

# OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

539 (85) L7D

FHWA Region	State	Federal Project
5	Ohio	

1  
36

PLAN NO. 224

20-63  
21-54

SR-336(9)

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINII		NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
				BEGIN	END				
1	CRA	19	(16.09-17.21)	16.09	23.31	7.22			
2	CRA	100	(18.05)	18.05	18.06	0.01			

The Standard 19 85 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. 2 and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. 1 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 12/28/84

*Jay W. Pinn*  
District Deputy Director of Transportation

Approved Date 1-8-85

*Walter J. Jeatings*  
Engineer of Bridges

Approved Date \_\_\_\_\_

Engineer of Maintenance

Approved Date 4-8-85

*James E. Longenecker*  
Chief Engineer, Operations

Approved Date \_\_\_\_\_

Assistant Deputy Director, Program Development

Approved Date \_\_\_\_\_

Chief Engineer, Construction

Approved Date \_\_\_\_\_

Chief Engineer, Design

Approved Date \_\_\_\_\_

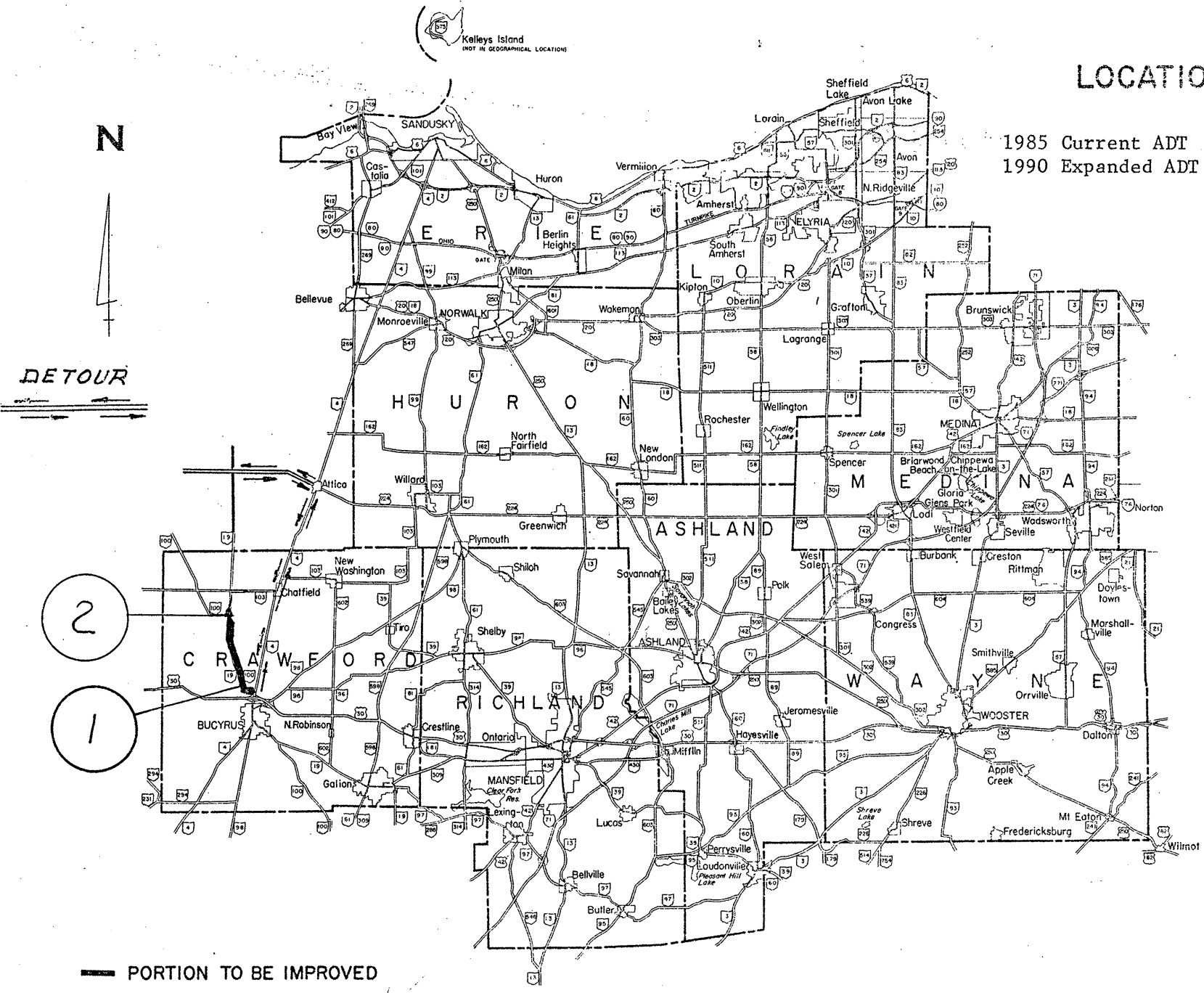
Assistant Director, Department of Transportation

Approved Date 4-9-85

*Warren J. Smith*  
Director, Department of Transportation

### LOCATION MAP

1985 Current ADT	Pt. 1	Pt. 2
1990 Expanded ADT	1950	750
	2100	800



DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

Approved \_\_\_\_\_ Date \_\_\_\_\_  
Div. Administrator

STANDARD DRAWINGS		STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
GR-1	2-05-82	BP-5	7-16-81	SS-847	10-17-83
GR-2B	2-05-82	TC 71.10	4-09-79	SS-947	10-17-83
GR-3	2-05-82	AS-1-81	11-27-81	SS-939	6-28-82
GR-4	2-05-82	CSB-2-73	4-10-73	SS-824	10-08-82
GR-4A	1-30-84	CSB-12-39	<u>1-8-81</u>	SS-836	3-12-75
CB-2-2A42B	5-01-79	DBR-2-73	4-10-73	SS-955	6-03-78
CSB-2-47	9-18-47	AP-1-47	9-18-47		
ICD-1-82	8-01-84				

REV 4-26-85 JDP

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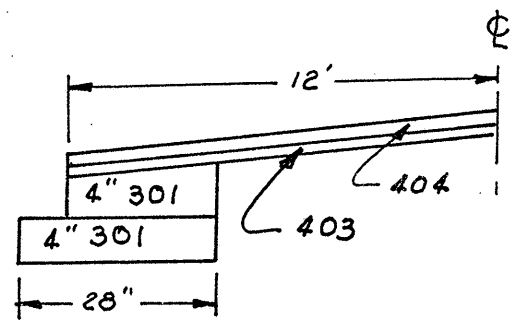
6-11-85

# ASPHALT CONCRETE

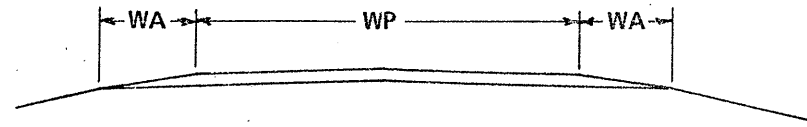
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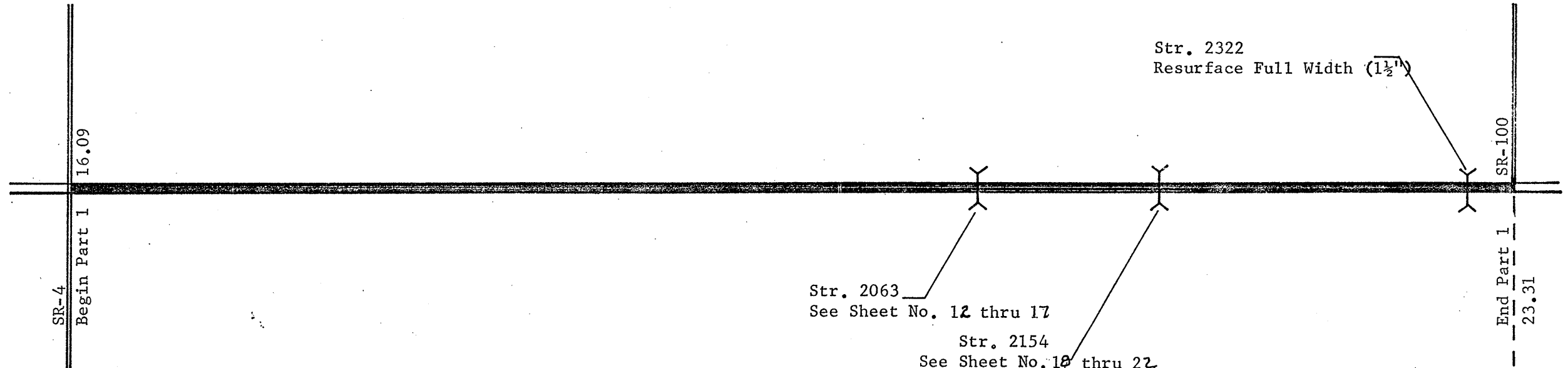
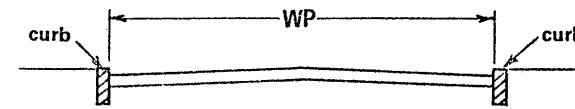
## WIDENING TYPICAL 3



## TYPICAL 1



## TYPICAL 2



\* One Station Equals 100 L.F. Stations shall be measured along each edge of pavement.

### PAVEMENT DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH		WP FEET	TYPICAL	EXISTING TYPE PAVEMENT	PAVEMENT AREA SQ. YDS.	PROPOSED PAVEMENT						604 Monument Boxes Adjusted to Grade Each	202 Wearing Course Removed Sq. Yds.	202 Raised Pavement Markers Removed for Storage Each	Proposed Base Widening		
			MILES	LIN. FT.					407		ASPHALT CONCRETE							Base Widening Sq. Yds.	301 Bit. Aggr. Base 8" Thick Cu. Yds.	203 Linear Grading * Sta.
									TACK COAT @ 0.10 gal./s.y. GALS.	COVER AGGR. @ .7 lbs./s.y. TONS	ITEM 403 THICK INCHES	ITEM 404 THICK INCHES	ITEM THICK INCHES							
			Min.	Cu. Yds.					Av.	Cu. Yds.	Cu. Yds.									
1	19	16.09 to 16.82	0.73	3854	24	1	404	10277	1028	36	0	143	1	285						
		16.82 to 23.31	6.49	34267	20	1	404	76149	7615	267	0	1058	1	2115						
		16.82 to 23.31	(6.49)	(34267)	2@2	3	404	15230	1523	53	0	212	1	423				16486	3664	685
							EA for Intr. & Drives	3344	334	12		1 1/2	139							
		Total Part 1	7.22	38121				105000	10,500	368		1413		2962	4	100	255	16486	3664	685



GENERAL NOTES

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ROUTINE MAINTENANCE:

Between the time that bids are taken and the start of construction, the maintaining agency may enter upon the project and perform routine maintenance such as crack sealing, patching, and berm and shoulder repair. The effects, if any, of the performance of routine maintenance shall be considered as inherent in work of the character provided for in the contract and the resulting conditions shall not be considered as differing materially from those existing at the time bids were taken.

INTERSECTIONS:

Rural - Intersections shall be paved to end of radii or as directed by the Engineer to provide a smooth transition between the two highways. Urban - Intersections shall be paved to back of crosswalks or as directed by the Engineer. Drives - Paved drives and paved mailbox approaches shall be resurfaced as directed by the Engineer. Care shall be taken to eliminate water pockets in curbed sections.

PAVEMENT CONTROL:

An automatic screed control having a 30 ft. minimum ski-arm shall be used for placing the 403 Pre-level and 404 course on existing pavement widths of 20 ft. and over.

