



CUY-90-14.90

PID 77332/85531

APPENDIX EX-82

CUY-090-1490 PID 2.208
(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

Innerbelt Bridge
Construction Contract Group 1 (CCG1)

OHIO DEPARTMENT OF TRANSPORTATION

PROS-994-92

PLAN NO. BP-15-92
 CUY-90-14.90
 CUYAHOGA COUNTY

| PART | COUNTY | ROUTE | BRIDGE NUMBER | WORK LIMITS | | NET LENGTH MILES | CITY | PART | COUNTY | ROUTE | BRIDGE NUMBER | WORK LIMITS | | NET LENGTH MILES | CITY |
|------|--------|-------|---------------|-------------|--------|------------------|-----------|------|--------|-------|---------------|-------------|--------|------------------|-----------|
| | | | | BEGIN | END | | | | | | | BEGIN | END | | |
| 1 | CUY | 90 | 1490R | 980+99 | 982+62 | 0.031 | CLEVELAND | 7 | CUY | 90 | 2046R | 206+81 | 208+62 | 0.034 | CLEVELAND |
| 2 | CUY | 90 | 1490L | 980+99 | 982+62 | 0.031 | CLEVELAND | 8 | CUY | 90 | 2046L | 206+81 | 208+62 | 0.034 | CLEVELAND |
| 3 | CUY | 90 | 1506 | 989+30 | 990+94 | 0.031 | CLEVELAND | 9 | CUY | 90 | 2069 | 218+81 | 220+04 | 0.021 | CLEVELAND |
| 4 | CUY | 90 | 1976 | 139+51 | 140+53 | 0.02 | CLEVELAND | 10 | CUY | 90 | 2090 | 237+05 | 237+17 | 0.002 | CLEVELAND |
| 5 | CUY | 90 | 2035R | 200+83 | 202+63 | 0.034 | CLEVELAND | 11 | CUY | 90 | 2105 | 237+82 | 238+78 | 0.018 | CLEVELAND |
| 6 | CUY | 90 | 2035L | 200+83 | 202+63 | 0.034 | CLEVELAND | | | | | | | | |

BRIDGE PAINTING

The Standard 1991 Specifications of the State of Ohio Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these Improvements.

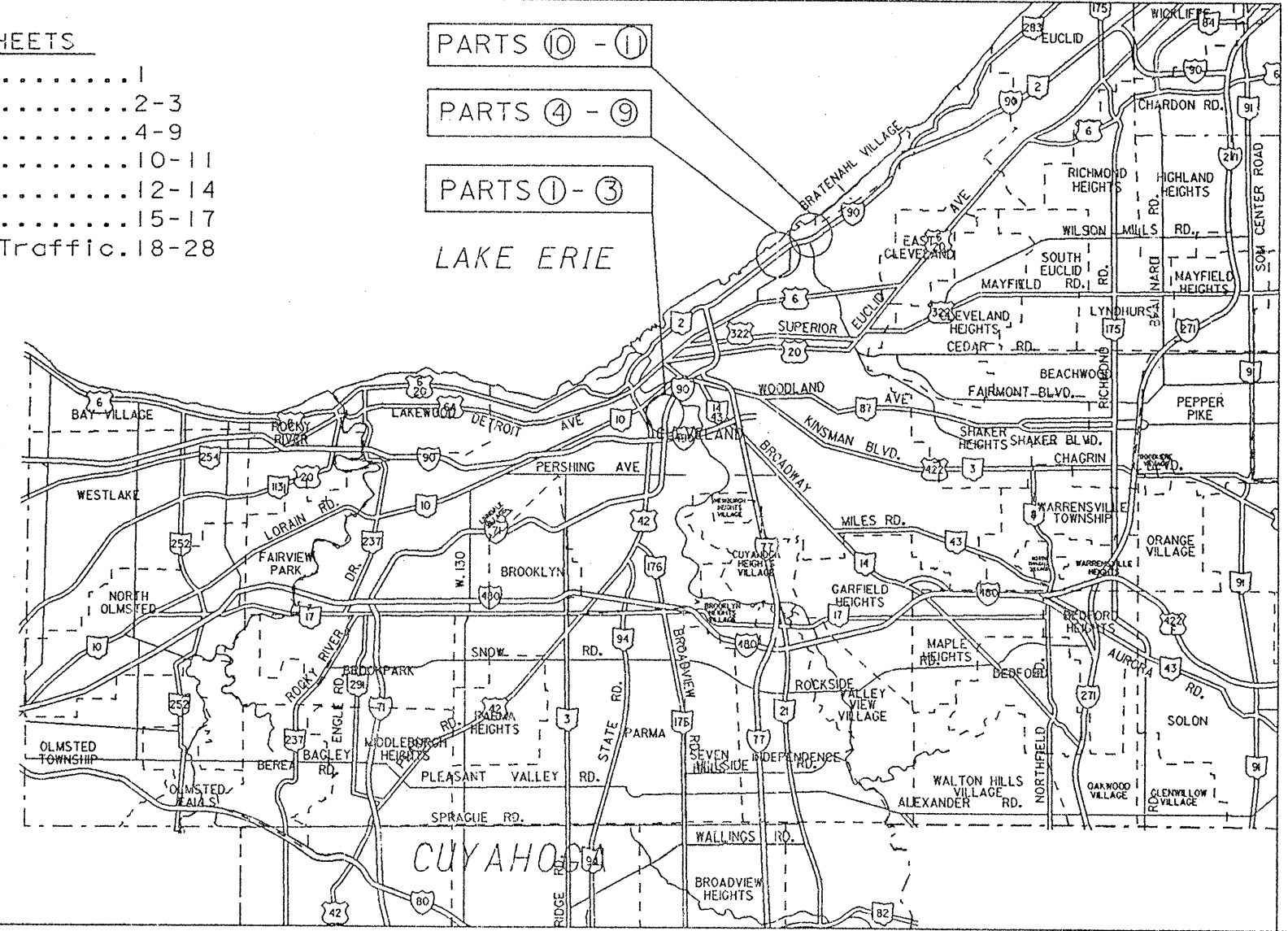
I hereby approve these plans. The closing to traffic of the highways will not be required on Parts No. 1 through 11 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 7/20/92
 District Deputy Director of Transportation
 Approved Date _____
 Engineer, Bureau of Bridges and Structural Design
 Approved Date _____
 Deputy Director, Operations
 Approved Date _____
 Director, Department of Transportation

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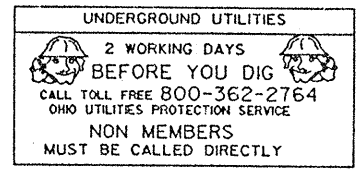


SUPPLEMENTAL SPECIFICATIONS

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STANDARD DRAWINGS

| | |
|----------|---------|
| TC 35.10 | 8/29/84 |
| MT-97.10 | 4/29/88 |
| MC-9.2 | 5/6/91 |



DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

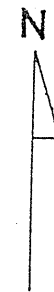
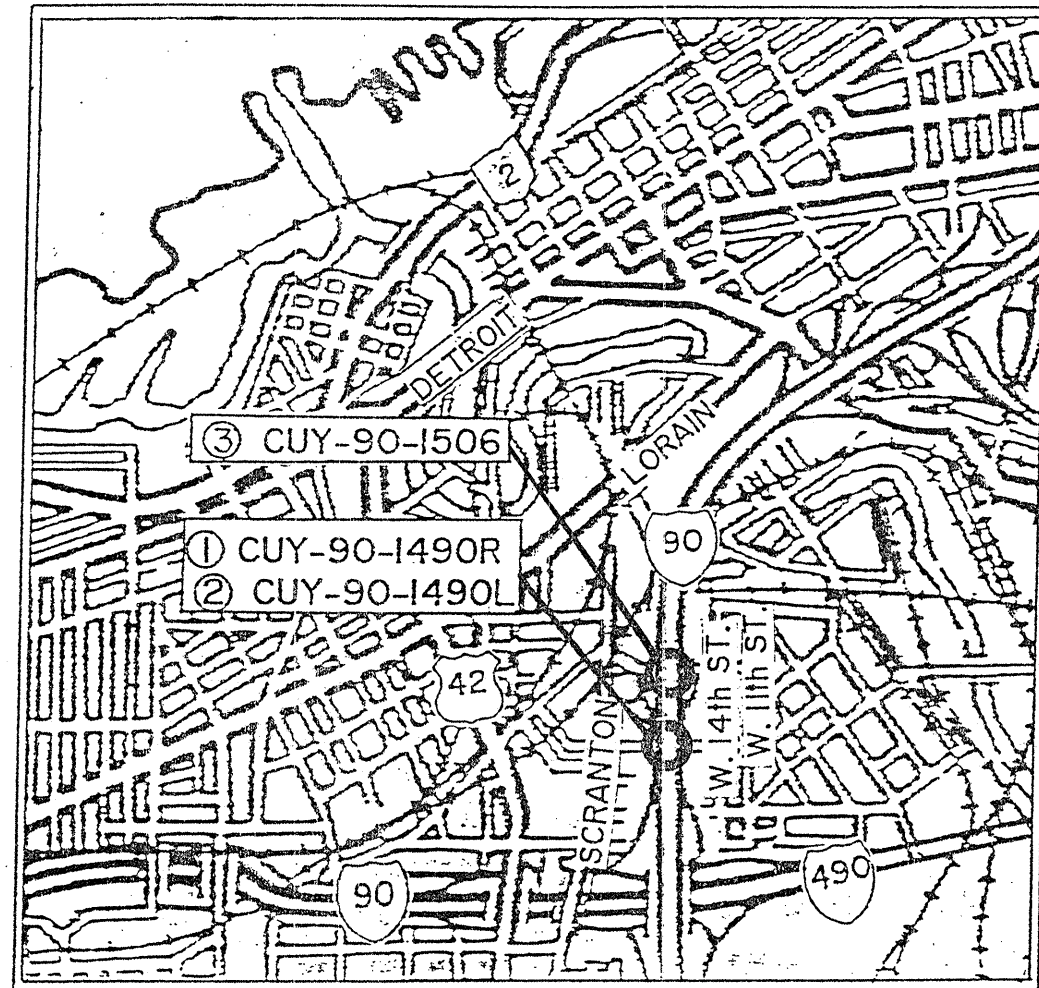
Approved Date _____
 Division administrator

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11-10-92

LOCATION PLAN

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 CUYAHOGA COUNTY
 CUY-90-14.90

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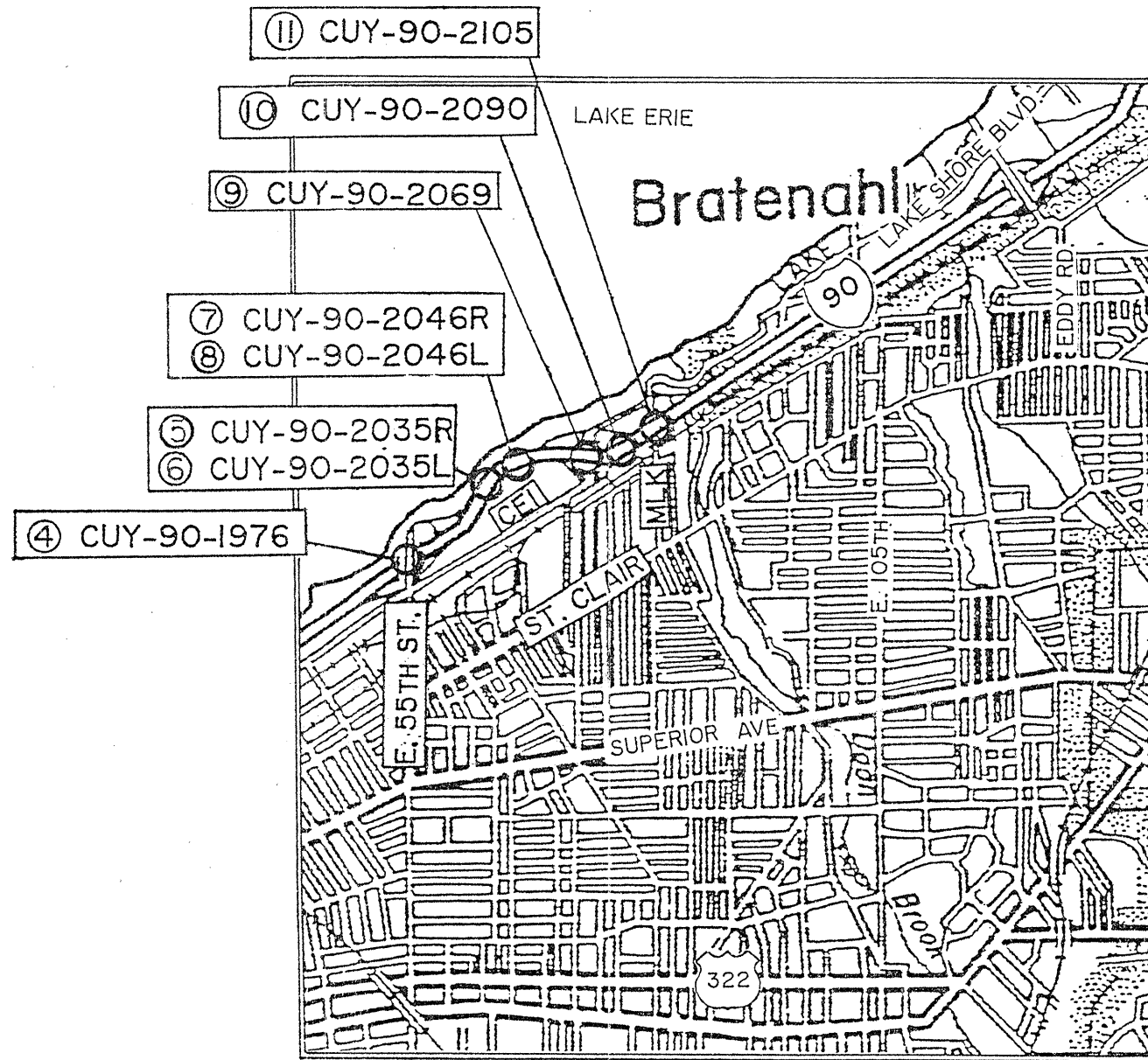


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LOCATION MAP
 BRIDGE PAINTING
 CUYAHOGA COUNTY OHIO

LOCATION PLAN

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LOCATION MAP
 BRIDGE PAINTING

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GENERAL NOTES

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- ITEM 514 - FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU
- A. PAINT SYSTEM: THE PROPOSAL NOTE TITLED FIELD PAINTING OF EXISTING STRUCTURAL STEEL, SYSTEM OZEU SHALL BE USED TO COAT THE STRUCTURES IN THIS PROJECT.
 - B. COLOR OF FINISH COAT: THE FINISH COAT SHALL BE GREY MATCHING FEDERAL COLOR STANDARD NO. FS-595A-16440.
 - C. NIGHTTIME WORK SHALL BE PROHIBITED ON CUY-90-1490L&R, CUY-90-1506, CUY-90-2035L&R, AND CUY-90-2046L&R.
 - D. SUNDAY WORK IS PERMITTED.

