PURCHASING DIVISION
ROOM 210 CITY HALL
142 EAST MAIN STREET
MERIDEN, CONNECTICUT 06450-8022

RAWLE DUMMETT
PURCHASING OFFICER

PHONE 203-630-4115

NOTICE TO BIDDERS
ADDENDUM #002

TO THE BID FOR: B023-43 East Main Street Paving

FOR: City of Meriden

BID DUE DATE: March 5, 2024 at 11:00 AM

Please acknowledge receipt of all addenda on the Bid Form Page(s).

Please see the responses to RFIs below;

At this time the City does not have the infrastructure to accept electronic bids and therefore bids will only be accepted as directed in the bid documents.

Rawle Dummett
Purchasing Officer
Dated: February 23, 2024

East Main Street Paving B024-43

Pre Bid Questions 2024-02-23

1. In the Special Provisions section, it states that City PD will have first option of providing traffic services. However, there is a significant price difference between standard Uniformed Traffic Control and Police. At this point we are not sure if the PD will provide TC, so how should we handle this for bidding purposes?

   Police Officers will be paid by the City of Meriden Engineering Dept. therefore there is no pay Item for Police. The Uniform Flaggers should be paid for under Item 5 Trafficperson (Uniform Flagger) for the anticipated 360 hrs. This item will be paid for at the unit price for hrs. actually used.

2. If the plan is to use City PD for TC, would you provide their rates and/or create a "pass through" line item with a predetermined Unit Prices and Extended Total since the City will be paying the bill directly?

   No line item has been provided for Municipal Police Officer. The Meriden Police Department will bill the Meriden Engineering Department directly. The contractor is responsible for ordering officers for the work. Coordination time should be included with the Maintenance and Protection of Traffic line item.

3. Does the police dept. have a requirement for how many traffic control persons will be required at any given time?

   No, a specific number of traffic control persons is not specified. The Police Department will supply one, two or no Municipal Officers as they determine is necessary. Per section 01540 of the special provisions the number of traffic control persons shall be the amount necessary to protect the construction site and maintain traffic movement in a safe manner.

4. Is there a pre-determined traffic control plan? Will construction signage be required on every side road? Any specific cone patterns the city will need to maintain?

   There is no predetermined traffic control plan. Some signage will be required on side roads. Standard BMP traffic cone patterns should utilized to protect and maintain traffic through the construction zone.

5. Can traffic be limited to alternating one-way traffic or will there need to be 2 lanes at all times?

   Please refer to Section 01540, Construction Methods c, d and e of the Special Provisions. In general 2 lanes of traffic will be required to be maintained for traffic unless otherwise approved by the Police and the Engineering/Public Works Department.

6. What is the dollar value of the funds given by the State for this project?

   The amount of the project that will be paid for with State funding is $546,941.00.

7. Can the work be performed in 2 shifts per day, i.e. daytime and evening work?

The work cannot be performed in 2 shifts.

8. Who is responsible for replacing loop detectors?

   The contractor will be responsible for replacing the loop detectors. Please refer to Special provision section 09018 attached. The attached Bid forms have been revised to include item #9 "Wire Loop Detector". The traffic signal control plans for each intersection have been attached.

SECTION 09018

WIRE LOOP DETECTOR

1. DESCRIPTION

The work under this Item shall consist of installing an inductive wire loop detector in a pavement sawcut to the dimensions and at the locations shown on the Contract Drawings or as ordered by the Engineer and in conformance with these Specifications.

2. MATERIALS

The materials for this work shall conform to the following:

A. XHHW Stranded Copper Wire

XHHW stranded copper wire shall conform to the applicable requirements of the N.E.C. The insulation shall be cross-linked polyethylene conforming to the applicable requirements of ASTM D-2655 and D-1351.

B. Loop Embedded Sealer

The sealer shall be as manufactured by Preco of Plainview, New York or equal. The sealer shall have a hardener/resin ratio of 1.75:1 by volume and be flow able. When applying the sealer, allow the material to flow slowly into the sawcut enabling encapsulation of the loop wires and allowing the material to self-level. The sealant shall sufficiently cure within 45 minutes at 77' F. It shall also be possible to cure the sealant at temperatures below freezing. After curing, the sealer shall have sufficient strength and resiliency to withstand stresses set up by vibrations, expansion and seasonal thermal changes. The compound shall also be resistant to most chemicals and solvents including all salts, acids and hydro-carbons.

3. CONSTRUCTION METHODS

The size of the loop shall be as shown on the Contract Drawings and shall be made using a power saw having an abrasive or diamond blade ¼" wide. The depth of the slot shall be as indicated on the Contract Drawings and shall extend from the loop to the location shown. The corners of the loop shall be mitered to full depth as shown on the details and the sharp edges shall be rounded off with a chisel to allow the wire to take a natural turn. When the cutting has been completed, the slot shall be cleaned of all cutting dust and grit with oil-free compressed air. The slot must be completely dry before inserting the wire.

The entire loop and lead-in shall consist of one continuous run if XHHW stranded copper wire unless otherwise directed on the Contract Drawings. The wire shall follow the sawcut to the location shown where it will enter flexible plastic tubing as shown on the installation detail sheet. The flexible tubing shall then be placed into a rigid steel conduit. The lead-in wires shall be

twisted together and taped at 2' intervals beginning at the point where the wires leave the saw cut and enters the conduit to the terminals in the control cabinet, or where spliced to a 2/C twisted pair shielded cable at a foundation or pull box. The twisted wire shall remain together and shall not be coiled at any point. Splices will not be permitted at any point of the loop or lead-in. The 2/C twisted pair shall be grounded at the "DETECTOR UNIT ONLY" and shall be labeled as ground. The ground at the other end shall be clipped off and be prevented from grounding itself.

The saw cuts on all lead-ins shall be as shown on the Contract drawings or as directed by the Engineer. The number of turns of wire for each loop shall be as shown on the Contract Drawings. After installation, the wire shall be checked for slack or raised portions in the roadway slot. A paint mix stick or similar blunt instrument shall be used to push the wire in the slot. The wire shall be held in the slot with wooden pegs or by wrapping tape around the wire a sufficient number of times so that it fills the width of the slot and holds itself at the bottom of the sawcut. Prior to sealing the loop wire shall be checked for circuit continuity by the Contractor. No sealant shall be placed until this check is complete. The saw cut shall then be filled with plastic sealing compound (ONLY) to a level of approximately 1/16" below the roadway surface. In no case shall the plastic compound overflow the sawcut and all excess material shall be struck off with a straight edge. The plastic compound shall be applied in accordance with the manufacturer's recommendations. No sand filler will be allowed.

Each pair of lead-in wires in the cabinet shall be tagged and identified to determine phase and physical location of loop in the roadway.

4. METHOD OF MEASUREMENT

Wire loop detectors will be measured for payment by the actual number of linear feet of saw cut regardless of the number of turns of wire.

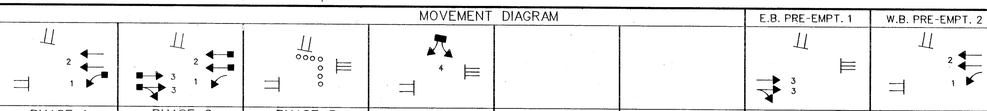
5. BASIS OF PAYMENT

Wire loop detectors will be paid for at the contract unit price bid per linear foot, which price shall include sawcut, XHHW wire, sealing compound, cleaning, loop layout, flexible tubing and all other materials, equipment, tools and labor necessary for or incidental to the satisfactory completion of the item.

NONE

NTOR

MOVEMENT DIAGRAM



E.B. PRE-EMPT. 1

W.B. PRE-EMPT. 2

FACE #	PHASE 1			PHASE 2			PHASE 3			PHASE 4			PHASE 5			PHASE 6			PHASE 7			PHASE 8		
	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL
1	← G	↰ G	G	G	Y	R	R	R	R	R	R	R							R	R	R	G	Y	R
2	G	G	G	G	Y	R	R	R	R	R	R	R							R	R	R	G	Y	R
3	R	R	R	G	Y	R	R	R	R	R	R	R							G	Y	R	R	R	R
4	R	R	R	R	R	R	R	R	R	G	Y	R							R	R	R	R	R	R
P	← DW →			← YIELD PT. →			← WØ →			← DW →									← DW →					
MIN.	4	3	0	15	3	1	7/15	0	0.1	9	3	1							10	3	1	10	3	1
MAX.	20	5	3	50	5	3	10/20	0	0.1	40	5	3							✳	5	3	✳	5	3

INTERVALS	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
MIN GRN	4	15		10			10	10
WALK		15	7					
PED CLR		1	15					
VEH EXT	2	6		2				
MAX 1	8	25		20			✳	✳
MAX 2	14	25		30				
YELLOW	3.0	4.0	0.1	3.0			3.0	3.0
RED	0.1	2.0	0.1	2.0			2.0	2.0
ADD INI								
MAX INT								
TBR								
TTR								
MIN GAP								
MODE	NON-LOCK	MIN RECALL	NON-LOCK	NON-LOCK	OFF	OFF	LOCK	LOCK
INI START		THIS PHASE						

FLASHING OPERATION: Y Y Y R OFF

MAINT: 24hr ☒ Norm ☐

ENERGY BY- CITY
SERVICE POLE- 3248
OFFICE RECORD

STC#	SM#
	SIGNAL REVISED
	SIGNAL REVISED UNDER STATE PROJECT NO. 79-183. INTERCONNECT TO THE EAST MAIN ST. SIGNAL.
	TRANSFER OWNERSHIP TO CITY
	REVISION # 2-10/95 INTERVALS

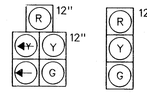
INTERSECTION # 79-233

	kW	hr/mo	kWh/mo
NORMAL	.731 kW	730 hr/mo	534 kWh/mo
FLASH	kW	hr/mo	kWh/mo

PRE-EMPTION SETTINGS

	PRE-EMPT 1	PRE-EMPT 2
PRIORITY	NO	NO
DET. LOCK	YES	YES
DELAY	0	0
ALT. MIN. GRN	10	10
ALT. YELLOW	4	4
ALT. RED	2	2
ALT. PED. CLR.	CONTROLLER SETTING	
HOLD GREEN	*	*
HOLD YELLOW	4	4
HOLD RED	2	2
HOLD PHASE	7	8
EXIT PHASE	2	2
EXIT CALL	1,2,3,4	1,2,3,4

SIGNAL FACES



TOWN SIGNAL

LEGEND

R RED
Y YELLOW
G GREEN
RA RED ARROW
YA YELLOW ARROW
GA GREEN ARROW
WB WALK/ FL D.W.
D.W. DON'T WALK
FL. FLASHING
PROPOSED WOOD SPAN POLE
EXISTING WOOD SPAN POLE
PROPOSED STEEL SPAN POLE
EXISTING STEEL SPAN POLE
PROPOSED UTILITY POLE
EXISTING UTILITY POLE
PEDESTAL MOUNTING
PEDESTRIAN PUSH BUTTON & SIGN
TRAFFIC SIGNAL FACE
PEDESTRIAN SIGNAL FACE
LOOP DETECTOR
MAGNETIC DETECTOR
SD SYSTEM DETECTOR
PROPOSED CONTROLLER
EXISTING CONTROLLER
PROPOSED HANDHOLE
EXISTING HANDHOLE
PROPOSED (R.M.C.) RIGID METAL CONDUIT
EXISTING (R.M.C.) RIGID METAL CONDUIT
CABLE CLOSURE DET. LEADS IN SAW CUT
AUXILIARY TERMINATION CABINET
RADIO ANTENNA
OPTICAL DETECTOR

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUR. OF ENGINEERING & HWY. OPERATIONS
DIVISION OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL

CITY OF MERIDEN
EAST MAIN ST. AT I-91 S.B. AND
ROUTE 15 RAMPS

	TRAFFIC	DATE	ELECTRICAL	DATE
FIELD SURVEY				
ENGINEER	TNL	1-94	ZC	2-94
DRAFTER	TNL	1-94	PSF	3-94
CHECKED BY	MWL	1-94	MRM	2-94
SUBMITTED BY	MRM	4-14-94	MWL	4-15-94
APPROVED BY				
DATE	APRIL 15, 1994		4-15-94	

