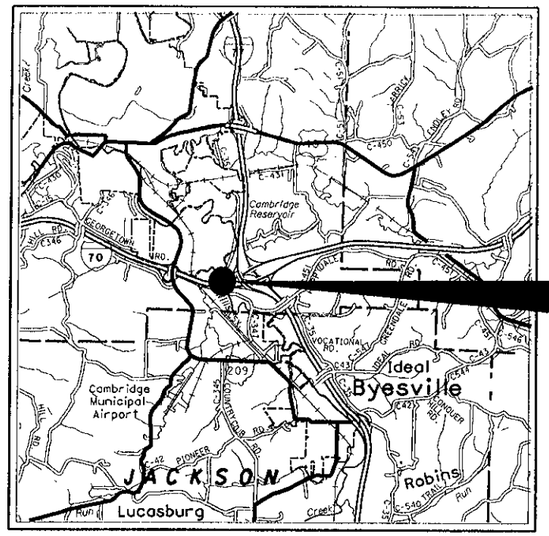
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

GUE-70-0943L AND RAMP A

CAMBRIDGE TOWNSHIP

GUERNSEY COUNTY



LOCATION MAP

LATITUDE: ° ′ ″ LONGITUDE: ° ′ ″

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (1997)	24800
DESIGN YEAR ADT (2017)	34200
DESIGN HOURLY VOLUME (2017)	2480
DIRECTIONAL DISTRIBUTION	EQUAL
TRUCKS (24 HOUR B&C)	8478
DESIGN SPEED	65 MPH
LEGAL SPEED	65 MPH

DESIGN FUNCTIONAL CLASSIFICATION - INTERSTATE

DESIGN EXCEPTIONS - NONE

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2-3
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3001237

PID# 20995

Sale Date

10-28-99 Bid Awarded

Proj No#

9019(99)

Project Cost

$330,000

PROJECT DESCRIPTION

HEAT STRAIGHTENING OF DAMAGED GIRDERS, REPLACING DAMAGED CROSS FRAMES, OZEU SPOT PAINTING AND RELATED WORK.

FORUST CITY LIMITS

STATE WORK ID 27 29

1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE SET FORTH ON THE PLANS AND ESTIMATES.

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

DISTRICT NO. 5
OHIO DEPARTMENT OF TRANSPORTATION

ENGINEERS SEAL:

SIGNED:

DATE:

STANDARD CONSTRUCTION DRAWINGS

SUPPLEMENTAL SPECIFICATIONS

SPECIAL PROVISIONS

APPROVED

DATE DISTRICT DEPUTY DIRECTOR

APPROVED

DATE DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.

PID NO.

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

GUE-70-0943L AND RAMP A

1/9

GO700943.GTS

GENERAL NOTES

REFERENCE

DETAILED DRAWINGS OF THE EXISTING STRUCTURES MAY BE INSPECTED IN THE DISTRICT 5 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, JACKSONTOWN, OHIO.

DESIGN SPECIFICATIONS

THESE STRUCTURE MODIFICATIONS CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

EXISTING STRUCTURE VERIFICATION

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

GENERAL PROVISIONS

THE CONTRACTOR'S ATTENTION IS CALLED TO ALL OF SECTION 100 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION.

MOBILIZATION

THE CONTRACTOR SHALL ON ANY CONTRACT FOR WHICH HIS BID EXCEEDS $50,000.00 INCLUDE AN AMOUNT TO COVER ANY APPLICABLE EXPENDITURES REFERRED TO UNDER ITEM 624 OF THE 1997 CONSTRUCTION AND MATERIAL SPECIFICATIONS. PAYMENT SHALL BE THE LUMP SUM BID PRICE FOR ITEM 624, MOBILIZATION.

CONSTRUCTION NOTIFICATION

IN ORDER FOR ODOT TO PROPERLY PERMIT OVERSIZE LOADS, PREPARE PROPER SIGNING WHEN REQUIRED AND FURTHER TO NOTIFY THE GENERAL MOTORING PUBLIC. THE CONTRACTOR SHALL NOTIFY (IN WRITING) THE DISTRICT 5 HIGHWAY MANAGEMENT ADMINISTRATOR WITH COPIES FOR THE DISTRICT 5 ROADWAY SERVICES MANAGER AND PROJECT ENGINEER NOT LESS THAN 21 DAYS BEFORE ACTIVATING SUCH CLOSURE OR LANE RESTRICTION.
SEND NOTIFICATION TO: KIETH GEIGER
DISTRICT 5 CONSTRUCTION ENGINEER
P. O. BOX 306
JACKSONTOWN, OHIO 43030
PHONE: (614) 323-5240

REMOVED MATERIALS

ALL REMOVED MATERIALS UNLESS NOTED ELSEWHERE IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE JOB SITE.

SPECIFICATIONS

ALL MATERIAL AND ITEMS OF WORK SHALL CONFORM TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 1997.

ITEM SPECIAL - HEAT STRAIGHTENING OF EXISTING STEEL

THIS ITEM SHALL CONSIST OF HEAT STRAIGHTENING THE WEB, STIFFENERS AND BOTTOM FLANGE OF THE DAMAGED GIRDER(S). HEAT STRAIGHTENING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH 513.06 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE PROPOSAL NOTE BY PERSONS HAVING DEMONSTRATED SUCH CAPABILITIES AND HAVING A RECORD OF SUCCESSFUL ACCOMPLISHMENT IN HEAT STRAIGHTENING. SEE PROPOSAL NOTE 528-91.

PROPOSED SEQUENCE OF OPERATIONS

INSTALL TRAFFIC CONTROL ON C.R. 35 FOR DETOUR OF TRAFFIC.

GUE-70-0943L
1. REMOVE DAMAGE CROSSFRAMES, PORTIONS OF VERTICAL STIFFENERS.
2. HEAT STRAIGHTEN THE PORTION OF THE GIRDER (WEB AND FLANGE).
3. REMOVE PORTION OF THE WEB AS DETAILED IN THE PLANS.
4. REPLACE PORTION OF THE WEB PLATE.
5. INSTALL NEW CROSSFRAMES AND STIFFENERS
6. PAINT BRIDGE

GUE-70-0943A
1. REMOVE DAMAGE CROSSFRAME(S)
2. HEAT STRAIGHTEN PORTION OF THE GIRDERS (WEB AND FLANGE)..
3. STRAIGHTEN OUTSIDE VERTICAL STIFFENERS.
4.. RE-WELD GUSSET PLATES.
5. REPLACE CROSSFRAME(S).
6. PAINT BRIDGE
7. OPEN ROAD TO BOTH BRIDGES.

OZEU PAINT REPAIR PROCEDURES

THE PAINT REPAIR SHALL BE AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 815 ENTITLED "FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU". THE FINISH COAT COLOR SHALL BE BLUE FS-595A-15450 AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 815. THE AREAS TO BE PAINTED ON BOTH SIDES OF THE BEAM ARE TO EXTEND 2'-0" MINIMUM OUTSIDE OF THE AREAS HEATED TO INCLUDE ALL AREAS OF HEAT DAMAGED PAINT AND WHERE RUST HAS GROWN UNDER THE EXISTING PAINT.

DESIGNED RSD
DETAILED DDH

GENERAL NOTES

GUE-70-0943L AND RAMP A

2 / 9

C0700943.CGN

ITEM 863 STRUCTURAL STEEL MISC.: GIRDER REPAIR

THIS ITEM ITEM SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF THE WEB PLATES AS DETAILED ON SHEETS 5 AND 6. PRIOR TO REMOVAL OF THE DAMAGED SECTION OF THE GIRDER, THE CONTRACTOR SHALL FIELD VERIFY THAT THE PLAN DIMENSIONS WILL REMOVE ALL THE DAMAGED AREA OF THE GIRDER AND HAVE THE REPLACEMENT WEB SECTIONS ON SITE. AFTER REMOVAL OF THE STRUCTURAL STEEL, THE SURFACES SHALL BE LEFT FREE OF ANY ROUGH AREAS. THE ENGINEER SHALL DETERMINE IF THE AREAS ARE SMOOTH ENOUGH TO ENSURE PROPER INSTALLATION OF THE NEW STRUCTURAL STEEL. A RADIOGRAPHIC INSPECTION AND MAGNETIC PARTICLE INSPECTION SHALL BE REQUIRED TO ALL WELDS AS PER 513.21. ALL EQUIPMENT, MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED FOR PAYMENT WITH ITEM 863 STRUCTURAL STEEL, MISC.: GIRDER REPAIR, LUMP SUM.

GUE-70 0943L		GUE-70 0943 RAMP A		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
LUMP		LUMP		863	10001		LUMP	STRUCTURAL STEEL MEMBERS, MISCELLANEOUS LEVEL FABRICATION, AS PER PLAN	
LUMP		LUMP		863	95020		LUMP	STRUCTURAL STEEL, MISC.: GIRDER REPAIR	
LUMP		LUMP		SPECIAL	86319000		LUMP	HEAT STRAIGHTENING OF DAMAGED STRUCTURAL STEEL **	
LUMP		LUMP		815	00010		LUMP	FIELD PAINTING OF EXISTING STEEL, SPOT CLEAN, SYSTEM OZEU *	
LUMP		LUMP		815	00014		LUMP	FIELD PAINTING OF EXISTING STEEL, SPOT PRIME, SYSTEM OZEU *	
LUMP		LUMP		815	00018		LUMP	FIELD PAINTING OF EXISTING STEEL, SPOT INTERMEDIATE COAT, SYSTEM OZEU *	
LUMP		LUMP		815	00022		LUMP	FIELD PAINTING OF EXISTING STEEL, SPOT FINISH, SYSTEM OZEU *	
LUMP		LUMP		614	11000	LUMP	LUMP	MAINTAINING TRAFFIC	
LUMP		LUMP		624	10000	LUMP	LUMP	MOBILIZATION	