PROPOSAL NOTES

FIELD PAINTING OF EXISTING STRUCTURAL STEEL, SYSTEM OZEU

FIELD PAINTING OF EXISTING STRUCTURAL STEEL

SEALING OF CONCRETE SURFACES (EPOXY)

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

WORK TO BE PAID FOR UNDER THIS ITEM SHALL INCLUDE THE REMOVAL OF STRUCTURE COMPONENTS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THESE REMOVALS ARE INCLUDED IN BUT NOT NECESSARILY LIMITED TO THE FOLLOWING LIST:

- 1. FASCIA BEAM FROM CUY-90-2035R AND CUY-90-2046R
- 2. ABANDONED 3" PIPE CUY-90-2035R AND CUY-90-2046R

CARE SHALL BE TAKEN NOT TO GOUGE THE WEB WHEN REMOVING FASCIA SUPPORTS FROM THE GIRDER. A 1/2 INCH TO 1 INCH LONG STUB OF THE SUPPORT SHALL BE LEFT STICKING OUT. NO GRINDING OF THIS STUB IS NECESSARY.

EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGING THE EXISTING STRUCTURE.

LARGE PORTIONS OF THE FASCIA BEAMS WHICH HAVE ALREADY FALLEN INTO THE WATER SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.

ALL REMOVALS SHALL BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURES REMOVED.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR

A. DESCRIPTION: THIS ITEM CONSISTS OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, PREPARATION OF THE SURFACE, AND THE MIXING, PLACING FINISHING AND CURING OF THE PATCHES AS DIRECTED BY THE ENGINEER. THE WORK SHALL BE PERFORMED UPON: THE CURBS, SIDEWALKS, PARAPETS, MEDIAN, ABUTMENTS, AND PIERS ON BRIDGE NUMBER CUY-90-1976 AND THE SOUTHERN ABUTMENTS AND PIERS ON BRIDGE NUMBER CUY-90-2090. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS, AND IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

B. MATERIALS: THE PATCHING MATERIAL SHALL BE SIKATOP 122 AND 123, THERMAL-CHEM PRODUCT NO. 3, POLYCARB MARK 193.4 AND 194, FIVE STAR HIGHWAY PATCH, UPKO BOSTICK 964, EUCLID CHEMICAL EUCCO VERTICOAT, MASTER BUILDERS EMACO OR DURALTOP AND DURALPATCH GEL. THE MATERIAL SHALL BE TINTED TO CURE TO THE COLOR OF EXISTING CONCRETE. ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE UNTIL SUCH A TIME AS HE AND THE ENGINEER ARE SURE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF PATCHING CONCRETE STRUCTURES WITH THE SELECTED MATERIAL.

C. REMOVAL OF CONCRETE: THE ENGINEER SHALL SOUND THE STRUCTURE AND OUTLINE THE AREAS TO BE REMOVED. ALL LOOSE, SOFT, HONEY-COMBED, AND DISINTEGRATED CONCRETE, PLUS ONE-FORTH OF AN INCH DEPTH OF SOUND CONCRETE SHALL BE REMOVED. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE-HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM ONE-HALF OF AN INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICAL. AFTER COMPLETION OF THE REMOVAL OPERATION, THE ENGINEER WILL RE-SOUND THE AREAS TO ENSURE THAT ONLY SOLID CONCRETE REMAINS. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN, AND WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35-POUND CLASS. WHERE EXISTING REINFORCING BARS WOULD BE LESS THAN ONE INCH FROM THE PROPOSED FINISHED SURFACE OF CONCRETE, THEY SHALL, IF PRACTICAL, BE DRIVEN BACK INTO RECESSES CUT IN THE MASONRY TO OBTAIN THAT COVERAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

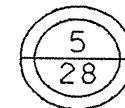
| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | GENERAL NOTES BR. NO. CUY-90-1490 |
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D. SURFACE PREPARATION: CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL BY NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SANDBLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. THE SURFACE SHALL BE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAMINANTS THAT ARE DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. ALL UNCHIPPED SURFACES THAT WILL RECEIVE NEW MATERIAL SHALL BE MECHANICALLY ROUGHENED.

E. PATCHING: THE MIXING, PROPORTIONING, PLACING AND CURING PROCEDURES AND TOOLS, EQUIPMENT, LABOR AND MATERIALS USED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THE SURFACE OF THE REPAIR AREA SHALL BE FLUSH WITH THE SURROUNDING AREA.

F. CURING: PATCHES SHALL BE CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

G. INSPECTION AND SOUNDING OF CONCRETE PATCHES: AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHED AREAS SHALL BE SOUNDED. ALL UNSOUND AREAS AND AREAS EXHIBITING CRACKING SHALL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE.

ALL SOUNDING, AND REPLACEMENT OF REJECTED AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

H. METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE FEET OF THE EXPOSED SURFACE OF ALL COMPLETED PATCHES, IRRESPECTIVE OF DEPTH OR THICKNESS OF THE PATCH COMPLETE, IN PLACE AND ACCEPTED. IF THE PATCH INCLUDES CORNERS OR EDGES OF MEMBERS ALL OF THE EXPOSED SURFACES SHALL BE INCLUDED. THE COST OF ALL LABOR, EQUIPMENT, INCIDENTALS AND MATERIALS FOR PATCHING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

I. BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

| | | |
|---------|---------|-----------------------------------------------------|
| ITEM | UNIT | DESCRIPTION |
| SPECIAL | SG. FT. | PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR |

ITEM SPECIAL - REPAIRING CONCRETE STRUCTURES WITH SOLVENT-FREE EPOXY RESIN

A. DESCRIPTION: PREPARATION OF THE SURFACE, AND THE MIXING AND APPLICATION OF THE EPOXY RESIN AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED UPON THE ABUTMENTS AND PIERS OF BRIDGE NUMBER CUY-90-1976 AND THE SOUTHERNLY ABUTMENT AND PIERS ON BRIDGE NUMBER CUY-90-2090. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

B. MATERIALS: THE MATERIAL SHALL BE A TWO PART, SOLVENT FREE, EPOXY RESIN COATING. THE MATERIAL SHALL BE SIKAGARD 62, EUCLID CHEMICAL EPOXY 452LV, POLY-CARB MARK-65, THERMAL-CHEM PRODUCT NO. 901 OR DURALKOTE.

A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE DURING THE APPLICATION OF THE EPOXY COATING UNTIL SUCH A TIME AS HE AND THE ENGINEER ARE SATISFIED THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF APPLYING THE EPOXY COATING.

C. SURFACE PREPARATION: THE SURFACE SHALL BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT, OIL, WAX, CURING COMPONENTS, EFFLORESCENCE, LAITANCE, COATING AND OTHER FOREIGN MATERIALS. THE USE OF CHEMICALS AND OTHER CLEANING COMPONENTS TO FACILITATE THE REMOVAL OF THESE FOREIGN MATERIALS SHALL BE APPROVED BY THE SEALER MANUFACTURER OR ITS REPRESENTATIVE BEFORE USE. THE SEALER SHALL BE APPLIED WITHIN 48 HOURS FOLLOWING SURFACE PREPARATION.

CLEANING EQUIPMENT SHALL BE FITTED WITH SUITABLE TRAPS, FILTERS, DRIP PANS AND OTHER DEVICES TO PREVENT OIL AND OTHER FOREIGN MATERIAL FROM BEING DEPOSITED ON THE SURFACE.

REQUIRED CLEANING METHODS FOR THE FOLLOWING CATEGORIES ARE:

A. NEW EXPOSED CONCRETE SURFACES WHICH ARE WATER CURED.

1. A WATER BLAST AT 7,000 P.S.I. NOZZLE PRESSURE WITH A FLOWRATE OF 3 TO 4 GALLONS PER MINUTE HELD NO MORE THAN 12 INCHES FROM THE SURFACE OF THE CONCRETE MINIMUM.

B. NEW EXPOSED CONCRETE SURFACES WHERE CURING COMPOUNDS HAVE BEEN USED.

1. A WATER BLAST AT 7,000 P.S.I. NOZZLE PRESSURE WITH A FLOWRATE OF 3 TO 4 GALLONS PER MINUTE HELD NO MORE THAN 12 INCHES FROM THE SURFACE OF THE CONCRETE MINIMUM OR

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| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | GENERAL NOTES BR. NO. CUY-90-1490 CUYAHOGA COUNTY | OHIO |
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- 2. A SANDBLAST FOLLOWED BY AIR BROOMING OR POWER SWEEPING TO REMOVE DUST AND SAND FROM THE SURFACES AND OPENED PORES.

ALL CURING COMPOUND SHALL BE REMOVED.

C. EXISTING CONCRETE SURFACES.

- 1. A WATER BLAST AT 7,000 P.S.I. NOZZLE PRESSURE WITH A FLOWRATE OF 3 TO 4 GALLONS PER MINUTE HELD NO MORE THAN 12 INCHES FROM THE SURFACE OF THE CONCRETE MINIMUM OR
- 2. ABRASIVE BLASTING FOLLOWED BY AIR BROOMING OR POWER SWEEPING TO REMOVE DUST AND SAND FROM THE SURFACE AND OPENED PORES. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA SHALL NOT BE ALLOWED.

D. APPLICATION: THE EPOXY SHALL BE APPLIED TO THE CONCRETE SURFACES UNDER CONDITIONS AND IN THE MANNER SPECIFIED BY THE ENGINEER. TWO COATS SHALL BE APPLIED AT A MAXIMUM COVERAGE RATE OF 150 SQUARE FEET PER GALLON FOR EACH COAT. THE FIRST COAT SHALL BE TINTED TO APPEAR DIFFERENT IN COLOR THAN THE SECOND COAT.

E. PAYMENT: THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, AND THE MANUFACTURER'S REPRESENTATIVE NECESSARY FOR THE COATING OF THE CONCRETE INCLUDING SURFACE PREPARATION, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

| ITEM | UNIT | DESCRIPTION |
|---------|---------|-------------------------------------------------------------|
| SPECIAL | SO. FT. | REPAIRING CONCRETE STRUCTURES WITH SOLVENT-FREE EPOXY RESIN |

ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY)

AN EPOXY SHALL BE APPLIED TO THE FOLLOWING AREAS:

THE SIDEWALKS, CURBS (INCLUDING GUTTER LINE), PARAPETS (BOTH SIDES) AND THE MEDIAN OF BRIDGE NUMBER CUY-90-1976. SEE MISCELLANEOUS DETAILS.

SEE THE PROPOSAL NO. 110 FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ITEM SPECIAL - SEALING CONCRETE SURFACES (ONE COAT OF EPOXY)

A. SEALER SHALL BE APPLIED TO EXPOSED EXISTING CONCRETE SURFACE AREAS OF BRIDGES WHICH HAVE PREVIOUSLY BEEN SEALED.

THE SEALER SHALL BE AN EPOXY. THE SELECTED SEALER SHALL BE ONE THAT MEETS THE REQUIREMENTS OF THE SOUTHERN CLIMATE EXPOSURE TEST AS OUTLINED IN NCHRP REPORT 244, EXHIBITING A 90% REDUCTION IN WATER ABSORPTION BY CONCRETE, AND IS ON ODOT'S APPROVED LIST WHICH IS MAINTAINED IN THE BUREAU OF TESTING AT 1600 WEST BROAD STREET IN COLUMBUS, OHIO.

DESCRIPTION

THIS ITEM SHALL CONSIST OF THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO PREPARE AND TREAT PORTLAND CEMENT CONCRETE SURFACES WITH AN APPROVED SEALER IN ACCORDANCE WITH THESE SPECIFICATIONS. THE SEALER SHALL BE APPLIED AT COVERAGE RATES SPECIFIED UNDER COVERAGE FOR THE TYPES OF SURFACES AND THE TYPE OF SEALER DESCRIBED HEREIN.

MATERIALS

THE EPOXY SEALER SHALL BE A TWO-COMPONENT EPOXY OF AT LEAST 50% SOLIDS CONTENT. THE PERFORMANCE OF THE EPOXY SHALL BE EQUAL TO OR SURPASS THE PERFORMANCE OF EPOXY SAMPLE 16-E OF NCHRP REPORT 244.

PREQUALIFICATION TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DRUMS OR CONTAINERS OF THE SEALER OR SEALER COMPONENTS SHALL BE DELIVERED TO THE JOB SITE UNOPENED AND WITH THE MANUFACTURER'S NUMBERED SEAL INTACT.

SURFACE CONDITION

SURFACES TO WHICH SEALERS ARE TO BE APPLIED SHALL BE DRY AND FREE FROM DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LANTANCE AND OTHER FOREIGN MATERIALS (WITH THE EXCEPTION OF EXISTING EPOXY SEALANT) AND SHALL BE STRUCTURALLY SOUND. WEAK SECTIONS AND SPALLED AREAS SHALL HAVE BEEN REPAIRED BEFORE APPLICATION OF THE SEALER.

THE SEALER SHALL BE APPLIED WITHIN 48 HOURS FOLLOWING SURFACE PREPARATION.

CLEANING EQUIPMENT SHALL BE FITTED WITH SUITABLE TRAPS, FILTERS, DRIP PANS AND OTHER DEVICES TO PREVENT OIL AND OTHER FOREIGN MATERIAL FROM BEING DEPOSITED ON THE SURFACE.

THE REQUIRED CLEANING METHOD SHALL BE A LIGHT SWEEP ABRASIVE-BLAST TO REMOVE ANY FOREIGN SUBSTANCES AND TO ROUGHEN THE EXISTING SEALER WITHOUT REMOVING THE EXISTING SEALER. THE ABRASIVE-BLAST SHALL BE FOLLOWED BY POWER SWEEPING OR AIR BROOMING.

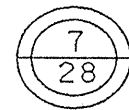
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BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA SHALL NOT BE ALLOWED.

APPLICATION

EPOXY SEALER SHALL BE APPLIED AT SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT OR ABOVE WITH A BRUSH, SQUEEGEE, ROLLER OR SPRAYING EQUIPMENT. SEALER SHALL NOT BE APPLIED IF RAIN IS ANTICIPATED WITHIN 6 HOURS FOLLOWING APPLICATION. AFTER APPLICATION, A TEMPERATURE AS LOW AS 30 DEGREES FAHRENHEIT IS PERMITTED. ONE COAT OF EPOXY SEALER SHALL BE APPLIED.

THE COAT SHALL BE TINTED TO FEDERAL COLOR STANDARD NUMBER 26231. PIGMENT CONTENT SHALL BE LIMITED SO AS NOT TO REDUCE SEALING EFFECTIVENESS.

AT 70 DEGREES FAHRENHEIT THE POT LIFE OF ONE GALLON OF MIXED COMPONENTS A & B VARIES FROM 2 TO 8 HOURS DEPENDING UPON THE PRODUCT AND THE MANUFACTURER. SOME EPOXIES MUST BE ALLOWED TO AGE FOR 30 MINUTES BEFORE USING. DO NOT MIX ANY MORE AT ONE TIME THAN CAN BE APPLIED BEFORE THE MATERIAL STARTS TO SET. CLEAN TOOLS AND EQUIPMENT PROMPTLY AFTER USE WITH EPOXY SOLVENT THINNER, XYLENE, TOLUENE OR METHYLETHYL KETONE SOLVENT.

TEST APPLICATION

PRIOR TO FINAL APPLICATION, THE CONTRACTOR SHALL APPLY SEALER TO MEASURED TEST COVERAGE AREAS ON HORIZONTAL AND VERTICAL SURFACES OF THE DIFFERENT COMPONENTS OF THE STRUCTURE TO BE SEALED FOR THE PURPOSE OF DEMONSTRATING THE DESIRED PHYSICAL AND VISUAL EFFECT OF AN EPOXY APPLICATION.