DETECTORS

IDENT	SIZE	TURNS	MODE
D1	6'X6'	3	PRESENCE
D2	6'X6'	4	PRESENCE
D4	13'X6'	3	PRESENCE
D4A	16'X6'	3	DELAY 6"
SD	6'X6'	4	PRESENCE

PROGRAM

FUNCTION	TIME	DAYS
MAX. 1	ALL OTHER TIMES	
MAX. 2	1500-1800	M-F
CYCLE 1	ALL OTHER TIMES	
CYCLE 2	0900-1100	
CYCLE 3	1500-1800	
FREE	FUTURE	

COORDINATION TYPE- CLOSED LOOP

CYCLE	OFFSET # /SEC	YIELD PT %	PERMIS PERIOD	FORCE OFF % Ø	Ø	Ø
70"						
80"						
90"						

SYSTEM LOC MASTER
79-234
79-905
79-906
79-907
79-908

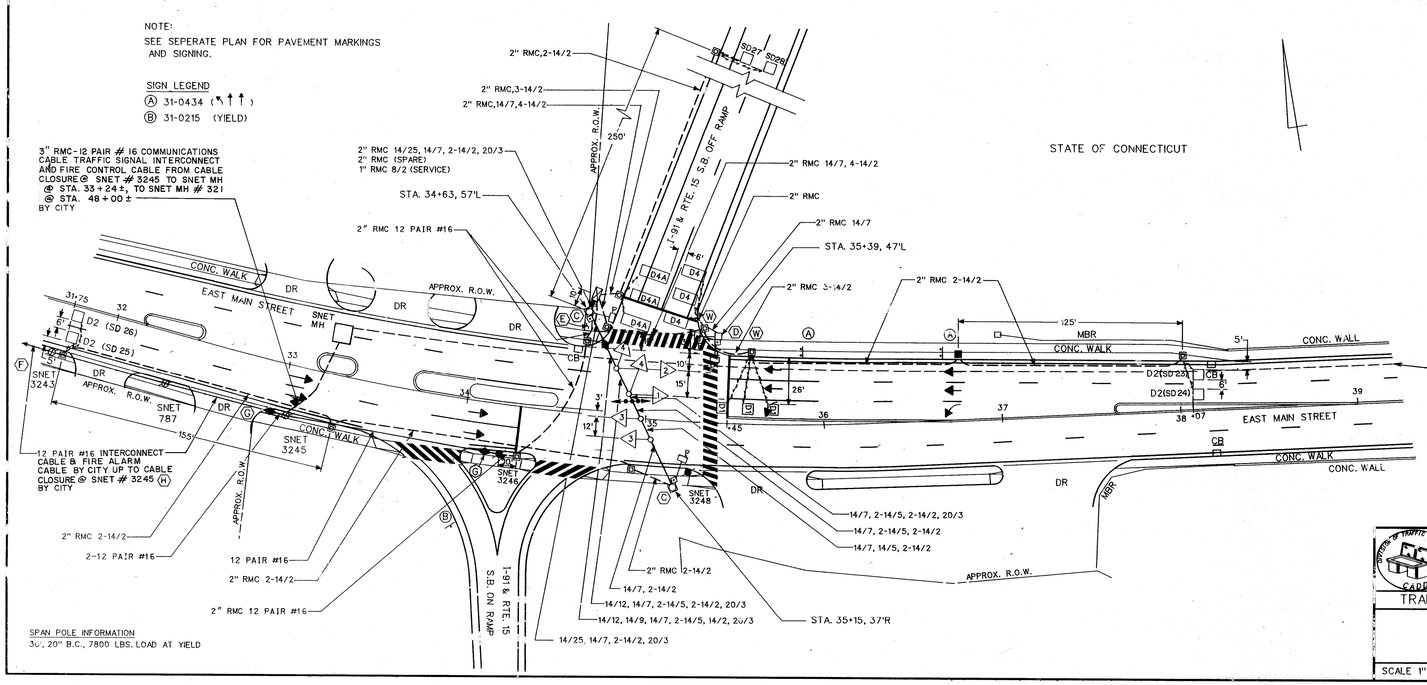
TECHNICAL NOTES

STANDARD OVERLAP SKIP FEATURES APPLY
✳ TIME FOR EMERGENCY VEHICLE TO CLEAR INTERSECTION 120 SECOND MAX.
PHASE 2 ON TO OMIT CALL TO PHASE 1.
D2 TO BE LOCAL AND SYSTEM DETECTOR.
D2 TO OPERATE ONLY AS SD DURING COORDINATION.

REV. # | INTERSECTION # 79-233

NOTE:
SEE SEPERATE PLAN FOR PAVEMENT MARKINGS AND SIGNING.

SIGN LEGEND
Ⓐ 31-0434 (↰↑↑)
Ⓑ 31-0215 (YIELD)



SPAN POLE INFORMATION
30', 20" B.C., 7800 LBS. LOAD AT YIELD

TOWN SIGNAL

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUR. OF ENGINEERING & HWY. OPERATIONS
DIVISION OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL LAYOUT

CITY OF MERIDEN
EAST MAIN ST. AT I-91 S.B. AND
ROUTE 15 RAMPS

SCALE 1" = 40'

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MERIDEN	STPN-2413(4)	79-183	1994		59	168

CONSTRUCTION NOTES

ALL TRAFFIC SIGNAL EQUIPMENT AND APPURTENANCES ARE NEW.

LOOP FEEDER CABLE TO BE RUN FROM CONTROLLER TO HANDHOLE OR SPLICE BOX WITH NO SPLICES BETWEEN.

ALL REMOVED EQUIPMENT TO BE RETURNED TO STATE.

INSTALL LOOP DETECTORS 3' OFF EDGE OF ROAD AND 8' APART UNLESS OTHERWISE SPECIFIED.

INSTALL SYSTEM DETECTORS IN CENTER OF LANE. CONTRACTOR TO FIELD LOCATE PRIOR TO INSTALLATION TO AVOID DAMAGED PAVEMENT.

LOCATION OF HANDHOLES ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

ALL CONDUIT RISERS ON WOOD POLES TO BE ON OFF-TRAFFIC SIDE OF POLE UNLESS OTHERWISE SPECIFIED.

ATTACHMENTS TO WOOD POLES AND ALL CLEARANCES TO CONFORM TO NESC AND DPUC REQUIREMENTS. NO ATTACHMENTS TO WOOD UTILITY POLES SHALL BE MADE WITHOUT FIRST OBTAINING THE APPROVAL OF ALL APPLICABLE UTILITY COMPANIES.

INSTALL TYPE IV CONTROLLER FOUNDATION, 8 PHASE LMD 8000 CONTROLLER AND OPTICAL FIRE PRE-EMPTION SYSTEM. CABINET DOOR TO OPEN FIELD SIDE.

Ⓒ INSTALL STEEL SPAN POLE FOUNDATION ADJACENT TO BACK EDGE OF WALK. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.

Ⓓ INSTALL PEDESTAL FOUNDATION ADJACENT TO BACK EDGE OF WALK. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.

Ⓔ INSTALL 4' WIDE BY 7' LONG CONCRETE WALK TO THE PEDESTRIAN PUSH BUTTON

Ⓕ 12 PAIR #16 IMSA 4C-4-1984 TELEPHONE INTERCONNECT CABLE (SELF SUPPORT) INCLUDED UNDER THIS CONTRACT TO ALL SIGNALIZED INTERSECTIONS IN PROJECT LIMITS. (IMSA 40-2-1984 CABLE IN CONDUIT).

Ⓖ INSTALL TYPE "A" CABLE CLOSURE FOR INTERCONNECT CABLE.

Ⓦ INSTALL 30" X 30" HANDHOLE. ALL OTHERS TYPE II.

Ⓗ TWELVE (12) PAIR #16 IMSA 40-4-1984 INTERCONNECT CABLE (SELF SUPPORTING), BY CITY TO ALL SIGNALIZED INTERSECTIONS IN PROJECT LIMITS. (IMSA 40-2-1984 CABLE IN CONDUIT). FIRE CONTROL BY CITY SHALL UTILIZE SPARE CONDUCTORS. CABLE ALONG EAST MAIN STREET BY CITY. RUNS TO CONTROLLER FROM CABLE CLOSURE OR MANHOLE BY CONTRACTOR.

REV. # | INTERSECTION # 79-233

TRD1 /usr/plzzo/p079x233.tcs 3-94

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

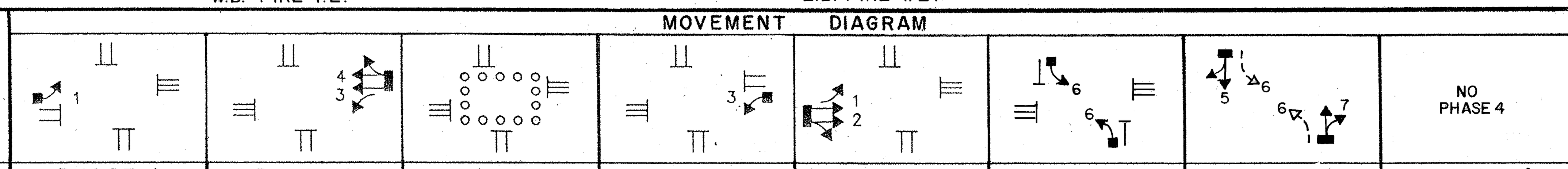
EAST MAIN STREET

TRAFFIC CONTROL SIGNAL
AT I-91 S.B.
& ROUTE 15 RAMPS

P.E. # 2
W.B. FIRE P.E.

P.E. # 1
E.B. FIRE P.E.

MOVEMENT DIAGRAM



NTOR	PHASE 1 GRN	PHASE 1 CL	PHASE 1 CL	PHASE 2 GRN	PHASE 2 CL	PHASE 2 CL	PHASE 3 GRN	PHASE 3 CL	PHASE 3 CL	PHASE 5 GRN	PHASE 5 CL	PHASE 5 CL	PHASE 6 GRN	PHASE 6 CL	PHASE 6 CL	PHASE 7 GRN	PHASE 7 CL	PHASE 7 CL	PHASE 8 GRN	PHASE 8 CL	PHASE 8 CL	PHASE 4 GRN	PHASE 4 CL	PHASE 4 CL	FLASHING OPERATION
FACE # 1	← R	←Y R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R				
2	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R				Y
3	R	R	R	G	Y	R	R	R	R	← R	←Y R	R	R	R	R	R	R	R	R	R	R				Y
4	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				Y
5	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R				Y
6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	← R	←Y R	R	G	Y	R				R
7	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R				R
P	←	DW	→				WØ	←			DW										→				R
MIN.	4.0	3.0	0	9.0	3.0	1.0	7/10	0.1	0	4.0	3.0	0	9.0	3.0	1.0	4.0	3.0	0	9.0	3.0	1.0				
MAX.	15	5.0	3.0	60	5.0	3.0	18/23	0.1	0	15	5.0	3.0	15	5.0	3.0	15	5.0	3.0	4.0	5.0	3.0				

INTERVALS	PHASE 1	PHASE 2	PHASE 3	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 4
MIN GRN	4.0	15.0		4.0	15.0	4.0	9.0	
WALK			7.0					
PED CLR			18.0					
VEH EXT	2.0	5.0		2.0	5.0	2.0	2.0	
MAX I	8.0	25.0 *		8.0	25.0 *	6.0	22.0	
MAX 2	11.0	34.0		11.0	34.0	6.0	22.0	
YELLOW	3.0	4.0	0.1	3.0	4.0	3.0	4.0	
RED	0.1	2.0	0	0.1	2.0	0.1	2.0	
ADD INI								
MAX INT								
TBR								
TTR								
MIN GAP								
MODE	NON LOCK	MIN. RECALL	NON LOCK	NON LOCK	MIN. RECALL	NON LOCK	NON LOCK	NO PHASE 4
INI START		THIS PHASE			THIS PHASE			

ENERGY BY- CITY OF MERIDEN
SERVICE POLE- SNET #3234

OFFICE RECORD

REVISION # 1

JOB# SM#

SIGNAL REVISED
SIGNAL REVISED UNDER STATE PROJECT 79-183, COMPLETE NEW SIGNAL & INTERCONNECTED TO OTHER EAST MAIN STREET SIGNALS.