* SEE SUPPLEMENTAL SPECIFICATION 815

** SEE PROPOSAL NOTE 528-91

CALCULATED RSD
CHECKED CLZ

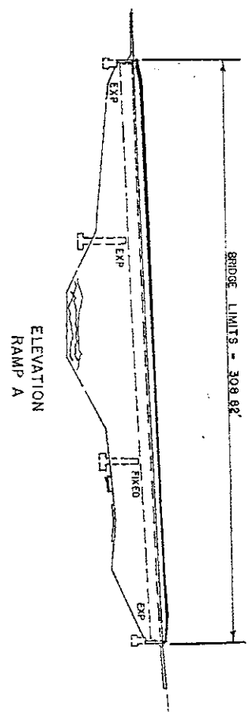
GENERAL SUMMARY

GUE-70-0943L AND RAMP A

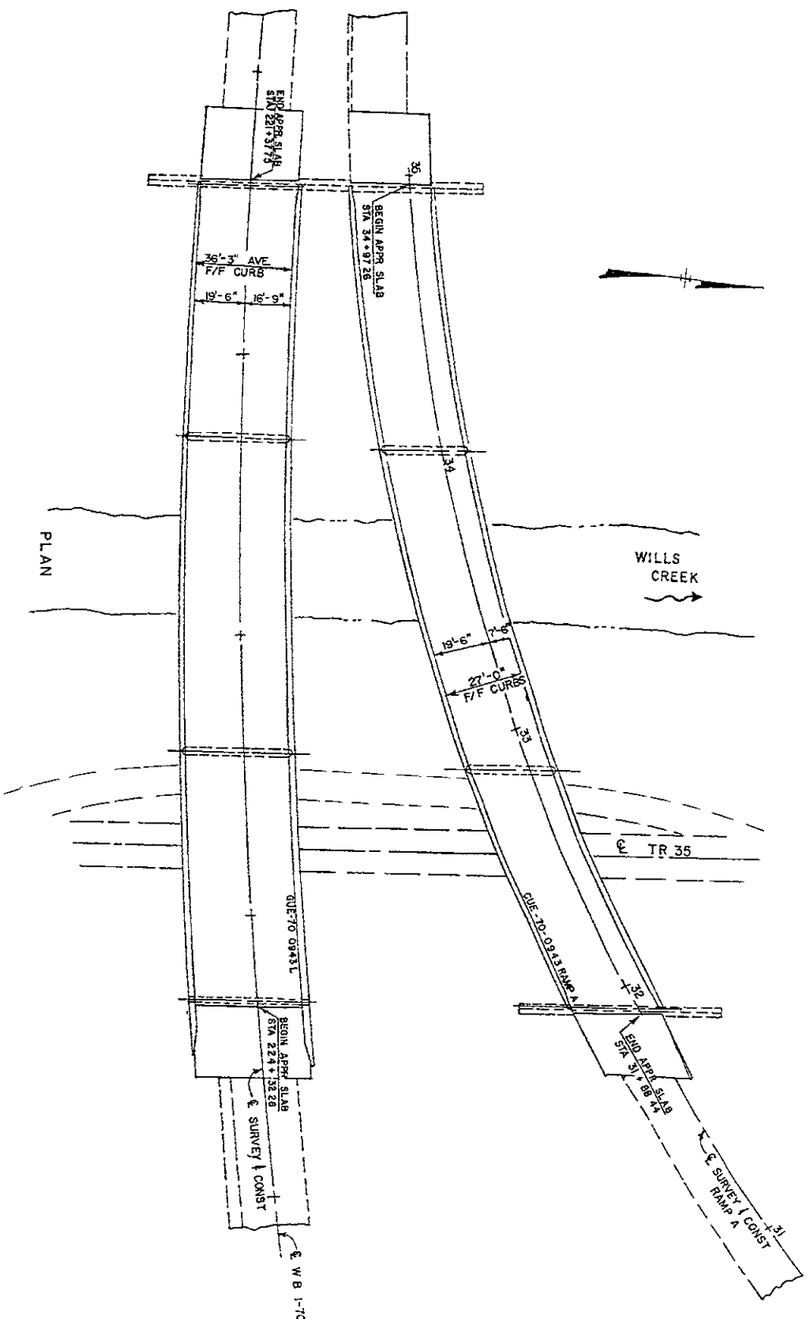
3/9

G0700943.CGS

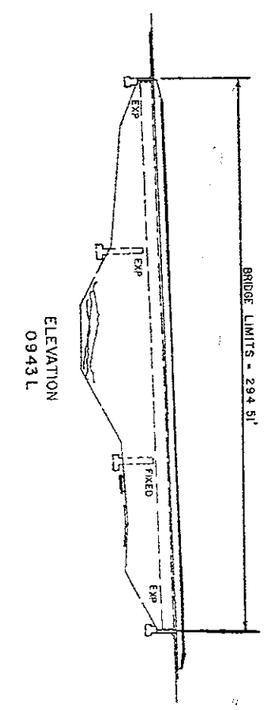
G0700943.BPE



ELEVATION
RAMP A

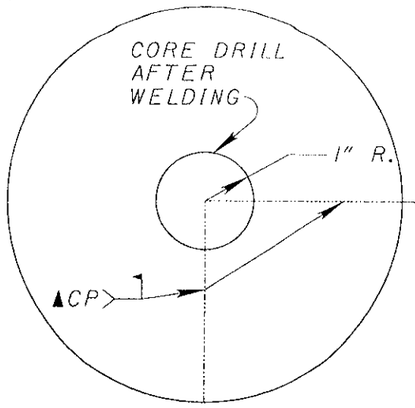


PLAN

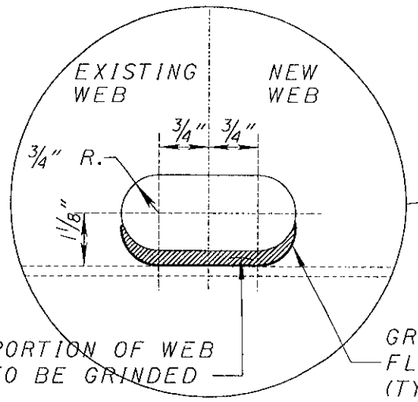


ELEVATION
0943 L

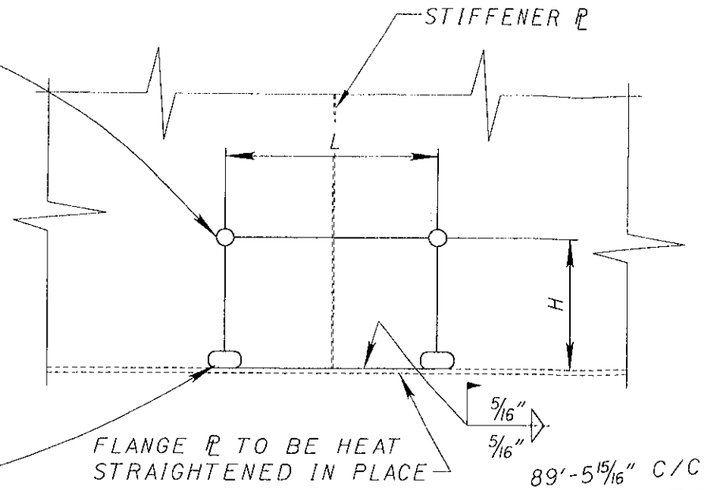
4	GUE-70-0943L AND RAMP A	GENERAL PLAN AND ELEVATION BRIDGE NO.S GUE-70-0943L/A	DESIGNED DDH CHECKED RSD	DRAWN DDH REVISED	REVIEWED CLL DATE 10-27-99 STRUCTURE FILE NUMBER 3001202 3001237	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DIST. 5 BRIDGE DEPT.



DETAIL A

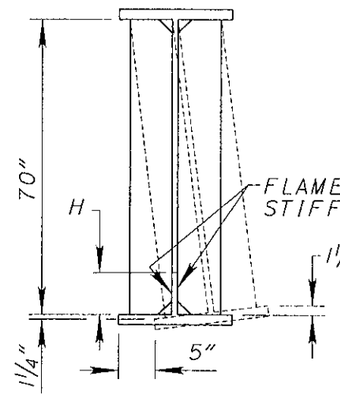


DETAIL B

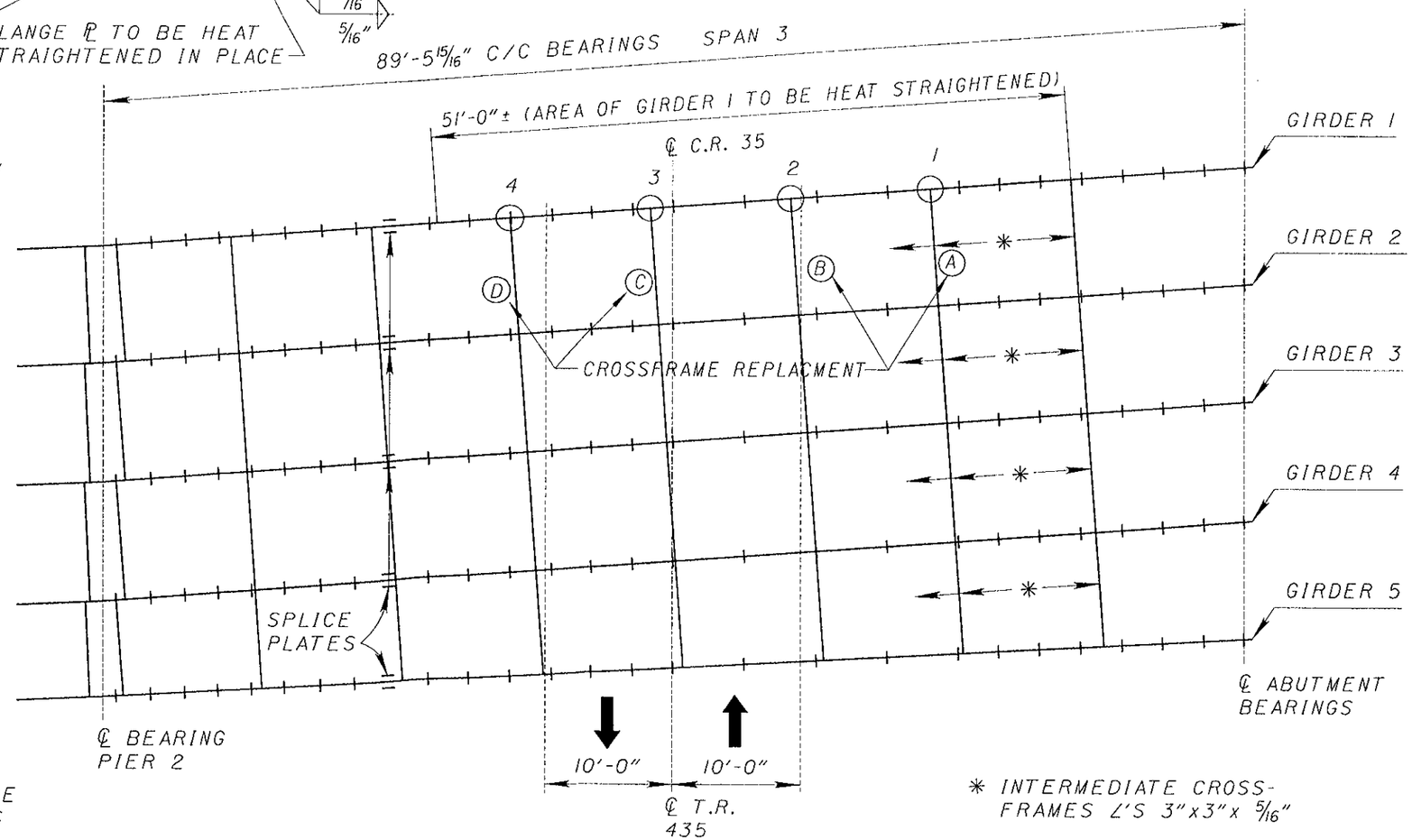


WEB PLATE REMOVAL AND REPLACEMENT		
LOCATION	WEB PLATE SIZE L X H X 3/8"	WEIGHTS
1	1'-0" X 6"	7.6 LBS.
2	2'-0" X 6"	15.2 LBS.
3	2'-0" X 6"	15.2 LBS.
4	1'-0" X 6"	7.6 LBS.

NOTE: ALL STEEL SHALL BE A36 STEEL
PLATE SIZE MAY VARY BASED ON MAGNETIC PARTICLE INSPECTION



NOTE:
FOR CROSS FRAME WELDING DETAILS SEE SHEET 7.



PLAN

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DIST. 5 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
DDH	DDH	CLZ	10-27-99
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSD		3001237	

TYPICAL DETAILS
BRIDGE NO. GUE-70-0943L

GUE-70-0943L
AND RAMP A

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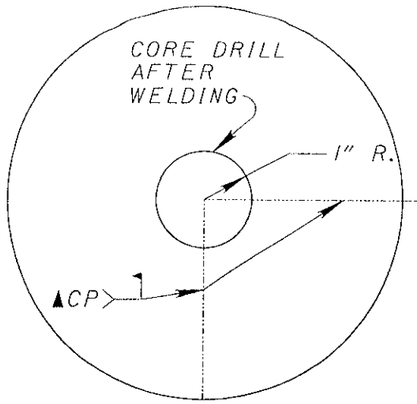
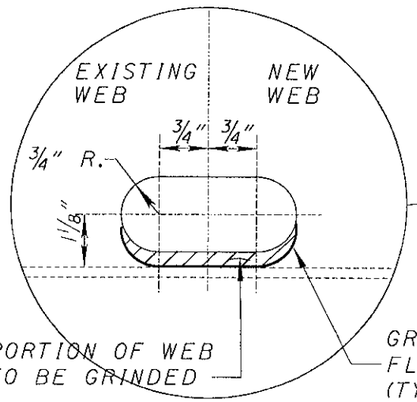
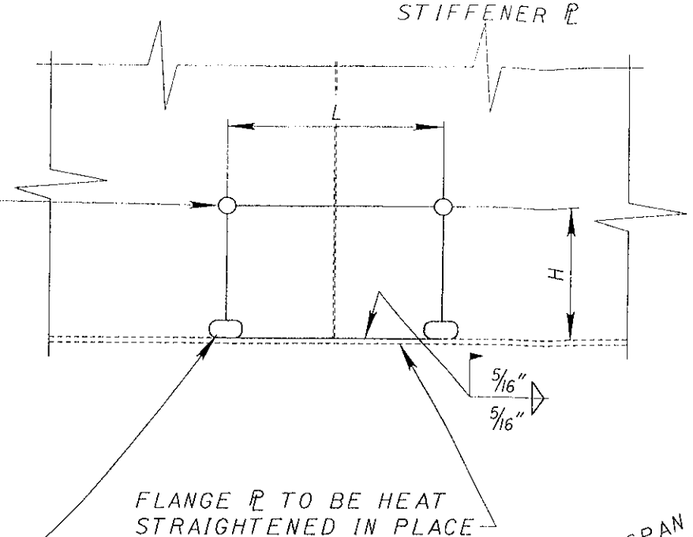
G0700943.BFP