COVERAGE

EPOXY SEALER SHALL BE APPLIED TO CONCRETE SURFACES AS DESIGNATED ON THE PLANS AT THE RATE OF 120 SQUARE FEET PER GALLON PER COAT. THIS SPECIFIED COVERAGE SHALL BE OBTAINED REGARDLESS OF THE NUMBER OF PASSES PER COAT.

EACH GALLON OF SEALER SHALL NOT BE SPREAD OVER MORE SQUARE FEET THAN SPECIFIED.

DISCOLORATION

THE SEALER SHALL NOT PRODUCE A MOTTLED COLORATION OF THE CONCRETE OR NOTICEABLY DISCOLOR IT PERMANENTLY.

PRECAUTIONS

THE SEALER IS FLAMMABLE AND SHALL NOT BE USED NEAR HEAT, SPARKS OR AN OPEN FLAME. NO SMOKING SHALL BE ALLOWED IN THE VICINITY WHERE SEALERS ARE BEING APPLIED. FOLLOW NORMAL PRECAUTIONS AS WITH ANY TYPE OF SOLVENT MATERIAL.

DIRECT EPOXY CONTACT WITH THE SKIN SHOULD BE AVOIDED SINCE IT CAN CAUSE SKIN IRRITATION. IN CASE OF CONTACT, WASH THE SKIN WITH SOAP AND WATER. PROTECTIVE CLOTHING, GOGGLES AND GLOVES ARE RECOMMENDED. IN CASE OF ACCIDENTAL CONTACT WITH THE EYES, FLUSH IMMEDIATELY WITH PLENTY OF WATER AND REPORT TO A DOCTOR. IT IS FATAL IF EPOXY IS TAKEN INTERNALLY.

PROTECTION OF ADJOINING SURFACES AND THE PUBLIC

WHEN APPLYING A SEALER, THE CONTRACTOR SHALL PROTECT BY MASKING OFF OR BY OTHER MEANS ADJOINING SURFACES OF THE STRUCTURE WHICH ARE NOT TO BE SEALED. THE CONTRACTOR SHALL ALSO MAKE PROVISION TO PROTECT THE PUBLIC WHEN APPLYING SEALER TO THE FASCIA OF A BRIDGE AND/OR PORTIONS OF THE UNDERSIDE OF DECK OF A BRIDGE THAT SPANS AN AREA USED BY THE PUBLIC.

ENVIRONMENTAL REQUIREMENTS

PROTECT PLANTS AND VEGETATION FROM OVERSPRAY AND SUBSEQUENT BROWNING BY COVERING WITH DROP CLOTHS.

MIXING

EPOXY SEALERS ARE SUPPLIED IN TWO-COMPONENT SYSTEMS. MIXING SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDED PROCEDURES. MATERIAL SHALL BE MIXED TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING APPLICATION.

EQUIPMENT

APPLICATION EQUIPMENT SHALL BE THAT WHICH IS RECOMMENDED BY THE SEALER MANUFACTURER.

STORAGE

EPOXY COMPONENTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS IN A DRY LOCATION AND AT NORMAL ROOM TEMPERATURE (65 F TO 85 F). ABNORMAL STORAGE CONDITIONS SHALL BE APPROVED BY THE MANUFACTURER.

METHOD OF MEASUREMENT

THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE YARDS OF SURFACES SEALED AND SHALL INCLUDE SURFACE PREPARATION, MATERIAL, APPLICATION, AND PREQUALIFICATION TESTING COST.

BASIS OF PAYMENT

PAYMENT FOR COMPLETED WORK WILL BE MADE AT THE CONTRACT PRICES FOR:

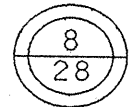
| ITEM | UNIT | DESCRIPTION |
|---------|-------------|--------------------------------------------------|
| SPECIAL | SQUARE YARD | SEALING OF CONCRETE SURFACES (ONE COAT OF EPOXY) |

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| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | GENERAL NOTES BR. NO. CUY-90-1490 CUYAHOGA COUNTY | OHIO |
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GENERAL NOTES

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CUYAHOGA COUNTY
 CUY-90-14.90



ITEM SPECIAL - URETHANE TOP COAT SEALER FOR CONCRETE SURFACES
 THIS ITEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER CONCRETE AREAS COATED WITH EPOXY SEALER OR SOLVENT-FREE EPOXY RESIN. THE COLOR SHALL BE FEDERAL COLOR STANDARD NO. 595A-16187.

THE URETHANE TOPCOAT SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AT THE MINIMUM APPLICATION RATE OF 150 SQ. FT. PER GALLON AFTER THE EPOXY SEALER HAS BECOME DRY TACKY AND 1 1/2 TO 6 HOURS HAVE ELAPSED SINCE THE EPOXY WAS APPLIED. THE SURFACE SHALL BE CLEAN WHEN THE URETHANE IS APPLIED. APPLICATION SHALL BE AIRLESS SPRAY, BRUSH OR ROLLER AS DIRECTED BY THE ENGINEER.

THE URETHANE TOP COAT SHALL BE ONE OF THE FOLLOWING PRODUCTS:

- 1) AMERON AMERCOAT 450 H.S.
- 2) POLY-CARB MARK 73
- 3) TNEMEC SERIES 70 ENDURA SHIELD
- 4) DURAL AQUATHANE

THE COST OF ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE PAID FOR UNDER:

| ITEM | UNIT | DESCRIPTION |
|---------|---------|----------------------------------------------|
| SPECIAL | SQ. YD. | URETHANE TOPCOAT SEALER FOR CONCRETE SURFACE |

ITEM SPECIAL - COATING OF EXISTING RAIL, FENCE AND TRANSVERSE ANGLE

THIS ITEM SHALL CONSIST OF PAINTING THE EXISTING RAIL AND FENCE ON THE INDICATED BRIDGES IN THE GENERAL SUMMARY.

THIS ITEM SHALL CONSIST OF PAINTING THE EXISTING TRANSVERSE ANGLES ON THE UNDERSIDE OF THE DECK. BRIDGE NUMBER CUY-90-2090.

SPECIFICATIONS 514.03 AND 514.06 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY TO THIS ITEM. THE COATING SHALL BE ALUMINUM IN COLOR. SURFACE PREPARATION SHALL CONSIST OF CLEANING THE SURFACES WITH STIFF FIBER OR WIRE BRUSHES OR SCRAPERS TO REMOVE ANY RUST AND CONTAMINANTS AND AIR-BLOWING THE SURFACE CLEAN. SURFACE PREPARATION SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. THE ALUMINUM PIGMENTED EPOXY SHALL BE APPLIED BY BRUSH OR ROLLER. AREAS NOT TO BE PAINTED SHALL BE COVERED SO THAT SPILLAGE CAN NOT OCCUR ON THESE AREAS.

THE COATING USED SHALL BE ONE OF THE PRODUCTS LISTED BELOW:

CARBOMASTIC 15
 MANUFACTURED BY:
 CARBOLINE
 350 HANLEY INDUSTRIAL COURT
 ST. LOUIS, MISSOURI 63144
 TELEPHONE: (314) 644-1000

AMERLOCK 400 AL
 MANUFACTURED BY:
 AMERON
 254 WELSH POOL RD.
 LIONVILLE, PENNSYLVANIA 19353
 TELEPHONE: (215) 524-1350

ALUMAPOXY 75-A-1 ALUMINUM
 MANUFACTURED BY:
 THE VALSPAR COMPANY
 901 NORTH GREENWOOD AVE.
 KANKAKEE, ILLINOIS 60901
 TELEPHONE: (815) 933-5561

EPOXY MASTIC COATING
 MANUFACTURED BY:
 SHERWIN WILLIAMS
 1421 ST. CLAIR
 CLEVELAND, OHIO 44114
 TELEPHONE (216) 771-7410

THE COAT OF ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. PAYMENTS WILL BE MADE UNDER:

| ITEM | UNIT | DESCRIPTION |
|---------|------|------------------------------------------------------|
| SPECIAL | LUMP | COATING OF EXISTING RAIL, FENCE AND TRANSVERSE ANGLE |

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | GENERAL NOTES BR. NO. CUY-90-1490 | CUYAHOGA COUNTY | OHIO |
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| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE | | | |
| MJM | JWO | BGW | GWM | 6-92 | | | |

GENERAL NOTES

PLAN NO. _____

CUYAHOGA COUNTY
CUY-90-14.90

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ITEM SPECIAL RAIL/FENCE TRANSITION

DESCRIPTION

THIS ITEM SHALL CONSIST OF THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE TRANSITION BETWEEN THE EXISTING RIGHT-OF-WAY FENCE AND THE PEDESTRIAN BRIDGE RAIL, (CUY-90-2090).

THE FABRIC SHALL BE THE SAME HEIGHT AS THE BRIDGE RAILING (3' 6") ACT AS A CONTINUATION OF THE BRIDGE RAILING FENCE, AND CONNECT DIRECTLY TO THE EXISTING RIGHT-OF-WAY FENCE POLE.

MATERIAL

ALL MATERIAL SHALL CONFORM TO THE CONSTRUCTION MATERIALS SPECIFICATION (CMS) SECTION 607.02. THE FABRIC SHALL BE 2" MESH WOVEN FROM NO. 9 GAUGE, ALL ALUMINUM ALLOY COATED (AASHTO M-181, TYPE II).

CONNECT FABRIC TO EXISTING LINE POST. THE CONTRACTOR SHALL FURNISH A SUFFICIENT NUMBER OF GALVANIZED WIRE FASTENERS OR CLAMPS, OF NOT LESS THAN 0.120 INCH IN DIAMETER FOR ATTACHING FENCE WIRE TO THE POST. MISCELLANEOUS BRACKETS FOR STEEL POSTS MAY BE OF COMMERCIAL WELDABLE STEEL HAVING A STRENGTH OF NOT LESS THAN 33,000 P.S.I. ALL PARTS SHALL BE STEEL GALVANIZED, CONFORMING TO CMS 710.02, AND ALL GALVANIZING SHALL BE DONE AFTER FABRICATION. FIELD WELDING SHALL NOT BE PERMITTED.

THE COST OF ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE RAIL/FENCE TRANSITION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THIS ITEM. PAYMENT WILL BE MADE UNDER:

| ITEM | UNIT | DESCRIPTION |
|---------|------|-----------------------|
| SPECIAL | EACH | RAIL/FENCE TRANSITION |

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
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| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE |
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GENERAL NOTES
BR. NO. CUY-90-1490

CUYAHOGA COUNTY

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GENERAL SUMMARY

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 CUY-90-14.90

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| ITEM | ITEM EXT. | DESCRIPTION | TOTAL | UNIT | ① CUY-90-1490 R STARKWEATHER AV. UNDER I-90 CLEVELAND | ② CUY-90-1490 L STARKWEATHER AV. UNDER I-90 CLEVELAND | ③ CUY-90-1506 KENILWORTH UNDER I-90 CLEVELAND | ④ CUY-90-1976 E. 55th ST. OVER I-90 CLEVELAND | ⑤ CUY-90-2035 R C.E.I. INTAKE UNDER I-90 CLEVELAND |
|---------|-----------|------------------------------------------------------------------|--------|------|-------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------|
| SPECIAL | 51400050 | SURFACE PREPERATION OF EXISTING STEEL, SYSTEM OZEU | 243496 | S.F. | 27400 | 9200 | 33400 | N/A | 23988 |
| SPECIAL | 51400056 | FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU | 243496 | S.F. | 27400 | 9200 | 33400 | N/A | 23988 |
| SPECIAL | 51400060 | FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU | 243496 | S.F. | 27400 | 9200 | 33400 | N/A | 23988 |
| SPECIAL | 51400066 | FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU | 243496 | S.F. | 27400 | 9200 | 33400 | N/A | 23988 |
| SPECIAL | 51400500 | CAULKING | 14890 | L.F. | N/A | N/A | N/A | N/A | N/A |
| SPECIAL | 51400504 | GRINDING FLANGE EDGES | 5632 | L.F. | N/A | N/A | N/A | N/A | N/A |
| 202 | | PORTIONS OF STRUCTURES REMOVED | LUMP | LUMP | N/A | N/A | N/A | N/A | LUMP |
| SPECIAL | 51911502 | PATCHING CONCRETE WITH TROWELABLE MORTAR | 1498 | S.F. | N/A | N/A | N/A | 1470 | N/A |
| SPECIAL | | REPAIRING CONCRETE SURFACE WITH SOLVENT FREE EPOXY RESIN | 919 | S.Y. | N/A | N/A | N/A | 887 | N/A |
| SPECIAL | 51267502 | SEALING CONCRETE SURFACES (EPOXY) | 745 | S.Y. | N/A | N/A | N/A | 745 | LUMP |
| SPECIAL | | SEALING CONCRETE SURFACES (ONE COAT OF EPOXY) | 5041 | S.Y. | N/A | N/A | N/A | N/A | N/A |
| SPECIAL | | URETHANE TOPCOAT SEALER FOR CONCRETE SURFACES | 5073 | S.Y. | N/A | N/A | N/A | 1632 | N/A |
| SPECIAL | | COATING OF EXISTING RAIL AND FENCE | LUMP | LUMP | N/A | N/A | N/A | N/A | LUMP |
| SPECIAL | | RAIL/FENCE TRANSITION | 4 | EACH | N/A | N/A | N/A | N/A | N/A |
| 624 | | MOBILIZATION | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP |
| 614 | | MAINTAINING TRAFFIC | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP |

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
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| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE |
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GENERAL SUMMARY
 BRIDGE PAINTING
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GENERAL SUMMARY

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 CUY-90-14.90

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| ITEM | ITEM EXT. | DESCRIPTION | UNIT | ⑥ CUY-90-2035 L C.E.I. INTAKE UNDER I-90 CLEVELAND | ⑦ CUY-90-2046 R C.E.I. OUTLET UNDER I-90 CLEVELAND | ⑧ CUY-90-2046 L C.E.I. OUTLET UNDER I-90 CLEVELAND | ⑨ CUY-90-2069 E. 72nd St. UNDER I-90 CLEVELAND | ⑩ CUY-90-2090 GORDON PARK PEDESTRIAN BRIDGE OVER I-90 CLEVELAND | ⑪ CUY-90-2105 M.L.K. BLVD. UNDER I-90 CLEVELAND |
|---------|-----------|------------------------------------------------------------------|------|----------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------|
| SPECIAL | 51400050 | SURFACE PREPERATION OF EXISTING STEEL, SYSTEM OZEU | S.F. | 22100 | 27688 | 30300 | 30300 | 6830 | 32290 |
| SPECIAL | 51400056 | FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU | S.F. | 22100 | 27688 | 30300 | 30300 | 6830 | 32290 |
| SPECIAL | 51400060 | FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU | S.F. | 22100 | 27688 | 30300 | 30300 | 6830 | 32290 |
| SPECIAL | 51400066 | FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU | S.F. | 22100 | 27688 | 30300 | 30300 | 6830 | 32290 |
| SPECIAL | 51400500 | CAULKING | L.F. | N/A | N/A | N/A | 7570 | N/A | 7320 |
| SPECIAL | 51400504 | GRINDING FLANGE EDGES | L.F. | N/A | N/A | N/A | 3240 | N/A | 2392 |
| 202 | | PORTIONS OF STRUCTURES REMOVED | LUMP | N/A | LUMP | N/A | N/A | N/A | N/A |
| SPECIAL | 51911502 | PATCHING CONCRETE WITH TROWELABLE MORTAR | S.F. | N/A | N/A | N/A | N/A | 28 | N/A |
| SPECIAL | 51267502 | REPAIRING CONCRETE SURFACE WITH SOLVENT FREE EPOXY RESIN | S.Y. | N/A | N/A | N/A | N/A | 32 | N/A |
| SPECIAL | | SEALING CONCRETE SURFACES (EPOXY) | S.Y. | N/A | N/A | N/A | N/A | N/A | N/A |
| SPECIAL | | SEALING CONCRETE SURFACES (ONE COAT OF EPOXY) | S.Y. | N/A | N/A | N/A | 838 | 3191 | 1012 |
| SPECIAL | | URETHANE TOPCOAT SEALER FOR CONCRETE SURFACES | S.Y. | N/A | N/A | N/A | 838 | 3223 | 1012 |
| SPECIAL | | COATING OF EXISTING RAIL AND FENCE | LUMP | LUMP | LUMP | LUMP | N/A | LUMP | N/A |
| SPECIAL | | RAIL/FENCE TRANSITION | EACH | N/A | N/A | N/A | N/A | 4 EACH | N/A |
| 624 | | MOBILIZATION | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP |
| 614 | | MAINTAINING TRAFFIC | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP | LUMP |

