

		ACTION	DATE
TO	1. SENIOR ENGINEER, CONTROLLER APPLICATIONS		
	2. CRAIG LEITH, IMPROVEMENT PROJECTS		
FROM	FRED VAN GORP	DATE	20/01/20
SITE	ARCHER STREET CFA BETWEEN VAUGHAN STREET & ROWE STREET	SITE NO.	6266
REGION	NORTH EASTERN	MUNICIPALITY	GREATER SHEPPARTON

GENERAL

Works Program Job?	No	Project Number	44EWPR39
Classification	STANDARD	Works Order Number	4A006616
Description	<input checked="" type="checkbox"/> New intersection signals <input type="checkbox"/> New pedestrian operated signals <input type="checkbox"/> Controller swap. Reason for swap		

CONTROLLER DETAILS

Type	Eclipse	Software Version & Release	V5 R20	Lanterns	LED
Number of Signal Groups	Vehicle	4	Pedestrians	0	Total 4
Number of special outputs / Pedestrian Wait State Outputs	1				
Controller capacity	4				
Number of detectors	Vehicle	0	Pedestrians	0	Total 2
	Tram		Other	2	

CONTROLLER APPLICATIONS

Target Date for Draft Opsheet	ASAP
Target Date for completion of Program	End Jan
Prepare Interlocking	

PERSONALITY CHECKSUMS

	Hex	Octal
Total	C2	302
Times	AD	255
Pers	6F	157
Dispatched	3/03/20	

IMPROVEMENT PROJECTS - SIGNAL INSTALLATION

If switch-on of a metro site is to occur without a Telstra line, seek approval of the T/L Signal Services

SCATS connection	Controller must be connected to SCATS at switch-on
------------------	--

PRIOR NOTICE

A job must be entered into RAI Action database before this switch on will be allowed.

<input checked="" type="checkbox"/>	SCATS data changes - notify	FRED VAN GORP	Ext	8885
	OR	CHRIS EER	Ext	8711
before 3:00pm on the day before switch on.				

SCATS Data Changes -

TRAFFIC MANAGEMENT CENTRE

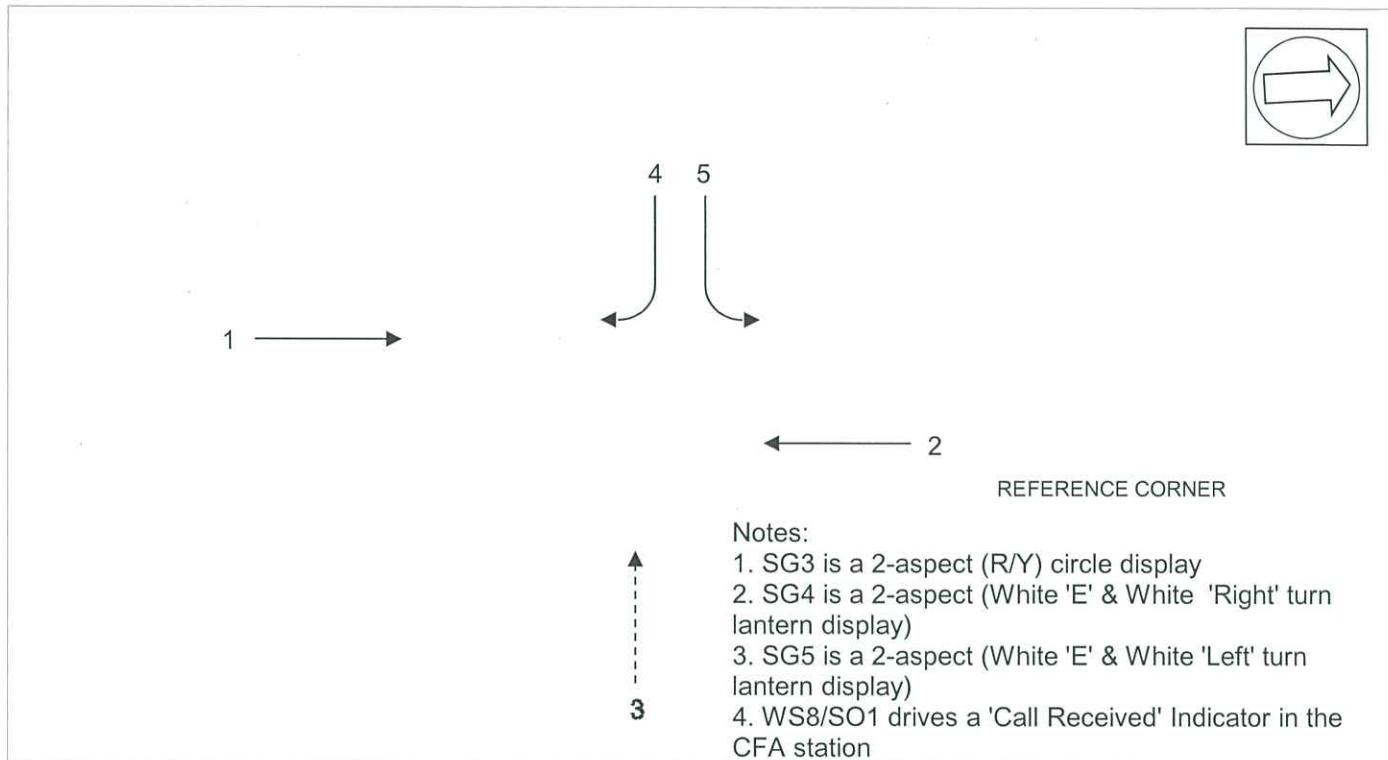
<input checked="" type="checkbox"/>	Please notify FRED VAN GORP (x8885) on job completion.
-------------------------------------	--

