

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DEL-23-14.18 **MAD-42-13.15**
TROY TOWNSHIP **DEER CREEK TOWNSHIP**
DELAWARE CO. **MADISON CO.**

DEL-23-14.18 (NON-FEDERAL)	OHIO
MAD-42-13.15 (HES)	FHWA REGION 5
HES-10 (90)	FEDERAL PROJECT

1
8

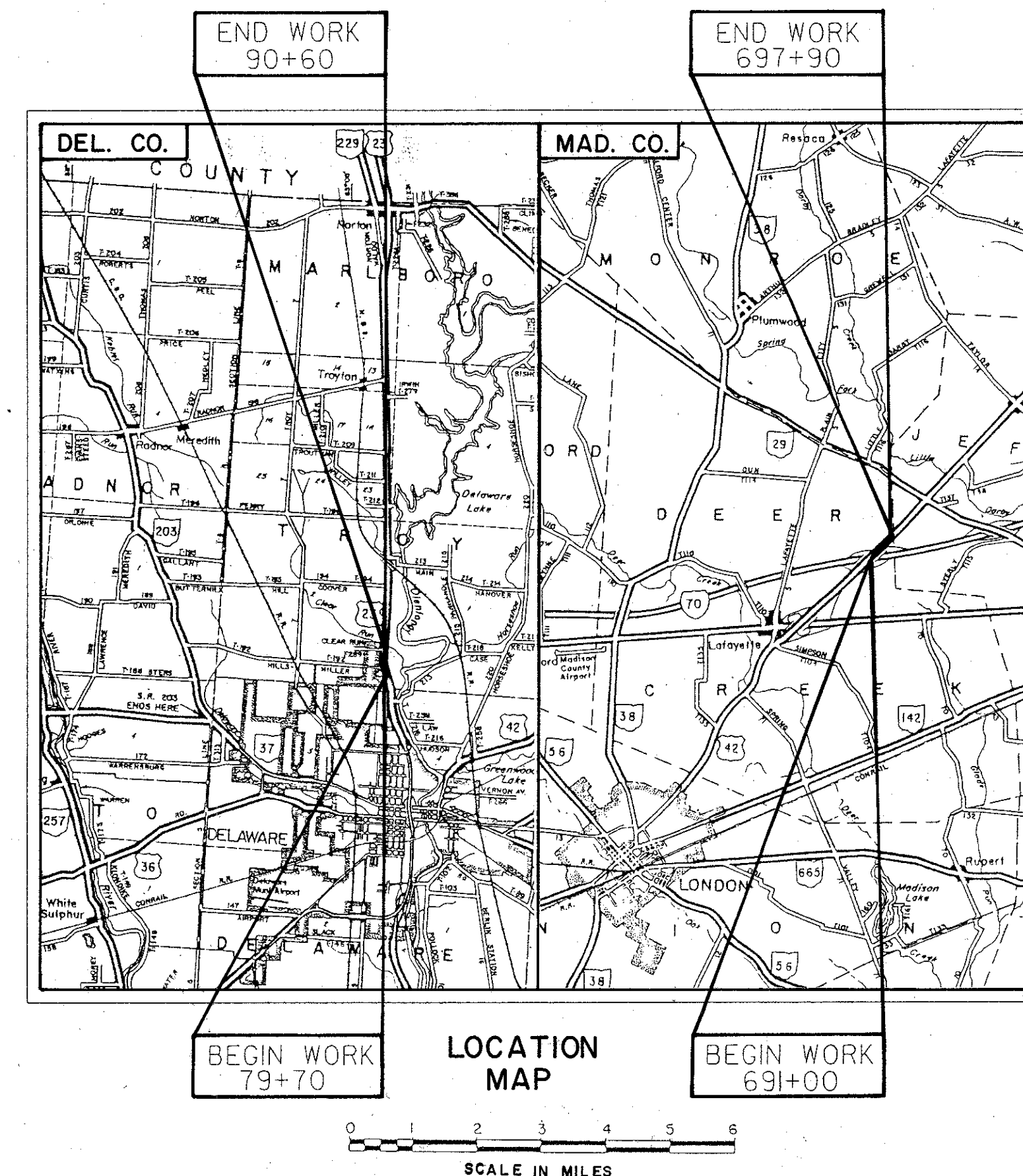
HES-10 (90)

CONVENTIONAL SIGNS

County Line	-----	Limited Access (only)	-----LA-----
Township Line	-----	Right of Way (only)	-----RW-----
Section Line	-----	Limited Access & Right of Way	-----LA & RW-----
Corporation Line	----- or -----	Existing Right of Way	-----
Fence Line (existing)	-x- (proposed) -x-	Property Line (in existing fence)	-x- -x-
Center Line	352 353	Railroad	----- or -----
Trees	⊙, Stumps ⊙, (to be removed) ⊗	Guardrail (existing)	- - - - - (proposed) - - - - -
Utility Poles: Telephone ⚡, Power ⚡, Light ⚡			

INDEX OF SHEETS

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LINE DATA	
DEL-23-14.18	MAD-42-13.15 (HES)
PROJECT LENGTH = 0.00 Lin Ft or 0.00 MI	PROJECT LENGTH = 0.00 Lin Ft or 0.00 MI
BEGIN WORK 79+70	BEGIN WORK 691+00
END WORK 90+60	END WORK 697+90
1090 Lin Ft or 0.206 Miles	690 Lin Ft or 0.131 Miles
TOTAL LENGTH OF WORK = 1,780.00 lin. ft. or 0.337 Miles	

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

PORTION TO BE IMPROVED

SCALES

SUPPLEMENTAL SPECIFICATIONS	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS					
TC-21.20	1-20-84	HL-10.13	5-1-87		
TC-31.21	3-6-79	HL-20.11	5-1-87		
TC-35.10	8-29-84	HL-30.11	5-1-87		
TC-81.10	1-20-84	HL-30.22	5-1-87		
TC-82.10	8-29-84	MT-95.30	10-10-88		
TC-83.10	1-20-84	MT-95.31	10-10-88		
TC-84.20	1-20-84	MT-95.32	8-25-89		
TC-85.20	1-20-84	MT-97.10	4-29-88		
TC-41.20	3-26-79				
TC-22.20	3-1-79				

1989 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 require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved W. Howard Tward
Date 10-19-89 District Deputy Director of Transportation

Approved _____
Date _____ Engineer, Bureau of Bridges and Structural Design

Approved James R. Longenecker
Date 4-30-90 Deputy Director of Operations

Approved Samuel B. Hunter
Date 4/29/90 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Project: DEL-23-14.18 ; MAD-42-13.15
Date of Letting: _____ 19____, Contract No. _____

Plan Prepared By:
TRAFFIC
District No. Six
Ohio Department
Of Transportation

SEAL

GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

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DEL-23-14.18
MAD-42-13.15

SCOPE OF WORK

This work shall consist of the installation of full-actuated traffic signals and the restoration of the affected areas to their original condition.

PERMANENT SIGNS AND PAVEMENT MARKINGS

All permanent signs and pavement markings will be furnished and, with the exception of the 'Prepare To Stop When Flashing' signs, will be installed by the Ohio Department of Transportation, District Six (6). Permanent signs and pavement markings shall be in place before the signal may be placed in operation. The contractor shall request in writing that the District Traffic Engineer is to install permanent signs 10 days before the signal is to be placed in operation.

633 CONTROLLER, ACTUATED, TWO PHASE, SOLID STATE DIGITAL MICROPROCESSOR, WITH INTERNAL TIME BASE COORDINATION, WITH POLE MOUNTED CABINET, AS PER PLAN
All phases shall be advance actuated. The controller for DEL-23-14.18 shall be compatible with the Automatic, series 300, model 314, with internal time base coordination. In addition to NEMA requirements, the conflict monitor shall have extended monitoring, in accordance with 733.04, part 3b. The conflict monitor shall independently monitor the signal heads for each approach. The controller shall be keyboard entry. The controller housing shall be keyed to the state master. The controller cabinet shall be painted yellow federal standard 595 color 13655. All electrical connections on the back side of the load bay panel shall be soldered.

Auxiliary equipment shall be provided to operate the 'Prepare To Stop When Flashing' (PTSWF) sign beacons, as per plan. The auxiliary equipment shall be set to have the 'PTSWF' sign start flashing ten (10) seconds (with variable adjusted from zero (0) to twenty (20) seconds) before the termination of phase one (1) green. The two (2) beacons shall flash simultaneously. The luminaire for the 'PTSWF' installation shall have a test switch in the controller cabinet and shall have a photoelectric control unit mounted at the top of the same pole on which the controller is mounted. A separate flashing unit with indicator lights shall be provided for the 'PTSWF' sign circuit that is independent of the flasher unit incidental to the controller. The beacons for the 'PTSWF' sign shall not be activated when the signal goes to the flash mode. When the signal is in the flashing mode, the flashing red and amber for the signal heads will not be simultaneously red for the minor roadway and amber for the major roadway. Payment for the Item 633 controller, full-actuated, 2 phase, solid state digital, micro-processor type with pole mounted cabinet will be at the contract bid price for each complete and in place, including all connections tested and accepted.