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| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | GENERAL SUMMARY BRIDGE PAINTING | |
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BRIDGE DATA

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 CUYAHOGA COUNTY
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| | ① | ② | ③ | ④ |
|-------------------------------------|-----------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------|
| PART NUMBER : | | | | |
| BRIDGE NUMBER : | CUY-90-1490 R | CUY-90-1490 L | CUY-90-1506 | CUY-90-1976 |
| LOCATION : | STARKWEATHER AV. UNDER I-90 | STARKWEATHER AV. UNDER I-90 | KENILWORTH UNDER I-90 | E. 55th ST. OVER I-90 |
| MUNICIPALITY : | CLEVELAND | CLEVELAND | CLEVELAND | CLEVELAND |
| VERTICAL CLEARANCE | 18'-4" | 18'-4" | 14'-6" | 16'-3" |
| OVERALL LENGTH | 163'-1 1/2 " | 163'-1 1/2 " | 167'-1 1/2 " | 170' |
| NUMBER OF SPANS | 3 | 3 | 3 | 3 |
| LONGEST SPAN | 67'-3" | 67'-3" | 67'-3" | 83' |
| ROADWAY WIDTH | 82' | 87' | 104' | 56' |
| GIRDER SIZE | 36 WF 150 36 WF 135 | 36 WF 160 36 WF 135 | 36 WF 135 36 WF 150 | N/A |
| NUMBER OF GIRDERS | 13 | 11 | 19 | N/A |
| % MISC. STEEL | 7% | 7% | 13% | N/A |
| MAINTENANCE OF TRAFFIC RESTRICTIONS | ON BRIDGE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM SUNSET TO SUNRISE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM SUNSET TO SUNRISE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM |
| | UNDER BRIDGE | NO LANE CLOSURES SUNSET TO SUNRISE | NO LANE CLOSURES SUNSET TO SUNRISE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM |

NOTE: THE AREA OF STEEL LISTED FOR EACH BRIDGE REPRESENTS THE TOTAL SURFACE AREA OF STRUCTURAL STEEL TO BE COATED.

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
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BRIDGE DATA
 BRIDGE PAINTING
 CUYAHOGA COUNTY OHIO

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| | | | | |
|-------------------------------------|-------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| PART NUMBER : | ⑤ | ⑥ | ⑦ | ⑧ |
| BRIDGE NUMBER : | CUY-90-2035 R | CUY-90-2035 L | CUY-90-2046 R | CUY-90-2046 L |
| LOCATION : | C.E.I. INTAKE | C.E.I. INTAKE | C.E.I. OUTLET | C.E.I. OUTLET |
| MUNICIPALITY : | UNDER I-90 CLEVELAND | UNDER I-90 CLEVELAND | UNDER I-90 CLEVELAND | UNDER I-90 CLEVELAND |
| VERTICAL CLEARANCE | 10'-0" | 10'-0" | 10'-0" | 10'-0" |
| OVERALL LENGTH | 179'-2" | 180'-1" | 179'-2" | 180'-1" |
| NUMBER OF SPANS | 3 | 3 | 3 | 3 |
| LONGEST SPAN | 60'-0" | 60'-0" | 60'-0" | 60'-0" |
| ROADWAY WIDTH | 67' | 64' | 74' | 77' |
| GIRDER SIZE | 36 WF 160 | 36 WF 180 | 36 WF 160 | 36 WF 182 |
| NUMBER OF GIRDERS | 10 | 13 | 11 | 15 |
| % MISC. STEEL | 19% | 13% | 19% | 13% |
| MAINTENANCE OF TRAFFIC RESTRICTIONS | ON BRIDGE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM, SUNSET TO SUNRISE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM, SUNSET TO SUNRISE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM, SUNSET TO SUNRISE |
| | UNDER BRIDGE | N/A | N/A | N/A |

NOTE: THE AREA OF STEEL LISTED FOR EACH BRIDGE REPRESENTS THE TOTAL SURFACE AREA OF STRUCTURAL STEEL TO BE COATED.

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
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BRIDGE DATA
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| | ⑨ | ⑩ | ⑪ | |
|-------------------------------------|--------------------------------------|--------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------|
| PART NUMBER : | CUY-90-2069 | CUY-90-2090 | CUY-90-2105 | |
| BRIDGE NUMBER : | E. 72nd. St. | GORDON PARK | M.L.K. BLVD | |
| LOCATION : | UNDER I-90 | PEDESTRIAN BRIDGE | UNDER I-90 | |
| MUNICIPALITY : | CLEVELAND | OVER I-90 | CLEVELAND | |
| VERTICAL CLEARANCE | 14'-3" | 14'-3" | 13'-8" | |
| OVERALL LENGTH | 180'-1" | 459' | 96' | |
| NUMBER OF SPANS | 1 | 14 | 1 | |
| LONGEST SPAN | 180'-0" | 101'-0" | 92'-0" | |
| ROADWAY WIDTH | 104' | N/A | 132' | |
| GIRDER SIZE | FLANGE=14" X 3/4" WEB=48" X 5/16" | ARCH BOX 1.74' X 1.42' | FLANGE 14" X 3/4" WEB=45" X 5/16" | |
| NUMBER OF GIRDERS | 18 | 2 | 26 | |
| % MISC. STEEL | 28% | 27% | 28% | |
| MAINTENANCE OF TRAFFIC RESTRICTIONS | ON BRIDGE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM | NO LANE CLOSURES BETWEEN MEMORIAL DAY AND LABOR DAY | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM |
| | UNDER BRIDGE | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM | NO LANE CLOSURES WEEKDAYS 6AM-9AM, 3PM-7PM |

NOTE: THE AREA OF STEEL LISTED FOR EACH BRIDGE REPRESENTS THE TOTAL SURFACE AREA OF STRUCTURAL STEEL TO BE COATED.

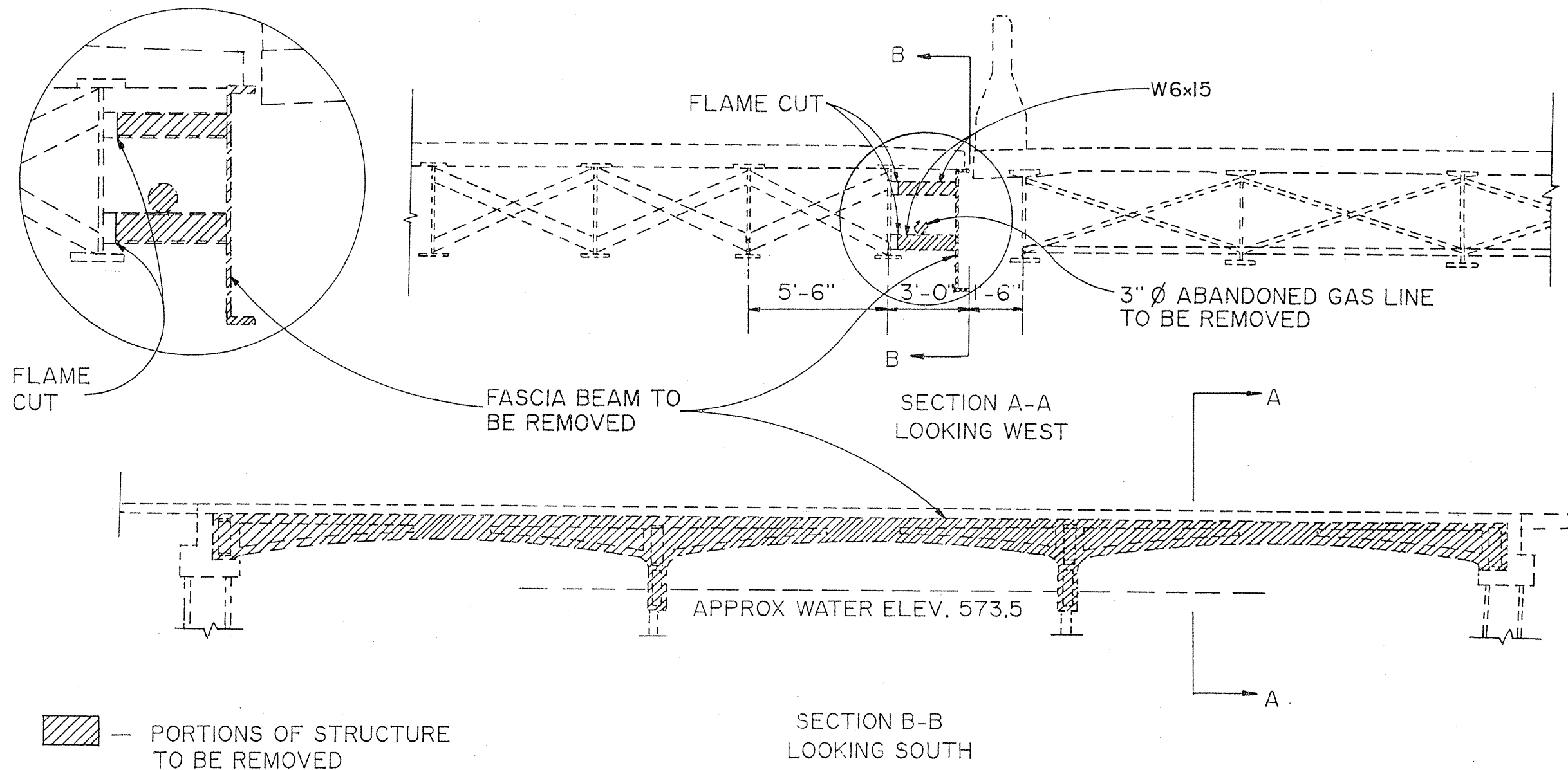
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BRIDGE DATA
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FASCIA BEAM REMOVAL DETAIL

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| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
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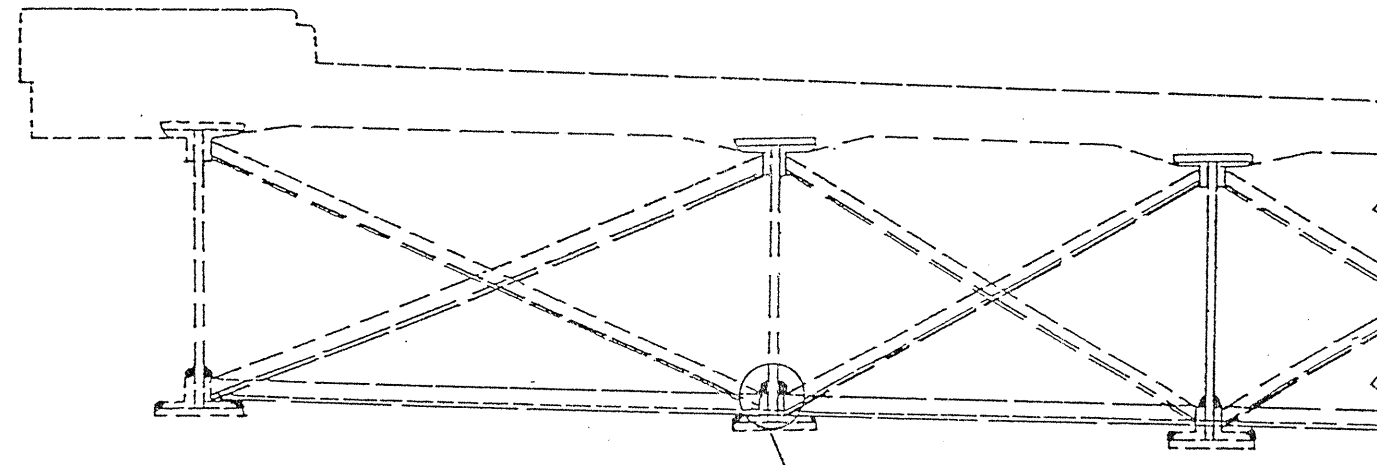
FASCIA BEAM REMOVAL DETAIL
 CUY-90-2035R AND CUY-90-2046R
 CUYAHOGA COUNTY

OHIO

CAULKING DETAIL

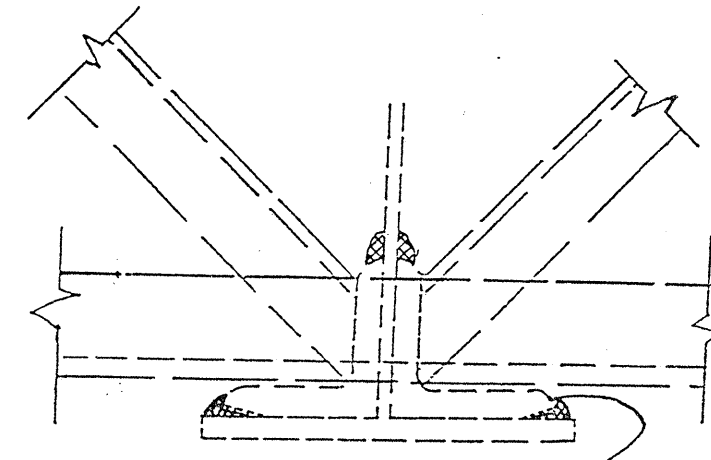
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DETAIL A

