

TO	1. SENIOR ENGINEER, CONTROLLER APPLICATIONS 2. STEVE BELZ, NORTHERN REGION DELIVERY	ACTION	DATE
FROM	NOEL RAVEENDRAN	DATE	6/09/18
SITE	CALDER HIGHWAY / LANSELL PLAZA	SITE NO.	6254
REGION	NORTHERN	MUNICIPALITY	GREATER BENDIGO

GENERAL

Works Program Job?	Yes	Project Number	BC122C
Classification	MINOR	Works Order Number	4A006100

EXISTING CONTROLLER DETAILS

Type	Eclipse	Software Version & Release	V5R20	Lanterns	QH
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CONTROLLER APPLICATIONS

Target Date for Draft Opsheet	24/08/2018
Target Date for completion of Program	07/09/2018

Prepare Interlocking	No
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Update Graphics	No
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Description of changes	LED upgrade, timesetting changes.
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PERSONALITY CHECKSUMS

	Hex	Octal
Total	BA	272
Times	F9	371
Pers	43	103

Dispatched 24/09/18

<input type="checkbox"/>	Site ID Revision updated to
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NORTHERN REGION DELIVERY - SIGNAL INSTALLATION

<input checked="" type="checkbox"/> Changes to signal hardware	<input type="checkbox"/> Changes to interlocking
<input type="checkbox"/> Additional detectors	<input type="checkbox"/> Changes to existing detector numbering
<input type="checkbox"/> Upgrade controller software to	
<input type="checkbox"/> Other changes	
<input checked="" type="checkbox"/> Place new operation specification in controller	

PRIOR NOTICE

A job must be entered into RAI Action database before this PROM change will be allowed.

<input checked="" type="checkbox"/> SCATS data changes - notify	NOEL RAVEENDRAN	Ext	1243
	OR	Ext	1197
	before 3:00pm on the day before switch on.		

SCATS Data Changes - Checksum update, delete RAM data.

TRAFFIC MANAGEMENT CENTRE

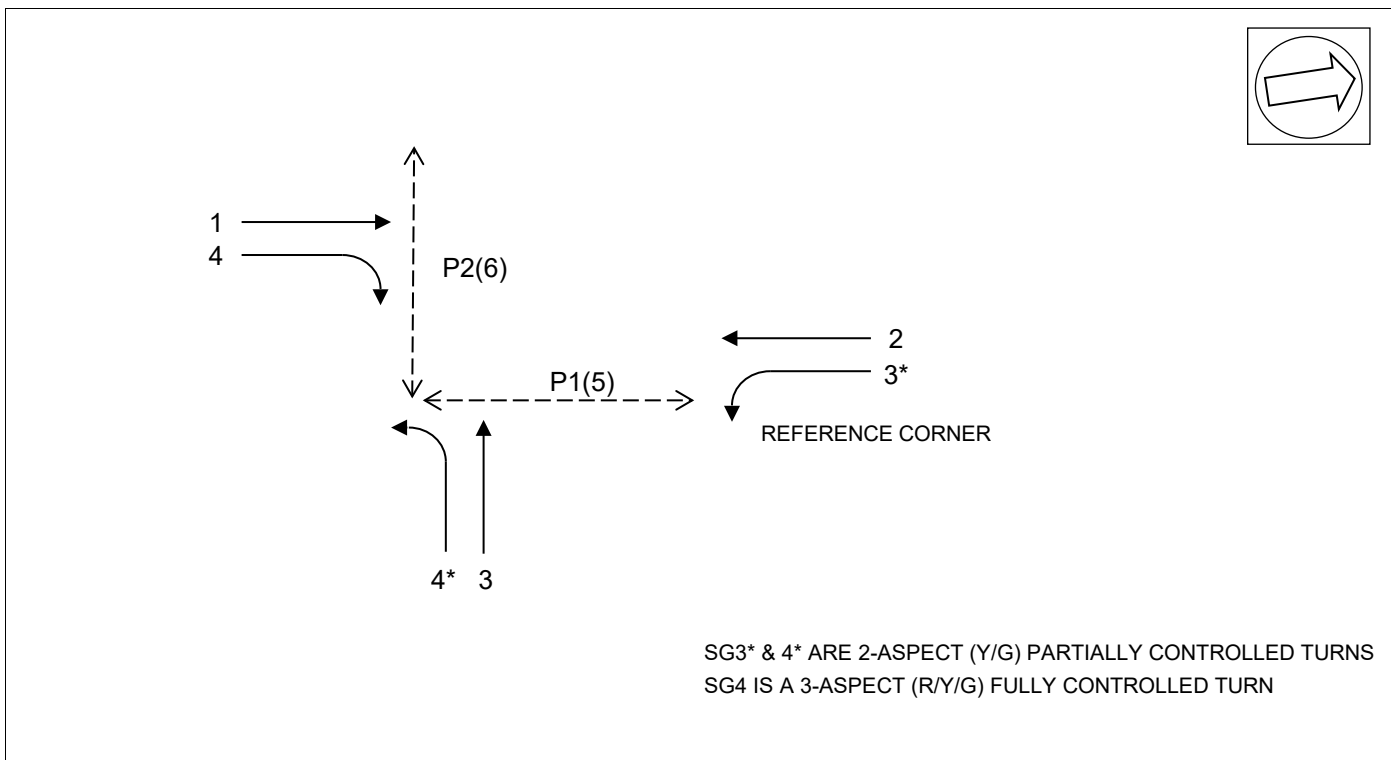
<input checked="" type="checkbox"/> Checksum update only
<input type="checkbox"/> Changes to trim or manual intervention features required
<input checked="" type="checkbox"/> Please notify NOEL RAVEENDRAN (x1243) on job completion.

