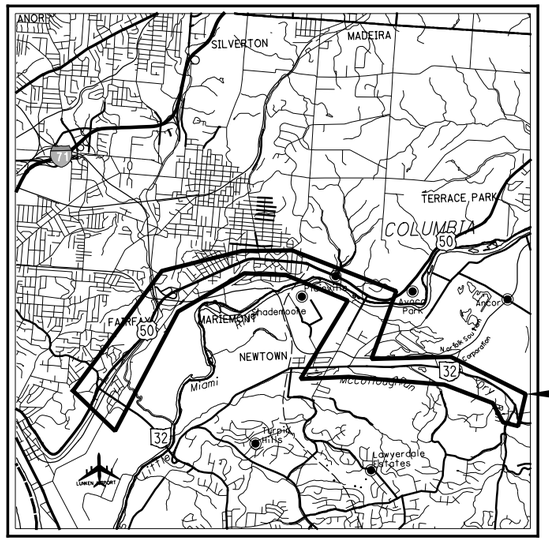


LOCATION MAP

SEE SHEET 8 FOR SIGNING PROJECT LOCATIONS

SEE SHEET 31 FOR SIGNAL PROJECT LOCATIONS

SCALE IN MILES

0 1 2 3 4

N

INTERSTATE HIGHWAY _____

FEDERAL ROUTES _____

STATE ROUTES _____

COUNTY & TOWNSHIP ROADS _____

OTHER ROADS _____

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS
BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
(Non-members must be called directly)

Call Before You Dig
1-800-362-2764

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

EGGEMAN ENGINEERING & CONSULTING

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

HAM-EASTERN CORRIDOR TSG

VARIOUS LOCATIONS

HAMILTON COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

THE PROJECT WILL INCLUDE LOW COST IMPROVEMENTS TO ENHANCE TRAFFIC CIRCULATION AND FLOW WITHIN THE EASTERN CORRIDOR SEGMENT II/III STUDY AREA. THE PROJECT WILL INCLUDE TRAFFIC SIGNING AND TRAFFIC SIGNAL UPGRADES AT VARIOUS LOCATIONS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.1 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES (MAINTENANCE PROJECT)

2019 SPECIFICATIONS

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

ENGINEERS SEAL

STATE OF OHIO * PROFESSIONAL ENGINEER * REGISTERED
Mark J. Hunter 56376

SIGNED: Mark J Hunter

DATE: 7/20/2021

STANDARD CONSTRUCTION DRAWINGS

						SUPPLEMENTAL SPECIFICATIONS	
HL-10.11	1-15-21	TC-41.50	10-18-13	RM-4.4	7-19-19	800	7-16-21
HL-10.13	4-17-20	TC-42.10	10-18-13			809	7-16-21
HL-20.11	1-15-21	TC-42.20	10-18-13				
		TC-51.11	1-15-16			821	4-20-12
TC-12.31	7-16-21	TC-51.12	1-15-16	MT-95.40	1-17-20	824	1-18-19
TC-16.22	7-16-21	TC-52.10	10-18-13	MT-101.70	1-17-20	906	10-15-10
TC-21.21	7-16-21	TC-52.20	1-15-21			909	7-16-21
TC-21.50	4-17-20	TC-71.10	7-16-21			921	4-20-12
TC-22.20	1-17-14						
TC-41.10	7-19-13						
TC-41.20	10-18-13						
TC-41.30	10-18-13						
TC-41.40	10-18-13						

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT 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 _____

DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____

DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. **E(200)594**

PID NO. **112171**

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT **NONE**

HAM-EASTERN CORRIDOR TSG

C:\EEC\Projects\Eastern-Corridor(Stantec)\Eastern_Corridor(2020)\Low-Cost-Bundle\CADD\Roadway\Sheets\01-86462_GT001.dgn Sheet 1/4/2022 7:31:55 AM User

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER WITH 72-HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

ITEM 809 HIGH SPEED ETHERNET RADIO

THE CONTRACTOR SHALL FURNISH AND INSTALL A HIGH SPEED ETHERNET RADIO SYSTEM IN CONFORMANCE WITH SS 809 AND SS 909. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING A SYSTEM WHICH IS FULLY RELIABLE AND CONFORMS WITH ALL MANUFACTURER'S RECOMMENDATIONS. THIS SYSTEM IS INCLUSIVE OF ANTENNAS, CABLING, AND ANY REPEATER STATIONS, PARTICULARLY AT LOCATIONS WHICH DO NOT HAVE DIRECT LINE OF SIGHT. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO ACHIEVE OPTIMAL PLACEMENT OF ANTENNAS AND RADIOS.

HIGH SPEED ETHERNET RADIOS SHALL BE USED TO REPLACE THE EXISTING MODEM COMMUNICATION AT ODOT TRAFFIC SIGNALS. THE CONTRACTOR SHALL ENSURE THAT THE MODEM AT THE MASTER LOCATION (US 50 AT NEWTOWN RD) IS PROPERLY COMMUNICATING THE SYSTEM INFORMATION TO ODOT'S CENTRACS CENTRAL MONITOR. ONCE THE COMMUNICATION SYSTEM IS TESTED AND ACCEPTED, THE EXISTING MODEMS WHICH ARE NOT DESIGNATED FOR REUSE SHALL BE RETURNED TO ODOT.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR 809 HIGH SPEED ETHERNET RADIO FOR EACH INTERSECTION WHERE RADIOS ARE PROVIDED. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE RELIABLE COMMUNICATIONS, FULLY TESTED, AND ACCEPTED BY THE PROJECT ENGINEER.

ITEM 633 - CONTROLLER ITEM, MISC.: CONTROLLER SETTING ADJUSTMENTS

THE EXISTING CONTROLLER SETTINGS SHOWN IN THE PLAN ARE BASED ON EXISTING RECORD PLAN INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY ALL TRAFFIC SIGNAL CONTROLLER LOCAL SETTINGS, AND ADJUST THE SETTINGS IF NECESSARY TO MATCH WHAT IS SHOWN IN THIS PLAN.

