAL.

APPROVED DATE 6-14-94 P. A. Harwood Jr. DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED DATE 6-22-94 B. D. Harshbarger ENGINEER OF BRIDGES

APPROVED DATE 9-22-94 W. H. Sweeney ENGINEER OF MAINTENANCE

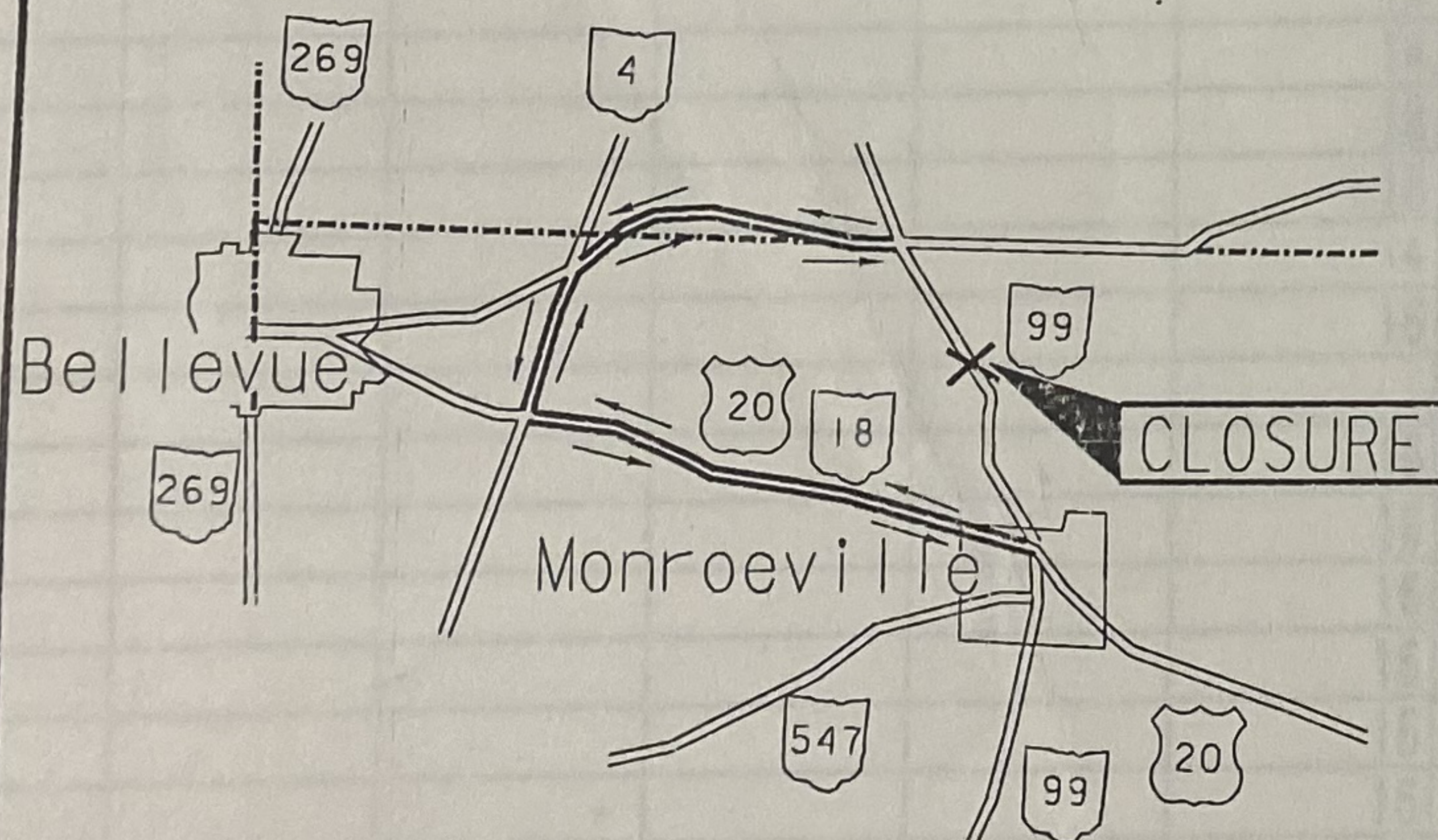
APPROVED DATE 9-22-94 Alexander H. Hynds DEPUTY DIRECTOR, OPERATIONS

APPROVED DATE 9-22-94 Jerry Wray DIRECTOR, DEPARTMENT OF TRANSPORTATION

TWO WORKING DAYS BEFORE YOU DIG
Call- 800-362-2764 TOLL FREE
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

Sheet 20A has been added.

DETOUR ROUTE



PLANS PREPARED BY:

DISTRICT 3 OPERATIONS

STANDARD DRAWINGS		STANDARD DRAWINGS		STANDARD DRAWINGS	
BP-3.1	02-21-92	TC-65.10	02-01-90	GR-4.1	05-06-91
BP-4.1	02-21-92	TC-65.12	02-01-90	TC-71.10	09-10-91
MT-96.11	09-09-88	TC-65.13	02-01-90	AS-1-81	11-27-81
MT-97.10	04-29-88	GR-1.1	05-06-91	PCB-91	4-24-92
MT-97.11	10-04-89	GR-1.2	10-30-92	HW-1	06-01-65
MT-99.10	11-14-86	GR-1.3	02-21-92		
MT-99.20	04-29-88	GR-2.1	05-06-91		
MT-101.60	07-01-92	GR-3.4	05-06-91		
MT-96.25	9-9-88	MT-96.20	9-9-88		

SUPPLEMENTAL SPECIFICATIONS	
802	04-13-90
852	7-30-93
862	12-16-88
962	01-23-90

FEDERAL PROJECT NO.

PID NO.

CONSTRUCTION PROJECT NO.

TITLE SHEET

HUR-SR99-2.00

REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED	11/27/81	PCB - 91	DATED	4/24/92
BP-3.1	DATED	2/21/92	HW-1	DATED	6/1/65
GR-1.1	DATED	5/6/91	MT-101.60	DATED	7/1/92
GR-1.2	DATED	5/6/91	MT-96.11	DATED	9/9/88
GR-2.1	DATED	5/6/91	MC-9.2		5-6-91
GR-3.4	DATED	5/6/91			
GR-4.1	DATED	5/6/91			

AND TO SUPPLEMENTAL SPECIFICATIONS:

802	DATED	4/13/90	852	DATED	7-30-93
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EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C.M.S. SECTIONS 102.05, 105.02 AND 513.02. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGE ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OHIO.

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

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992 INCLUDING THE 1993 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI

REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

GUARDRAIL REPLACEMENT:

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE, GRADE, AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

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. THE CONTRACTOR'S ATTENTION IS CALLED TO SECTION 404.16 OF THE CMS AND TO STANDARD DRAWING BP-3.1 DATED 2-21-92 FOR REQUIRED TOLERANCES.

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

THIS ITEM SHALL BE USED TO REMOVE BOTH DECK EDGES ON STRUCTURES HUR-99-0372, HUR-99-1028, HUR-99-1314 AND TO REMOVE PORTIONS OF THE BACKWALL ON STRUCTURE HUR-99-1604.

THE CONCRETE SHALL BE REMOVED BY A HYDRAULIC SPLITTING METHOD. A LINE OF HOLES SHALL BE DRILLED ALONG THE REMOVAL LINE AND A HYDRAULIC SPLITTER USED AS PER MANUFACTURERS RECOMMENDATIONS. THIRTY FIVE (35) AND FIFTEEN (15) POUND JACKHAMMERS SHALL BE USED FOR THE FINAL FINISH WORK. A HOE RAM, CONCRETE CRUSHER, OR OTHER SIMILAR IMPACT DEVICES WILL NOT BE PERMITTED TO DO ANY OF THE WORK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING, OR DAMAGING OF THE EXISTING REINFORCING STEEL TO BE PRESERVED. IF THE EXISTING REINFORCING STEEL DESIGNATED FOR PRESERVATION IS DAMAGED DURING REMOVAL OPERATIONS, DOWELLED REINFORCING STEEL SHALL BE ADDED AT THE CONTRACTOR'S EXPENSE. CARE SHOULD ALSO BE TAKEN NOT TO CRACK THE DECK, IF THE DECK IS CRACKED IT SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

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

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PLAN NO. 61

GENERAL NOTES

HUR-99

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ITEM 202 - GUARDRAIL REMOVED FOR STORAGE:

GUARDRAIL, TERMINAL ASSEMBLIES, POSTS, AND MISCELLANEOUS HARDWARE DESIGNATED BY THE ENGINEER FOR SALVAGE SHALL BE STORED AS DIRECTED BY THE ENGINEER FOR REMOVAL BY STATE FORCES. ALL MATERIAL NOT CONSIDERED SALVAGEABLE SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH 202.02.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER LIN.FT FOR ITEM 202 GUARDRAIL REMOVED FOR STORAGE WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - BRIDGE RAILING REMOVED FOR STORAGE:

RAILING, POSTS, AND MISCELLANEOUS HARDWARE DESIGNATED BY THE ENGINEER FOR SALVAGE SHALL BE STORED AS DIRECTED BY THE ENGINEER FOR REMOVAL BY STATE FORCES. ALL MATERIAL NOT CONSIDERED SALVAGEABLE SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH 202.02.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER LIN.FT FOR ITEM 202 BRIDGE RAILING REMOVED FOR STORAGE WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN:

