OHIO	1
FHWA REGION 5	18
IR-271-6(69)226 FEDERAL PROJECT	

PLAN NO. BR-94-85

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SUMMIT COUNTY
INTERSTATE ROUTE 271
BRIDGE DECK REPAIR

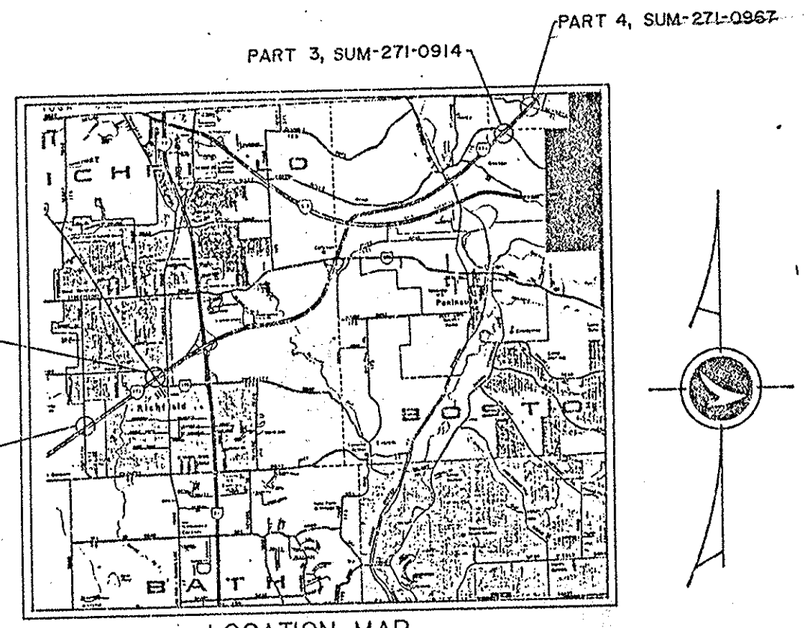
DESIGN DESIGNATION

CURRENT ADT (1986)
DESIGN YEAR ADT (2006)
DHV
D
T
V
V (POSTED)

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) (proposed)
Center Line
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA&RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS



LOCATION MAP

SCALE IN MILES 0 1 2 3 4

Portion to be Improved
State & Federal Routes
Other Roads

SCALES

Plan
Profile Horizontal , Vertical
Cross Section Horzt , Vertical

LINE DATA

PROJECT LENGTH = SUM OF BRIDGE LIMITS = 1236.96 FEET = 0.235 MILES

WORK LENGTH = SUM OF BRIDGE LIMITS AS/AS = 1436.96 FEET = 0.272 MILES

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

1987 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvemnet.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway.

Approved _____ District Deputy Director of Transportation
Date 1-22-87

Approved _____ Engineer, Bureau of Bridges and Structural Design
Date 1-16-87

Approved _____ Chief Engineer,
Date 1/15/87

Approved _____ Director, Department of Transportation
Date 2-2-87

SUPPLEMENTAL SPECIFICATIONS	
824	10-8-82
850	02-25-86

FFE

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS	
BP-5	01-11-85
TC-35.10	08-29-84
GR-1	01-11-85
GR-2B	02-05-82
GR-3	01-21-85
GR-4	02-05-82
GR-4	12-06-76
BR-1	05-29-79
SD-1-69	06-12-69
GR-4B	02-05-82
MC-9A	01-11-85

Plan Prepared By:
DEPARTMENT OF TRANSPORTATION
DISTRICT 04

SEAL

Project
Date of Letting _____ 19 Contract No. _____

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

DIVISION ADMINISTRATOR DATE

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

PLAN NO. BR-94-85

2/18

GENERAL NOTES

STATE SAFETY REQUIREMENTS

STATE SAFETY REQUIREMENTS OUTLINED IN THE CONSTRUCTION CODE FOR THIS TYPE OF WORK SHALL BE ENFORCED AND THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OUTLINED IN BULLETIN IC-3, ISSUED AS A GENERAL ORDER BY THE INDUSTRIAL COMMISSION OF OHIO.

ORIGINAL CONSTRUCTION PLANS

FOR MORE INFORMATION, THE ORIGINAL CONSTRUCTION DRAWINGS MAY BE EXAMINED IN THE DISTRICT 04 OFFICE OF THE DEPARTMENT OF TRANSPORTATION RAVENNA, OHIO AND THE CENTRAL OFFICE, COLUMBUS, OHIO.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS, CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO THE C.M.S. SECTIONS 102.05, 105.02 AND 513.02. CONTRACTOR BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED AS DIRECTED BY THE ENGINEER SHALL BE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE PROJECT ENGINEER.

STORAGE OF MATERIALS, EQUIPMENT & VEHICLES

THE CONTRACTOR'S MATERIALS AND EQUIPMENT SHALL BE STORED IN A STAGING AREA. ALL PRIVATE VEHICLES SHALL BE PARKED IN A STAGING AREA. TEMPORARY STORAGE OF EQUIPMENT AND MATERIALS MAY BE APPROVED BY THE ENGINEER IF IT IS BEHIND THE GUARDRAIL. ALL STAGING AREAS SHALL BE APPROVED BY THE PROJECT ENGINEER.

STEEL BAR STOCK

BAR STOCK UTILIZED FOR ITEM 516, VERTICAL EXTENSIONS OF STRUCTURAL STEEL EXPANSION JOINTS, MAY BE ANY WELDABLE GRADE OF LOW OR MILD CARBON STEEL AVAILABLE COMMERCIALLY, THE MATERIAL IS TO BE EXCLUDED FROM THE REQUIREMENTS OF 501.07 FOR TEST REPORTS.

ITEM 202, PORTIONS OF STRUCTURE REMOVED

THIS ITEM SHALL INCLUDE THE REMOVAL OF ALL EXISTING REINFORCED CONCRETE CURBS TO THE EXISTING DECK. SEE DETAILS ON SHEET 12. SHALL ALSO INCLUDE REMOVING THE VERTICAL LEG OF BULB ANGLE, IF REMAINING ANGLE BECOMES LOOSE, IS DAMAGED OR IF UNSOUND CONCRETE EXISTS UNDERNEATH THE BULB ANGLE, THE CONTRACTOR SHALL REMOVE THE ENTIRE BULB ANGLE. THIS ITEM SHALL ALSO INCLUDE THE REMOVAL OF ALL BRIDGE TERMINAL ASSEMBLIES. PAYMENT FOR THE ABOVE SHALL BE MADE AT THE LUMP SUM BID FOR ITEM 202, PORTION OF STRUCTURE REMOVED.

ITEM 202, BRIDGE RAILING REMOVED, AS PER PLAN

RAILINGS AND POSTS SHALL BE REMOVED AND DELIVERED TO THE DISTRICT FOUR HEADQUARTERS AT 705 OAKWOOD ST., RAVENNA, OHIO 44266. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER L.F. UNDER ITEM 202, BRIDGE RAILING REMOVED, AS PER PLAN.

ITEM 404, ASPHALT CONCRETE AC-20

AN ADDITIONAL QUANTITY OF 15 C.Y. OF ASPHALT CONCRETE HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR CORRECTING IRREGULARITIES IN THE APPROACH PAVEMENT GRADE WHERE FOUND NECESSARY. FOR THE SAKE OF QUANTITY CALCULATIONS, A DISTANCE OF 25' WAS USED FOR THE ASPHALT FEATHER AREAS. THE ACTUAL LENGTH OF THE FEATHERS SHALL BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER. THE WIDTH OF THE FEATHER AREAS SHALL INCLUDE RESURFACING THE PAVED BERM WHERE NECESSARY.

ITEM 407, TACK COAT

THE TACK COAT OPERATION SHALL BE DETERMINED AT THE PRE-CONSTRUCTION CONFERENCE AS PER 407.05. A RATE OF 0.12 GALLONS PER SQUARE YARD WAS USED TO CALCULATE THE QUANTITY.

ITEM 510, DOWEL HOLES

THE DOWEL HOLES SHALL BE DRILLED INTO THE DECK AT THE LOCATIONS SHOWN ON THE PLANS ± 2". THE DEPTH OF THE HOLES SHALL BE A MINIMUM OF 6" AND A MAXIMUM AS SHOWN ON PLAN. THE EPOXY DOWEL BARS SHALL BE #6 REBAR (3/4"Ø). DOWEL BARS WILL BE PAID UNDER ITEM 824, EPOXY COATED REINFORCING STEEL. NON-SHRINKING GROUT SHALL BE USED IN THE HOLES. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE PER EACH HOLE, UNDER ITEM 510, DOWEL HOLES.

ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE

SEE DRAWINGS AND NOTES ON SHEETS 11 & 12, FOR THIS ITEM. REFER TO STANDARD CONSTRUCTION DRAWING BR-1 FOR DETAILS NOT SHOWN. CONTRACTOR'S ATTENTION IS DIRECTED TO INDIVIDUAL BRIDGE ELEVATIONS ON SHEET 6 THRU 9 FOR DEFLECTION JOINT SPACINGS. PROPOSED SECTION C-C WILL BE USED ON ALL FOUR CORNERS OF ALL BRIDGES. DISREGARD SECTION C_1-C_1 (USED ONLY WITH CURBS ON APPROACH SLABS). PAYMENT SHALL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD (C.Y.) UNDER ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE. THE CONTRACTOR, AT HIS EXPENSE, SHALL REPAIR ANY PAINT DAMAGED BY HIS OPERATIONS. THIS REPAIR WORK SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.

ITEM 516, VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS

SEE DETAILS ON SHEETS 10 AND 11. NOTE ON PART 4, THE INTERMEDIATE EXPANSION JOINT ALSO MUST BE EXTENDED WITH TWO (2) 3" x 1-1/4" . SEAL JOINTS AS PER 516.04. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER L.F., UNDER ITEM 516, VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS.

ITEM 516, TRANSVERSE EXTENSION OF STRUCTURAL EXPANSION JOINTS

THIS ITEM SHALL APPLY ONLY TO THE INTERMEDIATE EXPANSION JOINT OF PART 4. SEE SHEET 9A FOR DETAILS. WELD 1/4" SQUARE RODS TO THE NEW 4" x 4" x 1/2" ANGLES PRIOR TO PLACING ANGLES. ALL NEW STEEL SHALL HAVE THE SAME SLOPE AS EXISTING EXPANSION JOINT. MAINTAIN A 1" OPEN JOINT BETWEEN THE ANGLES. IF THE NEW ANGLES ARE LOOSE AFTER FIELD WELDING, USE SELF-ANCHORING BOLTS @ 12" C/C THROUGH THE HORIZONTAL LEG TO KEEP ANGLES SECURE. THIS WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR AND INCEDENTALS NECESSARY TO COMPLETE THIS ITEM. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER EACH, UNDER ITEM 516, TRANSVERSE EXTENSION OF STRUCTURAL EXPANSION JOINTS.

ITEM 516, TRANSVERSE EXTENSION OF STRUCTURAL EXPANSION JOINTS, INCLUDING CURB PLATES

SEE NOTES ON SHEET 11 AND DETAILS ON PROPOSED SECTION D-D AND E-E SHEET 12. THIS ITEM SHALL ALSO INCLUDE CURB PLATES AS PER SD-1-69. THE CONTRACTOR SHALL BE ALLOWED TO FIELD FABRICATE THESE PLATES IF HE DESIRES. ALL WELDING SHALL CONFORM TO SS 1027 DATED 3/4/80. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER EACH, UNDER ITEM 516, TRANSVERSE EXTENSION OF STRUCTURAL EXPANSION JOINTS, INCLUDING CURB PLATES.

ITEM 516, ELASOMERIC COMPRESSION SEALS FOR STRUCTURAL STEEL JOINTS, 1" WIDTH

ALL OF ITEM 516 SHALL APPLY. THIS ITEM SHALL APPLY ONLY TO THE INTERMEDIATE EXPANSION JOINT ON PART 4. THE EXISTING COMPRESSION SEAL SHALL BE REMOVED. ALL DEBRIS, ADHESIVES, AND OTHER MATERIALS SHALL BE REMOVED. PRIOR TO INSTALLING THE SEAL, THE STRUCTURAL STEEL EXPANSION JOINT SHALL BE THOROUGHLY CLEANED BY SANDBLASTING. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE ADHERED TO. THE JOINT SEALER SHALL HAVE THE DIMENSIONS SHOWN IN DETAIL 'A' ON SHEET 9A. USE D.S. BROWN CV 1750 OF WATSON BOWMAN WB 175 OR APPROVED EQUAL. THE NEW SEAL SHALL BE ONE PIECE AND EXTEND INTO THE NEW PARAPET AS SHOWN IN PROPOSED SECTION B-B ON SHEET 9A. THIS ITEM SHALL INCLUDE ALL EQUIPMENT, MATERIALS, LABOR AND INCIDENTALS REQUIRED TO PERFORM THE WORK AS DESCRIBED ABOVEAND IN THE PLANS. IF THE SEAL IS FOUND TO BE LEAKING PRIOR TO FINAL ACCEPTANCE, THE ENTIRE SEAL SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE PER LINEAR FOOT, ITEM 516, ELASTOMERIC COMPRESSION SEALS FOR STRUCTURAL STEEL JOINTS, 1" WIDTH.

DECK OVERLAY LIMITATIONS

NO SCARIFICATION SHALL BE PERFORMED AFTER NOVEMBER 1. DECKS THAT ARE SCARIFIED PRIOR TO NOVEMBER 1 SHALL BE POURED NO LATER THAN NOVEMBER 10. NO 24 HOUR LANE CLOSURES SHALL BE PERMITTED BETWEEN NOVEMBER 15 AND MARCH 15. IF THE CONTRACTOR FAILS TO HAVE THE BRIDGE DECKS OPEN BY NOVEMBER 15, HE SHALL PLACE ITEM 404 ASPHALT CONCRETE ON THE DECKS TO ALLOW THE SAFE TRAVEL OF THE PUBLIC. THIS WORK SHALL BE PERFORMED AT THE DIRECTION OF THE PROJECT ENGINEER AND AT THE CONTRACTOR'S EXPENSE.

BRIDGE DECK OVERLAY (VARIABLE THICKNESS)

THE CONTRACTOR SHALL MAKE AVAILABLE TO THE ENGINEER SUFFICIENT SPRAY PAINT TO OUTLINE REMOVAL AREAS. THE COST OF THE SPRAY PAINT SHALL BE INCLUDED IN THE BRIDGE DECK OVERLAY (VARIABLE THICKNESS). IN THE EVENT OF RAIN, THE FINAL SOUNDING SHALL BE DONE NO SOONER THAN 24 HOURS AFTER THE RAIN, WHICH SHALL INCLUDE 8 HOURS OF GOOD DRYING WEATHER. IN NO CASE SHALL THE FINAL SOUNDING BE MADE IF THE DECK IS DAMP. FINAL SOUNDING MAY INCLUDE ONE OR MORE ATTEMPTS TO ASSURE THAT ALL DETERIORATED CONCRETE HAS BEEN REMOVED. WORK UNDER THIS ITEM SHALL ALSO INCLUDE THE REMOVAL AND DISPOSAL OF ALL UNSOUND CONCRETE FROM THE TOP OF THE BACKWALLS AS DIRECTED BY THE ENGINEER. THIS WORK SHALL NOT DISTURB OR DAMAGE THE EXISTING APPROACH SLABS. THIS AREA SHALL BE REPLACED WITH THE BRIDGE DECK OVERLAY CONCRETE AND INCLUDED IN THE BID PRICE FOR VARIABLE THICKNESS. THIS ITEM SHALL ALSO INCLUDE PLACING A MINIMUM THICKNESS OF 1 INCH OF SUPERPLASTICIZED DENSE CONCRETE (SDC) ON THE WINGS. (WHERE THE NEW CONCRETE DOES NOT COVER THE AREAS LEFT EXPOSED AFTER THE CURB REMOVAL). SEE PROPOSED SECTION B-B ON SHEET 12 FOR DETAILS.