DATE PROM INSTALLED

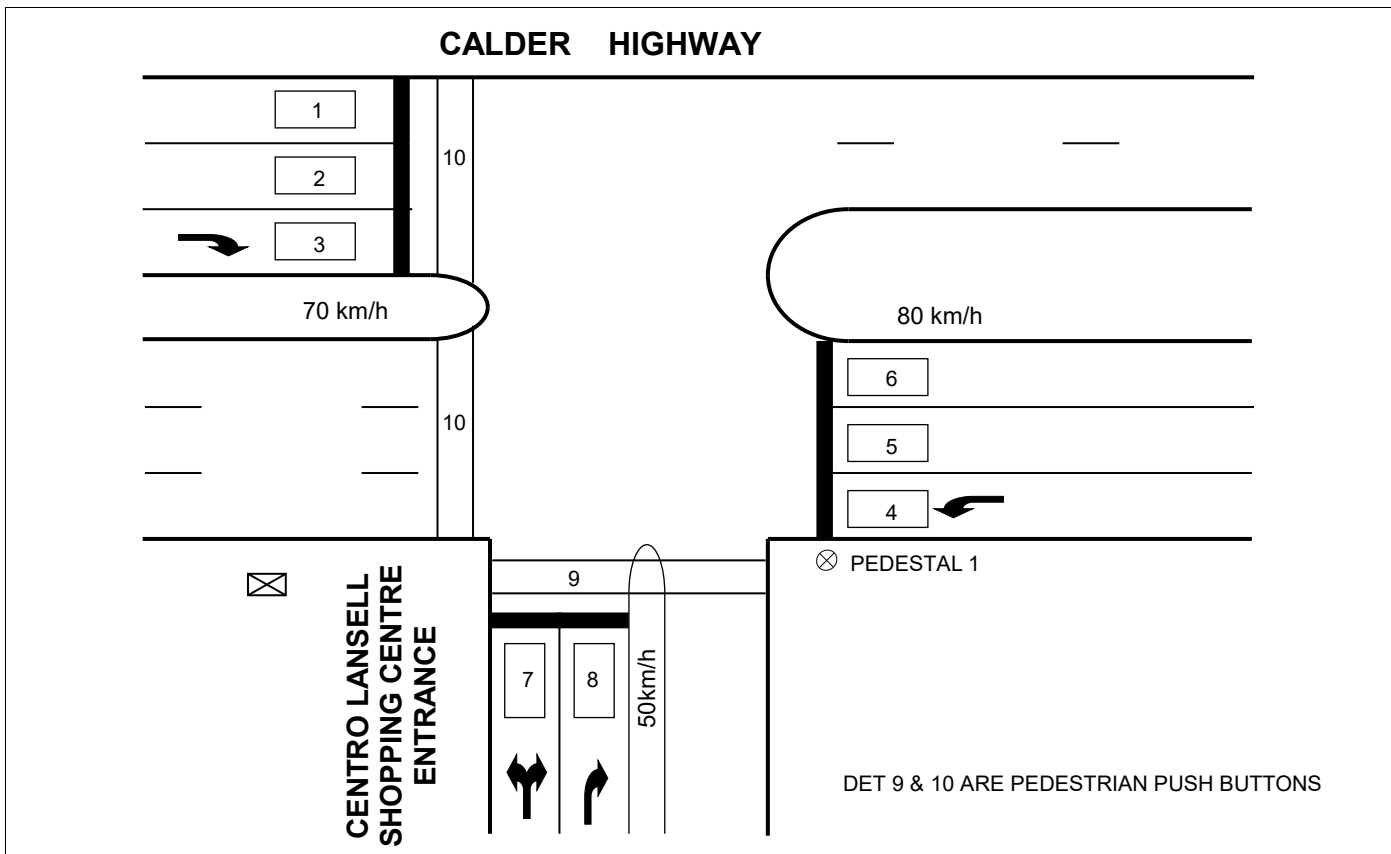
CONTROLLER OPERATION SPECIFICATION

SITE NAME	CALDER HIGHWAY / LANSELL PLAZA			SITE NO.	6254
MUNICIPALITY	GREATER BENDIGO	DESIGNED BY	NOEL RAVEENDRAN	DATE	6/09/18
PLAN NO.	499994	DESIGN CHECKED		DATE	