633 GUARANTEE

The contractor shall guarantee that the traffic control system installed as a part of the contract shall operate satisfactorily for a period of ninety (90) days following completion of the ten (10) day performance test. In the event of unsatisfactory operations, the contractor shall correct faulty installations, make repairs and replace defective parts with new parts of equal or better quality. Material and labor costs incurred in correcting unsatisfactory operations shall be borne by the contractor. The guarantee shall cover the following items of the traffic control system: controller, loop detector units, monitors and associated equipment. Customary manufacturer's guarantee for the foregoing items shall be turned over to the state or the maintaining agency following acceptance of the equipment. The cost of guaranteeing the traffic control system will be incidental to and included in the contract unit price of the various items making up the system.

631 SIGN FLASHER ASSEMBLY, AS PER PLAN

The sign flasher assembly shall include a pair of flashing beacons for placement above and below the 'Prepare To Stop When Flashing' sign, mercury vapor luminaire with support arm and all mounting hardware as shown in the detail. A beacon shall consist of a single 12-inch signal head and yellow lens with nominal 60 watt lamp complying with requirements of Item 632. Item 631 sign flasher assembly, as per plan, shall be measured as a complete unit in place, tested and accepted.

632 LOOP DETECTOR UNIT, BY TYPE, AS PER PLAN

In addition to the requirements of 632 and 732.07 or 732.08, loop detector units shall have the following requirements or features: The output device shall be an electro-mechanical relay, and all contacts shall be included in the wiring harness. The unit shall be self tuning. The units electrical connection plugs or wiring harness shall allow ready replacement with a single channel amplifier as described in the final paragraph of 732.07.

CABLE, BY TYPE, DIRECT BURIAL, AS PER PLAN

This work shall include furnishing and installing loop detector lead-in cable and signal cable of the type required in item 732. Installation shall be by cable plow to a minimum depth of 18 inches. All entries into pull boxes, conduit systems, foundations or other enclosures shall be free of sharp edges and be covered by insulated bushings. Following installation, the ground surface shall be restored to the original contour and surface condition.

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

Reference to supplemental specifications 857, 858, 859, 861, 957, 958, 959 and 961 on the traffic control standard construction drawings in these plans shall be considered to read as respective references to items 630, 631, 632, 633, 730, 731, 732 and 733. References to item 608 Concrete Walk shall be considered as references to item 633 Controller Work Pad.

UTILITY OWNERSHIP

The following utilities are located within the work limits of this project:

DEL US 23 & Hills-Miller Road:

ELECTRIC Columbus Southern Power
215 North Front Street
Columbus, Ohio 43215
Attn: Mr. Stanley Wilson
TELEPHONE GTE Telephone Operations
19 East Central Avenue
Delaware, Ohio 43015
Attn: Mr. Jerry Owings
CABLE All American Cablevision
1980 Alum Creek Drive
Columbus, Ohio 43243
Attn: Mr. Arthur Plante
FIBER OPTIC United Telephone
Box 3555
Mansfield, Ohio 44907
GAS Columbia Gas of Ohio
920 West Goodale Boulevard
Columbus, Ohio 43212
Attn: Mr. Richard Dickerson
WATER Delaware City Water
1 South Sandusky Street
Delaware, Ohio 43015
Attn: Mr. Doug Lawson

MAD US 42 & I-70 WB Ramps

TELEPHONE Ohio Bell Telephone Co.
150 East Gay Street
Columbus, Ohio 43215
FIBER OPTIC Litel Telecommunications Co.
2666 Lexington Avenue
Mansfield, Ohio 44904
Attn: Mr. Larry Stambaugh
ELECTRIC Ohio Edison Co.
111 East High Street
Springfield, Ohio 45502
Attn: Mr. Phil Zerkle
SANITARY Maidson County Engineer
222 Garfield Avenue
London, Ohio 43140
Attn: Mr. Neil Babb

632 POWER SERVICE, AS PER PLAN

Electrical power shall be obtained for DEL US 23 & Hills-Miller Road from Columbus Southern Power, 215 North Front Street, Columbus, Ohio 43215, attention: Mr. Stanley Wilson. Electrical power shall be obtained for MAD US 42 & I-70 WB Ramps from Ohio Edison Co., 111 East High Street, Springfield, Ohio 45502, attention: Mr. Phil Zerkle. The voltage supplied shall be 120/240 volt AC, however, only 120 volts AC shall be furnished from the disconnect switch to the controller housing. All necessary work to install and complete an operating system will be included in the various electrical bid items in this contract.

ITEM 614 MAINTAINING TRAFFIC

In addition to item 614, maintaining traffic, construction and material specifications, the following shall apply: the short duration closure of DEL US 23 & Hills-Miller Road and MAD US 42 & I-70 WB Ramps in all directions of travel for the purpose of erecting the signal cable and span wire, shall not be in excess of ten (10) minutes. The closure shall be implemented during non-peak hours. Non-peak hours are 9:00 A.M. to 3:00 P.M. When it is necessary to close one lane of traffic adjacent to any other work, the closure shall be accomplished by the application of the Standard Construction Drawings. If the contractor so elects, he may submit alternate methods for the maintenance of traffic, providing the intent of the above provision is followed and no additional inconvenience to the traveling public results therefrom. No alternate plan shall be placed into effect until approval has been granted, in writing, by the engineer. 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 when they are not applicable as determined by the engineer. If the contractor fails to comply with the provisions for traffic control devices (DMUTCD), and failure to comply results in a condition of the work site which is unsafe for traffic, the engineer may suspend work until the contractor complies with the necessary requirements. Payment for all of the above shall be included in the lump sum price bid for item 614 maintaining traffic.

UNDERGROUND UTILITIES

The locations of the underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

GENERAL SUMMARY

CALC.
BY
DATE:

CHKD
BY
DATE:

OHIO
FHWA
REGION 5
FEDERAL
PROJECT

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DEL-23-14.18
MAD-42-13.15

ITEM	SHEET	NUMBER	5 HES	4 100% State	SUBTOTALS	GRAND TOTAL	UNIT	ITEM	ITEM EXT.	DESCRIPTION
633			12	12		24	SQ.FT.	633	70500	CONTROLLER WORK PAD
625			3	4		7	EACH	625	32000	GROUND ROD
625			5	5		5	EACH	625	30700	PULL BOX, 713.08.18"
625			10			5	EACH	625	30500	PULL BOX, 713.09.18"
625			10	250		10	LIN.FT.	625	25302	CONDUIT, 713.07.15"
625			10	30		250	LIN.FT.	625	25402	CONDUIT, 713.07.2"
625				220		40	LIN.FT.	625	29000	TRENCH
625						220	LIN.FT.	625	29500	TRENCH IN PAVED AREAS, TYPE A
630				36		1	EACH	625	02700	TRANSFORMER BASE, ATX ALUMINUM
631						36	SQ.FT.	630	81100	SIGNS ERECTED, FLAT SHEET
631							EACH	631	88000	PHOTOELECTRIC CONTROL
631							EACH	631	92001	SIGN FLASHER ASSEMBLY, AS PER PLAN (SEE SHT. 2)
632							EACH	631	84310	SIGNS WIRED, LESS JUNCTION BOX
632			6	6		12	EACH	632	00300	VEHICULAR SIGNAL HEAD, 3-SECTION, 12-INCH LENS, ONE-WAY
632			290	300		590	LIN.FT.	632	27500	LOOP DETECTOR PAVEMENT CUTTING
632			4.7	6.1		10.8	CU.YD.	632	72000	CONCRETE FOR ANCHOR BASE FOUNDATIONS
632			2	2		4	EACH	632	82600	STRAIN POLE, TYPE TC-8110, DESIGN 6, 30 FEET
632			2			1	EACH	632	82200	STRAIN POLE, TYPE TC-8110, DESIGN 2, 24 FEET
632			140	120		3	EACH	632	71000	CABLE SUPPORT ASSEMBLY
632			370	600		260	LIN.FT.	632	30200	MESSENGER WIRE, 7 STRAND, 3/8" DIA., WITH ACCESSORIES
632			830	810		970	LIN.FT.	632	40400	SIGNAL CABLE, 4-CONDUCTOR NO. 14 AWG
632			260	340		1640	LIN.FT.	632	64900	LOOP DETECTOR WIRE, TYPE E
632			30	30		600	LIN.FT.	632	65200	LOOP DETECTOR LEAD-IN CABLE
632			20	100		60	LIN.FT.	632	67300	POWER CABLE, 3-CONDUCTOR NO. 8 AWG
632			1			120	LIN.FT.	632	69800	SERVICE CABLE, TRIPLEX NO. 6 AWG
632			6	6		2	EACH	632	70001	POWER SERVICE, AS PER PLAN (SEE SHT. 2)
632			650	550		12	EACH	632	25000	COVERING OF VEHICULAR SIGNAL HEAD
632			2	2		1200	LIN.FT.	632	65405	LOOP DETECTOR LEAD-IN CABLE, NO. 14 AWG, IMSA 20.5, DIRECT BURIAL, AS PER PLAN (SEE SHT. 2)
632				500		4	EACH	632	27005	LOOP DETECTOR UNIT, AS PER PLAN (SEE SHT. 2)
632			1	1		500	LIN.FT.	632	90500	SIGNAL CABLE, 4-CONDUCTOR, NO. 14 AWG, DIRECT BURIAL, AS PER PLAN (SEE SHT. 2)
632						2	EACH	632	27009	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN (SEE SHT. 2)
633										
614						2	EACH	633	32005	CONTROLLER, FULL-ACTUATED, 2-PHASE, SOLID STATE DIGITAL MICROPROCESSOR, WITH INTERNAL TIME BASE COORDINATION, WITH POLE MOUNTED CABINET, AS PER PLAN (SEE SHT. 2)
623			LUMP	LUMP		LUMP		614	11000	MAINTAINING TRAFFIC
624			LUMP	LUMP		LUMP		623	10000	CONSTRUCTION LAYOUT STAKES
			LUMP	LUMP		LUMP		624	10000	MOBILIZATION

