

TO	1. SENIOR ENGINEER, CONTROLLER APPLICATIONS	ACTION	DATE
	2. SCOTT GINN, PROGRAM DELIVERY		
FROM	NATHAN CORCORAN	DATE	2/05/19
SITE	MCMEEKIN / ALBERT / GIFFEN / KOROIT	SITE NO.	6831
REGION	SOUTH WESTERN	MUNICIPALITY	WARRNAMBOOL

GENERAL

Works Program Job?	No	Project Number	47EW1006
Classification	MINOR	Works Order Number	4A006406

EXISTING CONTROLLER DETAILS

Type	Eclipse	Software Version & Release	V5R20	Lanterns	LED
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CONTROLLER APPLICATIONS

Target Date for Draft Opsheet	09/05/19
Target Date for completion of Program	23/05/19

PERSONALITY CHECKSUMS

	Hex	Octal
Total	FC	374
Times	7A	172
Pers	86	206

Prepare Interlocking	
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Dispatched	20/05/19
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Update Graphics, Site Notes	No
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<input type="checkbox"/>	Site ID Revision updated to
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Description of changes	Modified phasing to fully control SG8 (Blackspot)
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PROGRAM DELIVERY - SIGNAL INSTALLATION

<input 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	NATHAN CORCORAN	Ext	1210
	OR	DARREN VAUGHAN	Ext	1210

before 3:00pm on the day before switch on.

SCATS Data Changes - Checksum Update Only

TRAFFIC MANAGEMENT CENTRE

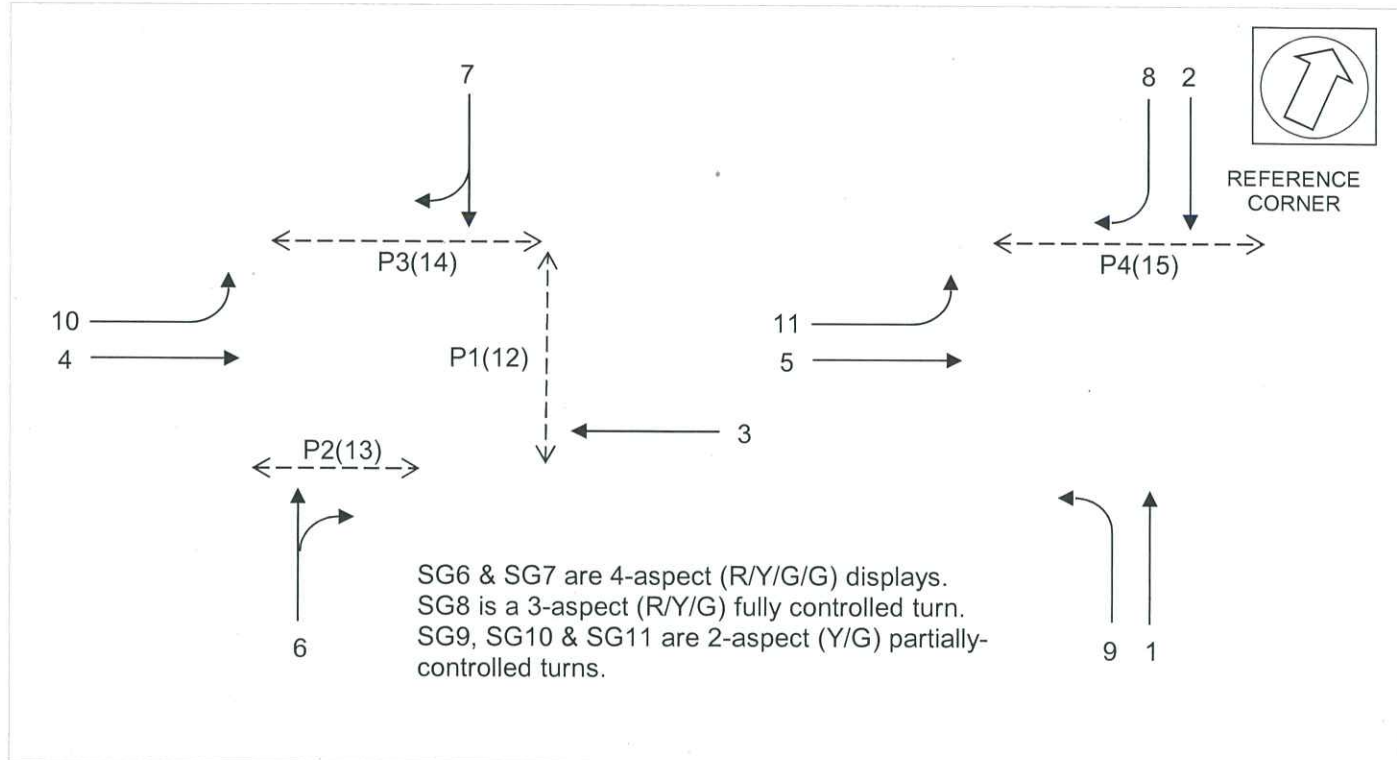
<input checked="" type="checkbox"/>	Checksum update only
<input type="checkbox"/>	Changes to trim or manual intervention features required
<input checked="" type="checkbox"/>	Please notify NATHAN CORCORAN (x1210) on job completion.