REVISION # 2 · 10/95
INTERVALS

REVISION # 3 12/23/97
ADDED ADVANCE LEFT TURN PHASE TO SIDE STREETS

INTERSECTION # **79-907**

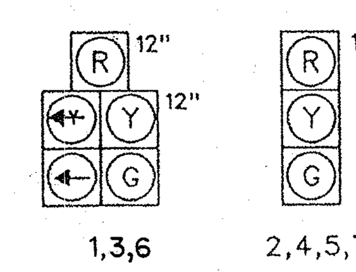
NORMAL 1.137 kW	730 hr/mo	830	kWh/mo
FLASH kW	hr/mo		kWh/mo

MAINT

	PRE-EMPT 1	PRE-EMPT 2
PRIORITY	YES	NO
DET. LOCK	YES	YES
DELAY	NO	NO
ALT. MIN. GRN.	5	5
ALT. YELLOW	3	3
ALT. RED	1	1
ALT. PED. CLR.	CONTROLLER SETTING	
HOLD GREEN	10	10
HOLD YELLOW	3	3
HOLD RED	1	1
HOLD PHASE	6	2
EXIT. PHASE	2, 6	2, 6
EXIT CALL	1,2,5,6,7,8	1,2,5,6,7,8

24hr ☒
Norm ☐

SIGNAL FACES



TOWN SIGNAL

LEGEND

- R RED
- Y YELLOW
- G GREEN
- ←R– RED ARROW
- ←Y– YELLOW ARROW
- ←– GREEN ARROW
- WØ WALK/FL DW
- DW DON'T WALK
- FL FLASHING
- ○ PROPOSED WOOD SPAN POLE
- ● EXISTING WOOD SPAN POLE
- PROPOSED STEEL SPAN POLE
- EXISTING STEEL SPAN POLE
- PROPOSED UTILITY POLE
- EXISTING UTILITY POLE
- ☐ PEDESTAL MOUNTING
- PEDESTRIAN PUSH BUTTON AND SIGN
- TRAFFIC SIGNAL FACE
- PEDESTRIAN SIGNAL FACE
- LOOP DETECTOR
- ■ MAGNETIC DETECTOR
- SD SYSTEM DETECTOR
- CONTROLLER
- HANDHOLE
- (RMC) RIGID METAL CONDUIT
- STRAIN INSULATOR
- MAGNETOMETER PROBES
- ◆ CABLE CLOSURE
- DET. LEADS IN SAW CUT
- AUXILIARY TERMINATION CABINET
- RADIO ANTENNA

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
OFFICE OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL

CITY OF MERIDEN
EAST MAIN STREET AT
GRAVEL STREET AND PADDOCK AVENUE

	TRAFFIC	DATE	ELECTRICAL	DATE
FIELD SURVEY	SK / KM	7/93	SK	7/93
ENGINEER	SK / KM	7/10/93	SK	7/10/93
DRAFTER	JH / MN	11/10/98		
CHECKED BY	S.K.	11/13/98	S.K.	11/13/98
SUBMITTED BY				
APPROVED BY				
DATE				

DETECTORS

IDENT	SIZE	TURNS	MODE
D1 & D5	6x6	3	Presence
D2 & D6	6x6	4	Presence
D7	6x6	3	Presence
D8 A	6x6	3	Presence
D8 B	6x11	3	Presence
D8 C	6x21	3	Presence
D8 D	6x9	3	Presence
D8 E	6x21	3	Presence

PROGRAM

FUNCTION	TIME	DAYS
MAX. 1	ALL OTHER TIMES	
MAX. 2	1500 - 1800	M - F
CYCLE 1	ALL OTHERS	M - F
CYCLE 2	0900 - 1100	M - F
CYCLE 3	1500 - 1800	M - F
FREE UP	FUTURE	
FLASH	EMERG. ONLY	

COORDINATION

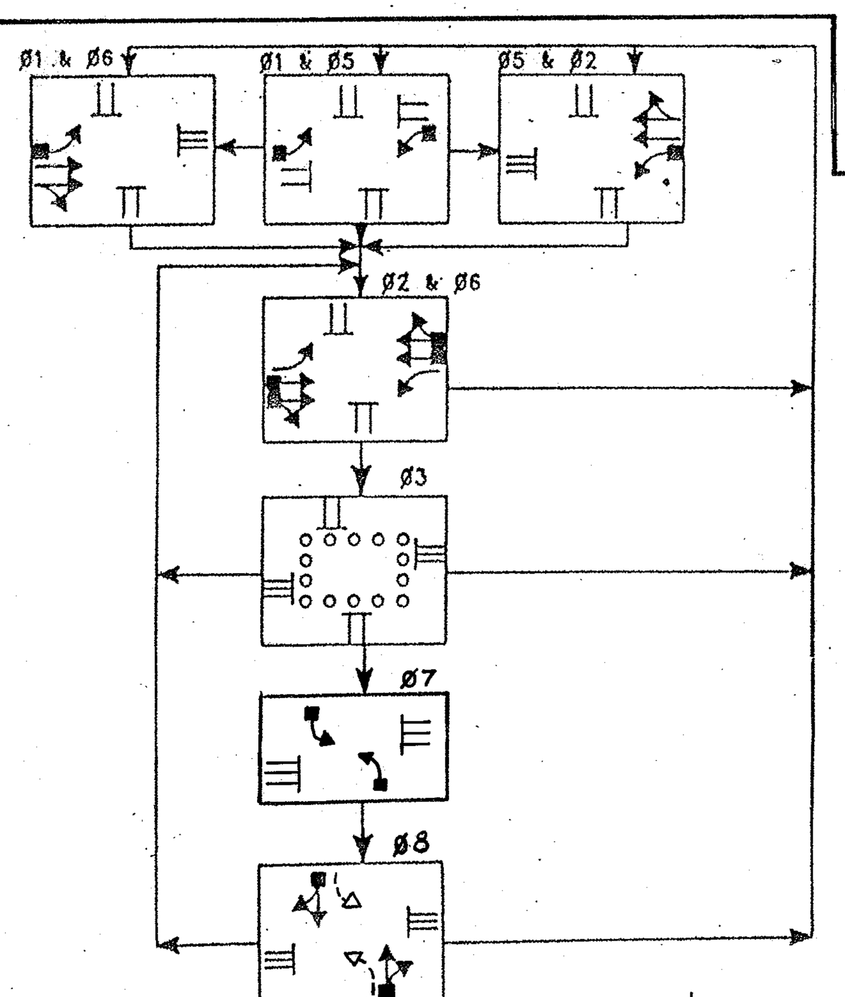
CYCLE SAFETY CRT	OFFSET %/SEC	YIELD PT %	PERMIS PERIOD	FORCE OFF % Ø	Ø	Ø

SYSTEM LOC
MASTER 79-234
79-905
79-907
79-233
79-908
79-906

ACTUAL CYCLE LENGTH, SPLIT & EFFECT TO BE DETERMINED BY MASTER COMPUTER. INTERVALS SHOWN REFLECT OFF-LINE TIMING.

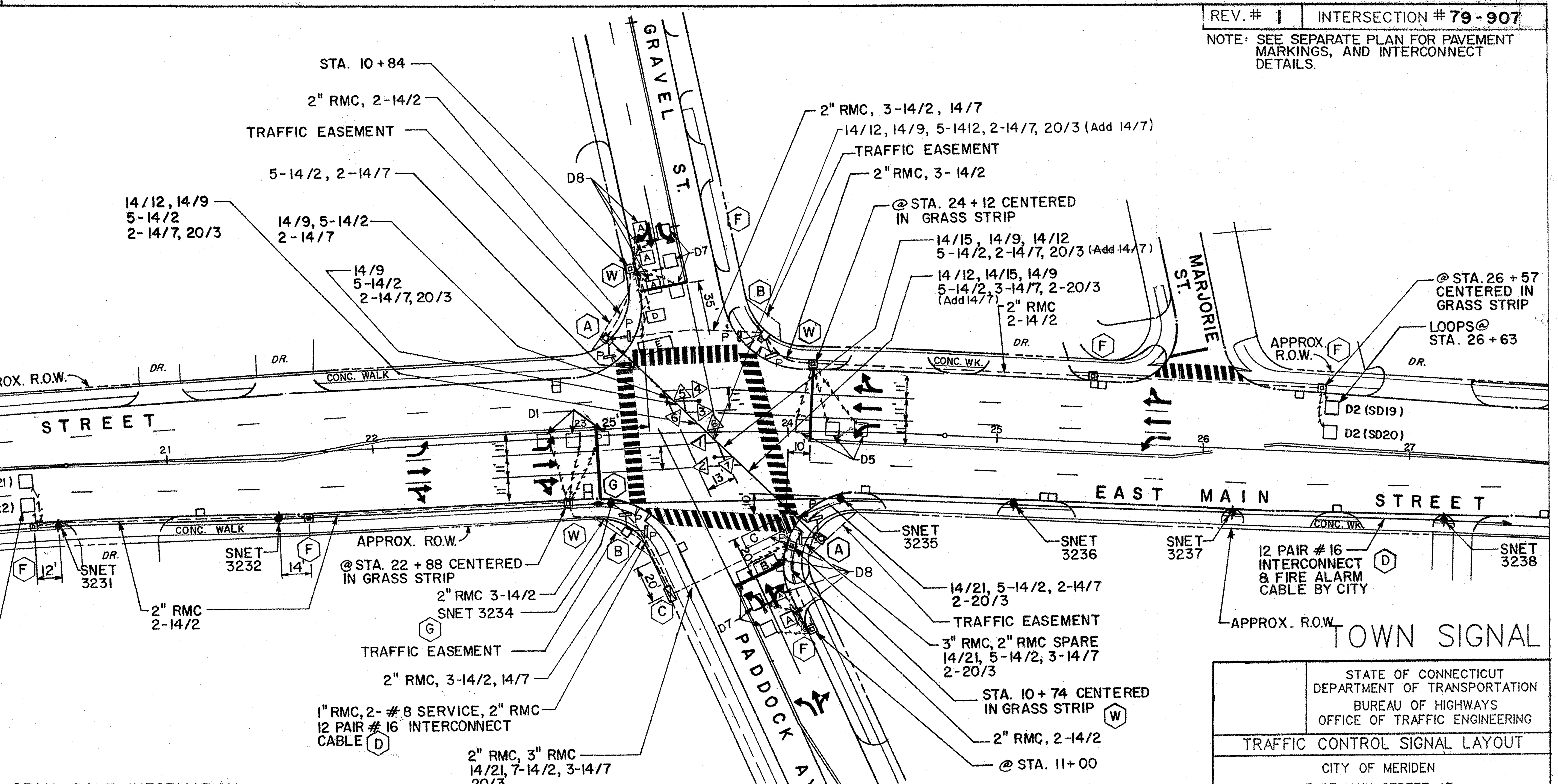
TECHNICAL NOTES

STANDARD OVERLAP SKIP FEATURES APPLY
(1) PHASES 1&5 DRIVE ARROW INDICATIONS ONLY.
(2) PHASES 2&6 DRIVE G,Y,R INDICATIONS.
PHASE 2&6 DETECTORS TO BE INOPERATIVE AS PHASE DETECTORS DURING COORDINATION. DETECTORS SHALL FUNCTION AS SYSTEM DETECTORS DURING COORDINATION OPERATION.
(3) DURING NON-COORDINATION Ø2 & 6 DETECTORS TO EXTEND Ø2 & Ø6
(5) THIS LOCATION IS PART OF THE E. MAIN ST. HARDWARE CLOSED LOOP SYSTEM
* TIME FOR VEH. TO CLEAR INT. WITH A 120 SEC. MAX.
(4) PHASE 8 TO FOLLOW PHASE 7



REV. # 1 | INTERSECTION # **79-907**

NOTE: SEE SEPARATE PLAN FOR PAVEMENT MARKINGS, AND INTERCONNECT DETAILS.



