

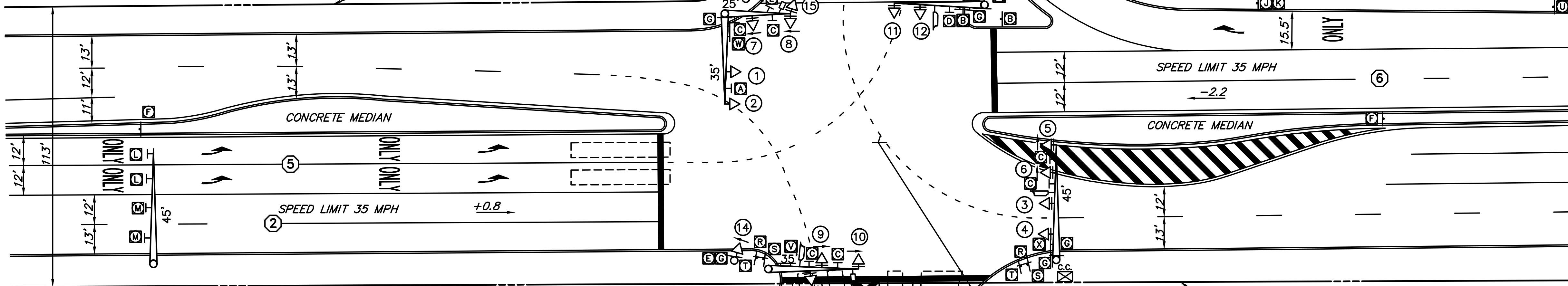
592   5   1256		TOTALS			
1.	7:00AM TO 8:00AM		12.		
2.	8:00AM TO 9:00AM		11.		
3.	9:00AM TO 10:00AM		10.		
4.	10:00AM TO 11:00AM		9.		
5.	11:00AM TO 12:00PM		8.		
6.	12:00PM TO 1:00PM	180	0	312	7.
7.	1:00PM TO 2:00PM				6.
8.	2:00PM TO 3:00PM	69	0	222	5.
9.	3:00PM TO 4:00PM	79	0	181	4.
10.	4:00PM TO 5:00PM	87	0	175	3.
11.	5:00PM TO 6:00PM				2.
12.	6:00PM TO 7:00PM	56	0	94	1.
TOTALS		53	1	112	
		68	4	180	

TOTALS		TOTALS		
1.	814	865	201	
2.	781	840	234	
3.	227	293	337	
4.	159	115	178	
5.	158	122	197	
6.	126	113	174	
7.	167	210	246	
8.				
9.				
10.				
11.				
12.				
TOTALS		2432	2158	1567

NEAREST SIGNAL 871' AT I-476 SOUTHBOUND ON/OFF RAMP

### LANCASTER AVENUE



MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
1,2	R R R	G G Y	R R R	R R R	R R R	R R R	Y
3,4	G Y R	G G Y	R R R	R R R	R R R	R R R	Y
5,6	G Y R	R R R	R R R	R R R	R R R	R R R	OFF
7,8,13	R R R	R R R	R R R	R R R	R R R	R R R	R
9,10	R R R	R R R	R R R	R R R	R R R	R R R	R
11,12	R R R	R R R	R R R	R R R	R R R	R R R	R
14,15	G Y R	R R R	R R R	R R R	R R R	R R R	OFF
16,17*	H H H	M FH	H H H	H H H	H H H	H H H	OFF

FIXED	4	2	4	2	4	2	4	2	4	2
MINIMUM	3		7		3		3		3	
PASSAGE	3		3		3		3		3	
MAXIMUM 1	28		28		25		25		25	
MAXIMUM 2	20		58		29		48		29	
PEDESTRIAN			7	22						
MEMORY	NL		MN		NL		NL		NL	

\* MAN SYMBOL UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES.