DATE PROM INSTALLED

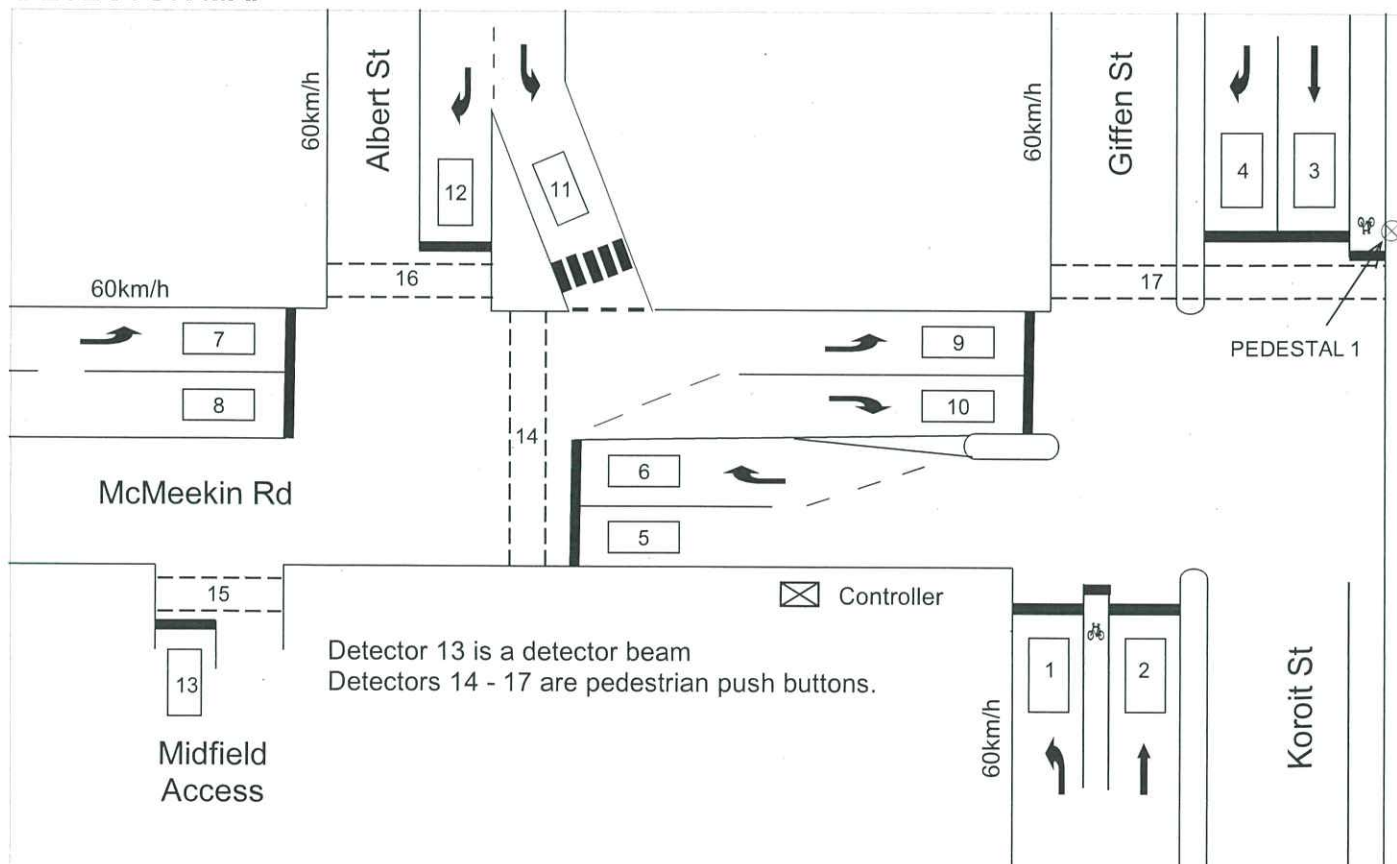
CONTROLLER OPERATION SPECIFICATION

SITE NAME	MCMEEKIN / ALBERT / GIFFEN / KOROIT			SITE NO.	6831
MUNICIPALITY	WARRNAMBOOL	DESIGNED BY	NATHAN CORCORAN	DATE	2/05/19
PLAN NO.	S20180308	DESIGN CHECKED	<i>[Signature]</i>	DATE	7/5/19
CONTROLLER TYPE	Eclipse	PROM CHECKED	<i>[Signature]</i>	DATE	20/5/19