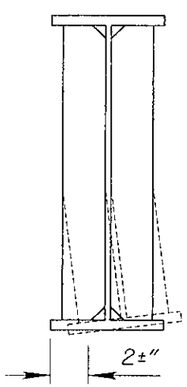


DETAIL A



DETAIL B

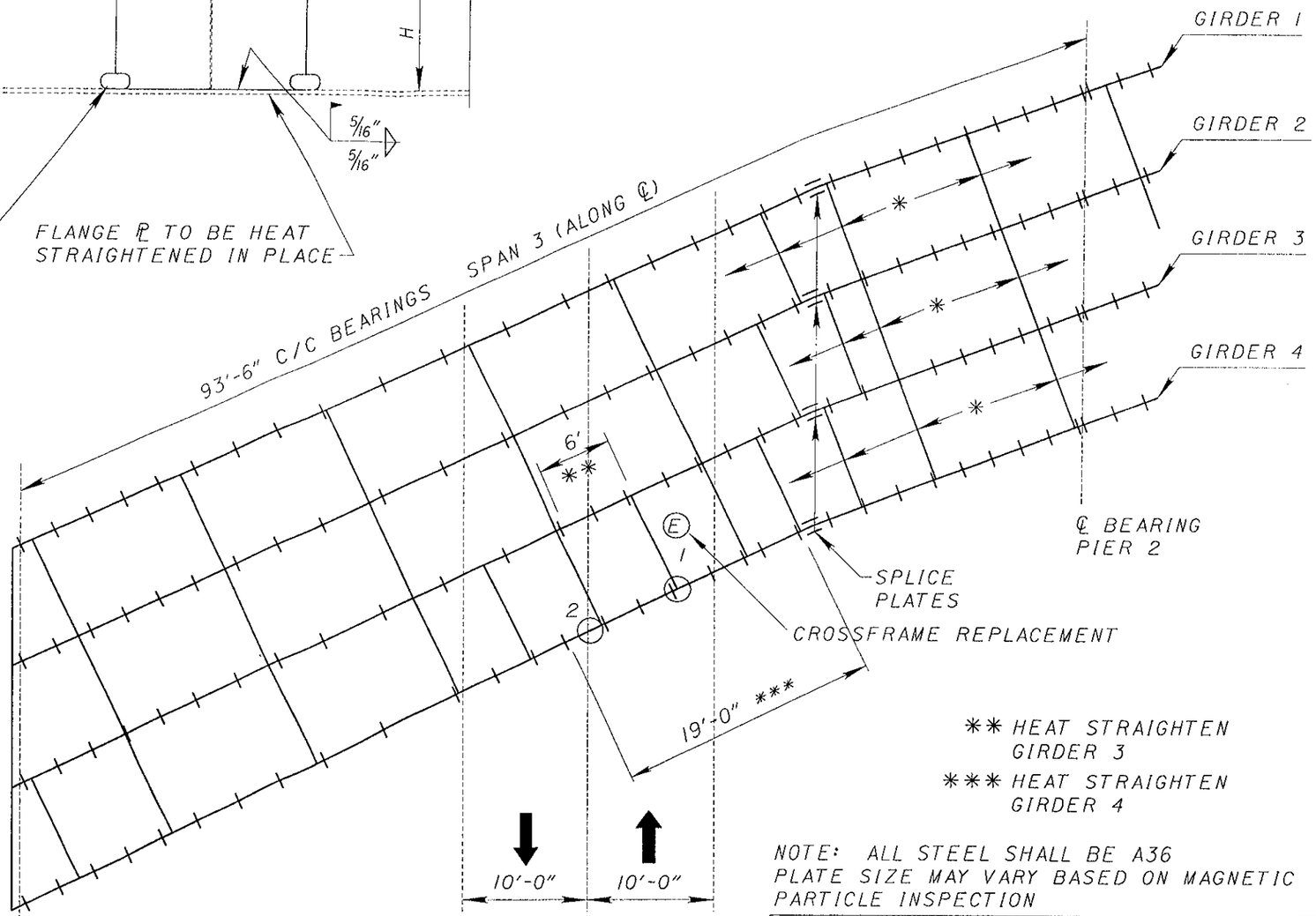




NOTE:
FOR CROSS FRAME WELDING DETAILS SEE SHEET 7.

LEGEND

- ⊗ POINTS OF IMPACT
- ▨ REMOVALS
- ✳ INTERMEDIATE CROSS-FRAMES L'S 3"x3"x 5/16"
- ● CROSSFRAMES TO BE REPLACED



PLAN

** HEAT STRAIGHTEN GIRDER 3

*** HEAT STRAIGHTEN GIRDER 4

NOTE: ALL STEEL SHALL BE A36
PLATE SIZE MAY VARY BASED ON MAGNETIC PARTICLE INSPECTION

WEB PLATE REMOVAL AND REPLACEMENT

LOCATION	WEB PLATE SIZE L X H X 3/8"	WEIGHTS
1	1'-6" X 6"	11.5 LBS.
2	8" X 6"	5.1 LBS.

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DIST. 5 BRIDGE DEPT.
DESIGNED DDH | DRAWN DDH | REVIEWED CLZ 10-27-99 | DATE
CHECKED RSD | REVISED | STRUCTURE FILE NUMBER 3001202

TYPICAL DETAILS
BRIDGE NO. GUE-70-0943A

GUE-70-0943L AND RAMP A

6/9

RAMPA.BFP

ITEM 863, STRUCTURAL STEEL, MISCELLANEOUS LEVEL FABRICATION, AS PER PLAN

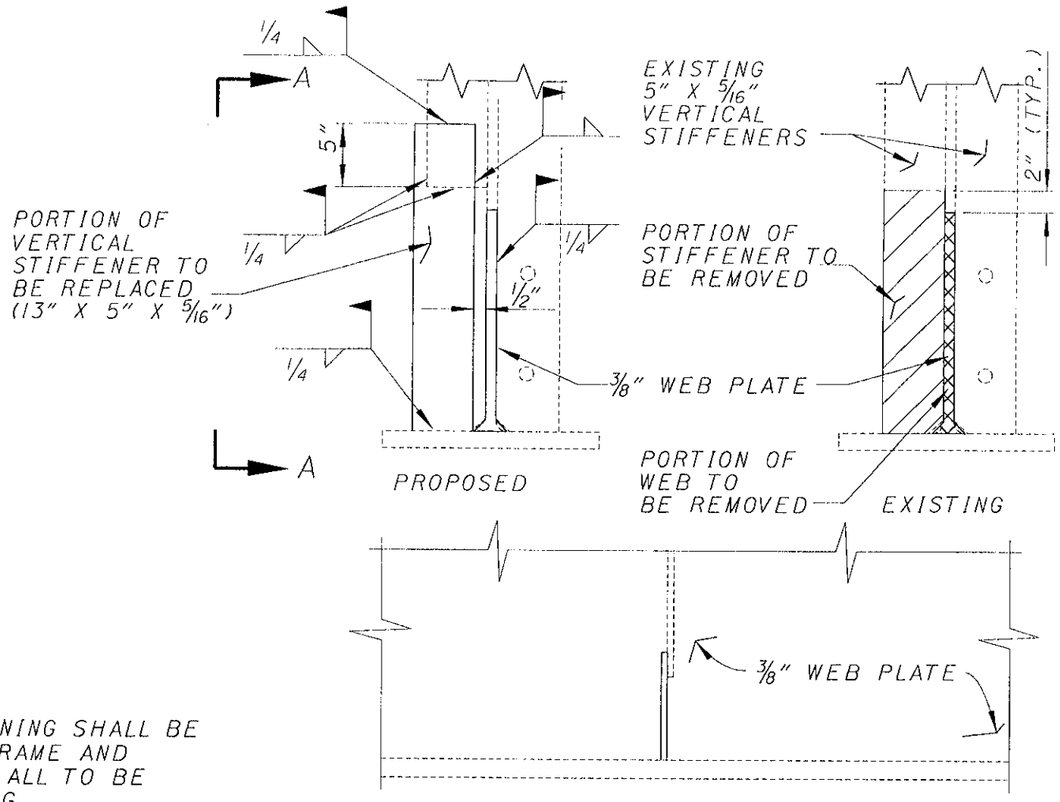
THIS ITEM SHALL INCLUDE REMOVING THE DAMAGED CROSSFRAMES, PORTIONS OF THE OUTSIDE STIFFENERS, WELDS AND REPLACING THEM. THE CONTRACTOR SHALL FIELD VERIFY LENGTHS OF CROSSFRAMES AND STIFFENERS TO BE REPLACED PRIOR TO ORDERING MATERIALS. AFTER REPLACING THE CROSSFRAMES, ALL WELDS OF THE CROSSFRAME AND THE CROSSFRAMES IN THE IMMEDIATE AREA SHALL BE INSPECTED FOR CRACKS BY THE PROJECT ENGINEER. ANY CRACKED CROSSFRAME WELDS SHALL BE REMOVED AND REWELDED AS DIRECTED BY THE ENGINEER. CARE SHALL BE TAKEN DURING THE REMOVAL OPERATION SO AS NOT TO DAMAGE THE GIRDERS. ANY DAMAGE TO THE GIRDERS CAUSED BY THE REMOVAL OPERATION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL MATERIALS, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK ARE TO BE INCLUDED IN ITEM 863, STRUCTURAL STEEL, MISCELLANEOUS LEVEL FABRICATION, AS PER PLAN.
FOR LOCATION OF CROSSFRAME REPLACEMENTS SEE SHEETS 5 & 6.

CROSSFRAME REPLACEMENT			
LOCATION	QUANTITY	LENGTHS*	
BR. NO. GUE-70-0943L			
A-D	4	9'-3 5/16" ±	
A-D	8	10'-8 3/8" ±	
BR. NO. GUE-70-0943A			
E	1	9'-3"	
E	1	10'-8"	

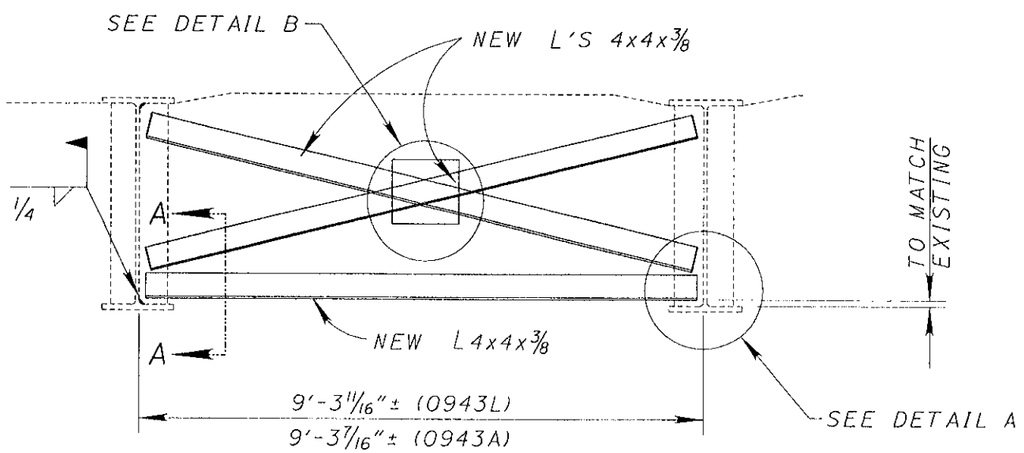
* LENGTHS TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIAL.

NOTE:
THE GIRDER HEAT STRAIGHTENING SHALL BE COMPLETED PRIOR TO CROSSFRAME AND STIFFENER REPAIR WHICH IS ALL TO BE COMPLETED PRIOR TO PAINTING.

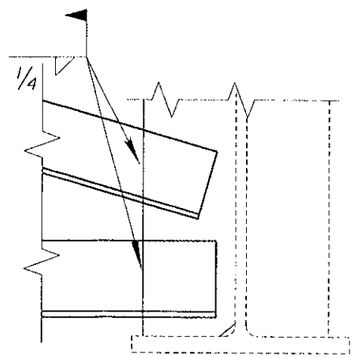
FOR ADDITIONAL DETAILS, SEE ST'D. DWG. GSD-1-69, DATED 2-12-97.