FINA REGION	STATE	PROJECT
5	OHIO	

DEL-23-14.18
MAD-42-13.15

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STRAIN POLES			
Pole	Station	Offset	Mounting Hgt.
P1	83+69	51' Rt.	28.2
P2	83+19	47' Lt.	27.2

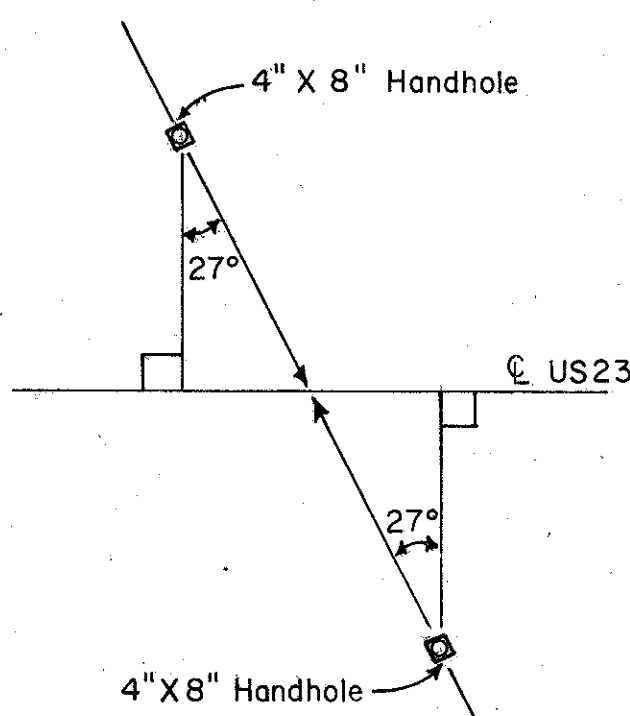
BURIED CABLE AND CONDUIT	
Code	Description
C1	Loop detector lead-in cable, No. 14 AWG, IMSA 20.5, direct burial, as per plan
C2	Signal cable, 4-conductor, No. 14 AWG, direct burial, as per plan
C3	Conduit, 713.04, 2"

PULL BOXES		
No.	Station	Offset
PB1	79+75	35' Lt.
PB2	83+28	47' Lt.
PB3	84+61	39' Lt.
PB4	85+60	45' Lt.
PB5	87+27	45' Lt.
PB6	90+60	40' Lt.

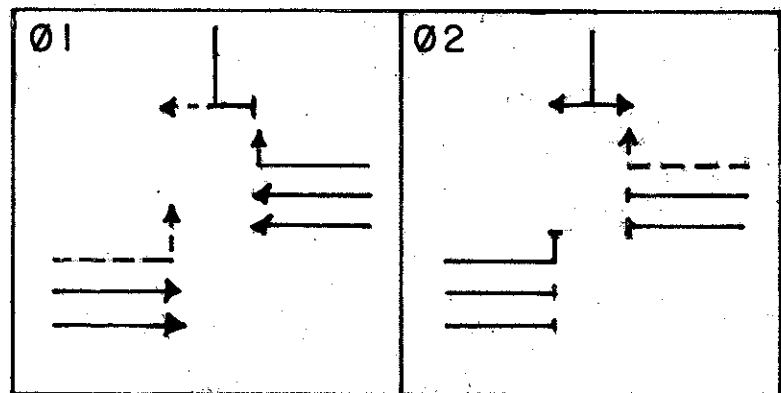
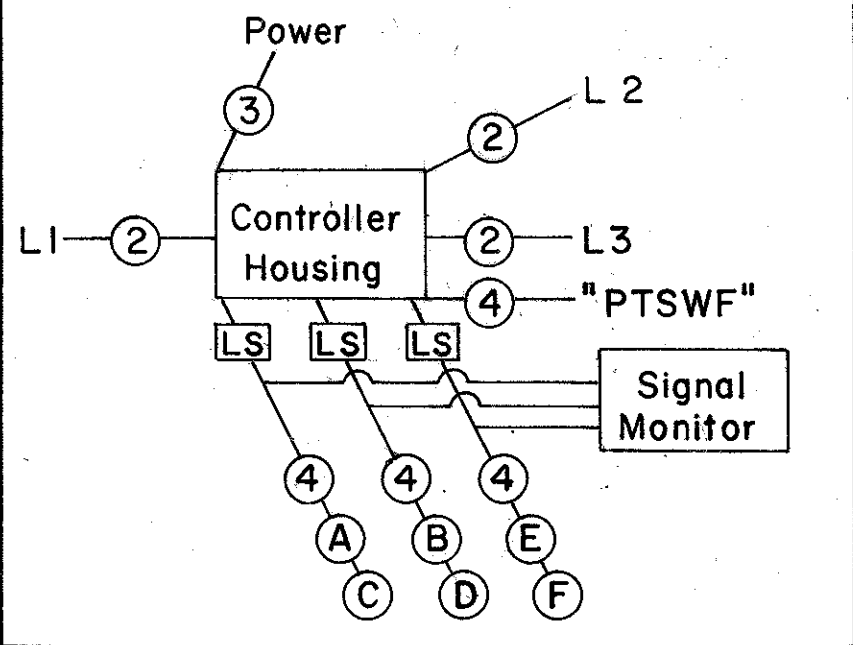
DETECTOR LOOPS				
Loop	Station	Offset	Size	Delay
L1	79+70	*	6'x6'	—
L2	83+58	57' Lt.	8'x20'	10 s
L3	87+30	*	6'x6'	—