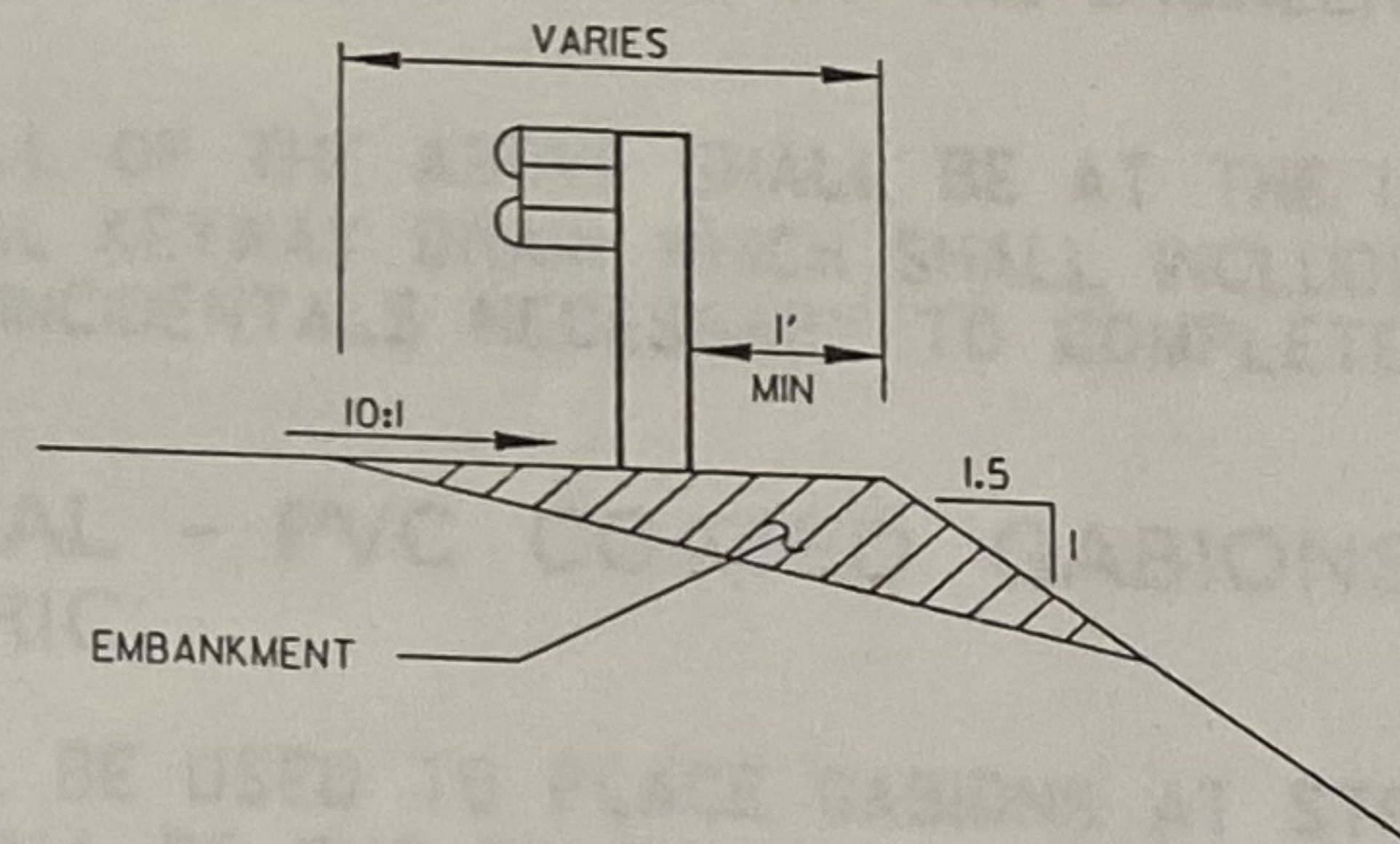
THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TYPE A ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENT, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER. THIS FILL SHALL BE THOROUGHLY COMPACTED AND LEVELED AS DIRECTED.

ITEM 203 - EMBANKMENT, AS PER PLAN:

AT SPECIFIED LOCATIONS AND LOCATIONS AS DIRECTED BY THE ENGINEER, EMBANKMENT SHALL BE PLACED AS TO PROVIDE A SUITABLE AREA TO CONSTRUCT THE GUARDRAIL.

AREAS WHERE EMBANKMENT MATERIALS ARE TO BE PLACED SHALL BE SCALPED. THE REQUIREMENTS FOR MOISTURE, DENSITY CONTROL AND BENCHING SHALL BE WAIVED. THE DEPTH OF LAYERS IN WHICH THE EMBANKMENT IS PLACED AND THE METHOD OF COMPACTION SHALL BE DETERMINED BY THE ENGINEER. AFTER THE EMBANKMENT HAS BEEN PLACED, THE AREAS SHALL BE FERTILIZED, SEEDED, MULCHED AND WATERED AS PER ITEM 659. THE COST SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT. THE METHOD OF MEASUREMENT FOR EMBANKMENT MATERIAL SHALL BE THE NUMBER OF CUBIC YARDS MEASURED BY LOOSE VOLUME IN THE CARRIER AT THE WORK SITE, IN LIEU OF THE REQUIREMENTS OF ITEM 203.15, AND PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT BID PRICE FOR ITEM 203 EMBANKMENT, AS PER PLAN AND SHALL INCLUDE ALL WORK DESCRIBED ABOVE AND AT ALL TIMES SHALL BE AS DIRECTED BY THE ENGINEER.



EMBANKMENT TYPICAL

ITEM 510 - DOWEL HOLES, AS PER PLAN:

ALL DOWEL HOLES SHALL BE GROUTED WITH AN EPOXY MORTAR. ANCHORING SHALL BE DONE ACCORDING TO SUPPLEMENTAL SPECIFICATIONS 852.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER EACH FOR ITEM 510 DOWEL HOLES, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

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PLAN NO. G4

GENERAL NOTES

HUR-99

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

THIS ITEM SHALL BE USED AS PER DETAILS IN THE PLAN.

NOT MORE THAN 48 HRS. PRIOR TO PLACING THE CONCRETE, ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND, INCLUDING EXPOSED REINFORCING AND STRUCTURAL STEEL SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINATES DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. IMMEDIATELY BEFORE THE CONCRETE IS PLACED ALL ADJACENT CONCRETE SURFACES SHALL BE COVERED WITH A THIN LAYER OF BONDING GROUT. THE BONDING GROUT SHALL CONSIST OF EQUAL PARTS BY VOLUME OF PORTLAND CEMENT AND SAND, MIXED WITH ENOUGH WATER TO FORM A SLURRY OF PAINT LIKE CONSISTANCY WHICH SHALL BE SUCH AS TO ALLOW IT TO BE APPLIED WITH A STIFF BRUSH OR BROOM TO EXISTING CONCRETE SURFACES IN A THIN EVEN COATING THAT WILL NOT RUN OR PUDDLE. THE GROUT SHALL BE APPLIED FOR A SHORT DISTANCE IN ADVANCE OF THE PLACEMENT OF THE CONCRETE AND SHALL NOT BE DRY.

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.

QUANTITIES PER CUBIC YARD
(USING NO. 8 LIMESTONE)

FINE (LB)	AGGREGATE COURSE (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	WATER/CEMENT RATIO
1591	1127	2718	715	0.40

AIR CONTENT - 8% PLUS OR MINUS 2%

HIGH RANGE WATER REDUCER (SUPERPLASTICIZER) MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE DOSAGE RATE WILL BE DETERMINED BY THE CONTRACTOR BASED ON THE 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.

TYPE A OR D CHEMICAL ADMIXTURE CONFORMING TO 705.12, ASTM-C494 AND NOT CONTAINING CHLORIDE SHALL BE ADDED TO THE CONCRETE AT THE PLANT.

ALL ADDITIVES, INCLUDING AIR ENTRAINMENT, SHALL BE MANUFACTURED BY THE SAME COMPANY AND CERTIFIED AS COMPATABLE BY THE MANUFACTURING CO.

THE CEMENT CONTENT SHALL BE MAINTAINED AND A MAXIMUM WATER-CEMENT RATIO OF 0.40 SHALL NOT BE EXCEEDED. THE SLUMP OF THE SUPERPLASTICIZED CONCRETE DELIVERED TO THE JOB SITE SHALL BE 1 1/2" PLUS OR MINUS 1/2". THE SUPERPLASTICIZED 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" PLUS OR MINUS 1/2". THE CONTRACTOR SHALL FURNISH A VOLUMERIC DISPENSER FOR THE SUPERPLASTICIZER.

CONCRETE MIXTURES CONTAINING A HIGH RANGE WATER REDUCER SHALL MEET THE SAME REQUIREMENTS FOR ENTRAINED AIR CONTENT, MAXIMUM 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.

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

ITEM 511 - CLASS C CONCRETE, MISCELLANEOUS; BACKWALL, AS PER PLAN:

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ANY EXCAVATION IS INCLUDED IN THIS ITEM.

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

ITEM 517 - RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, HANDRAIL, TYPE 1 STEEL POSTS AND ANCHOR BOLTS):

THIS ITEM SHALL BE USED ON STRUCTURE HUR-99-0372 TO INSTALL NEW STEEL POSTS, ANGLES, STEEL TUBULAR BACKUP, DEEP BEAM RAIL AND ANY OTHER ITEMS ACCORDING TO DETAILS ON SHEET NOS. ~~19, 20, 23, 24, 31, 32, 33~~

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER LIN.FT. FOR ITEM 517 RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, HANDRAIL, TYPE 1 STEEL POSTS AND ANCHOR BOLTS) WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

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PLAN NO. 61

GENERAL NOTES

HUR-99

ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECKS WITH QSC

A. DESCRIPTION.

THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECK OVERLAYS, INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, CONCRETE PATCHES, SURFACE PREPARATION, BONDING COAT AND THE STRENGTH TESTING OF ALL THE PATCHES AS DIRECTED BY THE ENGINEER.

B. REMOVAL OF UNSOUND CONCRETE.

THE ENGINEER SHALL VISUALLY INSPECT THE ENTIRE DECK AND OUTLINE THE AREAS TO BE REMOVED.

THE PERIMETER OF ALL REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF 1' 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 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 DRYING CAN OCCUR.

UN SOUND 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 35 POUND CLASS AND SHALL BE OPERATED AT AN ANGLE OF 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 PRIMARY 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 3/4 INCH 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 OUTSIDE THE RIGHT OF WAY.

C. SURFACE PREPARATION.

CLEANING SHALL CLOSELY PRECEDE APPLICATION OF THE BONDING GROUT OR THE PATCHING MATERIAL. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED WITHIN 24 HOURS PRIOR TO PATCHING BY ABRASIVE BLASTING 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.