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| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
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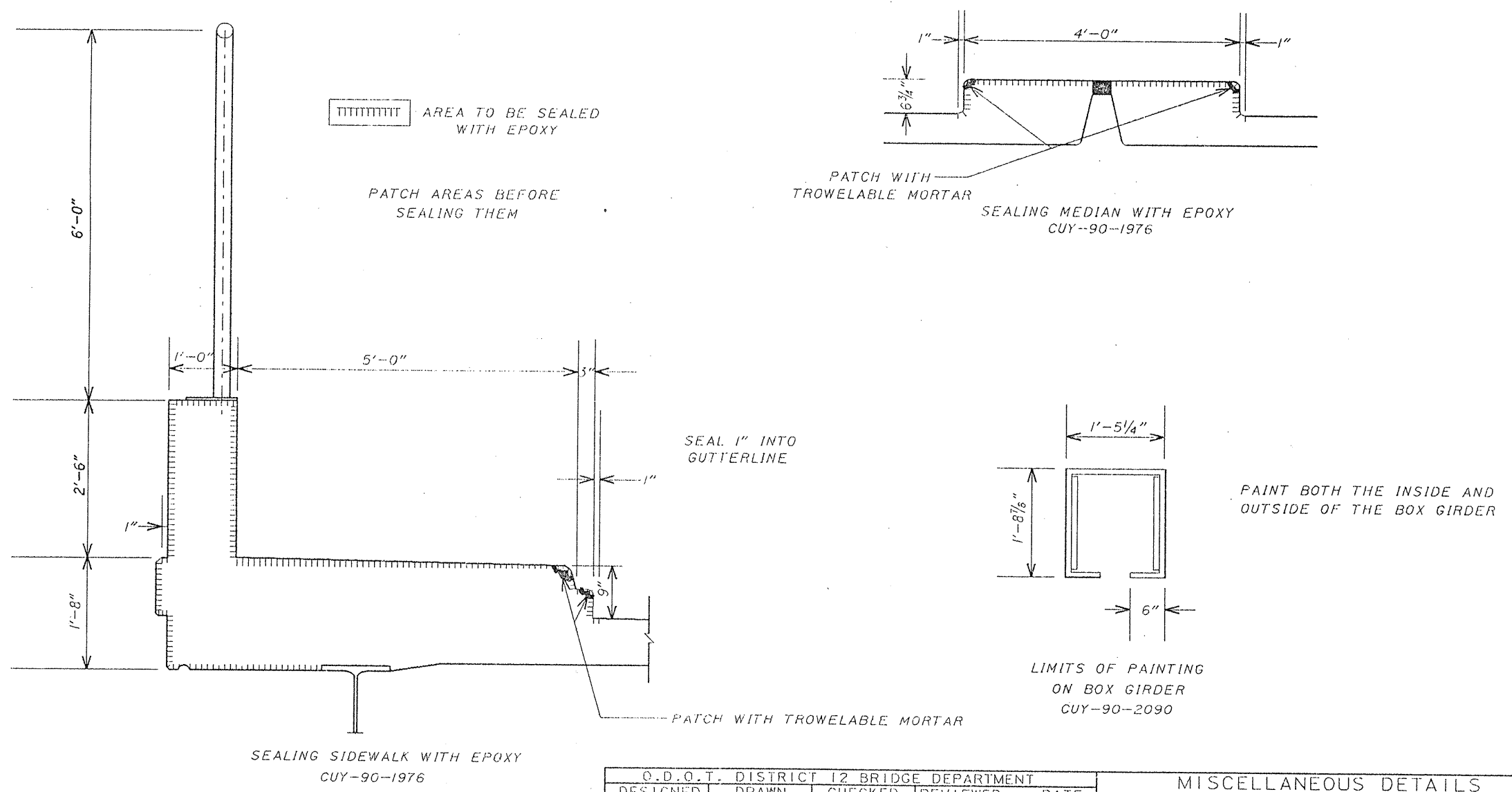
CAULKING DETAIL
 BR. NO. CUY-90-2069 AND CUY-90-2105BR
 CUYAHOGA COUNTY OHIO

MISCELLANEOUS DETAILS

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CUYAHOGA COUNTY
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| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | MISCELLANEOUS DETAILS BR. NO. CUY-90-1976 AND CUY-90-2090 CUYAHOGA COUNTY OHIO |
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| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE | |
| MJM | JWO | BGW | GWM | 6-92 | |

MAINTENANCE OF TRAFFIC

PLAN NO.

CUYAHOGA COUNTY
CUY-90-14.90

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ITEM 614 - MAINTAINING TRAFFIC

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRUCTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AT LEAST 3 DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY THE LOCAL LAW ENFORCEMENT AGENCIES OF LANE CLOSURES AT LEAST THREE DAYS PRIOR TO IMPLEMENTATION.

RESTRICTION

ALL THROUGH TRAFFIC LANES SHALL BE KEPT OPEN AT ALL TIMES EXCEPT AS NOTED HEREIN:

LANE CLOSURE SHALL BE RESTRICTED AS NOTED ON THE BRIDGE DATA SHEET PAGE.

AT LEAST ONE THROUGH LANE IN EACH DIRECTION SHALL BE MAINTAINED DURING LANE CLOSURE OPERATIONS.

NO TWO LANE CLOSURES DURING WEEKDAYS FROM 6:00 AM TO 7:00 PM.

NO TWO LANE CLOSURES ON FRIDAY FROM 6:00 AM TO MIDNIGHT.

NO LANE CLOSURES SHALL BE IMPLEMENTED WHEN NO WORK IS BEING PERFORMED.

PEDESTRIAN BRIDGE CAN NOT BE CLOSED BETWEEN MEMORIAL DAY AND LABOR DAY.

EXIT AND ENTRANCE RAMP LANES SHALL REMAIN OPEN AT ALL TIMES AND EXHIBIT A MINIMUM WIDTH OF 10 FEET.

NO WORK SHALL BE DONE BETWEEN SUNSET AND SUNRISE ON CUY-90-2035L&R AND CUY-90-2046L&R.

NOTWITHSTANDING THE ABOVE, NO LANE CLOSURES SHALL OCCUR DURING THE PERIOD BEGINNING AT 12:00 NOON ON THE DAY PRECEDING AND CONTINUING UNTIL NOON ON THE DAY FOLLOWING LEGAL HOLIDAYS AND HOLIDAY WEEKENDS SUCH AS MEMORIAL DAY, FOURTH OF JULY, AND LABOR DAY. FURTHERMORE, NO LANE CLOSURES SHALL BE IMPLEMENTED OR IN PLACE DURING INCREASED TRAFFIC VOLUMES CAUSED BY SPECIAL EVENTS OR WHEN THE ENGINEER DEEMS THE CLIMATOLOGICAL CONDITIONS TOO HAZARDOUS.

MAINTENANCE OF TRAFFIC SYSTEMS

A. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE 'MANUAL'. THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITIONS EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

B. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE MANUAL, AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS OR AS SHOWN ON STANDARD DRAWING MT-97.10 DATED APRIL 29, 1988.

C. ADVANCE WARNING SIGNS

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

D. FLASHING ARROW REQUIREMENT

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORIST SHALL BE WARNED AND DIRECTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW FOR EACH LANE CLOSED IN ADDITION TO THOSE PROVISIONS SET FORTH IN THE 'MANUAL' AND STD. DRG. TC-35.10.

E. FLAGGERS

SHALL BE IN ACCORDANCE WITH MT-97.10.

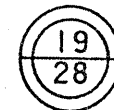
THE MAINTENANCE OF TRAFFIC PLANS REQUIRE THE CONCURRENT USE OF TWO (2) FLAGGERS. ADDITIONAL FLAGGERS SHALL BE USED WHEN DEEMED NECESSARY AS DIRECTED BY THE ENGINEER.

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | MAINTENANCE OF TRAFFIC BR. NO. CUY-90-1490 |
|----------------------------------------|-------|---------|----------|------|-----------------------------------------------|
| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE | |
| MJM | JWO | BGW | GWM | 6-92 | CUYAHOGA COUNTY OHIO |

MAINTENANCE OF TRAFFIC

PLAN NO.

CUYAHOGA COUNTY
CUY-90-14.90



F. LAW ENFORCEMENT OFFICER WITH PATROL CAR

THE CONTRACTOR SHALL PROVIDE AND PAY ALL COST FOR THE SERVICES OF LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR THE EXCLUSIVE PURPOSE OF CONTROLLING TRAFFIC AS DETERMINED BY THE ENGINEER. THE NUMBER OF OFFICERS AND CARS REQUIRED FOR THIS PURPOSE SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE OFFICERS SHALL MOVE THEIR PATROL CARS AS NECESSARY TO INSURE THEIR CONSTANT PRESENCE AT THE POINT(S) OF SLOWDOWN, STOPPAGE OR BACK-UP. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ARRANGEMENTS FOR SCHEDULING AND PAYMENT OF LAW ENFORCEMENT OFFICER WITH PATROL CAR. PAYMENT FOR THE ABOVE WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM SPECIAL - MAINTAINING TRAFFIC.

G. PORTABLE CONCRETE BARRIER

PORTABLE CONCRETE BARRIER (PCB) MAY BE USED TO HOLD TARPS DOWN ON ALL INTERSTATE LANE CLOSURES. THE CABLES AND TARPS SHALL BE LOCATED ON THE NON-TRAFFIC SIDE OF THE BARRIER. ALTERNATES MAY BE ALLOWED AS DIRECTED BY THE ENGINEER. THE PCB SHALL BE REMOVED WITH EACH CLOSURE. BARRIER TAPER SHALL BE AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEET. INSTALLATION AND REMOVAL OF THE PCB FOR EACH CLOSURE SHALL BE INCLUDED IN THE LUMP SUM BID ITEM.

H. PROTECTION OF PUBLIC

WHENEVER ANY WORK IS BEING DONE DIRECTLY OVER A TRAVELED LANE OR SHOULDER THE CONTRACTOR SHALL SUPPLY SUFFICIENT SAFETY EQUIPMENT AS APPROVED BY THE DIRECTOR TO PROTECT THE TRAVELING PUBLIC FROM ANY CONSTRUCTION DEBRIS. IF TRAVELED LANES UNDER STRUCTURES ARE TO BE CLOSED FOR REASONS OF SAFETY, METHOD AND TIME OF CLOSURE MUST BE APPROVED PRIOR TO IMPLEMENTATION. PERSONAL CARS SHALL NOT BE PARKED WITHIN THE L/A.

I. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE 'MANUAL', THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY, IN THE VICINITY OF THE WORK AREA, IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE FOREMENTIONED ITEMS.

TRAFFIC CONTROL MATERIAL

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES SHALL BE AS PROVIDED IN THE 'MANUAL', OR IN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

B. SIGN SUPPORTS

SIGN SUPPORTS SHALL BE AS SHOWN ON TEMPORARY SIGN SUPPORT SHEETS.

C. FLASHING ARROWS

THE ELECTRIC FLASHING ARROW SHALL BE AS SHOWN ON STANDARD CONSTRUCTION DRAWING TC-35-10.

D. CONES

CONES SHALL BE LOCATED AS SHOWN IN THE 'MANUAL' AND THE TRAFFIC CONTROL PLANS.

E. DRUMS

DRUMS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC CONTROL PLANS AND ARE REQUIRED FOR NIGHTTIME CLOSURES.

F. PORTABLE CONCRETE BARRIER

PORTABLE CONCRETE BARRIER SHALL BE AS PER STANDARD DRAWING MC-9.2 DATED 5-6-91.

PEDESTRIAN TRAFFIC

THE PEDESTRIAN BRIDGE SHALL REMAIN OPEN BETWEEN MEMORIAL DAY AND LABOR DAY.

THE BRIDGE SHALL BE CLOSED TO PEDESTRIAN TRAFFIC DURING THE TIME OF CONSTRUCTION. THIS CLOSURE INVOLVES APPROPRIATE SIGNING AND BARRICADES.

THE SIGNING SHALL INVOLVE TWO PHASES OF SIGNING. THE FIRST PHASE SHALL BE AN ADVANCE NOTICE THAT THE PEDESTRIAN BRIDGE WILL BE CLOSED. THE SIGN SHALL BE AS SHOWN AND SHALL BE PLACED TWO WEEKS PRIOR TO THE ACTUAL CLOSING.

THE SECOND PHASE SHALL BE THE ACTUAL 'PEDESTRIAN BRIDGE CLOSED' SIGNING AND BARRICADES AS REQUIRED.

THE SIGNS AND BARRICADES SHALL BE FURNISHED, PLACED, AND MAINTAINED BY THE CONTRACTOR.

PAYMENT

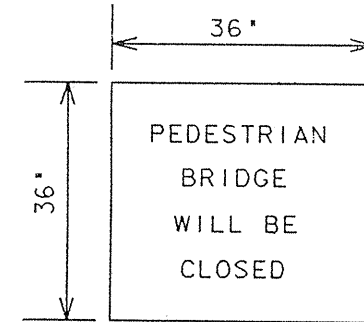
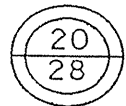
PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING TEMPORARY MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE MADE UNDER THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | MAINTENANCE OF TRAFFIC BR. NO. CUY-90-1490 |
|----------------------------------------|-------|---------|----------|------|-----------------------------------------------|
| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE | |
| MJM | JWD | BGW | GWM | 6-92 | CUYAHOGA COUNTY |

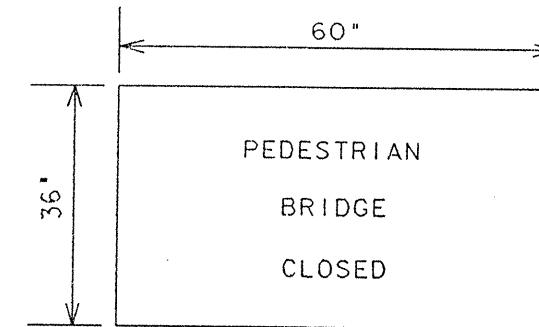
OHIO

MAINTENANCE OF TRAFFIC

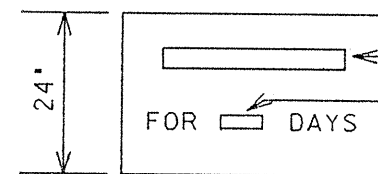
PLAN NO. _____
 CUYAHOGA COUNTY
 CUY-90-14.90



NOTE: SIGNS SHALL BE ORANGE BACKGROUND WITH 3" BLACK LETTERING.



NOTE: SIGNS SHALL BE A WHITE BACKGROUND WITH 3" BLACK LETTERING.