- REFER TO SYSTEM PERMIT #-0071 FOR PROGRAM TIMES AND TIME-OF-DAY OPERATION
- PEDESTRIAN RECYCLE FOR PHASE 2+6

#### SIGN TABULATION

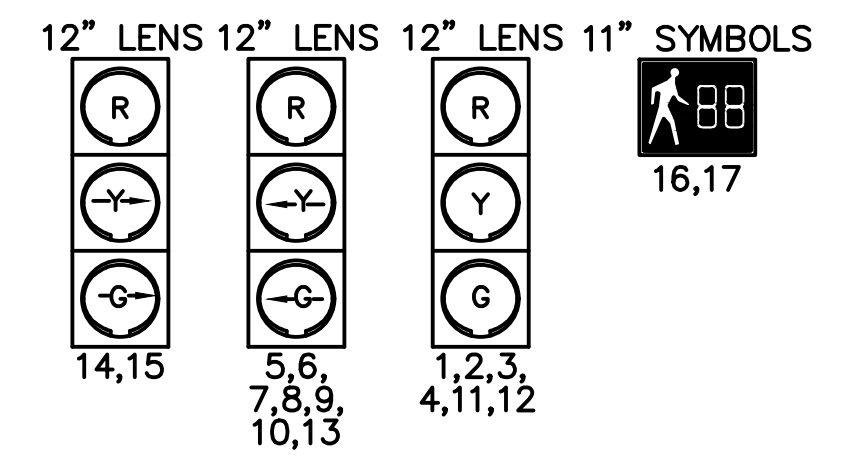
PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	R3-3	36X36	NO TURNS
B	R3-3	24X24	NO TURNS
C	R10-10L	30X36	LEFT TURN SIGNAL
D	R10-11	30X36	NO TURN ON RED
E	R10-10R	30X36	RIGHT TURN SIGNAL
F	R3-7L	30X30	LEFT LANE MUST TURN LEFT
G	R9-3A	18X18	NO PEDESTRIAN CROSSING
H	W11-2	36X36	PEDESTRIAN CROSSING
I	W16-7P	24X12	DIAGONAL DOWNWARD POINTING ARROW
J	R3-5L	30X36	LEFT TURN
K	R3-5S	30X36	STRAIGHT THROUGH
L	R3-5R	30X36	RIGHT TURN
M	R1-2	36X36	YIELD
N	R5-1	48X48	DO NOT ENTER
O	R6-1R	36X12	HORIZONTAL RIGHT ONE WAY
P	R6-1L	36X12	HORIZONTAL LEFT ONE WAY
Q	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
R	D3-4	90X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
S	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
T	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
U	R10-3E(L)	9X15	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
V	R10-3E(R)	9X15	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
W	R5-1A	48X36	WRONG WAY
X	R3-6SR	30X36	OPTIONAL RIGHT TURN

### S.R. 0030

### I-476 RAMP S.R. 8039

- OPERATION NOTES:
- G IF FOLLOWED BY 2+5
  - G IF FOLLOWED BY 3+8
  - G IF FOLLOWED BY 4+7
  - G IF FOLLOWED BY 4+8
  - G IF FOLLOWED BY 2+5 OR 4+8
  - G IF FOLLOWED BY 2+5
  - G IF FOLLOWED BY 2+6

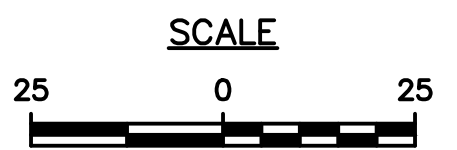
#### SIGNAL INDICATIONS



SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS & LOUVERS ON RED INDICATIONS ONLY 5,6,7,8,9,10,13,14,15

#### LEGEND

- MAST ARM/IDENTIFYING LENGTH
- VEHICULAR SIGNAL HEAD/BACKPLATE/VISORS/DIRECTIONAL ARROW/IDENTIFYING NUMBER
- PEDESTRIAN SIGNAL HEAD/IDENTIFYING NUMBER
- PEDESTRIAN PUSHBUTTON/SIGN
- SIGN/IDENTIFYING LETTER
- LUMINAIRE
- LOOP SENSOR/SIZE
- MICROWAVE PRESENCE DETECTOR
- EMERGENCY PRE-EMPTION FLASHING BEACON
- EMERGENCY PRE-EMPTION DEVICE
- CURB RAMP
- UTILITY POLE
- PHASE NUMBER
- INLET



### GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT #-0071

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION  
ENGINEERING DISTRICT 6-0

COUNTY: DELAWARE  
MUNICIPALITY: RADNOR TOWNSHIP  
INTERSECTION: LANCASTER AVENUE (S.R. 0030) & KING OF PRUSSIA RD/I-476 RAMP (S.R. 8039)

REVIEWED: \_\_\_\_\_ DATE \_\_\_\_\_  
MUNICIPAL OFFICIAL \_\_\_\_\_ DATE \_\_\_\_\_

RECOMMENDED:  
**PAUL LUTZ** 11/24/08  
**LOUIS R. BELMONTE P.E.** 11/24/08  
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	AS-BUILT DRAWING	McM	3/5/12	LUTZ	3/12/12	LRB	3/14/12
2	I-476 NB RAMP/THRU/RIGHT LANE	PAI	3/28/18				
3							
4							
5							
6							
7							
8							