FULL DEPTH REPAIR

A QUANTITY OF ONE (1) C.Y. HAS BEEN INCLUDED FOR PARTS 1 & 3 AND FIVE (5) C.Y. FOR PART 2 AND TWO (2) C.Y. FOR PART 4 FOR FULL DEPTH REPAIRS ON BRIDGES THAT REQUIRES CONCRETE OVERLAY WORK. THIS ITEM SHALL BE NON-PERFORMED IF FOUND UNNECESSARY. NINE (9) C.Y. HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM SPECIAL, LAW ENFORCEMENT OFICER (LEO) WITH A PATROL CAR

THE CONTRACTOR SHALL PROVIDE THE SERVICES OF A SPECIAL LEO WITH PATROL CAR FOR THE PURPOSE OF CONTROLLING THRU TRAFFIC. THE LEO WITH PATROL CAR SHALL BE UTILIZED DURING INSTALLATION AND REMOVAL OF TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS, AND AS AUTHORIZED BY THE ENGINEER. IF IT IS NECESSARY TO EMPLOY MORE THAN ONE LEO WITH PATROL CAR TO ADEQUATELY CONTROL TRAFFIC, THE PROJECT ENGINEER SHALL DETERMINE WHEN AND HOW OFFICERS SHALL BE REQUIRED. A QUANITY OF 750 HOURS HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE. SPECIAL ATTENTION IS DIRECTED TO THE TWO (2) LANE BI-DIRECTIONAL BRIDGES WHICH SHALL UTILIZE THE STANDARD DRAWINGS "SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY" DATED 4/85, OR "FLAGGERS CLOSING 1 LANE OF A 2LANE HIGHWAY" DATED 12/82.

ITEM 619, FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 400 SQUARE FEET OF FLOOR SPACE WHICH SHALL BE IN ACCORDANCE WITH 619.02. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 619, FIELD OFFICE.

ITEM 624, MOBILIZATION

ALL OF 624 SHALL APPLY. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 624, MOBILIZATION.

FHWA REGION	STATE	PROJECT NO	FUNDS
5	OHIO		

(2A 18)

PLAN NO. BR-94-85

MAINTENANCE OF TRAFFIC

CONTRACTOR'S EQUIPMENT — OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC, WHERE PRACTICAL. A QUALIFIED FLAGMAN SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY: OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PARKED EITHER FIFTY (50) FEET FROM THE EDGE OF PAVEMENT OR FOUR (4) FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY.
ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. TWO LANE DIRECTIONAL TRAFFIC SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AT ALL TIMES WITHOUT INTERRUPTION DURING CONSTRUCTION OF THE WORK EXCEPT WHEN CONSTRUCTION WORK REQUIRES MEN AND EQUIPMENT TO OCCUPY A THROUGH LANE.

2. NO MORE THAN ONE LANE OF DIRECTIONAL TRAFFIC, IN EACH DIRECTION SHALL BE CLOSED AT ANY TIME. THE CONTRACTOR SHALL SET UP AND OPERATE HIS EQUIPMENT IN SUCH A MANNER AS TO ENCROACH UPON THE TRAVELLED WIDTH OF THE PAVEMENT TO A MINIMUM EXTENT.

3. NO LANE RESTRICTIONS OR LANE REDUCTIONS SHALL BE PERMITTED FROM 2:00 PM PRECEDING A LEGAL HOLIDAY TO 10:00 AM FOLLOWING A LEGAL HOLIDAY, EXCEPT AS NOTED BELOW.

4. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS, EXCEPT WHEN THE WORK INVOLVES BRIDGE WORK, PARAPET WORK, OR AS REQUIRED FOR THE CURING OF CONCRETE USED IN JOINT REPAIRS OR REPLACEMENTS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLIMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS..

5. TRAFFIC SHALL NOT BE CROSSED OVER THE MEDIAN AT ANY TIME.

6. THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL, OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC CONTROL DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

7. IN AREAS OF LANE CLOSURES THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING THE EXISTING SHOULDER NEXT TO THE TRAVELLED LANE, TO AN ELEVATION NOT MORE THAN ONE-(1) INCH BELOW EXISTING PAVEMENT ELEVATION AND MAINTAINING THE SHOULDERS IN A SAFE CONDITION FOR THE DURATION OF THE PROJECT.

8. NIGHTTIME LANE RESTRICTIONS SHALL NOT BE PERMITTED UNLESS THE CONTRACTOR IS EITHER REMOVING PAVEMENT MATERIAL, PLACING NEW PAVEMENT MATERIAL, REPAIRING BRIDGE DECKS OR REPLACING PARAPET WALLS AT THE TIME OF THE LANE CLOSURE. NIGHTTIME LANE RESTRICTIONS SHALL ALSO BE PERMITTED AS REQUIRED FOR THE CURING OF JOINT REPAIR MATERIALS WHENEVER THE CONTRACTOR SUSPENDS HIS PAVEMENT REMOVAL OR PLACEMENT ACTIVITIES FOR THE DAY, ALL LANE RESTRICTIONS SHALL BE REMOVED.

CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE-HALF HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS OR LANE REDUCTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE MOUNTED ON EACH AND EVERY DRUM OR BARRICADE USED FOR THE TAPER.

9. A FLASHING ARROW BARRICADE (TC 35.10) SHALL BE USED FOR TRAFFIC CONTROL WHENEVER THERE IS A LANE RESTRICTION, LANE REDUCTION, LANE SHIFT OR MEDIAN CROSSOVER OF ALL THROUGH TRAFFIC.

10. ALL TRAFFIC CONTROL DEVICES REQUIRED INSIDE THE WORK LIMITS, EXCEPT REGULATORY SIGNS SHALL BE FURNISHED, ERECTED, MAINTAINED AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

11. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL FLAGS, FLAGGERS, WATCHMEN, BARRICADES, SIGNS, SIGN SUPPORTS AND INCIDENTALS RELATED THERETO. THE ABOVE ITEMS SHALL BE UTILIZED IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.

12. A QUANTITY OF 30 CU. YDS. OF 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT AND SHOULDER.

13. ON ALL FOUR PARTS, SIGNALIZED CLOSING ONE LANE OF A TWO LANE HIGHWAY SHALL BE USED FOR MAINTAINING TRAFFIC. SEE SHEETS 16 THRU 18. THE PROJECT ENGINEER MAY ALTER THESE STANDARD DRAWINGS TO MEET ACTUAL FIELD CONDITIONS, PROVIDING SAFETY OF THE TRAVELING PUBLIC IS NOT COMPROMISED.

THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS AND EQUIPMENT SHOWN IN THE STANDARD DRAWINGS. IT SHALL ALSO INCLUDE THE COST OF ALL POWER, PERMITS, LABOR AND OTHER INCIDENTALS REQUIRED TO CLOSE ONE LANE OF A TWO LANE HIGHWAY WITH A TRAFFIC SIGNAL. THE COST OF ALL OF THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAING TRAFFIC.

14. AN ESTIMATED QUANTITY OF 1,760 LIN. FT. OF ITEM 622 TEMPORARY CONCRETE BARRIER, AS PER PLAN SHALL BE FURNISHED, INSTALLED, MAINTAINED AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. THE TEMPORARY CONCRETE BARRIER SHALL BE USED TO CLOSE ONE LANE OF THE ROADWAY DURING THE RETROFITTING OF THE EXISTING PARAPETS WITH THE PROPOSED SAFETY SHAPE PARAPET. BARRIER SHALL BE USED ON PARTS 1 THROUGH 4.

THIS ITEM SHALL BE PAID FOR BY THE ACTUAL LINEAL FEET OF ITEM 622 TEMPORARY CONCRETE BARRIER, AS PER PLAN INSTALLED AT A PARTICULAR STRUCTURE. ANY COSTS ASSOCIATED WITH REMOVING AND RESETTING THE TEMPORARY CONCRETE BARRIER AT A STRUCTURE, SO THAT THE CLOSED LANE MAY BE OPENED AND THE OPEN LANE CLOSED, SHALL BE INCLUDED IN THE UNIT PRICE BID.

ANY COSTS ASSOCIATED WITH FURNISHING, INSTALLING, MAINTAINING AND WHERE NECESSARY, REPLACING REFLECTORS AS DESCRIBED ON SHEET _____ SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622 TEMPORARY CONCRETE BARRIER, AS PER PLAN.

15. A SAFETY NET OR PLATFORM SHALL BE REQUIRED TO PROTECT THE ROADWAY, RAILROAD OR STREAM DURING THE REMOVAL OF THE EXISTING CONCRETE PARAPET ON THE FOLLOWING STRUCTURES: SUM-271-0151, SUM-271-0275, SUM-271-0914 & SUM-271-0967. THE CONTRACTOR SHALL PROVIDE A SAFETY NET OR PLATFORM OF SUITABLE STRENGTH ON THE UNDERSIDE OF THE DECK. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS AND THE APPROVAL OF THE ENGINEER AND SHALL REMAIN IN PLACE UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED — OR AS DIRECTED BY THE ENGINEER.

A MINIMUM CLEARANCE OF 15 FEET 6 INCH SHALL BE MAINTAINED OVER THE ROADWAY UNDER ALL STRUCTURES.

16. FOR ADDITIONAL MAINTENANCE OF TRAFFIC NOTES, DETAILS AND SKETCHES, SEE SHEET NOS. 14 THRU 18 IN REFERENCE TO THESE SHEETS, WHERE EVER POSSIBLE THE WORK VEHICLE SHOWN PARKED ON THE ROADWAY SHALL BE REPLACED WITH AN ADDITIONAL 300 FEET OF PARALLEL WORK ZONE LENGTH PRIOR TO THE START OF THE WORK AREA.

17. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE WORK ZONES THAT ALTERNATELY CLOSE BOTH THE PASSING LANE AND THE DRIVING LANE UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

ITEM 614	MAINTAINING TRAFFIC	LUMP SUM
ITEM 404	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	30 CU. YD.
ITEM 622	TEMPORARY CONCRETE BARRIER, AS PER PLAN	1,760 LIN. FT.

OHIO	FHWA REGION 5	3/18

GENERAL SUMMARY

PLAN NO. BR-94-85

ITEM	GEN. NOTES	5	6	7	8	9	ITEM	QUANT.	UNIT	DESCRIPTION
202			LUMP	LUMP	LUMP	LUMP	202	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED
202				1,347			202	1,347	S.Y.	WEARING COURSE REMOVED
202			737	764	621	574	202	2,696	L.F.	BRIDGE RAILING REMOVED, AS PER PLAN
404	15		4	5	4	4	404	32	C.Y.	ASPHALT CONCRETE, AC-20
404	30						404	30	C.Y.	ASPHALT CONCRETE, AC-20 MAINTAINING TRAFFIC
407			18	22	18	18	407	76	GAL.	TACK COAT
510			1,508	1,568	1,232	1,184	510	5,492	EACH	DOWEL HOLES
511			103	107	87	81	511	378	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE
516						32	516	32	L.F.	ELASTOMERIC COMPRESSION SEALS FOR STRUCTURAL STEEL JOINTS, 1" WIDTH
516						2	516	2	EACH	TRANSVERSE EXTENSION OF STRUCTURAL EXPANSION JOINTS
516			64	66	55	83	516	268	L.F.	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS
516			4	4	4	4	516	16	EACH	TRANSVERSE EXTENSION OF STRUCTURAL EXPANSION JOINTS, INCLUDING CURB PLATES
824			18,408	19,154	15,308	14,448	824	67,318	LBS	EPOXY COATED REINFORCING STEEL
850			996	1,276	846	778	850	3,896	S.Y.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1 3/4" THICK)
850			83				850	83*	C.Y.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) SUM-271-0151
850				107			850	107*	C.Y.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) SUM-271-0275
850					56		850	56*	C.Y.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) SUM-271-0914
850						69	850	69*	C.Y.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) SUM-271-0967
850			1	5	1	2	850	9*	C.Y.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (FULL DEPTH)
										* BRIDGE DECK CONDITION SURVEY AS OF 6/3/87, QUANTITIES INCLUDE 10% FOR FURTHER DETERIORATION
614	LUMP						614	LUMP	LUMP	MAINTAINING TRAFFIC
619	LUMP						619	LUMP	LUMP	FIELD OFFICE
624	LUMP						624	LUMP	LUMP	MOBILIZATION
SPEC	750						SPEC	750	HR.	LAW ENFORCEMENT OFFICER WITH PATROL CAR
										GUARDRAIL QUANTITIES BROUGHT FORWARD FROM SHEET 5 OF 18
202		1,537.5					202	1,537.5	L.F.	GUARDRAIL REMOVED
202		13					202	13	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN
606		1,500					606	1,500	L.F.	GUARDRAIL, TYPE 5
606		14					606	14	EACH	ANCHOR ASSEMBLY, TYPE A, AS PER PLAN
606		1					606	1	EACH	ANCHOR ASSEMBLY, TYPE B
606		16					606	16	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE A
SPEC		1,862.5					SPEC	1,862.5	L.F.	BERM RESHAPING
622	1,760						622	1,760	L.F.	TEMPORARY CONCRETE BARRIER, AS PER PLAN

M2 R 703 REV. 9-1-83

GUARDRAIL DATA

PART	ROUTE	STARTING LOG POINT	SIDE	ITEM 202 GUARDRAIL REMOVED: REMOVED LIN. FT.	FOR STORAGE LIN. FT.	FOR RE-USE LIN. FT.	ITEM 606 GUARDRAIL: TYPE 5	GUARD RAIL LIN. FT.	REBUILT LIN. FT.	CURVED RAIL ELEMENTS: LENGTH LIN. FT.	RADIUS FT.	ANCHOR ASSEMBLY: TYPE B (GR-4B) EACH	SINGLE RAIL (GR-4) EACH	BARRIER RAIL (GR-4) EACH	GUARDRAIL CONNECTIONS TO BRIDGES: TYPE	EACH	GUARD POSTS EACH	9' GUARD RAIL POSTS EACH	BERM RESHAPING LIN. FT.	202 Anchor Assembly Removed, As per plan EACH				NOTES
1	I-271	0151	GR-1	50				50					1			1			75	1				1,5
1	I-271	0151	GR-2	75				75					1			1			100	1				
1	I-271	0151	GR-3	50				50					1			1			75	1				
1	I-271	0151	GR-4	62.5				50				1				1			62.5					
2	I-271	0275	GR-5	50				50					1			1			75	1				
2	I-271	0275	GR-6	75				75					1			1			100	1				
2	I-271	0275	GR-7	50				50					1			1			75	1				
2	I-271	0275	GR-8	75				75					1			1			100	1				
3	I-271	0914	GR-9	100				100					1			1			125	1				
3	I-271	0914	GR-10	100				100					1			1			125	1				
3	I-271	0914	GR-11	100				100					1			1			125	1				
3	I-271	0914	GR-12	100				100					1			1			125					1,5
4	I-271	0967	GR-13	125				100					1			1			175	1				1,5,6
4	I-271	0967	GR-14	150				87.5		62.5	40		1			1			75					1,5
4	I-271	0967	GR-15	75				75								1			325	1				1,5
4	I-271	0967	GR-16	300				300					1			1								
	TOTALS			1537.5				1437.5		62.5		1	14			16			1862.5	13				

NOTES:

1. ITEM 202 GUARDRAIL REMOVED: Guardrail, posts and miscellaneous hardware designated for removal become the property of the contractor and shall be disposed of. Payment for the above shall be included in the unit price bid for Item 202 Guardrail Removed.

