

MOVEMENT, PHASING, AND SEQUENCE CHART

PHASE	2+6				8				EMERGENCY FLASH
	1	2	3	4	5	6	7	8	
INTERVAL SIGNAL	1,2	3,4	5,6	7,8	9,10				
	G	G	Y	R	R	R	R	R	Y
	G	G	Y	R	R	R	R	R	Y
	R	R	R	R	G	G	Y	R	R
	H	H	H	H	M	FH	H	H	OFF
	M	FH	H	H	H	H	H	H	OFF

FIXED			4	2			3	3
MINIMUM	50					5		
PASSAGE	-					3		
MAX 1	50					25		
PEDESTRIAN*	7	10			7	13		
MEMORY	MX				NL			

REFER TO SYSTEM PERMIT #1-0060 FOR PROGRAM TIMINGS AND WEEKLY PROGRAM CHART

OPERATION NOTES

- UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES
- CONTROLLER TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY SIDE STREET PHASE
- PEDESTRIAN COUNTDOWN TIMER TO COUNTDOWN DURING FLASHING HAND INTERVAL

SIGN TABULATION			
PLAN SYMBOL	SERIES NUMBER	SIZE	DESCRIPTION
A	R10-3EL	9"x15"	EDUCATIONAL PUSH BUTTON SIGN (LEFT)
B	R10-3ER	9"x15"	EDUCATIONAL PUSH BUTTON SIGN (RIGHT)
D	R9-3	18"x18"	NO PEDESTRIAN CROSSING
F	R10-15R	30"x30"	TURNING TRAFFIC MUST YIELD TO PEDESTRIANS RIGHT

SPECIAL NOTES

1. SIGNALS WILL HAVE A TETHER CABLE TO ELIMINATE MOVEMENT OF SIGNAL HEADS.
2. THE CONTRACTOR MUST BE AVAILABLE ON A 24 HOUR BASIS TO RESPOND TO SIGNAL MALFUNCTIONS. THE CONTRACTOR WILL PROVIDE AN EMERGENCY TELEPHONE NUMBER TO THE RESIDENT ENGINEER AND TO LOCAL POLICE OFFICIALS.
3. TRAFFIC SIGNALS MAY BE INSTALLED ON CLASS 4 WOOD POLES. PROVIDE GUY WIRES AND ANCHORS AS REQUIRED.
4. CONTROLLER ASSEMBLY WILL BE EQUIPPED WITH A POLICE DOOR AND A MANUAL CONTROL SWITCH.
5. SIGNING WILL BE IN ACCORDANCE WITH WORK ZONE TRAFFIC CONTROL (PUB. 213M).
6. CONSTRUCTION WARNING SIGNS AND CHANNELIZATION DEVICES WILL BE LOCATED AS DIRECTED BY THE ENGINEER. FLAGGERS WILL BE USED TO PROTECT THE WORK ZONE DURING CONSTRUCTION OF THE TEMPORARY TRAFFIC SIGNALS.
7. DURING HOURS OF DARKNESS, ALL SIGNS WILL BE REFLECTORIZED OR ILLUMINATED.
8. STOP BAR (W/24") IS TO BE PLACED A MINIMUM DISTANCE OF 40 FEET FROM THE TRAFFIC SIGNALS.
9. THE PROJECT ENGINEER OR THE TRAFFIC SIGNAL UNIT HAS THE RIGHT TO MODIFY THIS PLAN IN ORDER TO MOVE TRAFFIC MORE SAFELY AND EXPEDITIOUSLY ACCORDING TO ACCEPTED TRAFFIC ENGINEERING PRACTICES.
10. ALL STOP BARS ARE TO BE PLACED PERPENDICULAR TO THE CENTER OF THE ROADWAY.
11. ALL TEMPORARY PAVEMENT MARKINGS ARE TO BE REMOVED UPON COMPLETION OF THE PROJECT.
12. REMOVE EXISTING PAVEMENT MARKINGS BETWEEN STOP BARS.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	2018	SIP	4 OF 5