Special attention shall be given to superelevated curves. The superelevation shall be maintained and/or restored, if necessary, as directed by the Engineer.

BUTT JOINTS:

Butt joints shall not be cut and left open to traffic for a time period longer than one (1) day. If cut is not paved within one (1) day, it shall be filled in with a temporary asphalt concrete wedge, of sufficient length as directed by the Engineer.

Construction "Bump" signs (OW-62 and OW-143) shall be erected and maintained during the period that the cut for the butt joint is left open.

ITEM 404:

In addition to Item 404.12, the surface of feathered areas shall be uniformly coated with a 6" wide band of A.C. at the junction with the existing pavement, to be included within the cost of Item 404.

Under Item 401.15 (all cold joints on surface courses) shall be sealed by coating the vertical face. The coating of the finished surface with A.C., 6" wide will not be allowed.

ITEM 202, RAISED PAVEMENT MARKERS REMOVED FOR STORAGE:

Raised pavement markers shall be removed in a manner that prevents damage to the castings. All depressions caused by removal of the markers shall be tacked and filled with compacted 404 to the level of existing road surface at the time they are removed. Removed markers are to be stored at one location on the project, to be picked up by State forces. All costs to be included in the contract price bid for Item 202 - Raised Pavement Markers Removed for Storage.

BERM AND BASE WIDENING AT INTERSECTIONS AND DRIVES:

Pavement and berm quantities are calculated through all intersections and drives. Any portion may be non-performed if so directed by the Engineer.

TRENCH FOR WIDENING:

Trench excavation for base and berm widening shall be performed only on one side of the pavement at a time. The open trench shall be adequately maintained and protected at all times with drums or barricades, with Type "C" steady burn lights attached after working hours.

Placement of proposed base material shall follow as closely as possible behind the excavation operation. The length of widening trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval by the Engineer.

TACK MATERIAL:

The amount of tack material required to coat the existing pavement edges prior to 301 or 402 operations shall be included in the Unit Price Bid for Item 402, Asphalt Concrete or Item 301, Bituminous Aggregate Base.

BASE AND BERM WIDENING:

The Cubic Yard of asphalt concrete shall be paid by ticket weight conversion, within a tolerance of plus or minus 5% of the required calculated weight per unit of area, as per 401.16. The above final quantity shall be calculated within the tolerance on a daily basis.

ITEM 202, EXISTING WEARING COURSE REMOVED AND DISPOSED OF:

Surface removal is to be performed as directed and in areas designated by the Engineer. Removal of existing pavement surface may be required to eliminate adverse surface distortion which in the judgement of the Engineer cannot be satisfactorily corrected in the paving courses.

These areas may include material displaced by rutting or shoving, surface patches and transverse bumps at joints with structures, adjoining pavements or railroads.

ITEM 604, CASTINGS ADJUSTED TO GRADE:

Any unit of this item may be nonperformed if so directed by the Engineer and the surface shall be feathered to meet the existing casting or inlet in a manner acceptable to the Engineer. All adjusting rings shall have the Engineer's prior approval before using.

Under Item 604.03, Adjustment to Grade, paragraph (a), the casting to be adjusted may or may not have an existing frame. The work shall consist of adjusting the existing casting or grate to the satisfaction of the Engineer. The Contractor is reminded to field check all adjustment to grade items prior to bidding, as no additional compensation will be granted for labor and material required to satisfactorily adjust castings without frames.

# GENERAL NOTES

FED RD DIVISION	STATE	PROJECT	6 36
5	OHIO		

### ITEM 511, CLASS S CONCRETE, AS PER PLAN

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

#### QUANTITIES PER CUBIC YARD (USING NO. 8 LIMESTONE)

AGGREGATE			CEMENT CONTENT (LB)	WATER/CEMENT RATIO
FINE (LB)	COARSE (LB)	TOTAL (LB)		
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 IF REQUIRED FOR PLACEMENT. 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 TYPE F AND NOT CONTAINING CALCIUM 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 COMPATIBLE BY THE MANUFACTURING COMPANY.

THE CEMENT CONTENT SHALL BE MAINTAINED AND A MAXIMUM WATER-CEMENT RATIO OF 0.40 SHALL NOT BE EXCEEDED. THE SLUMP OF THE UNPLASTIZED CONCRETE DELIVERED TO THE JOB SITE SHALL BE 1 1/2" PLUS OR MINUS 1/2". THE SUPERPLASTICIZING ADMIXTURE SHALL BE ADDED AT THE JOB SITE AND MIXED A MINIMUM OF FIVE (5) MINUTES. AFTER THE SUPERPLASTICIZER HAS BEEN ADDED, THE SLUMP SHALL BE 6" PLUS OR MINUS 1". 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, MINIMUM STRENGTH, AND MAXIMUM WATER-CEMENT RATIO AS REQUIRED FOR THE RESPECTIVE GRADE OF CONCRETE WITHOUT A HIGH RANGE WATER REDUCER.

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

ALL INITIAL TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THESE TESTS SHALL BE PERFORMED BY A COMPETENT CONCRETE TECHNICIAN. THIS INFORMATION SHALL BE PROVIDED TO THE PROJECT ENGINEER. THE PROJECT ENGINEER SHALL MAKE ONLY THE FINAL TESTS AS THE CONCRETE IS PLACED ON THE DECK.

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

THE CONTRACTOR SHALL MAKE ONE OR MORE TRIAL BATCHES OF THE SUPERPLASTICIZED DENSE CONCRETE OF THE SIZE TO BE HAULED AT LEAST FOUR DAYS BEFORE THE DECK IS TO BE PLACED. HE SHALL CAST ONE OR MORE TEST SLABS, E.G. 8 FT. LONG X A WIDTH WHICH IS WIDE ENOUGH TO ACCOMMODATE HIS FINISHING EQUIPMENT X 4 IN. THICK, FOR TEXTURING ACCORDING TO 511.16 AND SHALL PREPARE OTHER SAMPLES AND SPECIMENS AS DIRECTED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL FURNISH THE REQUIRED MATERIALS AND SAMPLES WITHOUT CHARGE TO THE STATE AS PER 106.03. THE PROJECT ENGINEER SHALL BE NOTIFIED SEVEN (7) DAYS IN ADVANCE OF THE TEST BATCH PREPARATION AND HE WILL CONDUCT ALL THE REQUIRED TESTS.

### PLACEMENT:

PLACEMENT OF CONCRETE SHALL BE COMPLETED UNDER FAVORABLE ATMOSPHERIC CONDITIONS. FAVORABLE ATMOSPHERIC CONDITIONS EXIST WHEN THE SURFACE EVAPORATION RATE AS AFFECTED BY AMBIENT AIR TEMPERATURE, CONCRETE TEMPERATURE, RELATIVE HUMIDITY AND WIND VELOCITY IS 0.1 POUNDS PER SQUARE FOOT PER HOUR OR LESS. FIGURE (1) SHALL BE USED TO DETERMINE GRAPHICALLY THE SURFACE EVAPORATION RATE. FAVORABLE ATMOSPHERIC CONDITIONS MAY REQUIRE PLACEMENT DURING LATE EVENINGS (6:00 P.M. TO OFFICIAL SUNSET), NIGHT (OFFICIAL SUNSET TO OFFICIAL SUNRISE) OR EARLY MORNING (SUNRISE TO 8:00 A.M.).

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

ALL OTHER PROVISIONS OF ITEM 511 SHALL REMAIN IN EFFECT.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
511	CU. YD.	CLASS S CONCRETE, ABUTMENT, AS PER PLAN
511	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN

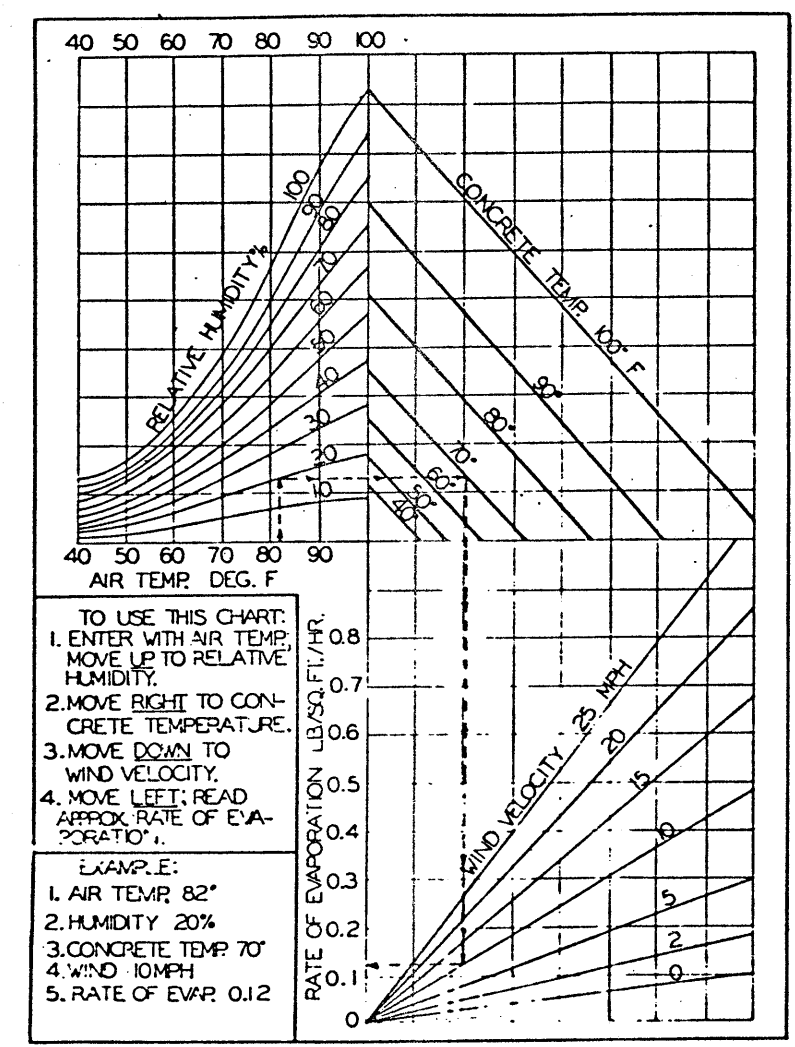


FIGURE 1

# GENERAL NOTES

### VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR 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 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 ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

### STREAM POLLUTION

THE CONTRACTOR SHALL MAKE PROVISIONS DURING THE BRIDGE REPAIR OPERATION NOT TO ALLOW ANY MATERIALS, EQUIPMENT, ETC., TO FALL INTO OR ENTER THE WATER. MATERIALS MAY BE ALLOWED TO FALL ONTO THE STREAM BANK IF ALL OF THESE MATERIALS ARE REMOVED THE SAME DAY.

THE EXISTING DECK MAY BE USED AS ROCK CHANNEL PROTECTION. ALL EXPOSED REINFORCING STEEL MUST BE REMOVED.

ALL WASTE MATERIAL FROM THE STRUCTURE OR APPROACHES SHALL BE DISPOSED OF BY THE CONTRACTOR, BUT IN NO CASE SHALL THE CONTRACTOR OR HIS AGENT USE THE MATERIALS AS FILL AT ANY LOCATION ALONG THE STREAM. THE COST TO COMPLY WITH ALL OF THE ABOVE SHALL BE INCLUDED IN THE RESPECTIVE BID ITEMS.