DATE OF NEW CONTROLLER SWITCH ON

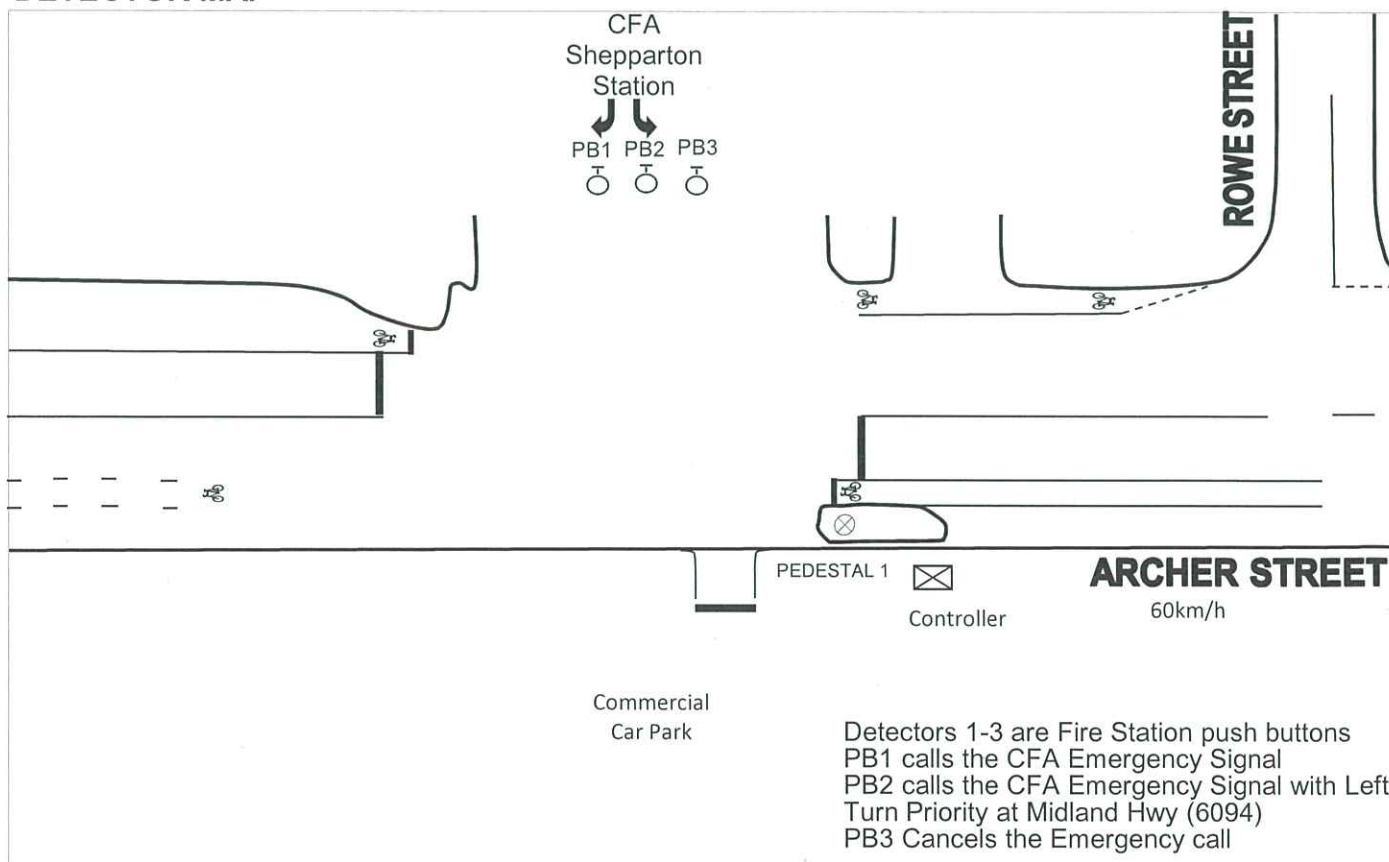
CONTROLLER OPERATION SPECIFICATION

SITE NAME	ARCHER STREET CFA BETWEEN VAUGHAN STREET & ROWE STREET			SITE NO.	6266
MUNICIPALITY	GREATER SHEPPARTON	DESIGNED BY	FRED VAN GORP	DATE	20/01/20
PLAN NO.	787261	DESIGN CHECKED	<i>(Tony Fitts)</i>	DATE	19/2/20
CONTROLLER TYPE	Eclipse	PROM CHECKED	<i>(Signature)</i>	DATE	3/3/20

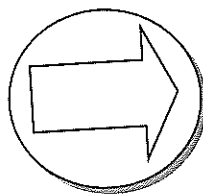
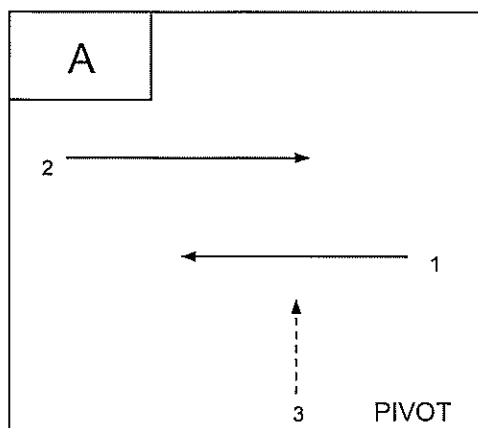
GROUP ALLOCATION



DETECTOR MAP

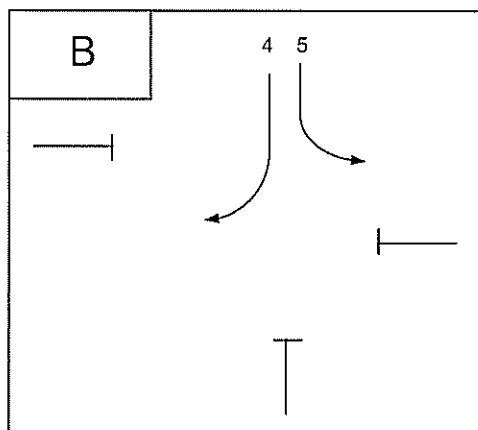


PHASING DIAGRAM



Refer General Notes

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



V.A. SEQUENCE

AB

DESIGNED BY: FRED VAN GORP

DATE 20/01/20

SITE NAME

ARCHER STREET CFA BETWEEN VAUGHAN STREET & ROWE STREET

SITE NO.

6266

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		
														Call & Extend	Call Only	Ignore Alarm
1	E	1	B	✓					Right Turn	✓	6		✓			
2	E	2	B	✓					Left Turn	✓	6		✓			
3	E	3		✓					Cancel PB	✓	6		✓			
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																
27																
28																
29																
30																
31																
32																

DESIGNED BY: FRED VAN GORP

DATE 20/01/20

APPROACH DEFINITIONS

PHASE APPROACHES

Approach No	EXTENDING DETECTORS	APPROACH TIMER AND TIMESETTING DEFINITION*	SIGNAL GROUP	APPROACH EXPIRY (EXPAP)	Refer Special Notes
1					
2					
3					
4					
5					
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 fewer 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					

GENERAL NOTES

SUMMARY OF MSS FLAGS

- MSS1** CFA station Right Call out emergency
- MSS2** CFA station Left Call out emergency
- MSS3** Detector 1 push button has a Short Circuit alarm
- MSS4** Detector 2 push button has a Short Circuit alarm

GENERAL OPERATION

Signal Groups 1 & 2, which control normal vehicular traffic, are standard 3-aspect (R/Y/G) displays and are provided to allow unopposed exit of a fire emergency vehicle from the fire station. The signal displays remain in the GREEN state until they are forced to close down by detectors (i.e. push buttons) located inside the fire station. After servicing the fire vehicles, the signals revert to the GREEN state.