SPRINGFIELD TOWNSHIP			
REVISION NUMBER	REVISIONS	DATE	BY

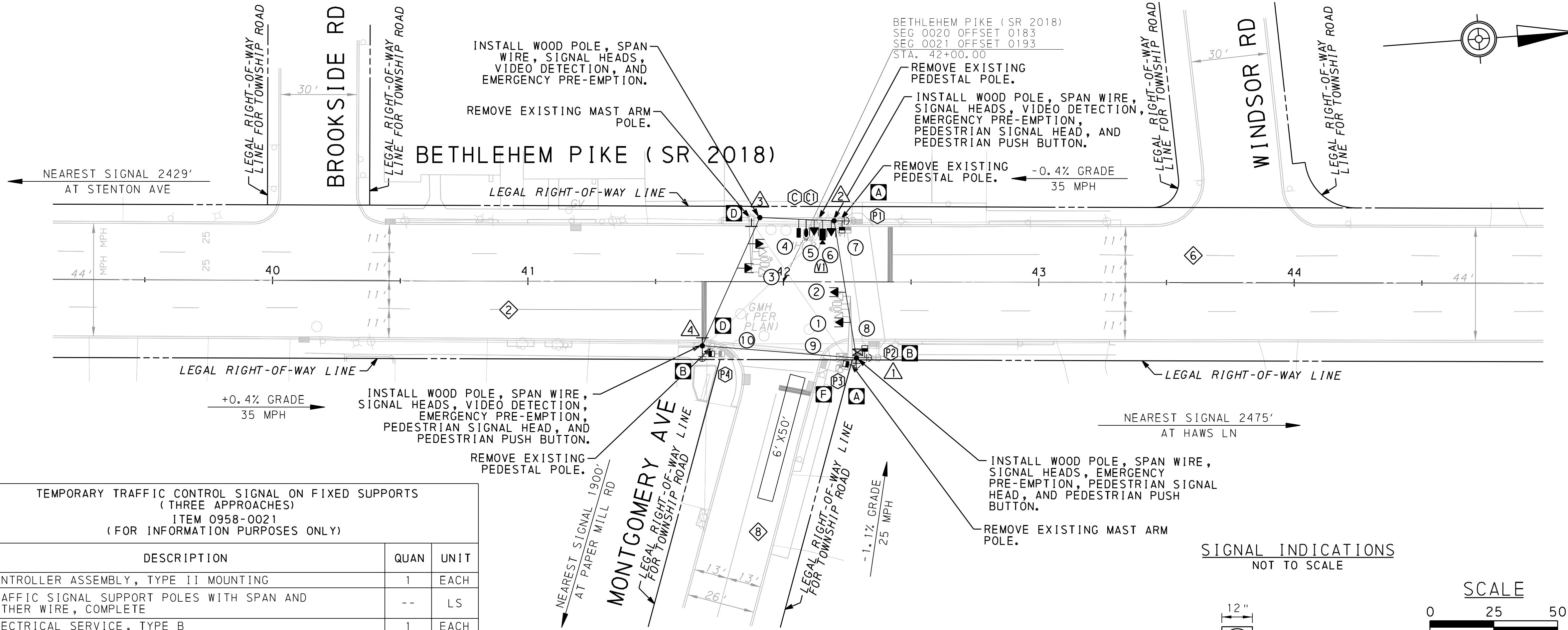
- GENERAL NOTES**
1. DO NOT MODIFY INSTALLATION WITHOUT PRIOR WRITTEN APPROVAL.
 2. POST MOUNTED SIGNALS: INSTALL WITH THE SIGNAL HEADS A MINIMUM OF TWO (2) FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. THE BOTTOM OF POST MOUNTED SIGNAL HEADS ARE TO BE NOT LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.
 3. OVERHEAD SIGNALS: INSTALL WITH A MINIMUM SIGNAL HEAD CLEARANCE OF TWO (2) FEET BEHIND THE FACE OF CURB OR EDGE OF SHOULDER. THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY ARE TO BE NOT LESS THAN 16 FEET NOR MORE THAN 19 FEET. DUAL SPAN WIRE INSTALLATION REQUIRED TO SECURE TOP AND BOTTOM OF SIGNAL HEADS.
 4. THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS MEASURED AT RIGHT ANGLES TO THE APPROACH IS TO BE 8 FEET.
 5. THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF ACT 50, AS AMENDED, UNDERGROUND UTILITY PROTECTION ACT, DATED APRIL 28, 2018. PRIOR TO CONSTRUCTION, CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY CONFLICTS.
 6. PLACE PAVEMENT MARKINGS IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING STANDARDS, TC-8600 SERIES (JUNE 13, 2013).
 7. MAINTENANCE AND PROTECTION OF TRAFFIC FOR THE INSTALLATIONS OF THESE TRAFFIC SIGNALS IS TO BE IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND PUBLICATION 213, TEMPORARY TRAFFIC CONTROL GUIDELINES (JUNE 2014).