SPAN POLE INFORMATION
32', 22" B.C., 10,000LBS LOAD AT YIELD

TOWN SIGNAL

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
OFFICE OF TRAFFIC ENGINEERING

TRAFFIC CONTROL SIGNAL LAYOUT

CITY OF MERIDEN
EAST MAIN STREET AT
GRAVEL STREET AND PADDOCK AVENUE

SCALE 1" = 40'

FORM TRA-035 REV. 1-88

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MERIDEN	STPN-2413(4)	79-183	1994		58	168

CONSTRUCTION NOTES

1. Loop feeder cable to be run from controller to handhole, or splice box with no splices between.
2. All new foundations to have at least one spare 2" RMC sweep and stub.
3. Controller to be 8-phase LMD 8000 or equal. All load switches to be installed and terminated on back board panel. 12 channel conflict monitor must have communication module. Controller must be compatible with MDM 100 master.
4. All removed City equipment to be returned to City. All removed State equipment to be returned to State.
5. All pavement markings to be thermoplastic.
6. Handholes to be equipped with galvanized steel covers.
7. Contractor to remove all conflicting pavement markings.
8. Remove all existing traffic signals and span wire and install all new signals as noted.
9. Existing traffic signal to be kept operating until new signal completed.
10. If the Engineer determines pavement condition is poor in proximity to loop detectors, contractor shall neatly saw-cut pavement, remove pavement, install loop subsurface, then hot pave and seal area.
11. All loop detectors to be installed 8' apart and 3' off edge of road or lane line unless otherwise specified. Splice segmented loops in series.
12. All system detectors to be located in center of travel lane.
13. Location of steel poles and handholes are approximate and shall be staked in the field by the Contractor and approved by the Engineer.
14. Handholes shall be Type II.
15. All traffic signals and appurtenances shall be new.
16. All unused existing signal equipment and facilities to be properly removed and site left in a safe and clean condition.
17. All conduit risers on wood poles to be on off-traffic side of pole unless otherwise specified.
18. The Contractor or his agent shall monitor traffic volumes for a minimum of one (1) year and optimize the traffic operations based on a closed loop system and provide documentation and training of the system and controllers.
19. Attachments to wood poles and all clearances to conform to NESC and DPUC requirements. No attachments to utility wood poles shall be made without first obtaining the approval of all applicable utility companies.

NOTES:

(A.) Install 32' steel span pole, foundation, walk signals and ped button at back edge of walk, in line with handicap ramp. Exact location to be determined by the Engineer.

(B.) Install walk signal, pedestal, ped button and foundation in line with handicapped ramp at back of walk. Exact location to be staked by Contractor and approved by the Engineer.

(C.) Install Type IV Controller foundation, 8-phase LMD 8000 controller and optical fire pre-emption system. Cabinet door to open to the field.

(D.) Twelve (12) pair #16 IMSA 40-4-1984 interconnect cable (self supporting) by City to all signalized intersections in project limits. (IMSA 40-2-1984 cable in conduit). Fire control by City shall utilize spare conductors. Cable along East Main Street by City. Runs to controller from cable closure or manhole by Contractor.

(E.) Reserved

(F.) Install Type II handhole at this location.

(G.) Install Type "A" cable closure for interconnect cable.

(W.) Install 30" x 30" concrete manhole.

GENERAL NOTES:

1. Rate of flash shall be not less than 50 nor more than 60 times per minute.
2. Manual operation shall not unduly interfere with artery traffic.
3. Bottom of signal faces to be not less than 16' nor more than 17' above the highway pavement.

REV. # 1 INTERSECTION # 79-907

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC ENGINEERING

EAST MAIN STREET
TRAFFIC CONTROL SIGNAL
AT GRAVEL ST. & PADDOCK AVE.

P.E.
FIRE PRE-EMP.

MOVEMENT DIAGRAM

N T O R	PHASE 1 ①			PHASE 2 ②			PHASE 3			PHASE 4			PHASE 5 ①			PHASE 6 ②			PHASE 7			PHASE 8			FLASHING OPERATION
	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
FACE # 1	←R	←YR	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	G	Y	R	Y
2	R	R	R	G	Y	R	R	R	R	R	R	R	←R	←YR	R	R	R	R	R	R	R	G	Y	R	Y
3	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	Y
4	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	G	Y	R	Y
5	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R
P1	← DW			→			WØ	←									DW							→	OFF
INTERVALS MIN GRN	4.0			20.0						10.0			6.0			20.0			10.0			10.0			
WALK							7.0																		
PED CLR							17.0																		
VEH EXT	2.0			4.0						3.0			2.0			4.0			3.0						
MAX 1	10.0			30.0						25.0			10.0			30.0			20.0			*			
MAX 2	10.0			35.0						30.0			10.0			35.0			25.0						
YELLOW		3.0			4.0			0.1			4.0			3.0			4.0			4.0			4.0		
RED			0.1			2.0			0			1.0			0.1			2.0			1.0			1.0	
ADD INI																									
MAX INT																									
TBR																									
TTR																									
MIN GAP																									
MODE	NON-LOCK			MIN. RECALL			NON-LOCK			NON-LOCK			NON-LOCK			MIN. RECALL			NON-LOCK						
INI START				THIS PHASE												THIS PHASE									

MAINT 24hr ☒ NORM ☐

DETECTORS

IDENT	SIZE	TURNS	MODE
DI	1.8M×1.8M	3	PRESENCE
D2A	1.8M×1.8M	3	PRESENCE
D2B	1.8M×1.8M	3	PRESENCE (CALLING ONLY)
D4A	1.8M×1.8M	3	PRESENCE
D4B	1.8M×1.8M	3	PRESENCE
D4C	1.8M×3M	3	PRESENCE
D5	1.8M×1.8M	3	PRESENCE
D6A	1.8M×1.8M	3	PRESENCE
D6B	1.8M×1.8M	3	PRESENCE (CALLING ONLY)
D7A	1.8M×4.6M	3	PRESENCE
D7B	1.8M×1.8M	3	PRESENCE

PROGRAM

FUNCTION	TIME	DAYS
FLASH	EMER. ONLY	

COORDINATION

CYCLE	OFFSET %/ SEC	YIELD PT %	PERMIS PERIOD	FORCE OFF % Ø	Ø	Ø
SAFETY CRT						

SYSTEM LOC
MASTER

TECHNICAL NOTES

STANARD OVERLAP SKIP FEATURES APPLY

① PHASES 1 & 5 TO DRIVE FACES 1 & 2 ARROWS ONLY.

② PHASES 2 & 6 TO DRIVE FACES 3 & 4 GYR IND.

* TIME FOR VEH. TO CLEAR INT. WITH 120 SEC. MAX.

ENERGY BY- CITY OF MERIDEN
SERVICE POLE- CL&P #2499

OFFICE RECORD

REVISION #1
JOB# SM#
SIGNAL REVISED
SIGNAL REVISED UNDER STATE PROJECT
NO. 079-H026, COMPLETE NEW SIGNAL
IMPROVED SE CORNER RADIUS REV. 2/19/97

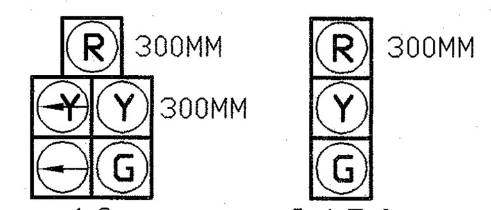
INTERSECTION

NORMAL	1.137	kw	730	hr/mo	830	kwh/mo
FLASH		kw		hr/mo		kwh/mo

SIGNAL FACES

PRE-EMPT 1

PRIORITY	YES
DET. LOCK	YES
DELAY	NO
ALT. MIN. GRN.	5
ALT. YELLOW	3
ALT. RED	1
ALT. PED CLEAR	CONTROLLER SETTING
HOLD GREEN	10
HOLD YELLOW	3
HOLD RED	1
HOLD PHASE	6,2
EXIT CALL	2,3,4,6,7



LEGEND

R RED
Y YELLOW
G GREEN
RED ARROW
YELLOW ARROW
GREEN ARROW
WØ WALK/FL DW
DW DON'T WALK
FL FLASHING
PROPOSED WOOD SPAN POLE
EXISTING WOOD SPAN POLE
PROPOSED STEEL SPAN POLE
EXISTING STEEL SPAN POLE
PROPOSED UTILITY POLE
EXISTING UTILITY POLE
PEDESTAL MOUNTING
PEDESTRIAN PUSH BUTTON AND SIGN
TRAFFIC SIGNAL FACE
PEDESTRIAN SIGNAL FACE
LOOP DETECTOR
MAGNETIC DETECTOR
SD SYSTEM DETECTOR
CONTROLLER
HANDHOLE
(RMC) RIGID METAL CONDUIT
STRAIN INSULATOR
MAGNETOMETER PROBES
CABLE CLOSURE
DET.LEADS IN SAW CUT
AUXILIARY TERMINATION CABINET
RADIO ANTENNA

STATE OF CONNECTICUT
DEPT. OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIV. OF TRAFFIC ENGINEERING

TRAFFIC CONTROL SIGNAL

CITY OF MERIDEN
EAST MAIN ST. @ PARKER AVE. NO. & PARKER AVE.

	TRAFFIC	DATE	ELECTRICAL	DATE
FIELD SURVEY	S.K./K.M.	3/7/97	S.K./K.M.	3/7/97
ENGINEER	S.K./K.M.	3/7/97	S.K./K.M.	3/7/97
DRAFTER	M.W.N.	5/30/97	M.W.N.	5/30/97
CHECKED BY				
SUBMITTED BY				
APPROVED BY				
DATE				

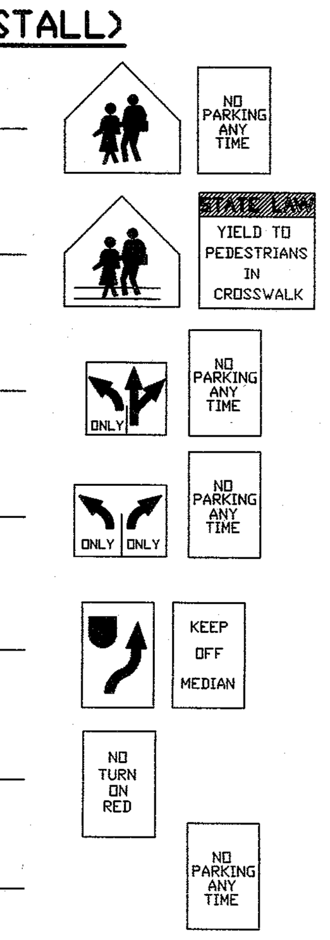
F.H.W.A. REGION NO	STATE	TOWN	FED. AID PROJ. NO.	PROJ.NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MERIDEN		079-H026	1997		3	21

CONSTRUCTION NOTES

1. Loop Feeder Cable to be run from controller to handhole, or splice box with no splices between.
2. All new foundations to have at least one spare 2" RMC sweep and stub.
3. Controller to be 8-phase LMD 8000 or equal. All load switches to be installed and terminated on back board panel. 12 channel conflict monitor must have communications module. Controller must be compatible with MDM 100 master.
4. All removed City equipment to be returned to City.
5. All pavement markings to be new.
6. Handholes to be equiped with galvanized steel covers.
7. Contractor to remove all conflicting pavement markings.
8. Remove all existing traffic signals and span wire and install all new signals as noted.
9. Existing traffic signal to be kept operating until new signal completed.
10. If the Engineer determines pavement condition is poor in proximity to loop detectors, contractor shall neatly saw-cut pavement, remove pavement, install loop subsurface, then hot pave and seal area.
11. All loop detectors to be installed 8' apart and 3' off edge of road or lane line unless otherwise specified. Splice segmented loops in series.
12. Location of steel poles and handholes are approximate and shall be staked in the field by the Contractor and approved by the Engineer.
13. Handholes shall be type II.
14. All traffic signals and appurtenances shall be new.
15. All unused existing signal equipment and facilities to be properly removed and site left in a safe and clean condition. Remove any unused Poles, Pedestals and Foundation and restore area to conform with adjacent materials and finish.
16. All conduit risers on wood poles to be on off-traffic side of pole unless otherwise specified.
17. Attachments to wood poles and all clearances to conform to NESC and DPUC requirements. No attachments to utility wood poles shall be made without first obtaining the approval of all applicable utility companies.
18. Stake all ROW prior to excavation.
19. All traffic signals "Free Swinging".