2. ITEM 202 GUARDRAIL REMOVED FOR STORAGE: Guardrail, standard terminals, posts and miscellaneous hardware designated 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 as directed. Payment for the above shall be included in the unit price bid for Item 202 Guardrail Removed for Storage.

3. ITEM 202 GUARDRAIL REMOVED FOR RE-USE: Guardrail, posts, standard terminals and miscellaneous hardware designated for re-use shall be removed and stored for re-use as directed by the Engineer. This work will be paid in the unit price bid for Item 202 Guardrail Removed for Re-Use.

4. 9' GUARDRAIL POSTS: An estimated number of nine (9) foot long guardrail posts have been listed to be used as directed by the Engineer to obtain a reasonable line and elevation of the guardrail elements. Except for length, the posts shall meet the applicable requirements noted in Item 710. The unit price bid for this item shall be the difference for supplying the nine (9) foot long posts in lieu of the standard length guardrail posts included in the 606 guardrail bid items, and shall be paid as each, Item 606 9 ft. Guardrail Posts, As Per Plan. Standard length posts required to complete the various runs shall be included in the 606 guardrail bid items.

5. BERM RESHAPING: Berms at locations where existing guardrail is removed or where new guardrail is to be erected shall be reshaped as directed by the Engineer to insure a smooth surface free of all irregularities. Excess excavation resulting from reshaping berms shall be disposed of as directed by the Engineer. Payment for reshaping berms as described shall be included in the contract price bid per lineal foot for Item Special, Berm Reshaping.

6. CURVED RAIL ELEMENTS: Length of curved rail elements, where called for in a run, shall not be included in the total length of run shown in the guardrail or guardrail rebuilt columns. However, the curved rail element total shall be included with the guardrail or guardrail rebuilt totals on the general summary sheet.

GUARDRAIL GENERAL SUMMARY (ITEMS CARRIED FORWARD TO GEN. SUMM. ON P. 3)

ITEM		GRAND TOTAL	UNIT	DESCRIPTION
202		1537.5	Lin. Ft.	Guardrail Removed
202			Lin. Ft.	Guardrail Removed for Storage
202			Lin. Ft.	Guardrail Removed for Re-Use
606		1500.0	Lin. Ft.	Guardrail, Type 5
606			Lin. Ft.	Guardrail Rebuilt, Type ____
606		14	Each	Anchor Assembly, Type A, As per plan (GR-4)
606			Each	Anchor Assembly, Barrier Design
606		1	Each	Anchor Assembly, Type B
606		16	Each	Bridge Terminal Assembly, Type A
606			Each	Guard Posts
SPECIAL		1862.5	Lin. Ft.	Berm Reshaping
606			Each	9' Guardrail Posts, as per plan
202			Each	Bridge Terminal Assembly Removed
202		13	Each	Anchor Assembly Removed, Type A, As Per Plan
624		Lump	Lump	Mobilization
614		Lump	Lump	Maintaining Traffic

GENERAL NOTES

MAINTENANCE OF TRAFFIC: Traffic shall be maintained on the existing pavement without interruption during construction of the work except as otherwise approved by the Engineer. The contractor shall set up and operate his equipment in such a manner that encroachment upon the traveled width of the pavement will be kept to a minimum.

Berm reshaping and guardrail removal and construction shall be performed only on one side of the pavement at any given time. The open area due to guardrail removal shall be adequately maintained and protected with temporary guide markers or barricades at all times. Where existing guardrail is removed, new guardrail shall be erected as soon as practical. Any areas left unguarded overnight shall be protected by the use of barricades, drums, or other warning devices satisfactory to the Engineer.

All traffic control devices required inside the work limits except regulatory, guide signs and pavement markings shall be furnished, erected and maintained by the contractor.

GUARDRAIL: The log points of the proposed guardrail shown are approximate. Exact locations will be determined and marked by stakes or other marks by the Engineer. Mail boxes that interfere with the removal or replacement of guardrail shall be relocated by the contractor as approved by the Engineer. The cost of this item shall be included in the unit bid price for Item 606 Guardrail.

GUARDRAIL OVER CULVERTS: When sufficient post depth is not available due to a culvert, guardrail posts directly over the culvert shall be set in holes, encased in a minimum of 4" thickness of Class C concrete for the full depth of the hole, or as detailed on GR-1 for inlet mounted posts. Method shall be approved by the Engineer. Payment for the above shall be included in the unit price bid for the applicable guardrail item.

GUARDRAIL POST AND GUARD POST HOLES: All holes remaining after removal of guardrail posts or guard posts shall be filled with granular material, excess material resulting from guardrail reconstruction or excess material from berm reshaping. Fill material containing sod shall not be used. All fill material shall be approved by the Engineer. Material placed in holes shall be thoroughly compacted and leveled off as directed by the Engineer. Payment for the above shall be included in the unit price bid for the applicable guardrail item.

ITEM 202: This item of work shall consist of removing the existing single 25'0" long rail element; removing and disposing of the existing 'C' posts and concrete encasement as shown in the superceded GR-4 ODOT standard dated 12-06-76; damaged blockouts and any damaged 'A' or 'B' posts so as to conform to ODOT standard GR-4 dated 02-05-82.

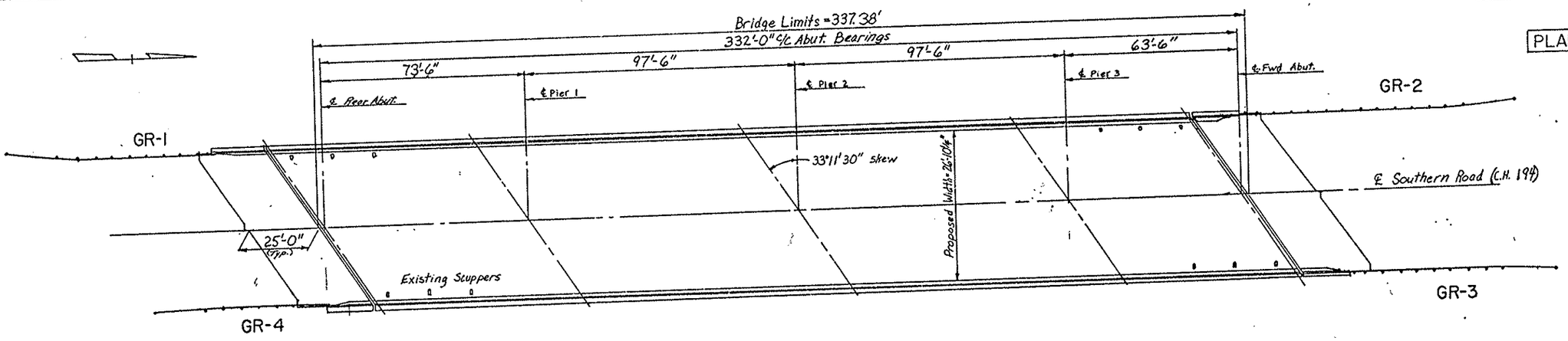
ITEM 606: The contractor shall salvage the existing 'A' and 'B' posts as directed by the engineer. All new hardware; rail element; and spacer blocks shall be provided at no additional cost to the State of Ohio Department of Transportation.

ITEM 606: All guardrail post spacing and bridge connections, are to be field fitted to the existing conditions as shown and at the direction of the Project Engineer.

FHWA REGION	STATE	PROJECT	
5	OHIO		

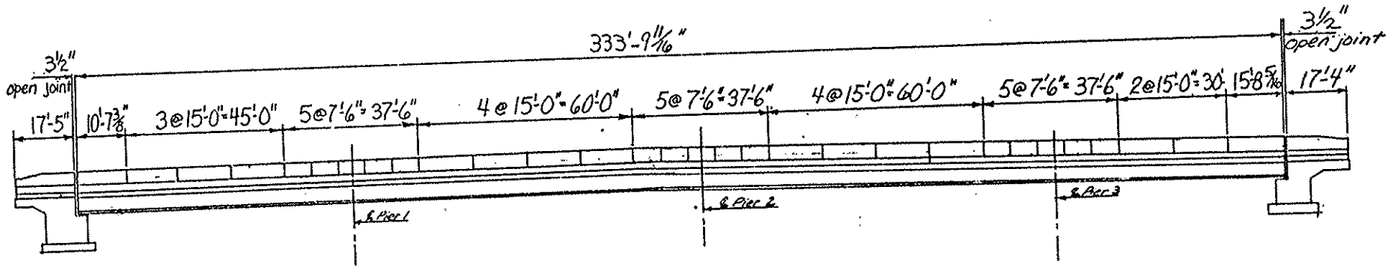
6/18

PLAN NO. BR-94-85

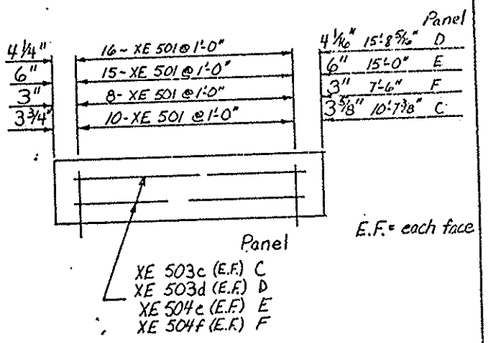


PROPOSED PLAN

SEE SHEET 10 FOR SUPERPLASTICIZED DENSE CONCRETE OVERLAY DETAILS. SEE SHEETS 11 THRU 13 FOR PARAPET MODIFICATION DETAILS. SEE SHEET 4 FOR GUARDRAIL QUANTITIES.



PROPOSED ELEVATION



TYPICAL PARAPET SPACING

SUBSUMMARY

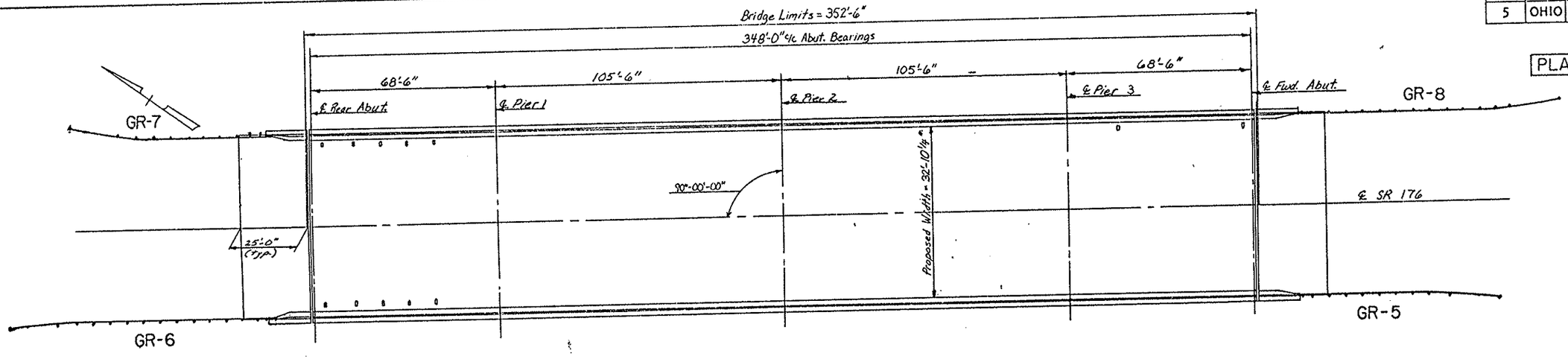
ITEM 202 PORTIONS OF STRUCTURE REMOVED (LUMP)	ITEM 202 BRIDGE RAILING REMOVED, AS PER PLAN (L.F.)	ITEM 510 DOWEL HOLES (EACH)	ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE (C.Y.)	ITEM SPECIAL SEALING OF CONCRETE SURFACES (S.Y.)	ITEM 516 VERT. EXTENSION OF STRUCTURAL EXPANSION JOINTS (L.F.)	ITEM 516 TRANS. EXT. OF STRUCT. EXP. JTS., INCLUDING CURB PLS. (EACH)	ITEM 824 EPOXY COATED REINFORCING STEEL (LBS.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1 3/4" THICK) (S.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) (C.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (FULL DEPTH) (C.Y.)	ITEM 404 ASPHALT CONCRETE (C.Y.)	ITEM 407 TACK COAT (GAL.)
LUMP	737	1,508	103	—	64	4	17,850	996	83	1	4	18

PART 1 SUM-271-0151

FHWA REGION	STATE	PROJECT NO.	FUTURE
5	OHIO		

7/18

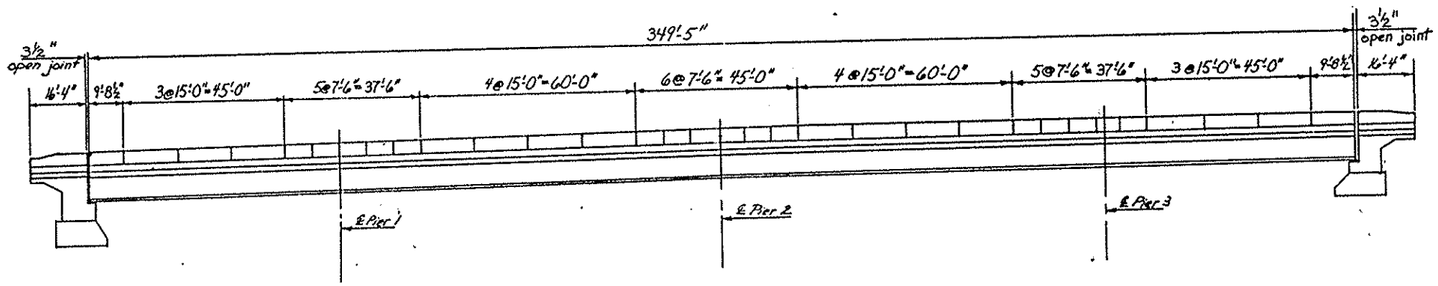
PLAN NO. BR-94-85



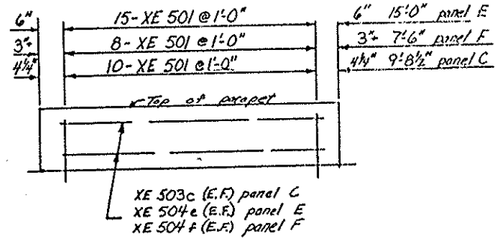
PROPOSED PLAN

SEE SHEET 10 FOR SUPERPLASTICIZED DENSE CONCRETE OVERLAY DETAILS. SEE SHEETS 11 THRU 13 FOR PARAPET MODIFICATION DETAILS. SEE SHEET 4 FOR GUARDRAIL QUANTITIES.

Remove asphalt wearing surface from deck and from approach slabs.