DATE OF CLOSURE

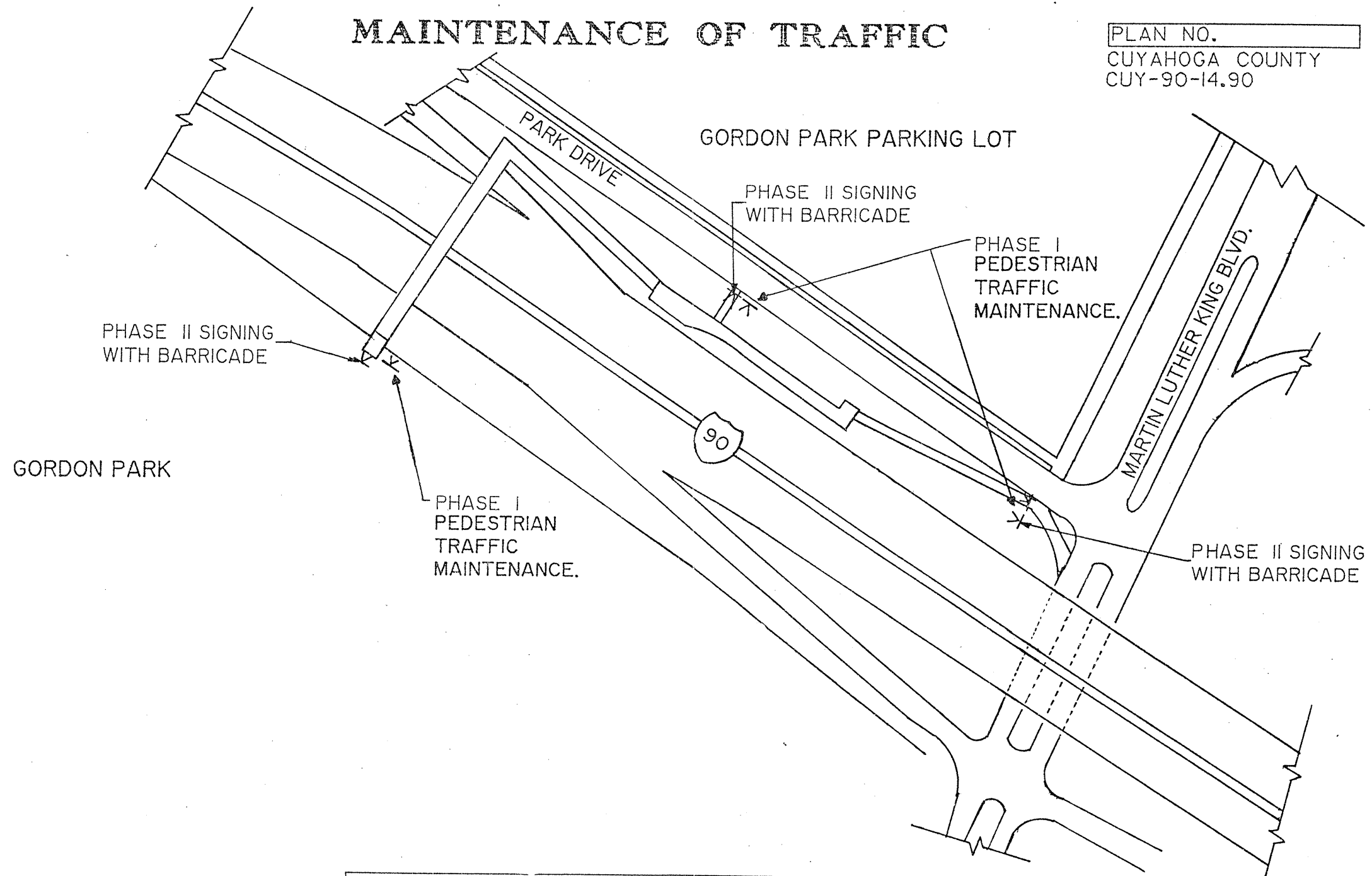
LENGTH OF TIME OF CLOSURE

| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | | MAINTENANCE OF TRAFFIC BR. NO. CUY-90-1490 |
|----------------------------------------|-------|---------|----------|------|-----------------------------------------------|
| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE | |
| MJM | JWO | BGW | GWM | 6-92 | CUYAHOGA COUNTY OHIO |

MAINTENANCE OF TRAFFIC

PLAN NO. _____
 CUYAHOGA COUNTY
 CUY-90-14.90

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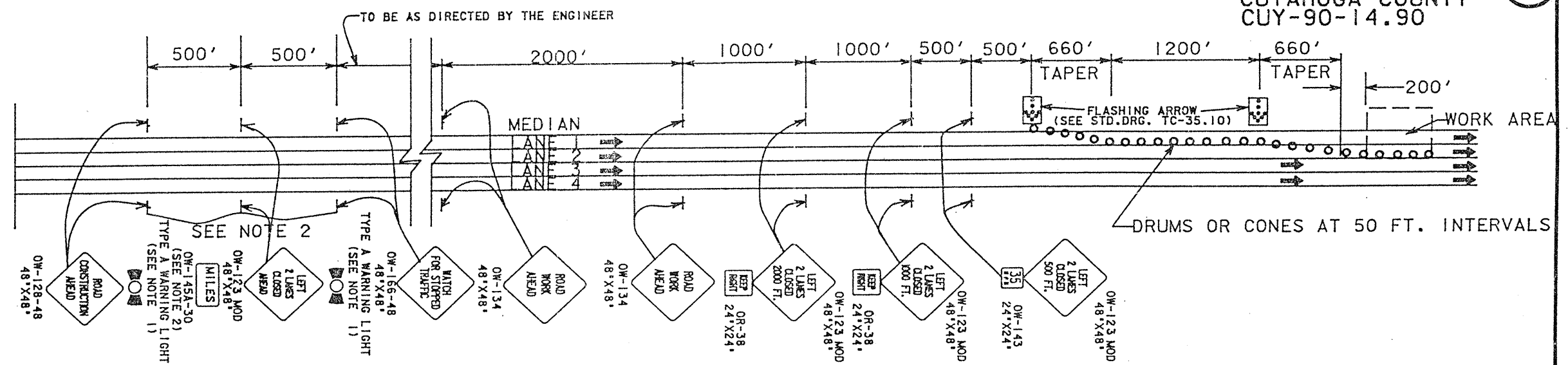


| O.D.O.T. DISTRICT 12 BRIDGE DEPARTMENT | | | | |
|----------------------------------------|-------|---------|----------|-------|
| DESIGNED | DRAWN | CHECKED | REVIEWED | DATE |
| MJM | JWO | BGW | GWM | 04-92 |

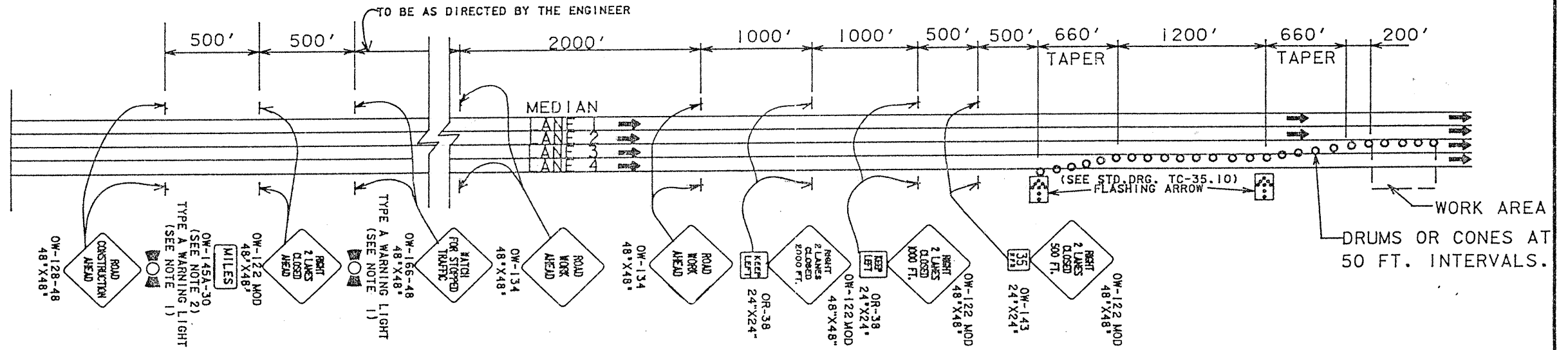
MAINTENANCE OF TRAFFIC
 BR. NO. CUY-90-2090

CUYAHOGA COUNTY

OHIO



LEFT 2 LANES CLOSED FOR 3 OR 4 LANES SAME DIRECTION

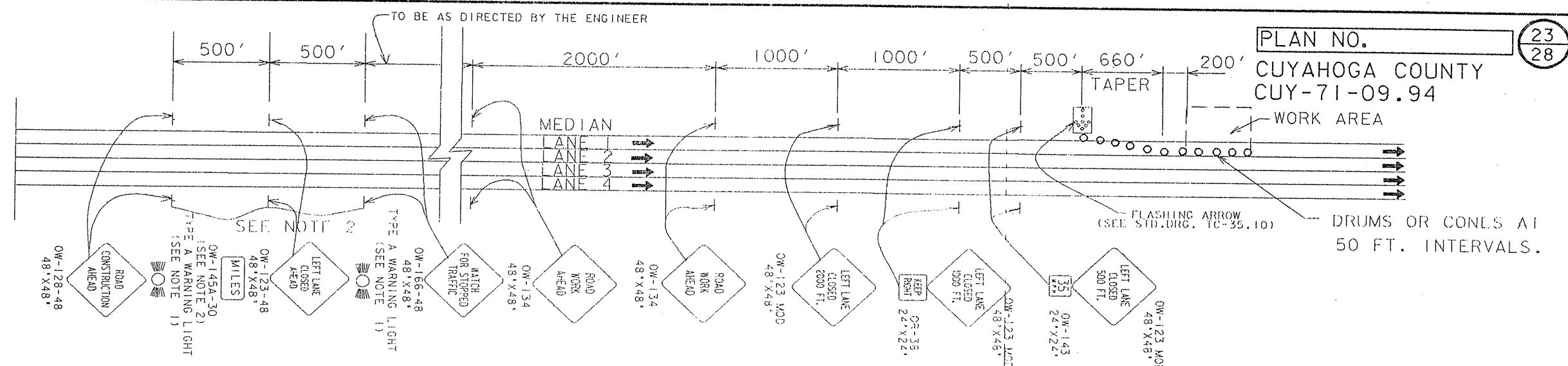


RIGHT 2 LANES CLOSED FOR 3 OR 4 LANES SAME DIRECTION

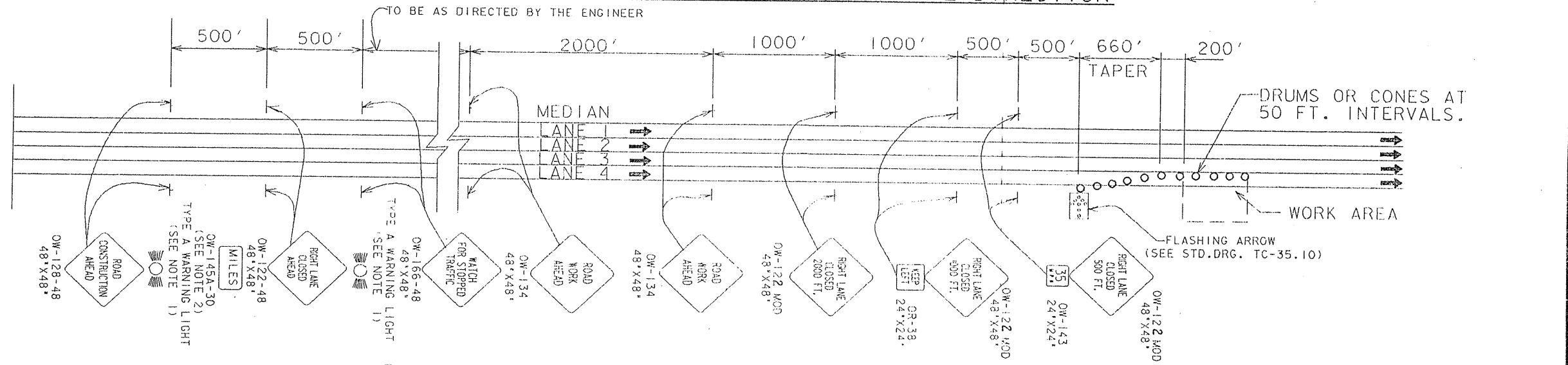
GENERAL NOTES:

1. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE 'ROAD CONSTRUCTION AHEAD' AND 'RIGHT(OR LEFT) 2 LANES CLOSED AHEAD' SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.
2. EXTRA ADVANCE WARNING SIGN GROUPS CONSISTING OF OW-128, OW-122 MOD, OR OW 123 MOD AND OW-166 SIGNS PLUS DISTANCE PLATES MAY BE SPECIFIED IN THE PLANS OR REQUIRED TO BE ERECTED AT THE DIRECTION OF THE ENGINEER.

MAINTENANCE OF TRAFFIC

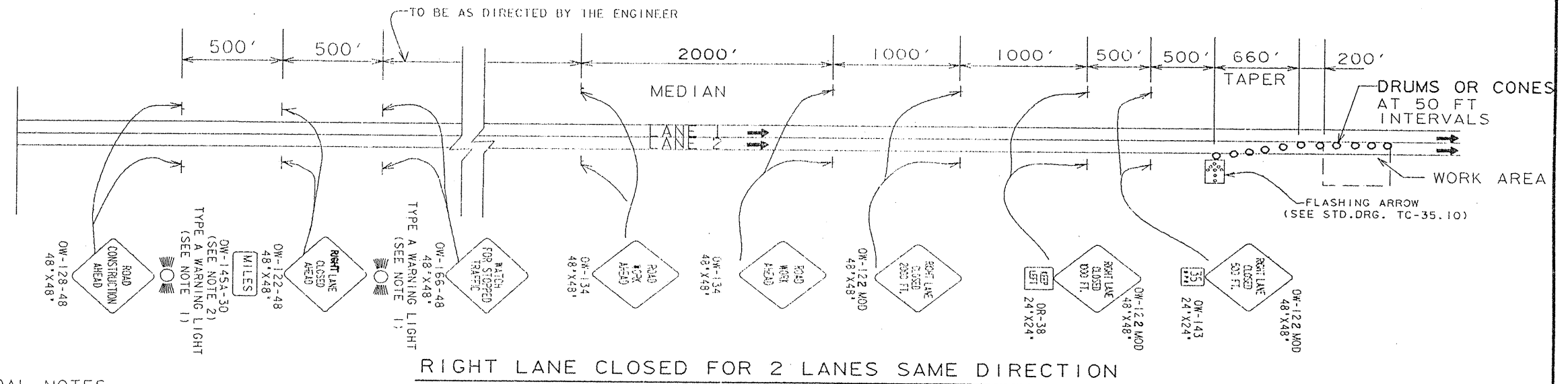
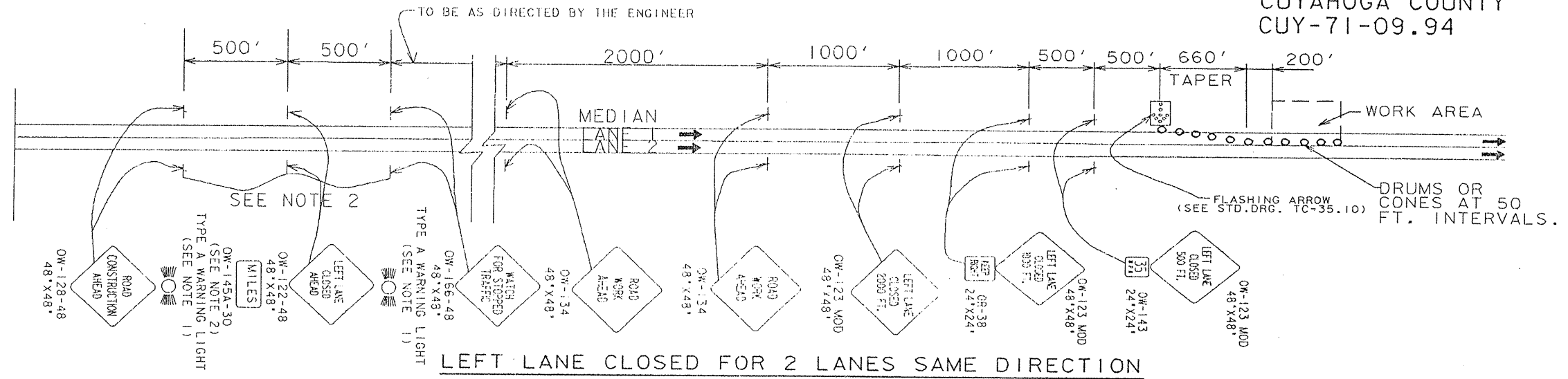


