N

UNINTERRUPTABLE
POWER SUPPLY
ATTACHED TO SIGNAL
CONTROLLER CABINET

TRAFFIC
SIGNAL CONTROLLER
WITH FOUNDATION AND
5.5' x 2.5' CONCRETE PAD,
STA 105+01, 29' LT

15' M.A.
STA. 105+26, 27' LT
SET FLUSH IN SIDEWALK

EVERSOURCE APPROVED HH
(POLYMER CONC)

EMERGENCY PREEMPTION
DETECTOR (TYP.)

VIDEO DETECTION
CAMERA (TYP.)

8' PEDESTRIAN SIGNAL
POST

ACUSHNET AVE

SITE DRIVE

30' M.A.
STA. 103+85, 31' LT

OVERHEAD SERVICE
CONNECTION TO UP

10' SIGNAL
POST

NO PARKING
ANY TIME
BELAIR ST

LEFT TURN ON
GREEN ARROW ONLY
STREET NAME SIGN

STOP

PROP LINE

PROP LINE

PROP LINE

PROP LINE

MONUMENT SIGN

NO TURNS

8' PEDESTRIAN
SIGNAL POST

PT +68.27

ONLY

ONLY

ACUSHNET AVE

ASHLEY BLVD

PC +99.12

PC +69.18

201

202

203

204

102

103

105

106

107

108

201

STA 103+99.12 ACUSHNET AVE
STA 200+00.00 ASHLEY BLVD

VEHICLE DETECTION
ZONE (TYP)

R10-12b (MOUNT ON M.A.)

EMERGENCY
PREEMPTION
CONFIRMATION BEACON

PULLBOX (TYP)

10' SIGNAL POST

BOLLARDS TO PROTECT
PEDESTRIANS AND
EQUIPMENT

BELAIR ST

BOWLES ST

PROP LINE

PROP LINE

PROP LINE

PROP LINE

HH SD2.022

P10 P9

35' M.A.
STA. 104+34, 32' RT
SET FLUSH IN SIDEWALK

BELAIR ST
STOP

NO PARKING
ANY TIME

40' M.A.
STA. 201+40, 29' RT
SET FLUSH IN SIDEWALK

3" CONDUIT (TYP)

CONDUIT TRENCHING

8' PEDESTRIAN SIGNAL
POST

BOLLARDS TO PROTECT
PEDESTRIANS AND
EQUIPMENT

P1 P2 P3 P4 P5 P6 P7 P8

11.5

11.5

12.5'

12'

12'

9'

TRAFFIC SIGNAL SIGN LEGEND

LEFT TURN
YIELD
ON FLASHING
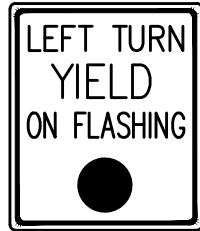
R10-12b (ON SIGNAL MAST ARM)
30" X 36" = 7.5 SF

0   20   50   100

SCALE: 1" = 20'

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

| PROJECT #: | Y18285.11 |
DATE:	5/13/2020
DESIGNER:	NRW
DRAFTER:	NRW
REVIEWER:	PV
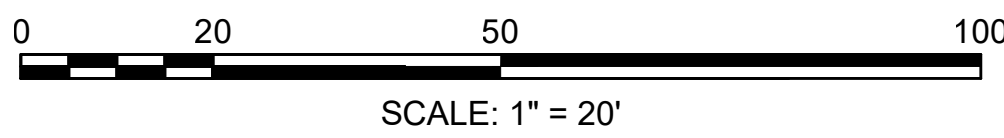
350 MYLES STANDISH BLVD
SUITE 103
TAUNTON, MA
TELE: (508) 823 - 2245
FAX: (508) 823 - 2246