FOR PATCHES WHICH DO NOT USE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE SURFACE DRY. FOR PATCHES WHICH REQUIRE WATER AS THE ACTIVATOR THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. NO COATING OF THE REINFORCING STEEL IS REQUIRED.

D. MATERIALS, PLACING AND CURING.

OVERLAYS SHALL BE PATCHED WITH QUICK SET CONCRETE (QSC) WHICH SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

COARSE AGGREGATE (NO. 8)	- 703.02
QUICK SETTING CONCRETE MORTAR, TYPE 2	- SS 933
WATER	- 499.02

QSC PATCHES SHALL BE BONDED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. PROPORTIONING AND PLACING OF QSC PATCHES SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. THE CONCRETE SHALL BE MIXED AND PLACED AS PER MANUFACTURER'S RECOMMENDATIONS WITH THE AMBIENT TEMPERATURE ABOVE 45 DEGREES F. COARSE AGGREGATE, WHICH HAS BEEN CLEANED, DRIED AND BAGGED, SHALL BE ADDED AT A RATE OF 30 POUNDS OF AGGREGATE PER 50 POUNDS OF DRY QSC MORTAR. THE MAXIMUM TEMPERATURE OF ANY WATER USED IN THE MORTAR MIX SHALL BE 70 DEGREES F.

QSC PATCHES SHALL BE CURED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS THE CONTRACTOR WILL SUPPLY A PROPERLY CALIBRATED IMPACT REBOUND HAMMER TO VERIFY THAT THE PATCHES HAVE REACHED 3000 P.S.I. COMPRESSIVE STRENGTH PRIOR TO OPENING TO TRAFFIC. THE IMPACT HAMMER SHALL BE THE MODEL C-7311H-METER AND THE FIELD CALIBRATOR SHALL BE THE MODEL C-7312 TEST ANVIL AS MANUFACTURED BY JAMES INSTRUMENTS, INC. 4048 ROCKWELL ST. CHICAGO, ILLINOIS 60618 PHONE (312) 463-6500.

E. PLACING.

IF PLACEMENT OF THE PATCHES IS TO BE MADE AT NIGHT, 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 LEVELED AND CONSOLIDATED WITH A MECHANICAL VIBRATING SCREED. SMALLER PATCHES SHALL BE HAND VIBRATED AND LEVELED WITH A TEN FOOT STRAIGHTEDGE. PATCHES THAT ARE LESS THAN 10 FEET IN LENGTH SHALL BE SCREED LONGITUDINALLY. FOR PATCHES OVER 10 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE BRIDGE CENTERLINE.

THE CONTRACTOR SHALL TEST THE SURFACE OF THE PATCHED CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A TEN FOOT STRAIGHTEDGE. FOR PATCHES TEN FEET OR LESS IN LENGTH, THE STRAIGHTEDGING SHALL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH THE 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 THE HMWM PROPOSAL NOTE.

ALL REPLACEMENT OF REJECTED AREAS AND SEALING OF CRACKS IN NEW BONDED PATCHES WILL BE THE RESPONSIBILITY 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 CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. YD.	CONCRETE PATCHING BRIDGE DECK WITH OSC

T.B. CHECKED 8/24
 PLAN NO. 61
 GENERAL NOTES
 HUR-99
 12
 44

BRIDGE DECK TREATMENT

BRIDGE DECK DATA

PART	COUNTY, ROUTE, BRIDGE NO.	LENGTH (BRIDGE LIMITS)	WIDTH	BRIDGE DECK AREA	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	BRIDGE DECK REPAIR			202	254	509	511	512	SPECIAL	SPECIAL	SPECIAL									
							3/4" THICK OVERLAY	VARIABLE THICKNESS OVERLAY	TEST SLAB									ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE (SEE PROPOSAL NOTE)	PORTION OF STRUCTURE REMOVED, AS PER PLAN	PAVEMENT PLANING BITUMINOUS	EPOXY COATED REINFORCING STEEL, GRADE 60	CLASS 5 CONCRETE, SUPERSTRUCTURE, RECONSTRUCTION, AS PER PLAN	TYPE D WATERPROOFING	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	JOINT SEALER	PATCHING CONCRETE BRIDGE DECKS WITH OSC
		LIN. FT.	LIN. FT.	SO. YD.		FEET	SO. YD.	CU. YD.	LUMP	CU. YD.	SO. YD.	POUND	CU. YD.	SO. YD.	LIN. FT.	LIN. FT.	SO. YD.									
I	†† HUR-99-0372	60.00	36.0	240	L. M. C.	20																				
I	○ HUR-99-0586	133.22	38.0	562	ASPHALT	20				13		445	2646	13			180									
I	†† HUR-99-1028	125.00	40.0	556	L. M. C.	20						1007		562	77											
I	†† HUR-99-1314	126.00	44.0	616	L. M. C.	20				32		445	8055	32			431									
I	☆ HUR-99-1422									28		445	2272	28			434									
I	† HUR-99-1604	76.00	29.5	249	ASPHALT	22	249	10	LUMP	8		1716	942													
	TOTAL PART I						249	10	LUMP	81		4058	13,915	73	562	77	1045	6								

☆ PAVE OVER

†† PLANE 100' ON EACH APPROACH, OMIT RESURFACING ON BRIDGE DECK, BUTT JOINT AT BRIDGE DECK (SEE DETAILS IN THE PLAN FOR ADDITIONAL WORK)

† PLANE 300' FROM NEW APPROACH SLABS ON EACH END AND BRIDGE DECK, OMIT RESURFACING ON BRIDGE DECK AND APPROACH SLABS, BUTT JOINT AT APPROACH SLABS (THE OVERLAY SHALL BE Poured FULL WIDTH) (SEE DETAILS IN THE PLAN FOR ADDITIONAL WORK)

○ PLANE ASPHALT FROM EXISTING PRESTRESSED BEAM BRIDGE AND 100' ON EACH APPROACH AT THE SAME TIME THE BRIDGE IS PLANED. PLANE TO WITHIN 1/2" OF TOP OF BEAMS. REMOVE REMAINING ASPHALT AND EXISTING WATERPROOFING WITH HAND TOOLS.

CARE SHALL BE TAKEN NOT TO GRIND INTO OR DAMAGE THE EXISTING PRESTRESSED BEAMS.

TRAFFIC OR EQUIPMENT WILL NOT BE ALLOWED ON THE SURFACE OF THE BARE CONCRETE BEAMS OR ON THE WATERPROOFING. THE INTERMEDIATE COURSE SHALL BE APPLIED BEFORE OPENING TO TRAFFIC. PAYMENT SHALL BE AT THE UNIT PRICE BID PER SQ. YD. FOR ITEM 254 PAVEMENT PLANING BITUMINOUS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DATE 8-94

REVIEWED Fec

CHECKED Edy

DRAWN

DESIGNED

BRIDGE DECK TREATMENT

HUR-99

14
44

ESTIMATED QUANTITIES

PART	LOCATION	SIDE	202	202	202	203	203	203	203	304	511	510
			GUARDRAIL REMOVED FOR STORAGE	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN	BRIDGE RAILING REMOVED FOR STORAGE	EMBANKMENT, AS PER PLAN	EMBANKMENT	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	SUBGRADE COMPACTION	AGGRGATE BASE	CLASS C CONCRETE, MISCELLANEOUS; BACKWALL, AS PER PLAN	DOWEL HOLES, AS PER PLAN
			L IN. FT.	EACH	L IN. FT.	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	CU. YD.	CY. YD.	EACH
			(A)	(B)	(I)							
I	HUR-99-0372	L	425.00	2	62.50	18						
		R	250.00	2	62.50	20						
I	HUR-99-0586	L	25.00	1								
		R	25.00	1								
I	HUR-99-06.09	L										
		R	37.50									
I	HUR-99-06.76	L	225.00			6						
		R	225.00			8						
I	HUR-99-1028	L	25.00	1	131.25		764					
		R	25.00	1	131.25							
I	HUR-99-1314	L	31.25	1	131.25							
		R	100.00	1	131.25							
I	HUR-99-1604	L	68.75	2	81.25			90	171	30	10	6
		R	68.75	2	81.25	6						6
TOTAL			1531.25	14	812.50	58	764	90	171	30	10	12

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ESTIMATED QUANTITIES

HUR-99

ESTIMATED QUANTITIES

PART	LOCATION	SIDE	517	517	517	518		601	601	602	603	606			
			RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, HANDRAIL, TYPE 1 STEEL POSTS AND ANCHOR BOLTS)	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, TYPE 1 STEEL POSTS AND ANCHOR BOLTS)	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, TYPE 2 STEEL POSTS AND ANCHOR BOLTS)	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN		ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER FABRIC	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER FABRIC	CONCRETE MASONRY	24" CONDUIT, TYPE E (707.16)		GUARDRAIL, TYPE 5		
			LIN. FT.	LIN. FT.	LIN. FT.	CU. YD.		CU. YD.	CU. YD.	CU. YD.	LIN. FT.		LENGTH	RADIUS	LENGTH
			(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(C)	
I	HUR-99-0372	L	68.75					6							425.00
		R	68.75					6							287.50
I	HUR-99-0586	L						107							50.00
		R										12.5	10		31.25
I	HUR-99-06.09	L													
		R										12.5	15		12.50
I	HUR-99-06.76	L													225.00
		R													225.00
I	HUR-99-1028	L		131.25					185	3	40				31.25
		R		131.25											50.00
I	HUR-99-1314	L		131.25								12.5	10		37.50
		R		131.25								37.5	10		62.50
I	HUR-99-1604	L			81.25										200.00
		R			81.25	11		128				12.5	20		162.50
	TOTAL		137.50	525.00	162.50	11		247	185	3	40				1887.50