CONTROLLER TYPE	Eclipse	PROM CHECKED		DATE	

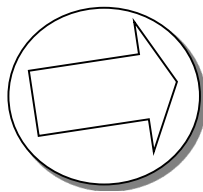
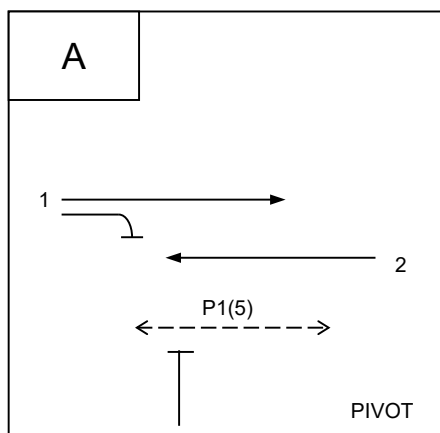
GROUP ALLOCATION



DETECTOR MAP

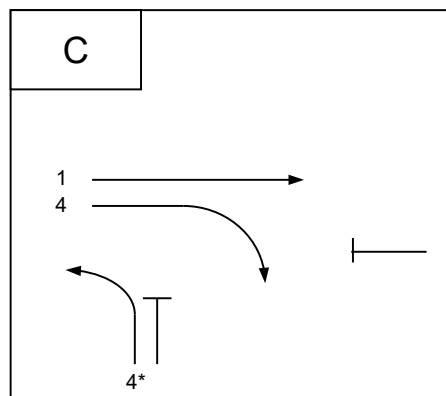
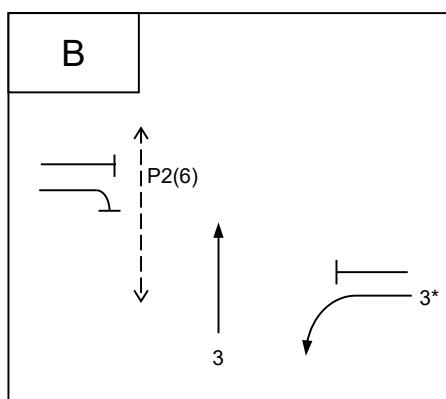