120 WATER ST
4TH FLOOR
BOSTON, MA 02109
TELE: (617) 556 - 0020
FAX: (617) 556 - 0025

14 BREAKNECK HILL RD
SUITE 201
LINCOLN, RI 02865
TELE: (401) 648 - 7200

94 NORTH ELM STREET
SUITE 308
WESTFIELD, MA
TELE: (413) 875 - 8855

REVISIONS	REV #	DATE

AS-BUILT PLANS
CUMBERLAND FARMS
ACUSHNET AVE AT ASHLEY BLVD
NEW BEDFORD, MA

SHEET #	TOTAL SHEETS
1	3
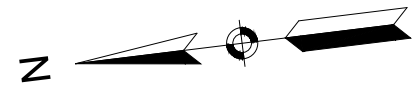
SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (COORDINATED)

STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	FLASH OPER	13	14	15	16	17	18	19	20	21	22	23	24
ACUSHNET AVENUE	NB	D,E	G	Y	R	G	Y	R	R	R	R	R	R	R	FY	R	R	R	G	Y	R	G	Y	R	R	R	R
ASHLEY BOULEVARD	NB	P,Q	R	R	R	G	Y	R	R	R	R	R	R	R	FR	R	R	R	G	Y	R	G	Y	R	R	R	R
ACUSHNET AVENUE	SB	A	FY	SY	R	R	R	R	R	R	R	R	R	R	FR	FY	SY	R	R	R	R	R	R	R	R	R	R
ACUSHNET AVENUE	SB	B	G	Y	R	R	R	R	R	R	R	R	R	R	FY	G	Y	R	R	R	R	R	R	R	R	R	R
ACUSHNET AVENUE	SB	C	G	Y	R	G	Y	R	R	R	R	R	R	R	FY	G	Y	R	R	R	R	R	R	R	R	R	R
ACUSHNET AVENUE	SB	R	G	Y	R	G	Y	R	R	R	R	R	R	R	FY	G	Y	R	R	R	R	R	R	R	R	R	R
ACUSHNET AVENUE	SB	M,N	G	Y	R	G	Y	R	R	R	R	G	Y	R	FY	G	Y	R	R	R	R	R	R	R	G	Y	R
ACUSHNET AVENUE	NWB	F,G	G	Y	R	R	R	R	R	R	R	R	R	R	FY	R	R	R	R	R	R	G	Y	R	R	R	R
BELAIR STREET	EB	K,L	R	R	R	R	R	R	R	R	R	R	R	R	FR	R	R	R	R	R	R	R	R	R	G	Y	R
SITE DRIVEWAY	WB	H,J	R	R	R	R	R	R	R	R	R	G	Y	R	FR	R	R	R	R	R	R	R	R	R	R	R	R
PEDESTRIAN	ALL	P1-P10	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW

TIMING IN SECONDS

	1	2	3	4	5	6	7	8	9	10	11	12		13-14		15-16		17-18		19-20		21-22	
MINIMUM GREEN (INITIAL)	10			10						6			EMERGENCY ONLY	-		-		-		-			
PASSAGE TIME (VEHICLE)	7			7						6													
MAXIMUM 1 (COORDINATION)	29			28						12													
MAXIMUM 2 (FREE)	36			31						12													
YELLOW CLEARANCE		4			4						3.5			4		4		4		4		4	
RED CLEARANCE			3			3						2.5			3		3		3		3		3
WALK (W)								7															
PEDESTRIAN CLEARANCE										14	4												