PROPOSED ELEVATION



TYPICAL PARAPET SPACING

SUBSUMMARY

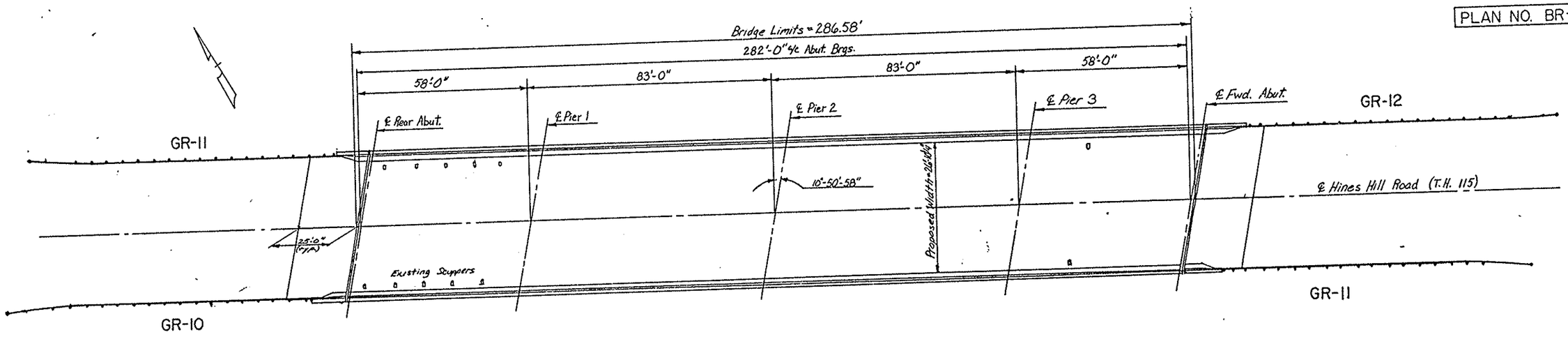
ITEM 202 WEARING COURSE REMOVED (S.Y.)	ITEM 202 PORTIONS OF STRUCTURE REMOVED (LUMP)	ITEM 202 BRIDGE RAILING REMOVED, AS PER PLAN (L.F.)	ITEM 510 DOWEL HOLES (EACH)	ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE (C.Y.)	ITEM SPECIAL SEALING OF CONCRETE SURFACES (S.Y.)	ITEM 516 VERT. EXTENSION OF STRUCTURAL EXPANSION JOINTS (L.F.)	ITEM 516 TRANS. EXT. OF STRUCT. EXP. JTS., INCLUDING CURB PLS. (EACH)	ITEM 824 EPOXY COATED REINFORCING STEEL (LBS.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1 3/4" THICK) (S.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) (C.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (FULL DEPTH) (C.Y.)	ITEM 404 ASPHALT CONCRETE (C.Y.)	ITEM 407 TACK COAT (GAL.)
1,347	LUMP	764	1,568	107	—	66	4	18,575	1,276	107	5	5	22

PART 2 SUM-271-0275

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

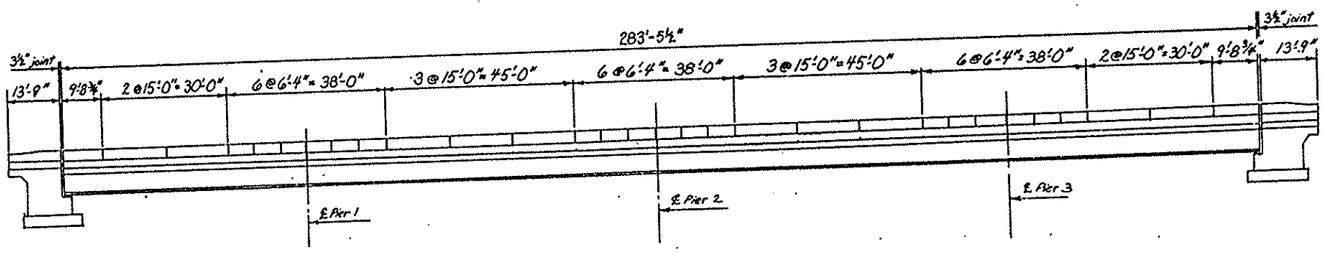
8/18

PLAN NO. BR-94-85

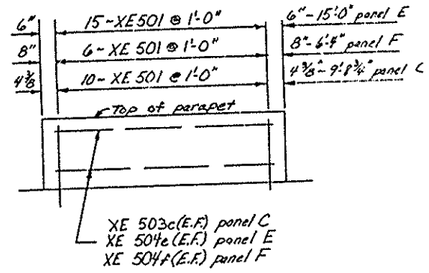


PROPOSED PLAN

SEE SHEET 10 FOR SUPERPLASTICIZED DENSE CONCRETE OVERLAY DETAILS. SEE SHEETS 11 THRU 13 FOR PARAPET MODIFICATION DETAILS. SEE SHEET 4 FOR GUARDRAIL QUANTITIES.



PROPOSED ELEVATION



TYPICAL PARAPET SPACING

SUBSUMMARY

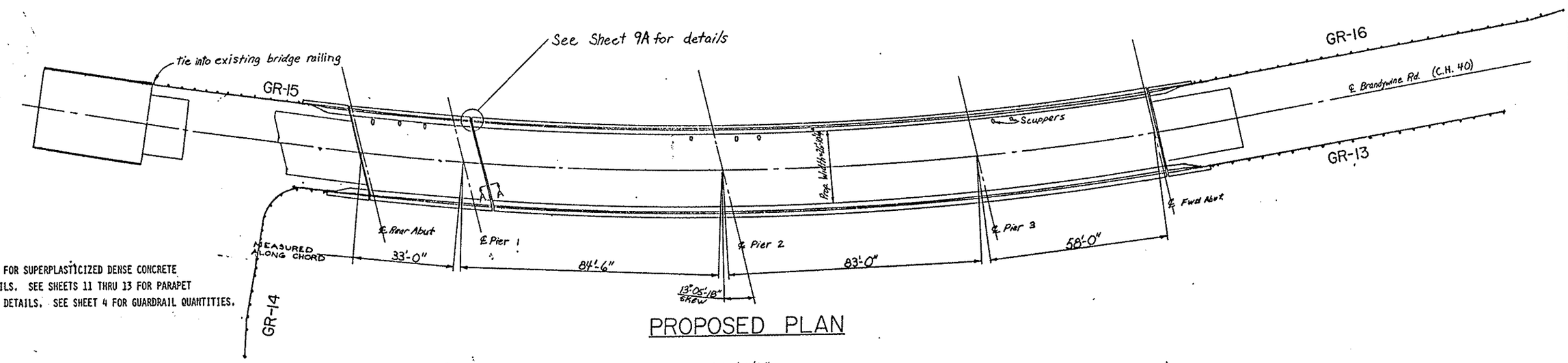
ITEM 202 PORTIONS OF STRUCTURE REMOVED (LUMP)	ITEM 202 BRIDGE RAILING REMOVED, AS PER PLAN (L.F.)	ITEM 510 DOWEL HOLES (EACH)	ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE (C.Y.)	ITEM SPECIAL SEALING OF CONCRETE SURFACES (S.Y.)	ITEM 516 VERT. EXTENSION OF STRUCTURAL EXPANSION JOINTS (L.F.)	ITEM 516 TRANS. EXT. OF STRUCT. EXP JTS., INCLUDING CURB PLS. (EACH)	ITEM 824 EPOXY COATED REINFORCING STEEL (LBS.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1 3/4" THICK) (S.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) (C.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (FULL DEPTH) (C.Y.)	ITEM 404 ASPHALT CONCRETE (C.Y.)	ITEM 407 TACK COAT (GAL.)
LUMP	621	1,232	87	———	55	4	14,854	846	56	1	4	18

PART 3 SUM-271-0914

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

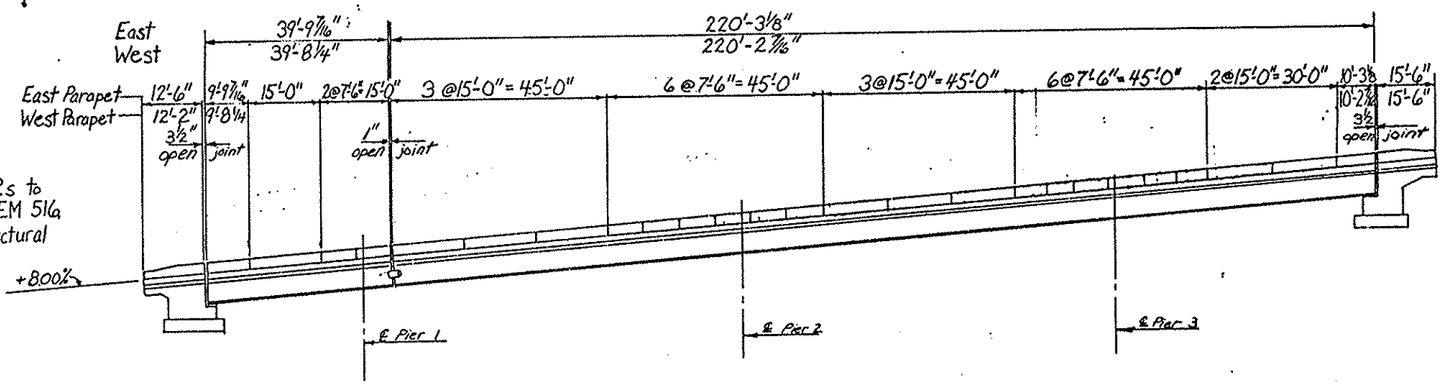
9/18

PLAN NO. BR-94-85

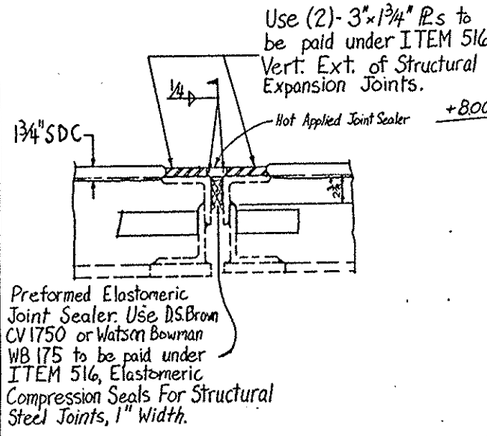


SEE SHEET 10 FOR SUPERPLASTICIZED DENSE CONCRETE OVERLAY DETAILS. SEE SHEETS 11 THRU 13 FOR PARAPET MODIFICATION DETAILS. SEE SHEET 4 FOR GUARDRAIL QUANTITIES.

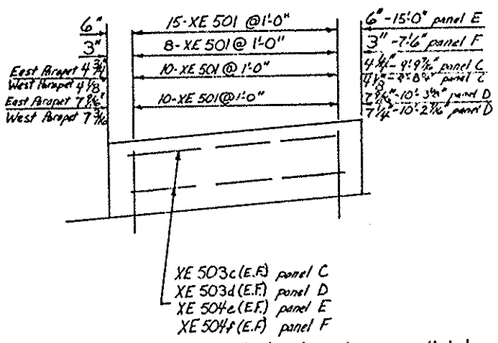
PROPOSED PLAN



PROPOSED ELEVATION



SECTION A-A



NOTE: Place longitudinal rebar parallel to deck, place XE 501's vertical.

TYPICAL PARAPET SPACING

SUBSUMMARY

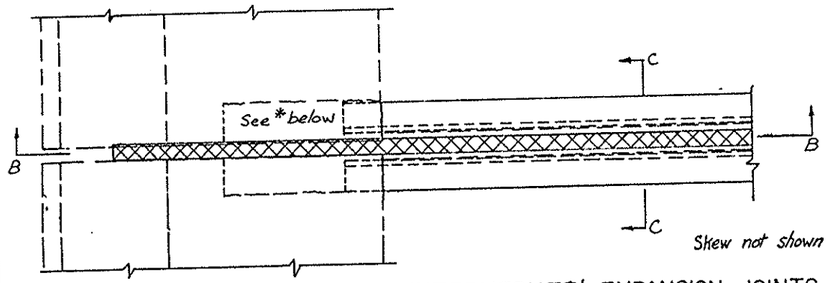
ITEM 516 TRANSVERSE EXTENSION OF STRUCTURAL EXP. JOINTS (EACH)	ITEM 202 PORTIONS OF STRUCTURE REMOVED (LUMP)	ITEM 202 BRIDGE RAILING REMOVED, AS PER PLAN (L.F.)	ITEM 510 DOWEL HOLES (EACH)	ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE (C.Y.)	ITEM 516 ELAST. COMP. SEALS FOR STRUCTURAL STEEL JTS., 1" WIDTH (L.F.)	ITEM 516 VERT. EXTENSION OF STRUCTURAL EXPANSION JOINTS (L.F.)	ITEM 516 TRANS. EXT. OF STRUCT. EXP. JTS., INCLUDING CURB PLS. (EACH)	ITEM 824 EPOXY COATED REINFORCING STEEL (LBS.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1 3/4" THICK) (S.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH) (C.Y.)	ITEM 850 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (FULL DEPTH) (C.Y.)	ITEM 404 ASPHALT CONCRETE (C.Y.)	ITEM 407 TACK COAT (GAL.)
2	LUMP	574	1,184	81	32	83	4	14,012	778	69	2	4	18

PART 4 SUM-271-0967

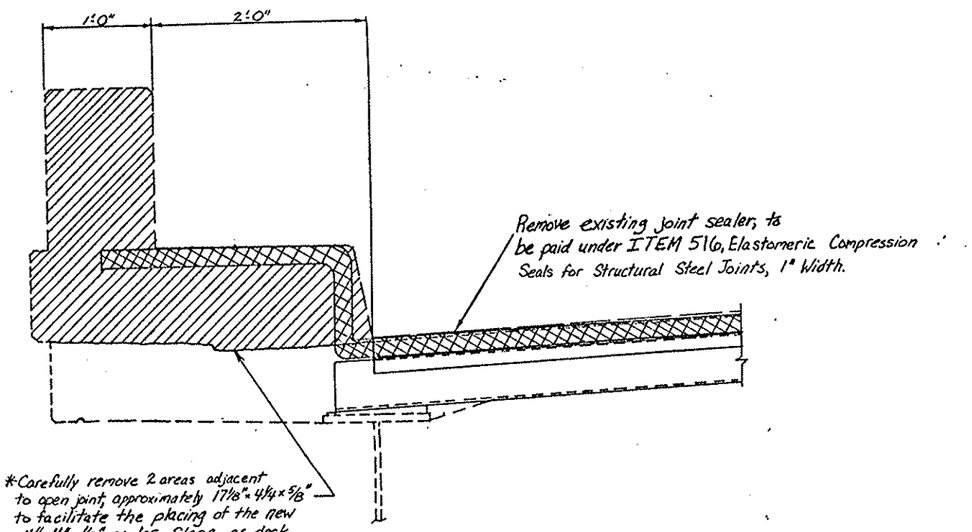
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