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ESTIMATED QUANTITIES

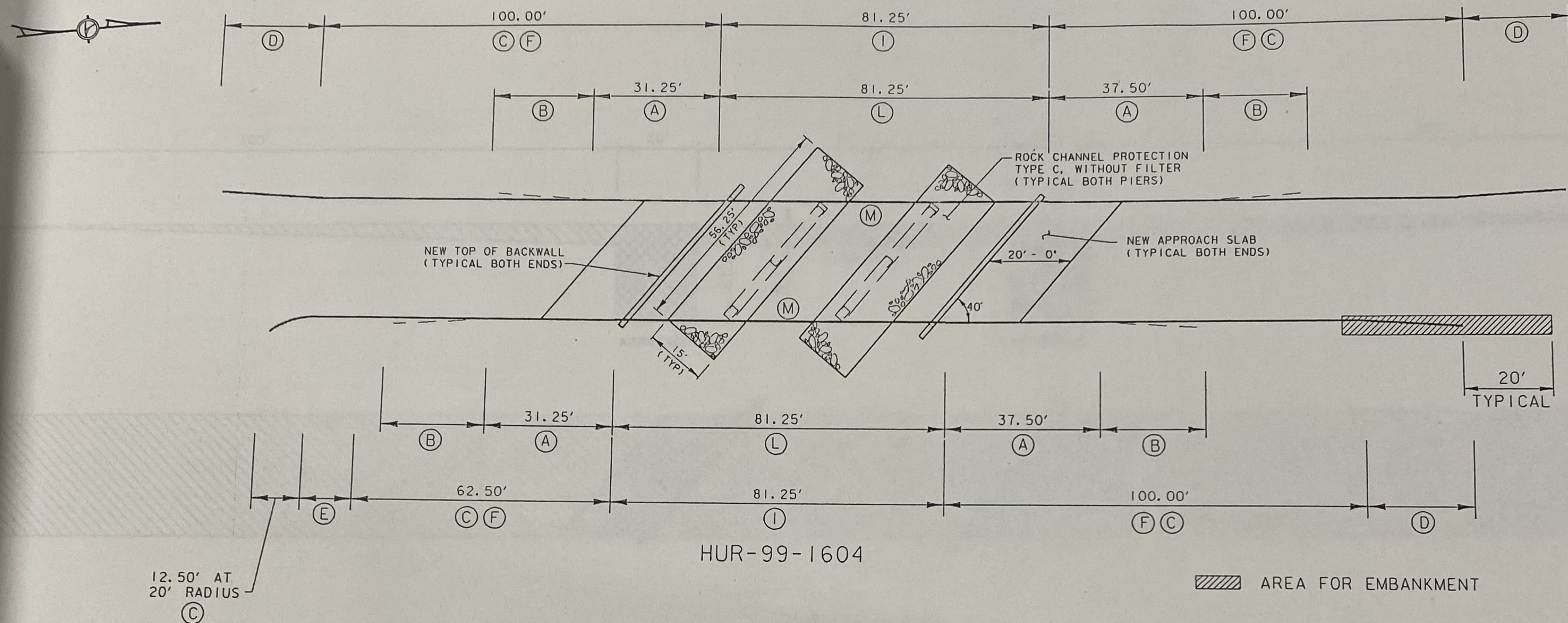
HUR-99

16
44

ESTIMATED QUANTITIES

PART	LOCATION	SIDE	606	606	606	606	606	611	614	614		615	622	622
			BRIDGE TERMINAL ASSEMBLY, TYPE 4	GUARDRAIL POST, 9 FT.	ANCHOR ASSEMBLY, TYPE T	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, REBUILT, TYPE A	REINFORCED CONCRETE APPROACH SLAB (T=13")	BARRIER OBJECT MARKERS	TYPE A2	TYPE B2	TEMPORARY PAVEMENT, CLASS B, AS PER PLAN	PORATABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED, AS PER PLAN	PORATABLE CONCRETE BARRIER, 32"
			EACH	LIN. FT.	EACH	EACH	EACH	SQ. YD.	EACH	EACH		SQ. YD.	LIN. FT.	LIN. FT.
			(F)	(G)	(E)	(D)	(H)							
I	HUR-99-0372	L	2			2								
		R	2			2								
I	HUR-99-0586	L	2			1			21	9	22	160	200	150
		R	2						21	11	22	160	200	150
I	HUR-99-06.09	L								9		254		
		R								9		254		
I	HUR-99-06.76	L		35										
		R		35										
I	HUR-99-1028	L	2			1								
		R	2			1								
I	HUR-99-1314	L	2		1				22	11	23	134	230	150
		R	2		3				22	11	23	134	230	150
I	HUR-99-1604	L	2			2			22	9	23	144	230	150
		R	2		1	1		131	22	9	23	144	230	150
TOTAL			20	70	7	10	4	131	130	78	136	1384	1320	900

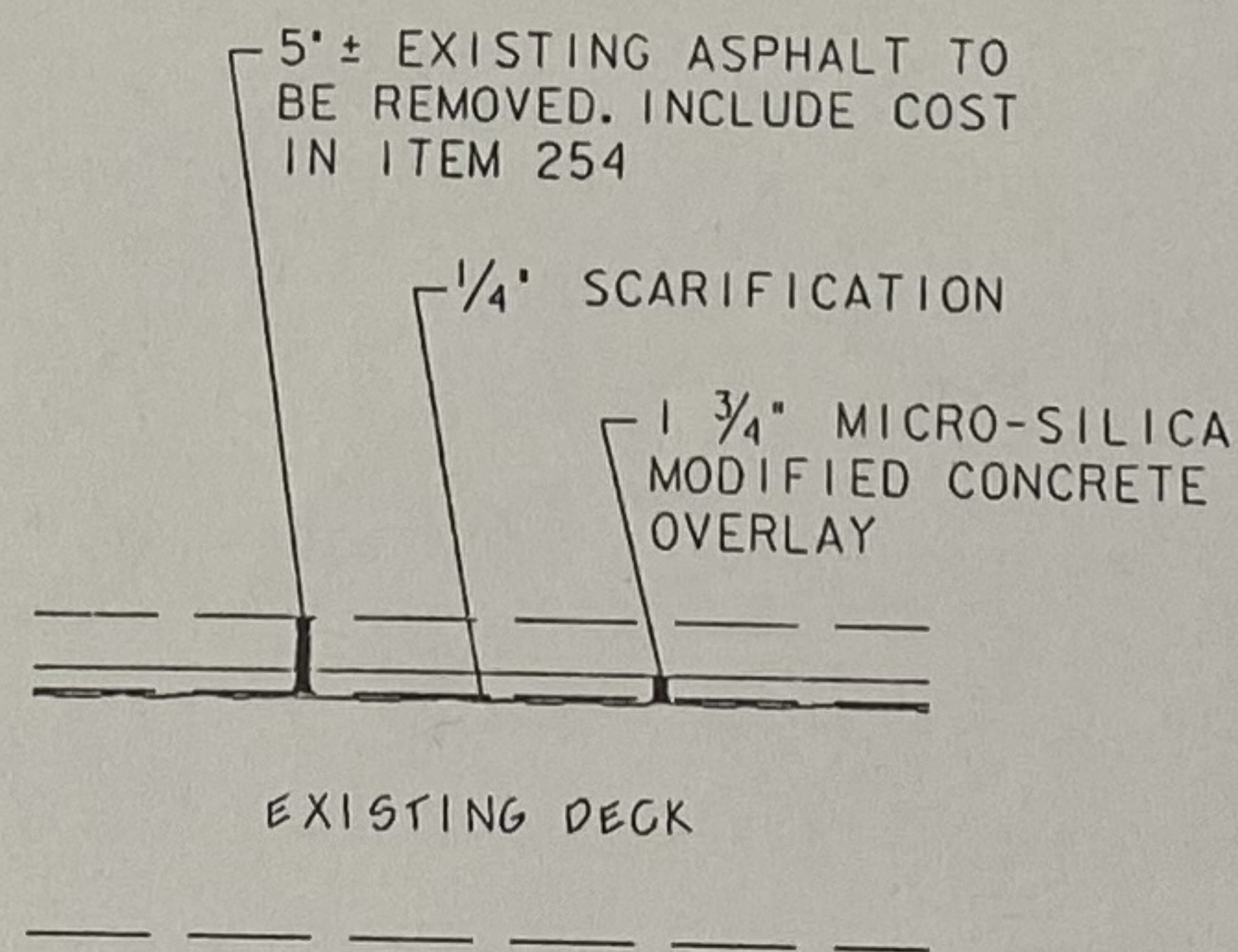
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
				3-99
ESTIMATED QUANTITIES				
HUR-99				
17 44				