### ITEM 202 PORTIONS OF STRUCTURE REMOVED, SUPERSTRUCTURE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING CONCRETE DECK AND THE STEEL BEAMS ON STRUCTURE CRA-19-2063. CARE SHALL BE TAKEN NOT TO DAMAGE THE STEEL BEAMS DURING THE REMOVAL OF THE CONCRETE DECK. A HOE RAM WILL NOT BE PERMITTED TO DO ANY OF THE WORK.

THE STEEL BEAMS SHALL BECOME THE PROPERTY OF THE STATE OF OHIO. THE BEAMS SHALL BE CUT APART AT THE PIERS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL STORE THE BEAMS ON THE JOB SITE UNTIL THEY CAN BE PICKED-UP BY STATE FORCES.

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

### ITEM 202 PORTIONS OF STRUCTURES REMOVED, DECK, AS PER PLAN

THIS ITEM OF WORK SHALL BE USED TO REMOVE THE EXISTING CONCRETE DECK ON STRUCTURE CRA-19-2154. CARE SHOULD BE TAKEN NOT TO DAMAGE THE STEEL BEAMS DURING REMOVAL OF THE CONCRETE DECK. A HOE RAM WILL NOT BE PERMITTED TO DO ANY OF THE WORK.

ALL IMPREFECTIONS AND EXISTING TACK WELDS SHALL BE GROUND SMOOTH. EXISTING BOLTS AND PROJECTIONS SHALL BE CUT 1-1/2" AROUND EXISTING WELDS. ANY DAMAGE TO STRUCTURAL STEEL CAUSED BY THE CONTRACTOR SHALL BE CORRECTED BY THE CONTRACTOR AS REQUIRED BY THE DISTRICT CONSTRUCTION ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURES REMOVED, DECK, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

### ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING PORTIONS OF THE ABUTMENT AND PIERS AS PER DETAILS ON SHEET NO.14,15,20. THE PARAPET 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 THE MANUFACTURER'S RECOMMENDATIONS. THIRTY-FIVE (35) AND FIFTEEN (15) POUND JACK HAMMERS MAY BE USED FOR THE FINAL FINISH WORK. A HOE RAM 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 SALVAGED. IF EXISTING REINFORCING STEEL DESIGNATED FOR SALVAGE IS DAMAGED DURING REMOVAL OPERATIONS, DOWELLED REINFORCING STEEL MUST BE ADDED AT THE CONTRACTOR'S EXPENSE.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS, WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
202	CU. YD.	PORTIONS OF STRUCTURE REMOVED, ABUTMENT, AS PER PLAN
202	CU. YD.	PORTIONS OF STRUCTURE REMOVED, PIER, AS PER PLAN

### ITEM 518 POROUS BACKFILL, AS PER PLAN

POROUS BACKFILL SHALL BE CONSTRUCTED WITH FILTER FABRIC AS PER DETAILS ON SHEET NO.15,20.

THE FILTER FABRIC SHALL BE TYPE B AS PER SUPPLEMENTAL SPECIFICATION 939. DURING ALL PERIODS OF SHIPMENT AND STORAGE THE CLOTH SHALL BE WRAPPED IN A HEAVY DUTY PROTECTIVE COVERING TO PROTECT IT FROM DIRECT SUNLIGHT, MUD DIRT, DUST, AND OTHER DEBRIS.

ALL JOINTS SHALL BE LAPPED AT A MINIMUM OF TWO (2) FEET. THE AGGREGATE SHALL BE NO. 57 CRUSHED GRAVEL.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 518, POROUS BACKFILL, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

### ITEM 601 ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER, AS PER PLAN

THE FILTER UNDER THE ROCK CHANNEL PROTECTION SHALL BE LIMITED TO THE FILTER FABRIC OPTION ONLY. THE FILTER FABRIC SHALL BE TYPE B DURING ALL PERIODS OF SHIPMENT AND STORAGE THE CLOTH SHALL BE WRAPPED IN A HEAVY DUTY PROTECTIVE COVERING TO PROTECT IT FROM DIRECT SUNLIGHT, MUD, DIRT, DUST, AND OTHER DEBRIS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 601 ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

### ITEM 511 CLASS C CONCRETE, ABUTMENT, AS PER PLAN

PORTIONS OF THE BACKWALL AND ABUTMENT SEATS SHALL BE REPLACED AS PER DETAILS ON SHEET NO.15,20. ALL LOOSE AND DISINTEGRATED CONCRETE AND CALCIUM CARBONATE DEPOSITS SHALL BE REMOVED WITH HAND TOOLS AND NOMINAL 15 POUND CHIPPING HAMMERS. BEFORE PLACING THE CONCRETE THE SURFACE OF THE EXISTING ABUTMENT AGAINST WHICH THE CONCRETE SHALL BE PLACED AND EXISTING REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SANDBLASTING. THE EXISTING CONCRETE SURFACE AGAINST WHICH CONCRETE SHALL BE POURED SHALL BE KEPT WET FOR AT LEAST ONE (1) HOUR BEFORE PLACING CONCRETE, AND BE APPROACHING DRYNESS AT THE TIME OF THE PLACING OF THE CONCRETE TO FACILITATE THE BOND.

ALL OTHER PROVISIONS OF ITEM 511 SHALL REMAIN IN EFFECT.

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

### ITEM SPECIAL, SEALING OF CONCRETE SURFACES

THE CONCRETE DECK EDGE SHALL BE SEALED USING AN EPOXY SEALER. THE DETAILS ON SHEET NO. 20, FOR AREAS TO BE SEALED. SEE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

### ITEM SPECIAL SUPPORTING STRUCTURE

AFTER THE REMOVAL OF THE EXISTING DECK AND BEFORE THE PLACING OF THE NEW DECK THE SUPERSTRUCTURE AT THE ABUTMENTS OF CRA-19-2154 WILL BE SUPPORTED AS INDICATED IN PLANS.

DETAILED PLANS OF THE SUPPORTING PROCEDURES SHALL BE PREPARED BY A REGISTERED ENGINEER AND SHALL BEAR HIS SIGNATURE AND NUMBER OR PROFESSIONAL ENGINEERING SEAL.

THE CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF THE PLANS AND TWO (2) COPIES OF DESIGN CALCULATIONS TO THE DIRECTOR FIFTEEN (15) DAYS PRIOR TO SUPPORTING OPERATIONS AND RECEIVE APPROVAL BEFORE STARTING SUPPORTING OPERATIONS.

ATTACHMENTS MADE BY WELDING TO ANY MAIN STRUCTURAL MEMBER SHALL BE APPROVED BY THE DIRECTOR BEFORE SUCH ATTACHEMENTS ARE MADE. DETAILS OF THE ATTACHMENTS SHALL BE SUBMITTED FOR APPROVAL AS PART OF THE SUPPORTING PROCEDURE PLANS, OR INDEPENDENTLY BY A SIMILAR SUBMISSION

APPROVAL OF THE ABOVE PLANS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR THE BEHAVIOR OF THE SUPPORTING PROCEDURES PROPOSED.

PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM SPECIAL SUPPORTING SUPERSTRUCTURE, AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS TO COMPLETE THE ABOVE WORK.

# GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
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## SURFACE PREPARATION

ALL SURFACES TO BE PAINTED SHALL BE WASHED WITH WATER HAVING A NOZZLE PRESSURE OF AT LEAST 1,000 PSI AND A DELIVERY RATE OF NOT LESS THAN 4 GALLONS PER MINUTE. THE CONTRACTOR SHALL PROVIDE EQUIPMENT SPECIFICATIONS TO VERIFY THE ABOVE. THE EQUIPMENT SHALL ALSO BE EQUIPPED WITH GAGES TO VERIFY THE PRESSURE. THE WATER SHALL CONTAIN A DETERGENT AT THE RATE SPECIFIED BY THE MANUFACTURER, TO REMOVE OIL, GREASE, SALT AND DIRT TO THE ENGINEER'S SATISFACTION. BEFORE THE SURFACES DRY, TWO RINSES WITH NO DRY BETWEEN, SHALL BE USED TO REMOVE ALL REMAINING DETERGENT. THE NOZZLE SHALL BE HELD A MAXIMUM OF TWELVE (12) INCHES FROM THE SURFACE BEING WASHED OR RINSED. THE FINISH COAT SHALL BE APPLIED WITHIN ONE (1) MONTH OF WASHING THE STRUCTURE.

ALL DIRT, SAND, AND DEBRIS SHALL BE COMPLETELY REMOVED FROM THE STRUCTURE SCUPPERS, BULB ANGLES AND ALL OTHER SECTIONS OF THE BRIDGE AS DIRECTED BY THE ENGINEER. ALL DIRT, SAND AND DEBRIS FROM THE ABOVE AREAS SHALL BE REMOVED FROM THE BRIDGE.

TO AVOID A TRAFFIC HAZARD THE CONTRACTOR SHALL REMOVE ALL SAND FROM THE ROADWAY AND SHOULDER AREAS EACH DAY. THE SAND SHALL BE DISPOSED OF OUTSIDE THE HIGHWAY RIGHT-OF-WAY. WHEN DISPOSING OF THE SAND, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OR FEDERAL, STATE OR LOCAL AGENCIES.

ALL STEEL TO BE PAINTED SHALL BE BLAST CLEANED TO GRADE SA 2 1/2 ACCORDING TO ASTM D2200 OR SSPC-SP10 (SSPC VIS 1). THE AVERAGE SURFACE PROFILE SHALL BE THREE (3) MILS. THE AVERAGE SURFACE PROFILE SHALL BE CONSIDERED THE AVERAGE OF THREE (3) SEPARATE READINGS IN 2000 SQ. FT. BLASTING SHALL NOT PROCEED WHEN THE STEEL TEMPERATURE IS WITHIN FIVE (5) DEGREES OF THE DEW POINT TO PREVENT RUST BACK. ALL FINS, TEARS, SLIVERS, AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER AFTER BLASTING SHALL BE REMOVED BY GRINDING AND THE AREA REBLASTED.

THE FOLLOWING TESTS SHALL BE DONE TO INSURE THAT THE AIR AND ABRASIVES ARE NOT CONTAMINATED. OPEN THE AIR VALVE FOR THIRTY (30) SECONDS AND TEST THE AIR CLEANLINESS WITH A WHITE BLOTTER. ANY OIL OR CONTAMINANTS ON THE BLOTTER REQUIRES CORRECTIVE ACTION. THIS TEST SHALL BE DONE AT THE START OF THE SHIFT AND AT FOUR (4) HOUR INTERVALS. WHEN USING BLACK ABRASIVES, PLACE A QUANTITY OF ABRASIVE IN A CONTAINER OF CLEAN FRESH WATER WITH A PH OF SEVEN (7). TEST THE SOLUTION WITH STANDARD LITMUS PAPER. STOP SANDBLASTING IF AN OIL FILM OR A PH OTHER THAN SEVEN (7) IS RECORDED. CONDUCT THE TEST ON EACH BATCH OR LOAD DELIVERED.

BEFORE ANY SANDBLASTING IS DONE THE CONTRACTOR WILL PREPARE A TEST SECTION. ON THE FIRST BRIDGE TO BE PAINTED THE TEST SECTION WILL BE A REPRESENTATIVE AREA TO BE SANDBLASTED. THE PROJECT ENGINEER AND THE CONTRACTOR WILL PHOTOGRAPH THE TEST SECTION AREA AFTER THEY AGREE THAT THE AREA HAS BEEN SANDBLASTED ACCORDING TO PLAN REQUIREMENTS. ONLY AFTER A TEST SECTION AREA HAS BEEN APPROVED AND DOCUMENTED BY PHOTOGRAPHS MAY THE CONTRACTOR PROCEED WITH HIS SANDBLASTING OPERATION. THE PHOTOGRAPHS SHALL BE USED IN ADDITION TO PLAN SPECIFICATIONS TO DETERMINE ACCEPTANCE OF SANDBLASTING PROCEDURES.