9A 18

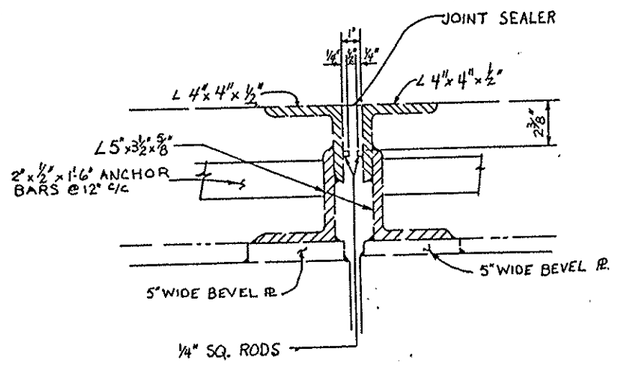
PLAN NO. BR-94-85



PARTIAL PLAN, EXISTING INTERMEDIATE EXPANSION JOINTS

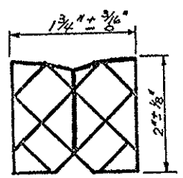


SECTION B-B

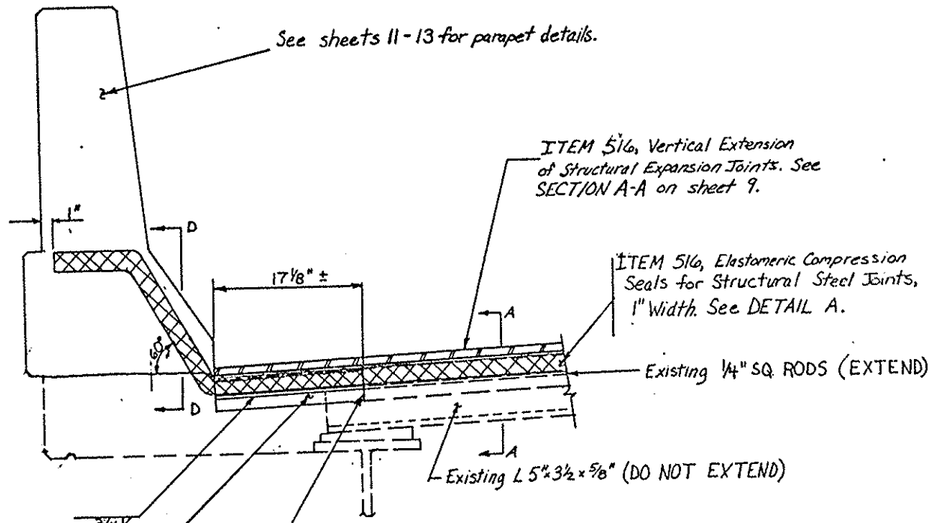


SECTION C-C

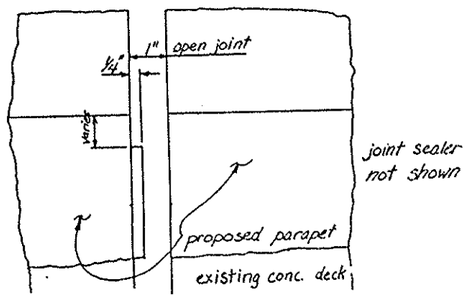
REMOVAL AREA



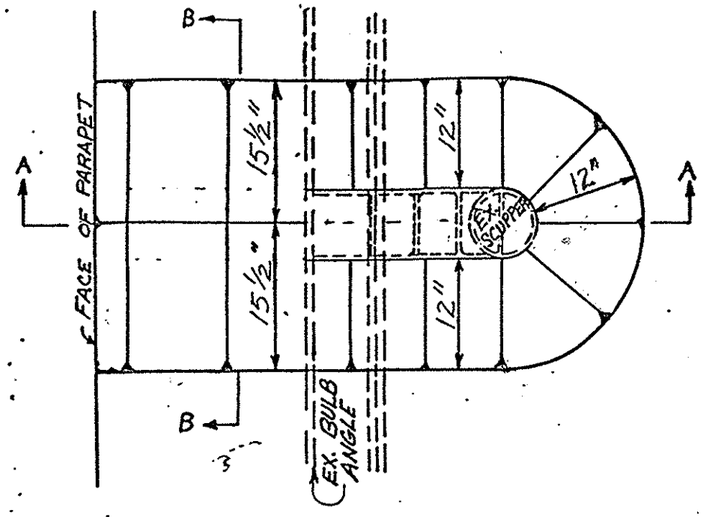
DETAIL A JOINT SEALER

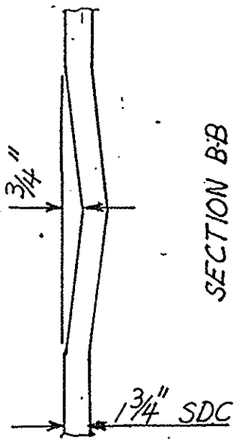


PROPOSED SECTION B-B

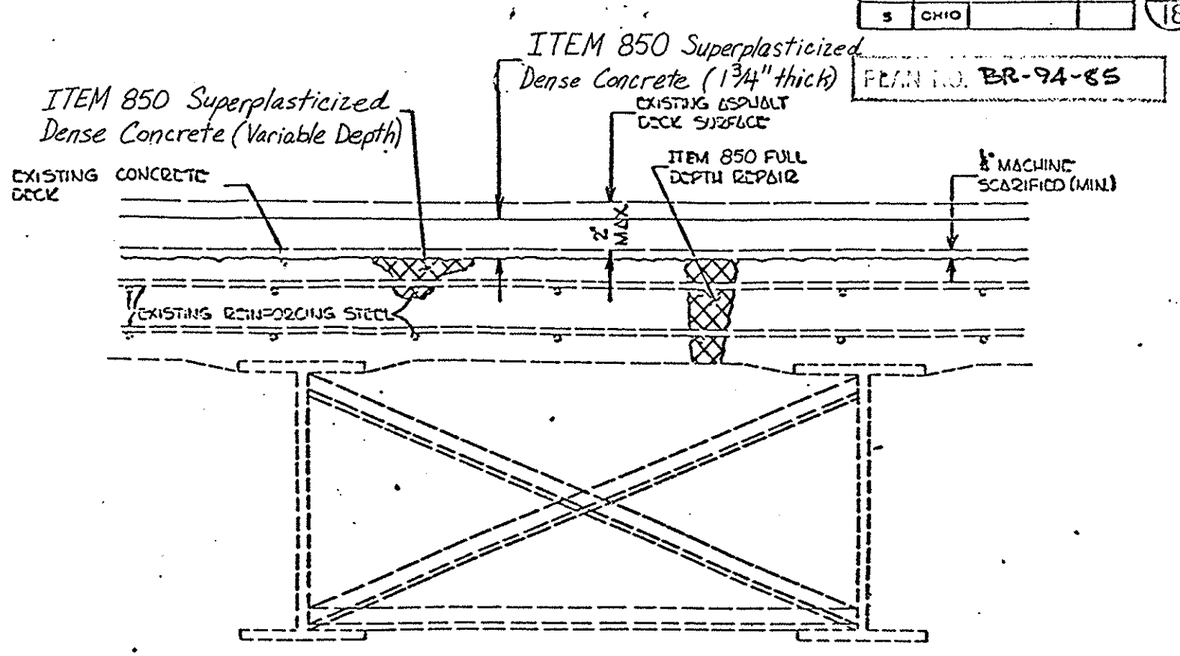


SECTION D-D

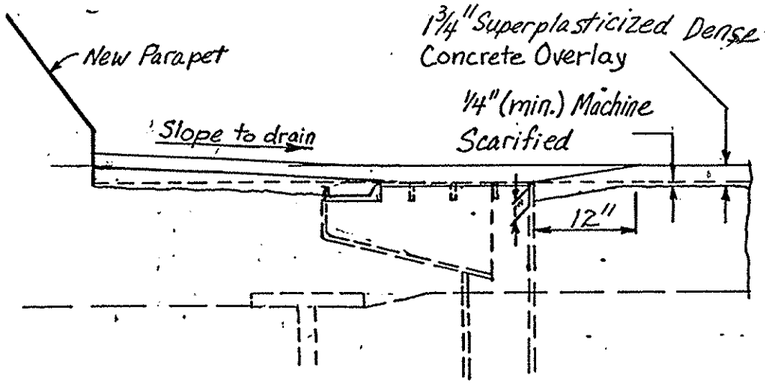




SECTION B-B

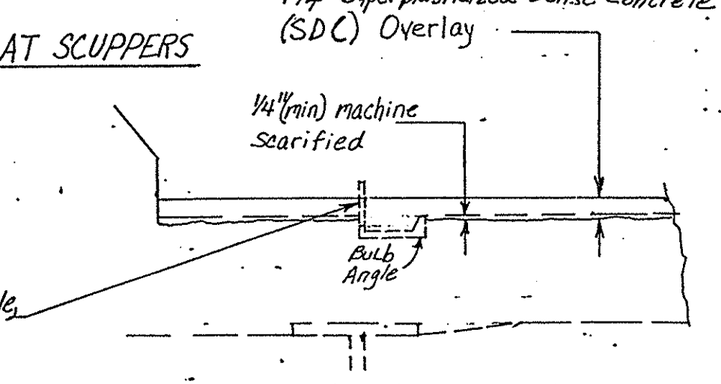


SUPERPLASTICIZED DENSE CONCRETE OVERLAY

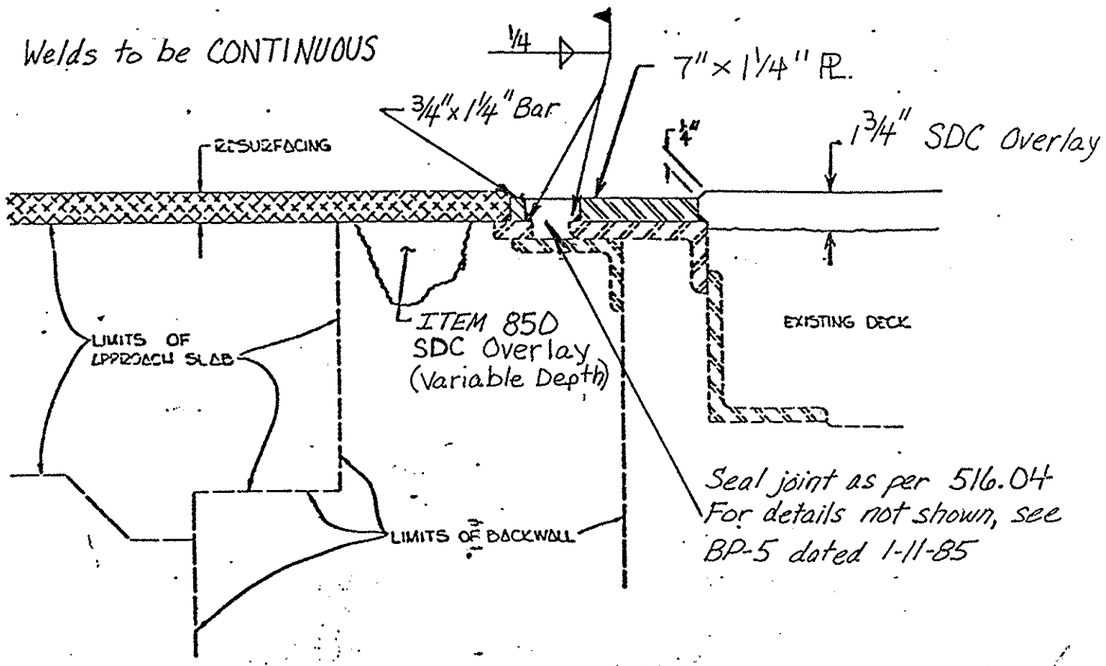


SECTION A-A

TYPICAL OVERLAY DETAILS AT SCUPPERS



TYPICAL OVERLAY DETAIL AT BULB ANGLES



VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT

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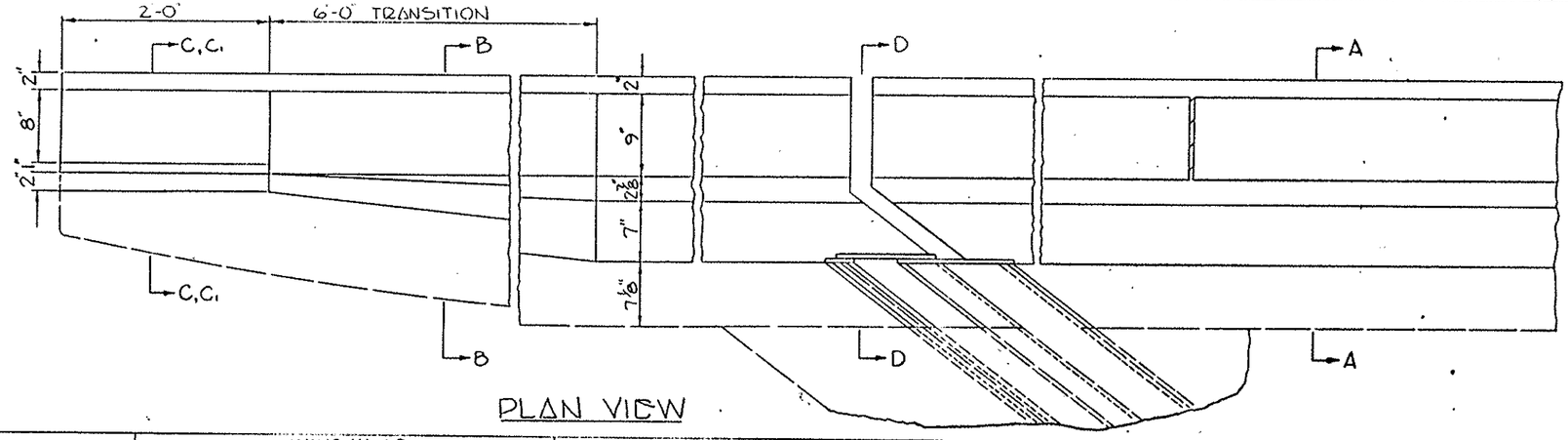
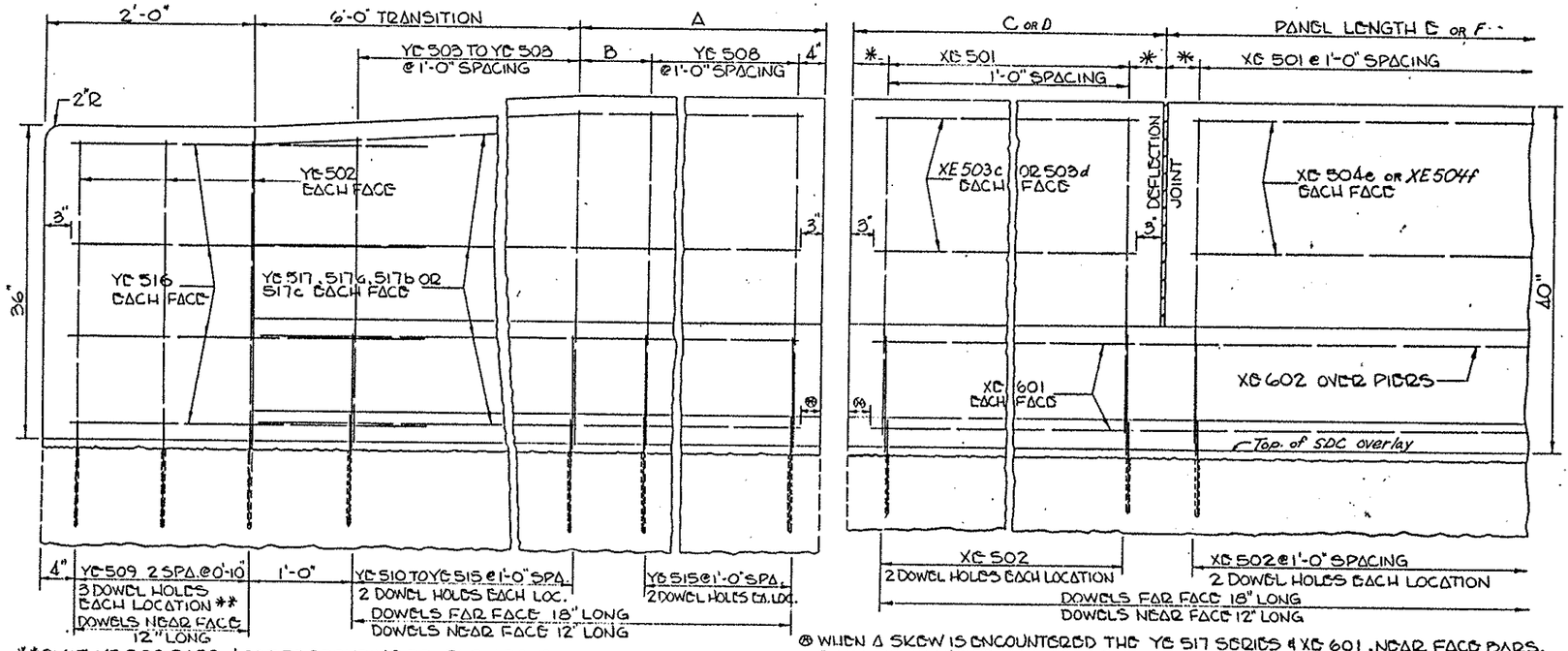