THE CONTRACTOR SHALL ALSO PROVIDE AN "AS-BUILT" PLANS TO EACH MAINTAINING AGENCY LISTED ON SHEET 32. AT MINIMUM, THE AS-BUILT PLAN SET SHALL NOTE ACTUAL DETECTION ZONES AND THE DETECTOR UNIT NUMBER AND CHANNEL THAT EACH DETECTION ZONE IS CONNECTED TO. IN ADDITION, THE CONTRACTOR SHALL NOTE SPECIAL FUNCTIONS (E.G., DETECTOR DELAY, DUAL ENTRY, DETECTOR SWITCHING, ETC.), IF DIFFERENT FROM WHAT IS SHOWN IN THE PLANS. THE AS-BUILT PLAN SET MAY BE HAND-MARKED CHANGES TO THE RECORD DESIGN PLANS, AS LONG AS ALL MARKINGS ARE CLEARLY LEGIBLE, AND THE ENGINEER ACCEPTS THE APPEARANCE AND ACCURACY OF THE AS-BUILT DRAWINGS.

AS PART OF THIS ITEM, OVERLAPS SHALL BE IDENTIFIED AS EITHER HARD WIRED INTO A PARENT PHASE, OR DRIVEN VIA LOAD SWITCH AND CONTROLLER SOFTWARE. THIS INFORMATION SHALL BE INCLUDED IN THE AS-BUILT DRAWINGS.

AT EACH LOCATION, THE CONTRACTOR SHALL CHECK THE CONTROLLER SETTINGS TO CONFIRM THAT THE CONTROLLER DOES NOT BACK UP FROM $\phi 2+\phi 6$ DIRECTLY TO $\phi 1$ OR $\phi 5$. IF THE YELLOW TRAP PROTECTION IS NOT ENABLED, THE CONTRACTOR SHALL PROGRAM DETECTOR SWITCHING: "DURING $\phi 2+\phi 6$ A CALL TO $\phi 1$ OR $\phi 5$ SHALL ALSO CAUSE A CALL TO $\phi 4+\phi 8$" OR OTHER PROTECTION AS APPROVED BY THE ENGINEER.

PAYMENT FOR THIS ITEM WILL BE ON A LUMP SUM BASIS, WHICH SHALL INCLUDE PROVIDING ALL MATERIALS, LABOR, POSTAGE, AND INCIDENTALS AS NECESSARY TO CONFIRM/UPDATE LOCAL CONTROLLER SETTINGS, AND PROVIDE/ DELIVER A RECORD SET OF DRAWINGS TO EACH MAINTAINING AGENCY.

809 ADVANCE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.

2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.

3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.

4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.

5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.

6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).

7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.

9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

809 STOP LINE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.

2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.

3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.

4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.

5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.

6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).

7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.

9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 STOP-LINE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
GENERAL NOTES

HAM-EASTERN
CORRIDOR TSG

SHEET NUMBER											PARTICIPATION			ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
						9	10	11	12	32	01/SAF/OT-LARGE URBAN	02/SAF/OT-NHS ROUTES						
																	ROADWAY	
											LUMP		201	11000	LUMP		CLEARING AND GRUBBING	
																	TRAFFIC CONTROL	
								1			1		625	10480	1	EACH	LIGHT POLE, DECORATIVE	
								1			1		625	14500	1	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP	
								2	1		3		625	32000	3	EACH	GROUND ROD	
							274	102			376		630	03100	376	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
									27.6			27.6	630	06400	27.6	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	
									331.7		331.7		630	07600	331.7	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
							2				2		630	08600	2	EACH	SIGN POST REFLECTOR	
									14		12	2	630	09000	14	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
									4		4		630	09001	4	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION, AS PER PLAN	3
									1		1		630	72320	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 6	
								1			1		630	72550	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 13	
							6	1	1		3	5	630	79500	8	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
							211.7	87			245.2	53.5	630	80100	298.7	SF	SIGN, FLAT SHEET	
									644		580	64	630	80200	644	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
									98		98		630	80224	98	SF	SIGN, OVERHEAD EXTRUSHEET	
									1		1		630	84011	1	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50, AS PER PLAN	3
									18		16	2	630	84500	18	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
								1			1		630	84510	1	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
							21	13	3		37		630	84900	37	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
							1				1		630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
							15	10			25		630	86002	25	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
									2		2		630	86102	2	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
							7	2			6	3	630	87500	9	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
								1			1		630	97700	1	EACH	SIGNING, MISC: SIGNAL AHEAD (W3-3) SIGN WITH FLASHING BEACONS	3
									2		2		630	97700	2	EACH	SIGNING, MISC.: REPOSITION EXISTING SIGNS ON BEAM	3
						0.05					0.05		644	00100	0.05	MILE	EDGE LINE, 4"	
						0.03					0.03		644	00200	0.03	MILE	LANE LINE, 4"	
										0.01	0.01		644	00300	0.01	MILE	CENTER LINE	
						170				36	206		644	00400	206	FT	CHANNELIZING LINE, 8"	
										25	25		644	00500	25	FT	STOP LINE	
										80	80		644	00620	80	FT	CROSSWALK LINE, 12"	
						115					115		644	00700	115	FT	TRANSVERSE/DIAGONAL LINE	
						50					50		644	00900	50	SF	ISLAND MARKING	
						6				1	7		644	01300	7	EACH	LANE ARROW	
						3					3		644	01410	3	EACH	WORD ON PAVEMENT, 96"	
						93					93		644	01500	93	FT	DOTTED LINE, 4"	
						850					850		644	01514	850	FT	DOTTED LINE, 8"	
						850				12	862		644	30000	862	FT	REMOVAL OF PAVEMENT MARKING	
																	TRAFFIC SIGNALS	
										LS	LS		633	99300	LS		CONTROLLER ITEM, MISC.: CONTROLLER SETTING ADJUSTMENTS	5
										4	4		809	64500	4	EACH	HIGH-SPEED ETHERNET RADIO	5
										8	8		809	69001	8	EACH	ADVANCE DETECTION, AS PER PLAN	5
										1	1		809	69101	1	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	5
											LS		824	00011	LS		SYSTEM ANALYSIS, AS PER PLAN	6
																	INCIDENTALS	
											LS		614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	2
											LS		624	10000	LS		MOBILIZATION	