* center in lane

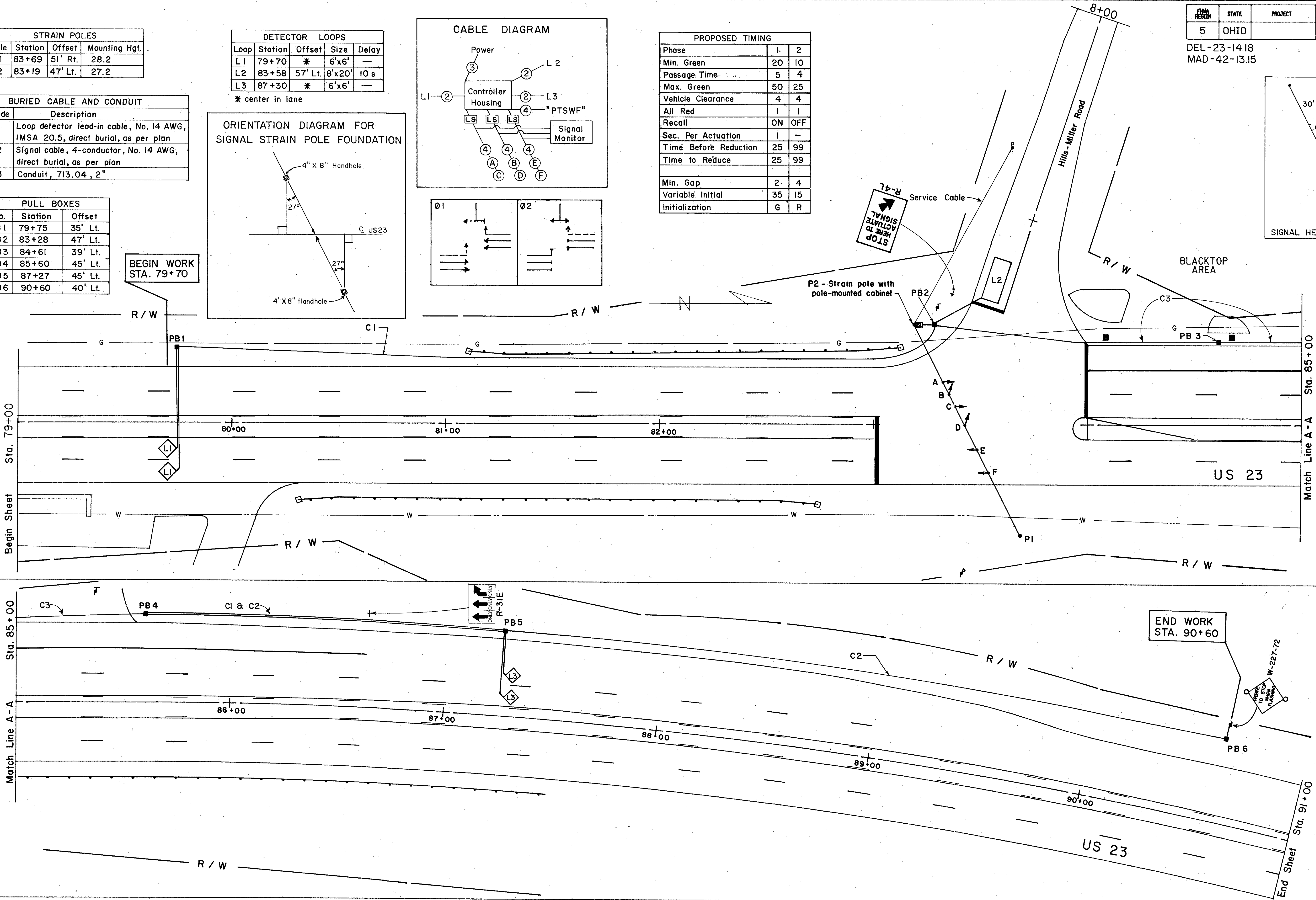
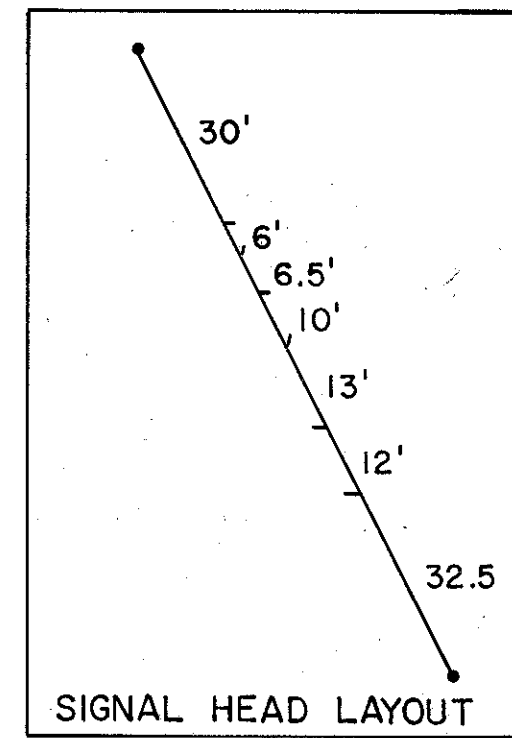
ORIENTATION DIAGRAM FOR
SIGNAL STRAIN POLE FOUNDATION



CABLE DIAGRAM



PROPOSED TIMING		
Phase	1	2
Min. Green	20	10
Passage Time	5	4
Max. Green	50	25
Vehicle Clearance	4	4
All Red	1	1
Recall	ON	OFF
Sec. Per Actuation	1	—
Time Before Reduction	25	99
Time to Reduce	25	99
Min. Gap	2	4
Variable Initial	35	15
Initialization	G	R



DEL - 23 - 14.18
MAD - 42 - 13.15

LOOP DETECTORS				
Loop	Station	Offset	Size	Delay
L-1	691+00	*	6'x6'	—
L-2	694+34	43' Rt.	10'x20'x5'	10 sec.
	694+50	43' Rt.	10'x20'x5'	10 sec.
L-3	697+90	*	6'x6'	—