PLAN VIEW

STRUCTURE NO.	WINGWALLS								OUTSIDE PANELS				INSIDE PANELS			
	REAR				FORWARD				LEFT		RIGHT					
	LEFT		RIGHT		LEFT		RIGHT						NO. OF E PANEL	NO. OF F PANEL	E	F
	A	B	A	B	A	B	A	B	C	D	C	D				
SUM-271-0151	9'-4"	1'-0"	9'-4"	1'-0"	9'-4"	1'-0"	9'-4"	1'-0"	10-7 3/8	5'-8 5/16	10-7 3/8	15-8 5/16	26	30	15'-0"	7'-6"
SUM-271-0275	8'-4"	1'-0"	8'-4"	1'-0"	8'-4"	1'-0"	8'-4"	1'-0"	9'-8 1/2"		9'-8 1/2"		28	32	15'-0"	7'-6"
SUM-271-0914	5'-9"	0'-5"	5'-9"	0'-5"	5'-9"	0'-5"	5'-9"	0'-5"	9'-8 1/4"		9'-8 1/4"		20	36	15'-0"	6'-4"
SUM-271-0967	4'-6"	1'-2"	4'-2"	0'-10"	7'-6"	1'-2"	7'-6"	1'-2"	9'-9 1/16	10-3 1/8	9'-8 1/4	10-2 1/16	18	28	15'-0"	7'-6"

See sheet 12 for Sections A-A, B-B, C-C & D-D.



**OMIT YC 509 BARS & CORRESPONDING DOWELS & DOWEL HOLES FOR SECTION C-C. (SEE SHT. NO. 11)

YC 501 OMITTED

® WHEN A SKEW IS ENCOUNTERED THE YC 517 SERIES & XC 601, NEAR FACE BARS, SHALL BE ADJUSTED AT THE LAP JOINT TO MEET THE 3" CLEARANCE.

NOTE: ON CONTINUOUS SLAB STRUCTURES USE ALL 18" DOWELS

PROFILE VIEW

ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE

DESCRIPTION

THIS ITEM SHALL BE USED TO RECONSTRUCT EXISTING PARAPETS USING CLASS S CONCRETE AS DETAILED ON SHEET NUMBERS 11-13. ALL COSTS OF REMOVAL SHALL BE INCLUDED UNDER ITEM 202, PORTIONS OF STRUCTURES REMOVED.

REMOVAL OF CONCRETE

IN ADDITION TO THE REMOVAL AREAS AS SHOWN ON THE STRUCTURE MODIFICATION DETAILS ALL LOOSE, SOFT, HONEYCOMBED AND DISINTERGRATED CONCRETE PLUS 1/4" DEPTH OF SOUND CONCRETE SHALL BE REMOVED. AFTER COMPLETION OF THE REMOVAL OPERATION, THE ENGINEER SHALL SOUND THE REMAINING CONCRETE TO ENSURE THAT ONLY SOUND CONCRETE REMAINS. ALL WORK SHALL BE DONE IN SUCH A MANNER AS NOT TO DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN AND PREVENT THE REINFORCING STEEL THAT IS TO REMAIN FROM BEING CUT, ELONGATED OR DAMAGED IN ANY WAY. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35 POUND CLASS.

SURFACE PREPARATION

NOT MORE THAN 24 HOURS PRIOR TO PLACING THE NEW WALL, ALL SURFACES TO WHICH THE WALL IS TO BOND, INCLUDING EXPOSED REINFORCING AND STRUCTURAL STEEL, SHALL BE CLEANED BY ABRASIVE BLASTING OR AN APPROVED METHOD OF WATER BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND

REINFORCING STEEL

ALL COSTS OF LABOR AND MATERIAL NECESSARY TO CUT THE EXISTING NUMBER 5 REBARS AS SHOWN ON THE PROPOSED PARAPET DETAILS SHALL BE INCLUDED UNDER THIS ITEM OF WORK. ALL OTHER STEEL SHALL BE EPOXY COATED AND WILL BE PAID FOR SEPARATELY UNDER ITEM 824, EPOXY COATED REINFORCING STEEL, GRADE 60.

METHOD OF MEASUREMENT

THE FINAL AMOUNT SHALL BE THE ACTUAL NUMBER OF CUBIC YARDS COMPLETE IN PLACE

MISCELLANEOUS NOTES

INSTALL DEFLECTION JOINTS AS PER STANDARD CONSTRUCTION DRAWING BR-1. SPACING SHALL BE AS SHOWN ON THE PLANS.

TYPE A TERMINAL END SHOES SHALL BE FASTENED TO THE PROPOSED RETROFITTED PARAPET WITH 7/8" DIAMETER HEX HEAD BOLTS THROUGH THE PARAPET WITH 3" BY 3" BY 1/2" PLATE WASHERS AND HEX HEAD NUTS ON BACK OF PARAPET. (SEE GR-3)

TRANSVERSE EXTENSION OF STRUCTURAL STEEL EXPANSION JOINTS

THE NEW CONCRETE BARRIER SAFETY SHAPE WILL RESULT IN A WIDER CLEAR ZONE WIDTH THAN THE EXISTING CURB AND PARAPET WALL. THIS WILL OCCUR ON ALL STRUCTURES GETTING THE NEW SAFETY SHAPE. AS A RESULT THE STRUCTURAL STEEL EXPANSION JOINTS SHALL BE EXTENDED TRANSVERSELY TO THE NEW CURB PLATES AS SHOWN IN PROPOSED SECTIONS D-D AND E-E, SHEET Nº 12 . THE COSTS OF LABOR, MATERIALS AND INCIDENTALS TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 516, TRANSVERSE EXTENSION OF STRUCT. EXPANSION JOINTS, INCLUDING CURB PLATES.
THE 3/4" DOWEL BARS SHALL CONFORM TO STANDARDS AS PER SECTIONS 709.01 709.03 709.05 & 709.13 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

NOTE: ALL LAP SPLICES SHALL BE $30d_b$. THE PREFIX Y IS FOR REBAR IN THE WINGWALLS & PREFIX X IS FOR REBAR IN THE DECK PARAPETS.

* See Typical Parapet Spacing on Individual Bridge Sheets.

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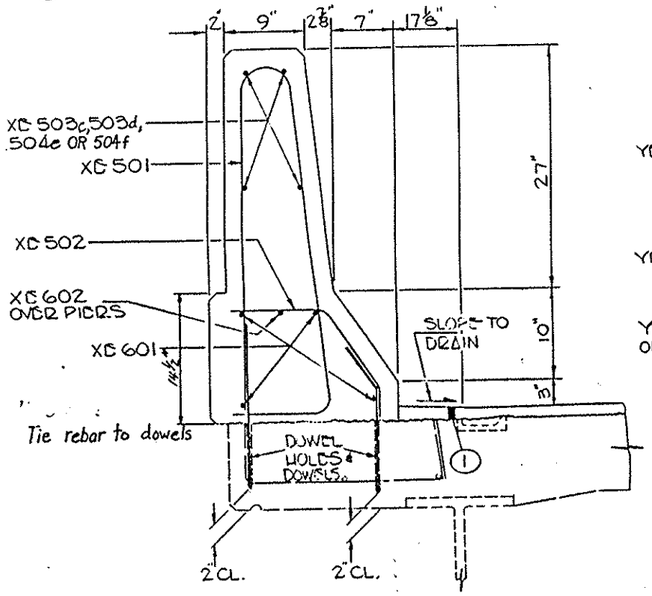
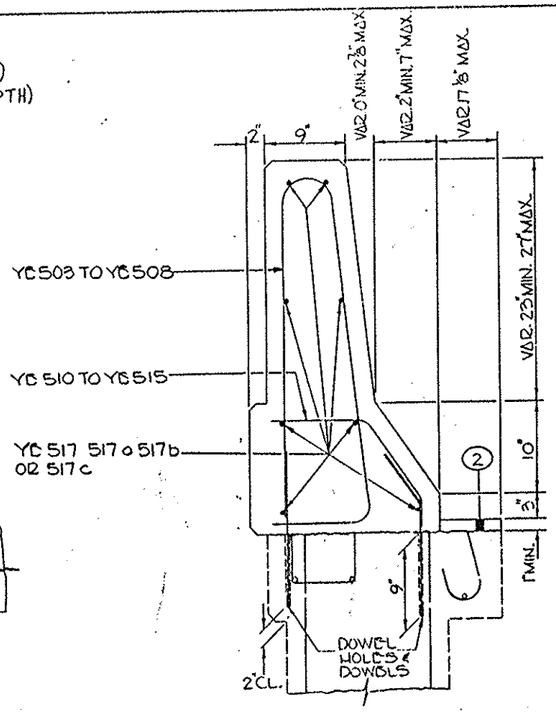
DESIGNATES REMOVAL AREA

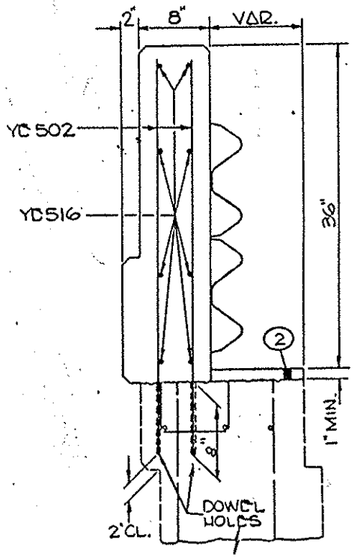
(1) SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1¾" THICK)
(2) SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE DEPTH)



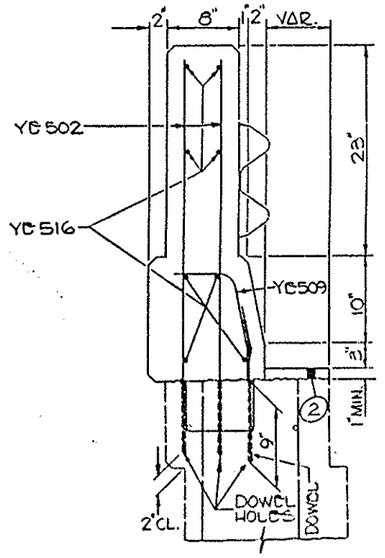
PROPOSED SECTION A-A



PROPOSED SECTION B-B

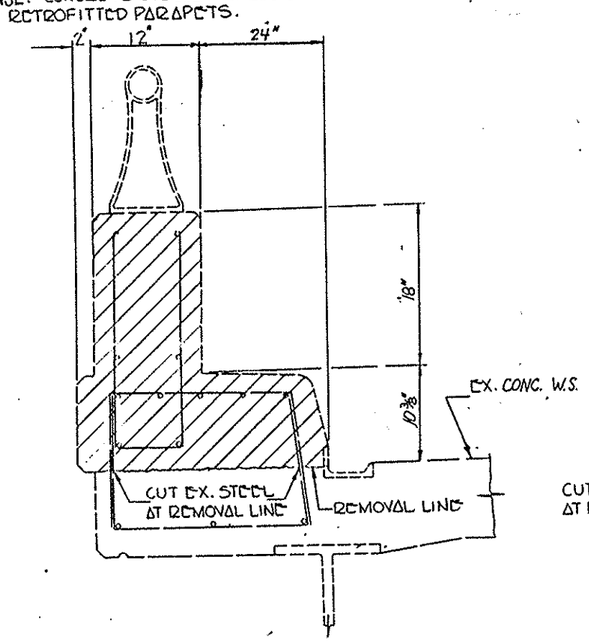


PROPOSED SECTION C-C

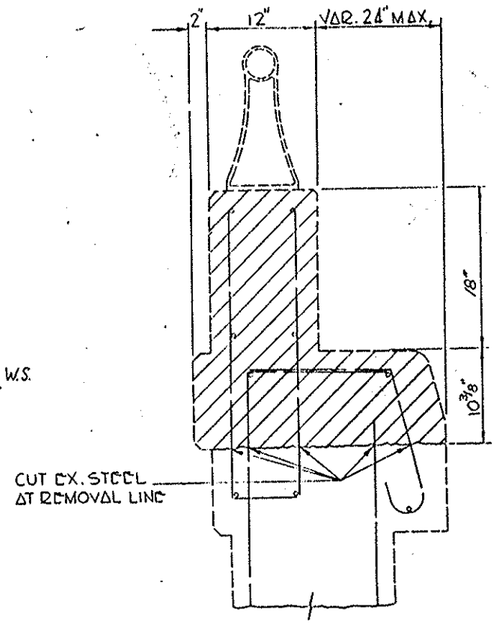


PROPOSED SECTION C1-C1

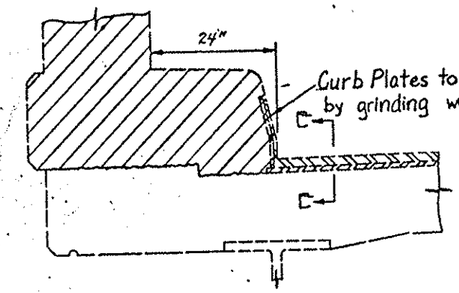
ON EXISTING BRIDGE DECKS TO BE OVERLAYED ON THIS PROJECT THE PROPOSED SUPER-PLASTICIZED DENSE CONCRETE OVERLAY SHALL EXTEND TO THE FACE OF THE CURBS OF THE RETROFITTED PARAPETS.