RECALL	C-MIN	OFF	OFF	OFF	-	-	-	-
MEMORY	NON-LOCK	NON-LOCK	LOCK	NON-LOCK	-	-	-	-

MAJOR ITEMS REQUIRED

PAY ITEM	QUANTITY	ITEM
816.01	1	SERVICE CONNECTION WITH DISCONNECT, TYPE OVERHEAD
	1	UNINTERRUPTED POWER SUPPLY SYSTEM
	1	EVERSOURCE APPROVED HANDHOLE 17 X 30 INCHES
	1	CONTROLLER NEMA 8-PHASE TS2-TYPE 1, CAB, FDN, & CONC PAD
	3	8' SIGNAL POLE, BASE, & FDN
	2	10' SIGNAL POLE, BASE, & FDN
	1	15 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY (PAINTED POWDER COATED BLACK), BASE & FDN
	1	30 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY (PAINTED POWDER COATED BLACK), BASE & FDN
	1	35 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY (PAINTED POWDER COATED BLACK), BASE & FDN
	1	40 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY (PAINTED POWDER COATED BLACK), BASE & FDN
	12	1 WAY, 3 SECTION, SIGNAL HOUSING (12" LED)
	4	1 WAY, 3 SECTION, SIGNAL HOUSING, PROGRAMMABLE VISIBILITY (12" LED)
	16	5" NON-LOUVERED SIGNAL BACKPLATES W/ RETROREFLECTIVE BORDERS
	10	PEDESTRIAN SIGNAL HEAD, SINGLE SECTION W/ COUNTDOWN TIMER
	10	ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTON ASSEMBLY W/ SIGN & SADDLE
	7	MAST ARM MOUNTED VIDEO DETECTION CAMERA
	1	2-CHANNEL VIDEO PROCESSOR AND APPLIANCES
	1	ENVIRONMENTALLY HARDENED 8 PORT ETHERNET SWITCH
	4	EMERGENCY PREEMPTION RECEIVER-SINGLE CHANNEL
	2	EMERGENCY PREEMPTION PHASE SELECTOR MODULE-DUAL CHANNEL
	2	EMERGENCY PREEMPTION CONFIRMATION BEACON (WHITE)
811.22	1	ELECTRIC HANDHOLE 12 X 24 INCHES - SD2.022
811.31	7	PULL BOX 12 X 12 INCHES - SD2.031
		PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE INSTALLATION.

CONSTRUCTION NOTES:
1. PER MASSDOT STANDARD DRAWINGS AND ENGINEERING DIRECTIVE E-16-001, USE MAST ARM FOUNDATION DESIGN WIND SPEED OF 130 MPH.

SIGNAL IDENTIFICATION

SIGNAL IDENTIFICATION NOTES:
1. ALL SIGNALS SHALL HAVE L.E.D. LENSES.
2. ALL SIGNALS SHALL HAVE 3/4 TUNNEL VISORS.
3. ALL SIGNALS SHALL HAVE A 5" NON-LOUVERED BACKPLATE WITH A 3" YELLOW RETRO-REFLECTIVE TAPE BORDER.
4. SIGNAL HEADS D, E, M, AND N SHALL BE PROGRAMMABLE VISIBILITY. ONLY GREEN INDICATIONS SHALL BE PROGRAMMED TO LIMIT VISIBILITY TO AREA BETWEEN BELAIR STREET AND ASHLEY BOULEVARD IN BOTH DIRECTIONS.

PREFERENTIAL PHASING SEQUENCE
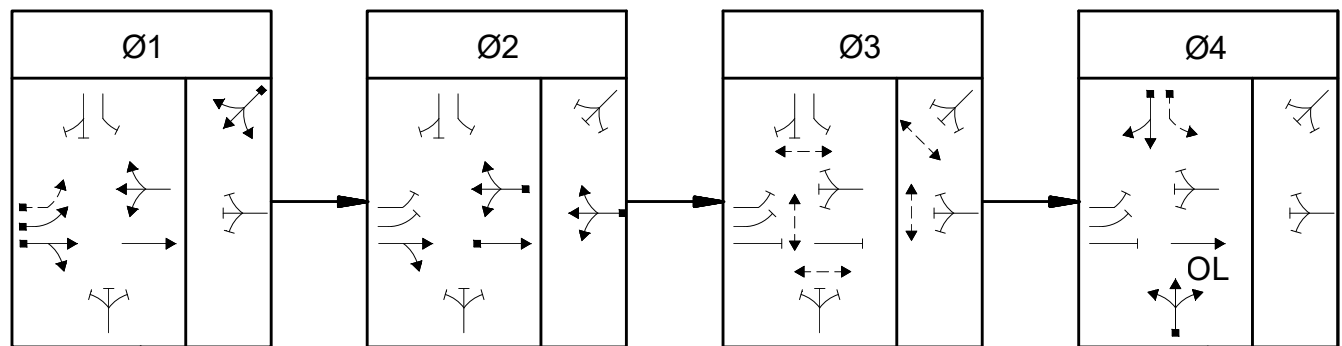
- DETECTOR CONTROLLING PHASE

PREFERENTIAL PHASING SEQUENCE NOTES:
1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.