* Centered in lane

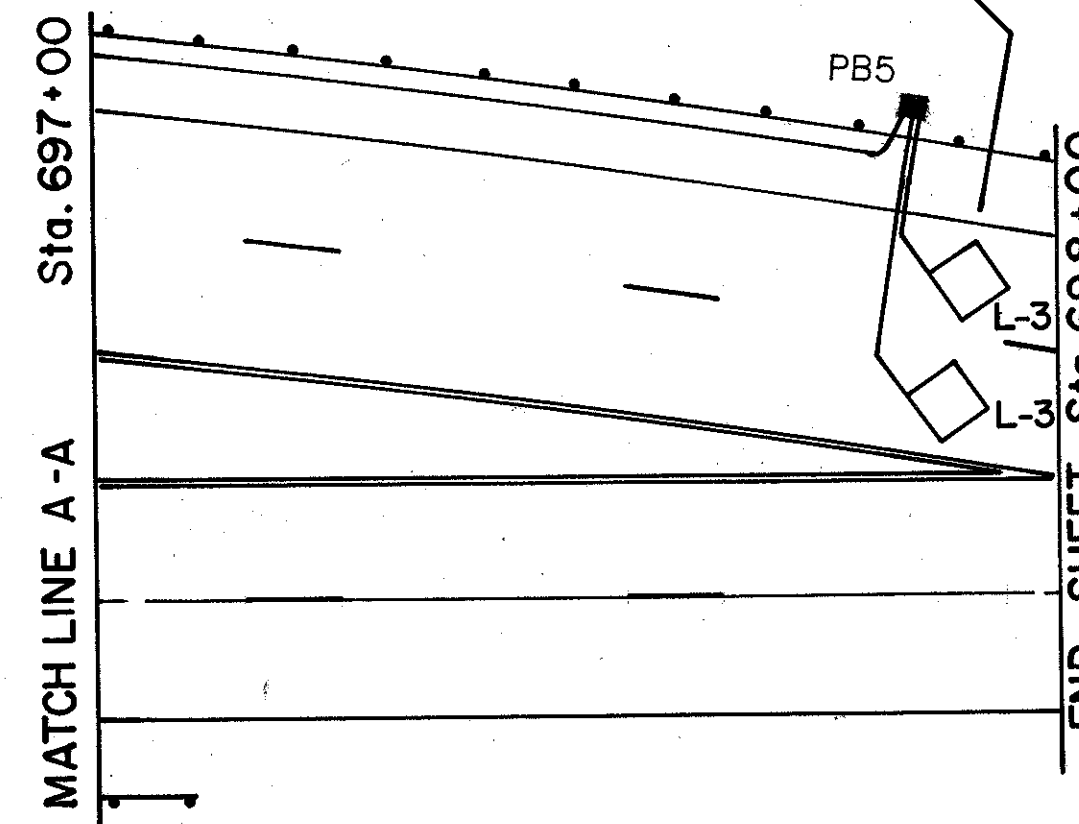
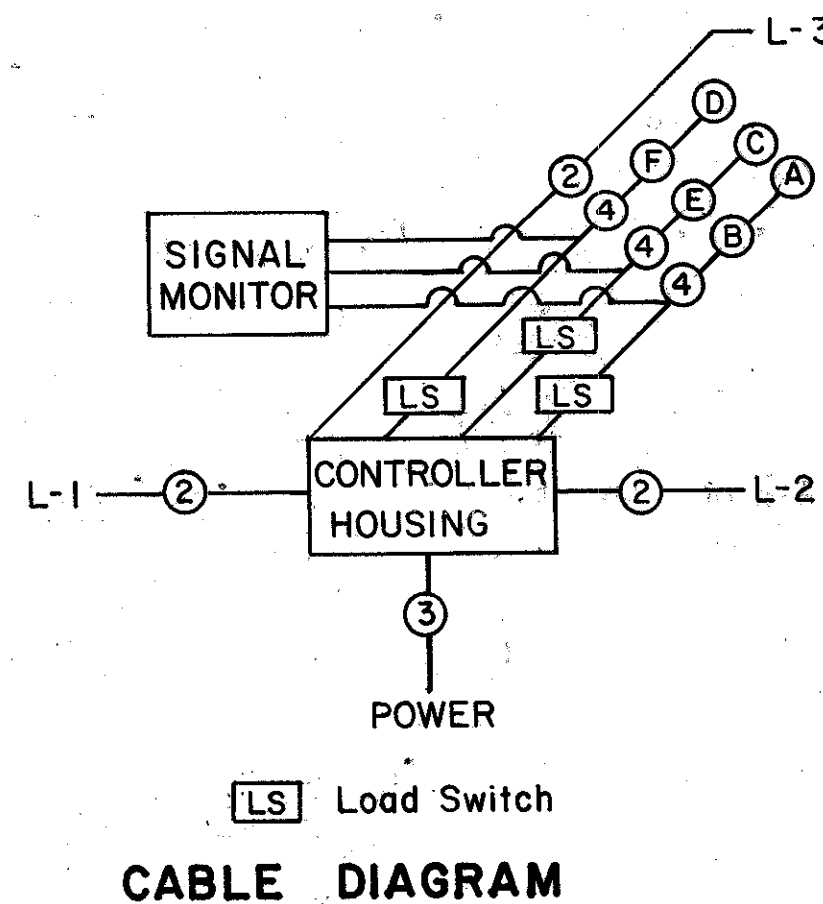
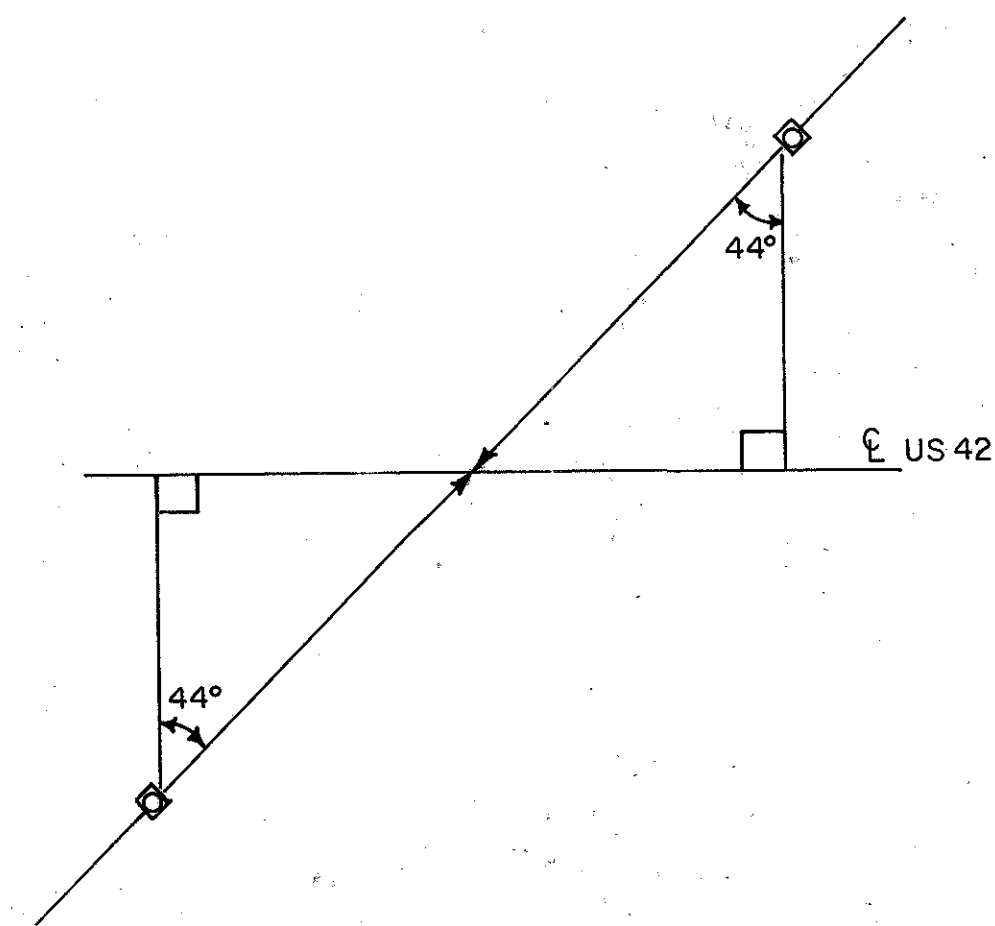
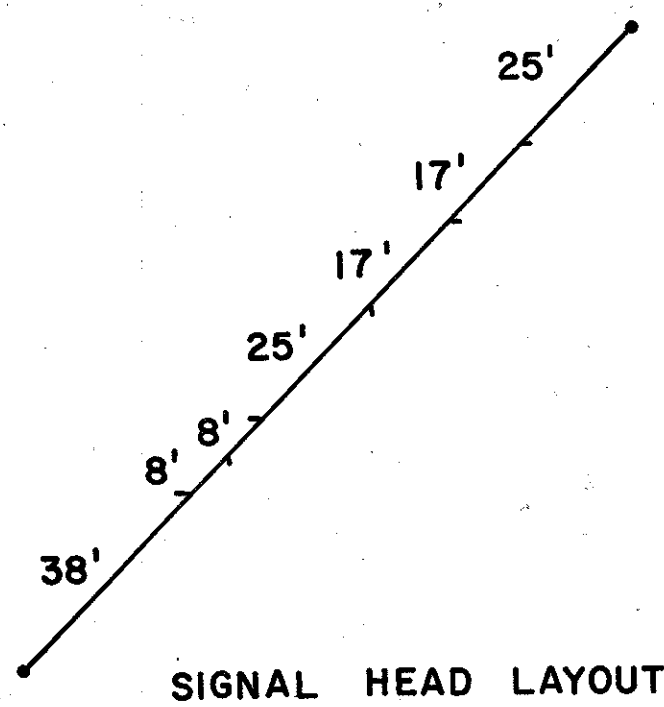
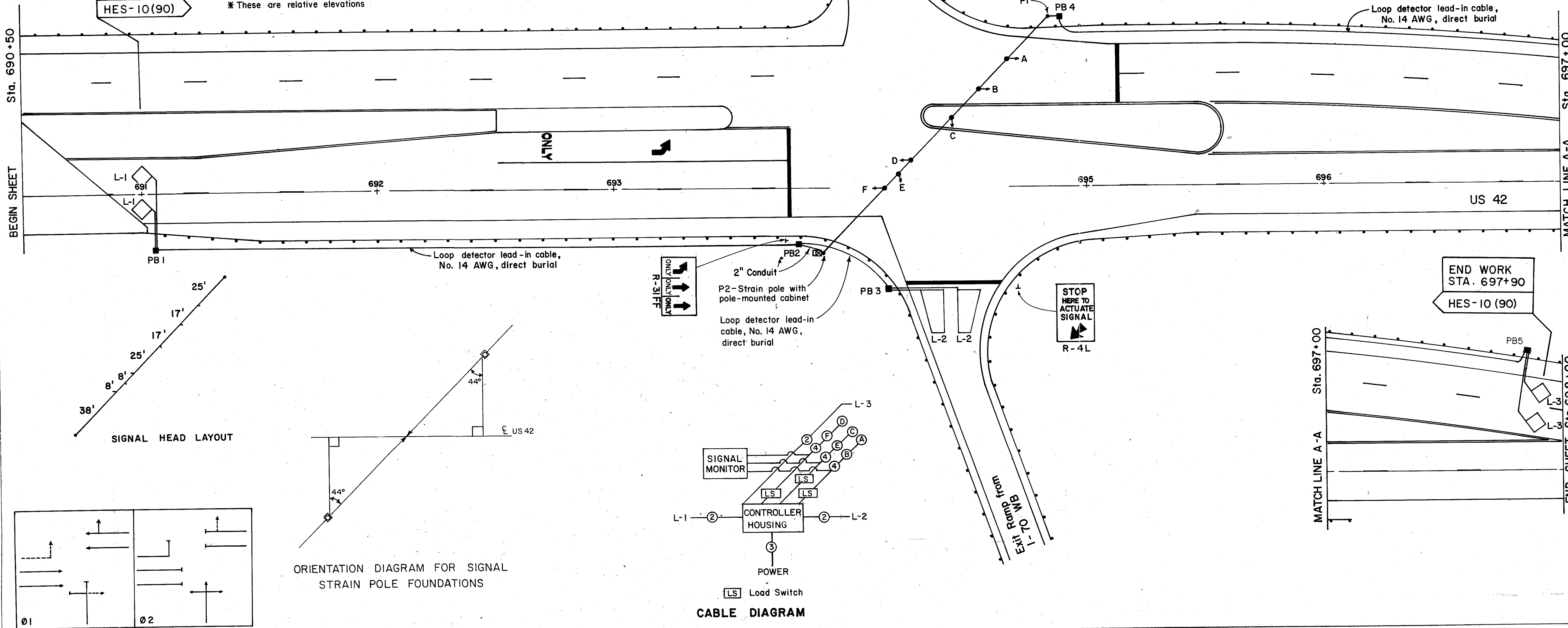
PULL BOXES		
NO.	STATION	OFFSET
PB1	691+06	24' Rt.
PB2	693+78	24' Rt.
PB3	694+16	43' Rt.
PB4	694+89	72' Lt.
PB5	697+85	46' Lt.