## CAMERA

THE CONTRACTOR SHALL PROVIDE ONE (1) CAMERA IN WORKING ORDER AT ALL TIMES AND AT LEAST 10 ROLLS OF COLOR FILM AS NEEDED FOR USE BY THE PROJECT INSPECTOR FOR THE DURATION OF THE PROJECT. THE CAMERAS SHALL BE POLAROID SLR 680 SE

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	SURFACE PREPARATION
SPECIAL	LUMP SUM	TEST SECTION, SANDBLASTING

## BRIDGE PAINTING, COMPLETE SYSTEM

THIS ITEM SHALL CONSIST OF FURNISHING ALL PAINT AND INCIDENTAL MATERIAL, AND APPLYING THE PAINT AS SPECIFIED.

ALL STRUCTURAL STEEL, SCUPPERS, BULB ANGLES, STEEL RAILING AND OTHER AREAS AS INDICATED IN THE PLANS SHALL BE PAINTED.

ONE OF THE FOLLOWING MANUFACTURERS AND PAINT SYSTEMS MAY BE USED ON THIS PROJECT. ALL MIL THICKNESSES ARE DRY.

### SYSTEM I

MANUFACTURER: KOPPERS COMPANY, INC.  
ORGANIC MATERIALS GROUP  
ELMHURST, ILLINOIS 60126  
TELEPHONE: (312)-530-6300

### MATERIAL:

PRIME COAT: KOPPERS ORGANIC ZINC 3.0 MILS  
INTERMEDIATE COAT: KOPPERS 200 HB EPOXY 5.0 MILS  
COLOR: DIFFERENT THAN PRIME AND FINISH COAT  
FINISH COAT: KOPPERS 1122BRS LINEAR POLYURETHANE 2.0 MILS  
COLOR: LIGHT GREY 306

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:

KOPPERS  
OZ/HBEP/U  
3/5/2 MILS  
MONTH/YEAR

### SYSTEM II

MANUFACTURER: AMERON  
PROTECTIVE COATING DIVISION  
P.O. BOX 349  
AKRON, OHIO 44809  
TELEPHONE: (216)-896-3602

### MATERIAL:

PRIME COAT: AMERCOAT 68A ZINC RICH EPOXY PRIMER 3.0 MILS  
INTERMEDIATE COAT: AMERCOAT 383HS POLYAMIDE EPOXY 5.0 MILS  
COLOR: DIFFERENT THAN PRIME AND FINISH COAT  
FINISH COAT: AMERCOAT 450GL ALIPHATIC POLYURETHANE 2.0 MILS  
COLOR: BR-3 BUFF BROWN

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:

AMERON  
OZ/HBEP/U  
3/5/2 MILS  
MONTH/YEAR

### SYSTEM III

MANUFACTURER: MOBIL CHEMICAL COMPANY  
MAINTENANCE, TRANSPORTATION, AND STEEL CONTAINER  
COATINGS DEPARTMENT  
901 NORTH GREENWOOD AVENUE  
KANKAKEE, ILLINOIS 60901  
TELEPHONE: (815)-933-5561

### MATERIAL:

PRIME COAT: MOBILZINC 4 EPOXY ZINC RICH 3.0 MILS  
INTERMEDIATE COAT: VAL-CHEM HI-BUILD EPOXY 89 SERIES 5.0 MILS  
COLOR: DIFFERENT THAN PRIME AND FINISH COAT  
FINISH COAT: MOBILTHANE ENAMEL 40 SERIES 2.0 MILS  
COLOR: G-3 BRILLIANT GREEN

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:

MOBIL  
OZ/HBEP/U  
3/5/2 MILS  
MONTH/YEAR

### MANUFACTURER

SUFFICIENT IDENTIFIABLE CHARACTERISTICS OTHER THAN TRADE OR BRAND NAME OR DESIGNATED NUMBER OR SYMBOL SHALL BE PROVIDED TO PERMIT LABORATORY TEST VERIFICATION OF COATING IDENTITY. THESE CHARACTERISTICS SHALL INCLUDE FORMULATION INFORMATION READILY DERIVABLE IN A LABORATORY, INCLUDING THE GENERAL NATURE OF THE VEHICLE, PIGMENT AND VOLATILE PORTIONS, THE WEIGHT PER GALLON, THE PERCENT SOLIDS BY VOLUME, THE ZINC CONTENT AND OTHER PROCEDURES USED FOR QUALITY CONTROL DURING MANUFACTURE OF THE COATING.

### MATERIALS HANDLING AND USE

ALL PAINT AND THINNER SHALL BE DELIVERED TO THE SHOP OR JOB SITE IN ORIGINAL, UNOPENED CONTAINERS WITH LABELS INTACT. MINOR DAMAGE TO CONTAINERS IS ACCEPTABLE PROVIDED THE CONTAINER HAS NOT BEEN PUNCTURED OR THE LID SEAL BROKEN.

EACH CONTAINER OF PAINT AND THINNER SHALL BE CLEARLY MARKED OR LABELLED TO SHOW PAINT IDENTIFICATION, DATE OF MANUFACTURE, BATCH NUMBER, ANALYSIS OF CONTENTS, IDENTIFICATION OF ALL TOXIC SUBSTANCES AND SPECIAL INSTRUCTIONS.

ALL CONTAINERS OF PAINT AND THINNER SHALL REMAIN UNOPENED UNTIL REQUIRED FOR USE. THOSE CONTAINERS WHICH HAVE BEEN PREVIOUSLY OPENED SHALL BE USED FIRST. THE LABEL INFORMATION SHALL BE LEGIBLE AND SHALL BE CHECKED AT THE TIME OF USE.

PAINT WHICH HAS LIVERED, GELLED OR OTHERWISE DETERIORATED DURING STORAGE SHALL NOT BE USED. HOWEVER, THIXOTROPIC MATERIALS WHICH CAN BE STIRRED TO ATTAIN NORMAL CONSISTENCY MAY BE USED.

THE OLDEST PAINT OF EACH KIND SHALL BE USED FIRST. IN EVERY CASE, PAINT IS TO BE USED BEFORE ITS SHELF LIFE HAS EXPIRED. IN ORDER TO USE PAINTS WHICH HAVE EXCEEDED THEIR SHELF LIFE OR HAVE NO STATED SHELF LIFE AND ARE MORE THAN ONE YEAR OLD, THE SPECIFIER OR MANUFACTURER MUST CERTIFY THAT THE PAINT IS STILL SUITABLE FOR USE.



# GENERAL NOTES

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## MIXING AND THINNING

ALL INGREDIENTS IN ANY CONTAINER OF PAINT SHALL BE THOROUGHLY MIXED BEFORE USE AND SHALL BE AGITATED OFTEN ENOUGH DURING APPLICATION TO KEEP THE PAINT UNIFORM. THE PAINT SHALL BE MIXED IN A MANNER WHICH WILL INSURE THE BREAK-UP OF ALL LUMPS, COMPLETE DISPERSION OF PIGMENT AND A UNIFORM COMPOSITION. PAINT SHALL BE CAREFULLY EXAMINED AFTER MIXING FOR UNIFORMITY AND TO VERIFY THAT NO UNMIXED PIGMENT REMAINS ON THE BOTTOM OF THE CONTAINER. THE PAINT SHALL BE MIXED WITH A HIGH SHEAR MIXER (SUCH AS JIFFY MIXER). PADDLE MIXERS OR PAINT SHAKERS ARE NOT ALLOWED.

ALL PIGMENTED PAINT SHALL BE STRAINED AFTER MIXING EXCEPT WHERE APPLICATION EQUIPMENT IS PROVIDED WITH STRAINERS. STRAINERS SHALL BE OF A TYPE TO REMOVE ONLY SKINS AND UNDESIRABLE MATTER BUT NOT TO REMOVE THE PIGMENT.

WHERE A SKIN HAS FORMED IN THE CONTAINER, THE SKIN SHALL BE CUT LOOSE FROM THE SIDES OF THE CONTAINER, REMOVED AND DISCARDED. IF THE VOLUME OF SUCH SKINS ARE MORE THAN 2% OF THE REMAINING PAINT, THE PAINT SHALL NOT BE USED.

MIXING IN OPEN CONTAINERS SHALL BE DONE IN A WELL VENTILATED AREA AWAY FROM SPARKS OR FLAMES.

PAINT SHALL NOT BE MIXED OR KEPT IN SUSPENSION BY MEANS OF AN AIR STREAM BUBBLING UNDER THE PAINT SURFACE.

PAINT WHICH DOES NOT HAVE A LIMITED POT LIFE (TIME INTERVAL) OR DOES NOT DETERIORATE ON STANDING MAY BE MIXED AT ANY TIME BEFORE USING, BUT IF SETTLING HAS OCCURRED IT MUST BE REMIXED IMMEDIATELY BEFORE USE.

PAINT SHALL NOT REMAIN IN SPRAY POTS, PAINTERS BUCKETS, ETC. OVERNIGHT, BUT SHALL BE STORED IN A COVERED CONTAINER AND REMIXED BEFORE USE.

NO THINNER SHALL BE ADDED TO THE PAINT WITHOUT THE ENGINEER'S APPROVAL, AND ONLY IF NECESSARY FOR PROPER SPRAY APPLICATION AS RECOMMENDED BY THE MANUFACTURER. PAINTS TO BE APPLIED BY BRUSH WILL USUALLY REQUIRE NO THINNING. WHEN THE USE OF THINNER IS PERMISSIBLE, THINNER SHALL BE ADDED SLOWLY TO PAINT DURING THE MIXING PROCESS. THE TYPE OF THINNER SHALL COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS. ALL THINNING SHALL BE DONE UNDER SUPERVISION OF THE ENGINEER. IN NO CASE SHALL MORE THINNER BE ADDED THAN THAT RECOMMENDED BY THE MANUFACTURER'S INSTRUCTIONS. ONLY THINNERS SUPPLIED BY THE PAINT MANUFACTURER MAY BE ADDED TO THE PAINT.

## APPLICATION

BEFORE ANY PAINTING IS DONE, THE CONTRACTOR SHALL PREPARE A TEST SECTION. THERE WILL BE ONE TEST SECTION FOR EACH PAINT SYSTEM AND THE TEST SECTION WILL INCLUDE EACH DIFFERENT COAT OF PAINT TO BE APPLIED. EACH COAT OF PAINT MUST BE APPROVED BY THE PROJECT ENGINEER AND THE CONTRACTOR FOR METHOD OF APPLICATION, QUALITY OF APPLICATION, AND DRY MIL THICKNESS IN ACCORDANCE WITH THE PLAN REQUIREMENTS. AFTER A TEST SECTION FOR EACH COAT HAS BEEN APPROVED, THAT COAT MAY BE APPLIED TO THE BRIDGE BEFORE THE NEXT COAT MAY BE APPROVED.

IF THE SURFACE IS DEGRADED OR CONTAMINATED SUBSEQUENT TO SURFACE PREPARATION AND PRIOR TO PAINTING, THE SURFACE SHALL BE RESTORED BEFORE PAINT APPLICATION. ALL SURFACE CLEANING SHALL BE APPROVED BY THE ENGINEER PRIOR TO PAINTING. IN ORDER TO PREVENT THE DEGRADATION OR CONTAMINATION OF CLEANED SURFACES, THE PRIME COAT OF PAINT SHALL BE APPLIED THE SAME DAY THE SURFACE HAS BEEN CLEANED. SUCCEEDING COATS SHALL BE APPLIED BEFORE CONTAMINATION OF THE UNDER SURFACE OCCURS.