PHASING DIAGRAM



Refer General Notes

PHASE	PROHIBITED PHASE CHANGES TO	REVERSION ON MAXIMUM	MAXIMUM V.I.G ON REVERSION



DETECTOR FUNCTIONS

DETECTOR No.	Internal / External	Input Number	CALL PHASE	LOCKING CALL	NON-LOCKING CALL	SET VIG ON PHASE	EXTEND PHASE	SPECIAL FUNCTION			DETECTOR ALARMS					
								Detector Type	Description	Refer Special Notes	DA Category	Disable	DA on S/C only	Fault Simulation		
1	I	1	A	✓			AC				0			✓		
2	I	2	A	✓			AC				0			✓		
3	I	3	C	✓			C				0			✓		
4	I	4	A	✓			AB				0			✓		
5	I	5	A	✓			A				0			✓		
6	I	6	A	✓			A				0			✓		
7	I	7	B	✓			B				0		✓	✓		
8	I	8	B	✓			B				0		✓	✓		
9	E	1	A		✓			P1		✓	6		✓			
10	E	2	B		✓			P2		✓	6		✓			
11																
12																
13																
14																
15																
16																
17																
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31																
32																

APPROACH DEFINITIONS**PHASE APPROACHES**

Approach No	EXTENDING DETECTORS	APPROACH TIMER AND TIMESETTING DEFINITION*	SIGNAL GROUP	APPROACH EXPIRY (EXPAP)	Refer Special Notes
1	1,2	A11,C22	1	AØ↔CØ	
2	5,6	A22	2		
3	4	A33,B22	2,3	AØ↔BØ	
4	7,8	B11	3		
5	3	C11	4		
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

* There are 8 approach timers and 4 approach timesettings available per phase:

- Where there are 4 or less approaches per phase, allocate one timesetting to each timer.

For example: A11, A22, A33, B11, C11.

- Where there are more than 4 approaches per phase, two or more timers must have the same timesetting.

For example: A11, A21, A32, A43, A54, B11.

SPECIAL APPROACHES

Approach No	EXTENDING DETECTORS	APPROACH TIMESETTING	SIGNAL GROUP	DESCRIPTION	Refer Special Notes
1					
2					
3					
4					

DESIGN OF INTERGREEN AND PEDESTRIAN TIMES**INTERGREEN TIMES**

PHASE	CLEARANCE DETAILS		LEGAL SPEED	DESIGN SPEED		INTERGREEN		
	GROUP TRANSITION	DISTANCE		YELLOW	RED	YELLOW	RED	TOTAL
A	2 → P2	30.0	70/80	80	60	5.0	2.0	7.0
B	3 → 2	25.0	60	45	45	3.0	2.0	5.0
C	4 → P1	27.0	70	45	45	3.0	2.5	5.5
D	→							
E	→							
F	→							
G	→							

PHASE SPECIAL ALL REDS AND SPECIAL MOVEMENT ALL REDS

FROM PHASE	TO PHASE	CLEARANCE DETAILS		DESIGN SPEED	ALL RED	PHASE or S.M. No*
		GROUP TRANSITION	DISTANCE			
C	B	4 → 2	22.0	45	2.0	C SAR
		→				
		→				
		→				
		→				
		→				

* Specify where the timesetting is stored (the phase special all red or the special movement time setting number)

PEDESTRIAN TIMES

PED	PHASE(S)	WALK			CLEARANCE				MINIMUM SOLID DON'T WALK
		DISTANCE (m)	TIME		DISTANCE (m)	TIME			
			GRAPH	ADOPTED		GRAPH	CL1	CL2	
1	A	21.0	8	8	21.0	14	14.0		7.0
2	B	14.5	14	19	11.5	8	8.0		5.0

CONTROLLER TIMESETTINGS - 1**PHASE TIMESETTINGS** Front Panel Command: Phase No.Timesetting No (e.g. 3.2 accesses C phase late start)