Signal Groups 3 is a 2-aspect (R/Y) circle display and control normal vehicular traffic exiting out of Commercial Carpark during an emergency call.

Signal Groups 3 remains GREEN (Blank) state until they are forced to close down by detectors (i.e. push buttons) located inside the fire station.

After serving the fire vehicles call, the signals revert to the GREEN (Blank) state.

Signal Groups 4 & 5 control the Emergency vehicles exiting the fire station, SG4 is used to control the Right turning Emergency vehicle lantern displays and SG5 is used to control the Left turning Emergency vehicle lantern displays

This site should only operate in **ISOLATED** mode.

SUMMARY OF FIRE STATION PUSH BUTTON

Three push buttons are located in the fire station and are connected to Detectors 1, 2 and 3.

Push Button 1 (Detector 1) is activated when a fire vehicle intends to travel south along Archer Street, **turning right** as it exits the Fire Station.

Push Button 2 (Detector 2) is activated when a fire vehicle intends to travel north along Archer Street, **turning left** as it exits the Fire Station.

Push Button 3 (Detector 3) Cancel Button is used to **cancel** the extension of emergency vehicle operations called by Detectors 1 and 2.

SUMMARY OF FIRE STATION INDICATORS

Wait States or Special Outputs

Wait State 8 (WS8) & Special Output 1 (SO1)

There is a "Call Received" Indicator lamp associated with the call buttons (right & left) within the Fire Station. This lamp is driven by Wait State 8 (WS8) & Special output 1 (SO1) for both right & left turns.

DETAILED DESCRIPTION OF OPERATION

GENERAL INFORMATION

The Controller rests in AØ

FIRE BRIGADE RIGHT TURN OUT OPERATION – CALL FUNCTION via PUSH BUTTON 1 : Detector 1

Activation of Push Button 1 (*Detector 1 - right turn out of Fire Station*) starts a DELAY TIMER (*Special Purpose Timesetting No. 9*). Expiry of this DELAY TIMER places a call for BØ. As soon as the call for BØ is established, MSS1 is set and the controller steps into AØ intergreen.

BØ is automatically extended to maximum, unless the extension interval is terminated by the CANCEL FUNCTION (see below).

After BØ is finished, MSS1 is reset at the start of BØ red and the controller returns to AØ.

FIRE BRIGADE LEFT TURN OUT OPERATION – CALL FUNCTION via PUSH BUTTON 2 : Detector 2

Activation of Push Button 2 (*Detector 2 - left turn out of Fire Station*) starts a DELAY TIMER (*Special Purpose Timesetting No. 10*). Expiry of this DELAY TIMER places a call for BØ. As soon as the call for BØ is established, MSS2 is set and the controller steps into AØ intergreen.

BØ is automatically extended to maximum, unless the extension interval is terminated by the CANCEL FUNCTION (see below).

After BØ is finished, MSS2 is reset at the start of BØ red and the controller returns to AØ.

CANCEL FUNCTION via PUSH BUTTON 3 (DETECTOR 3)

Activation of Push Button 3 (*Detector 3 - Cancel*) starts a CANCEL TIMER (*Special Purpose Timesetting No. 11*), expiry of which terminates BØ extension. If BØ extension has not yet commenced, it will be cancelled, thus terminating the running phase at the end of minimum green.

ACTIVATION OF WAIT STATE & SPECIAL OUTPUT

Call Function via Push Button 1 and Push Button 2

When going AØ→BØ, Wait State 8 & Special Output 1 are activated from the point when Push Button 1 or Push Button 2 is activated until the end of BØ intergreen.

START-UP

The FLASHING YELLOW and ALL RED START UP intervals are not required. The controller shall begin normal operation in the MINIMUM GREEN interval of AØ. Demands for BØ placed prior to the resumption of normal operation are cleared.

ALARM STATUS

Detector 1

If Detector 1 is on continuously do not call BØ (apart from when it is first activated) until Detector 1 again changes state from OFF to ON. Also, if Detector 1 is on continuously for greater than the value in Special Purpose Timesetting No. 12 then set MSS3 - this can be used to send a warning message.

Detector Alarm Generation:

- When the controller is on line to SCATS and Detector 1 is continuously on for the periods as specified by the SCATS TDA message, then a Detector Alarm (DA) will be generated on Detector 1.
- Do not alarm Detector 1 if in the OFF state.
- These 2 conditions mean that a DA will be generated "ONLY IF DET SHORT CIRCUIT".