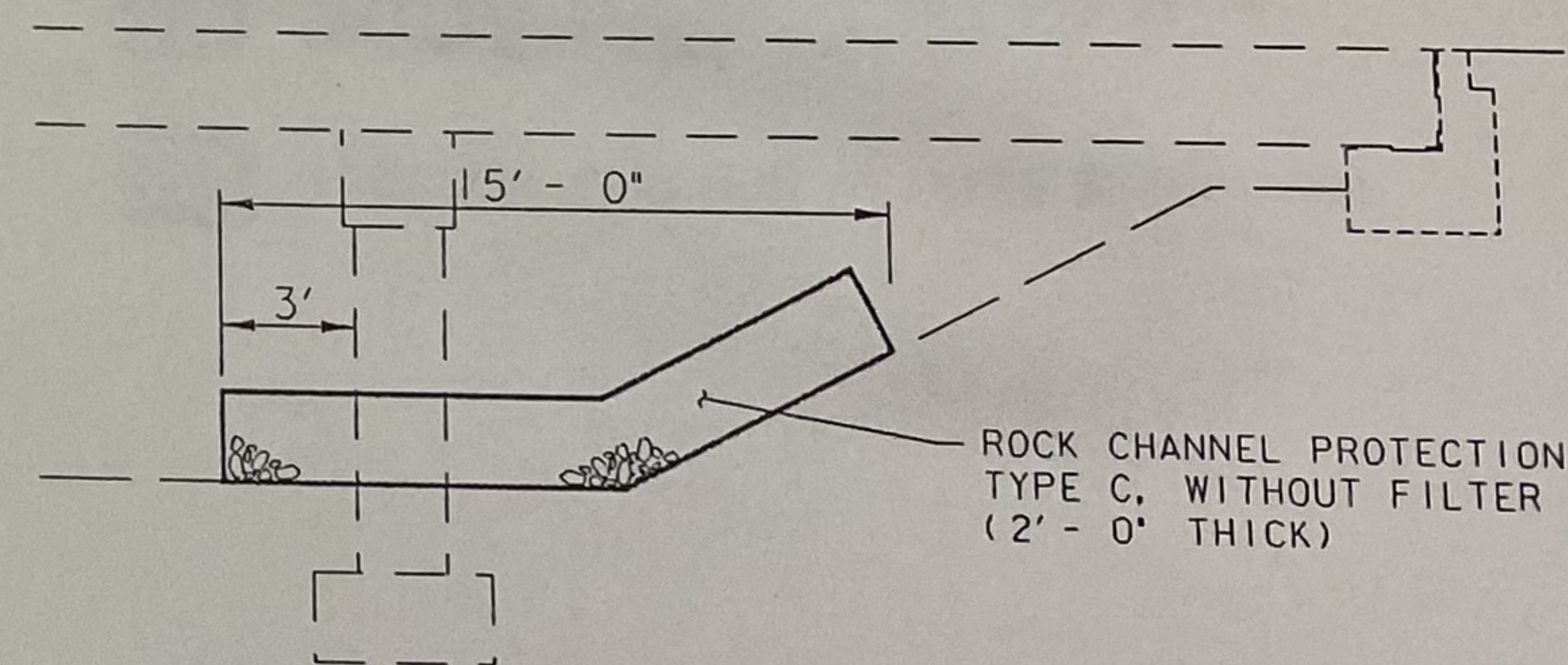
HUR-99-1604

AREA FOR EMBANKMENT

- (A) ITEM 202 - GUARDRAIL REMOVED FOR STORAGE
- (B) ITEM 202 - ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN
- (C) ITEM 606 - GUARDRAIL, TYPE 5
- (D) ITEM 606 - ANCHOR ASSEMBLY, TYPE A
- (E) ITEM 606 - ANCHOR ASSEMBLY, TYPE T
- (F) ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4
- (I) ITEM 202 - BRIDGE RAILING REMOVED FOR STORAGE
- (L) ITEM 517 - RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, TYPE 2 STEEL POSTS AND ANCHOR BOLTS)
- (M) ITEM 802 - BARRIER REFLECTOR, TYPE A



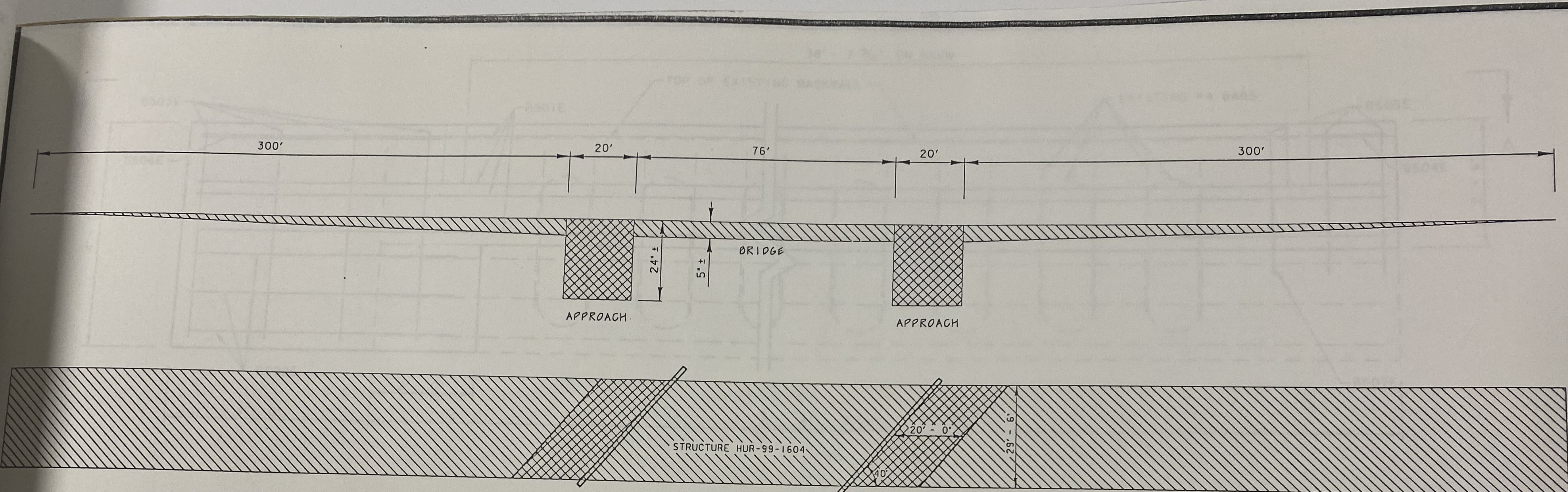
DECK TREATMENT DETAIL



TYPICAL ROCK CHANNEL PROTECTION



DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
				3-94

GENERAL PLAN



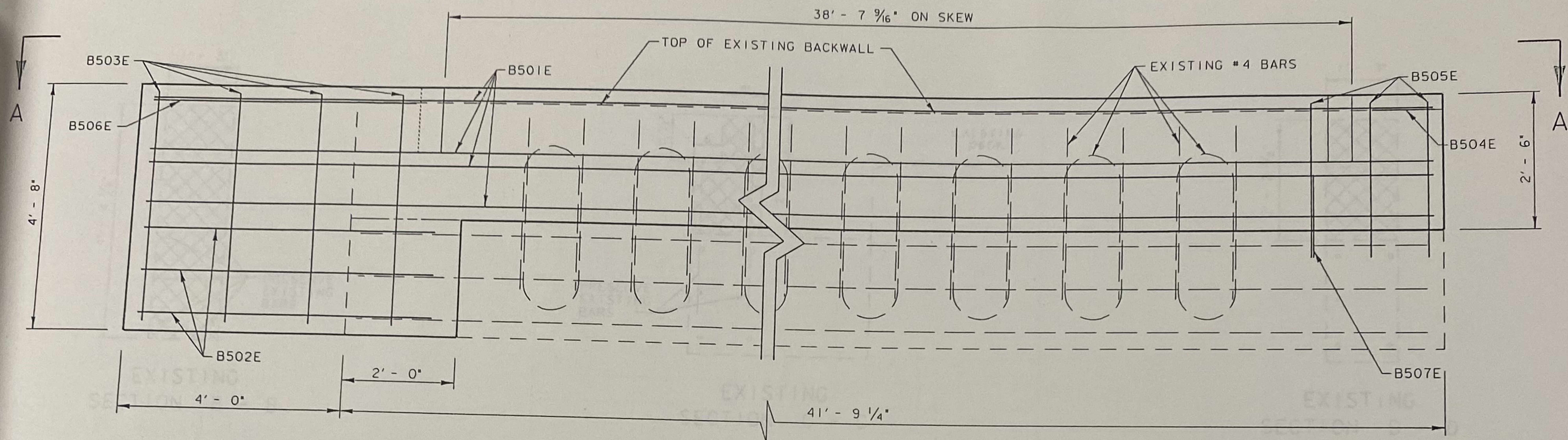
HUR-99-1604
PLANING AND EXCAVATION

2 CUBIC YARDS WAS ADDED TO ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION FOR EXTENSION OF S.W. AND N.E. WINGWALL

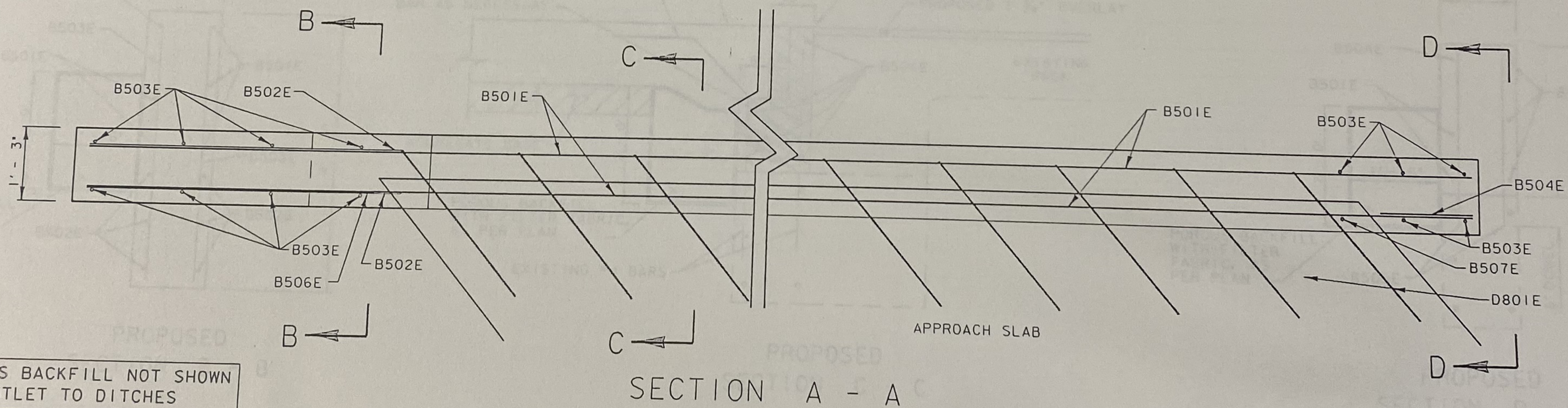
-  ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
-  ITEM 254 PAVEMENT PLANING BITUMINOUS