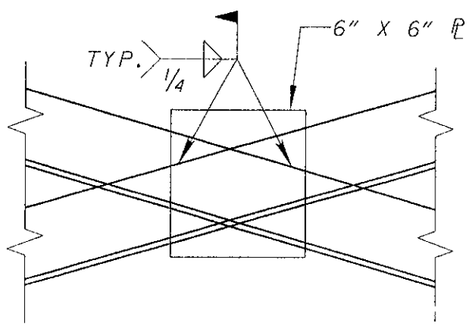
VIEW A-A



ELEVATION



DETAIL A



DETAIL B

G0700943.BSD

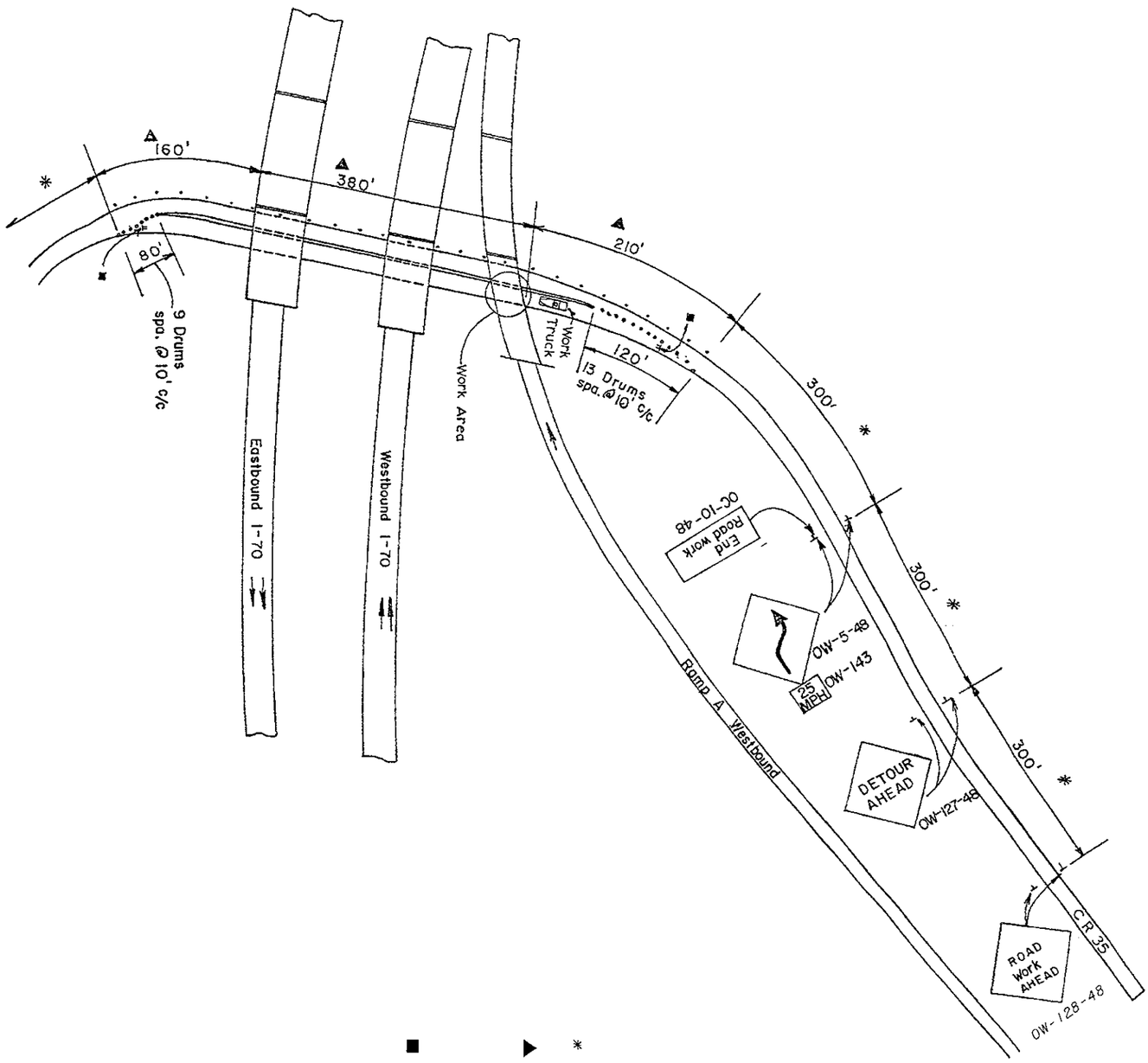
DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5
DESIGNED: RSD | DRAWN: DDH | REVIEWED: CLZ 10-27-99 | DATE | REVISED | CHECKED
STRUCTURE FILE NUMBER: 3001237, 3001202

TYPICAL DETAILS

GUE-70-0943L AND RAMP A

7/9

GO70BR4.DGN



* BOTH SIDES - (SAME AS OPPOSITE APPROACH)

▶ 26 - VERTICAL PANELS (BRIDGE END MARKER) SHALL BE SPACED AT 30' C/C THROUGH THE DETOUR SECTION AND SHALL BE INCLUDED FOR PAYMENT IN ITEM 614 MAINTAINING TRAFFIC

■ PORTABLE FLASHING ARROW PANEL

GUE-70-0943L AND RAMP A	TRAFFIC CONTROL BRIDGE NO. GUE-70-0943L AND RAMP A	DESIGNED DDH	DRAWN DDH	REVIEWED	DATE 10-27-99	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DIST. 5 BRIDGE DEPT.
		CHECKED RSD	REVISED	STRUCTURE FILE NUMBER 3001202 3001237		

CALC BY RSD DATE	GUE-70-0943L AND RAMP A	OHIO FHWA REGION 5	9/9
CHKD BY DDH DATE			

THE FLASHING ARROW PANEL SHALL CONSIST OF THE FOLLOWING COMPONENTS:

A. FLASHER PANEL
B. LAMPS
C. CONTROLS
D. POWER SUPPLY
E. MOUNTING

A. FLASHER PANEL

THE FLASHER PANEL SHALL BE OF EXTERIOR TYPE PLYWOOD OR CORROSION RESISTANT METAL CONSTRUCTION OF ADEQUATE DESIGN AND STRENGTH. THE PANEL FINISH SHALL BE FLAT BLACK.

A FLASHER PANEL SHALL BE ONE OF THREE SIZES. THE TYPE A PANEL SHALL BE A NOMINAL 24 INCHES HIGH BY 48 INCHES WIDE. TYPE B SHALL BE A NOMINAL 30 INCHES HIGH BY 60 INCHES WIDE. TYPE C SHALL BE A NOMINAL 48 INCHES HIGH BY 96 INCHES WIDE.

B. LAMPS

LAMPS SHALL BE ANSI NUMBER 4412A FOR TYPES B AND C AND 4415A FOR TYPE A. THE LAMPS SHALL BE FITTED WITH AN UPPER HOOD OF NOT LESS THAN 180 AT LEAST FIVE INCHES LONG. THE LAMPS SHALL BE SECURELY MOUNTED AND POSITIONED IN THE PANEL PERPENDICULAR TO THE PANEL FACE AND ORIENTED SO THAT THE LAMP LOCATION LUG (ON BACK OF LAMP) IS ON THE HORIZONTAL CENTER LINE THROUGH THE LENS. THE LUG WILL BE ON THE RIGHT SIDE OF THE LAMP AS VIEWED FROM THE FRONT.

THE LAMPS SHALL BE WIRED IN CIRCUITS THAT CAN BE SWITCHED TO DISPLAY ANY ONE OF THE FOLLOWING MESSAGES: LEFT ARROW, RIGHT ARROW, LEFT AND RIGHT ARROW, AND CAUTION BAR. A MINIMUM OF THREE INDICATOR LIGHTS SHALL BE PLACED ON THE BACK OF THE PANEL TO INDICATE WHICH MESSAGE MODE IS IN OPERATION.

EACH PANEL SHALL CONTAIN THE FOLLING NUMBER OF LAMPS AS A MINIMUM: TYPE A - 12 LAMPS, TYPE B - 13 LAMPS, TYPE C - 15 LAMPS. LAMP SPACING DIMENSIONS ARE NORMINAL AND INTENDED TO ESTABLISH OVERALL SHAPE. VARIATIONS UP TO ONE INCH ARE ACCEPTABLE PROVIDING THE SHAPE IS NOT CHANGED.

C. CONTROLS

EACH FLASHING ARROW PANEL SHALL CONTAIN A FLASHER CONTROL AND A DIMMER CONTROL UNIT HOUSED IN A CABINET WHICH CAN BE LOCKED.

FLASHER CONTROL

THE FLASH RATE FOR THE SIGN PANEL SHALL BE 25 TO 40 FLASHES PER MINUTE. THE FLASHER SHALL NOT CAUSE ELECTROMAGNETIC INTERFERENCE. THE LAMPS SHALL HAVE A MINIMUM "ON TIME" OF 50% AND A MAXIMUM OF 66%.

2. DIMMER CONTROL

LAMP INTENSITY SHALL BE VARIABLE BY MEANS OF A PHOTOELECTRICALLY CONTROLLED DIMMING CIRCUIT WHICH SHALL REDUCE LAMP OUTPUT DURING LOW AMBIENT LIGHT CONDITIONS. THE PHOTOELECTRIC CONTROL SHALL BE CALIBRATED TO ACTUATE A LAMP DIMMING CIRCUIT AT 2 TO 5 AMBIENT FOOTCANDLES AND TO RESTORE THE LIGHT TO NORMAL AT 5 TO 10 AMBIENT FOOT CANDLES OR AS AN ALTERNATIVE, THE BRIGHTNESS OF THE LAMPS MAY BE CONTINOUSLY VARIABLE AS AMBIENT LIGHT VARIES FROM DARK TO DAYLIGHT. A TIME DELAY SHALL BE BUILT INTO THE CONTROL TO PREVENT FALSE OPERATION DUE TO LIGHT FLASHES. THE DIMMING CIRCUIT SHALL INCLUDE A SWITCH WHICH SHALL OVERRIDE THE PHOTOELECTRIC CONTROL. THE DIMMING FEATURE SHALL BE DESIGNED TO REDUCE LAMP OUTPUT TO A LEVEL WHICH WILL NOT CAUSE SIGNIFICANT GLARE TO APPROACHING MOTORISTS.

D. POWER SUPPLY

THE FLASHING ARROW PANEL SHALL OPERATE FROM POWER SOURCES CAPABLE OF CONTINUOUSLY FURNISHING THE PROPER VOLTAGEE TO THE LAMPS A MINIMUM OF 24 HOURS WITHOUT ATTENDANCE.

MOTOR GENERATORS, IF USED, SHALL BE OF MODERN DESIGN TO PROVIDE LOW EMISSION OF POLLUTANTS AND SHALL BE PROPERLY MUFFLED. THE MOTOR GENERATOR SHALL BE ENCLOSED IN A MESH ENCLOSURE WHICH CAN BE LOCKED. THE FUEL TANK SHALL HAVE A CAP WHICH CAN BE LOCKED. MOTOR GENERATORS SUPPLYING POWER TO A FLASHING ARROW SIGN SHALL NOT BE USED TO SUPPLY POWER TO OTHER EQUIPMENT. GASOLINE FUELLED ENGINES SHALL NOT BE USED.

E. MOUNTING

THE FLASHING ARROW PANEL MAY BE TRAILER OR VEHICLE MOUNTED OR MOUNTED ON A RIGID SUPPORTING DEVICE SUITABLE FOR MAINTAINING IT IN THE DESIGNATED POSITION. EACH OF THE MOUNTING METHODS SHALL BE SUITABLY STABLE SUCH AS TO PREVENT MOVEMENT DUE TO HIGH WINDS OR PASSAGE OF LARGE VEHICLES.

WHEN A TRAILER IS USED, CONSTRUCTION SHALL BE SUCH AS TO TRANSPORT THE FLASHING ARROW PANEL AND APPURTANCES ADEQUATELY AND LEGALLY AS WELL AS SUPPORT THEM PROPERLY DURING OPERATION. THE TRAILER SHALL BE EQUIPPED WITH DEVICES WHICH SHALL PROVIDE LEVELING AND STABILITY DURING OPERATION.

MINIMUM ARROW PANEL MOUNTING HEIGHT SHALL BE 7 FEET ABOVE THE PAVEMENT SURFACE (MEASURED TO THE BOTTOM OF THE PANEL).

USE AND OPERATION

THE FLASHING ARROW PANEL SHALL BE LOCATED AS SHOWN IN THE MAINTENANCE OF TRAFFIC DRAWINGS OR AS DIRECTED BY THE ENGINEER AND OPERATED CONTINUOUSLY DURING TRAFFIC MAINTAINED PERIODS. THE CONTRACTOR SHALL SUPPLY ALL FUEL, LUBRICANTS AND PARTS NECESSARY TO OBTAIN CONTINUOUS OPERATION AND SHALL PROVIDE ALL SERVICE. THE CONTRACTOR SHALL INSPECT THE OPERATION OF THE UNIT DAILY, INCLUDING WEEKENDS AND HOLIDAYS. HE SHALL ALSO ARRANGE WITH THE ENGINEER, AN ACCEPTABLE METHOD OF OBTAINING SERVICE FOR A MALFUNCTIONING PANEL WITHIN 30 MINUTES OF A REPORTED MALFUNCTION. LAMP INTENSITY SHALL BE ADJUSTED TO PROVIDE MINIMUM LEGIBILITY DISTANCES OF ½ MILE (TYPE A), ¾ MILES (TYPE B) AND 1 MILE (TYPE C). THE CONTRACTOR SHALL PERFORM NIGHT INSPECTIONS TO VERIFY OR ADJUST DIMMING CONTROL SETTINGS DURING THE NIGHT FOLLOWING EACH POSITIONING OF THE UNIT AND WEEKLY THEREAFTER.

TYPE C PANELS SHALL BE USED FOR STATIONARY OPERATIONS ON HIGH SPEED (55 MPH OR GREATER), HIGH VOLUME ROADWAYS. TYPE B SHALL BE USED FOR STATIONARY OPERATIONS ON INTERMEDIATE SPEED (40-50 MPH) FACILITIES, AND TYPE A ON LOW SPEED (20-35 MPH) FACILITIES.