LEGEND		
EXISTING	TEMPORARY	DESCRIPTION
		CONTROLLER ASSEMBLY
		WOOD STRAIN POLE WITH DUAL SPAN WIRE AND GUY WIRES
		PEDESTAL POLE
		VEHICULAR SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD
		POST MOUNTED SIGN
		OVERHEAD MOUNTED SIGN
		PEDESTRIAN PUSH BUTTON/SIGN
		EMERGENCY PRE-EMPTION DETECTOR
		EMERGENCY PRE-EMPTION BEACON
		VIDEO DETECTOR
		JUNCTION BOX
		VIDEO DETECTION ZONE/ DIMENSIONS/ID NUMBER
		CHANNELIZING DEVICE
		WORK ZONE
		DIRECTION OF TRAVEL

COUNTY: MONTGOMERY
 MUNICIPALITY: SPRINGFIELD TOWNSHIP
 INTERSECTION: BETHLEHEM PIKE (SR 2018) & MONTGOMERY AVE

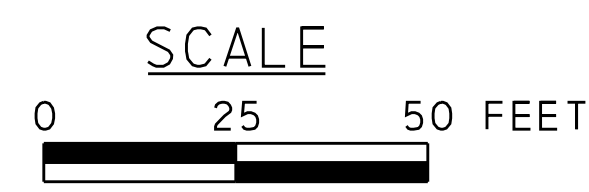
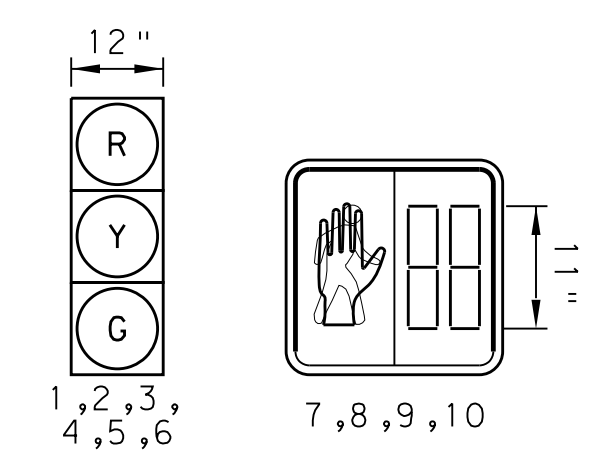
REVIEWED: _____
 MUNICIPAL OFFICIAL DATE _____
 RECOMMENDED: _____
 ASSISTANT DISTRICT EXECUTIVE - OPERATIONS DATE _____

FILE #: 0675 SYSTEM PERMIT #: 1-0060



TEMPORARY TRAFFIC CONTROL SIGNAL ON FIXED SUPPORTS (THREE APPROACHES) ITEM 0958-0021 (FOR INFORMATION PURPOSES ONLY)		
DESCRIPTION	QUAN	UNIT
CONTROLLER ASSEMBLY, TYPE II MOUNTING	1	EACH
TRAFFIC SIGNAL SUPPORT POLES WITH SPAN AND TETHER WIRE, COMPLETE	--	LS
ELECTRICAL SERVICE, TYPE B	1	EACH
VIDEO DETECTOR, CABLE AND SYSTEM INTEGRATION	2	EACH
OPTICAL PRE-EMPTION SYSTEM - 3 APPROACHES	1	LS
SIGNAL CABLE AND ALL NECESSARY HARDWARE AND EXCAVATION, COMPLETE	--	LS
VEHICULAR SIGNAL HEAD, THREE 12" SECTIONS (LED)	6	EACH
LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, TYPE A	4	EACH
PEDESTRIAN PUSH BUTTON, LATCHING LED	4	EACH
POST MOUNTED SIGNS, TYPE B	22.875	SF
POST MOUNTED SIGNS, TYPE F	1.875	SF
OVERHEAD MOUNTED SIGNS	7.5	SF
REMOVAL OF EXISTING SIGNAL EQUIPMENT	--	LS
ANY SIGNAL TIMING AND, OR PHASING ADJUSTMENTS AS DIRECTED BY THE REPRESENTATIVE	--	LS