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ENGINEERING DISTRICT 6-0

COUNTY: DELAWARE

MUNICIPALITY: RADNOR TOWNSHIP

INTERSECTION: LANCASTER AVENUE (S.R. 0030) &  
KING OF PRUSSIA RD/1-476 RAMP (S.R. 8039)

REVIEWED: \_\_\_\_\_ DATE \_\_\_\_\_

MUNICIPAL OFFICIAL \_\_\_\_\_ DATE \_\_\_\_\_

RECOMMENDED: PAUL LUTZ 11/24/08

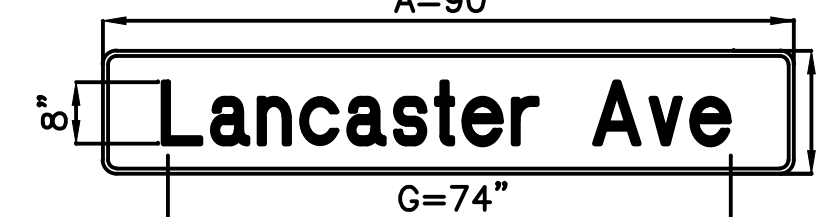
LOUIS R. BELMONTE P.E. 11/24/08  
DISTRICT TRAFFIC ENGINEER DATE

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3							
4							
5							
6							
7							
8							

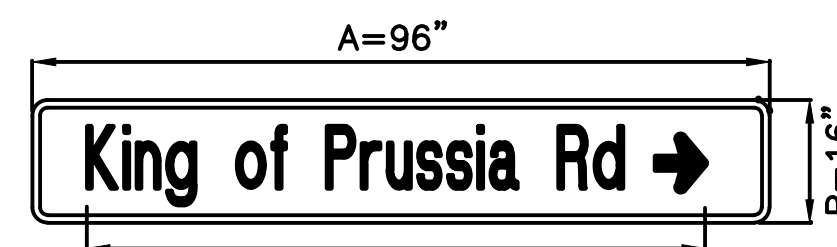
SHEET 3 OF 3 PERMIT # 63-2530 FILE # 2530

### SIGN DETAILS

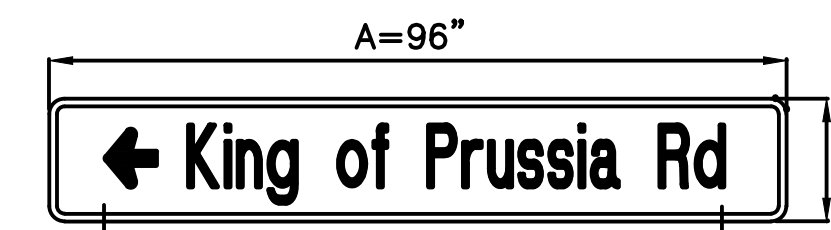
NOT TO SCALE  
FONT: CLEARVIEW ONE  
A=90"



SIGN V  
8" UPPER CASE  
6" LOWER CASE



SIGN W  
28% REDUCTION  
8" UPPER CASE  
6" LOWER CASE



SIGN X  
28% REDUCTION  
8" UPPER CASE  
6" LOWER CASE

### EMERGENCY PRE-EMPTION PHASING MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	2			4			6			8		
SIGNALS	20	21	22	23	24	25	26	27	28	29	30	31
1,2	R	R	R	R	R	R	G	Y	R	R	R	
3,4	G	Y	R	R	R	R	R	R	R	R	R	R
5,6	⊖	⊖	R	R	R	R	R	R	R	R	R	R
7,8,13	R	R	R	R	R	R	R	R	R	⊖	⊖	R
9,10	R	R	R	G	Y	R	R	R	R	R	R	R
11,12	R	R	R	R	R	R	R	R	R	G	Y	R
14,15	R	R	R	⊖	⊖	R	R	R	R	R	R	R
16,17	H	H	H	H	H	H	H	H	H	H	H	H
FIXED	**	4	2	**	4	2	**	4	2	**	4	2

\*\* 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.

⊖ G WHEN RETURNING TO NORMAL OPERATION

### EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE SOUTHBOUND APPROACH OF KING OF PRUSSIA ROAD AND THE NORTHBOUND APPROACH OF THE I-476 RAMP AND THE EASTBOUND & WESTBOUND APPROACHES OF LANCASTER AVE 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 AN 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-EMPTED PHASE SHALL FOLLOW.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNAL HAS BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED, THE PEDESTRIAN TIME SHALL BE SPLIT BETWEEN "PED MAN" AND "PED HAND". THE "PED MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "PED HAND" INTERVAL. THIS 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 2,4,6 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.