Detector 2

If Detector 2 is on continuously do not call BØ (apart from when it is first activated) until Detector 2 again changes state from OFF to ON. Also, if Detector 2 is on continuously for greater than the value in Special Purpose Timesetting No. 13 then set MSS4 - this can be used to send a warning message.

Detector Alarm Generation:

- When the controller is on line to SCATS and Detector 2 is continuously on for the periods as specified by the SCATS TDA message, then a Detector Alarm (DA) will be generated on Detector 2.
- Do not alarm Detector 2 if in the OFF state.
- These 2 conditions mean that a DA will be generated "ONLY IF DET SHORT CIRCUIT".

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	1 → 5	35.0	60	60	60	4.0	2.0	6.0
B	4 → 2	25.0	50	50	50	3.5	2.0	5.5
C	→							
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			
		→				
		→				
		→				
		→				
		→				
		→				

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

PEDESTRIAN TIMES

ELEVATION TIMES		WALK			CLEARANCE			MINIMUM SOLID DON'T WALK
PED	PHASE(S)	DISTANCE (m)	TIME		DISTANCE (m)	TIME		
			GRAPH	ADOPTED		GRAPH	CL1	

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					
INCREMENT	4							
MAXIMUM INITIAL GREEN*	5							
MAXIMUM EXTENSION GREEN	6		32					
EARLY CUT OFF	7							
YELLOW	8	4.0	3.5					
ALL RED	9	2.0	2.0					
SPECIAL ALL RED	10							
GAP 1	11							
GAP 2	12							
GAP 3	13							
GAP 4	14							
HEADWAY 1	15							
HEADWAY 2	16							
HEADWAY 3	17							
HEADWAY 4	18							
WASTE 1	19							
WASTE 2	20							
WASTE 3	21							
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								
CLEARANCE 1	3								
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	1	Delay Timer 1 for right turn out (<i>Detector 1 - Call Push Button</i>)
10	1	Delay Timer 2 for left turn out (<i>Detector 2 - Call Push Button</i>)
11	0.5	Delay Timer 3 for Cancel button (<i>Detector 3 - Cancel Push Button</i>)
12	150	Alarm Message Timer for Detector 1
13	150	Alarm Message Timer for Detector 2
14		
15		
16		
17		
18	0	LIMIT GREEN WATCHDOG TIMER
19	0	SPECIAL FACILITY CONTROLS ALARM TIMER
20		
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	
13	
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+)	AB
2 (Y+)	

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	No	No
C		
D		
E		
F		
G		

PHASE SEQUENCE 2		
PHASE	LOOK AHEAD*	RELEASE
A		
B		
C		
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	
Z- Flexi	
Z- Master	
Z+ Flexi	
Z+ Master	AØ RELEASE PULSE
R- Flexi	
R+ Flexi	
Q- Flexi	
Q+ Flexi	

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 <i>n</i>	=	2	,	1	,	0
		(phases)		(split plans)		(walks)
INT	=	6266				
VC	=	5				
CS	=					
COM	=	NET				
PK	=	!				
S#	=					
LM	=					
RMN	=	0				
DCL	=	0				
AT	=	6				
BT	=	6				
CT	=					
DT	=					
ET	=					
FT	=					
GT	=					
W1	=		W1 T	=		
W2	=		W2 T	=		
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	=	A	=
B	= 20A	B	=	B	=

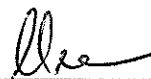
TYPICAL VARIATION PARAMETERS

VP1	=		VP22	=		VP43	=	
VP2	=		VP23	=		VP44	=	
VP3	=		VP24	=		VP45	=	
VP4	=		VP25	=		VP46	=	
VP5	=		VP26	=		VP47	=	
VP6	=		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																							
PED NO	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																				
	3																								
	4	X	X																						
	5	X																							
	6																								
	7																								
	8																								
	9																								
	10																								
	11																								
	12																								
	13																								
	14																								
	15																								
	16																								
	17																								
	18																								
	19																								
	20																								
	21																								
	22																								
	23																								
	24																								

CHECKED:



DATE:

21/1/2020

I = 6266 (3/03/2020)

```

PAGE
***  MAPPING TABLES
***  Input translation map
IMAP EQU  *
SECT1 EQU  *
      FDB  EXT1+1          ( B PHASE 1 )
      FDB  EXT2+2          ( B PHASE 2 )
      FDB  EXT3+3          ( B PHASE 3 )
      FDB  END

SECT2 EQU  *
      FDB  END
```