CALCULATED MJH CHECKED KAE

GENERAL SUMMARY

HAM-EASTERN CORRIDOR TSG

SHEET NO.	SYSTEM NUMBER	LOCATION	MAINTAINING AGENCY	SIDE	633	644						809		815						
						CONTROLLER ITEM, MISC.: CONTROLLER SETTING ADJUSTMENTS	CENTER LINE, DOUBLE SOLID YELLOW	CHANNELIZING LINE, 8"	STOP LINE	CROSSWALK LINE	LANE ARROW	REMOVAL OF PAVEMENT MARKING	ADVANCE RADAR DETECTION, AS PER PLAN	STOP LINE RADAR DETECTION, AS PER PLAN	HIGH-SPEED ETHERNET RADIO					
						LUMP	MILE	FT	FT	FT	FT	FT	EACH	EACH	EACH					
5	ALL	GENERAL NOTES				LUMP														
34	1	SR 32 AT CHURCH ST	VILLAGE OF NEWTOWN					36	12			12								
36	1	SR 32 AT ROUND BOTTOM											2							
38	1	SR 32 AT IVY HILLS PL					0.01			80										
40	1	SR 32 AT LITTLE DRY RUN																		
42	1	VALLEY AT CHURCH ST									1		2	1						
44	1	VALLEY AT ROUND BOTTOM											2							
46	2	RED BANK AT COLBANK	VILLAGE OF FAIRFAX						13				2							
48	2	RED BANK AT WOOSTER																		
50	3	US 50 AT WOOSTER PK																		
52	3	US 50 AT WATTERSON																		
54	4	US 50 AT MAD/MIAMI	VILLAGE OF MARIEMONT																	
55	4	US 50 AT MIAMI	VILLAGE OF MARIEMONT																	
57	4	US 50 AT POCHAHONTIS	ODOT																	
59	4	US 50 AT MAR. PLAZA													1					
61	4	US 50 AT SPRING HILL													1					
63	4	US 50 AT WALTON CREEK													1					
65	4	US 50 AT NEWTOWN RD													1					
TOTALS CARRIED TO GENERAL SUMMARY						LUMP	0.01	36	25	80	1	12	8	1	4					

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL SUBSIMMARY

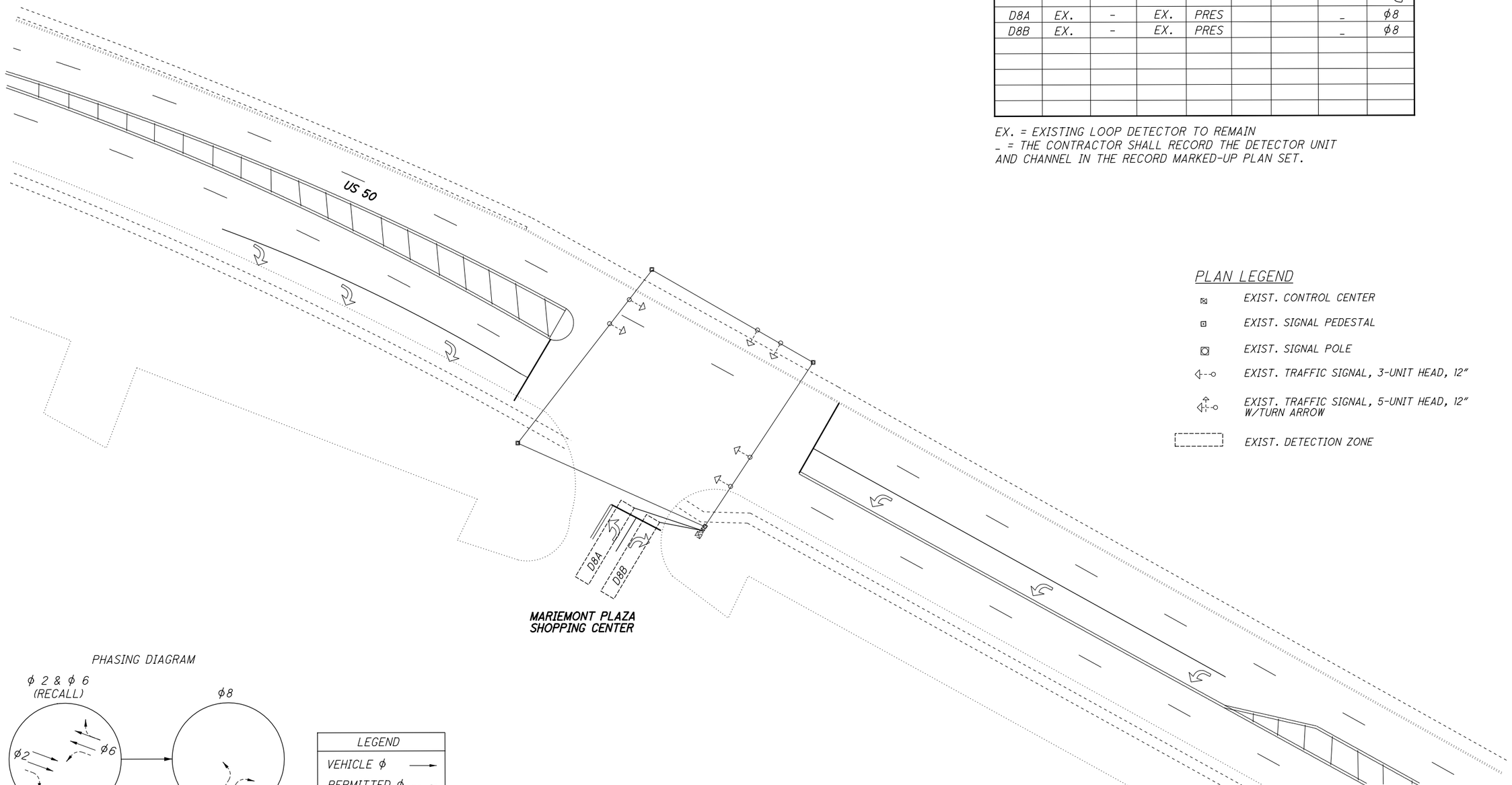
HAM-EASTERN CORRIDOR TSG

32
65

WORK ON THIS SHEET:
1) INSTALL HIGH-SPEED ETHERNET RADIO COMMUNICATIONS.