POROUS BACKFILL NOT SHOWN
SUBJECT TO SCHEDULE

SECTION A - A



NORTH BACKWALL
SOUTH BACKWALL OPPOSITE HAND



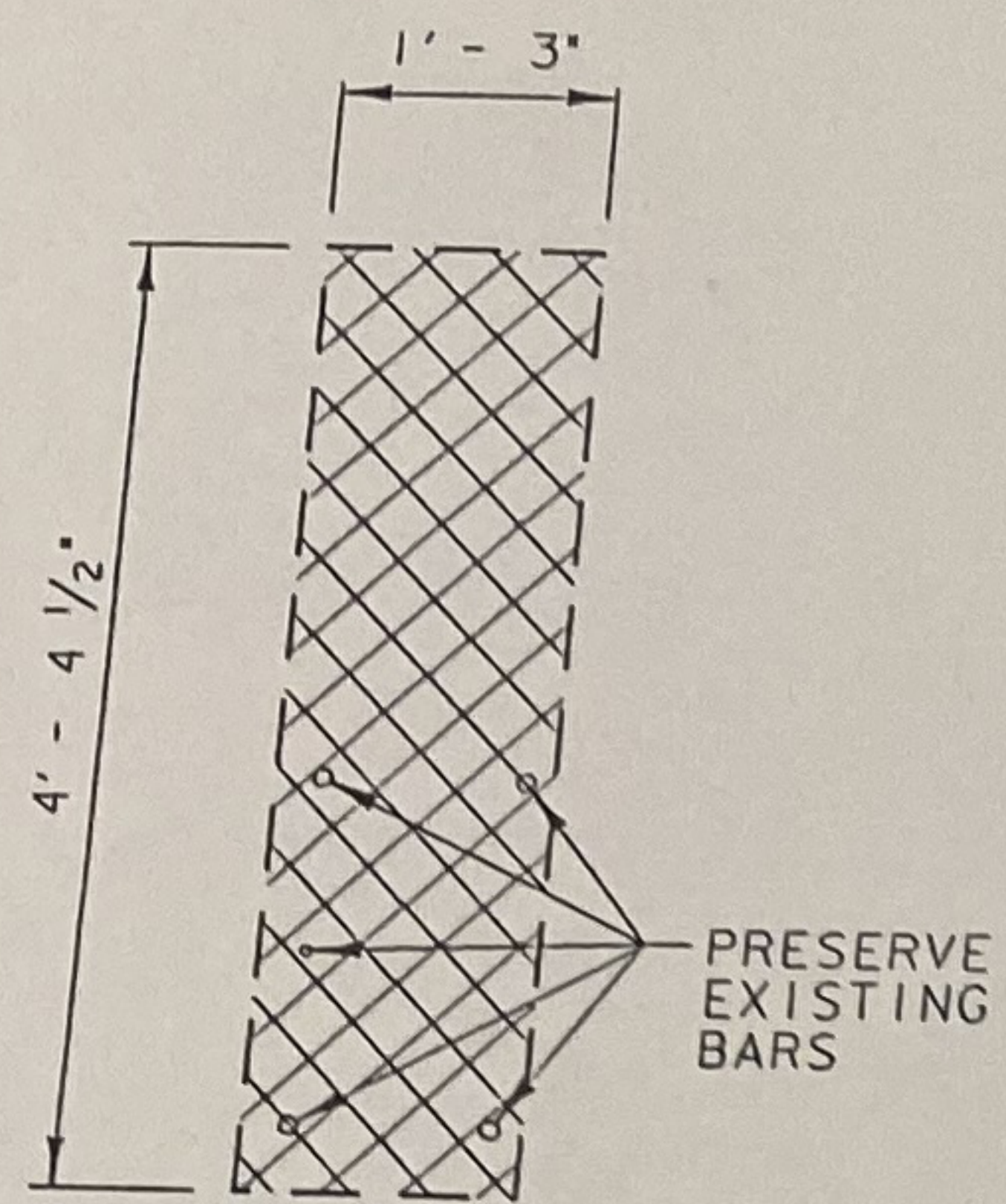
POROUS BACKFILL NOT SHOWN
OUTLET TO DITCHES