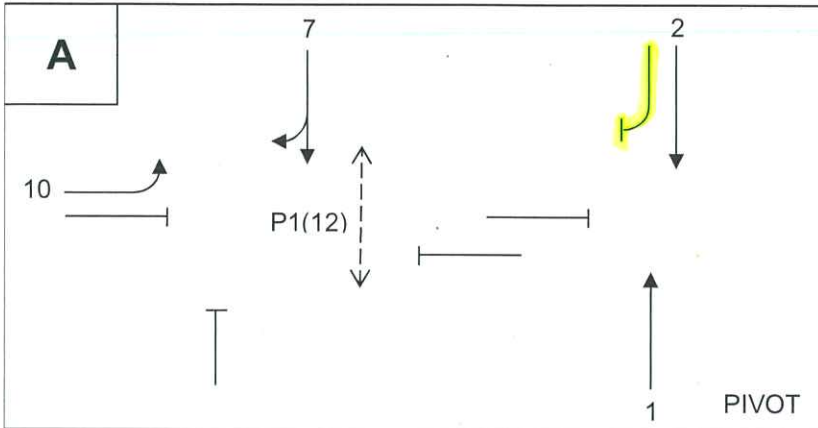
GROUP ALLOCATION



DETECTOR MAP

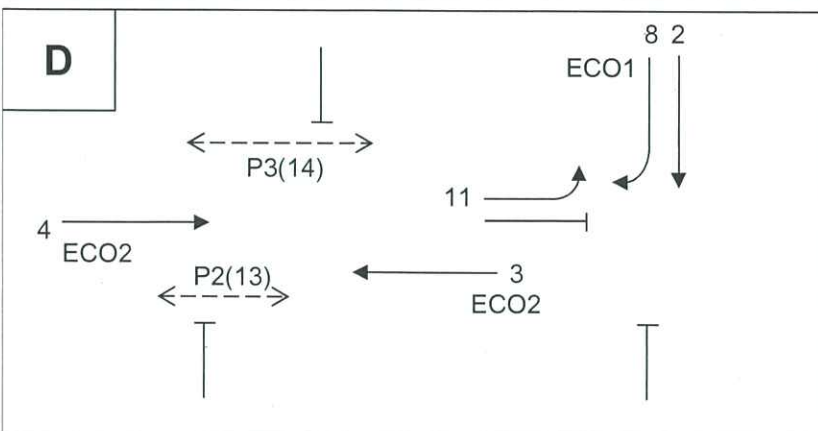
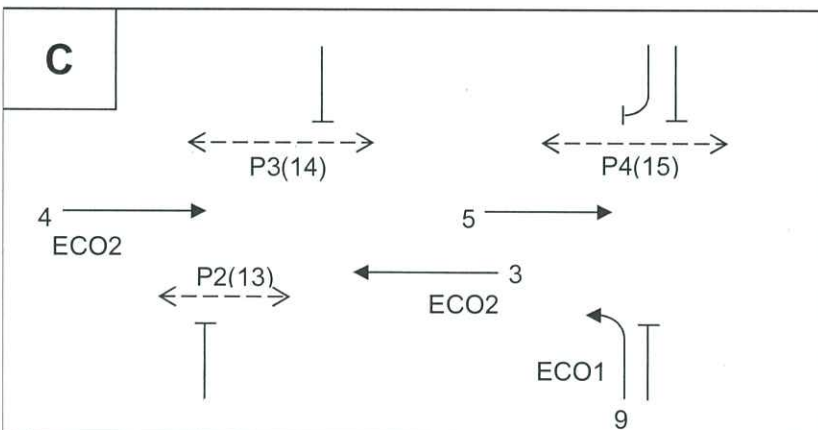
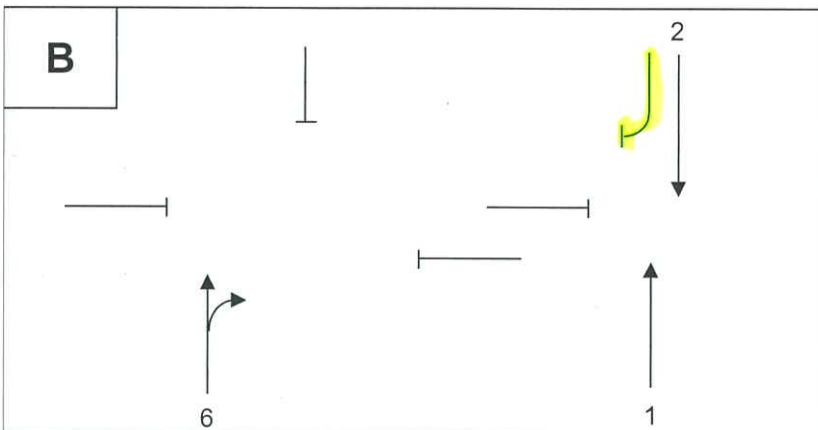
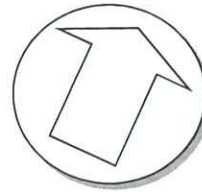


PHASING DIAGRAM



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

Refer General Notes



REVn. & V.A. SEQUENCE A B C D

DESIGNED BY: NATHAN CORCORAN

DATE 2/05/19

Document ID: 15820568 6831RNWOpsheet

SITE NAME

MCMEEKIN / ALBERT / GIFFEN / KOROIT

SITE NO.