DETECTION ZONES								
DETECTOR DESIGNATION	LOOP CONFIGURATION	RADAR UNIT	SIZE (FEET)	PULSE OR PRESENCE	DELAY (SEC.)	INHIBIT DELAY DURING PHASE	CONNECT TO DETECTOR UNIT (UNIT-CHANNEL)	ASSOCIATED CONTROLLER PHASE
D8A	EX.	-	EX.	PRES			_	ϕ8
D8B	EX.	-	EX.	PRES			_	ϕ8

EX. = EXISTING LOOP DETECTOR TO REMAIN
_ = THE CONTRACTOR SHALL RECORD THE DETECTOR UNIT AND CHANNEL IN THE RECORD MARKED-UP PLAN SET.



PLAN LEGEND

- EXIST. CONTROL CENTER
- EXIST. SIGNAL PEDESTAL
- EXIST. SIGNAL POLE
- EXIST. TRAFFIC SIGNAL, 3-UNIT HEAD, 12"
- EXIST. TRAFFIC SIGNAL, 5-UNIT HEAD, 12" W/TURN ARROW
- EXIST. DETECTION ZONE

PHASING DIAGRAM

LEGEND	
VEHICLE ϕ	→
PERMITTED ϕ	⇢
PED ϕ	←→

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT MARIEMONT PLAZA

HAM-EASTERN CORRIDOR TSG

58
65

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ITEM	QUANTITY	UNIT	ITEM DESCRIPTION
809	1	EACH	HIGH-SPEED ETHERNET RADIO

TOD - COORDINATION TIMING PLANS				
DAY OF WEEK	PLAN NAME	HOURS	PLAN NUMBER	CYCLE LENGTH
1,7	OVERNIGHT	000-0900	-	FREE
1,7	WEEKEND	0900-1900	-	FREE
1,7	OVERNIGHT	01900-0000	-	FREE
2,3,4,5,6	OVERNIGHT	0000-0600	-	FREE
2,3,4,5,6	AM	0600-0930	1	120
2,3,4,5,6	MID	0930-1400	2	100
2,3,4,5,6	PM	1400-1900	3	120
2,3,4,5,6	OVERNIGHT	1900-0000	-	FREE

TOD = TIME OF DAY COORDINATION

START-UP START IN: ALL RED TIME FOR FLASH: 6 SEC FIRST PHASE : 2,6 COLOR DISPLAYED: GREEN		DUAL ENTRY: PHASE 2 AND PHASE 6 REST IN RED: NO							
		OVERLAP				A	B	C	D
		PHASES				-	-	-	-
INTERVAL OR FEATURE		PHASE							
INTERSECTION MOVEMENT		1	2	3	4	5	6	7	8
DIRECTION		-	EB	-	-	-	WB	-	NB
MIN GREEN (INITIAL)		-	20	-	-	-	20	-	10
ADD INITIAL	*(SEC/ACTUATION)	-	-	-	-	-	-	-	-
MAX INITIAL	*(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	-	-	-	-	-	-	-	3.0
TIME BEFORE REDUCTION	*(SEC)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC)	-	60	-	-	-	60	-	45
MAXIMUM GREEN II	(SEC)	-	75	-	-	-	75	-	60
YELLOW CHANGE	(SEC)	-	4.5	-	-	-	4.5	-	3.0
ALL RED CLEARANCE	(SEC)	-	1.0	-	-	-	1.0	-	1.5
WALK	(SEC)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEAR	(SEC)	-	-	-	-	-	-	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	ON	-	-	-	ON	-	-
	PED (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

* VOLUME DENSITY CONTROLS

COORDINATION SPLITS (G+Y+AR) IN SECONDS										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1 (SEC)	OFFSET 2 (SEC)
DIRECTION	-	EB	-	-	-	WB	-	SB		
PLAN NO.	SPLITS (G+Y+AR) SECONDS									
1		95				95		25	51	-
2		75				75		25	4	-
3		95				95		25	14	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT MARIEMONT PLAZA

HAM-EASTERN CORRIDOR TSG

59
65

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WORK ON THIS SHEET:
1) INSTALL HIGH-SPEED ETHERNET RADIO COMMUNICATIONS.