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
				3-94

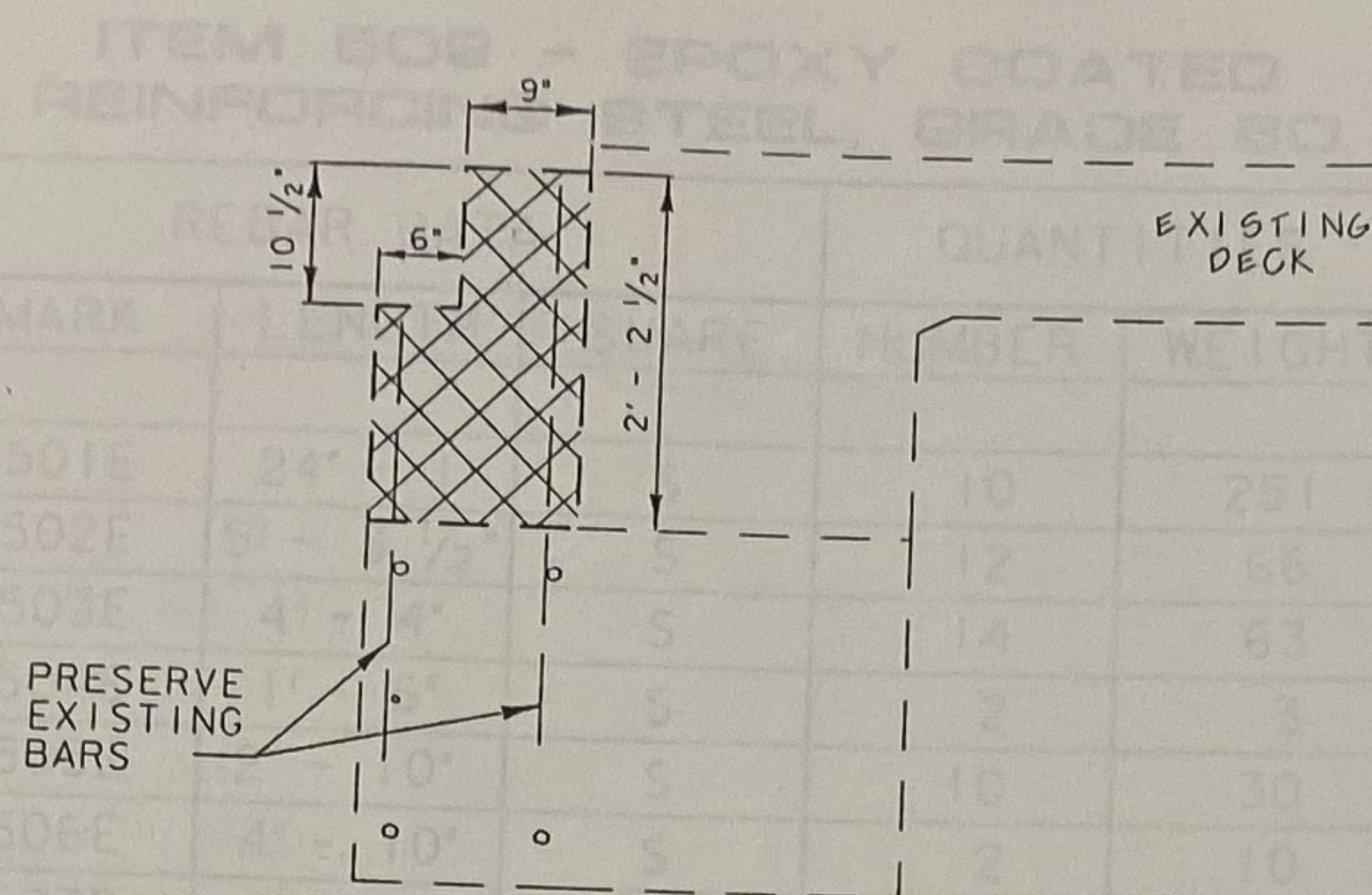
BACKWALL DETAILS

HUR-99-1604

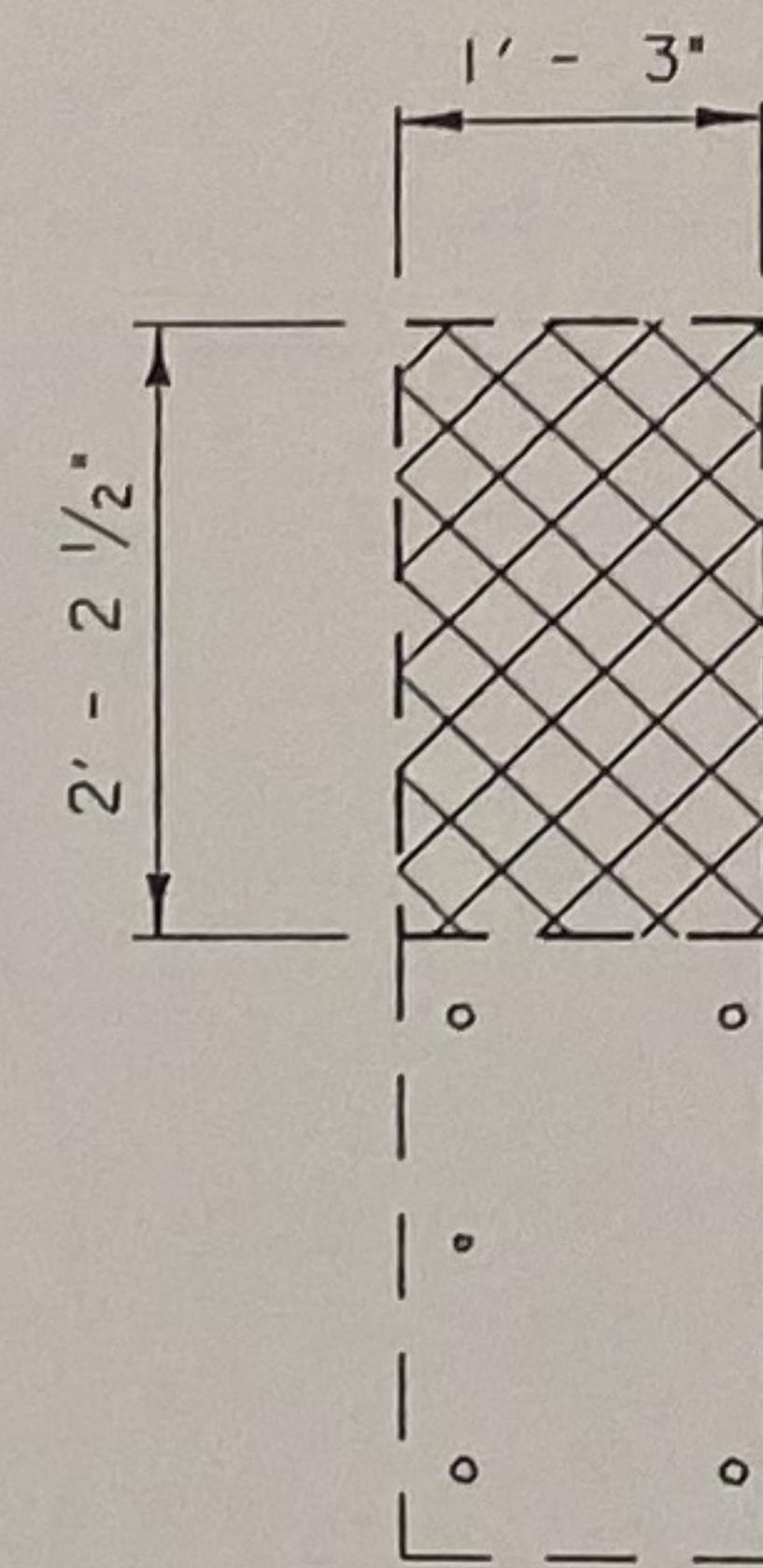
35
44



EXISTING SECTION B - B




EXISTING SECTION C - C

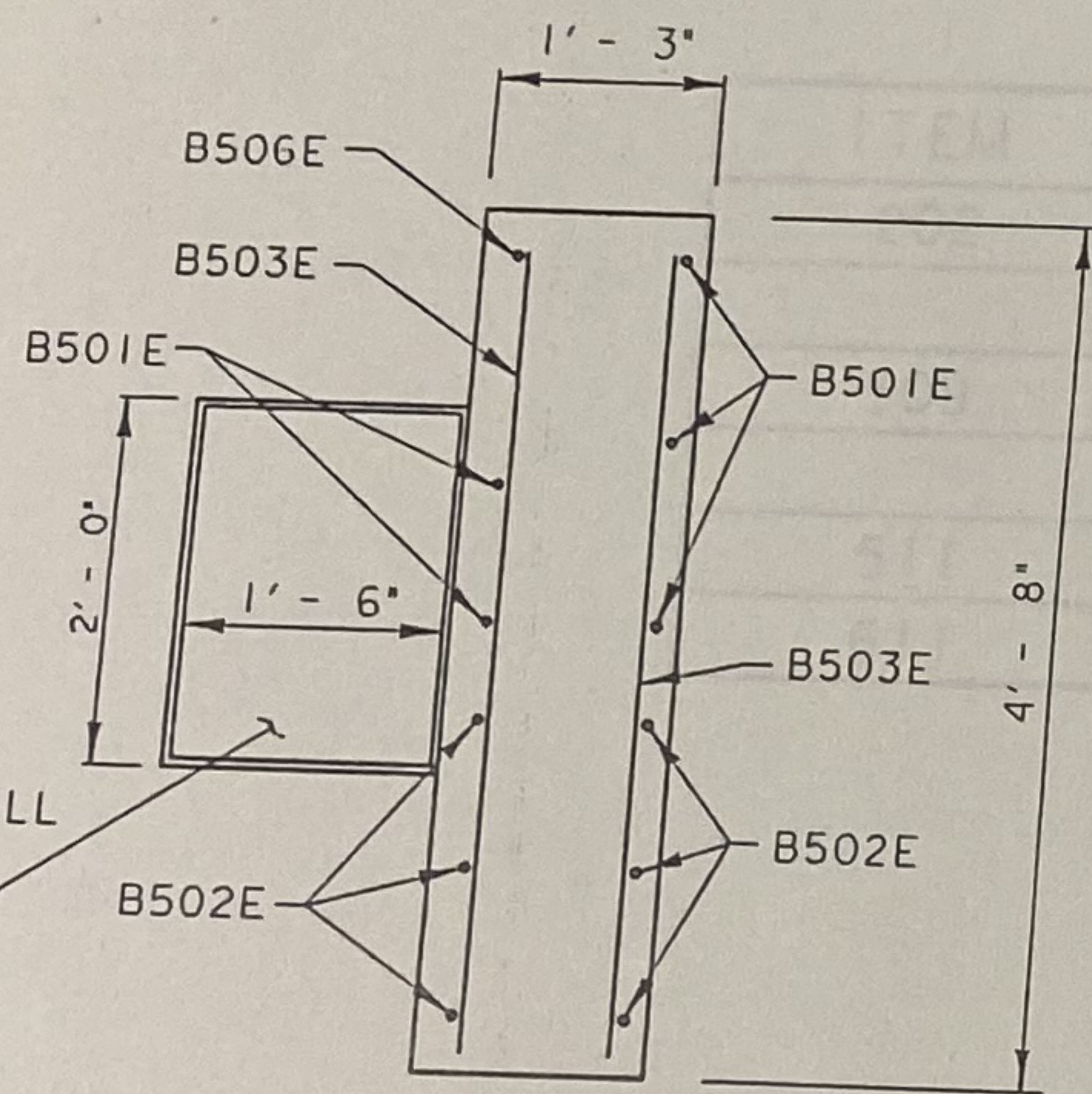


EXISTING SECTION D - D

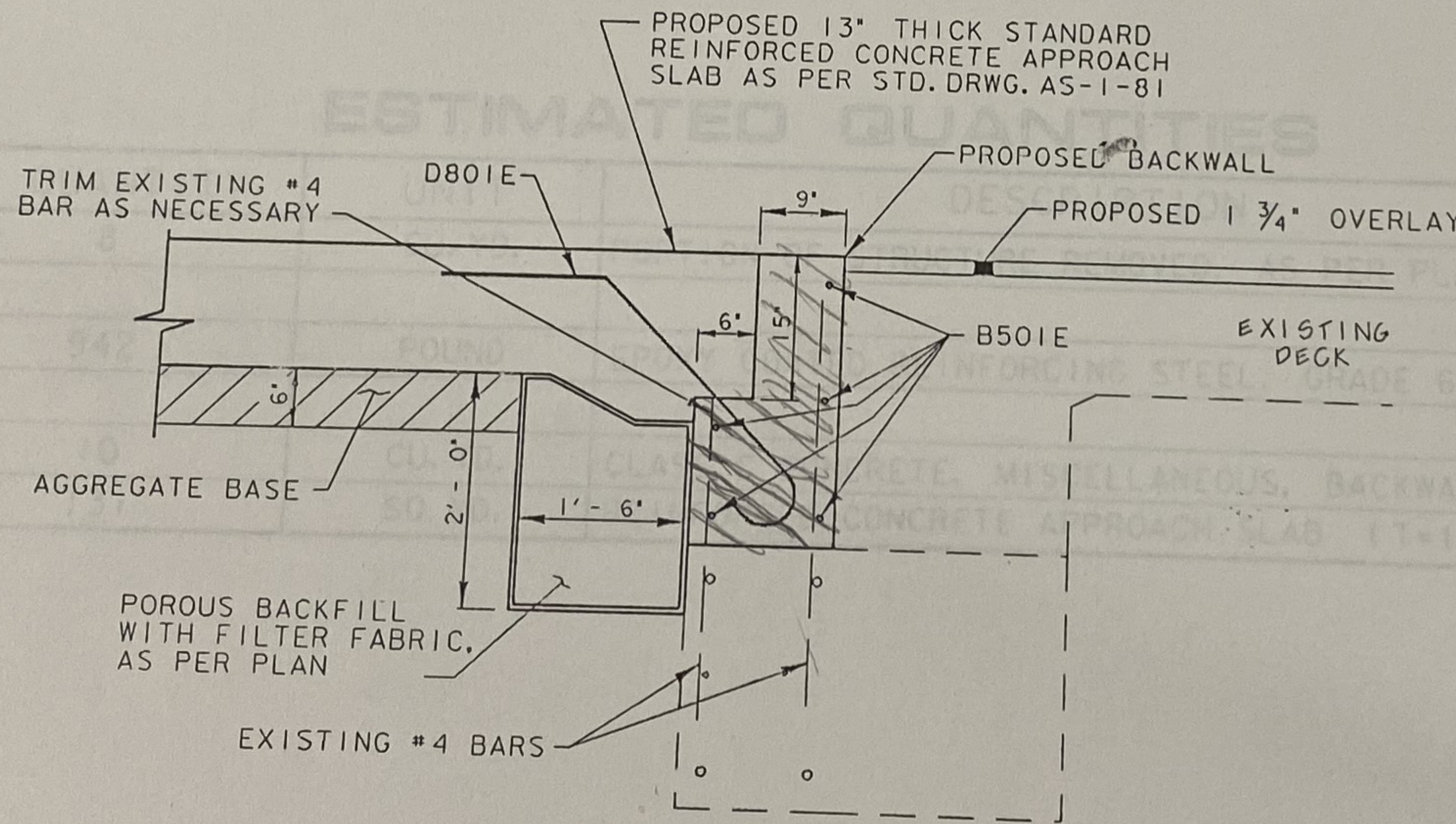
ITEM 508 - EPOXY COATED REINFORCING STEEL GRADE 60

MARK	SIZE	TYPE	LENGTH	WEIGHT	QUANT	WEIGHT
B501E	24"	S	10	251	10	251
B502E	9"	S	12	66	12	66
B503E	4"	S	14	63	14	63
B504E	4"	S	2	3	2	3
B505E	4"	S	10	30	10	30
B506E	4"	S	2	10	2	10
B507E	4"	S	2	3	2	3
D801E	4"	S	10	516	10	516
TOTAL						942