DESCRIPTION	Timesetting No	PHASE						
		A (1)	B (2)	C (3)	D (4)	E (5)	F (6)	G (7)
RED / YELLOW	1	-	-	-	-	-	-	-
LATE START	2							
MINIMUM GREEN	3	10	8	6				
INCREMENT	4							
MAXIMUM INITIAL GREEN*	5							
MAXIMUM EXTENSION GREEN	6	30	25	15				
EARLY CUT OFF	7							
YELLOW	8	5.0	3.0	3.0				
ALL RED	9	2.0	2.0	2.5				
SPECIAL ALL RED	10			2.0				
GAP 1	11	2.5	2.5	2.5				
GAP 2	12	2.5	2.5	2.5				
GAP 3	13	2.5						
GAP 4	14							
HEADWAY 1	15	0.6	0.6	1.2				
HEADWAY 2	16	0.6	1.2	0.6				
HEADWAY 3	17	1.2						
HEADWAY 4	18							
WASTE 1	19	7	7	7				
WASTE 2	20	7	7	7				
WASTE 3	21	7						
WASTE 4	22							

* Maximum Initial Green = Minimum Green + V.I.G.

PEDESTRIAN TIMESETTINGS Front Panel Command: Pedestrian No.Timesetting No (e.g. 18.2 accesses P2 walk)

DESCRIPTION	Timesetting No	PEDESTRIAN							
		P1 (17)	P2 (18)	P3 (19)	P4 (20)	P5 (21)	P6 (22)	P7 (23)	P8 (24)
DELAY	1	-	-	-	-	-	-	-	-
WALK*	2	8.0	19.0						
CLEARANCE 1	3	14.0	8.0						
CLEARANCE 2	4								

* Minimum walk time - used in Isolated and Flexilink operation

For walk times in Masterlink operation, refer to slot data.

CONTROLLER TIMESETTINGS - 2**SPECIAL MOVEMENT TIMESETTINGS** Front Panel Command: B.Timesetting No (e.g. B.5 accesses Special Movement Timesetting No 5)

Timesetting No	Timesetting (Range: 0-5)	FUNCTION
1		
2		
3		
4		
5		
6		
7		
8		

SPECIAL PURPOSE TIMESETTINGS Front Panel Command: B.Timesetting No (e.g. B.19 accesses Special Movement Timesetting No 19)

Timesetting No	Timesetting (Range: 0-200)	FUNCTION
9	8	P1 WALK TIME SUBSTITUTION
10		
11		
12		
13		
14		
15		
16		
17		
18	0	LIMIT GREEN WATCHDOG TIMER
19	0	SPECIAL FACILITY CONTROLS ALARM TIMER
20	10	ALL RED START UP INTERVAL
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

CONTROLLER TIMESETTINGS - 3**PRESENCE TIMESETTINGS**

Front Panel Command: D.Detector No (e.g. D.7 accesses presence time for detector 7)

DETECTOR No	TIMESETTING (Range: 0-10)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
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14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

NOTE: Set presence time to zero if the detector is not a presence detector

DAILY EVENT TIMESETTINGS

FUNCTION	TIMESETTING
Daily start time (Hours)	
Daily start time (Minutes)	
Daily finish time (Hours)	
Daily finish time (Minutes)	

FLEXILINK OPERATION**PHASE SEQUENCES**

No	PHASE SEQUENCE
1 (No Y+)	ABC
2 (Y+)	ACB

NOTES:

1. All phases must be specified in the phase sequence
2. Only specify phase sequence 2 if it is different from phase sequence 1.

LOOK AHEADS & RELEASES

PHASE SEQUENCE 1		
PHASE	LOOK AHEAD*	RELEASE
A	No	R-
B	Yes (to C,A)	R+
C	Yes (to A)	Q-
D		
E		
F		
G		

PHASE SEQUENCE 2		
PHASE	LOOK AHEAD*	RELEASE
A	No	R-
B	Yes (to A)	R+
C	No	Q-
D		
E		
F		
G		

* Specify the phases to which look ahead is permitted, e.g. Yes (to E, F, G, A)

INHIBIT PHASES

The following phases can be inhibited in flexilink by setting the call pulse one step before the call pulse of the next phase in sequence _____

PULSE STEP LENGTH

☐ One Second ☒ Two Second

MASTERLINK & FLEXILINK SPECIAL FLAGS

FLAG	FUNCTION
Y- Flexi	The site will operate in flexilink mode if the signal is continuously sent (C) or is used as an offset (e.g. 25)
Y- Master	
Y+ Flexi	Select Alternative Sequence ACB
Z- Flexi	
Z- Master	
Z+ Flexi	Permanent demand for CØ
Z+ Master	
R- Flexi	AØ RELEASE PULSE
R+ Flexi	BØ RELEASE PULSE
Q- Flexi	CØ RELEASE PULSE
Q+ Flexi	P1 Walk Time substitution (refer Special Purpose Timesetting No. 9)

SCATS INTERSECTION DATA

The data shown on this page is typical data that can be used for testing controller operations.
This data is not necessarily applicable when the site is switched on in the field.