PROPOSED TIMING		
Phase	1	2
Min. Green	15	10
Passage Time	5	4
Max. Green	40	30
Vehicle Clearance	4	4
All Red	1	1
Recall	ON	OFF
Sec. Per Actuation	1	—
Time Before Reduction	20	99
Time to Reduce	20	99
Min. Gap	2	5
Variable Initial	30	15
Initialization	G	R

STRAIN POLES					
Pole	Station	Offset	Base Elevation *	Messenger Attachment Elevation *	Messenger Attachment Height
P1	694+82	74' Lt.	96.4	125.6	29.2'
P2	693+86	25' Rt.	99.1	128.6	29.5'

* These are relative elevations

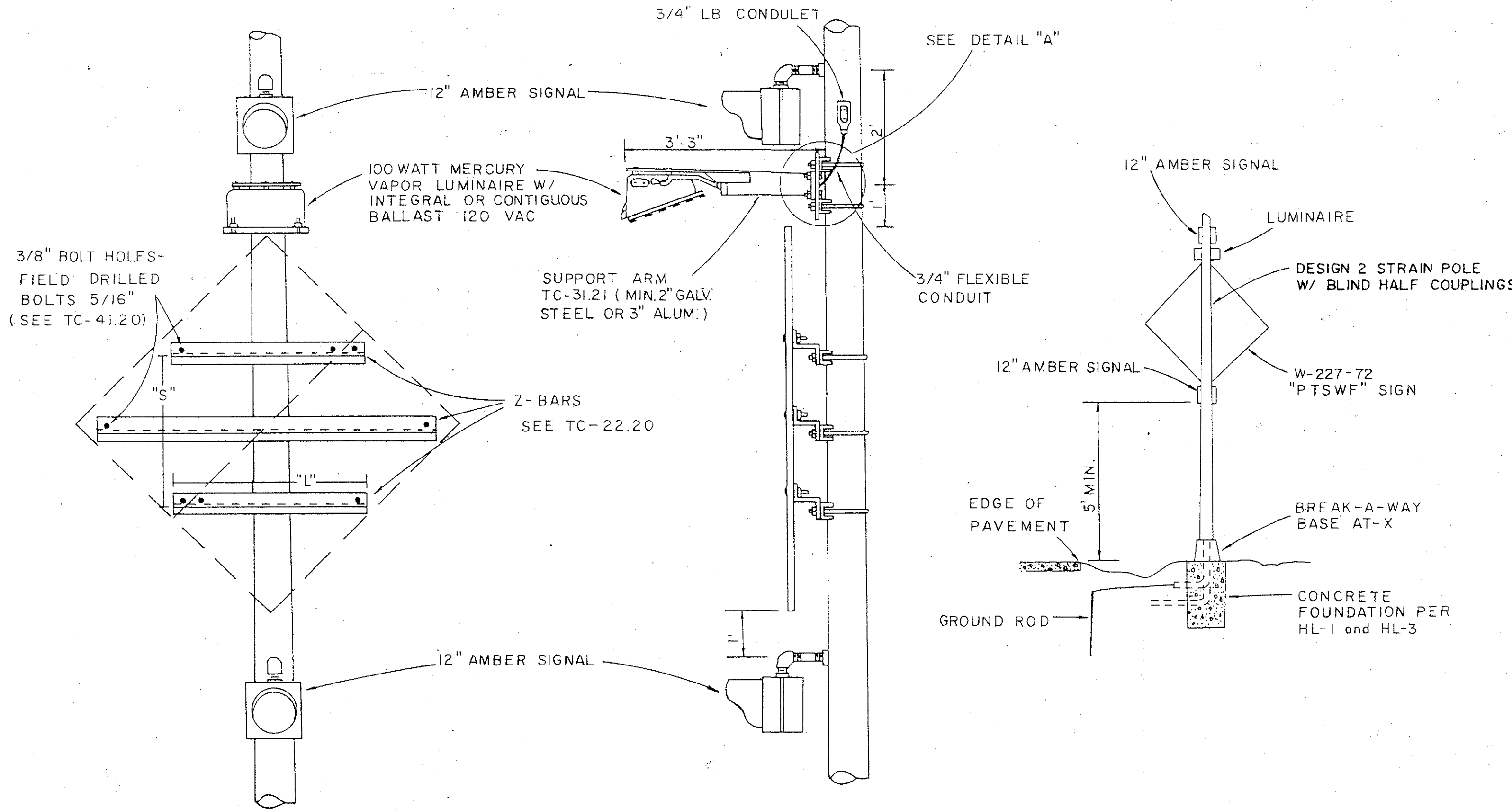
BEGIN WORK
STA. 691+00
HES-10(90)



END WORK
STA. 697+90
HES-10 (90)

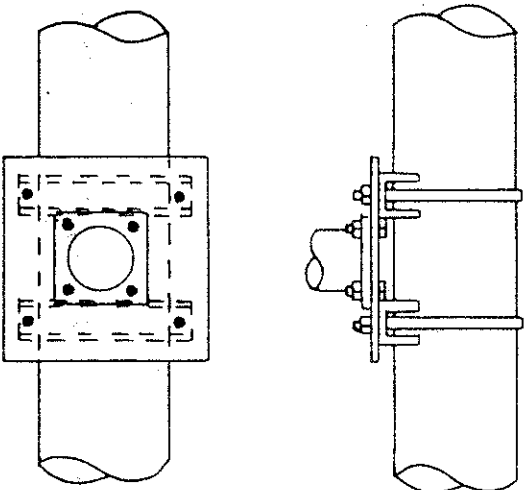
DEL - 23 - 14.18
MAD - 42 - 13.15

"PREPARE TO STOP WHEN FLASHING"
SIGN INSTALLATION DETAIL

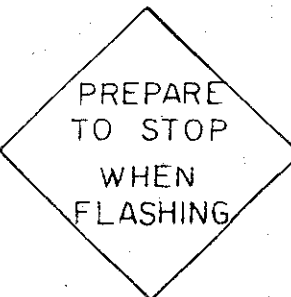


SIGN SIZE	NO. OF BRACKETS	SPACING "S"	LENGTH OF BRACKETS "L"
54"	2	32"	40"
60"	2	36"	46"
72"	3	42"	54(2), 90

SUPPORT ARM BRACKET
AS PER "RIGID SIGNAL
HEAD MOUNTING"
MODIFIED TC- 85.20



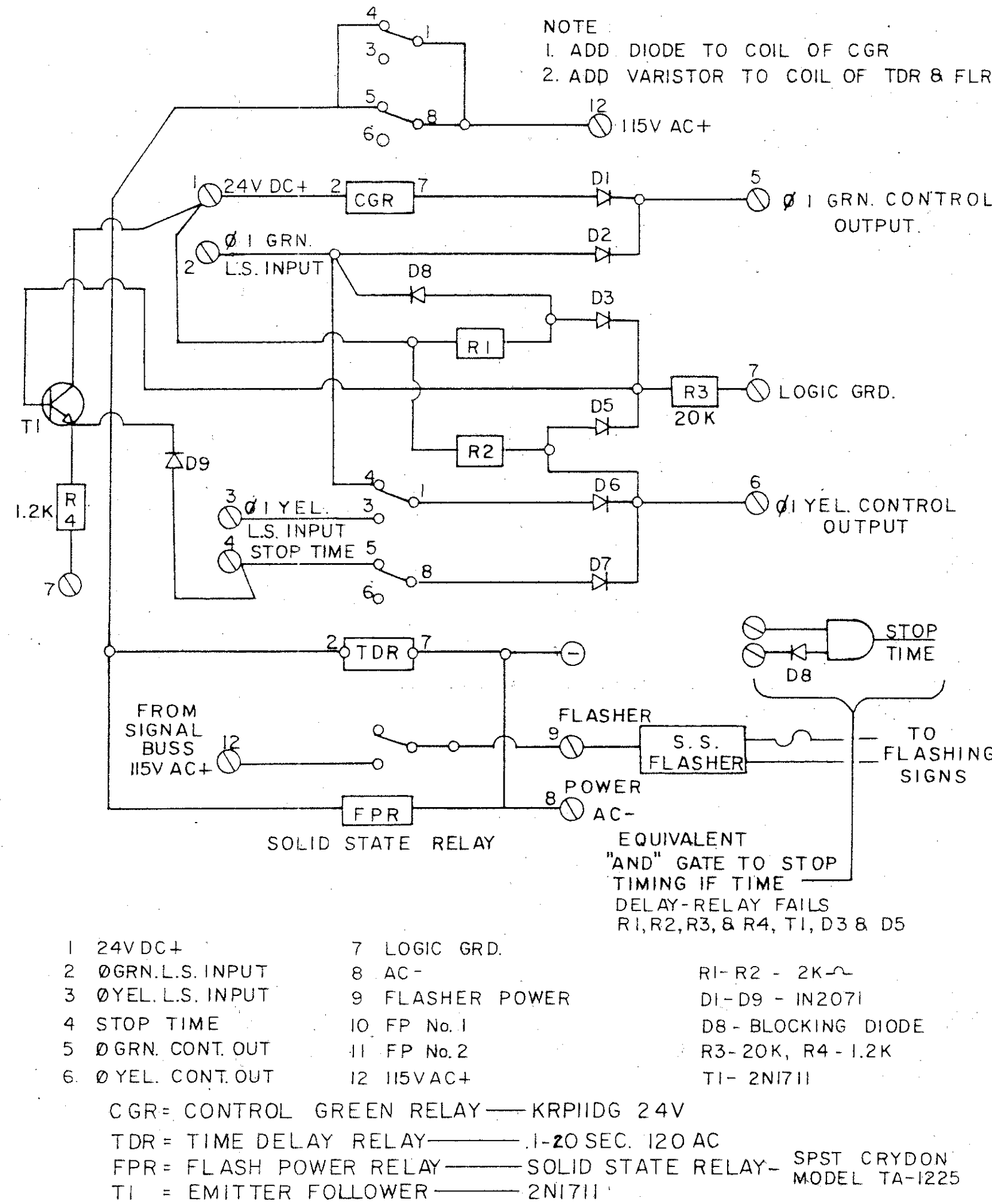
DETAIL "A"