IN ADDITION, TYPE B PANELS SHALL BE USED FOR MOVING OPERATIONS ON FREEWAYS AND EXPRESSWAYS AND TYPE A FOR MOVING OPERATIONS ON OTHER FACILITIES.

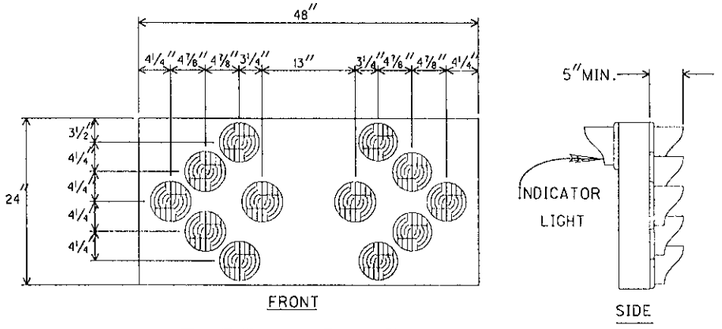
FLASHING ARROW PANELS ARE NOT TO BE USED ON TWO LANE-TWO WAY ROADWAYS.

WHEN LEFT UNATTENDED THE CONTROL CABINET, MOTOR GENERATOR ENCLOSURE AND FUEL TANK SHALL BE LOCKED.

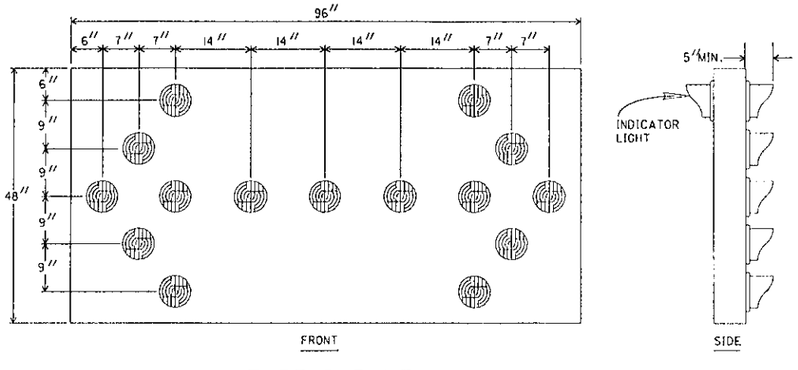
TYPE A AND TYPE B PANELS USED IN MOVING OPERATIONS MAY BE POWERED BY THE VEHICLE'S ELECTRICAL SYSTEM BUT SHALL NOT BE LEFT UNATTENDED WHEN SO POWERED.

WHEN NOT IN USE, THE FLASHING ARROW PANEL SHALL BE STORED AT A LOCATION WHICH WILL NOT BE HAZARDOUS TO TRAFFIC OR PEDESTRIANS.

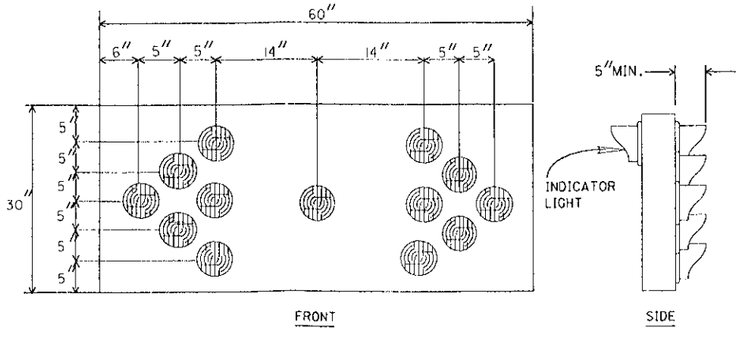
THE PANELS SHALL BE DESIGNED FOR OPERATION IN 100% HUMIDITY AND TEMPERATURES FROM -20 TO +130 DEGREES FAHRENHEIT.



TYPE A PANEL



TYPE C PANEL



TYPE B PANEL

REVISED BY: DATE:

203510	DATE
FLASHING ARROW PANEL	10/05/77 08/29/84 10/07/91 04/30/92
PLAN INSERT SHEET	

60700943.MDS

WCC

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

REGION	STATE	FEDERAL PROJECT	
5	OHIO		

FACT	COUNTY	ROUTE	SECTION	PROJECT TERMINI BEGIN	PROJECT TERMINI END	NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
	GUE	70	8.93	8.93	8.93	0.00			

CALCULATED BY QSD DATE 3-25-88

CHECKED BY cte DATE 3-25-88

PLAN NO. BR-14-88

5003(88)

The Standard 1987 Specifications of the State of Ohio, Department of Transportation including changes and Supplemental Specifications listed in the plans and proposal shall govern this 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.~~ ~~will be provided by State forces. The closing to traffic of the highways~~ will not be required on Parts No. Br. N° GUE-70-0943A and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 3-25-88 — John M. Hagar, District Deputy Director of Transportation

Approved Date 4-12-88 — B.D. Vanhilamian, Engineer of Bridges

Approved Date _____ — Engineer of Maintenance

Approved Date 4-13-88 — James R. Longnecker, Deputy Director, 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

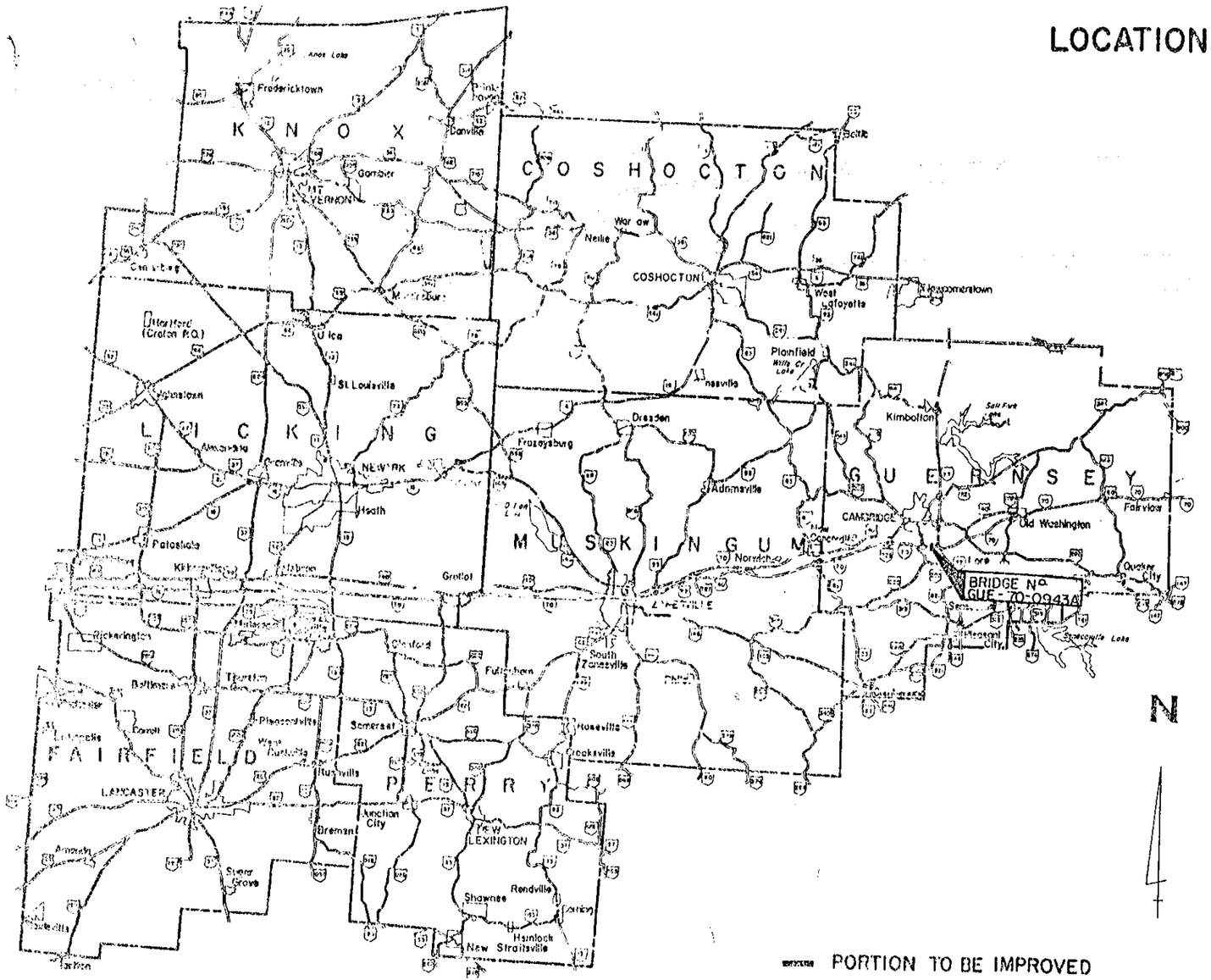
Approved Date 4-15-88 — Bernard B Hunt, Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

_____ _____
DIVISION ADMINISTRATOR DATE

LOCATION MAP



PORTION TO BE IMPROVED

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
TC-35.10	8-29-84		
MC-3	6-1-83		

5003(88)

CALCULATED BY RLD DATE 3-25-88
CHECKED BY cte DATE 3-25-88

BRIDGE REPAIR
GUE-70-0943A
PLAN NO. BR-14-88

GENERAL NOTES

ITEM 614 -- MAINTAINING TRAFFIC

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED REPAIR WITH MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORIST USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT; FURTHER-MORE, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY:

I. RESTRICTIONS

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT NO PORTION OF ANY ROAD OR HIGHWAY IS CLOSED TO TRAFFIC AND NO OPERATIONS ARE BEING PER-FORMED DURING THE PERIOD BEGINNING AT 12 NOON THE DAY *PRECEDING* AND CONTINUING UNTIL 9:00 A.M. THE DAY FOLLOWING LEGAL HOLIDAY WEEKENDS. THROUGH LANES SHALL BE MAINTAINED AT ALL TIMES AS NOTED HERE, IN THE IMPLEMENTATION NOTES AND IN THE TRAFFIC CONTROL PLANS.

II. NIGHTTIME WORK

NIGHTTIME WORK SHALL BE PERMITTED IN ACCORDANCE WITH THESE PLANS AND NOTES. A PLAN FOR LIGHTING FOR NIGHTTIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER. IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHTTIME WORK, THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA.

III. TRAFFIC CONTROL 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 AND 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. THE ENGINEER MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED WHERE NECESSARY ESPECIALLY WHERE A GRADE, CURVE, MERGE CONDITION, OR DRIVER CONFUSION EXISTS. ALSO THE CONTRACTOR SHALL PROVIDE SUFFICIENT ADDITIONAL BARRICADES, ETC. TO PROTECT THE WORK AREA FROM ANY VEHICLES WHICH DRIVE AROUND OR THROUGH THE TRAFFIC CONTROL.

B. CONDITIONS

DURING THIS PROJECT THE SIGNING, BARRICADES, ETC., SHALL BE LOCATED AS INDICATED IN THESE NOTES AND THE TRAFFIC CONTROL PLANS.

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

WHEN C.R. 35 IS CLOSED TO TRAFFIC THE MOTORISTS SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW FOR EACH LANE CLOSED IN ADDITION TO OTHER PROVISIONS SET FORTH IN THE "MANUAL" AND THESE PLANS.

F. FAILURE TO COMPLY

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

IV. TRAFFIC CONTROL MATERIAL

A. SIGNS

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

CALCULATED BY RD DATE 3-25-88
CHECKED BY cte DATE 3-25-88

GENERAL NOTES

BRIDGE REPAIR
GUE-70-0943A
PLATE NO. BR-14-88

B. SIGN SUPPORT

SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZE AND HEIGHT AS TO SUPPORT THE SIGNS AT THE HEIGHT INDICATED IN THE "MANUAL" ON THE PLATE C-1. SUPPORTS SHALL ALSO BE ADEQUATE IN MASS AND STABILITY TO PREVENT THE SIGNS FROM BEING BLOWN OVER BY WIND OR VEHICULAR GENERATED AIR TURBULENCE.

C. FLASHING ARROWS

THE ELECTRIC FLASHING ARROWS SHALL BE TYPE "A" SHOWN ON STANDARD CONSTRUCTION DRAWING TC-35.10. PAYMENT FOR FLASHING ARROWS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

D. DRUMS

DRUMS SHALL BE APPROXIMATELY 36" IN HEIGHT AND A MINIMUM OF 18" IN DIAMETER. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ORANGE AND WHITE REFLECTORIZED STRIPES FOUR TO EIGHT INCHES WIDE, USING A MATERIAL THAT HAS A SMOOTH, SEALED OUTER SURFACE WHICH WILL DISPLAY THE SAME APPROXIMATE SIZE, SHAPE AND COLOR DAY AND NIGHT. THERE SHALL BE AT LEAST TWO ORANGE AND TWO WHITE STRIPES ON EACH DRUM. IF THERE ARE NONREFLECTORIZED SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES, THEY SHALL BE NO MORE THAN TWO INCHES WIDE. DRUMS SHALL BE FILLED ONE-THIRD FULL OF WATER TO INSURE STABILITY OR BALLASTED AS APPROVED BY THE ENGINEER.