CLEANING AND PAINTING SHALL BE SO PROGRAMMED THAT DETRIMENTAL AMOUNTS OF DUST OR OTHER CONTAMINANTS DO NOT FALL ON WET, NEWLY-PAINTED SURFACES. SURFACES NOT INTENDED TO BE PAINTED SHALL BE SUITABLY PROTECTED FROM THE EFFECTS OF CLEANING AND PAINTING OPERATIONS. OVERSPRAY OF THE ZINC RICH PRIMER WILL RESULT IN IMPROPER ADHESION OF THE TOPCOAT. OVERSPRAY SHALL BE REMOVED WITH A STIFF BRISTLE BRUSH OR WIRE SCREEN.

## TEMPERATURE

PAINT SHALL NOT BE APPLIED WHEN THE TEMPERATURE OF THE STEEL, OR PAINT IS BELOW 45 DEGREES F (7 DEGREES C) OR WHEN THE AIR TEMPERATURE IS BELOW 45 DEGREES F (7 DEGREES C). PAINT SHALL NOT BE APPLIED WHEN THE SURFACE TEMPERATURE IS EXPECTED TO DROP TO 45 DEGREES F (7 DEGREES C) BEFORE THE PAINT HAS DRIED. PAINT SHALL NOT BE APPLIED TO STEEL WHICH IS AT A TEMPERATURE THAT WILL CAUSE BLISTERING OR POROSITY OR OTHERWISE WILL BE DETRIMENTAL TO THE LIFE OF THE PAINT. WHEN PAINT IS APPLIED IN HOT WEATHER, OR THINNED IN COLD WEATHER, PRECAUTIONS MUST BE TAKEN TO INSURE THAT THE SPECIFIED THICKNESS OF PAINT IS OBTAINED.

## MOISTURE

PAINT SHALL NOT BE APPLIED IN RAIN, WIND, SNOW, FOG OR MIST, OR WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F (3 DEGREES C) ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES UNLESS THE PAINT IS OF THE WATER-THINNED TYPE. PAINT SHALL NOT BE APPLIED ON FROSTED OR ICE-COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%.

## DAMAGE

DAMAGED AREAS OF PAINT WHICH ARE DETRIMENTAL TO THE SERVICE LIFE SHALL BE REMOVED, THE SURFACE SHALL AGAIN BE PREPARED TO THE ORIGINAL SPECIFICATIONS AND REPAINTED WITH THE SAME NUMBER OF COATS OF PAINT OF THE SAME KIND AS THE UNDAMAGED AREAS.

## CONTINUITY

TO THE MAXIMUM EXTENT PRACTICAL, EACH COAT OF PAINT SHALL BE APPLIED AS A CONTINUOUS FILM OF UNIFORM THICKNESS FREE OF PORES. ALL THIN SPOTS OR AREAS MISSED IN THE APPLICATION SHALL BE REPAINTED AND PERMITTED TO DRY BEFORE THE NEXT COAT OF PAINT IS APPLIED.

## THICKNESS

EACH COAT OF PAINT MUST HAVE THE REQUIRED MIL THICKNESS AS REQUIRED BY THE PLANS. A TOUKE GAGE WILL BE USED BY THE ENGINEER TO VERIFY THE REQUIRED MIL THICKNESS.

WHEN THE AVERAGE TOTAL DRY FILM THICKNESS OF ANY COAT IS LESS THAN PLAN REQUIREMENTS, THE WORK SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS TO OBTAIN THE DESIRED MIL THICKNESS. THE AVERAGE TOTAL DRY FILM THICKNESS SHALL BE CONSIDERED THE AVERAGE OF THREE (3) SEPARATE READINGS IN 2000 SQ. FT.

## RECOATING

EACH COAT OF PAINT SHALL BE IN A PROPER STATE OF CURE OR DRYNESS BEFORE THE APPLICATION OF THE SUCCEEDING COAT. PAINT SHALL BE CONSIDERED DRY FOR RECOATING WHEN AN ADDITIONAL COAT CAN BE APPLIED WITHOUT THE DEVELOPMENT OF ANY DETRIMENTAL FILM IRREGULARITIES, SUCH AS LIFTING, WRINKLING OR LOSS OF ADHESION OF THE UNDERCOAT. THE TIME INTERVAL BETWEEN COATING APPLICATIONS SHALL BE IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS AND IN NO CASE MORE THAN FORTY-EIGHT (48) HOURS.

ALTERNATE COATS OF PAINT SHALL BE DIFFERENT COLORS TO PROVIDE ENOUGH CONTRAST TO INDICATE COMPLETE COVERAGE OF THE SURFACE. TINTING PASTES SHALL NOT BE ALLOWED.

THE MAXIMUM PRACTICAL TIME SHALL BE ALLOWED FOR PAINT TO DRY BEFORE RECOATING. SOME PAINTS MAY DRY TOO HARD FOR GOOD ADHESION OF SUBSEQUENT COATS, THESE SHALL BE RECOATED WITHIN THE TIME PERIOD IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IF NOT RECOATED WITHIN THE SPECIFIED TIME THEN THE PREVIOUSLY APPLIED COATINGS SHALL BE ROUGHENED PRIOR TO RECOATING.

NO DRIER SHALL BE ADDED TO PAINT ON THE JOB UNLESS SPECIFICALLY CALLED FOR IN THE MANUFACTURER'S INSTRUCTIONS.

PAINT SHALL BE PROTECTED FROM RAIN, CONDENSATION, CONTAMINATION, SNOW AND FREEZING UNTIL DRY TO THE FULLEST EXTENT PRACTICAL.

## SPRAY APPLICATION (GENERAL)

ALL SPRAY APPLICATION OF PAINT, WHETHER AIR SPRAY, AIRLESS SPRAY, HOT AIR SPRAY OR HOT AIRLESS SPRAY, SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

THE EQUIPMENT USED SHALL BE SUITABLE FOR THE INTENDED PURPOSES, SHALL BE CAPABLE OF PROPERLY ATOMIZING THE PAINT TO BE APPLIED AND SHALL BE EQUIPPED WITH SUITABLE PRESSURE REGULATORS AND GAGES. THE EQUIPMENT SHALL BE MAINTAINED IN PROPER WORKING CONDITION.

PAINT INGREDIENTS SHALL BE KEPT UNIFORMLY MIXED IN THE SPRAY POTS OR CONTAINERS DURING PAINT APPLICATION EITHER BY CONTINUOUS MECHANICAL AGITATION OR BY INTERMITTENT AGITATION AS FREQUENTLY AS NECESSARY.

SPRAY EQUIPMENT SHALL BE KEPT SUFFICIENTLY CLEAN SO THAT DIRT, DRIED PAINT AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE PAINT FILM. ANY SOLVENTS LEFT IN THE EQUIPMENT SHALL BE COMPLETELY REMOVED BEFORE USING.

PAINT SHALL BE APPLIED IN A UNIFORM LAYER WITH OVERLAPPING AT THE EDGES OF THE SPRAY PATTERN. DURING APPLICATION, THE GUN SHALL BE HELD PERPENDICULAR TO THE SURFACE AND AT A DISTANCE WHICH WILL ENSURE THAT A WET LAYER OF PAINT IS DEPOSITED ON THE SURFACE. THE TRIGGER OF THE GUN SHOULD BE RELEASED AT THE END OF EACH STROKE. ALL BOLTS AND RIVET HEADS SHALL BE SPRAYED FROM AT LEAST TWO (2) DIRECTIONS.

EACH SPRAY OPERATOR SHALL DEMONSTRATE TO THE ENGINEER HIS ABILITY TO APPLY THE PAINT AS SPECIFIED. ANY OPERATOR WHO DOES NOT DEMONSTRATE THIS ABILITY SHALL NOT SPRAY.

ALL RUNS AND SAGS SHALL BE BRUSHED OUT IMMEDIATELY OR THE COATING SHALL BE REMOVED AND THE SURFACE REPAINTED.

IF MUD CRACKING OCCURS, THE AFFECTED AREA SHALL BE CLEANED TO BARE METAL AND REPAINTED.

CRACKS, CREVICES, BLIND AREAS OF ALL RIVETS, BOLTS AND ALL OTHER INACCESSIBLE AREAS SHALL BE PAINTED BY BRUSH, DAUBERS OR SHEEPSKINS.

PAINT SHALL BE SUITABLE FOR THE PARTICULAR SPRAY APPLICATION METHOD USED.

CAUTION MUST BE EXERCISED SO THAT HOT COATINGS ARE NOT APPLIED TO COLD SURFACES AND CONVERSELY, THAT COLD COATINGS ARE NOT APPLIED TO HOT SURFACES.

ALL CRACKS AND CREVICES SHALL BE FILLED WITH PAINT IF PRACTICAL.

WET PAINT SHALL BE PROTECTED AGAINST DAMAGE FROM DUST OR OTHER DETRIMENTAL FOREIGN MATTER.

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## AIRLESS SPRAY APPLICATIONS

AIRLESS OR HIGH PRESSURE SPRAY APPLICATION OF PAINT SHALL BE IN ACCORDANCE WITH THE ABOVE PROVISIONS AND IN ADDITION SHALL COMPLY WITH THE FOLLOWING.

FLUID TIPS SHALL BE OF PROPER ORIFICE SIZE AND FAN ANGLE, AND THE FLUID CONTROL GUN OF PROPER CONSTRUCTION, AS RECOMMENDED BY THE MANUFACTURER OF THE MATERIAL BEING SPRAYED AND THE EQUIPMENT BEING USED. FLUID TIPS SHALL BE OF THE SAFETY TYPE WITH SHIELDS TO PREVENT PENETRATION OF THE SKINS BY THE HIGH PRESSURE STREAM OF PAINT.

THE AIR PRESSURE TO THE PAINT PUMP SHALL BE ADJUSTED SO THAT THE PAINT PRESSURE TO THE GUN IS PROPER FOR OPTIMUM SPRAYING EFFECTIVENESS. THIS PRESSURE SHALL BE SUFFICIENTLY HIGH TO PROPERLY ATOMIZE THE PAINT. PRESSURES CONSIDERABLY HIGHER THAN THOSE NECESSARY TO PROPERLY ATOMIZE THE PAINT SHOULD NOT BE USED. THIS WILL CAUSE DRY SPRAY TO BE APPLIED.

SPRAYING EQUIPMENT SHALL BE KEPT CLEAN AND SHALL UTILIZE PROPER FILTERS IN THE HIGH PRESSURE LINE SO THAT DIRT, DRY PAINT AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE PAINT FILM. ANY SOLVENTS LEFT IN THE EQUIPMENT SHALL BE COMPLETELY REMOVED BEFORE APPLYING PAINT.

THE TRIGGER OF THE GUN SHOULD BE PULLED FULLY OPEN AND HELD FULLY OPEN DURING ALL SPRAYING TO INSURE PROPER APPLICATION OF PAINT.

AIRLESS PAINT SPRAY EQUIPMENT SHALL ALWAYS BE PROVIDED WITH AN ELECTRIC GROUND WIRE IN THE HIGH PRESSURE LINE BETWEEN THE GUN AND THE PUMPING EQUIPMENT. FURTHER, THE PUMPING EQUIPMENT SHALL BE SUITABLY GROUNDED TO AVOID THE BUILD-UP OF ANY ELECTROSTATIC CHARGE ON THE GUN. THE MANUFACTURER'S INSTRUCTIONS ARE TO BE FOLLOWED REGARDING THE PROPER USE OF EQUIPMENT.