NEW SIGNS (INSTALL)

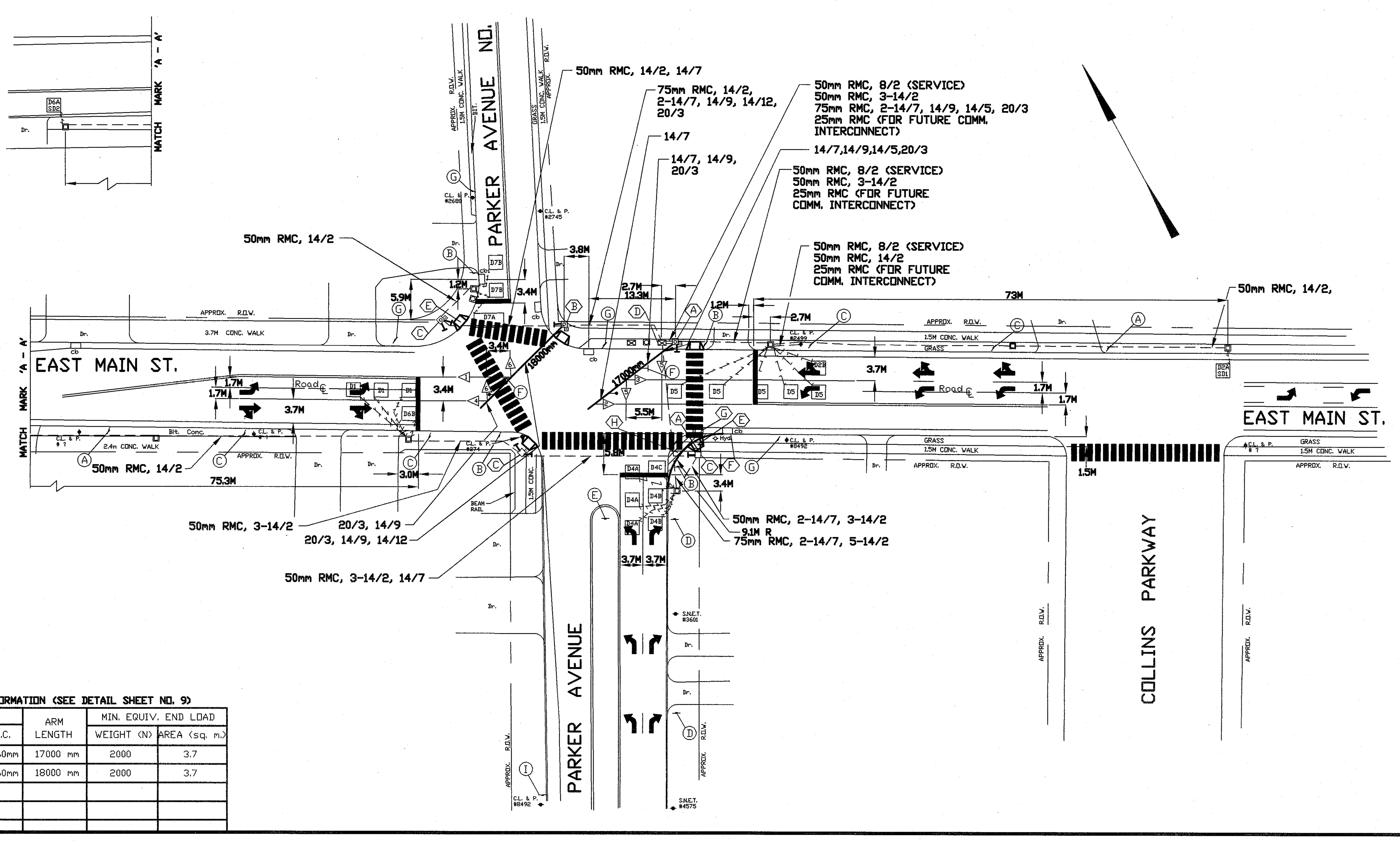
Ⓐ 41-0344 & 31-0630
Ⓑ 41-0345 & 31-1901
Ⓒ 31-0349 & 31-0630
Ⓓ 31-0390 & 31-0630
Ⓔ 31-0526 & 31-0273
Ⓕ 31-0823
Ⓖ 31-0630



NOTES:

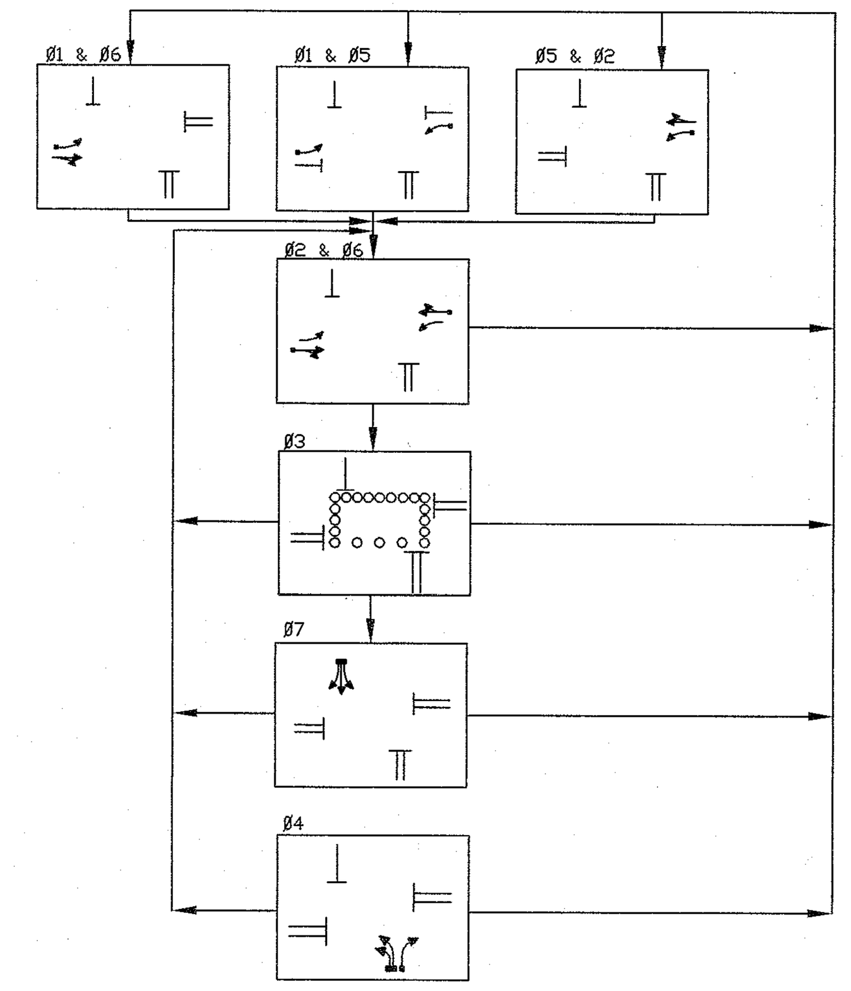
Ⓐ INSTALL 17000mm MAST ARM, FOUNDATION WALK SIGNAL & PED BUTTON AT FRONT EDGE OF WALK.
Ⓑ INSTALL 18000mm MAST ARM, FOUNDATION WALK SIGNAL & PED BUTTON AT BACK OF WALK.
Ⓒ INSTALL WALK SIGNAL, PEDESTAL, PED BUTTON & FOUNDATION.
Ⓓ INSTALL TYPE IV CONTROLLER FOUNDATION, 8 PHASE LMD 8000 CONTROLLER, P-38 CABINET & OPTICON FIRE PRE-EMPTION SYSTEM. CABINET DOOR TO OPEN TO FIELD SIDE.
Ⓔ INSTALL TYPE II SIDEWALK RAMP.
Ⓕ INSTALL TYPE 'C' CATCH BASIN.
Ⓖ CONVERT CATCH BASIN TO MANHOLE.
Ⓗ CROSS HATCHED AREA INDICATES WIDENING.

REV. #	INTERSECTION #



MAST ARM INFORMATION (SEE DETAIL SHEET NO. 9)

TYPE / DETAIL	SHAFT LENGTH	B.C.	ARM LENGTH	MIN. EQUIV. END LOAD WEIGHT (N)	AREA (sq. m.)
Ⓐ	6400mm	560mm	17000 mm	2000	3.7
Ⓑ	6400mm	560mm	18000 mm	2000	3.7

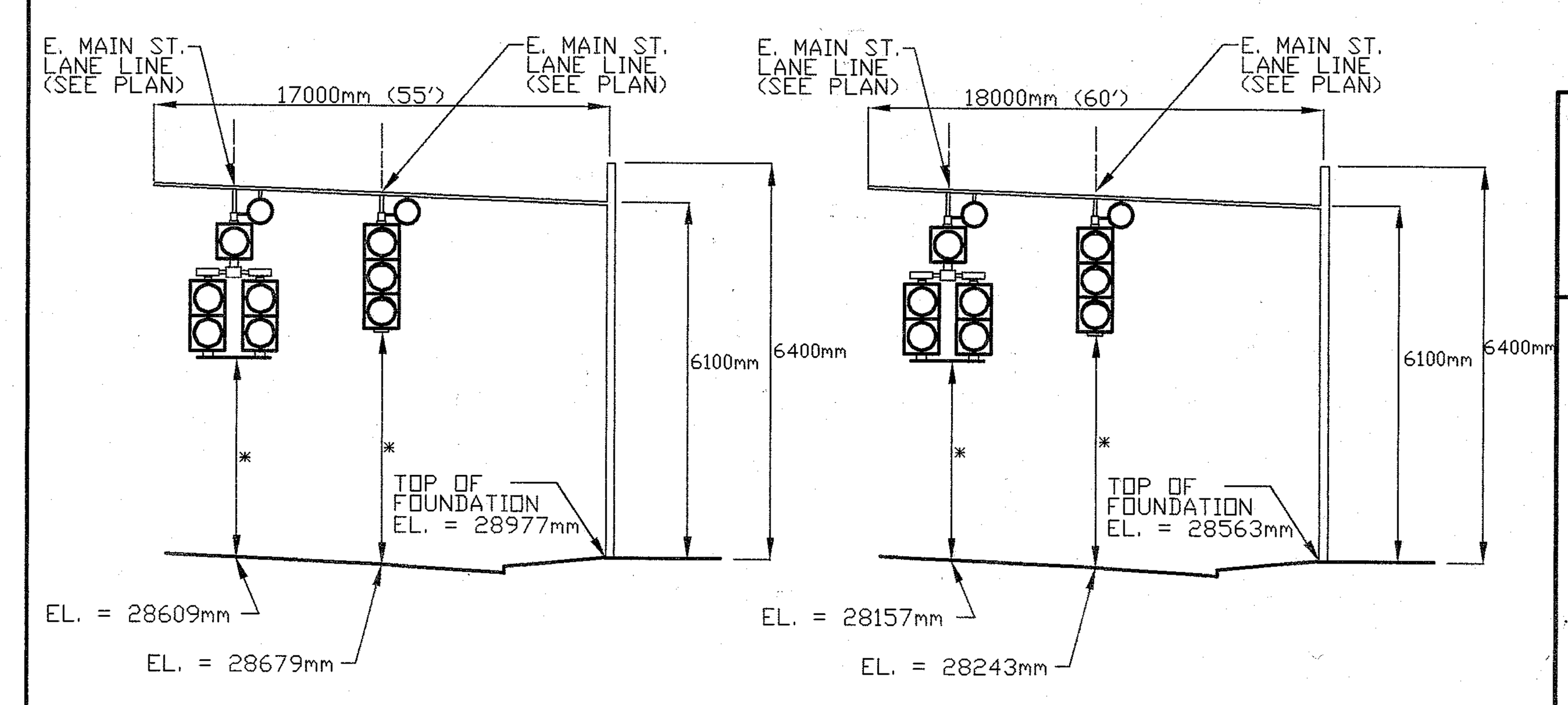


STATE OF CONNECTICUT
DEPT. OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIV. OF TRAFFIC ENGINEERING

TRAFFIC CONTROL SIGNAL LAYOUT

CITY OF MERIDEN
EAST MAIN ST. @ PARKER AVE. NO. & PARKER AVE.

SCALE: 1" = 40'



17000mm EAST MAST ARM DETAIL Ⓐ N.T.S

18000mm WEST MAST ARM DETAIL Ⓑ N.T.S

*DISTANCE BETWEEN ROAD AND SIGNAL HEAD SHALL BE 4.9m TO 5.5m. CROSSECTION IS IN LINE WITH MAST ARM.

CONTRACTOR TO VERIFY MAST ARM INFORMATION PRIOR TO ORDERING MAST ARMS.