V. TRAFFIC CONTROL. SEE SHEET 9 FOR DETAILS.

1. I-70: THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.

2. I-70: THE FLASHING ARROW BARRICADE SHALL BE IN ACCORDANCE WITH OHIO MANUAL UNIFORM TRAFFIC CONTROL DEVICES, SECTION 7G-8.

3. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE AS DETAILED ON SHEET 9 IN ADVANCE OF THE WORK AREA.

SPECIFICATIONS

ALL MATERIAL AND ITEMS OF WORK SHALL CONFORM TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 1987.

DESIGN LOADING

THESE REPAIRS RESTORE THIS STRUCTURE TO ITS ORIGINAL DESIGN LOAD CAPACITY

PRIOR INSPECTION OF WORK

PROSPECTIVE BIDDERS ARE REQUIRED TO MAKE AN INSPECTION OF TH BRIDGE IN THE FIELD AND TO REVIEW THE PLANS AND SPECIFICATIO BEFORE SUBMITTING BIDS.

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983 INCLUDING THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

REFERENCE

DETAILED DRAWINGS OF THE EXISTING STRUCTURE MAY BE INSPECTED IN THE DISTRICT 5 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, JACKSONTOWN, OHI

ITEMS 513 STRUCTURAL STEEL

NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A 36, UNIT STRESS 20,000 PSI. FIVE (5) NEW SETS OF INTERMEDIATE CROSSFRAME MEMBERS SHALL BE INSTALLED BETWEEN BEAM "A" AND BEAM "B" AS SHOWN ON SHEET NO. 7. EACH SET OF CROSSFRAMES SHALL CONSIST OF THREE (3) PIECES OF 4" x 4" x 3/8" ANGLES. LENGTH OF CROSSFRAMES TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR

ITEMS SPECIAL- HEAT STRAIGHTENING OF EXISTING ING STRUCTURAL STEEL

THIS ITEM CONSISTS OF HEAT STRAIGHTENING THE WEB, STIFFENERS AND BOTTOM FLANGE OF THE DAMAGED BEAM. HEAT STRAIGHTENING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH 513.06 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND TH PROPOSAL NOTE BY PERSONS HAVING DEMONSTRATED SUCH CAPABILITIES AND HAVING A RECORD OF SUCCESSFUL ACCOMPLISHMENT IN HEAT STRAIGTENING.

PROPOSED SEQUENCE OF OPERATIONS

1. INSTALL TRAFFIC CONTROL ON C.R. 35 FOR DETOUR OF TRAFFIC.
2. REMOVE DAMAGED CROSSFRAMES.
3. HEAT STRAIGHTEN THE PORTION OF THE BEAM ABOVE THE CLOSED ROAD.
4. INSTALL NEW CROSSFRAMES AND STIFFENERS
5. OPEN ALL ROADS TO TRAFFIC
6. PAINT BRIDGE

FHWA REGION	STATE	PROJECT	
5	OHIO		

4/9

CALCULATED BY RJD DATE 3-25-88

CHECKED BY cte DATE 3-25-88

BRIDGE REPAIR

GUE-70-0943A

PLAN NO. BR-14-88

GENERAL SUMMARY

	ITEM	DESCRIPTION	TOTAL	UNIT
*	513	STRUCTURAL STEEL	2000	POUND
	614	MAINTAINING TRAFFIC	LUMP	LUMP
	624	MOBILIZATION	LUMP	LUMP
	SPECIAL	HEAT STRAIGHTENING OF DAMAGED STRUCTURAL STEEL		
		(SEE PROPOSAL NOTE)	LUMP	LUMP
	SPECIAL	FIELD PAINTING OF EXISTING STEEL, SURFACE		
		PREPARATION, SYSTEM OZEU (SEE PROPOSAL NOTE)	LUMP	LUMP
	SPECIAL	FIELD PAINTING OF EXISTING STEEL, PRIME COAT,		
		SYSTEM OZEU (SEE PROPOSAL NOTE)	LUMP	LUMP
	SPECIAL	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE		
		COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)	LUMP	LUMP
	SPECIAL	FIELD PAINTING OF EXISTING STEEL, FINISH COAT,		
		SYSTEM OZEU (SEE PROPOSAL NOTE)	LUMP	LUMP
	619	FIELD OFFICE	LUMP	LUMP

* AISC CERTIFICATION NOT REQUIRED

INTERIM COMPLETION DATE:

ALL HEAT STRAIGHTENING AND RELATED STRUCTURAL STEEL WORK SHALL BE COMPLETED AND TRAFFIC RESTRICTIONS REMOVED BY JUNE 10, 1988.

BRIDGE REPAIR
GUE-70-0943A

CALCULATED BY QJD DATE 3-25-88

CHECKED BY CLC DATE 3-25-88

PLAN NO. BR-14-88

PAINT NOTES

GENERAL PROVISIONS

THE CONTRACTOR'S ATTENTION IS CALLED TO ALL OF SECTION 100 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF OHIO DEPARTMENT OF TRANSPORTATION AND SPECIFICALLY TO THE ITEMS LISTED BELOW AS PROVIDED FOR IN THIS SECTION:

MOBILIZATION

THE CONTRACTOR SHALL ON ANY CONTRACT FOR WHICH HIS BID EXCEEDS $50,000.00 INCLUDE AN AMOUNT TO COVER ANY APPLICABLE EXPENDITURES REFERRED TO UNDER ITEM 624 OF THE 1987 CONSTRUCTION AND MATERIAL SPECIFICATIONS. PAYMENT SHALL BE THE LUMP SUM BID PRICE FOR ITEM 624, MOBILIZATION.

MAINTAINING TRAFFIC

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WARNING AND REGULATORY SIGNS, LIGHTS, BARRICADES, PAVEMENT MARKINGS, AND ANY OTHER DEVICES NECESSARY TO MAINTAIN TRAFFIC AS INDICATED IN THE OHIO MANUAL OF TRAFFIC CONTROL FOR MAINTENANCE OPERATIONS, CURRENT EDITION, LATEST REVISIONS. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

COOPERATION BETWEEN CONTRACTORS

THE STATE MAY HAVE A CONTRACT TO RESURFACE THE ROADWAY AND REHABILITATE THE CONCRETE ROADWAY MEDIAN CONCURRENTLY WITH THIS PROJECT. IT IS PERTINENT THAT THIS CONTRACTOR COOPERATE FULLY WITH THE BRIDGE CONTRACTOR AS OUTLINED IN SECTION 105.07 OF THE SPECIFICATIONS.

FINISH COAT

THE FINISH COAT COLOR SHALL BE BLUE FS-595A-15450 AS DESCRIBED IN THE PROPOSAL. COLORS GRAY AND Green SHALL NOT BE USED IN THE FINAL FINISH COAT.

DEPARTMENT OF TRANSPORTATION
DOT-R-712 REV. 9-1-83

BRIDGE REPAIR
GUE-70-0943A

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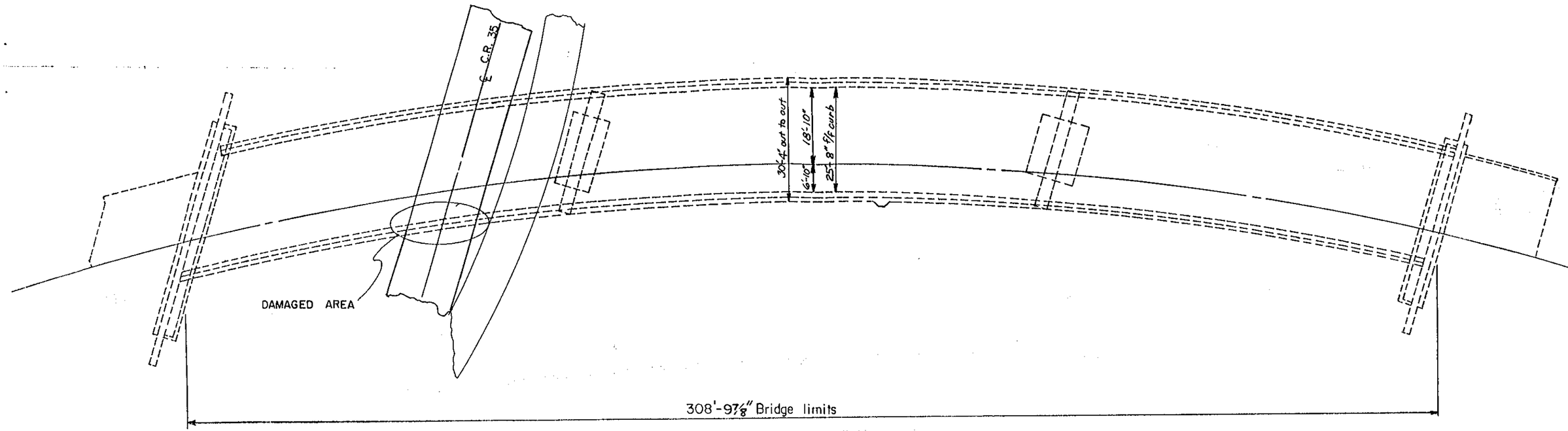
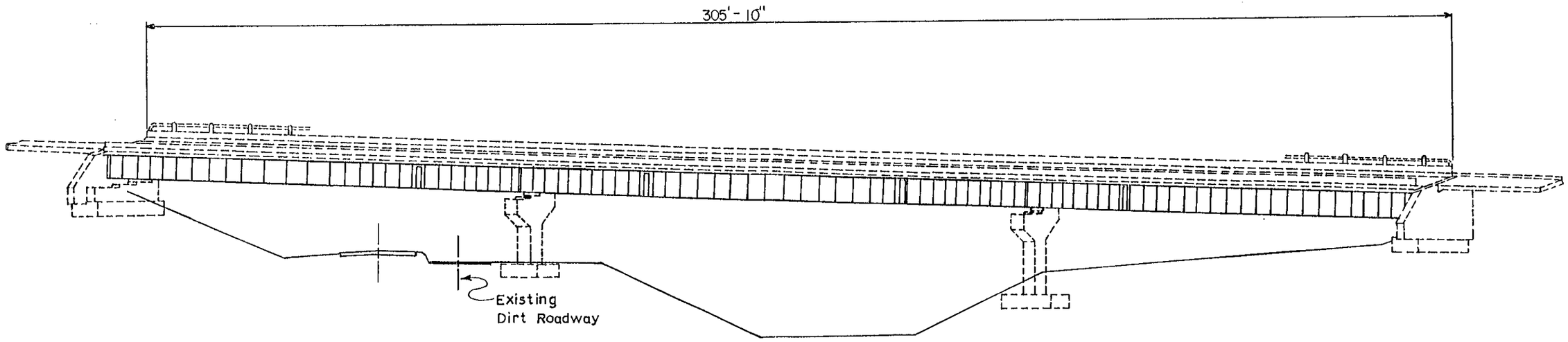
CALCULATED BY RSD DATE 3-25-88
CHECKED BY cte DATE 3-25-88