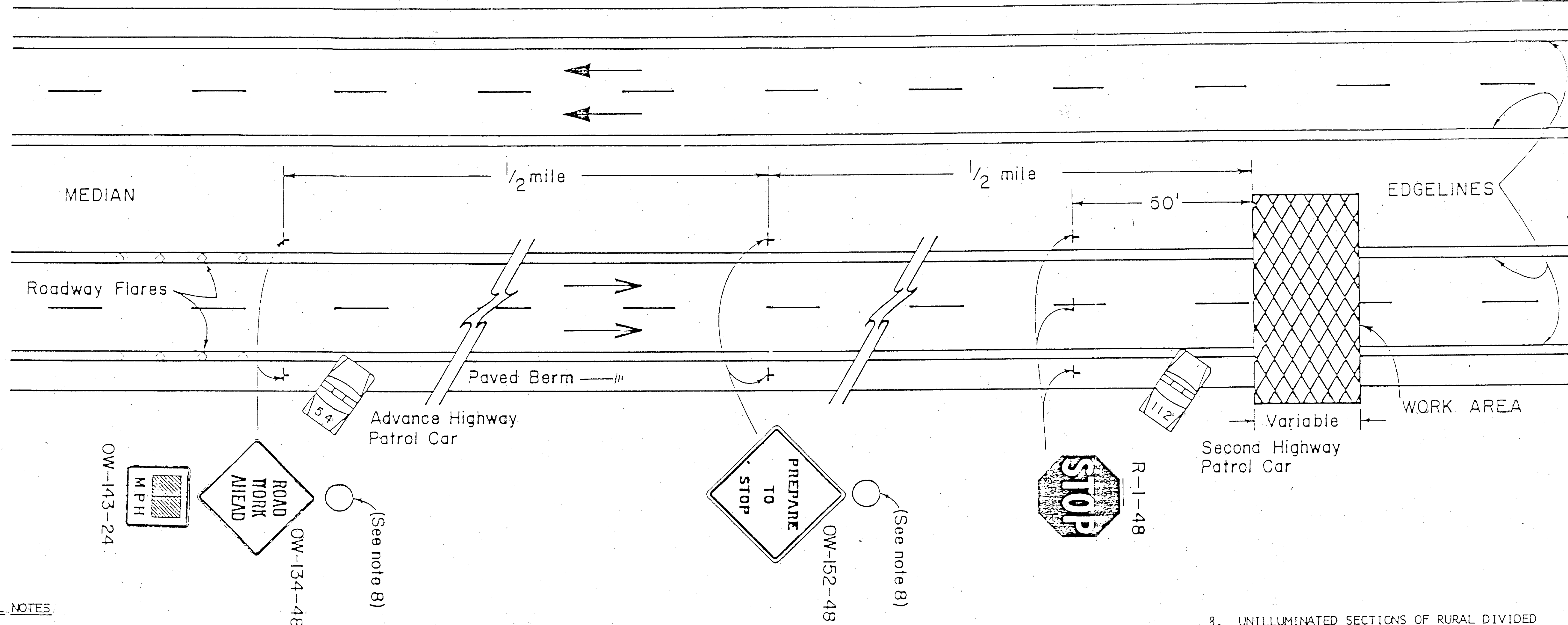
TYPICAL

- NOTES
1. Make electrical connections inside AT-X Base with 15 Amp fused 713.15 Type VIII connector kits (Ground return-unfused)
 2. Contact between aluminum and galvanized parts shall be prevented with a minimum 1/16" thick chloroprene gasket or approved substitute. Gaskets are not required between stainless steel and aluminum.

NOT TO SCALE



"PTSWF" RELAY ASSEMBLY WITH NEMA CONTROLLER



GENERAL NOTES

- THIS TYPE OF HIGHWAY CLOSURE SHALL ONLY BE USED FOR EMERGENCIES OR FOR CONSTRUCTION OPERATIONS WHEN THE DURATION OF CLOSURE WILL NOT EXCEED 15 MINUTES. AFTER THE RURAL DIVIDED HIGHWAY HAS BEEN CLOSED AND REOPENED VIA THIS PROCEDURE, A MINIMUM PERIOD OF 30 MINUTES SHALL ELAPSE BEFORE ANOTHER SHORT DURATION CLOSURE, EXCEPT WITH THE APPROVAL OF THE ENGINEER.
- AT LEAST TWO PATROLMEN AND TWO PATROL CARS SHALL BE PROVIDED ON EACH APPROACH TO THE CLOSURE. EACH PATROL CAR SHALL HAVE A ROOF MOUNTED ROTATING RED LIGHT OR A LIGHT BAR.
- A MINIMUM OF FOUR FLARES SHALL BE BURNING CONTINUOUSLY ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE "OW-134-48" SIGN DURING THE TIME THAT TRAFFIC IS STOPPED ON THE RURAL DIVIDED HIGHWAY.
- ROAD CLOSURES ARE NOT PERMITTED ON HOLIDAYS, WEEKENDS OR BETWEEN THE HOURS OF 6 AM TO 9 AM, 11 AM TO 1 PM AND 3 PM TO 6 PM ON MONDAY THROUGH FRIDAY, EXCEPT BY PERMISSION OF THE ENGINEER.
- THE ADVANCE PATROL CAR AND THE "OW-134-48", "OW-143-24", AND "OW-152-48" SIGNS SHALL BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES. NEW FLARES SHALL BE PLACED WHENEVER THE ADVANCE PATROL CAR IS REQUIRED TO RELOCATE.
- TRAFFIC CONTROL FOR THE CLOSURE SHALL BE ACCOMPLISHED IN THE FOLLOWING ORDER:
 - ADVANCE PATROL CAR, LIGHTS AND FLASHER ON; AT LEAST FOUR FLARES BURNING ON EACH SIDE OF ROADWAY.
 - "OW-134-48" AND "OW-143-24" SIGNS ERECTED.
 - "OW-152-48" SIGNS ERECTED.
 - SECOND PATROL CAR, LIGHTS AND FLASHERS ON.
 - "R-1-48" SIGNS ERECTED BY FLAGMEN WITH FLARE OR FLAG USED TO STOP TRAFFIC. THE ORDER OF ERECTION SHALL BE TOWARD THE MEDIAN SHOULDER IN THE FOLLOWING ORDER: RIGHT SHOULDER, THEN CENTER, THEN MEDIAN SHOULDER.
- TRAFFIC CONTROL SHALL BE REMOVED IN THE FOLLOWING ORDER:
 - WITH TRAFFIC STOPPED ONE MAN WITH A FLARE OR FLAG SHOULD HOLD TRAFFIC AND OTHER FLAGMAN SHALL REMOVE THE "R-1-48" SIGNS TOWARD THE RIGHT SHOULDER IN THE FOLLOWING ORDER: MEDIAN, THEN CENTER, THEN SIGN ON RIGHT SHOULDER.
 - AFTER ALL STOPPED VEHICLES HAVE STARTED MOVING, THE "OW-152-48" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
 - AFTER ALL CARS HAVE RESUMED APPROXIMATELY NORMAL SPEED, THE "OW-134-48" AND "OW-143-24" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
 - LIGHTS AND FLASHERS SHALL BE TURNED OFF ON BOTH PATROL CARS.
 - REMOVE ALL ROADWAY FLARES IF THEY ARE STILL BURNING.
- UNILLUMINATED SECTIONS OF RURAL DIVIDED HIGHWAYS SHOULD NOT BE CLOSED DURING HOURS OF DARKNESS EXCEPT FOR EMERGENCIES OR WITH THE APPROVAL OF THE ENGINEER. WHEN A RURAL DIVIDED HIGHWAY MUST BE CLOSED DURING HOURS OF DARKNESS, A TYPE B HIGH INTENSITY FLASHING BARRICADE WARNING LIGHT SHALL BE USED ON EACH "OW-134" AND "OW-152" SIGN.
- IF AN ENTRANCE RAMP IS LOCATED BETWEEN THE "OW-134" AND "R-1" SIGNS, THE "OW-134-48", "OW-143-24", AND THE "OW-152-48" SIGNS SHALL ALSO BE ERECTED ON THE RAMP SHOULDER.