## INSPECTION

ALL WORK AND MATERIALS SUPPLIED UNDER THIS SPECIFICATION SHALL BE SUBJECT TO TIMELY INSPECTION BY THE ENGINEER. THE CONTRACTOR SHALL CORRECT SUCH WORK OR REPLACE SUCH MATERIAL THAT IS FOUND DEFECTIVE UNDER THE SPECIFICATION.

SAMPLES OF PAINTS USED UNDER THIS SPECIFICATION SHALL BE SUPPLIED UPON REQUEST ALONG WITH THE SUPPLIER'S NAME AND IDENTIFICATION FOR THE MATERIALS.

THE CONTRACTOR SHALL LEAVE HIS LADDERS, PLATFORM OR SCAFFOLD IN PLACE FOR A SUFFICIENT LENGTH OF TIME AND IN SUCH A MANNER TO PERMIT THE ENGINEER TO SAFELY EXAMINE THE WORK PERFORMED.

## SAFETY REQUIREMENTS AND PRECAUTIONS

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION.

THE PAINT MATERIALS SPECIFIED ON THIS PROJECT CAN BE HAZARDOUS TO THE HEALTH OF THE APPLICATOR IF NOT APPLIED AS PER MANUFACTURERS INSTRUCTIONS. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS CONTAINED ON THE MATERIAL SAFETY DATA SHEET, PRODUCT DATA SHEET AND THE LABEL ON THE PAINT CONTAINERS. THESE PRECAUTIONS SHALL INCLUDE THE USE OF RESPIRATORS AND EYE AND SKIN PROTECTION AS SPECIFIED.

THE MATERIAL SAFETY DATA SHEET SHALL BE PROVIDED AT THE PRECONSTRUCTION MEETING FOR ALL PAINTS AND THINNERS USED ON THIS PROJECT. NO WORK SHALL START UNTIL THE MATERIAL SAFETY DATA SHEET HAS BEEN SUBMITTED.

## PRIOR INSPECTION OF WORK

PROSPECTIVE BIDDERS ARE REQUIRED TO MAKE AN INSPECTION OF THE BRIDGES IN THE FIELD AND TO REVIEW THE PLANS AND SPECIFICATIONS BEFORE SUBMITTING BIDS. SEE SECTION 102.05 OF THE "CONSTRUCTION AND MATERIALS SPECIFICATIONS", DATED JANUARY 1, 1983.

## PROTECTION OF PERSONS AND PROPERTY

THE CONTRACTOR SHALL COLLECT, REMOVE AND DISPOSE OF ALL BUCKETS, RAGS OR OTHER DISCARDED MATERIALS AND HE SHALL LEAVE THE JOB SITE IN A CLEAN CONDITION.

THE CONTRACTOR SHALL PROTECT ALL PORTIONS OF THE STRUCTURE WHICH ARE NOT TO BE PAINTED, AGAINST DAMAGE OR DISFIGUREMENT BY SPLASHES, SPATTERS, AND SMIRCHES OF PAINT.

TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS OR BOATS, OR TO VEHICLES TRAVELING UNDER SPANS WHICH ARE BEING PAINTED, THE CONTRACTOR SHALL INSTALL AND MAINTAIN SUITABLE SHIELDS BETWEEN HIS OPERATIONS AND THE ABOVE. THE SHIELDS SHALL BE OF A TYPE AND CONSTRUCTION, APPROVED BY THE ENGINEER, THAT WILL PREVENT PAINT FROM DROPPING ONTO OR BEING BLOWN INTO PAVEMENT LANES OPEN TO TRAFFIC. THEY SHALL BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES. PAYMENT FOR THE SHIELDS SHALL BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING ITEM. WORK SHALL BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, PARKED CARS OR BOATS, OR TRAVELING VEHICLES IS OCCURRING.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN THE EXECUTION OF THE WORK, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR HE SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.

## POLLUTION CONTROL

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OR FEDERAL, STATE OR LOCAL AGENCIES.

## WORK LIMITATIONS

ALL WORK SHALL BE DONE BETWEEN MARCH 15 AND OCTOBER 15.

THE CONTRACTOR SHALL NOT PERFORM WORK ON SATURDAYS, SUNDAYS OR LEGAL HOLIDAYS WITHOUT THE APPROVAL OF THE DIRECTOR.

ALL WORK SHALL BE SUSPENDED BETWEEN THE HOURS OF 5:00 P.M. FRIDAY AND 5:00 A.M. MONDAY. WORK SHALL ALSO BE SUSPENDED AT 5:00 P.M. THE DAY PROCEEDING ALL LEGAL HOLIDAYS AND SHALL NOT RESUME UNTIL 7:00 A.M. THE DAY FOLLOWING THE HOLIDAY.

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE CONTRACT BID PRICE, FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	TEST SECTION
SPECIAL	LUMP SUM	PRIME COAT
SPECIAL	LUMP SUM	INTERMEDIATE COAT
SPECIAL	LUMP SUM	FINISH COAT

\* Item 606 Guard Rail With Steel Tubular Back-up, As Per Plan. See Sheet No. For Details.

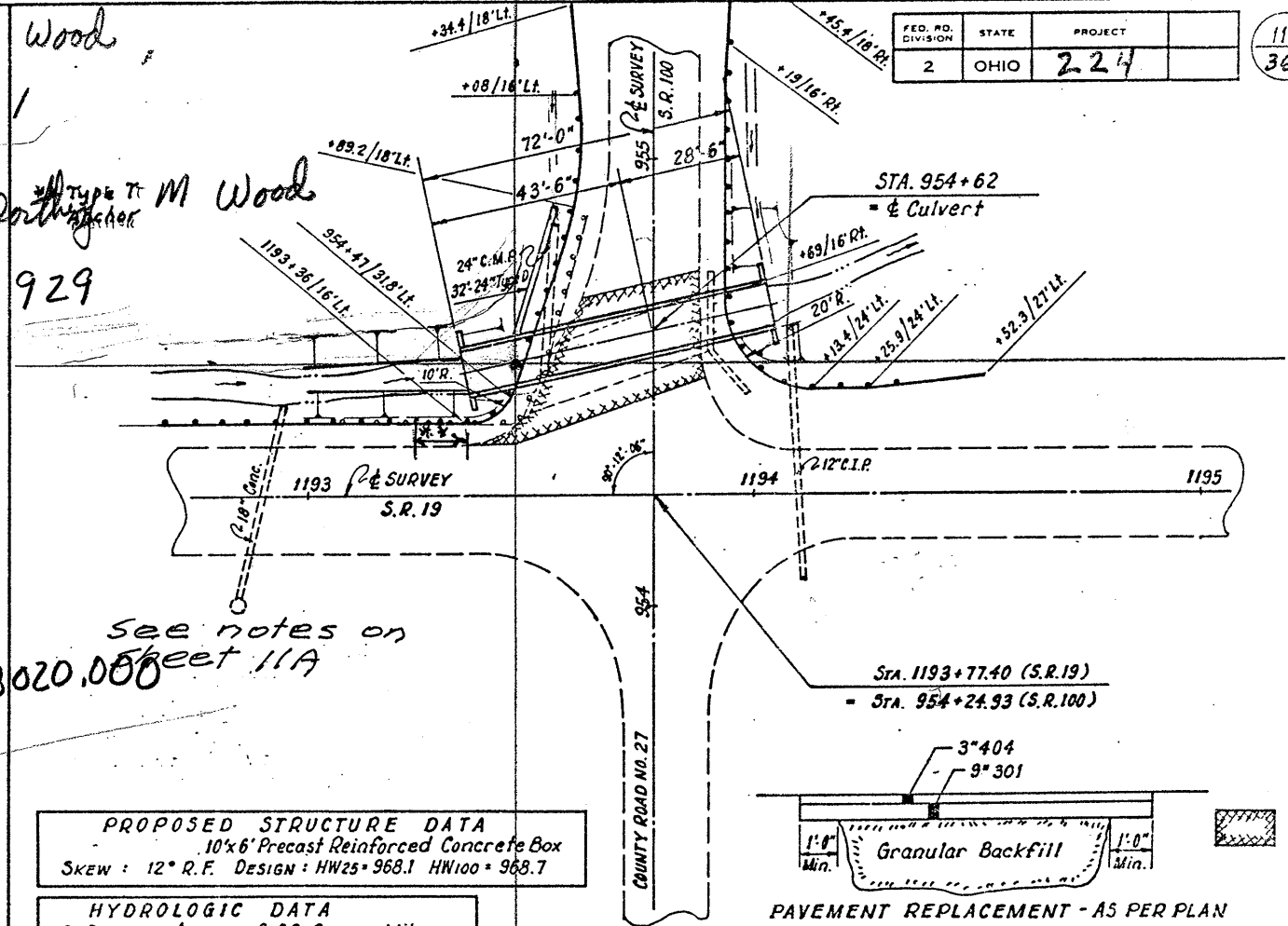
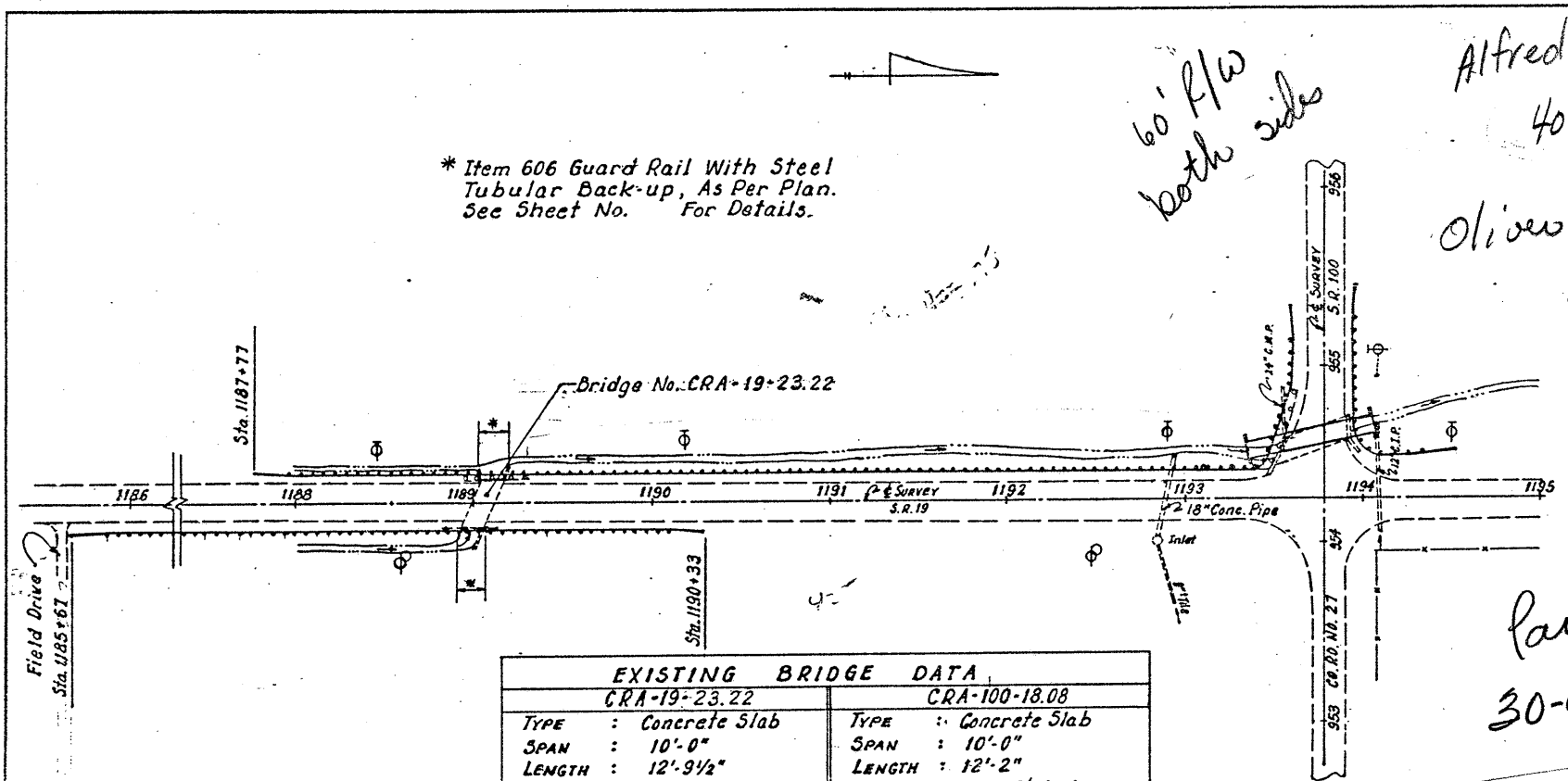
60' R/W both sides