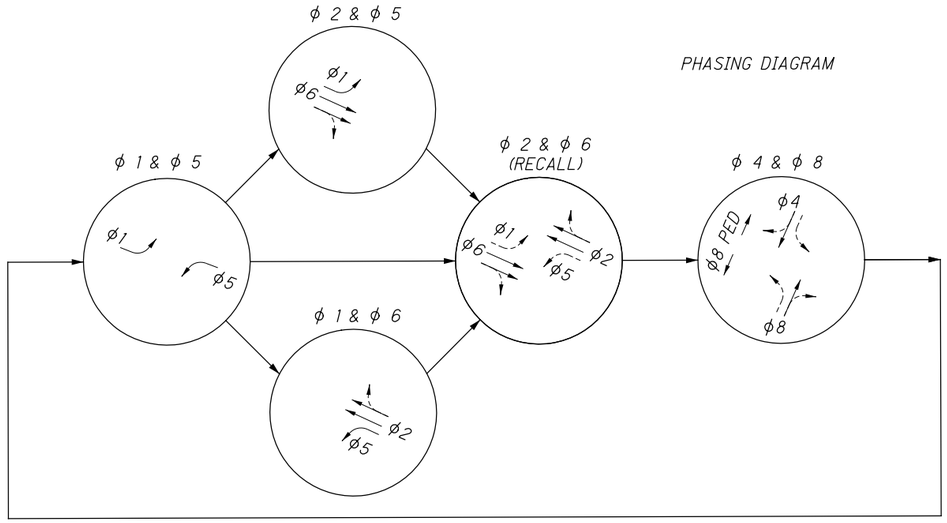
LEGEND

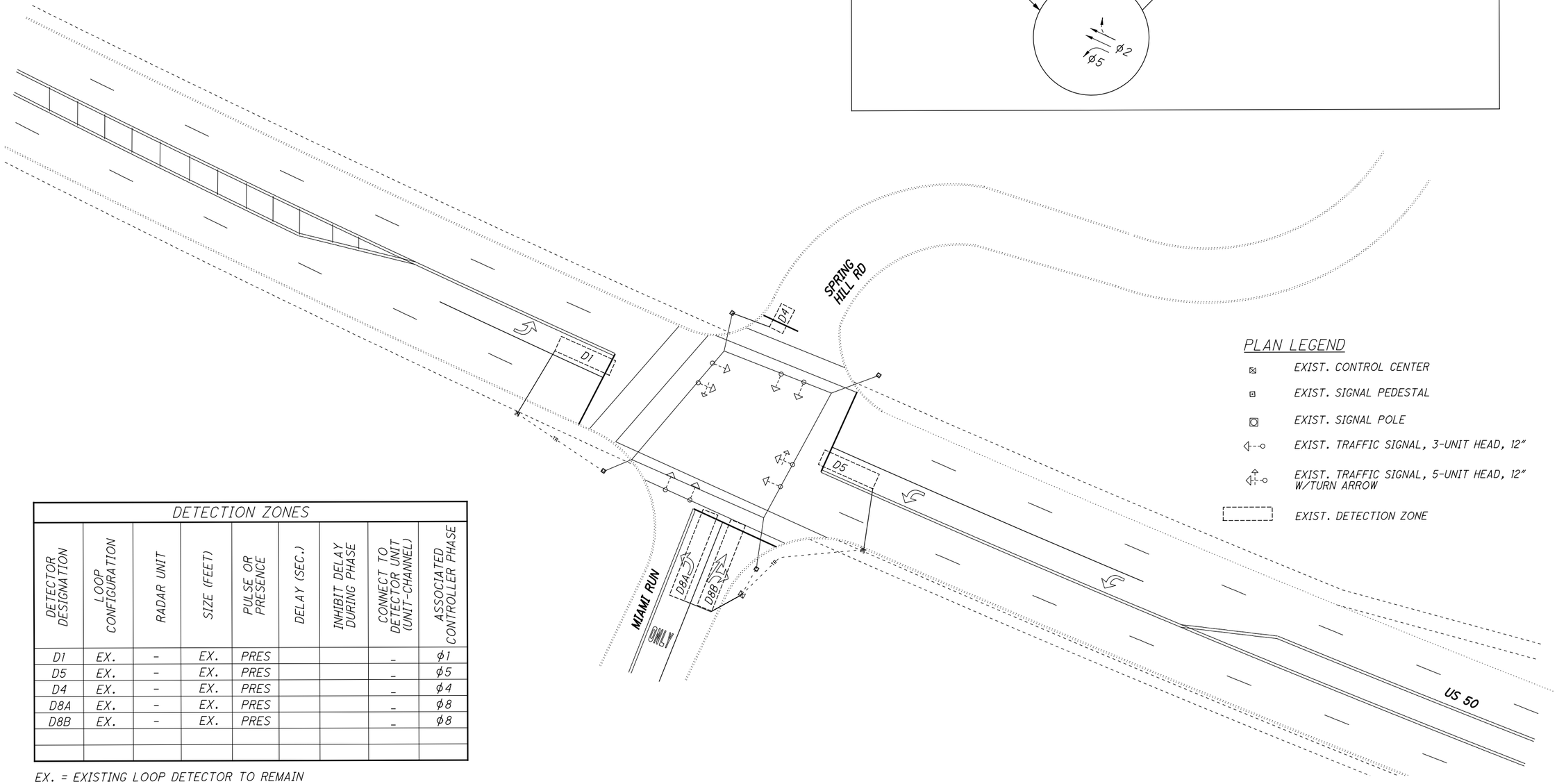
VEHICLE ϕ

PERMITTED ϕ

PED ϕ

PHASING DIAGRAM





PLAN LEGEND

- EXIST. CONTROL CENTER
- EXIST. SIGNAL PEDESTAL
- EXIST. SIGNAL POLE
- EXIST. TRAFFIC SIGNAL, 3-UNIT HEAD, 12"
- EXIST. TRAFFIC SIGNAL, 5-UNIT HEAD, 12" W/TURN ARROW
- EXIST. DETECTION ZONE

DETECTION ZONES

DETECTOR DESIGNATION	LOOP CONFIGURATION	RADAR UNIT	SIZE (FEET)	PULSE OR PRESENCE	DELAY (SEC.)	INHIBIT DELAY DURING PHASE	CONNECT TO DETECTOR UNIT (UNIT-CHANNEL)	ASSOCIATED CONTROLLER PHASE
D1	EX.	-	EX.	PRES			_	ϕ1
D5	EX.	-	EX.	PRES			_	ϕ5
D4	EX.	-	EX.	PRES			_	ϕ4
D8A	EX.	-	EX.	PRES			_	ϕ8
D8B	EX.	-	EX.	PRES			_	ϕ8

EX. = EXISTING LOOP DETECTOR TO REMAIN
_ = THE CONTRACTOR SHALL RECORD THE DETECTOR UNIT AND CHANNEL IN THE RECORD MARKED-UP PLAN SET.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT SPRING HILL DR

HAM-EASTERN CORRIDOR TSG

60
65

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION
809	1	EACH	HIGH-SPEED ETHERNET RADIO

TOD - COORDINATION TIMING PLANS				
DAY OF WEEK	PLAN NAME	HOURS	PLAN NUMBER	CYCLE LENGTH
1,7	OVERNIGHT	000-0900	-	FREE
1,7	WEEKEND	0900-1900	-	FREE
1,7	OVERNIGHT	01900-0000	-	FREE
2,3,4,5,6	OVERNIGHT	0000-0600	-	FREE
2,3,4,5,6	AM	0600-0930	1	120
2,3,4,5,6	MID	0930-1400	2	100
2,3,4,5,6	PM	1400-1900	3	120
2,3,4,5,6	OVERNIGHT	1900-0000	-	FREE