6831

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	Refer Special Notes
1	I	1	AC	✓			ABC			✓	0			✓			
2	I	2	A	✓			AB				0			✓			
3	I	3	A	✓			AB				0			✓			
4	I	4	D	✓			D			✓	0			✓			
5	I	5	C	✓			CD			✓	0			✓			
6	I	6	C	✓			CD			✓	0			✓			
7	I	7	A	✓			A				0			✓			
8	I	8	C	✓			CD			✓	0			✓			
9	I	9	D	✓			CD			✓	0			✓			
10	I	10	C	✓			C			✓	0			✓			
11	I	11	-				-		for counting only		0		✓				
12	I	12	A	✓			A				0			✓			
13	E	5	B	✓			B		Detector Beam	✓	0		✓	✓			
14	E	1	A		✓			P1		✓	6		✓				
15	E	2	D		✓			P2		✓	6		✓				
16	E	3	D		✓			P3		✓	6		✓				
17	E	4	C		✓			P4		✓	6		✓				
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	

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APPROACH DEFINITIONS**PHASE APPROACHES**

Approach No	EXTENDING DETECTORS	APPROACH TIMER AND TIMESETTING DEFINITION*	SIGNAL GROUP	APPROACH EXPIRY (EXPAP)	Refer Special Notes
1	1	A11, B22, C62	1,9	AØ↔BØ, AØ↔CØ BØ→CØ	
2	2	A22, B33	1	AØ↔BØ	
3	3	A52, B44	2	AØ↔BØ, AØ→DØ	
4	4	D11	8		
5	5, 6	C11, D22	3	CØ→DØ	
6	7	A33	10	AØ→CØ, AØ→DØ	
7	8	C22, D33	4	CØ→DØ	
8	9	C33, D44	5, 11	CØ→DØ	
9	10	C44	5		
10	12	A44	7		
11	13	B11	6		
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 XSF FLAGS

(Mode Operation of XSF flags is required)

XSF1 - Inhibits detector 1 from placing locking calls for CØ during SG1 green (All modes).

GENERAL OPERATION

1. REVn. – first scan after start-up demands BØ, CØ, DØ.

SIGNAL GROUP OPERATION

Signal Group 3

1. If going CØ→AØ, SG3 closes down after the expiry of a Special Timer (Special Purpose Timesetting No. 10) that starts at the beginning of SG9 yellow.
2. If going DØ→AØ, SG3 closes down after the expiry of a Special Timer (Special Purpose Timesetting No. 11) that starts at the beginning of SG8 yellow.

Signal Group 4

1. If going CØ→AØ, SG4 closes down after the expiry of a Special Timer (Special Purpose Timesetting No. 10) that starts at the beginning of SG9 yellow.
2. If going DØ→AØ, SG4 closes down after the expiry of a Special Timer (Special Purpose Timesetting No. 11) that starts at the beginning of SG8 yellow.

Signal Group 8

1. SG8 closes down at the start of DØ ECO.

Signal Group 9

1. SG9 closes down at the start of CØ ECO if going CØ→AØ.

PEDESTRIAN GROUP OPERATION

Pedestrian 1

P1 calls AØ.

P1 can introduce at the start of AØ.

Pedestrian 2

P2 calls DØ.

P2 can introduce at the start of CØ, or at the start of DØ, and can overlap CØ→DØ.

Pedestrian 3

P3 calls DØ.

P3 can introduce at the start of CØ, or at the start of DØ, and can overlap CØ→DØ.

Pedestrian 4

P4 calls CØ.

P4 can introduce at the start of CØ.

PHASE OPERATION

If going CØ→DØ, expire CØ ECO after the timesetting shown in CØ special all red.

DETECTOR OPERATION

General

Clear vehicle demands during associated phase green and yellow.

Detector 1

Detector 1 places locking calls for CØ during SG1 green.

Clear demands for CØ from detector 1 during SG3 green and yellow.

When XSF1 is set, detector 1 is inhibited from calling CØ during SG1 green.

Detector 4

Clear calls for DØ from detector 4 during SG8 green and yellow.

Detectors 5 & 6

If in AØ or BØ, with a call for DØ, clear calls for CØ from detectors 5 & 6.
Clear calls for CØ from detectors 5 & 6 during SG3 green and yellow.

Detector 8

Clear calls for CØ from detector 8 during SG4 green and yellow.

Detector 9

Clear calls for DØ from detector 9 during SG5 and SG11 green and yellow.