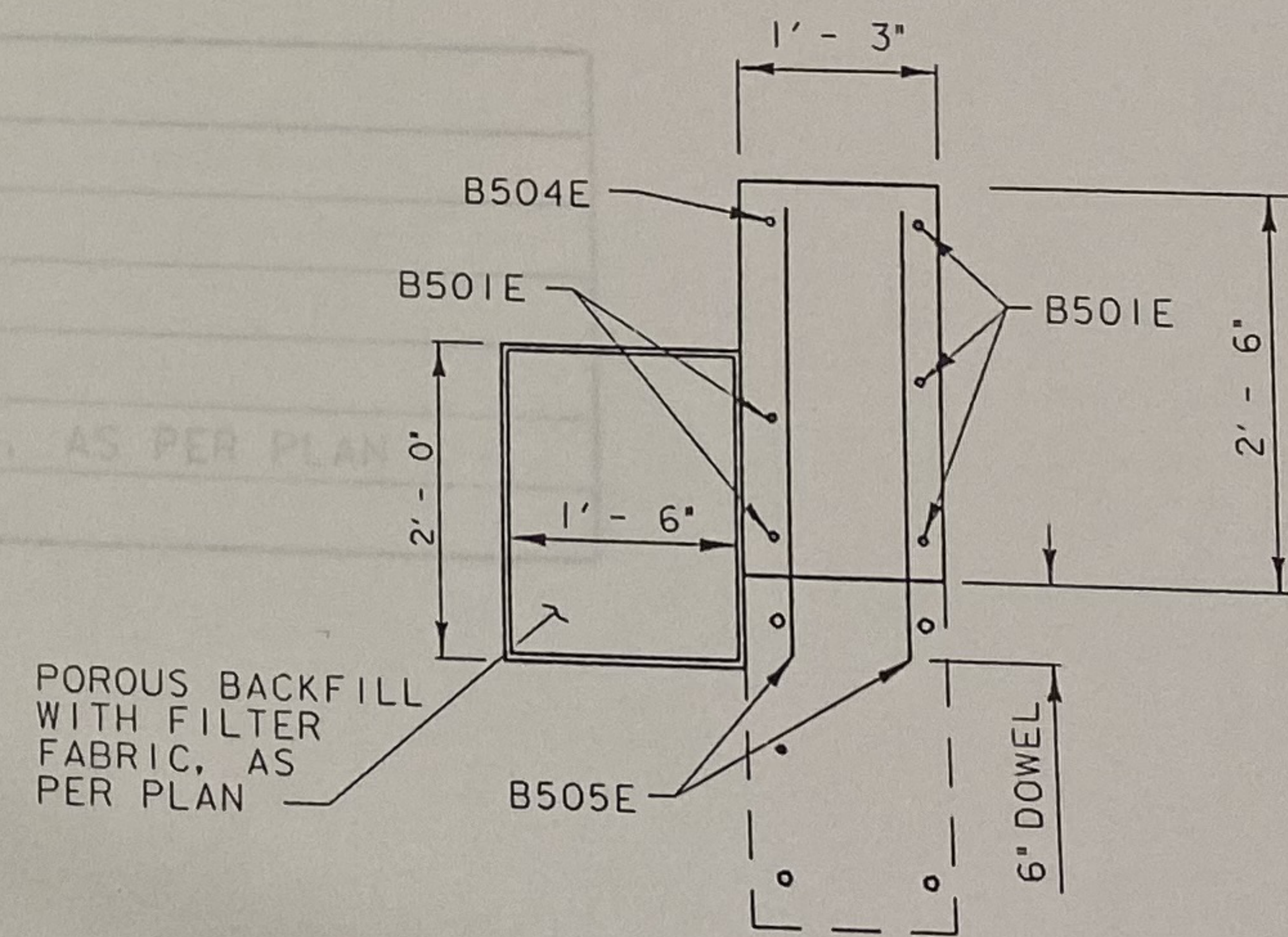
 AREA OF EXISTING BACKWALL TO BE REMOVED



PROPOSED SECTION B - B




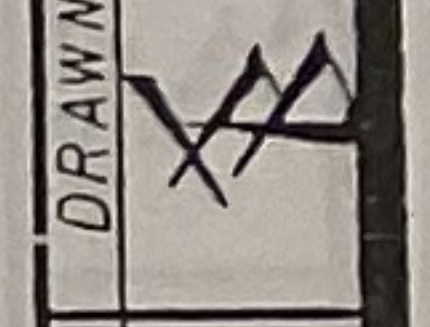
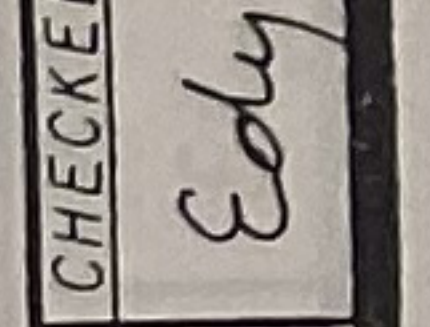
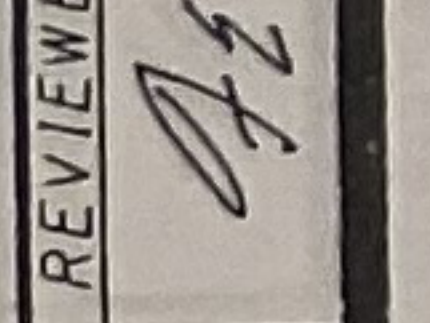
PROPOSED SECTION C - C



PROPOSED SECTION D - D

BACKWALL DETAILS

HUR-99-1604

DESIGNED  DRAWN  CHECKED  REVIEWED  DATE 3-94

ITEM 509 - EPOXY COATED
REINFORCING STEEL, GRADE 60

REBAR DATA			QUANTITIES	
MARK	LENGTH	SHAPE	NUMBER	WEIGHT
B501E	24' - 1"	S	10	251
B502E	5' - 3 1/2"	S	12	66
B503E	4' - 4"	S	14	63
B504E	1' - 6"	S	2	3
B505E	2' - 10"	S	10	30
B506E	4' - 10"	S	2	10
B507E	1' - 6"	S	2	3
D801E	4' - 10"	S	10	516
			TOTAL	942

14" LONG CONCRETE HUMP
TO BE CENTERED IN FRONT
OF EACH GUARDRAIL POST

ESTIMATED QUANTITIES

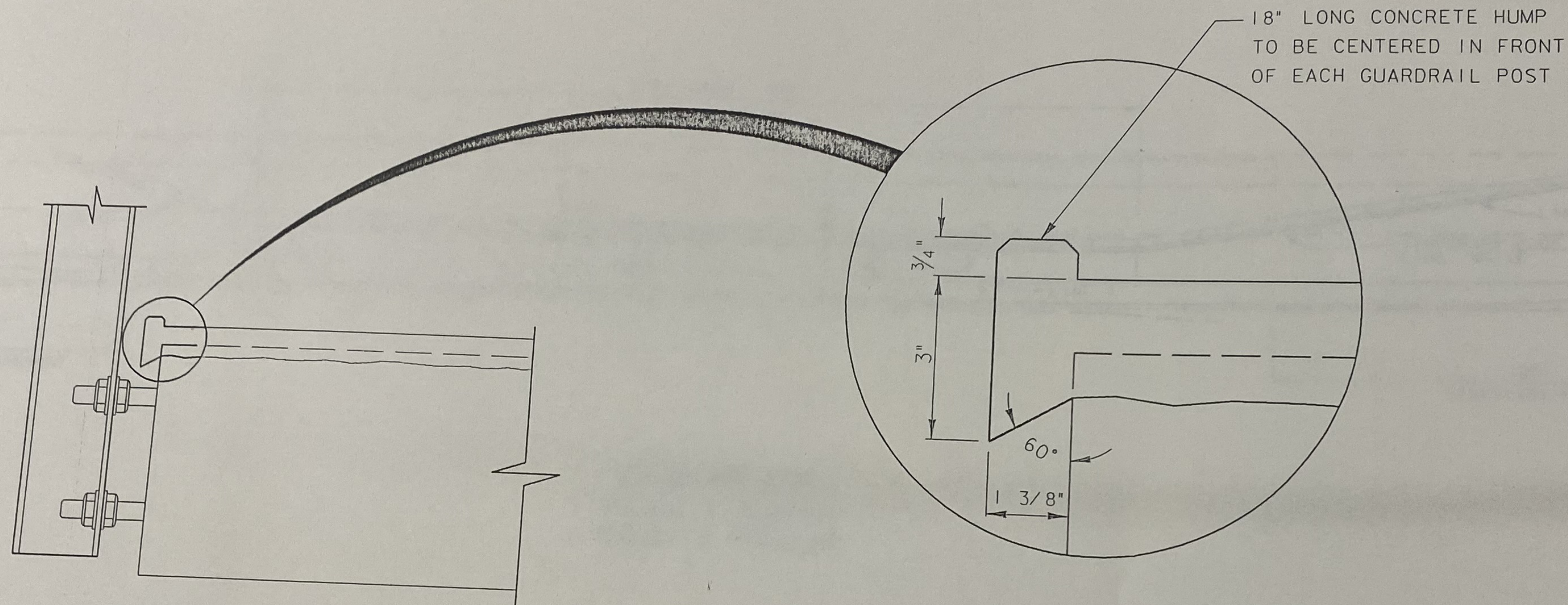
ITEM	QUANTITY	UNIT	DESCRIPTION
202	8	CU. YD.	PORTION OF STRUCTURE REMOVED, AS PER PLAN
509	942	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60
511	10	CU. YD.	CLASS C CONCRETE, MISCELLANEOUS, BACKWALL, AS PER PLAN
611	131	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=13")

HUR-99-1314
HUR-99-1604

DESIGNED DRAWN CHECKED REVIEWED DATE 3-94

BACKWALL DETAILS

HUR-99-1604



CONCRETE DRIP STRIP EXTENDS THE
LENGTH OF THE BRIDGE ON BOTH SIDES

CONCRETE DRIP STRIP DETAIL

HUR-99-0372

HUR-99-1028

HUR-99-1314

HUR-99-1604

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	3-94
CONCRETE DRIP STRIP				HUR-99
				38 44