Alfred A Wood  
406/931

Oliver & Anthony M Wood  
406/929

Parcel  
30-00-08020.000

See notes on sheet 11A



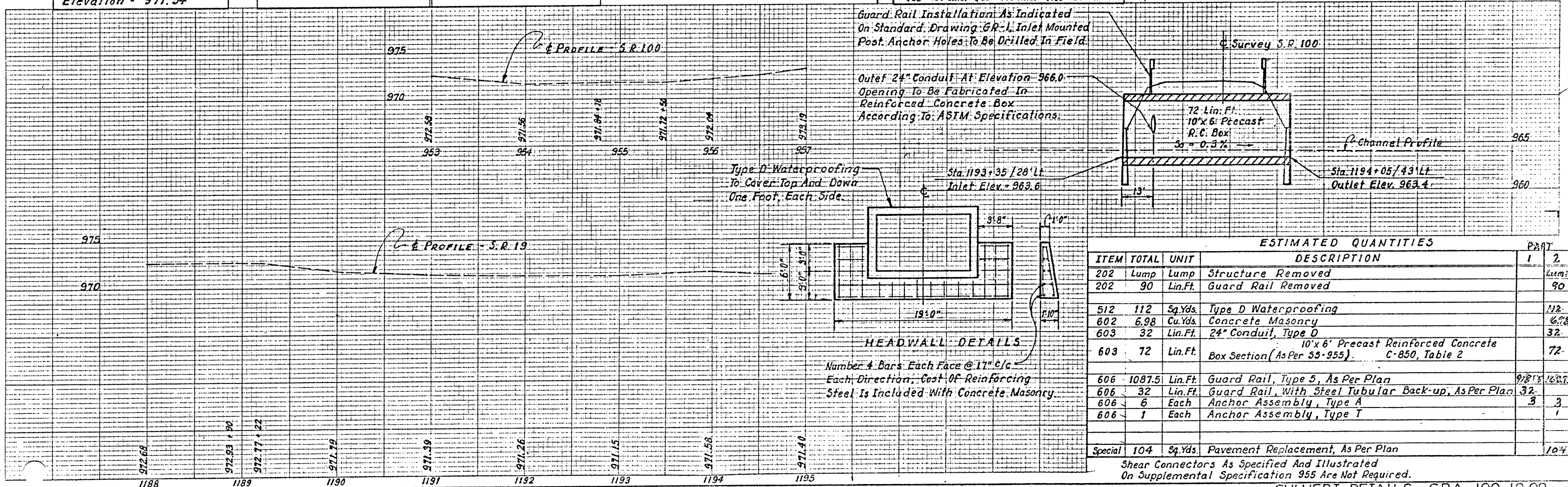
EXISTING BRIDGE DATA	
CRA-19-23.22	CRA-100-18.08
TYPE : Concrete Slab	TYPE : Concrete Slab
SPAN : 10'-0"	SPAN : 10'-0"
LENGTH : 12'-9 1/2"	LENGTH : 12'-2"
WIDTH : 23'-8" E/R Railing	WIDTH : 28'-2" E/R Railing
WEARING SURFACE : Asphalt	WEARING SURFACE : Asphalt
LOADING : H-15	LOADING : H-15
ALIGNMENT : Tangent	ALIGNMENT : Tangent
SKEW : 27°-30' L.F.	SKEW : 20°-0' R.F.
SUB-STRUCTURE : Conc. Gravity	SUB-STRUCTURE : Conc. Gravity
HIGH WATER ELEV. : 973.6' (1979)	

PROPOSED STRUCTURE DATA	
10' x 6' Precast Reinforced Concrete Box	
SKEW : 12° R.F. DESIGN : HW25+968.1 HW100+968.7	

HYDROLOGIC DATA	
DRAINAGE AREA : 0.83 Square Miles	
Q25 = 157 c.f.s. Q50 = 179 c.f.s. Q100 = 202 c.f.s.	

B.M.N.E. Corner East Headwall  
Bridge - CRA-19-22.52  
Elevation = 971.54

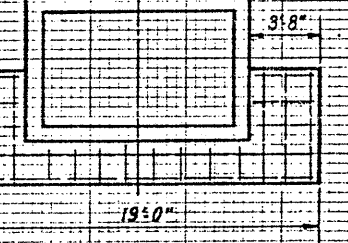
PAVEMENT REPLACEMENT - AS PER PLAN



Guard Rail Installation As Indicated  
On Standard Drawing GR-1, Inlet Mounted  
Post Anchor Holes To Be Drilled In Field.

Outlet 24" Conduit At Elevation 966.0  
Opening To Be Fabricated In  
Reinforced Concrete Box  
According To ASTM Specifications.

Type D Waterproofing  
To Cover Top And Down  
One Foot, Each Side.



Number 4 Bars Each Face @ 17" c/c.  
Each Direction, Cost Of Reinforcing.  
Steel Is Included With Concrete Masonry.

ITEM	TOTAL	UNIT	DESCRIPTION	PART	
				1	2
202	Lump	Lump	Structure Removed		Lump
202	90	Lin.Ft.	Guard Rail Removed		90
512	112	Sq.Yds.	Type D Waterproofing		112
602	6.98	Cu.Yds.	Concrete Masonry		6.98
603	32	Lin.Ft.	24" Conduit, Type D		32
603	72	Lin.Ft.	Box Section (As Per 53-955)		72
606	1087.5	Lin.Ft.	Guard Rail, Type 5, As Per Plan	9/813	1087.5
606	32	Lin.Ft.	Guard Rail, With Steel Tubular Back-up, As Per Plan		32
606	6	Each	Anchor Assembly, Type A	3	3
606	1	Each	Anchor Assembly, Type T		1
Special	104	Sq.Yds.	Pavement Replacement, As Per Plan		104

Shear Connectors As Specified And Illustrated  
On Supplemental Specification 955 Are Not Required.



PLAN NO.  
224

PRECAST REINFORCED CONCRETE BOX SECTIONS

DESCRIPTION:

This item shall consist of furnishing and constructing precast reinforced concrete box sections as per Supplemental Specification 955 at the location indicated.

MATERIALS:

Material for the precast reinforced concrete box sections shall be in accordance with Supplemental Specification 955. Granular bedding and backfill material shall meet the requirements of 603.02 and fill material, when specified, shall be in accordance with 203.

INSTALLATION:

The structure shall be installed in accordance with Section 603 of the Construction and Material Specifications, State of Ohio, Department of Transportation, except as modified herein.

*Specifications for Type A Conduit*

603.03

Where the box section is to be placed in a trench, a minimum trench width of 2 feet on each side of the box section shall be required. Where the box section is to be placed within an embankment or the box section is above the existing ground, the requirement that the embankment shall be constructed at least to the springline before trenching is waived.

603.04

The bedding shall consist of a bed of granular material having a thickness of at least 6 inches below the bottom of the box section and extending 2 feet on each side of the box section.

603.06

The joints shall be sealed with a flexible plastic material conforming to AASHTO M-198 Type B. The cross section of the joint sealing material shall have a minimum height of twice the annular space of the joint and a minimum width of 150% the height. The concrete joint shall be primed with a primer as recommended by the manufacturer before installation. Box sections shall be forced to a maximum of 1/2" gap between sections. The exterior joint gap on the top of the box shall be filled with Portland Cement mortar.

The upstream end shall be a recessed type joint.

603.08

When the top of the trench is above the top of the box, backfilling shall be in accordance with Type A or Type B conduit. When the top of the box section is above the top of the trench, granular material shall be placed and

compacted to a minimum depth of 2 feet <sup>2'</sup> over the top of the box sections (where applicable) and for a width of 4 feet on each side of the box section or as directed by the engineer. The remainder of the adjacent embankment material shall be furnished, placed, and paid for in accordance with 203. Backfill and fill material shall be placed uniformly on both sides of the box section.

Fill material at the sides of the box sections may be compacted by heavy compaction equipment.

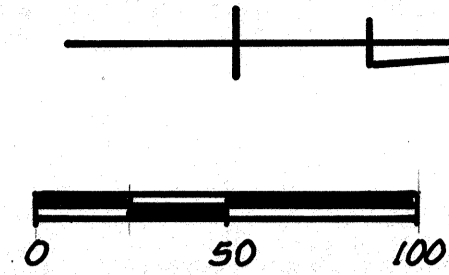
Type D waterproofing shall be provided on the top surface of the box sections and shall extend 1' vertically down each side. The waterproofing shall be provided for the full length of the structure or within the limits which are in contact with the backfill ~~(applied to the box section)~~. *Paid for under Item 512.*

BASIS FOR PAYMENT:

Payment shall be made at the contract unit price for:

603 .	Linear Foot Span' x Rise'	Precast Reinforced Concrete Box Sections (as per SS 955) C-850 Table _____ As Per Plan
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Payment shall be full compensation for all material, labor and equipment necessary to complete the installation.