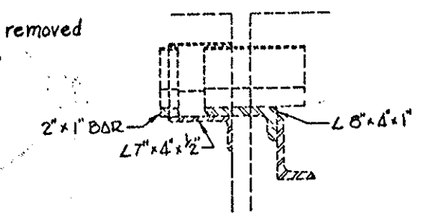
EXISTING SECTION A-A



EXISTING SECTION B-B

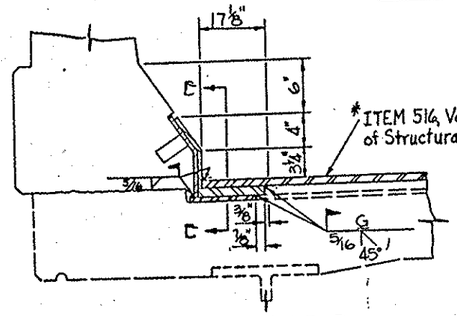


EXISTING SECTION D-D

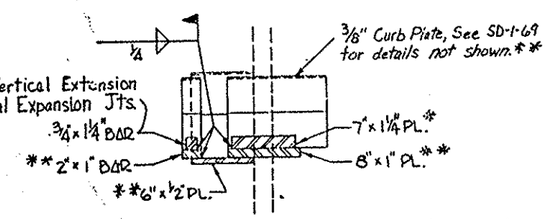


EXISTING SECTION E-E

CURB PLATE DETAILS



PROPOSED SECTION D-D



** ITEM 516 - Transverse Extension of Structural Expansion Joints, Including Curb Plates.

PROPOSED SECTION E-E

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PLAN NO. BR-94-85

STR. No. SUM-271-0151

MARK	No.	LENGTH	WEIGHT	SHAPE
YC 502	24	3'-8"	92	STR.
YC 503	4	6'-5"	27	BENT
YC 504	4	6'-7"	27	"
YC 505	4	6'-9"	28	"
YC 506	4	6'-11"	29	"
YC 507	4	7'-1"	30	"
YC 508	40	7'-3"	302	"
YC 510	4	1'-7"	7	"
YC 511	4	1'-8"	7	"
YC 512	4	1'-9"	7	"
YC 513	4	1'-10"	8	"
YC 514	4	1'-11"	8	"
YC 515	40	2'-0"	83	"
YC 516	32	3'-4"	111	STR.
YC 517	32	15'-0"	501	"
XC 501	682	7'-3"	5157	BENT
XC 502	682	2'-0"	1423	"
XC 503c	8	10'-1"	84	STR.
XC 503d	8	15'-2"	127	"
XC 504e	104	14'-6"	1573	"
XC 504f	120	7'-0"	876	"
XC 601	80	35'-0"	4206	"
XE 602	6	39'-0"	351	"
¾" DOWELS	742	1'-6"	1672	BENT
¾" DOWELS	742	1'-6"	1672	STR.
TOTAL			18,408#	LBS.
DOWEL HOLES		1508	EACH	

STR. No. SUM-271-0275

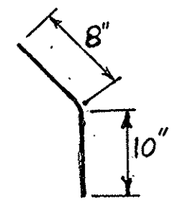
MARK	No.	LENGTH	WEIGHT	SHAPE
YC 502	24	3'-8"	92	STR.
YC 503	4	6'-5"	27	BENT
YC 504	4	6'-7"	27	"
YC 505	4	6'-9"	28	"
YC 506	4	6'-11"	29	"
YC 507	4	7'-1"	30	"
YC 508	36	7'-3"	272	"
YC 510	4	1'-7"	7	"
YC 511	4	1'-8"	7	"
YC 512	4	1'-9"	7	"
YC 513	4	1'-10"	8	"
YC 514	4	1'-11"	8	"
YC 515	36	2'-0"	75	"
YC 516	32	3'-4"	111	STR.
YC 517	32	14'-1"	470	"
XC 501	716	7'-3"	5414	BENT
XC 502	716	2'-0"	1494	"
XC 503c	16	9'-2"	153	STR.
XC 504e	112	14'-6"	1694	"
XC 504f	128	7'-0"	935	"
XC 601	88	33'-6"	4428	"
XE 602	6	40'-0"	360	"
¾" DOWELS	772	1'-6"	1739	BENT
¾" DOWELS	772	1'-6"	1739	STR.
TOTAL			14,154	LBS.
DOWEL HOLES		1,568	EACH	

STR. No. SUM-271-0914

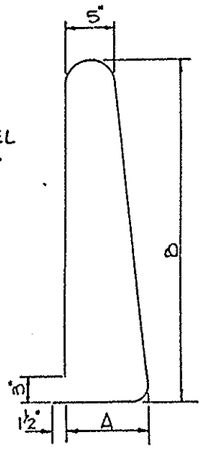
MARK	No.	LENGTH	WEIGHT	SHAPE
YC 502	24	3'-8"	92	STR.
YC 503	4	6'-5"	27	BENT
YC 504	4	6'-7"	27	"
YC 505	4	6'-9"	28	"
YC 506	4	6'-11"	29	"
YC 507	4	7'-1"	30	"
YC 508	28	7'-3"	212	"
YC 510	4	1'-7"	7	"
YC 511	4	1'-8"	7	"
YC 512	4	1'-9"	7	"
YC 513	4	1'-10"	8	"
YC 514	4	1'-11"	8	"
YC 515	28	2'-0"	58	"
YC 516	32	3'-4"	111	STR.
YC 517	32	11'-6"	384	"
XC 501	556	7'-3"	4204	BENT
XC 502	556	2'-0"	1160	"
XC 503c	16	9'-3"	154	STR.
XC 504e	80	14'-6"	1210	"
XC 504f	144	5'-10"	876	"
XC 601	80	30'-0"	3605	"
XE 602	6	38'-0"	342	"
¾" DOWELS	604	1'-8"	1361	BENT
¾" DOWELS	604	1'-6"	1361	STR.
TOTAL			15,308	LBS.
DOWEL HOLES		1232	EACH	

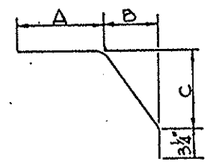
STR. No. SUM-271-0967

MARK	No.	LENGTH	WEIGHT	SHAPE
YC 502	24	3'-8"	92	STR.
YC 503	4	6'-5"	27	BENT
YC 504	4	6'-7"	27	"
YC 505	4	6'-9"	28	"
YC 506	4	6'-11"	29	"
YC 507	4	7'-1"	30	"
YC 508	26	7'-3"	197	"
YC 510	4	1'-7"	7	"
YC 511	4	1'-8"	7	"
YC 512	4	1'-9"	7	"
YC 513	4	1'-10"	8	"
YC 514	4	1'-11"	8	"
YC 515	26	2'-0"	54	"
YC 516	32	3'-4"	111	STR.
YC 517	8	10'-3"	86	"
YC 517a	8	10'-0"	83	"
YC 517b	16	13'-3"	111	"
XC 501	534	7'-3"	4038	BENT
XC 502	534	2'-0"	1114	"
XC 503c	8	9'-3"	77	STR.
XC 503d	8	9'-9"	81	"
XC 504e	72	14'-6"	1089	"
XC 504f	112	7'-0"	818	"
XC 601	112	20'-8"	3477	"
XE 602	4	38'-0"	228	"
¾" DOWELS	580	1'-6"	1307	BENT
¾" DOWELS	580	1'-6"	1307	STR.
TOTAL			14,448	LBS.
DOWEL HOLES		1,184	EACH	



BENT DOWEL BARS BEND IN THE FIELD SO THE OUTSTANDING LEG IS PARALLEL TO THE FACE OF THE PARAPET.





	A	B	C
YC 509	7"	1½"	8¼"
YC 510	7⅝"	2¼"	8¼"
YC 511	8⅛"	3"	8⅜"
YC 512	8¾"	3¾"	8½"
YC 513	9⅜"	4½"	8½"
YC 514	9⅞"	5¼"	8⅝"
YC 515	10½"	6"	8¾"
XC 502	10½"	6"	8¾"

	A	B
YC 503	5¾"	2'-10⅝"
YC 504	6⅜"	2'-11⅜"
YC 505	7⅛"	3'-0"
YC 506	7⅞"	3'-0⅝"
YC 507	8½"	3'-1⅜"
YC 508	9¼"	3'-2"
XC 501	9¼"	3'-2"

REINFORCING SCHEDULE

FED. RD. DIVISION	STATE	PROJECT	
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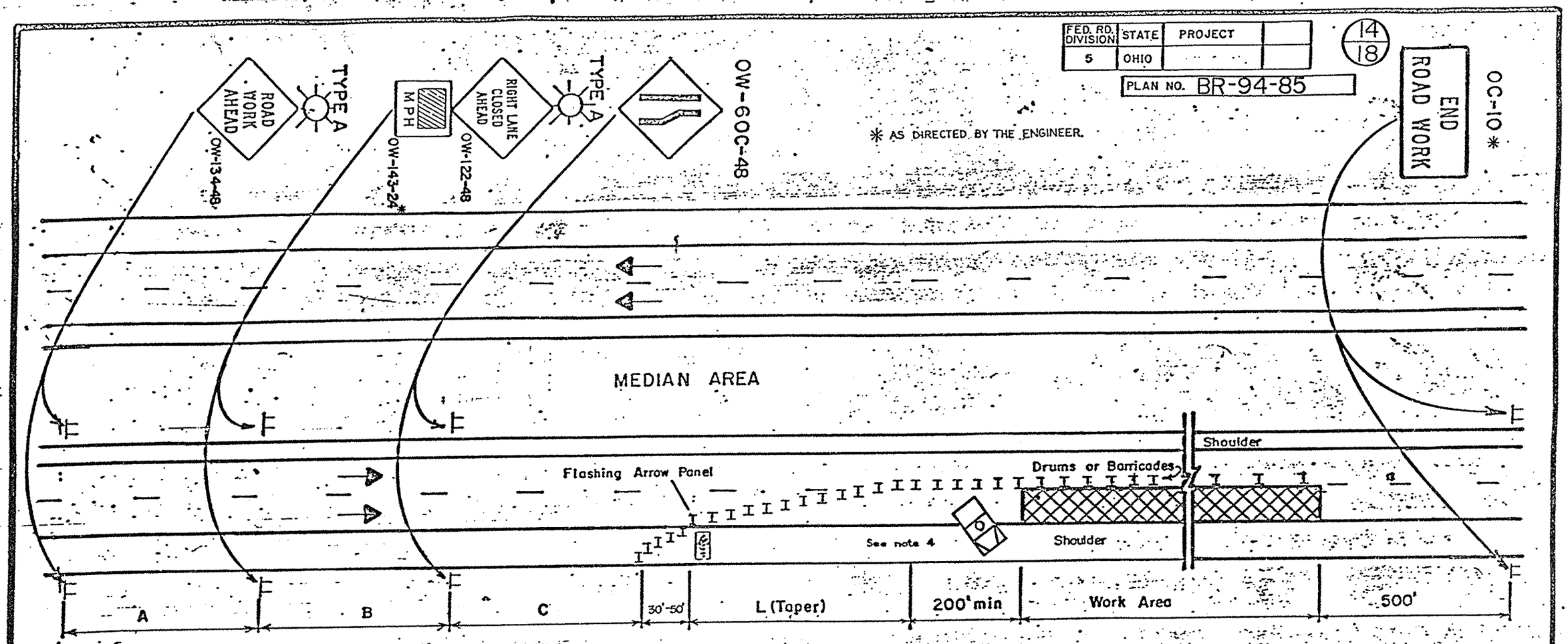

GENERAL NOTES:

1. The taper length (L) shall be in accordance with Section 7F-17 of the OMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 OMUTCD. For a 55 MPH prevailing speed and a 12 ft. lane, not less than thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) drums or barricades shall be used to form the taper on the shoulder. Drums or barricades shall be spaced approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for barricades or drums for short term lane closures. Cones Shall Not Be Used For Night Lane Closures.

2. The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.

3. When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-60D-48 sign(s) shall be substituted for the OW-60C sign(s).

4. The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible for a minimum of a ½ mile. Where ever possible, the work vehicle shall be replaced with an additional 300 feet of parallel work zone length prior to the work area.

5. The flashing arrow panel shall meet requirements contained in TC 35.10.

6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1 for the taper length. Spacings shall be at 100 foot intervals for the next 1000 feet. No lights are required beyond that point.

MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	2600'	1600'	1000'

7. Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.

8. Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located approximately 2000-4000 ft in advance of a lane closure or other point of required action. See Section 7G-8.1, OMUTCD for further guidance on use of PCMS units.

OHIO DEPARTMENT OF TRANSPORTATION

CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY

DATE 2/82

7I-1a

Rev. EFF 9/84 Rev. JKP 11/85

FED. RD DIVISION	STATE	PROJECT	
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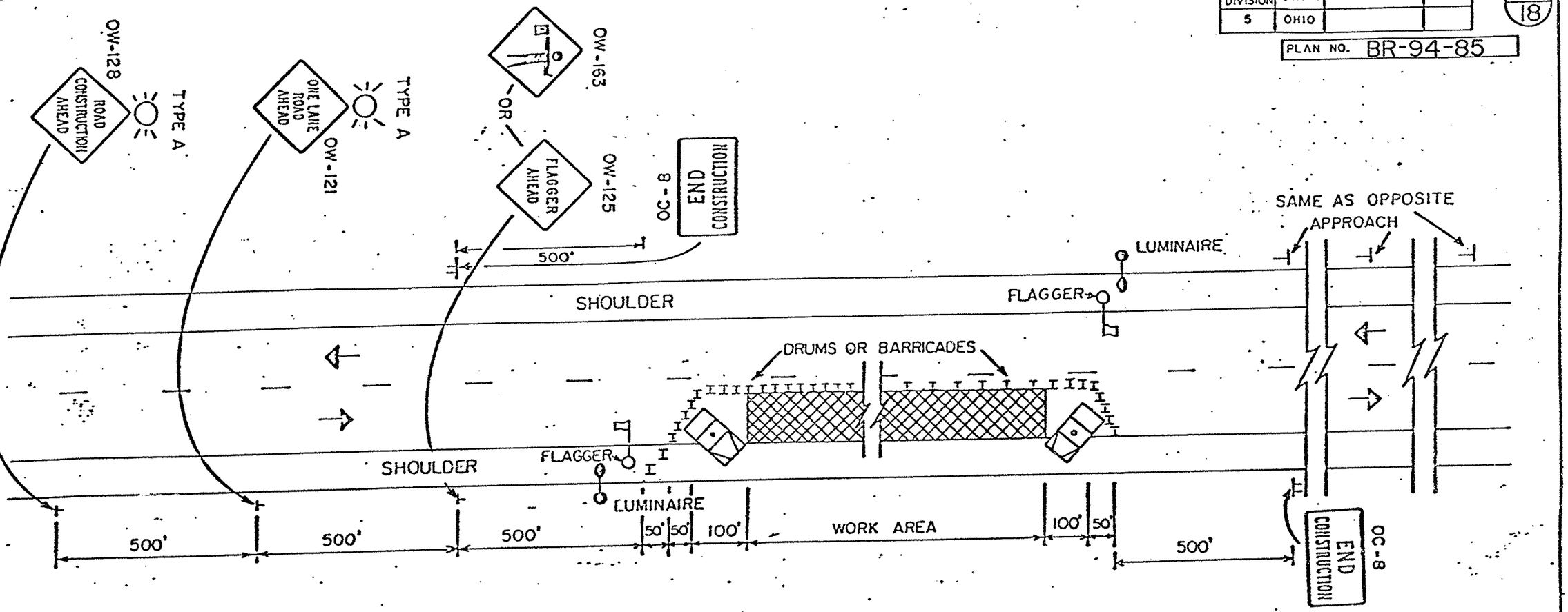


GENERAL NOTES.

1. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. The distances shown are minimums.

2. Flaggers shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall communicate with each other at all times as described in the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) in Section 7H: Control of Traffic Through Work Areas.