FIRE PREEMPTION SCHEDULE

APPROACH	PREEMPTION PHASE	NEXT PHASE CALLED
SOUTHBOUND	R1	2
NORTHBOUND	R2	1
NORTHWESTBOUND	R3	1
EASTBOUND	R4	1

EMERGENCY VEHICLE PREEMPTION OPERATION NOTES:
1. EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT THE INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
2. PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED, FIRST SERVED BASIS.
3. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAN THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED). OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
4. PREEMPTION MINIMUM GREENS SHALL BE 10 SECONDS.
5. ACTUAL TIMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY CITY OF NEW BEDFORD PRIOR TO OPERATION.
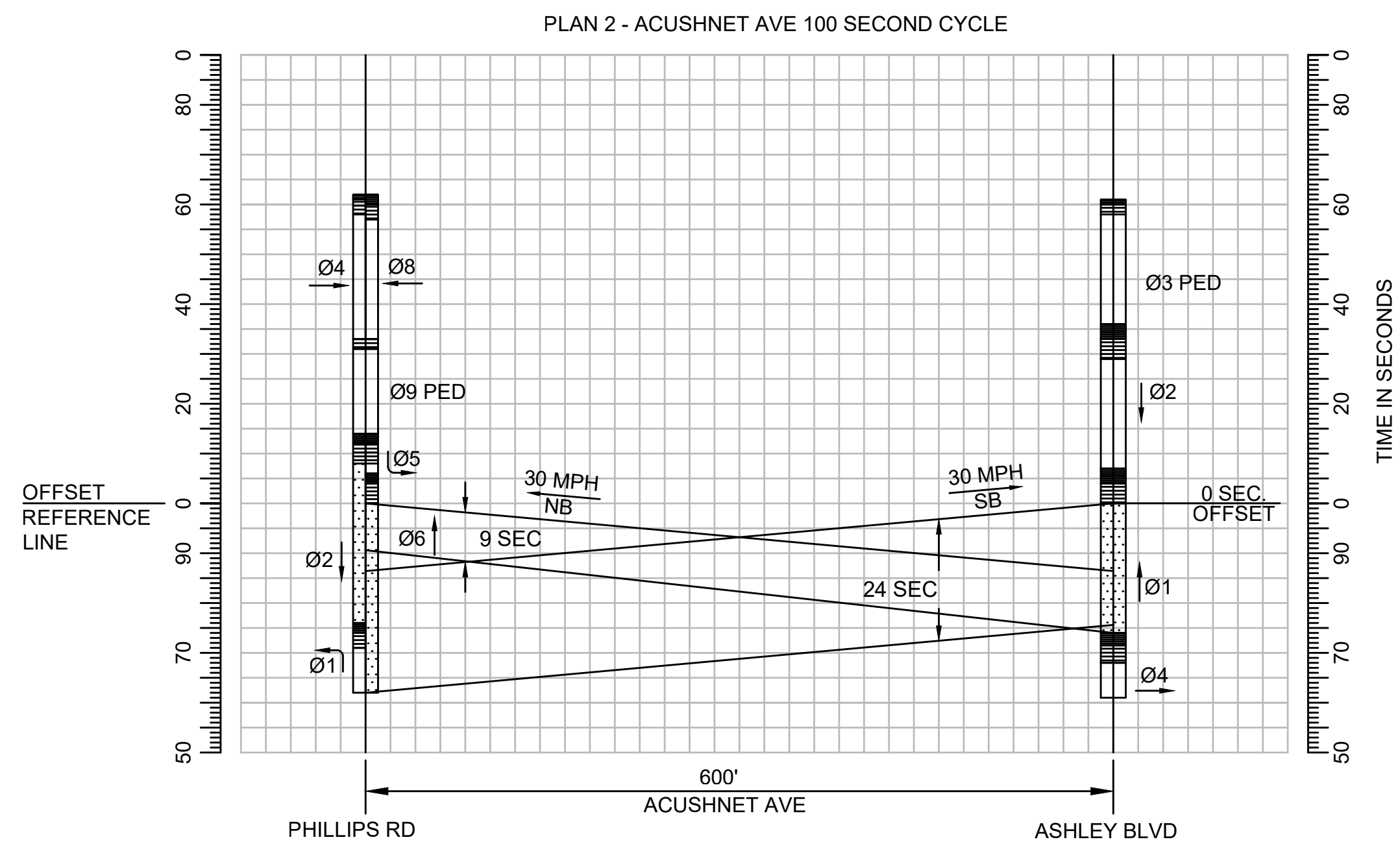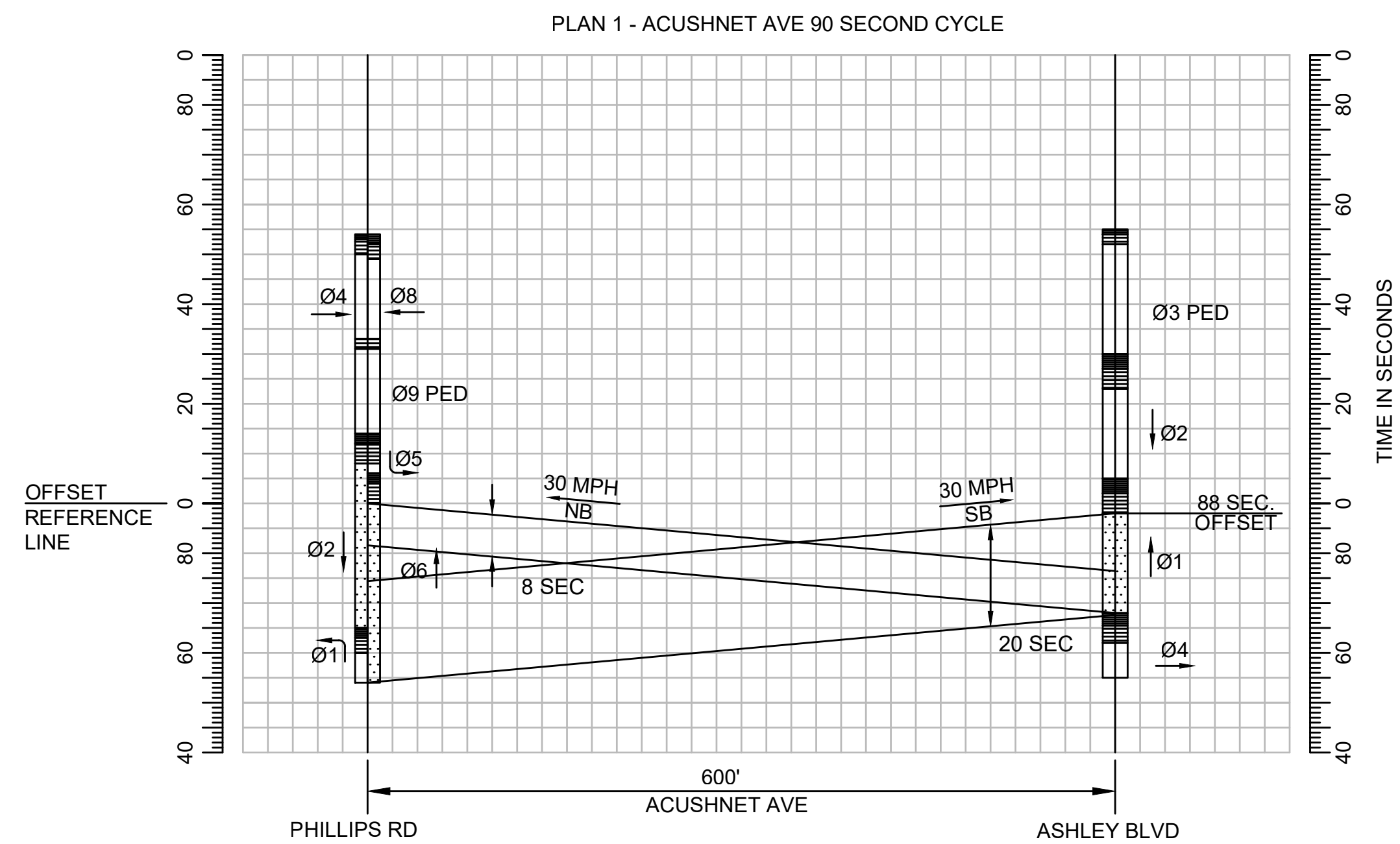
VIDEO DETECTOR DATA