PLAN NO
BR-11-8



GENERAL PLAN



GENERAL ELEVATION

CALCULATED BY RLD DATE 3-25-88
CHECKED BY clc DATE 3-25-88

BRIDGE REPAIR
GUE-70-0943A

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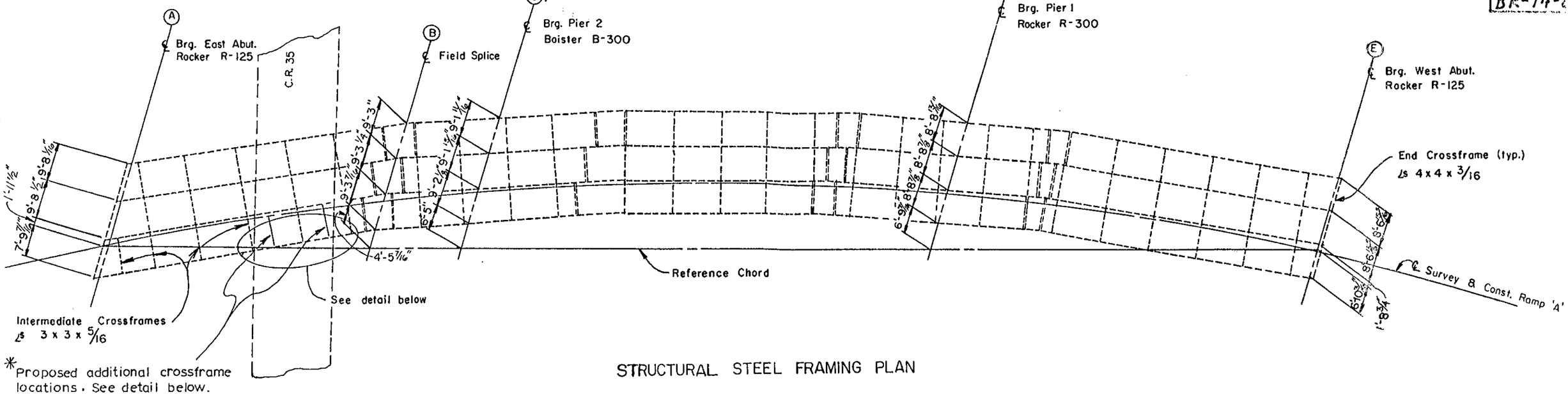
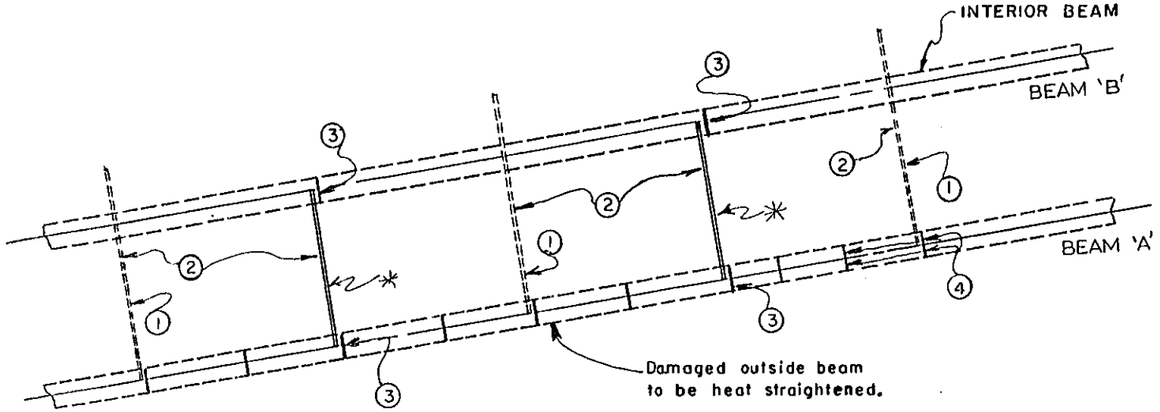
PLAN NO
BR-14-



STRUCTURAL STEEL FRAMING PLAN



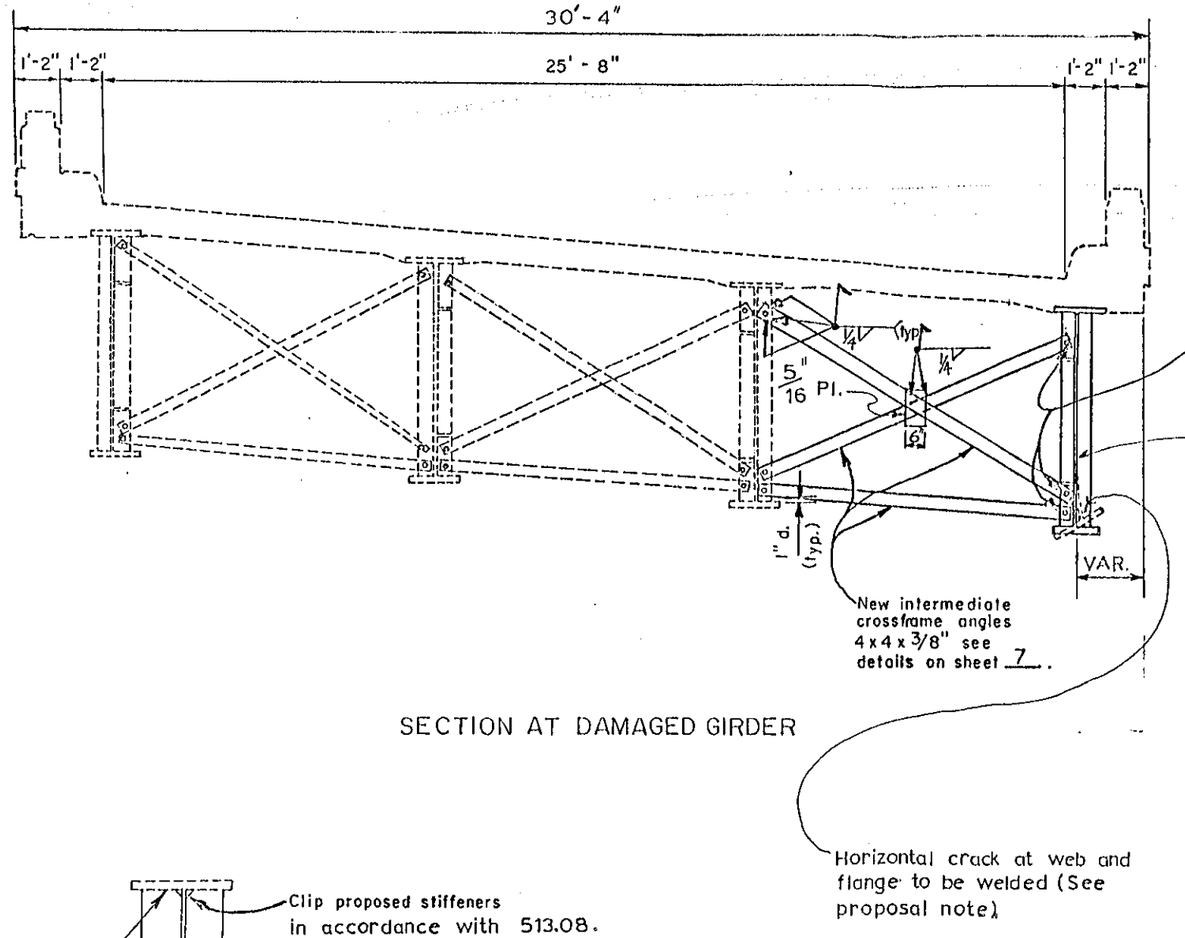
DAMAGED AREA OF STRUCTURAL STEEL

(1) REMOVE EXISTING CROSSFRAMES
(2) INSTALL PROPOSED 4 x 4 x 3/8 CROSSFRAMES
(3) INSTALL 5 x 5/16 INTERMEDIATE STIFFENERS ON BOTH SIDES OF GIRDER WEB. TORCH CUT EXISTING LONGITUDINAL STIFFENERS AND GRIND SMOOTH TO ALLOW FOR PLACEMENT OF VERTICAL STIFFENERS SEE DETAIL, SHEET 8.
(4) EXISTING STIFFENERS TO BE HEAT STRAIGHTENED. (LONGITUDINAL & VERTICAL)

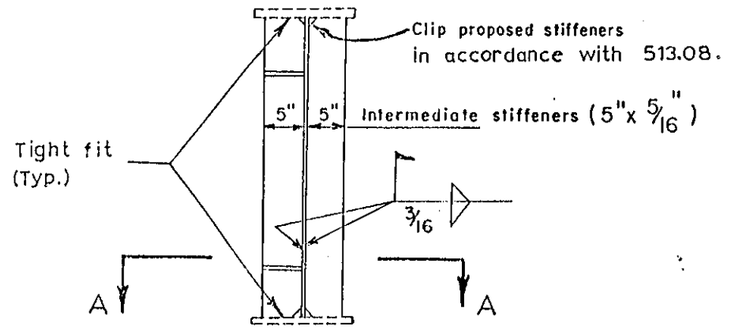
BRIDGE REPAIR
GUE-70-0943A

PLAN
BR-14

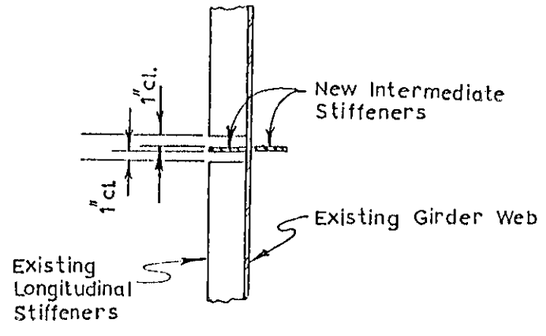
CALCULATED BY RSD DATE 3-25-88
CHECKED BY cle DATE 3-25-88



SECTION AT DAMAGED GIRDER



PROPOSED STIFFENER DETAILS



SECTION A-A

Painting of new crossframes and stiffeners shall be included for payment in Item Special-Field Painting of Existing Steel.

Note:

The amount of 2000 lbs. of item 513 Structural Steel has been included in the General Summary for replacement of and in addition to new crossframes and stiffeners. The length of crossframes and stiffeners shall be determined in the field by the contractor to insure proper installation. Final Quantities shall be determined by actual field measurements at the completion of the work.

DEPARTMENT OF TRANSPORTATION
M & R 712 REV. 9-1-83

BRIDGE REPAIR
GUE-70-0943A

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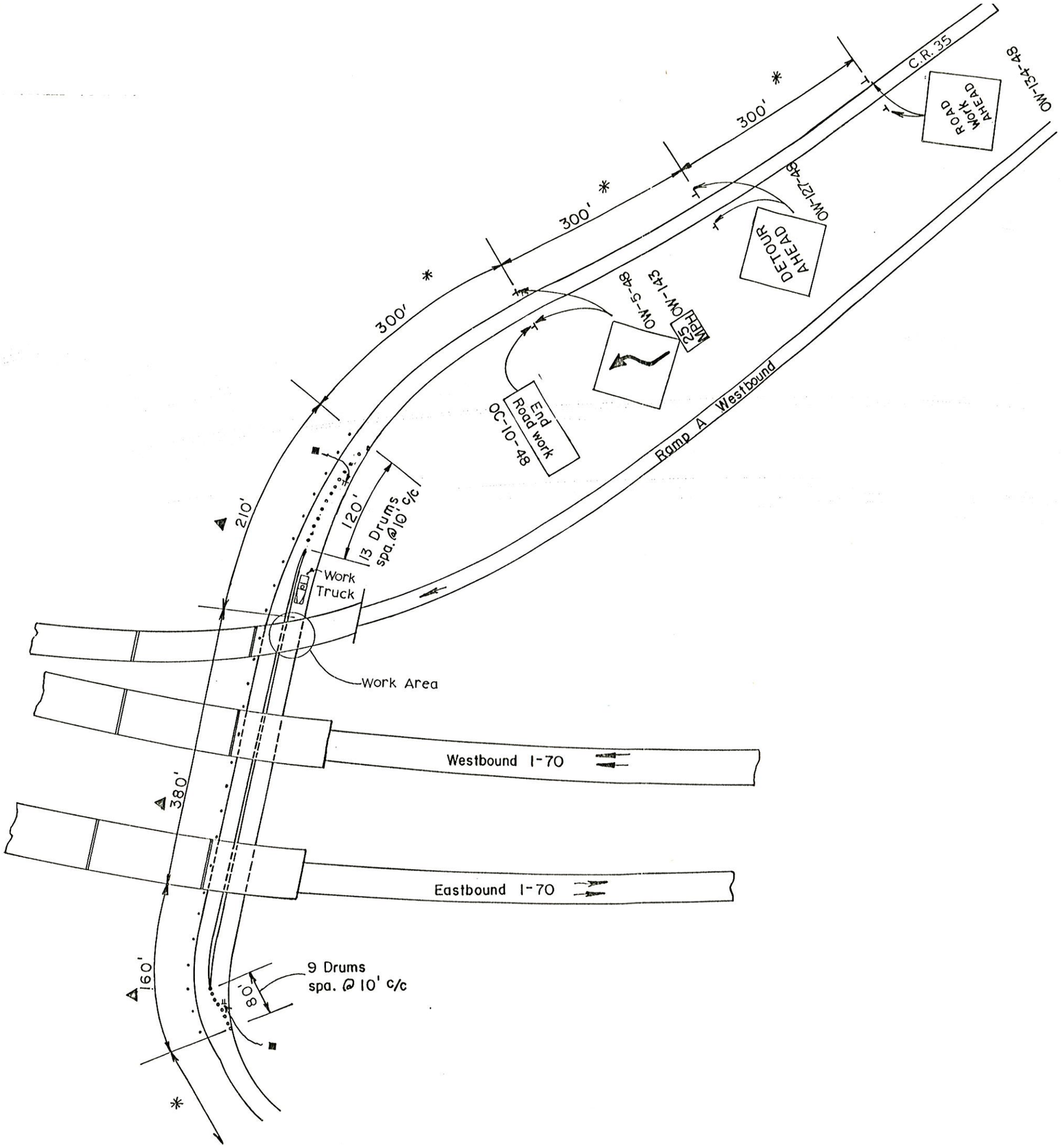
PLAN NO
BR-11-

CALCULATED BY RSD DATE 3-25-88

CHECKED BY cle DATE 3-25-88



* BOTH SIDES - (same as opposite approach)

▲ 26 - Vertical panels (X-67) shall be spaced at 30' c/c through the detour section & shall be included for payment in Item 614 Maintaining Traffic.