EXISTING SIGNS

Ⓘ 41-0344

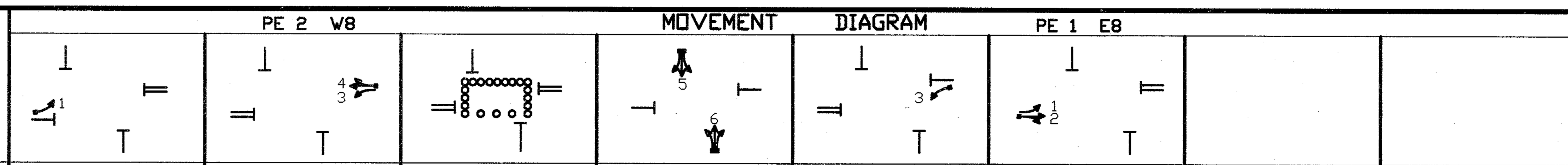
REV. #
INTERSECTION #

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC ENGINEERING

TRAFFIC CONTROL SIGNAL

F.H.W.A. REGION NO	STATE	TOWN	FED. AID PROJ. NO.	PROJ.NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MERIDEN	N/A		1997		1	1

PE 2 W8 — MOVEMENT DIAGRAM — PE 1 E8



N T O R	PHASE 1 ① GRN	CL	CL	PHASE 2 GRN	CL	CL	PHASE 3 GRN	CL	CL	PHASE 4 GRN	CL	CL	PHASE 5 GRN	CL	CL	PHASE 6 ① GRN	CL	CL	PHASE 7 GRN	CL	CL	PHASE 8 GRN	CL	CL	FLASHING OPERATION
FACE # 1	←R	←Y R	R	R	R	R	R	R	R	R	R	R	←R	←Y R	R	G	Y	R							Y
2	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R							Y
3	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R							Y
4	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R							Y
5	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R							R
6	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R							R
P	←			DW →			WØ	←						DW		→									OFF

INTERVALS	PHASE 1			PHASE 2			PHASE 3			PHASE 4			PHASE 5			PHASE 6			PHASE 7	PHASE 8
MIN GRN	4.0			15.0						7.0			4.0			15.0				
WALK							7.0													
PED CLR							8.0													
VEH EXT	2.0			6.0						4.0			2.0			6.0				
MAX 1	8.0			25.0 *3						24.0			8.0			25.0 *3				
MAX 2	10.0			25.0						30.0			10.0			25.0				
YELLOW		3.0			4.0			0.1			4.0			3.0			4.0			
RED			1.0			2.0			0			2.0			1.0			2.0		
ADD INI																				
MAX INT																				
TBR																				
TTR																				
MIN GAP																				
MODE	NON LOCK			RECALL			LOCK			NON LOCK			NON LOCK			RECALL			OFF	OFF
INI START																				

MAINT: 24hr ☒ NORM ☐

ENERGY BY- CITY OF MERIDEN
SERVICE POLE- SNET #3209
OFFICE RECORD

REVISION #1
JOB# SM#
SIGNAL REVISED
ALL NEW EQUIPMENT & IMPROVED CURB RADIUS

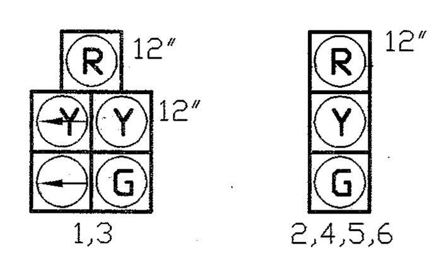
REVISION 3/24/97

INTERSECTION

NORMAL 1.137	kw	730	hr/mo	830	kwh/mo
FLASH	kw		hr/mo		kwh/mo

SIGNAL FACES

	PRE-EMPT 1	PRE-EMPT 2
PRIORITY	YES	NO
DET. LOCK	YES	YES
DELAY	NO	NO
ALT. MIN. GRN.	5	5
ALT. YELLOW	3	3
ALT. RED	1	1
ALT. PED CLEAR	CONTROLLER	SETTING
HOLD GREEN	10	10
HOLD YELLOW	3	3
HOLD RED	1	1
HOLD PHASE	6	2
EXIST. PHASE	2,6	2,6
EXIT CALL	1,2,4,5,6	1,2,4,5,6



DETECTORS IDENT	SIZE	TURNS	MODE
D1	6'x6'	4	PRESENCE
D2	6'x6' *1	4	PRESENCE
D4A	6x9'	3	PRESENCE
D4B	6x14'	3	PRESENCE
D5	6'x6'	4	PRESENCE
D6	6'x6' *1	4	PRESENCE

PROGRAM FUNCTION	TIME	DAYS
FLASH	0000-0600	ALL

COORDINATION CYCLE	OFFSET %/ SEC	YIELD PT %	PERMIS PERIOD	FORCE OFF %			SYSTEM LOC
SAFETY CRT				Ø	Ø	Ø	MASTER

TECHNICAL NOTES

STANARD OVERLAP SKIP FEATURES APPLY
① PHASES 1 & 5 DRIVE ARROW INDICATIONS ONLY
② PHASES 2 & 6 DRIVE G,Y,R INDICATIONS

PHASE 2 ON TO OMIT PHASE 5

PHASE 6 ON TO OMIT PHASE 1

LEGEND

R	RED		CONTROLLER
Y	YELLOW		HANDHOLE
G	GREEN	(RMC)	RIGID METAL CONDUIT
	RED ARROW		STRAIN INSULATOR
	YELLOW ARROW		MAGNETOMETER PROBES
	GREEN ARROW		CABLE CLOSURE
WØ	WALK/FL DW		DET.LEADS IN SAW CUT
DW	DON'T WALK		AUXILIARY TERMINATION CABINET
FL	FLASHING		RADIO ANTENNA
	PROPOSED WOOD SPAN POLE		
	EXISTING WOOD SPAN POLE		
	PROPOSED STEEL SPAN POLE		
	EXISTING STEEL SPAN POLE		
	PROPOSED UTILITY POLE		
	EXISTING UTILITY POLE		
	PEDESTAL MOUNTING		
	PEDESTRIAN PUSH BUTTON AND SIGN		
	TRAFFIC SIGNAL FACE		
	PEDESTRIAN SIGNAL FACE		
	LOOP DETECTOR		
	MAGNETIC DETECTOR		
SD	SYSTEM DETECTOR		

STATE OF CONNECTICUT
DEPT. OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIV. OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL
CITY OF MERIDEN
E. MAIN ST. @ CARPENTER AVE. & PEARL ST.

	TRAFFIC	DATE	ELECTRICAL	DATE
FIELD SURVEY	SK/KM	3/24/97	SK/KM	3/24/97
ENGINEER	SK/KM	3/24/97	SK/KM	3/24/97
DRAFTER	MN/SK	3/24/97	MN/SK	3/24/97
CHECKED BY				
SUBMITTED BY				
APPROVED BY				
DATE				

CONSTRUCTION NOTES

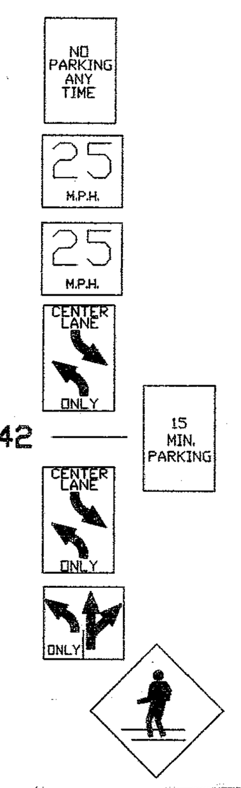
1. Loop Feeder Cable to be run from controller to handhole, or splice box with no splices between.
2. All new foundations to have at least one spare 2" RMC sweep and stub.
3. Controller to be 8-phase LMD 8000 or equal. All load switches to be installed and terminated on back board panel. 12 channel conflict monitor must have communications module. Controller must be compatible with MDM 100 master. Include "D" harness communications harness module for future closed loop system capabilities.
4. All removed City equipment to be returned to City.
5. All pavement markings to be new.
6. Handholes to be equiped with galvanized steel covers.
7. Contractor to remove all conflicting pavement markings.
8. Remove all existing traffic signals and span wire and install all new signals as noted.
9. Existing traffic signal to be kept operating until new signal completed.
10. If the Engineer determines pavement condition is poor in proximity to loop detectors, contractor shall neatly saw-cut pavement, remove pavement, install loop subsurface, then hot pave and seal area.
11. All loop detectors to be installed 8' apart and 3' off edge of road or lane line unless otherwise specified. Splice segmented loops in series.
12. Location of appurtenances are approximate and shall be staked in the field by the Contractor and approved by the Engineer.
13. Handholes shall be type II.
14. All traffic signals and appurtenances shall be new.
15. All unused existing signal equipment and facilities to be properly removed and site left in a safe and clean condition. Area to be restored to condition of adjacent surface.
16. All conduit risers on wood poles to be on off-traffic side of pole unless otherwise specified.
17. Attachments to wood poles and all clearances to conform to NESC and DPUC requirements. No attachments to utility wood poles shall be made without first obtaining the approval of all applicable utility companies.
18. Center crosswalks with ℄ of handicap ramps. Stop bars min. 5' from crosswalks.
19. Corner radius, sidewalks, handicap ramps, improvements & relocation of hydrant by others.

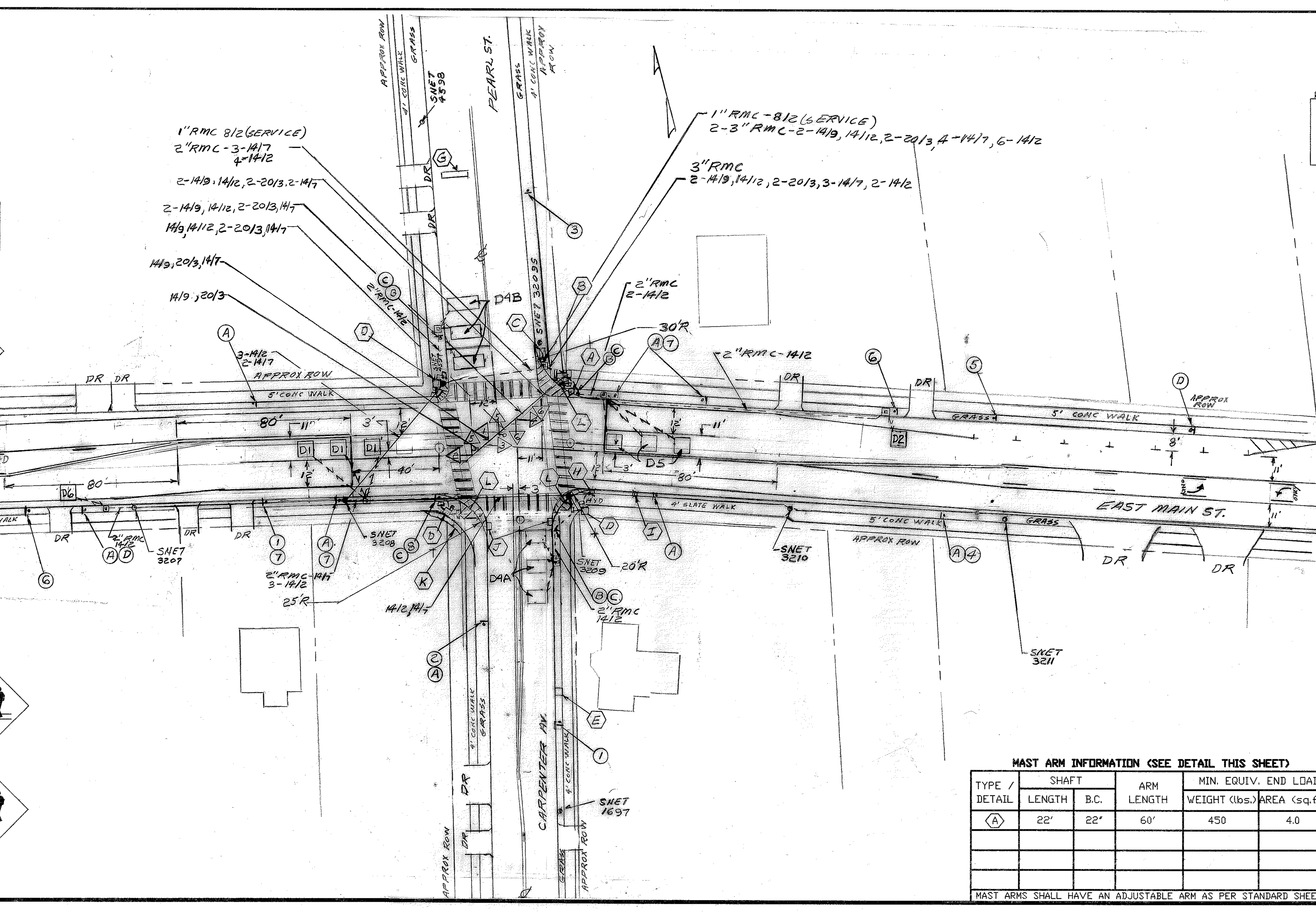
GENERAL NOTES

1. Rate of flash shall be not less than 50 nor more than 60 times per minute.
2. Manual operation shall not unduly interfere with artery traffic.
3. Bottom of signal faces to be not less than 16' nor more than 17' above the highway pavement.