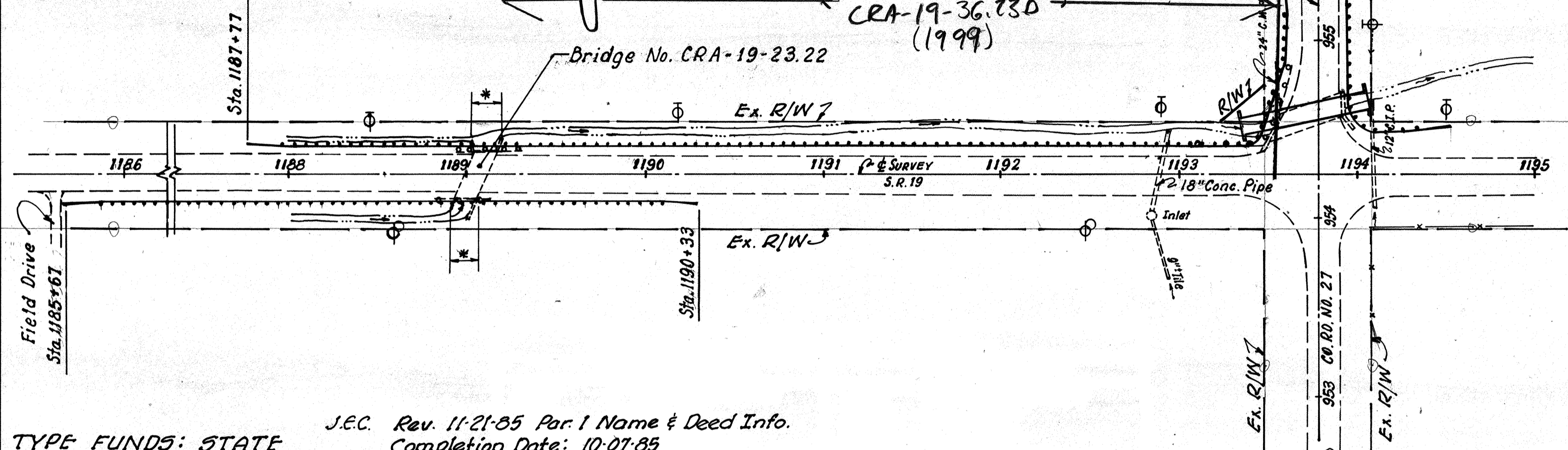


Oliver C. & Dorothy M. Wood  
& Alfred A. Wood

(1) VOL 41 Pg 700

Entirely  
superseded by  
CRA-19-36.73D  
(1999)

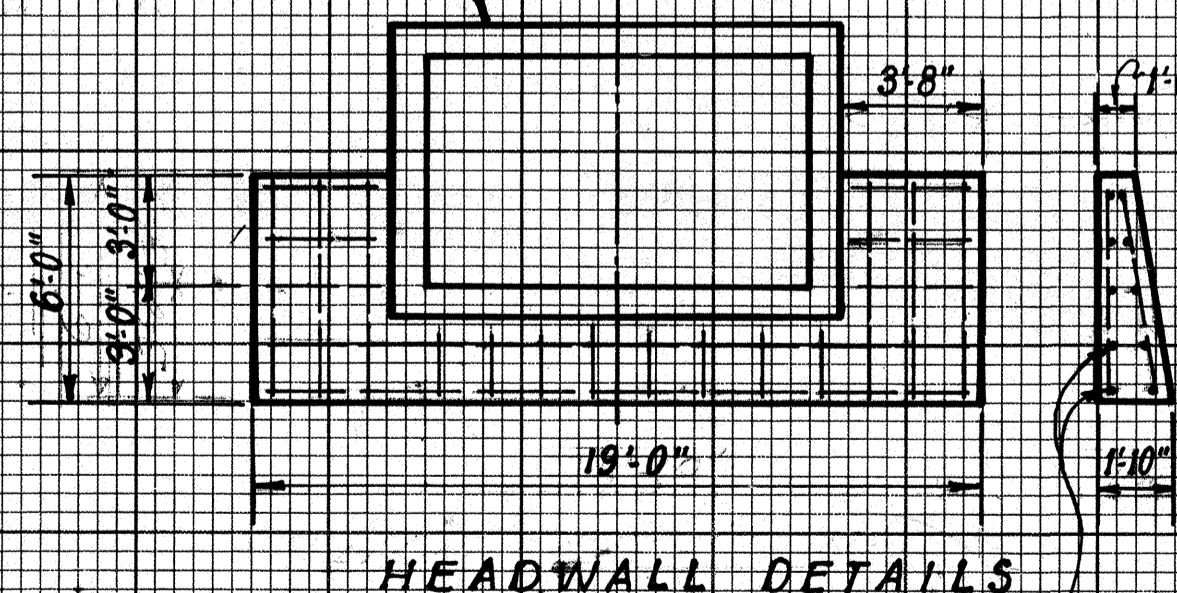
Bridge No. CRA-19-23.22



J.E.C. Rev. 11-21-85 Par. 1 Name & Deed Info.  
Completion Date: 10-07-85

**SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED**

NO. OF STRUCTURES		0		NO. OF PROPERTY OWNERS		1		NO. OF TOTAL TAKES		0					
PARCEL NO.	TYPE FUNDS	PROPERTY OWNERS		RECORDED VOL.	DEED PAGE	TOTAL AREA	GROSS TAKE PRO	P.R.O. INTAKE	NET TAKE	NET RESIDUE LEFT	RESIDUE RIGHT	BLDG.	SHEET NO.	REMARKS	
1	5	Oliver C., Dorothy M. & Alfred A. Wood		264	494	80 Ac.	2.727	0.006	0	0.006	77.267	0	No	11A	
1-T	5	"		275	215	0	0.006	0	0.006						Work room for Culvert Const.
				406	929/931										



**HEADWALL DETAILS**  
Number 4 Bars Each Face @ 17" c/c  
Each Direction. Cost of Reinforcing  
Steel is Included With Concrete Masonry.

Guard Rail Installation As Indicated  
On Standard Drawing GR-1, Inlet Mounted  
Post. Anchor Holes To Be Drilled In Field.

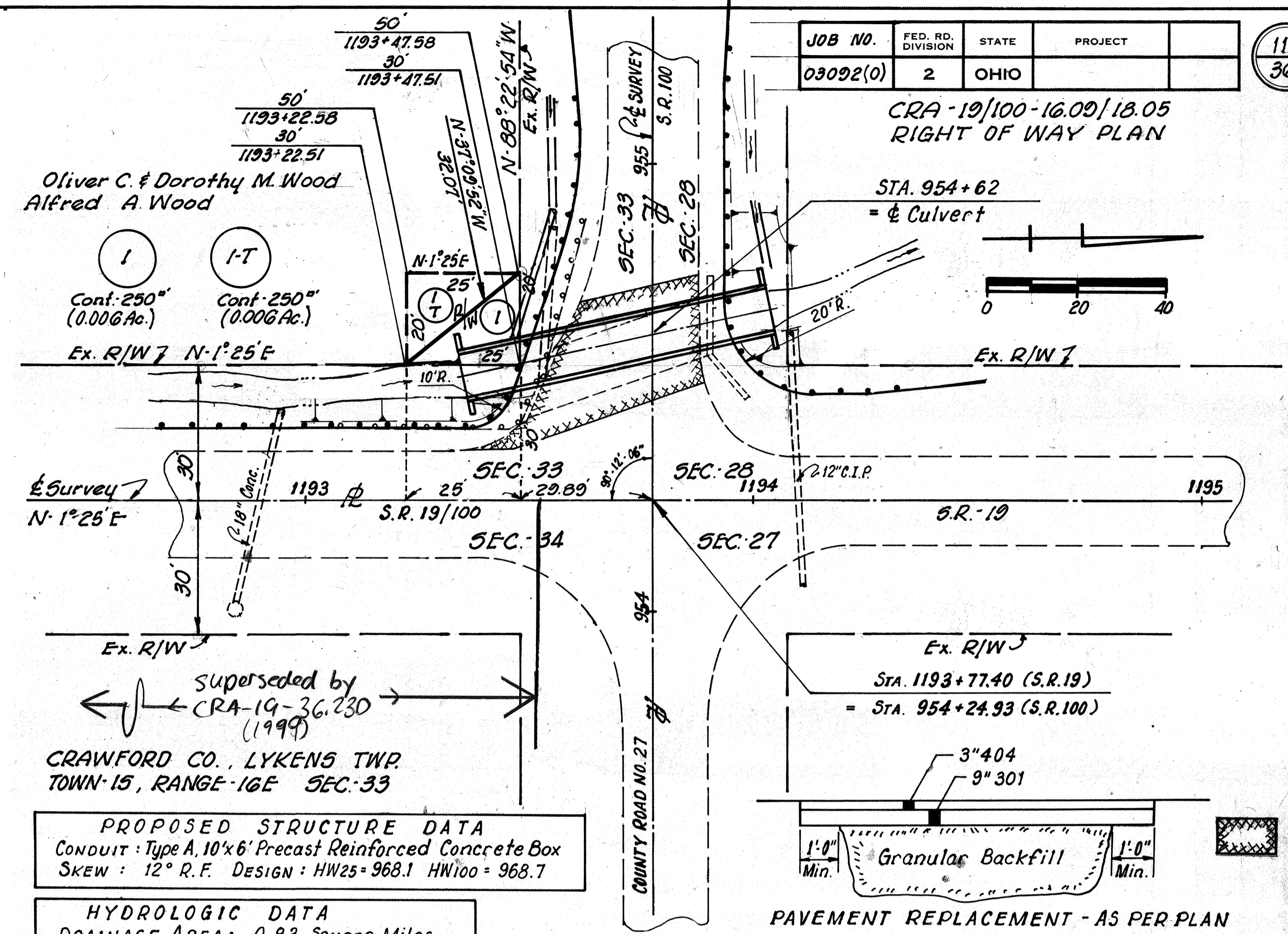
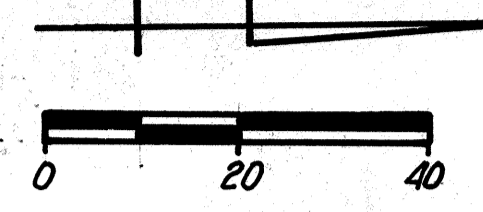
Outlet 24" Conduit At Elevation 966.0  
Opening To Be Fabricated In  
Reinforced Concrete Box  
According To ASTM Specifications.

Sta. 1193+35 / 28' Lt.  
Inlet Elev. = 963.6

JOB NO.	FED. RD. DIVISION	STATE	PROJECT
03092(0)	2	OHIO	

CRA-19/100-16.09/18.05  
RIGHT OF WAY PLAN

STA. 954+62  
= & Culvert



superseded by  
CRA-19-36.73D  
(1999)

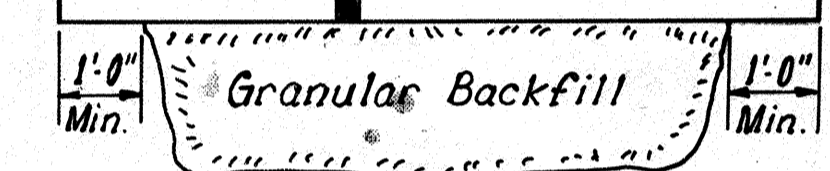
CRAWFORD CO., LYKENS TWP  
TOWN-15, RANGE-16E SEC-33

**PROPOSED STRUCTURE DATA**  
CONDUIT: Type A, 10'x6' Precast Reinforced Concrete Box  
SKEW: 12° R.F. DESIGN: HW25=968.1 HW100=968.7

**HYDROLOGIC DATA**  
DRAINAGE AREA: 0.83 Square Miles  
Q25=157 c.f.s. Q50=179 c.f.s. Q100=202 c.f.s.

Ex. R/W  
Sta. 1193+77.40 (S.R.19)  
= Sta. 954+24.93 (S.R.100)

3" 404  
9" 301



PAVEMENT REPLACEMENT - AS PER PLAN

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
202	Lump	Lump	Structure Removed
202	90	Lin.Ft.	Guard Rail Removed
512	112	Sq.Yds.	Type D Waterproofing
602	6.98	Cu.Yds.	Concrete Masonry
603	32	Lin.Ft.	24" Conduit, Type D
603	72	Lin.Ft.	Conduit, Type A, 10'x6' Precast Reinforced Concrete Box Section, As Per 55-955, ASTM C-850, Table 2 *
606	1087.5	Lin.Ft.	Guard Rail, Type 5, As Per Plan
606	32	Lin.Ft.	Guard Rail, With Steel Tubular Back-up, As Per Plan
606	6	Each	Anchor Assembly, Type A
606	1	Each	Anchor Assembly, Type T
Special	104	Sq.Yds.	Pavement Replacement, As Per Plan

\* Shear Connectors As Specified And Illustrated  
On Supplemental Specification 955 Are Not Required.