DETECTOR NUMBER	Ø CALLED	Ø EXT	MODE A=PULSE B=PRES	SIZE	DELAY
1	1	1	B	6'x40'	-
2	1	1	B	6'x40'	-
3	1	1	B	6'x40'	-
4	2	2	B	6'x40'	-
5	1	1	B	6'x40'	-
6	2	2	B	6'x40'	-
7	4	4	B	6'x40'	5
8	4	4	B	6'x40'	-
9	4	4	B	6'x40'	5
10	2	2	B	6'x40'	-
11	1	1	B	6'x40'	-

REVISIONS | REV # | DATE

AS-BUILT PLANS
CUMBERLAND FARMS
ACUSHNET AVE AT ASHLEY BLVD
NEW BEDFORD, MA

SHEET #: 2
TOTAL SHEETS: 3

PLAN 1 - ACUSHNET AVE 90 SECOND CYCLE

TIME IN SECONDS

OFFSET REFERENCE LINE

Ø4 Ø8
Ø9 PED
Ø5
Ø2
Ø6
Ø1
30 MPH NB
8 SEC
30 MPH SB
88 SEC OFFSET
20 SEC
Ø3 PED
Ø2
Ø1
Ø4

600'
ACUSHNET AVE
PHILLIPS RD   ASHLEY BLVD

PLAN 2 - ACUSHNET AVE 100 SECOND CYCLE

TIME IN SECONDS

OFFSET REFERENCE LINE

Ø4 Ø8
Ø9 PED
Ø5
Ø2
Ø6 9 SEC
Ø1
30 MPH NB
30 MPH SB
0 SEC OFFSET
24 SEC
Ø3 PED
Ø2
Ø1
Ø4

600'
ACUSHNET AVE
PHILLIPS RD   ASHLEY BLVD

ACUSHNET AVENUE AT ASHLEY BOULEVARD
COORDINATION DATA
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2
CYCLE LENGTH	90 SEC	100 SEC
OFFSET	88	0
Ø1	27	33
Ø2	25	29
Ø3 - PEDESTRIAN	25	25
Ø4	13	13
COORDINATED PHASE	Ø1	Ø1

ACUSHNET AVENUE AT PHILLIPS ROAD
COORDINATION DATA
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2
CYCLE LENGTH	90 SEC	100 SEC
OFFSET	0	0
Ø1 & Ø6	11	14
Ø2 & Ø6	31	30
Ø2 & Ø5	8	8
Ø9 - PEDESTRIAN	19	19
Ø4 & Ø8	21	29
COORDINATED PHASE	Ø2 & Ø6	Ø2 & Ø6

COORDINATION NOTES:

1. OFFSET TO BEGINNING OF FIRST COORDINATED PHASE TURNING YELLOW.
2. ALL COORDINATION PHASE TIMES INCLUDE YELLOW AND RED CLEARANCE TIME.
3. COORDINATED PHASE DETECTORS SHALL BE DISABLED DURING COORDINATION.
4. COORDINATION MODE SHALL BE PERMISSIVE. FLOATING FORCE OFFS SHALL BE IN EFFECT DURING COORDINATION.
5. OFFSET SEEKING SHALL BE THE SHORTWAY METHOD.
6. COORDINATION SHALL BE SET AS ABOVE, AND CAN BE FINE TUNED AFTER CONSTRUCTION.

REVISIONS	REV #	DATE

AS-BUILT PLANS
CUMBERLAND FARMS
ACUSHNET AVE AT ASHLEY BLVD
NEW BEDFORD, MA

SHEET #: 3
TOTAL SHEETS: 3