EXISTING SIGNS

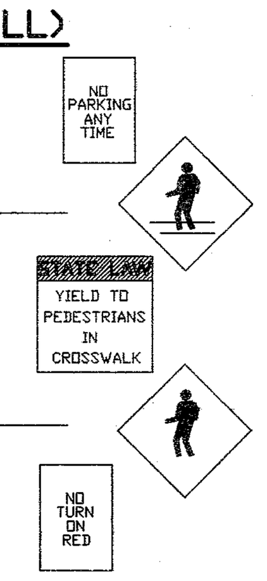
① 31-0630
② 41-0168
③ 41-0298
④ 31-0116 & "BEGIN"
⑤ 31-0630(L) & 31-0642
⑥ 31-06116 & "ENDS"
⑦ 31-0349
⑧ 41-0342



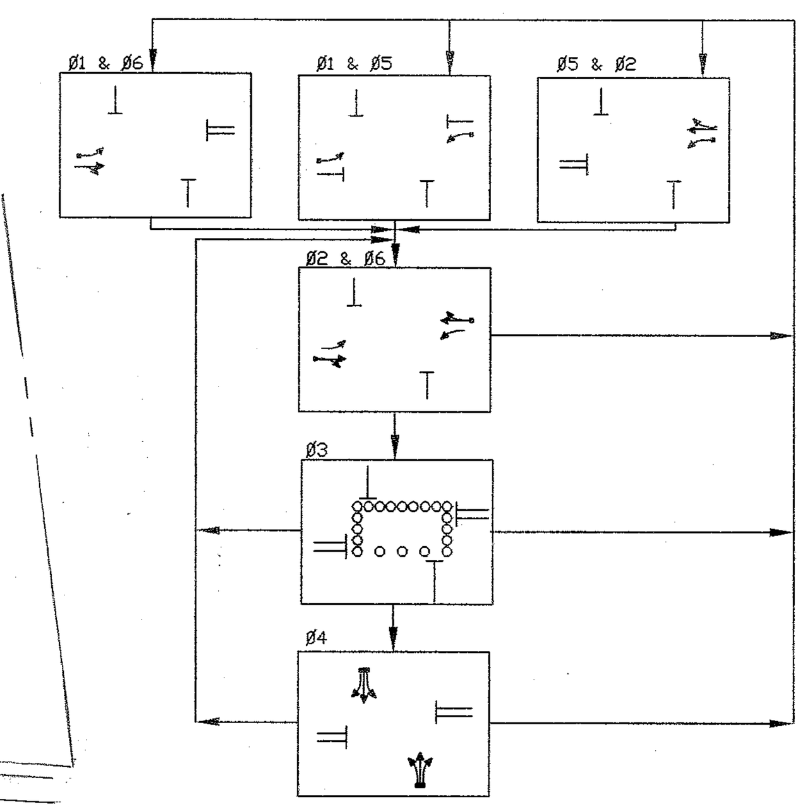


NEW SIGNS (INSTALL)

Ⓐ 31-0630
Ⓑ 41-0342
Ⓒ 31-1901
Ⓓ 41-0411
Ⓔ 31-0823



REV. # | INTERSECTION #

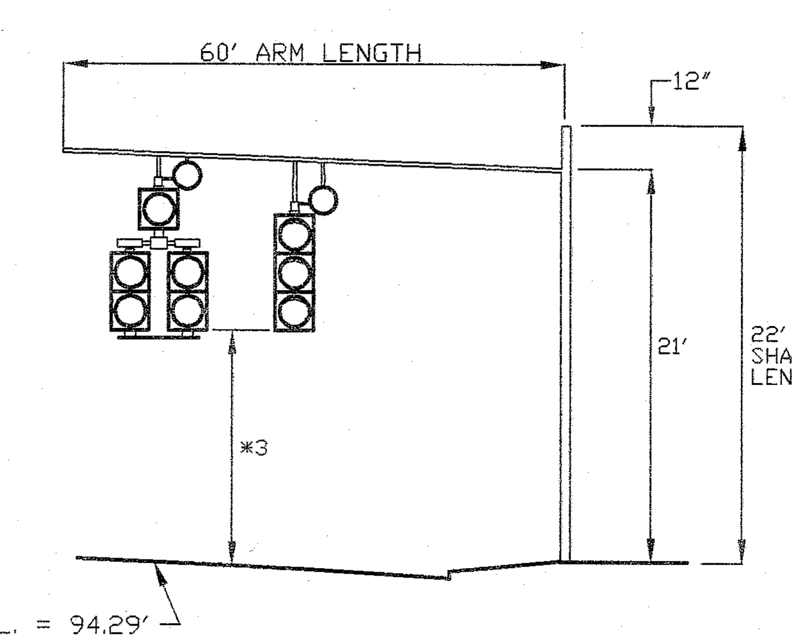


MAST ARM INFORMATION (SEE DETAIL THIS SHEET)

TYPE / DETAIL	SHAFT LENGTH	SHAFT B.C.	ARM LENGTH	MIN. EQUIV. END LOAD WEIGHT (lbs.)	MIN. EQUIV. END LOAD AREA (sq.ft.)
Ⓐ	22'	22"	60'	450	4.0

MAST ARMS SHALL HAVE AN ADJUSTABLE ARM AS PER STANDARD SHEET

STATE OF CONNECTICUT
DEPT. OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIV. OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL LAYOUT
CITY OF MERIDEN
E. MAIN ST. @ CARPENTER AVE. & PEARL ST.
SCALE: 1" = 40'



CONTRACTOR TO VERIFY MAST ARM INFORMATION PRIOR TO ORDERING MAST ARMS. CROSS SECTION IS IN LINE WITH MAST ARM.

NOTES:

Ⓐ REMOVE STEEL POLE.
Ⓑ INSTALL 60' STEEL MAST ARM, FOUNDATION WALK SIGNALS & PED. BUTTON AT BACK OF WALK. ENGINEER TO LOCATE.
Ⓒ INSTALL TYPE IV CONTROLLER FOUNDATION, 8 PHASE LMD 8000 CONTROLLER & OPTICAL FIRE PRE-EMPTION SYSTEM CABINET DOOR TO OPEN TO FIELD SIDE. INCLUDE "D" HARNESS/MODULE, COMMUNICATIONS HARNESS/MODULE.
Ⓓ INSTALL WALK SIGNAL, PEDESTAL, PED BUTTON & FOUNDATION AS NOTED.
Ⓔ REMOVE EXISTING HANDHOLE..
Ⓕ CROSSHATCHED AREA IS WIDENED. INSTALL NEW CONCRETE CURBS, SIDEWALKS & TYPE 3 HANDICAP RAMP AS NOTED. CROSSWALKS TO BE CENTERED WITH HANDICAP RAMPS. RELOCATE FIRE HYD. ON S.W. CORNER.
Ⓖ REMOVE PRESSURE DETECTOR.
Ⓗ APPROX. LOCATION OF RELOCATED SNET POLE #4597
Ⓘ RELOCATED HYD. BY CITY.
Ⓙ REPLACE TYPE "C" C.B. TOP WITH "CL" TYPE
Ⓚ RECONSTRUCT CONC. WALL TO SUIT.

REV. # | INTERSECTION #

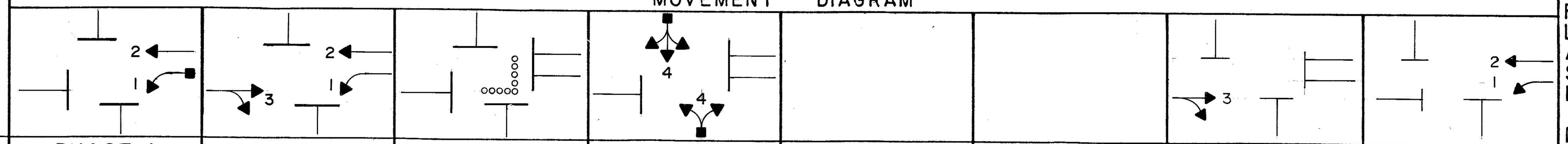
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC ENGINEERING
CITY OF MERIDEN
E. MAIN ST., CARPENTER AVE., PEARL ST.
TRAFFIC CONTROL SIGNAL

FORM TRA-035 REV. 1-88

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MERIDEN	STPN-2413(4)	79-183	1994		57	168

P.E. 1 E.B. FIRE PRE-EMP | P.E. 2 W.B. FIRE PRE-EMP

MOVEMENT DIAGRAM



NONE		PHASE 1			PHASE 2			PHASE 3			PHASE 4			PHASE 5			PHASE 6			PHASE 7			PHASE 8			FLASHING OPERATION
NTOR		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
FACE #	1	← G	←Y G	G	G	Y	R	R	R	R	R	R	R							R	R	R	G	Y	R	FLY
	2	G	G	G	G	Y	R	R	R	R	R	R	R							R	R	R	G	Y	R	FLY
	3	R	R	R	G	Y	R	R	R	R	R	R	R							G	Y	R	R	R	R	FLY
	4	R	R	R	R	R	R	R	R	R	G	Y	R							R	R	R	R	R	R	FLR
	P	←	DW				→	WØ	←		DW		→							←		DW			→	OFF
						←	YIELD																			
	MIN.	4.0	3.0	1.0	9.0	3.0	1.0	7/10	0.1	0	7.0	3.0	1.0													
	MAX.	15.0	5.0	3.0	60.0	5.0	3.0	18/23	0.1	0	40.0	5.0	3.0													

INTERVALS	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
MIN GRN	4.0	20.0		7.0			7	7
WALK			7.0					
PED CLR			12.0					
VEH EXT	3.0	5.0		4.0				
MAX 1	9.0	25.0		20.0			*	*
MAX 2	14.0	25.0		20.0				
YELLOW	3.0	4.0	0.1	3.0			3.0	3.0
RED	0.1	2.0	0	1.0			2.0	2.0
ADD INI								
MAX INT								
TBR								
TTR								
MIN GAP								
MODE	NON - LOCK	MAX. RECALL	NON - LOCK	NON - LOCK	OFF	OFF		
INI START		THIS PHASE						

MAINT: 24 hr ☒ Norm ☐

DETECTORS				PROGRAM		
IDENT	SIZE	TURNS	MODE	FUNCTION	TIME	DAYS
D1	6x6	3	PRESENCE	MAX. 1	All Other Times	
D4A	6x11	3	PRESENCE	MAX. 2	1500 - 1800	M - F
D4B	6x6	3	PRESENCE	CYCLE 1	All Others	M - F
D4C	6x13	3	PRESENCE	CYCLE 2	0900 - 1100	M - F
				CYCLE 3	1500 - 1800	M - F
				FREE UP	FUTURE	
				FLASH	2300 - 0600	ALL

COORDINATION						
CYCLE SAFETY CRT	OFFSET %/SEC	YIELD PT %	PERMIS PERIOD	FORCE OFF % Ø	Ø	Ø

SYSTEM LOC	TECHNICAL NOTES
MASTER 79-234	STANDARD OVERLAP SKIP FEATURES APPLY
79-905	* TIME FOR VEH. TO CLEAR INT. WITH 120 SEC. MAX.
79-907	PHASE 2 TO FOLLOW PHASE 7 & PHASE 8. THIS
79-233	LOCATION IS PART OF THE EAST MAIN ST. HARDWIRE
79-908	CLOSED LOOP SYSTEM. ACTUAL CYCLE LENGTH,
79-906	SPLIT & OFFSET TO BE DETERMINED BY MASTER
	COMPUTER. INTERVALS SHOWN REFLECT OFF LINE
	TIMING.
	PHASE 2 ON TO OMIT PHASE 1

ENERGY BY - CITY OF MERIDEN
SERVICE POLE - SNET # 3222

OFFICE RECORD

JOB # SM #
Signal Revised
Signal Revised Under State Project 79-183, Complete new Signal except Steel Pole & Control Foundation. Also Interconnected to the East Main St. Signals.