LEFT LANE CLOSED FOR 3 OR 4 LANES SAME DIRECTION



RIGHT LANE CLOSED FOR 3 OR 4 LANES SAME DIRECTION

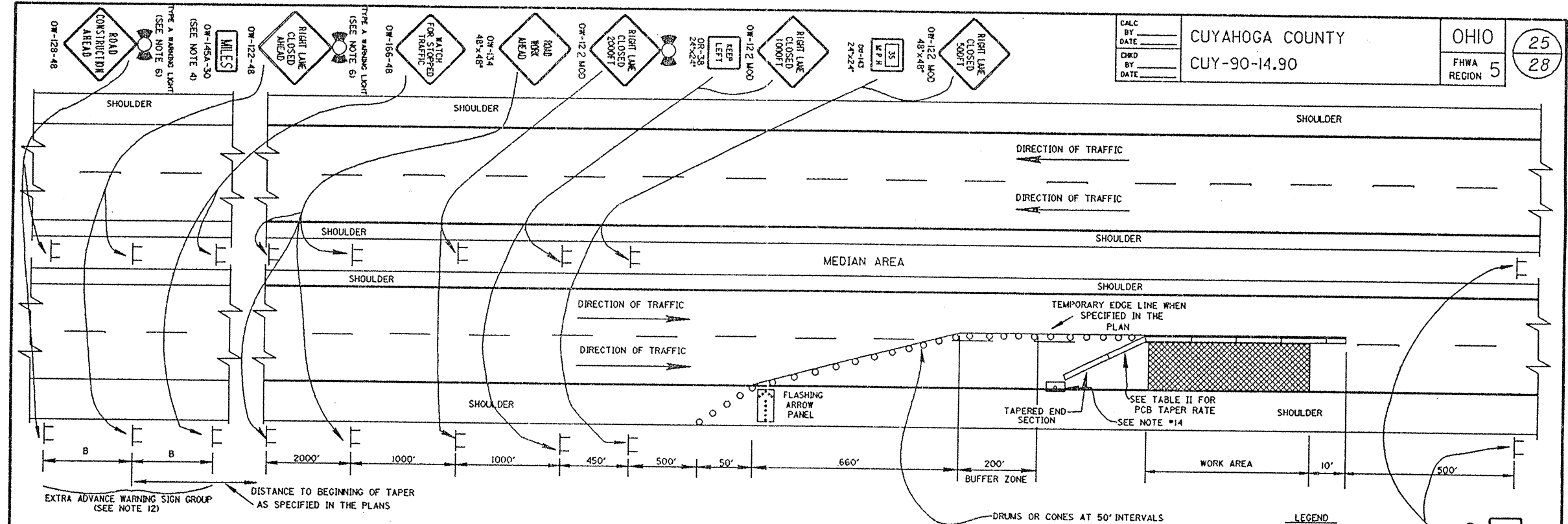
- GENERAL NOTES:
1. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND "RIGHT (OR LEFT) 2 LANES CLOSED AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.
 2. EXTRA ADVANCE WARNING SIGN GROUPS CONSISTING OF OW-128, OW-122, OR OW 123 AND OW-.66 SIGNS PLUS DISTANCE PLATES MAY BE SPECIFIED IN THE PLANS OR REQUIRED TO BE ERECTED AT THE DIRECTION OF THE ENGINEER.



GENERAL NOTES:

1. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND "RIGHT(OR LEFT) 2 LANES CLOSED AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.
2. EXTRA ADVANCED WARNING SIGN GROUPS CONSISTING OF OW-128, OW-122, AND OW-166 SIGNS PLUS DISTANCE PLATES MAY BE SPECIFIED IN THE PLANS OR REQUIRED TO BE ERECTED AT THE DIRECTION OF THE ENGINEER.

MAINTENANCE OF TRAFFIC



EXTRA ADVANCE WARNING SIGN GROUP (SEE NOTE 12)
 DISTANCE TO BEGINNING OF TAPER AS SPECIFIED IN THE PLANS

GENERAL NOTES:

1. THE LOCATION OF THE TRANSITION TAPER AND THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.
2. THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS.
3. BARRIER REFLECTOR TYPE B AS PER SUPPLEMENTAL SPECIFICATION 802, SHALL BE ERECTED ON THE PCB PARALLEL TO THE EDGE OF THE PAVEMENT. THE SPACING OF THE BARRIER REFLECTORS SHALL BE 1/2 THE SPACING AS REQUIRED IN SUPPLEMENTAL SPECIFICATION 802.
4. THE DISTANCE PLATE OW-145A-30 SHALL INDICATE THE DISTANCE TO THE BEGINNING OF THE PAVEMENT TAPER (L). DISTANCES LESS THAN ONE MILE MAY BE EXPRESSED IN FEET. THE PLAQUE MAY BE OMITTED IF EXTRA ADVANCE SIGN GROUPS ARE NOT USED.
5. THE FLASHING ARROW PANEL SHALL MEET REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING TC-35.10.
6. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND "RIGHT (OR LEFT) LANE CLOSED AHEAD" SIGNS ARE REQUIRED.
7. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, OW-123 MOD SIGNS SHALL BE SUBSTITUTED FOR THE OW-122 MOD SIGNS AND WHICH READ LEFT LANE CLOSED ____ FT.
8. 36" WARNING SIGN SIZES MAY BE USED ON DIVIDED ROADWAYS THAT ARE NOT CLASSIFIED AS FREEWAYS OR EXPRESSWAYS.
9. IF PCB IS USED TO ANCHOR TARPS, CABLES MUST BE ON NON-TRAFFIC SIDE.
10. THE OC-8 SIGNS MAY BE OMITTED IF THEY FALL WITHIN THE LIMITS OF A CONSTRUCTION PROJECT.
11. THE PCB MUST CONFORM TO STANDARD DRAWING MC-9.2.
12. EXTRA ADVANCE WARNING SIGN GROUPS CONSISTING OF OW-128, OW-122 AND OW-166 SIGNS PLUS DISTANCE PLATES MAY BE SPECIFIED IN THE PLANS OR REQUIRED TO BE ERECTED AT THE DIRECTION OF THE ENGINEER.
13. THE SPEED LIMIT CHOSEN FOR DESIGN OF TAPERS SHALL BE THE NORMAL LEGAL SPEED EXCEPT WHERE THE LEGAL SPEED LIMIT IS REDUCED DUE TO THE CONSTRUCTION AND THE SUBJECT LANE CLOSURE IS NOT THE FIRST ACTIVE CONSTRUCTION AREA ENCOUNTERED BY TRAFFIC WITHIN THE PROJECT.
14. THE BARRIER TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE WHENEVER WORKERS ARE IN THE WORK AREA. THIS 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 BARRIER TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360 DEGREE ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF 1/4 MILE.

LEGEND

DRUMS ○ ○ ○ ○ ○

PORTABLE CONCRETE BARRIER (PCB) [Symbol]

END CONSTRUCTION [Symbol]

OC-8 (SEE NOTE 12)

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF THE OMTCO. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

* SEE NOTE (13)
 TABLE II

| SPEED LIMIT MPH* | PCB TAPER RATE |
|------------------|----------------|
| 30-40 | 9 : 1 |
| 45-55 | 13 : 1 |
| 60-65 | 15 : 1 |

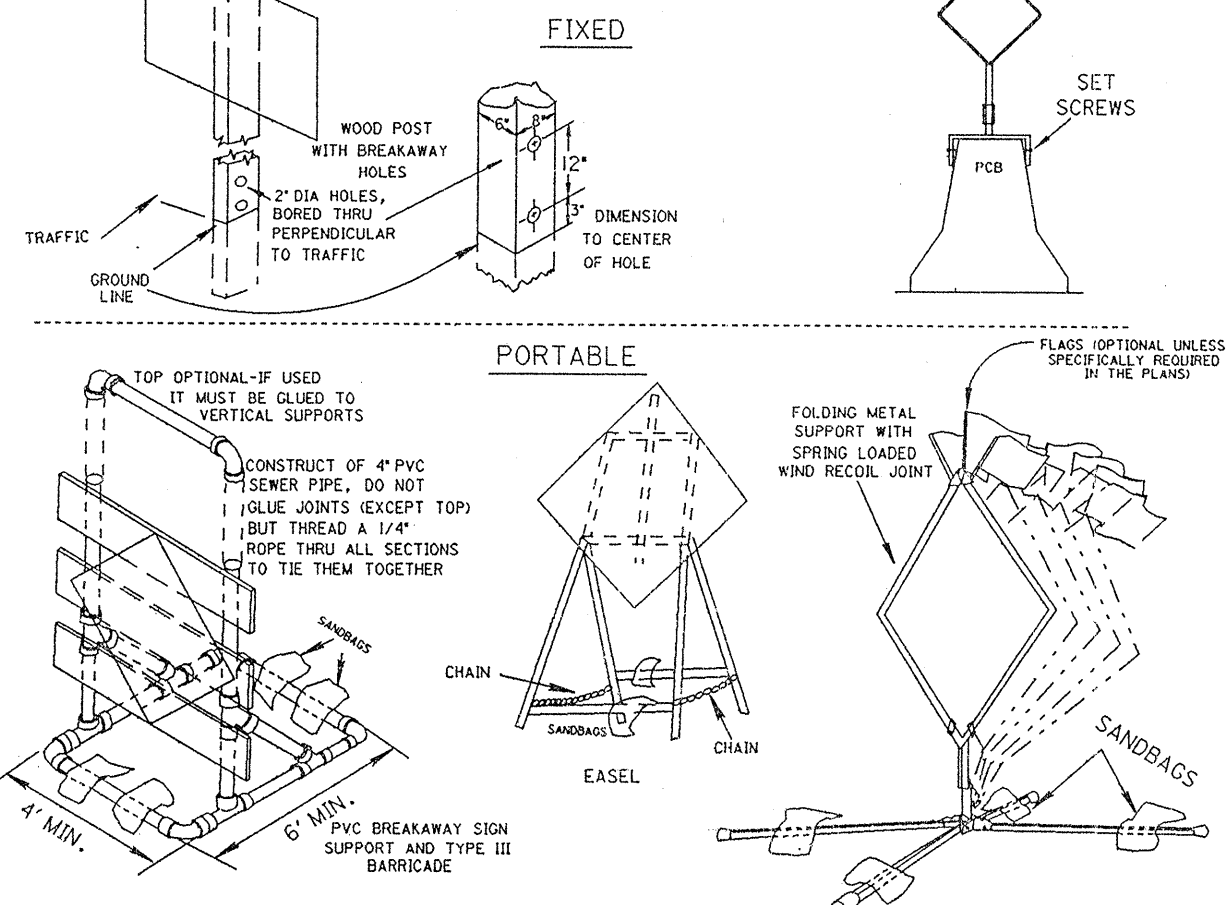
REVISED BY: _____ DATE: _____

DATE: 7/17/92

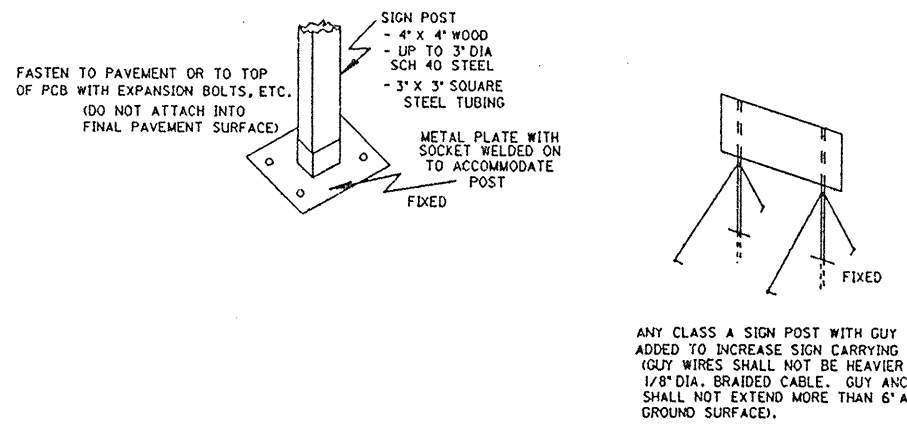
CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH PORTABLE CONCRETE BARRIER FOR PAINTING BRIDGES.

PLAN INSERT SHEET

CLASS A SUPPORTS

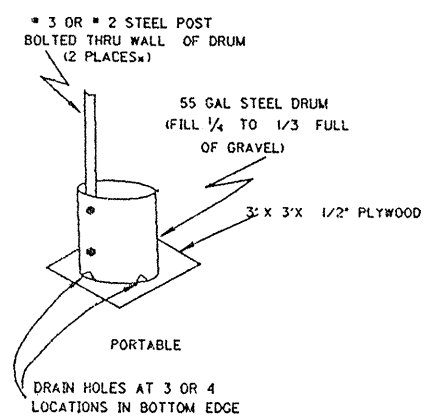


CLASS B SUPPORTS



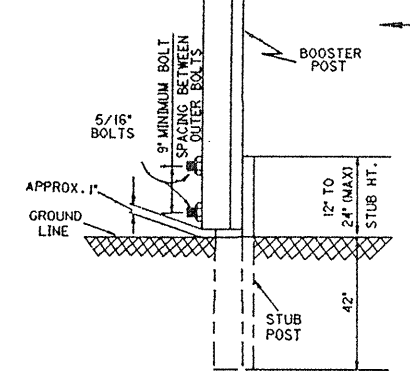
CLASS C SUPPORTS

- ALL BEAM TYPE SUPPORTS WITHOUT BREAKAWAY CONNECTIONS.
- SUPPORTS SIMILAR TO BUT LARGER THAN PERMITTED FOR CLASS A OR B.
- THE STEEL DRUM(S) SHOWN BELOW MAY BE USED ONLY WHEN LOCATED BEHIND GUARDRAIL OR BARRIER.