SIGNAL INDICATIONS NOT TO SCALE



PREPARED BY:
 HNTB CORPORATION
 1650 ARCH STREET
 SUITE 1700
 PHILADELPHIA, PA 19103

TEMPORARY TRAFFIC SIGNAL

1/22/2022 FILENAME: T182909-s-tr-119901.dwg

**EMERGENCY PRE-EMPTION PHASING
MOVEMENT, PHASING, AND SEQUENCE CHART**

PHASE	2			6			8		
	9	10	11	12	13	14	15	16	17
INTERVAL									
SIGNAL									
1,2	G	Y	R	R	R	R	R	R	R
3,4	R	R	R	G	Y	R	R	R	R
5,6	R	R	R	R	R	R	G	Y	R
7,8	H	H	H	H	H	H	H	H	H
9,10	H	H	H	H	H	H	H	H	H
FIXED	▲	4	2	▲	4	2	▲	3	3

▲ FOR DURATION OF PRE-EMPTION
NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

**EMERGENCY PRE-EMPTION
OPERATION NOTES**

⊙ SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION

EMERGENCY PRE-EMPTION NOTES:

CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES OF BETHLEHEM PIKE (SR 2018) AND THE WESTBOUND APPROACH OF MONTGOMERY AVENUE WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.

THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTION PHASE SHALL FOLLOW. ONLY THOSE PHASES NOT POSING A YELLOW TRAP CONDITION MAY REMAIN GREEN (8) WHEN GOVERNED BY APPROACHING EMERGENCY VEHICLE; ANY FLASHING YELLOW ARROW INDICATORS FOR THE PRE-EMPTED PHASE SHALL REMAIN FLASHING YELLOW ARROW DURING THE ENTRY ROUTINE FOLLOWED BY GREEN ARROW FOR THE DURATION OF THE SIGNAL PRE-EMPTION. ANY FLASHING YELLOW ARROW INDICATORS FOR THE PHASE OPPOSITE THE PRE-EMPTED PHASE SHALL REMAIN FLASHING YELLOW ARROW DURING THE ENTRY ROUTINE AND FOR THE DURATION OF SIGNAL PRE-EMPTION.

THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICAL SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL FOR THE PRE-EMPTION GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.

IF THE SIGNAL HAS BEEN ACTUATED BY A PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED, THE PED "WALK" (MAN) INTERVAL SHALL TERMINATE IMMEDIATELY AND THE PED "CLEAR" (FLASHING HAND AND COUNTDOWN TIMER) INTERVAL SHALL TIME OUT, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE GOING INTO EMERGENCY PRE-EMPTION.