TOD = TIME OF DAY COORDINATION

START-UP START IN: ALL RED TIME FOR FLASH: 6 SEC FIRST PHASE : 2 COLOR DISPLAYED: GREEN		DUAL ENTRY: ϕ2+ϕ6, ϕ4+ϕ8 REST IN RED: NO							
		OVERLAP				A	B	C	D
		PHASES				-	-	-	-
INTERVAL OR FEATURE		PHASE							
INTERSECTION MOVEMENT		1	2	3	4	5	6	7	8
DIRECTION		EBLT	WB	-	SB	WBLT	EB	-	NB
MIN GREEN (INITIAL)		7	20	-	10	7	20	-	10
ADD INITIAL	*(SEC/ACTUATION)	-	-	-	-	-	-	-	-
MAX INITIAL	*(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	3.0	-	-	3.0	3.0	-	-	3.0
TIME BEFORE REDUCTION	*(SEC)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC)	15	60	-	45	15	60	-	45
MAXIMUM GREEN II	(SEC)	20	75	-	60	20	75	-	60
YELLOW CHANGE	(SEC)	3.5	4.5	-	3.5	3.5	4.5	-	3.5
ALL RED CLEARANCE	(SEC)	1.5	1.0	-	1.0	1.5	1.0	-	1.0
WALK	(SEC)	-	-	-	-	-	-	-	11
PEDESTRIAN CLEAR	(SEC)		-	-	-	-	-	-	13
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	ON	-	-	-	ON	-	-
	PED (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

* VOLUME DENSITY CONTROLS
NOTE: ALL PEDESTRIAN PHASES ARE PUSHBUTTON ACTUATED.

COORDINATION SPLITS (G+Y+AR) IN SECONDS										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1 (SEC)	OFFSET 2 (SEC)
DIRECTION	EBLT	WB	-	SB	WBLT	EB	-	NB		
PLAN NO.	SPLITS (G+Y+AR) SECONDS									
1	14	81		25	18	77		25	**53**	-
2	14	49		37	14	49		37	**36**	-
3	14	76		30	16	74		30	**111**	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT SPRING HILL DR

HAM-EASTERN CORRIDOR TSG

61
65

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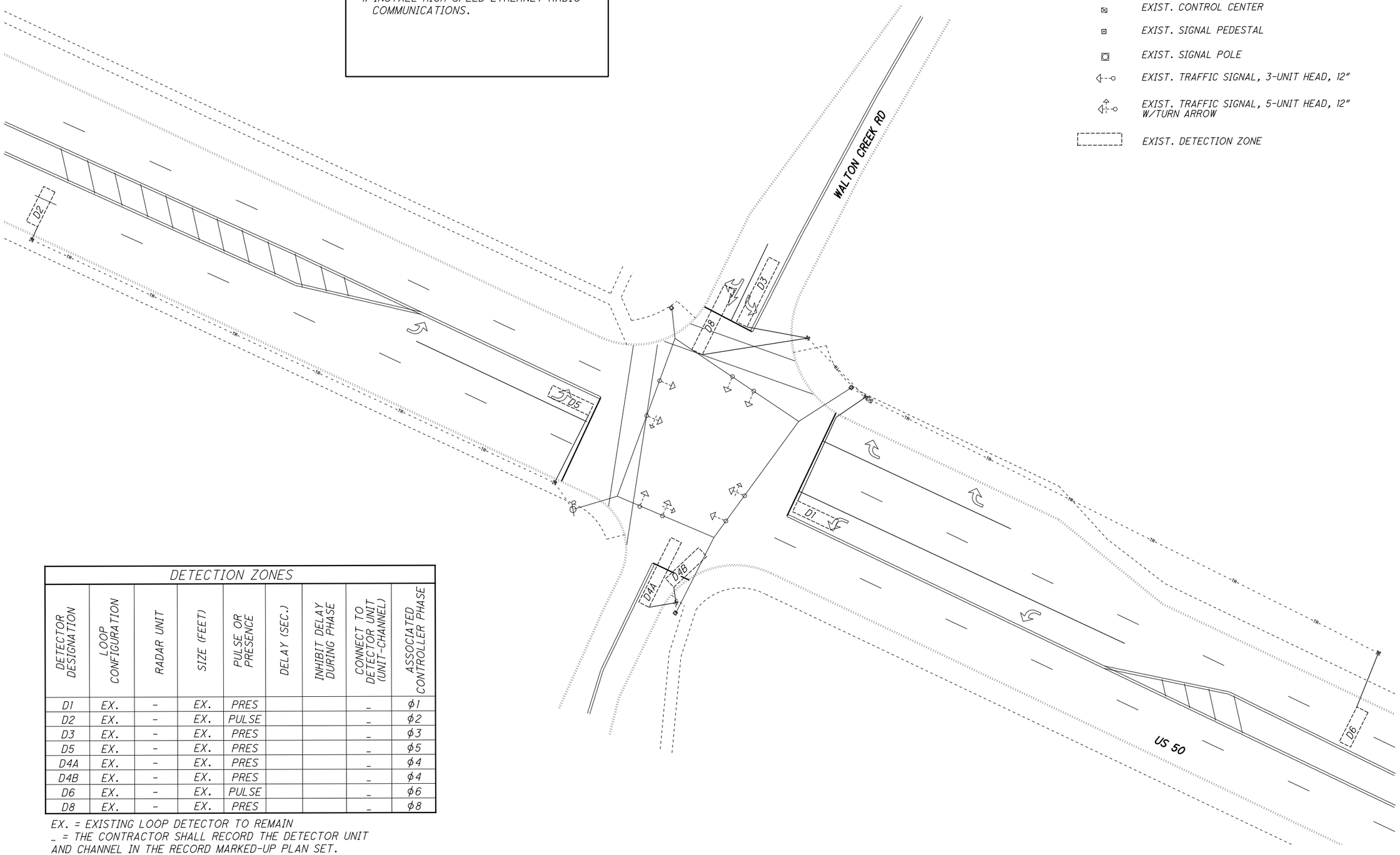
WORK ON THIS SHEET:
1) INSTALL HIGH-SPEED ETHERNET RADIO COMMUNICATIONS.