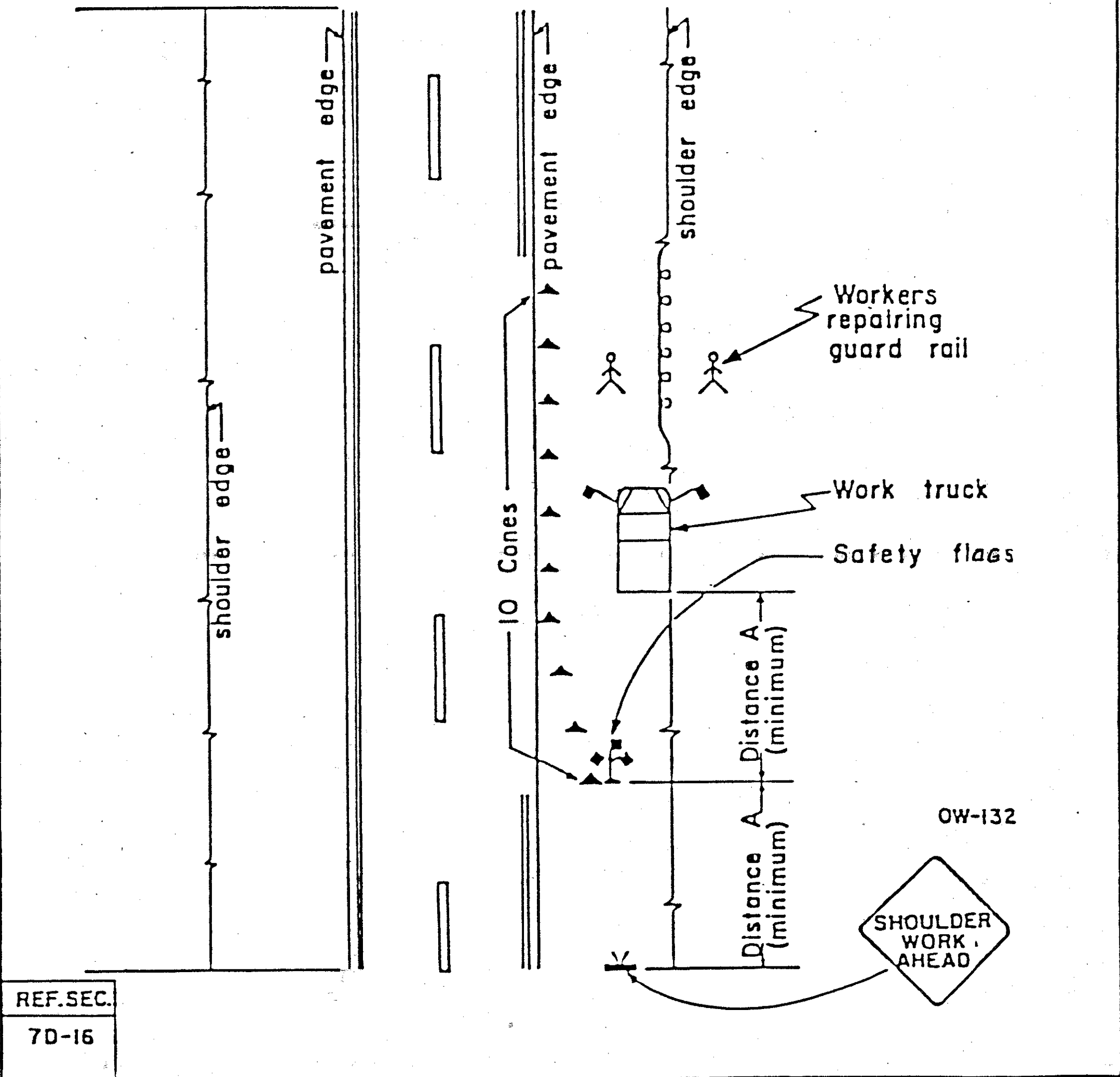
OHIO DEPARTMENT OF TRANSPORTATION

SHORT DURATION CLOSING
OF RURAL DIVIDED HIGHWAY

DATE
5/77

OR BSE/CK/MOW

TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR STATIONARY OPERATIONS ON THE SHOULDER

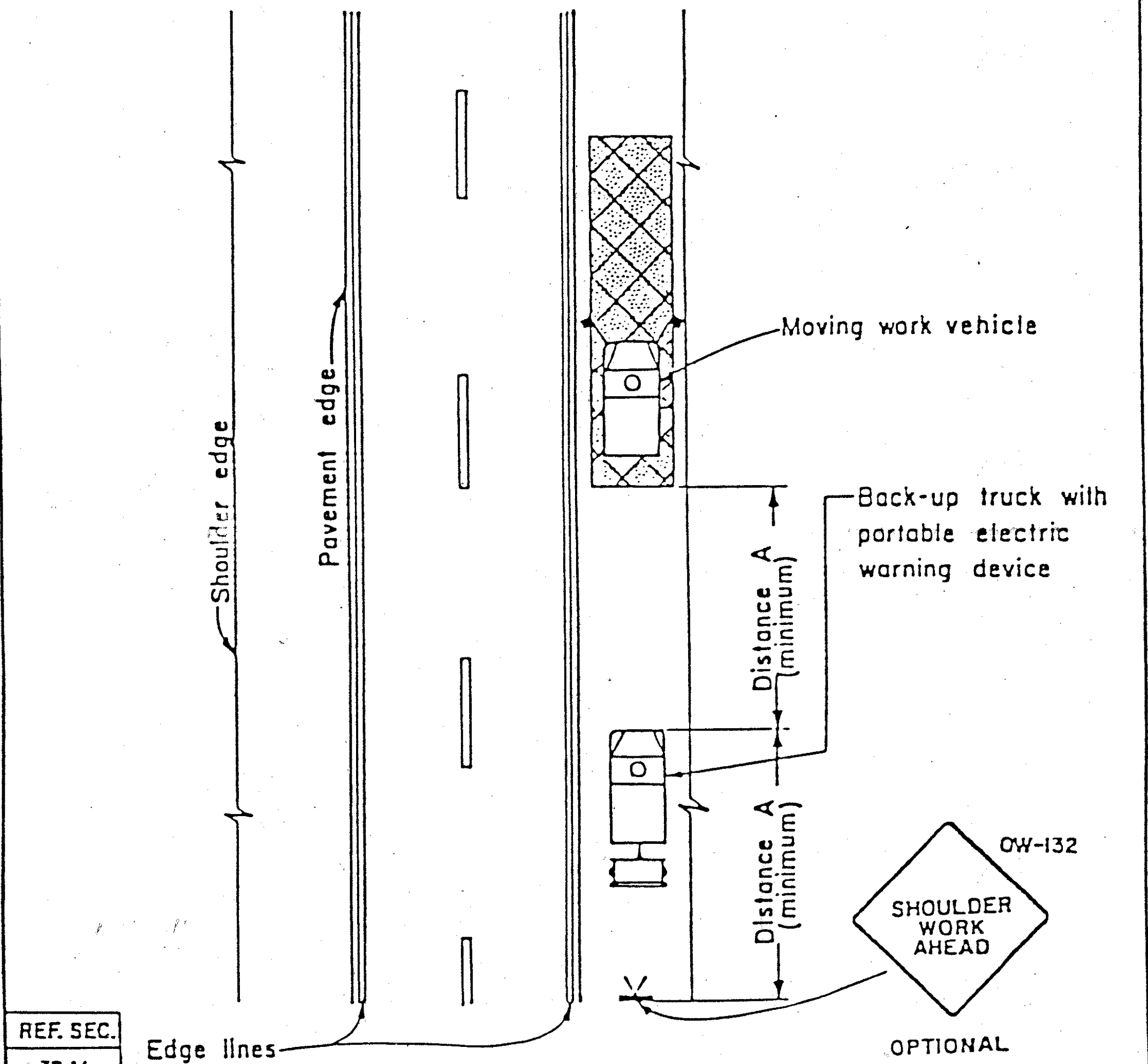


REF. SEC.
7D-16

- NOTES:
1. Space the cones at 50' maximum.
 2. For work within the median, install the same cones and signs for both directions of travel.

TYPE OF ROADWAY	DISTANCE A - ft.
Urban	200
Standard	500
Expressway	750

TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR MOVING OPERATIONS ON THE SHOULDER



REF. SEC.
7D-16
7G-3

- NOTES
1. For work within the median, use the same treatment for both directions of travel.

TYPE OF ROADWAY	DISTANCE A ft.
Urban	200
Standard	500
Expressway	750

8602 23-14.18 - MAD-42-13.15