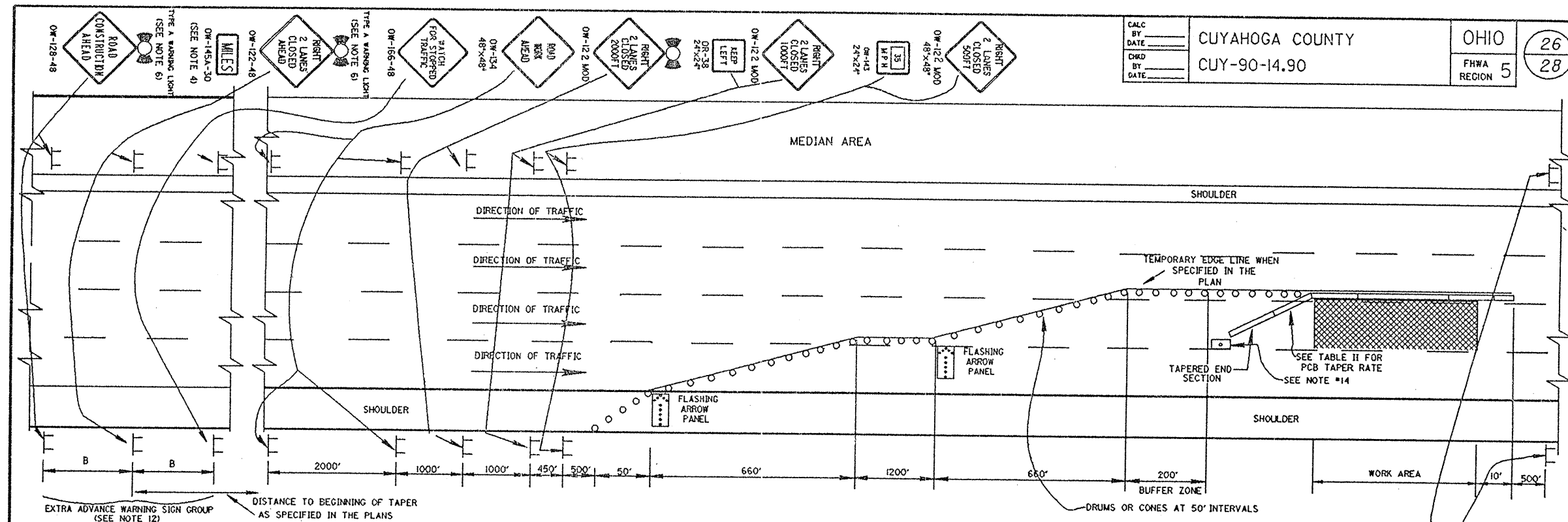
ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF THE OMTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

STUBBING STANDARD



- NOTES
- FOR USE WITH #3 POST OR SMALLER ONLY
 - BOLTS SHALL BE STEEL OR ALUMINUM
 - A MINIMUM OF TWO FASTENERS SHALL BE USED PER ASSEMBLY
 - BOOSTER POST SHALL BE MOUNTED BEHIND STUB POST
 - BOOSTER POST SHALL BE THE SAME OR 1 LB./FT. LESS THAN STUB POST

| | |
|------------------------|----------|
| REVISED BY: | DATE: |
| 210511 | 05/07/90 |
| TEMPORARY SIGN SUPPORT | |
| PLAN INSERT SHEET | |



GENERAL NOTES:

1. THE LOCATION OF THE TRANSITION TAPER AND THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.
2. THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS.
3. BARRIER REFLECTOR TYPE B AS PER SUPPLEMENTAL SPECIFICATION 802, SHALL BE ERECTED ON THE PCB PARALLEL TO THE EDGE OF THE PAVEMENT. THE SPACING OF THE BARRIER REFLECTORS SHALL BE 1/2 THE SPACING AS REQUIRED IN SUPPLEMENTAL SPECIFICATION 802.
4. THE DISTANCE PLATE OW-145A-30 SHALL INDICATE THE DISTANCE TO THE BEGINNING OF THE PAVEMENT TAPER (L). DISTANCES LESS THAN ONE MILE MAY BE EXPRESSED IN FEET. THE PLAQUE MAY BE OMITTED IF EXTRA ADVANCE SIGN GROUPS ARE NOT USED.
5. THE FLASHING ARROW PANEL SHALL MEET REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING TC-35.10.
6. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND "RIGHT (OR LEFT) LANE CLOSED AHEAD" SIGNS ARE REQUIRED.
7. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, OW-123 MOD SIGNS SHALL BE SUBSTITUTED FOR THE OW-122 MOD SIGNS AND WHICH READ LEFT 2 LANES CLOSED... FT.
8. 36" WARNING SIGN SIZES MAY BE USED ON DIVIDED ROADWAYS THAT ARE NOT CLASSIFIED AS FREEWAYS OR EXPRESSWAYS.
9. IF PCB IS USED TO ANCHOR TARPS, CABLES MUST BE ON NON-TRAFFIC SIDE.
10. THE OC-8 SIGNS MAY BE OMITTED IF THEY FALL WITHIN THE LIMITS OF A CONSTRUCTION PROJECT.
11. THE PCB MUST CONFORM TO STANDARD DRAWING MC-9.2.
12. EXTRA ADVANCE WARNING SIGN GROUPS CONSISTING OF OW-128, OW-122 AND OW-166 SIGNS PLUS DISTANCE PLATES MAY BE SPECIFIED IN THE PLANS OR REQUIRED TO BE ERECTED AT THE DIRECTION OF THE ENGINEER.
13. THE SPEED LIMIT CHOSEN FOR DESIGN OF TAPERS SHALL BE THE NORMAL LEGAL SPEED EXCEPT WHERE THE LEGAL SPEED LIMIT IS REDUCED DUE TO THE CONSTRUCTION AND THE SUBJECT LANE CLOSURE IS NOT THE FIRST ACTIVE CONSTRUCTION AREA ENCOUNTERED BY TRAFFIC WITHIN THE PROJECT.
14. THE BARRIER TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE WHENEVER WORKERS ARE IN THE WORK AREA. THIS 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 BARRIER TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360 DEGREE ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF 1/4 MILE.

LEGEND

DRUMS ○ ○ ○ ○ ○
 PORTABLE CONCRETE BARRIER (PCB) [Symbol]

END CONSTRUCTION (SEE NOTE 12)

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF THE OMTCO. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

* SEE NOTE (13)
TABLE II

| SPEED LIMIT MPH* | PCB TAPER RATE |
|------------------|----------------|
| 30-40 | 9 : 1 |
| 45-55 | 13 : 1 |
| 60-65 | 15 : 1 |

REVISED BY: _____ DATE: _____

DATE: 7/17/92

CLOSING RIGHT OR LEFT 2 LANES OF A MULTI-LANE DIVIDED HIGHWAY WITH PORTABLE CONCRETE BARRIER FOR PAINTING BRIDGES.

PLAN INSERT SHEET

TEMPORARY SIGN SUPPORT REQUIREMENTS

A. PLACEMENT OF SIGNS WHICH WILL REMAIN MORE THAN ONE DAY:

- 1) LATERAL PLACEMENT TO NEAREST EDGE OF SIGNS SHALL BE AS FOLLOWS:
 - a) ON THE RIGHT SIDE OF THE ROAD FOR APPROACHING TRAFFIC (EXCEPT FOR DUAL MOUNTED SIGNS AND SIGNS DESIGNATED IN THE PLANS FOR LEFT SIDE MOUNTING).
 - b) CURBED ROADWAY - PREFERABLY 2 FT. (MINIMUM 1 FT.) BEHIND FACE OF CURB.
 - c) UNCURBED ROADWAY - 12 FT. FROM EDGE OF TRAFFIC LANE OR 6 FT. FROM EDGE OF PAVED OR USEABLE SHOULDER, WHICHEVER IS GREATER.
 - d) BEHIND GUARDRAIL OR BARRIER - PREFERABLY 2 FT. BEHIND FACE OF GUARDRAIL (MINIMUM 1 FT.) FOR SIGNS ON CLASS A SUPPORTS; 4 FT. FOR CLASS B OR C SUPPORTS 1 FT. BEHIND FACE OF CONCRETE BARRIER UNLESS BARRIER TOP MOUNTING IS REQUIRED BY THE PLAN.
- 2) VERTICAL CLEARANCE OF SIGNS, MEASURED ABOVE ROADWAY ELEVATION, SHALL BE AS FOLLOWS:
 - a) RURAL - 5 FT. WHEN PARKED CARS, CONSTRUCTION EQUIPMENT, ETC WILL NOT OBSCURE SIGN VISIBILITY.
 - b) RURAL AREAS WITH PARKED CARS OR CONSTRUCTION EQUIPMENT - 7 FT.
 - c) URBAN - 7 FT.
- 3) CARE SHALL BE TAKEN TO ASSURE THAT SIGNS WILL NOT BE OBSCURED BY CONSTRUCTION EQUIPMENT, TREES, WEEDS OR OTHER OBSTACLES. BRUSH, WEEDS OR GRASS WITHIN THE RIGHT OF WAY SHALL BE TRIMMED AS NECESSARY. SIGNS SHALL NORMALLY BE VISIBLE TO TRAFFIC 400 TO 600 FT. IN ADVANCE OF THE SIGN.
- 3) SUPPORTS FOR SIGNS WHICH WILL REMAIN IN PLACE MORE THAN ONE DAY SHALL BE FIXED RATHER THAN PORTABLE EXCEPT IN SITUATIONS WHERE THE SIGN MUST REST ON PERMANENT PAVEMENT OR OTHER SURFACE WHICH WOULD BE DAMAGED BY INSERTION OF POST TYPE SUPPORTS.

B. PLACEMENT OF SIGNS WHICH WILL REMAIN FOR ONE DAY OR LESS:

- 1) SAME AS A-1 ABOVE EXCEPT THAT SIGNS MAY BE PLACED ON THE ROADWAY ONLY IF THEY DO NOT INTRUDE INTO A TRAFFIC LANE IN USE.
- 2) - MINIMUM OF 1 FT. ABOVE ROADWAY

C. CLASSES OF SUPPORTS:

ALL TEMPORARY SIGN SUPPORTS SHALL BE OF THE FOLLOWING TYPES:

1) CLASS A:

SUPPORTS SHALL BE USED FOR EXPOSED LOCATIONS ON HIGHWAYS WHERE TRAFFIC APPROACH SPEEDS OF 40 MPH AND HIGHER ARE ENCOUNTERED. THEY ARE ALSO SUITABLE FOR USE IN ALL OTHER LOCATIONS.

2) CLASS B:

SUPPORTS SHALL BE USED FOR EXPOSED LOCATIONS ON HIGHWAYS WHERE TRAFFIC APPROACH SPEEDS OF LESS THAN 40 MPH ARE ENCOUNTERED. THEY ARE ALSO SUITABLE FOR USE IN ALL APPLICATIONS DEFINED FOR CLASS C SUPPORTS.

3) CLASS C:

SUPPORTS MAY ONLY BE USED WHERE FULLY PROTECTED BY GUARDRAIL, CONCRETE BARRIER AND IN LOCATIONS POSITIVELY PROTECTED FROM TRAFFIC SUCH AS ON RETAINING WALLS OR WHERE TRAFFIC APPROACH SPEEDS ARE LESS THAN 25 MPH.

D. TRAFFIC APPROACH SPEEDS:

TRAFFIC APPROACH SPEEDS SHALL BE THE LOCALLY POSTED SPEED (NOT ADVISORY SPEED SIGNS) OR THE MEASURED ACTUAL (65TH PERCENTILE) SPEED (IF AVAILABLE) OF APPROACHING TRAFFIC, WHICHEVER IS HIGHER, ADJACENT TO THE SIGN LOCATION.

TABLE

| APPROACH SPEED (MPH) | COMPLETELY PROTECTED BY GUARDRAIL OR BARRIER | PARTLY PROTECTED BY GUARDRAIL OR BARRIER * | GREATER THAN 30' FROM EDGE OF PAVEMENT | WITHIN 30' FROM EDGE OF PAVEMENT |
|----------------------|----------------------------------------------|--------------------------------------------|----------------------------------------|----------------------------------|
| 40 AND HIGHER | A, B OR C | A OR B | A OR B * * | A ONLY |
| 26 TO 39 | A, B OR C | A OR B | A OR B | A OR B |
| 0 TO 25 | A, B OR C | A, B OR C | A, B OR C | A, B OR C |

* IF SUPPORTS ARE BEHIND GUARDRAIL BUT NOT FULLY 5.5' BEHIND FACE OF RAIL OR IF SIGN IS NOT 1' BEHIND FACE OF CONCRETE BARRIER.

* * 30' CRITERION IS BASED UPON STRAIGHT ROADWAY AND A SLOPE OF 6% OR FLATTER. SUPPORTS ON THE OUTSIDE OF CURVES OR LOCATED DOWN A SLOPE (STEEPER THAN 6%) WILL REQUIRE USE OF CLASS A SUPPORTS.

E. BALLASTING

BALLASTING OF PORTABLE SUPPORTS SHALL BE WITH SANDBAGS PLACED WITHIN 1 FT. OF THE GROUND. IN NO CASE SHALL HARD OBJECTS BE USED FOR BALLAST.

F. STRENGTH OF SIGN SUPPORTS

THE CONTRACTOR SHALL CHOOSE SIGN SUPPORTS OF ADEQUATE STRENGTH AND WITH ADEQUATE FOUNDATIONS AND ANCHORAGE TO SUPPORT THE SIGN SIZES ERRECTED. PROPRIETARY DEVICES SHALL NOT BE LOADED BEYOND THE LIMITS RECOMMENDED BY THE MANUFACTURER. SLIP BASE TYPE BREAKAWAY BEAM CONNECTIONS SHALL BE AT LEAST PARTIALLY EMBEDDED IN CONCRETE CONSISTING OF A 1 FT. DEEP BY 12" DIAMETER COLLAR. SIGN SUPPORTS WHICH FAIL UNDER TYPICAL WIND LOAD CONDITIONS SHALL BE IMMEDIATELY MODIFIED OR REPLACED WITH A SUPPORT OF ADEQUATE STRENGTH.

G. PROHIBITED SUPPORTS

THE FOLLOWING SUPPORT TYPES SHALL NOT BE PERMITTED ON PROJECTS:

- 1) SUPPORTS FABRICATED FROM AUTOMOTIVE AXLE DIFFERENTIAL ASSEMBLIES AND SIMILARLY HEAVY ASSEMBLIES WHICH CANNOT BE CONSIDERED BREAKAWAY TYPE.
- 2) SUPPORTS CONSISTING OF VERTICAL POSTS WITH ANGLED BRACES MADE FROM DRIVEPOST OR OTHER RIGID ELEMENTS.

| | | | |
|-----------------------------------------------------------|---------------------------------|-----------------------|----------|
| CALC BY _____ DATE _____ CRD BY _____ DATE _____ | CUYAHOGA COUNTY CUY-90-14.90 | OHIO FHWA REGION 5 | 28 28 |
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CLASS A SUPPORTS

FIXED SUPPORTS

- 1) ALL #2, #3, AND #4 POST WHEN INSTALLED SINGLY OR IN PAIRS ACCORDING TO THE DETAILS OF TC-41.20. THE NUMBER OF SUPPORTS SHALL BE AS SHOWN ON TC-52.10 AND TC-52.20.
- 2) THE FOLLOWING POST TYPES, WHEN INSTALLED SINGLY, BY IMBEDMENT OR DRIVING INTO EARTH TO A DEPTH OF ABOUT 42 INCHES:
 - a) - UP TO 4" X 4" WOOD
 - b) - UP TO 2 INCH DIAMETER SCHEDULE 40 STEEL PIPE
 - c) - UP TO 3 INCH DIAMETER SCHEDULE 40 ALUMINUM PIPE
 - d) - UP TO 2 1/4 INCH SQUARE, 12 GAUGE WALL, PUNCHED STEEL POST
 - e) - UP TO 6" X 8" WOOD WITH BREAKAWAY HOLES SHOWN BELOW
- 3) THE FOLLOWING POST TYPES WHEN INSTALLED IN PAIRS WITH LESS THAN 7 FT. BETWEEN POSTS, BY IMBEDMENT OR DRIVING INTO EARTH TO A DEPTH OF ABOUT 42 INCHES:
 - a) - UP TO 4" X 4" WOOD
 - b) - UP TO 2 INCH DIAMETER SCHEDULE 40 STEEL PIPE
 - c) - UP TO 3 INCH DIAMETER SCHEDULE 40 ALUMINUM PIPE
 - d) - UP TO 2 INCH SQUARE, 14 GAUGE WALL, PUNCHED STEEL POST
- 4) FIXED TYPE III BARRICADES:
- 5) ALL BREAKAWAY CONNECTION BEAM SUPPORTS, WHEN INSTALLED ACCORDING TO THE PROPER DETAILS SHOWN ON TC-41.10 WITH A MINIMUM CLEAR DISTANCE BETWEEN SUPPORTS OF 7 FT. FOR SUPPORTS LARGER THAN W6 X 9.
- 6) ANY BREAKAWAY POST OR POST AND CONNECTION WHICH HAS BEEN CRASH TESTED AND APPROVED BY THE FHWA AS SATISFYING THE BREAKAWAY CRITERIA DESCRIBED IN 630.06.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF THE OMITTED. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

| | |
|------------------------|----------|
| REVISED BY: | DATE: |
| 210510 | 05/07/90 |
| TEMPORARY SIGN SUPPORT | |
| PLAN INSERT SHEET | |