PLAN LEGEND

- EXIST. CONTROL CENTER
- EXIST. SIGNAL PEDESTAL
- EXIST. SIGNAL POLE
- EXIST. TRAFFIC SIGNAL, 3-UNIT HEAD, 12"
- EXIST. TRAFFIC SIGNAL, 5-UNIT HEAD, 12" W/TURN ARROW
- EXIST. DETECTION ZONE



DETECTION ZONES

DETECTOR DESIGNATION	LOOP CONFIGURATION	RADAR UNIT	SIZE (FEET)	PULSE OR PRESENCE	DELAY (SEC.)	INHIBIT DELAY DURING PHASE	CONNECT TO DETECTOR UNIT (UNIT-CHANNEL)	ASSOCIATED CONTROLLER PHASE
D1	EX.	-	EX.	PRES			_	ϕ1
D2	EX.	-	EX.	PULSE			_	ϕ2
D3	EX.	-	EX.	PRES			_	ϕ3
D5	EX.	-	EX.	PRES			_	ϕ5
D4A	EX.	-	EX.	PRES			_	ϕ4
D4B	EX.	-	EX.	PRES			_	ϕ4
D6	EX.	-	EX.	PULSE			_	ϕ6
D8	EX.	-	EX.	PRES			_	ϕ8

EX. = EXISTING LOOP DETECTOR TO REMAIN
_ = THE CONTRACTOR SHALL RECORD THE DETECTOR UNIT AND CHANNEL IN THE RECORD MARKED-UP PLAN SET.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT WALTON CREEK RD

HAM-EASTERN CORRIDOR TSG

62
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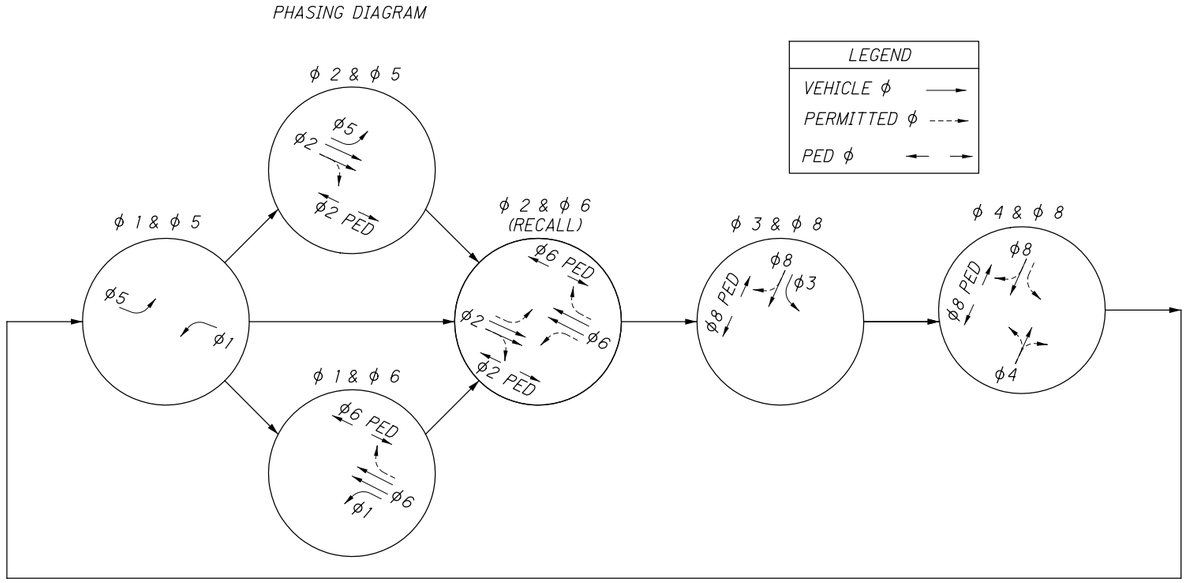
ITEM	QUANTITY	UNIT	ITEM DESCRIPTION
809	1	EACH	HIGH-SPEED ETHERNET RADIO

COORDINATION SPLITS (G+Y+AR) IN SECONDS										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1 (SEC)	OFFSET 2 (SEC)
DIRECTION	WBLT	EB	SBLT	NB	EBL	WB	-	SB		
PLAN NO.	SPLITS (G+Y+AR) SECONDS									
1	14	81	0	25	14	81		25	52	-
2	14	47	13	26	14	47		39	40	-
3	14	63	21	22	14	63		43	10	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-

PHASING DIAGRAM



START-UP START IN: ALL RED TIME FOR FLASH: 6 SEC FIRST PHASE : 2 COLOR DISPLAYED: GREEN	DUAL ENTRY: ϕ2+ϕ6, ϕ4+ϕ8 REST IN RED: NO							
	OVERLAP				A	B	C	D
	PHASES				-	-	-	-
INTERVAL OR FEATURE	PHASE							
INTERSECTION MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	WBLT	EB	SBLT	NB	EBLT	WB	-	SB
MIN GREEN (INITIAL)	7	20	7	10	7	20	-	10
ADD INITIAL *(SEC/ACTUATION)	-	-	-	-	-	-	-	-
MAX INITIAL *(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)	3.0	5.0	3.0	3.0	3.0	5.0	-	3.0
TIME BEFORE REDUCTION *(SEC)	-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC)	-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC)	15	60	25	45	15	60	-	45
MAXIMUM GREEN II (SEC)	20	75	30	60	20	75	-	60
YELLOW CHANGE (SEC)	3.5	4.5	3.5	3.5	3.5	4.5	-	3.5
ALL RED CLEARANCE (SEC)	1.5	1.0	1.5	1.5	1.5	1.0	-	1.5
WALK (SEC)	-	8	-	-	-	8	-	13
PEDESTRIAN CLEAR (SEC)		13	-	-	-	13	-	19
RECALL — MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
RECALL — MINIMUM (ON/OFF)	-	ON	-	-	-	ON	-	-
RECALL — PED (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY (ON/OFF)	-	-	-	-	-	-	-	-

* VOLUME DENSITY CONTROLS
NOTE: ALL PEDESTRIAN PHASES ARE PUSHBUTTON ACTUATED.