■ Portable Flashing Arrow Panel

Bridge End Marke

Vertical panel orange/white
(2' High min) 8 to 12" wi
6" wide 45° ∠

use C-24 OMMTCD
instead of whats shown

TRAFFIC CONTRO

THE FLASHING ARROW PANEL SHALL CONSIST OF THE FOLLOWING COMPONENTS:

A. FLASHER PANEL

B. LAMPS

C. CONTROLS

D. POWER SUPPLY

E. MOUNTING

A. FLASHER PANEL

THE FLASHER PANEL SHALL BE OF EXTERIOR TYPE PLYWOOD OR CORROSION RESISTANT METAL CONSTRUCTION OF ADEQUATE DESIGN AND STRENGTH. THE PANEL FINISH SHALL BE FLAT BLACK.

A FLASHER PANEL SHALL BE ONE OF THREE SIZES. THE TYPE A PANEL SHALL BE A NOMINAL 24 INCHES HIGH BY 48 INCHES WIDE. TYPE B SHALL BE A NOMINAL 30 INCHES HIGH BY 54 INCHES WIDE. TYPE C SHALL BE A NOMINAL 48 INCHES HIGH BY 96 INCHES WIDE.

B. LAMPS

LAMPS SHALL BE ANSI NUMBER 4412A FOR TYPES B AND C AND 4415A FOR TYPE A. THE LAMPS SHALL BE FITTED WITH AN UPPER HOOD OF NOT LESS THAN 180° AT LEAST FIVE INCHES LONG. THE LAMPS SHALL BE SECURELY MOUNTED AND POSITIONED IN THE PANEL PERPENDICULAR TO THE PANEL FACE AND ORIENTED SO THAT THE LAMP LOCATION LUG (ON BACK OF THE LAMP) IS ON THE HORIZONTAL CENTER LINE THROUGH THE LENS. THE LUG WILL BE ON THE RIGHT SIDE OF THE LAMP AS VIEWED FROM THE FRONT.

THE LAMPS SHALL BE WIRED IN CIRCUITS THAT CAN BE SWITCHED TO DISPLAY ANY ONE OF THE FOLLOWING MESSAGES: LEFT ARROW, RIGHT ARROW, LEFT AND RIGHT ARROW, AND CAUTION BAR. A MINIMUM OF THREE INDICATOR LIGHTS SHALL BE PLACED ON THE BACK OF THE PANEL TO INDICATE WHICH MESSAGE MODE IS IN OPERATION.

EACH PANEL SHALL CONTAIN THE FOLLOWING NUMBER OF LAMPS AS A MINIMUM: TYPE A-12 LAMPS, TYPE B-13 LAMPS, TYPE C-15 LAMPS.

C. CONTROLS

EACH FLASHING ARROW PANEL SHALL CONTAIN A FLASHER CONTROL AND A DIMMER CONTROL UNIT HOUSED IN A CABINET WHICH CAN BE LOCKED.

1. FLASHER CONTROL

THE FLASH RATE FOR THE SIGN PANEL SHALL BE 25 TO 40 FLASHES PER MINUTE. THE FLASHER SHALL NOT CAUSE ELECTROMAGNETIC INTERFERENCE. THE LAMPS SHALL HAVE A MINIMUM "ON TIME" OF 50% AND A MAXIMUM OF 66%.

2. DIMMER CONTROL

LAMP INTENSITY SHALL BE VARIABLE BY MEANS OF A PHOTOELECTRICALLY CONTROLLED CIRCUIT WHICH SHALL REDUCE LAMP OUTPUT DURING LOW AMBIENT LIGHT CONDITIONS. THE PHOTOELECTRIC CONTROL SHALL BE CALIBRATED TO ACTUATE A LAMP DIMMING CIRCUIT AT 2 TO 5 AMBIENT FOOT CANDLES AND TO RESTORE THE LIGHTS TO NORMAL AT 5 TO 10 AMBIENT FOOT CANDLES. A TIME DELAY SHALL BE BUILT INTO THE CONTROL TO PREVENT FALSE OPERATION DUE TO LIGHT FLASHES. THE PHOTOELECTRIC CONTROL SHALL CONTAIN A SWITCH WHICH SHALL OVERRIDE THE PHOTOELECTRIC CONTROL. THE DIMMING CIRCUIT SHALL BE EXTERNALLY ADJUSTABLE SUCH THAT THE LIGHT OUTPUT MAY BE ADJUSTED WITHIN THE RANGE OF 50% TO 100% OF THE NORMAL LAMP OUTPUT.

D. POWER SUPPLY

THE FLASHING ARROW PANEL SHALL OPERATE FROM POWER SOURCES CAPABLE OF CONTINUOUSLY FURNISHING 12 VOLTS DC AT THE LAMPS A MINIMUM OF 24 HOURS WITHOUT ATTENDANCE.

MOTOR GENERATORS, IF USED, SHALL BE OF MODERN DESIGN TO PROVIDE LOW EMISSION OF POLLUTANTS AND SHALL BE PROPERLY MUFFLED. THE MOTOR GENERATOR SHALL BE ENCLOSED IN A MESH ENCLOSURE WHICH CAN BE LOCKED. THE FUEL TANK SHALL HAVE A CAP WHICH CAN BE LOCKED. MOTOR GENERATORS SUPPLYING POWER TO A FLASHING ARROW SIGN SHALL NOT BE USED TO SUPPLY POWER TO OTHER EQUIPMENT.

E. MOUNTING

THE FLASHING ARROW PANEL MAY BE TRAILER OR VEHICLE MOUNTED OR MOUNTED ON A RIGID SUPPORTING DEVICE SUITABLE FOR MAINTAINING IT IN THE DESIGNATED POSITION. EACH OF THE MOUNTING METHODS SHALL BE SUITABLY STABLE SUCH AS TO PREVENT MOVEMENT DUE TO HIGH WINDS OR PASSAGE OF LARGE VEHICLES.

WHEN A TRAILER IS USED, CONSTRUCTION SHALL BE SUCH AS TO TRANSPORT THE FLASHING ARROW PANEL AND APPURTANCES ADEQUATELY AND LEGALLY AS WELL AS SUPPORT THEM PROPERLY DURING OPERATION. THE TRAILER SHALL BE EQUIPPED WITH DEVICES WHICH SHALL PROVIDE LEVELING AND STABILITY DURING OPERATION.

MINIMUM ARROW PANEL MOUNTING HEIGHT SHALL BE 7 FEET ABOVE THE PAVEMENT SURFACE (MEASURED TO THE BOTTOM OF THE PANEL).

USE AND OPERATION

THE FLASHING ARROW PANEL SHALL BE LOCATED AS SHOWN IN THE MAINTENANCE OF TRAFFIC DRAWINGS OR AS DIRECTED BY THE ENGINEER AND OPERATED CONTINUOUSLY DURING TRAFFIC MAINTAINED PERIODS. THE CONTRACTOR SHALL SUPPLY ALL FUEL, LUBRICANTS AND PARTS NECESSARY TO OBTAIN CONTINUOUS OPERATION AND SHALL PROVIDE ALL SERVICE. THE CONTRACTOR SHALL ARRANGE WITH THE ENGINEER, AN ACCEPTABLE METHOD OF OBTAINING SERVICE FOR A MALFUNCTIONING PANEL WITHIN 30 MINUTES OF A REPORTED MALFUNCTION. LAMP INTENSITY SHALL BE ADJUSTED TO PROVIDE MINIMUM LEGIBILITY DISTANCES OF 1/2 MILE (TYPE A), 3/4 MILES (TYPE B) AND 1 MILE (TYPE C).

TYPE C PANELS SHALL BE USED FOR STATIONARY OPERATIONS ON HIGH SPEED (55 MPH), HIGH VOLUME ROADWAYS. TYPE B SHALL BE USED FOR STATIONARY OPERATIONS ON INTERMEDIATE SPEED (40-50 MPH) FACILITIES, AND TYPE A ON LOW SPEED (20-35 MPH) FACILITIES.

IN ADDITION, TYPE B PANELS SHALL BE USED FOR MOVING OPERATIONS ON FREEWAYS AND EXPRESSWAYS AND TYPE A FOR MOVING OPERATIONS ON OTHER FACILITIES.

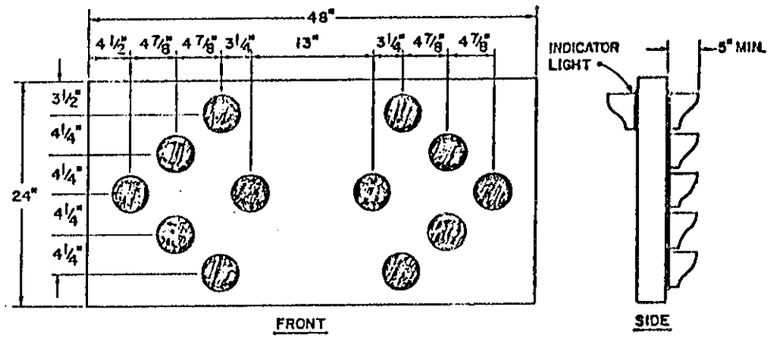
FLASHING ARROW PANELS ARE NOT TO BE USED ON 2 LANE-2 WAY ROADWAYS.

WHEN LEFT UNATTENDED THE CONTROL CABINET, MOTOR GENERATOR ENCLOSURE AND FUEL TANK SHALL BE LOCKED.

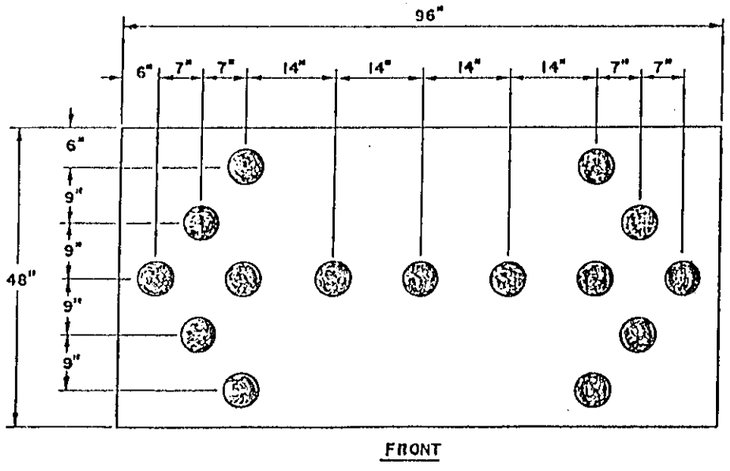
TYPE A PANELS AND TYPE B PANELS USED IN MOVING OPERATIONS MAY BE POWERED BY THE VEHICLE'S ELECTRICAL SYSTEM BUT SHALL NOT BE LEFT UNATTENDED WHEN SO POWERED.

WHEN NOT IN USE, THE FLASHING ARROW PANEL SHALL BE STORED AT A LOCATION WHICH WILL NOT BE HAZARDOUS TO TRAFFIC OR PEDESTRIANS.

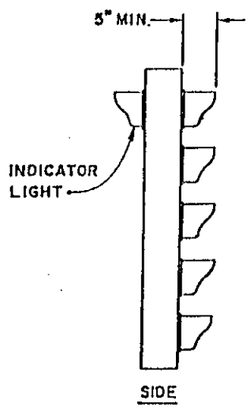
THE PANELS SHALL BE DESIGNED FOR OPERATION IN 100% HUMIDITY AND TEMPERATURES FROM -20 to +130 DEGREES FAHRENHEIT.

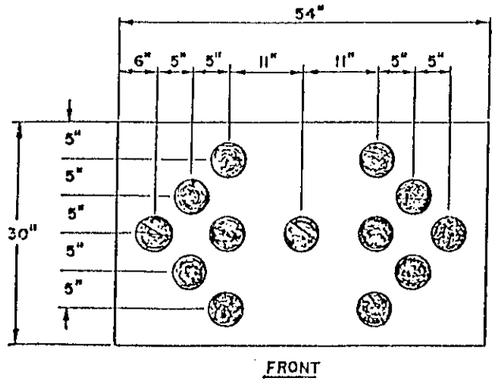


TYPE A PANEL

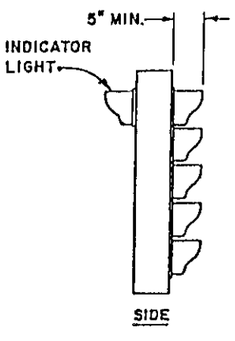


TYPE C PANEL





TYPE B PANEL



BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL

FLASHING ARROW PANEL

STANDARD CONSTRUCTION DRAWING TC-35.10

APPROVED _____ Engineer of Design Services

DATE 10/1 0/2