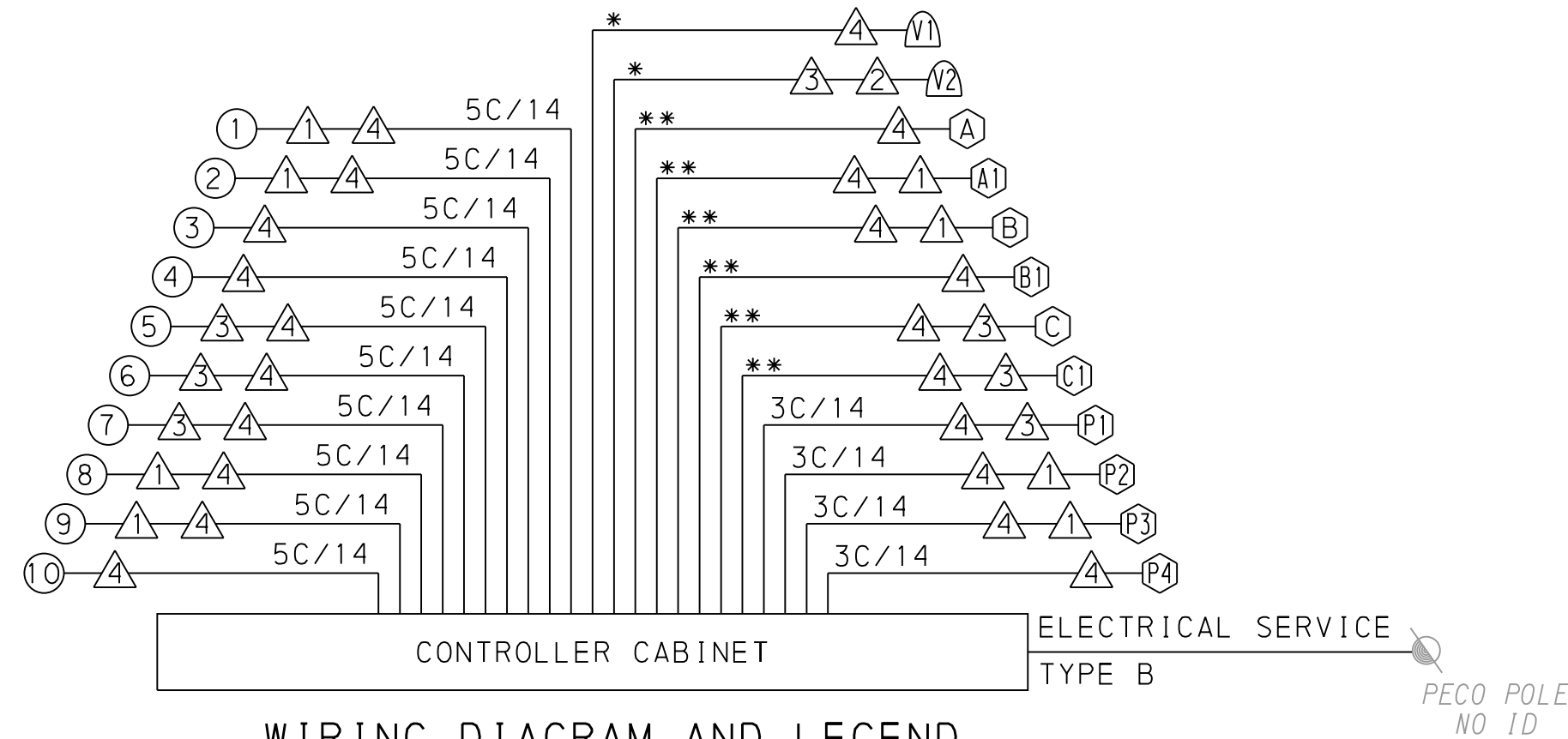
IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.

IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.

UPON COMPLETION OF PRE-EMPTION PHASE 2, 6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.

IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.



WIRING DIAGRAM AND LEGEND

- ▲ - TRAFFIC SIGNAL SUPPORT
- ① - TRAFFIC SIGNAL HEAD
- P1 - PEDESTRIAN PUSH BUTTON
- V1 - VIDEO DETECTOR
- 5C/14 - CABLE (NO. OF CONDUCTORS/SIZE AWG.)
- * CABLE SIZE AS RECOMMENDED BY MANUFACTURER
- ** CABLE SIZE AS RECOMMENDED BY MANUFACTURER

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	2018	SIP	5 OF 5
SPRINGFIELD TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	

PREPARED BY: HNTB CORPORATION 1650 ARCH STREET SUITE 1700 PHILADELPHIA, PA 19103	COUNTY: <u>MONTGOMERY</u>
	MUNICIPALITY: <u>SPRINGFIELD TOWNSHIP</u>
	INTERSECTION: <u>BETHLEHEM PIKE (SR 2018) & MONTGOMERY AVE</u>
	APPROVED BY: _____ MUNICIPAL OFFICIAL _____ DATE _____
RECOMMENDED: DISTRICT TRAFFIC ENGINEER _____ DATE _____	SCALE: _____
PROFESSIONAL ENGINEER _____ DATE _____	_____

TEMPORARY TRAFFIC SIGNAL