TOD - COORDINATION TIMING PLANS				
DAY OF WEEK	PLAN NAME	HOURS	PLAN NUMBER	CYCLE LENGTH
1,7	OVERNIGHT	000-0900	-	FREE
1,7	WEEKEND	0900-1900	-	FREE
1,7	OVERNIGHT	01900-0000	-	FREE
2,3,4,5,6	OVERNIGHT	0000-0600	-	FREE
2,3,4,5,6	AM	0600-0930	1	120
2,3,4,5,6	MID	0930-1400	2	100
2,3,4,5,6	PM	1400-1900	3	120
2,3,4,5,6	OVERNIGHT	1900-0000	-	FREE

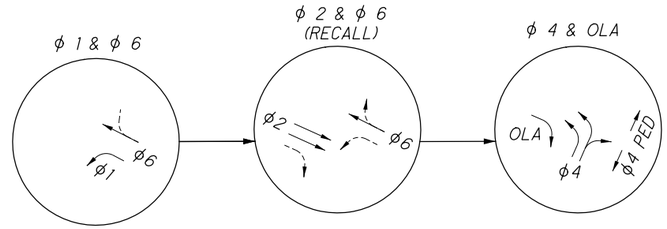
TOD = TIME OF DAY COORDINATION

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT WALTON CREEK RD
HAM-EASTERN CORRIDOR TSG

WORK ON THIS SHEET:
1) INSTALL HIGH-SPEED ETHERNET RADIO COMMUNICATIONS.

PHASING DIAGRAM



LEGEND

VEHICLE ϕ	→
PERMITTED ϕ	- - →
PED ϕ	← →

PLAN LEGEND

- EXIST. CONTROL CENTER
- EXIST. SIGNAL PEDESTAL
- EXIST. SIGNAL POLE
- EXIST. TRAFFIC SIGNAL, 3-UNIT HEAD, 12"
- EXIST. TRAFFIC SIGNAL, 5-UNIT HEAD, 12" W/TURN ARROW
- EXIST. DETECTION ZONE
- PROPOSED DETECTION ZONE
- PROPOSED RADAR DETECTOR UNIT

DETECTION ZONES

DETECTOR DESIGNATION	LOOP CONFIGURATION	RADAR UNIT	SIZE (FEET)	PULSE OR PRESENCE	DELAY (SEC.)	INHIBIT DELAY DURING PHASE	CONNECT TO DETECTOR UNIT (UNIT-CHANNEL)	ASSOCIATED CONTROLLER PHASE
D1	EX.	-	EX.	PRES			_	ϕ1
D2	EX.	-	EX.	PRES			_	ϕ2
D4A	EX.	-	EX.	PRES			_	ϕ4
D4B	EX.	-	EX.	PRES			_	ϕ4
D4C	EX.	-	EX.	PRES			_	ϕ4
D6	EX.	-	EX.	PRES			_	ϕ6

EX. = EXISTING LOOP DETECTOR TO REMAIN
* SIZE DETECTION ZONE IN ACCORDANCE WITH RADAR DETECTOR MANUFACTURER'S RECOMMENDATIONS
? = THE CONTRACTOR SHALL ASSIGN THE DETECTOR UNIT AND CHANNEL FOR ALL PROPOSED DETECTION ZONES.
_ = THE CONTRACTOR SHALL RECORD THE DETECTOR UNIT AND CHANNEL IN THE RECORD MARKED-UP PLAN SET.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT NEWTOWN RD

HAM-EASTERN CORRIDOR TSG

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION
809	1	EACH	HIGH-SPEED ETHERNET RADIO

START-UP START IN: ALL RED TIME FOR FLASH: 6 SEC FIRST PHASE : 2 COLOR DISPLAYED: GREEN		DUAL ENTRY: ϕ2+ϕ6, ϕ4+ϕ8 REST IN RED: NO							
		OVERLAP				A	B	C	D
		PHASES				4	-	-	-
INTERVAL OR FEATURE		PHASE							
INTERSECTION MOVEMENT		1	2	3	4	5	6	7	8
DIRECTION		WBLT	EB	-	NB	-	WB	-	-
MIN GREEN (INITIAL)		7	20	-	10	-	20	-	-
ADD INITIAL *(SEC/ACTUATION)		-	-	-	-	-	-	-	-
MAX INITIAL *(SEC.)		-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)		3.0	5.0	-	3.0	-	5.0	-	-
TIME BEFORE REDUCTION *(SEC)		-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC)		-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC)		-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC)		15	60	-	45	-	60	-	-
MAXIMUM GREEN II (SEC)		20	75	-	60	-	75	-	-
YELLOW CHANGE (SEC)		3.0	4.5	-	3.5	-	4.5	-	-
ALL RED CLEARANCE (SEC)		3.0	1.0	-	2.0	-	1.0	-	-
WALK (SEC)		-	-	-	14	-	-	-	-
PEDESTRIAN CLEAR (SEC)			-	-	16	-	-	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	ON	-	-	-	ON	-	-
	PED (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY (ON/OFF)		-	-	-	-	-	-	-	-

* VOLUME DENSITY CONTROLS
NOTE: PEDESTRIAN PHASES ARE PUSHBUTTON ACTUATED.

COORDINATION SPLITS (G+Y+AR) IN SECONDS										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1 (SEC)	OFFSET 2 (SEC)
DIRECTION	WBL	EB	-	NB	-	WB	-	-		
PLAN NO.	SPLITS (G+Y+AR) SECONDS									
1	15	50		55		65			8	-
2	15	48		37		63			47	-
3	16	64		40		80			57	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-
-	-	-		-		-			-	-

TOD - COORDINATION TIMING PLANS				
DAY OF WEEK	PLAN NAME	HOURS	PLAN NUMBER	CYCLE LENGTH
1,7	OVERNIGHT	000-0900	-	FREE
1,7	WEEKEND	0900-1900	-	FREE
1,7	OVERNIGHT	01900-0000	-	FREE
2,3,4,5,6	OVERNIGHT	0000-0600	-	FREE
2,3,4,5,6	AM	0600-0930	1	120
2,3,4,5,6	MID	0930-1400	2	100
2,3,4,5,6	PM	1400-1900	3	120
2,3,4,5,6	OVERNIGHT	1900-0000	-	FREE

TOD = TIME OF DAY COORDINATION

CALCULATED MJH
CHECKED KAE

TRAFFIC SIGNAL PLAN
SYSTEM 1 - US 50 AT NEWTOWN RD

HAM-EASTERN CORRIDOR TSG

65
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