3. Drums or barricades shall be spaced at approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100' to 120' center to center for the balance of the work area. Drums or barricades on the advance and return tapers shall be spaced at 10' center to center. Cones may be substituted for barricades or drums for short term lane closures. Cones shall not be used for night lane closures.

4. Several small work sites close together shall be combined into one work area to make a closure not more than 2000 feet long including tapers. Closures of more than 2000 feet may be approved by the Engineer. The minimum length between closures shall be 2000 feet. Only one side of the road shall be closed in any one work area.

5. The work vehicles shown at the beginning and end of the work area shall be in place and unoccupied whenever workers are in the work area. These work vehicles shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicles shown when approved by the Engineer. The vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a ½ mile.

6. The Type A flashing barricade warning lights shown on the "Road Construction Ahead" and the "One Lane Road Ahead" signs are required whenever a night lane closure is necessary.

7. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 3.

8. Adequate area illumination to clearly identify the flagger station at night for long term operations shall be provided by using 150 watt minimum high pressure sodium luminaires or 250 watt minimum mercury luminaires. Luminaires shall be located adjacent to one flagger station for each direction of traffic as shown above. The mounting height for temporary luminaires shall be a minimum of 27 feet above the pavement and the overhead conductor clearance shall be 20 feet above the pavement.

OHIO DEPARTMENT OF TRANSPORTATION

FLAGGERS CLOSING 1 LANE OF A 2 LANE HIGHWAY

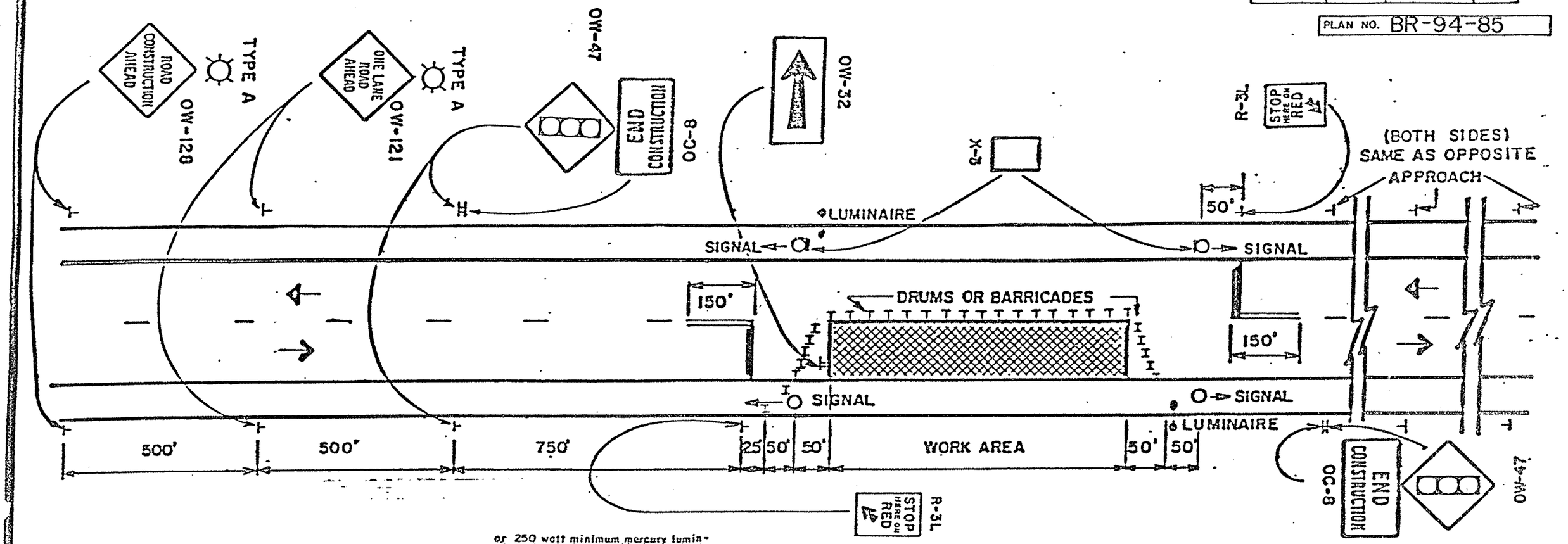
DATE 12/82

Rev EEF 9/84

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

16/18

PLAN NO. BR-94-85



GENERAL NOTES:

1. The maximum length of work area for one way traffic signal control is determined by the capacity required to handle the peak hour demand. Practical maximum length is 400 feet. Signal timing changes shall be approved by the Engineer.
2. Signals shall be installed and operated in accordance with the requirements of Part 6 of the Ohio Manual of Uniform Traffic Control Devices.
3. Drums or barricades shall be spaced at 50' to 60' center to center within the work area. Drums or barricades on the advance and return tapers shall be spaced at 10' center to center.
4. Adequate area illumination to clearly identify both ends of the work area at night for long term operations shall be provided by using 150 watt minimum high pressure sodium luminaires or 250 watt minimum mercury luminaires. Luminaires shall be located adjacent to one signal for each direction of traffic. The mounting height for temporary luminaires shall be a minimum of 27 feet above the pavement and the overhead conductor clearance shall be a minimum of 15 feet above the pavement. Lighting material shall comply with Specification 625.
5. Twenty-four (24) inch stop lines shall be installed and where no passing lines are not already in place they shall be added. Removable pavement markings may be used. Existing conflicting pavement markings and raised pavement marker reflectors between the work area and the stop line shall be removed. After completion of the work the stop lines and added no passing lines shall be removed in accordance with 621.134 and the raised pavement marker reflectors shall be replaced in kind.
6. The Type A flashing barricade warning lights shown on the "Road Construction Ahead" and the "One Lane Road Ahead" signs are required whenever a night lane closure is necessary.
7. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 3.
8. The horizontal or vertical alignment of the roadway may require adjustments in the location of the advance warning signs (the distances shown for advance warning sign spacings are minimums). The vertical alignment of the roadway may require adjustments in the height of the signal heads within the range specified in the Typical Pole Supported Signal Detail.
9. All traffic signals and equipment used in this traffic signal installation, such as a signal cable and signal heads, shall be in conformance with Specifications 632 and 732. However, the performance test provision noted in Specification 632.27, paragraph 6 and the working drawing requirements of 632.03 are waived. The controller, flashers, load switches, conflict monitor and other controller accessories shall comply with Supplemental Specifications 861 and 961, except that the requirements of 861.03 and 861.05 are waived, as well as the requirements of 951.01 for expansible three dial units and twelve circuits for pretimed controllers. Used equipment meeting current ODOT Specifications is acceptable.

   Conflict monitors shall be furnished at all locations unless an electromechanical pretimed controller with cam shaft is provided.
10. When the signal is changed to a flash condition either manually or automatically, red shall be flashed to both approaches.

OHIO DEPARTMENT OF TRANSPORTATION

SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY (A)

DATE: 12/82, 3/84, 4/85

DR. CK.

6-2A

PLAN NO. BR-94-85	FED. RD. DIVISION	STATE	PROJECT		17 / 18
	5	OHIO			

MINIMUM MOUNTING HEIGHT 27' (SEE SHEET 16, NOTE 4 OF THE PLAN)
LUMINAIRE TO EXTEND TO EDGE OF PAVEMENT

ON BRIDGE PROJECT CABLE MAY ALSO BE ROUTED UNDER BRIDGE IF PROPERLY SUPPORTED. SEE DETAIL "C"

SUPPORT POLE

POWER IN

SHALL BE AN INDIVIDUAL CIRCUIT DIRECTLY FROM POWER COMPANY

STEEL STRAP OR BANDING SEE DETAIL "B"

MINIMUM CLEARANCE 15'

METER (IF REQUIRED)

30 AMP DISCONNECT SWITCH SEE DETAIL "A"

CONTROLLER CABINET

NOTE: UTILITY POLE MAY BE USED IF PERMISSION IS OBTAINED.

No. 4 GROUND WIRE

2'-6" MIN. 4' MAX.

GROUND ROD

EDGE OF PAVEMENT

WOOD MEMBERS

3' MIN.

ALTERNATE SUPPORT POLE METHOD

ALTERNATE CABLE ROUTING
DETAIL "C"

UNDER REPAIR

CABLE RUNS WITHOUT CONDUIT SHALL BE SUPPORTED BY INSULATOR SPACED NOT MORE THAN 10' APART.

WORK AREA

MAXIMUM LENGTH 400 FEET (SEE SHEET , NOTE 1 OF THE PLAN)

Ø1 G	Ø1 Y	ALL RED	Ø2 G	Ø2 Y	ALL RED

Ø1G	Ø1Y	ALL Ø2R	Ø2G	Ø2Y	ALL Ø2R

PHASING AND INITIAL TIMING SETTINGS

1½" CONDUIT

WEATHERPROOF CONNECTOR

METER BASE (IF REQUIRED)

WEATHERPROOF CONNECTOR

2-15A SINGLE POLE CIRCUIT BREAKERS

DISCONNECT SWITCH ENCLOSURE

LIGHTING CIRCUIT

SIGNAL CIRCUIT

TO GROUND ROD

DETAIL "A"

SEE SHEET OF THE PLAN

2' TO 8'

STEEL STRAP OR BANDING (TYPICAL)

X-3 OBJECT MARKER (TYPICAL)

6' MIN. 10' MAX. *

4'

* ABOVE PAVEMENT GRADE OF THE CENTER OF ROADWAY

EDGE OF PAVEMENT

DETAIL "B"

TYPICAL SERVICE, LUMINAIRE, SIGNAL HEAD AND CONTROLLER CABINET INSTALLATION

OHIO DEPARTMENT OF TRANSPORTATION

SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY (B)

DATE 4/85

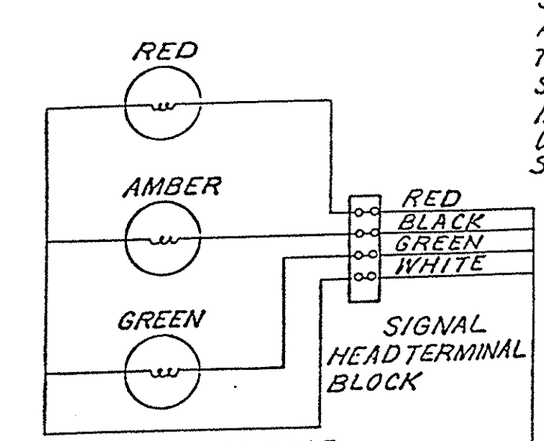
DR. | CK.

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	"	

18
18

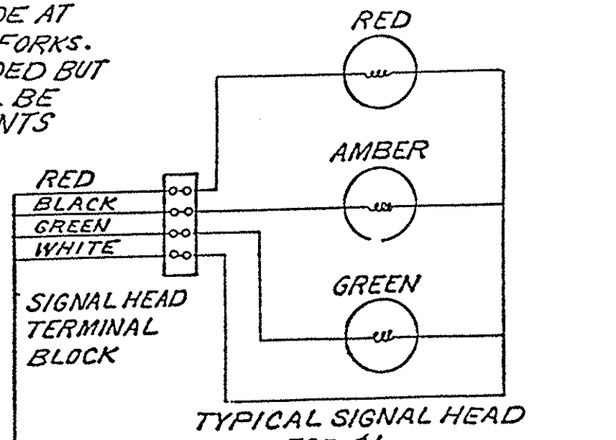
PLAN NO. BR-94-851

CABLE SHALL BE 4-CONDUCTOR No. 14 COPPER SIGNAL CABLE, COLOR CODED AND STRANDED. ALL ELECTRICAL CONNECTIONS TO BE MADE AT TERMINAL BLOCKS USING TERMINAL LOCK FORKS. SPLICES IN SIGNAL CABLE SHOULD BE AVOIDED BUT IF NECESSARY SPLICE KITS SHALL BE USED. ALL CONNECTIONS AT SPLICE POINTS SHALL BE SOLDERED.

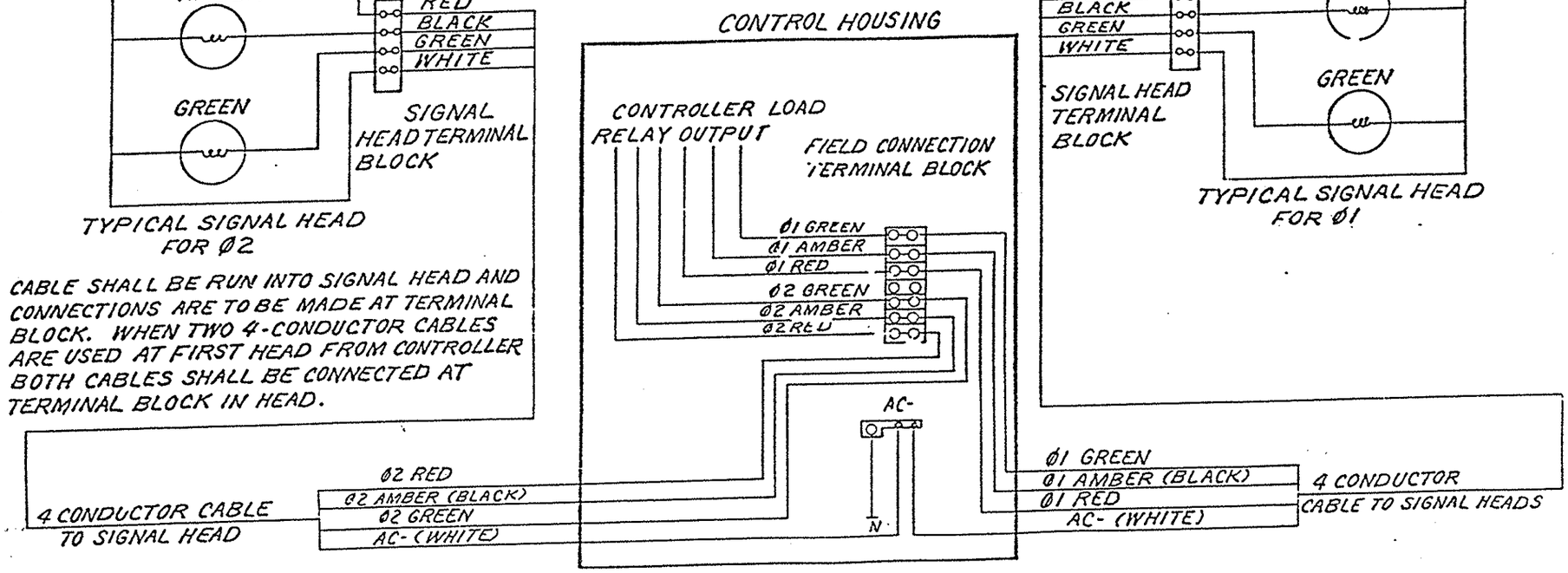


TYPICAL SIGNAL HEAD FOR Ø2

CABLE SHALL BE RUN INTO SIGNAL HEAD AND CONNECTIONS ARE TO BE MADE AT TERMINAL BLOCK. WHEN TWO 4-CONDUCTOR CABLES ARE USED AT FIRST HEAD FROM CONTROLLER BOTH CABLES SHALL BE CONNECTED AT TERMINAL BLOCK IN HEAD.



TYPICAL SIGNAL HEAD FOR Ø1



TYPICAL SIGNAL HEAD HOOK-UP

OHIO DEPARTMENT OF TRANSPORTATION

SIGNALIZED CLOSING I LANE OF A 2 LANE HIGHWAY (C)

DATE 4/85

DR. | CK.

7G-2C