TYPICAL SLOT DATA

SLOT n	=	3	,	4	,	2
		(phases)		(split plans)		(peds)
INT	=	6254				
VC	=	5				
CS	=					
COM	=	$n + 2, H$				
PK	=	!				
S#	=					
LM	=					
RMN	=	0				
DCL	=	0				
VP#	=					
AT	=	7				
BT	=	5				
CT	=	6				
DT	=					
ET	=					
FT	=					
GT	=					
W1	=	0	W1 T	=	21	
W2	=	19	W2 T	=	13	
W3	=		W3 T	=		
W4	=		W4 T	=		
W5	=		W5 T	=		
W6	=		W6 T	=		
W7	=		W7 T	=		
W8	=		W8 T	=		
PP1	=	0,0A				
PP2	=	0,0A				
PP3	=	0,0A				
PP4	=	0,0A				

TYPICAL SPLIT PLAN DATA

PHASE SEQUENCE 1		PHASE SEQUENCE 2		PHASE SEQUENCE 3	
A =	0PDB	A =	0PDFGC	A =	
B =	30C	C =	15B	B =	
C =	15TGA	B =	30A	C =	

TYPICAL VARIATION PARAMETERS

VP1	=	3	VP22	=		VP43	=	
VP2	=	0	VP23	=		VP44	=	
VP3	=	1	VP24	=		VP45	=	
VP4	=	45	VP25	=		VP46	=	
VP5	=	159	VP26	=		VP47	=	
VP6	=	1	VP27	=		VP48	=	
VP7	=		VP28	=		VP49	=	
VP8	=		VP29	=		VP50	=	
VP9	=		VP30	=		VP51	=	
VP10	=		VP31	=		VP52	=	
VP11	=		VP32	=		VP53	=	
VP12	=		VP33	=		VP54	=	
VP13	=		VP34	=		VP55	=	
VP14	=		VP35	=		VP56	=	
VP15	=		VP36	=		VP57	=	
VP16	=		VP37	=		VP58	=	
VP17	=		VP38	=		VP59	=	
VP18	=		VP39	=		VP60	=	
VP19	=		VP40	=		VP61	=	
VP20	=		VP41	=		VP62	=	
VP21	=		VP42	=				

GROUP CONFLICT TABLE

PED NO	PED NO				P1		P2																			
	GROUP NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	1			X			X																			
	2			X	X		X																			
	3	X	X		X	X																				
	4		X	X		X	X																			
P1	5			X	X																					
P2	6	X	X		X																					
	7																									
	8																									
	9																									
	10																									
	11																									
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	24																									

CHECKED: Ahmed Abdalla DATE: 17/12/04

GENERAL NOTES

SUMMARY OF XSF FLAGS

(Communications Operation of XSF flags is required)

XSF1 - Allows the late introduction of P1 in AØ (Master).

GENERAL OPERATION

1. Use AØ yellow for CØ yellow if going CØ → BØ.
2. Use CØ special all red for CØ red if going CØ → BØ.
3. REVn. – First scan after start-up demands BØ and CØ.

PEDESTRIAN GROUP OPERATION

Pedestrian 1

P1 calls AØ.

P1 can introduce at the start of AØ.

In Master, P1 can introduce at any time in AØ while XSF1 is set.

In Flexi, P1 uses Special Purpose Timesetting No.9 for its walk time when Q+ is set.

Pedestrian 2

P2 calls BØ.

P2 can introduce at the start of BØ.

DETECTOR OPERATION

General

Clear vehicle demands during associated phase green and yellow.