REVISION # 2 · 10/95
INTERVALS

INTERSECTION # 79-905					
NORMAL .659	kW 520	hr/mo	343	kWh/mo
FLASH .251	kW 210	hr/mo	53	kWh/mo

	PRE-EMPT 1	PRE-EMPT 2
PRIORITY	NO	NO
DET. LOCK	YES	YES
DELAY	NO	NO
ALT. MIN. GRN.	5	5
ALT. YELLOW	3	3
ALT. RED	1	1
ALT. PED. CLR.	CONTROLLER	SETTING
HOLD GREEN	10	10
HOLD YELLOW	3	3
HOLD RED	1	1
HOLD PHASE	7	1
EXIT PHASE	2	2
EXIT CALL	1,2,4	1,2,4

SIGNAL FACES

1	2,3,4
R 12"; ←Y Y 12"; ← G	R Y G 12"

TOWN SIGNAL

LEGEND

R RED	CONTROLLER
Y YELLOW	HANDHOLE
G GREEN	(RMC) RIGID METAL CONDUIT
RED ARROW	STRAIN INSULATOR
YELLOW ARROW	MAGNETOMETER PROBES
GREEN ARROW	CABLE CLOSURE
WØ WALK/FL DW	DET. LEADS IN SAW CUT
DW DON'T WALK	AUXILIARY TERMINATION CABINET
FL FLASHING	RADIO ANTENNA
○ PROPOSED WOOD SPAN POLE	EXISTING HH
● EXISTING WOOD SPAN POLE	OPTICAL DETECTOR
PROPOSED STEEL SPAN POLE	
EXISTING STEEL SPAN POLE	
PROPOSED UTILITY POLE	
EXISTING UTILITY POLE	
PEDESTAL MOUNTING	
PEDESTRIAN PUSH BUTTON AND SIGN	
TRAFFIC SIGNAL FACE	
PEDESTRIAN SIGNAL FACE	
LOOP DETECTOR	
MAGNETIC DETECTOR	
SD SYSTEM DETECTOR	

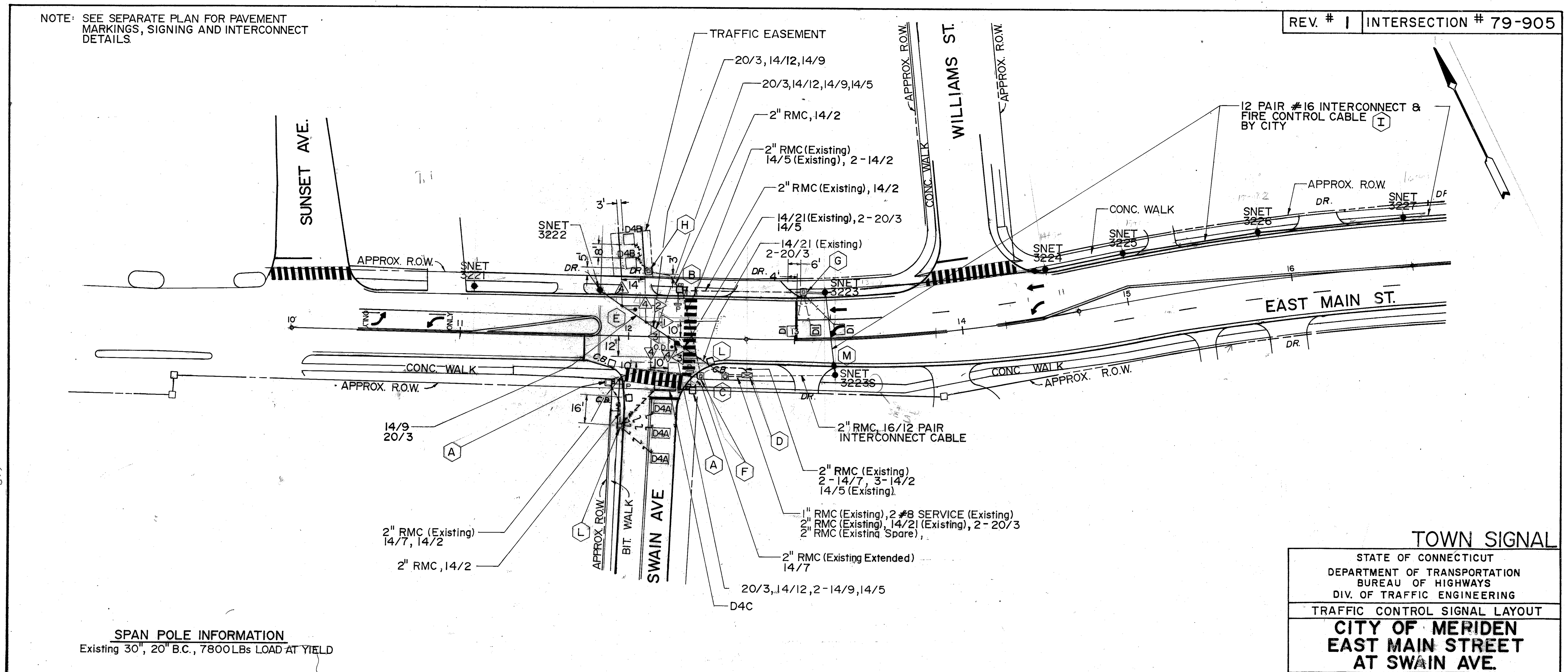
STATE OF CONNECTICUT
DEPT. OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIV. OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL

CITY OF MERIDEN
EAST MAIN STREET
AT SWAIN AVE.

	TRAFFIC	DATE	ELECTRICAL	DATE
FIELD SURVEY	SK	6/22/93	SK / KM	6/22/93
ENGINEER	SK / KM	6/22/93	SK / KM	6/22/93
DRAFTER	JH / MN			
CHECKED BY	SK		KM	6/24/93
SUBMITTED BY				
APPROVED BY				
DATE				

REV. # 1 | INTERSECTION # 79-905

NOTE: SEE SEPARATE PLAN FOR PAVEMENT MARKINGS, SIGNING AND INTERCONNECT DETAILS.



SPAN POLE INFORMATION
Existing 30", 20" B.C., 7800 LBs LOAD AT YIELD

TOWN SIGNAL

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIV. OF TRAFFIC ENGINEERING
TRAFFIC CONTROL SIGNAL LAYOUT

CITY OF MERIDEN
EAST MAIN STREET
AT SWAIN AVE.

SCALE: 1" = 40'

CONSTRUCTION NOTES

1. Loop feeder cable to be run from controller to handhole, or splice box with no splices between.
2. All new foundations to have at least one spare 2" RMC sweep and stub.
3. Controller to be 8-phase LMD 8000 or equal. All load switches to be installed and terminated on back board panel. 12 channel conflict monitor must have communication module. Controller must be compatible with MDM 100 master.
4. All removed City equipment to be returned to City. All removed State equipment to be returned to State.
5. All pavement markings to be thermoplastic.
6. Handholes to be equipped with galvanized steel covers.
7. Contractor to remove all conflicting pavement markings.
8. Remove all existing traffic signals and install all new signals as noted.
9. Attachments to poles and all clearances to conform to NESC and DPUC requirements. No attachments to utility wood poles shall be made without first obtaining the approval of all applicable utility companies.
10. If the Engineer determines pavement condition is poor in proximity to loop detectors, contractor shall neatly saw-cut pavement, remove pavement, install loop subsurface, then hot pave and seal area.
11. All loop detectors to be installed 8' apart and 3' off edge of road or lane line unless otherwise specified. Splice segmented loops in series.
12. Reserved.
13. Location of handholes are approximate and shall be staked in the field by the Contractor and verified by the Engineer.
14. Handholes shall be Type II.
15. Reserved.
16. All unused existing signals, equipment and facilities to be properly removed and site left in a safe and clean condition.
17. All conduit risers on wood poles to be on off-traffic side of pole unless otherwise specified.
18. The Contractor or his agent shall monitor traffic volumes for a minimum of 1 year and optimize the traffic operations based on a closed loop system and provide documentation and training of the system and controllers.

NOTES:

A. Existing walk signal, pedestal, ped button and foundation.
B. Existing walk signal, pedestal, ped button and foundation to remain at present location.
C. Existing 30' steel pole and foundation to remain.
D. Install new 8-phase LMD 8000 or equal controller, optical fire pre-emption system and cabinet on existing foundation. Door to open to the field side.
E. Relocate existing span to new SNET 3222 location.
F. Location of existing handhole.
G. Relocate existing handhole and extend 2" RMC to new location. Locate closest conduit coupling west of new handhole and extend new conduit from this point. New location centered in grass strip.
H. Install new handhole at approximate location shown.
I. Twelve (12) pair #16 IMSA 40-4-1984 interconnect cable (self supporting), by City to all signalized intersections in project limits. (IMSA 40-2-1984 cable in conduit). Fire control by City shall utilize spare conductors. Cable along East Main Street by City. Runs from cable closure or manhole to controller by Contractor.
J. Reserved.
K. The Contractor may, without additional cost to the City, install new signal cable and span wire, rather than utilizing existing facilities.
L. Install handhole at location shown centered in grass strip.
M. Cable closure type "A" for interconnect cable by City.

DONE

GENERAL NOTES:

1. Rate of flash shall be not less than 50 nor more than 60 times per minute.
2. Manual operation shall not unduly interfere with artery traffic.
3. Bottom of signal faces to be not less than 16' nor more than 17' above the highway pavement.

REV. # 1 | INTERSECTION # 79-905

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC ENGINEERING

EAST MAIN STREET
TRAFFIC CONTROL SIGNAL
AT SWAIN AVENUE

B024-43 Option A (Daytime Work) rev. 1

For: Pavement Rehabilitation Project
East Main Street (280 ft. west of Parker Ave to I91 Bridge)

For: ENGINEERING DIVISION, DPW

Date of Opening: March 5, 2024
11:00 AM, Prevailing Local Time

To: Rawle Dummett
Purchasing Officer
142 East Main Street, Room 210
Meriden, CT 06450-8022

The undersigned, _____doing business in the City/Town

of _____ in the State of _____, submits herewith, in conformity with the general instructions, conditions and specifications for the following:

(B024-43 East Main Street Pavement Rehabilitation)

ITEM	Approx. Qty & Unit Measure	Item Description With Unit of Measure, Written In Words:	Unit Price Dollars & Cents	Extended Total Dollars & Cents
1	1 Lump Sum	Maintenance and Protection of Traffic: _____ _____	$_____	$_____
2	3,765 Ton	Hot Mix Asphalt (HMA) Class 2: _____ _____	$_____	$_____
3	32,737 S.Y.	Milling of Existing Bituminous Pavement: _____ _____	$_____	$_____
4	2,292 Gal.	Non-tracking Asphalt Tack Coat _____ _____	$_____	$_____
5	360 Hr.	Trafficperson (Uniform Flagger): _____ _____	$_____	$_____
6	1 Lump Sum	Epoxy Resin Pavement Marking: _____ _____	$_____	$_____
7	1 Lump Sum	Temporary Pavement Marking _____ _____	$_____	$_____
8	Lump Sum.	Adjust Utility gate Boxes and Manhole Frames _____ _____	$_____	$_____

9	1,600 L.F.	Wire Loop Detector _____ _____	$_____	$_____

B024-43 Option A (Daytime Work) rev. 1

Receipt of Addenda is Acknowledged:
No.:_____ Dated:_____
No.:_____ Dated:_____

Name of Bidder:_____

Address:_____

City/State:_____ Zip Code _____

By:_____
(Please print or type) Title

Is your Company Minority-Owned? Yes - If Yes, what type: _____ No:_____

Signature:_____

Dated:_____ Telephone:_____ Fax:_____ E-mail:_____

PLEASE NOTE: All spaces must be filled in with figures or words or your bid may be automatically rejected. Attached your Certified Check or Bid Bond, the Non-Collusive Bid Statement and the Bidder's Qualifications.