Detector 10

Clear calls for CØ from detector 10 during SG5 green and yellow.

Detector 13

1. Detector 13 is a detector beam.
Detector 13 ON is when the detector beam is broken.
Detector 13 ON for greater than its presence time places a locking call for BØ.
2. Detector 13 ON extends BØ.
3. If detector 13 is ON continuously for greater than Timer 1 (Special Purpose Timesetting No.12) then BØ is recalled every second cycle, until detector 13 changes state from OFF to ON.
When Timer 1 has expired detector 13 does not extend BØ.
4. If detector 13 is ON continuously for greater than Timer 1 (Special Purpose Timesetting No.12), and there are no other side road demands (site is resting in AØ), then BØ is recalled after Timer 2 (Special Purpose Timesetting No.13) has expired. Timer 2 starts timing at the end of BØ.

SITE NAME **MCMEEKIN / ALBERT / GIFFEN / KOROIT**SITE NO. **6831****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	7 → P2	28.0	60	60	45	4.0	2.5	6.5
B	6 → P3	29.0	60	60	45	4.0	2.5	6.5
C	4 → P1	29.0	60	60	60	4.0	2.0	6.0
D	4 → P1	29.0	60	60	60	4.0	2.0	6.0
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

PED	PHASE(S)	WALK			CLEARANCE			MINIMUM SOLID DON'T WALK	
		DISTANCE (m)	TIME		DISTANCE (m)	TIME			
			GRAPH	ADOPTED		GRAPH	CL1		CL2
1	A	13.0	8	8	13.0	9	7.0	2.0	4.5
2	D	18.0	8	8	18.0	12	10.0	2.0	4.0
3	D	19.0	8	8	19.0	13	13.0		6.0
4	C	22.0	8	8	22.0	15	10.0	5.0	6.0

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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	8	6			
INCREMENT	4							
MAXIMUM INITIAL GREEN*	5							
MAXIMUM EXTENSION GREEN	6	25	10	15	10			
EARLY CUT OFF	7			11.0	11.0			
YELLOW	8	4.0	4.0	4.0	4.0			
ALL RED	9	2.5	2.5	2.0	2.0			
SPECIAL ALL RED	10			6.0				
GAP 1	11	2.5	2.5	2.5	2.5			
GAP 2	12	2.5	2.5	2.5	2.5			
GAP 3	13	2.5	2.5	2.5	2.5			
GAP 4	14	2.5	2.5	2.5	2.5			
HEADWAY 1	15	1.2	1.2	0.6	1.2			
HEADWAY 2	16	1.2	1.2	1.2	0.6			
HEADWAY 3	17	1.2	1.2	1.2	1.2			
HEADWAY 4	18	1.2	1.2	1.2	1.2			
WASTE 1	19	7	7	7	7			
WASTE 2	20	7	7	7	7			
WASTE 3	21	7	7	7	7			
WASTE 4	22	7	7	7	7			

* 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	8.0	8.0	8.0				
CLEARANCE 1	3	7.0	10.0	13.0	10.0				
CLEARANCE 2	4	2.0	2.0		5.0				

* Minimum walk time - used in Isolated and Flexilink operation

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

SITE NAME **MCMEEKIN / ALBERT / GIFFEN / KOROIT**SITE NO. **6831****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	2.0	SG3 ALL RED (SUBSTITUTE CØ ALL RED)
2	2.0	SG4 ALL RED (SUBSTITUTE CØ ALL RED)
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		
10	5	SG3 & SG4 ECO in CØ if going to AØ
11	5	SG3 & SG4 ECO in DØ
12	150	Timer 1: time to recall BØ only every second cycle if detector 13 is ON continuously
13	120	Timer 2: time to recall BØ after Timer 1 has expired, and site is resting in AØ.
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		

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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	10.0
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+)	A B C D
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	Auto
C	Yes (to D, A)	R+
D	Yes (to A)	Auto
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	
R- Flexi	AØ RELEASE PULSE
R+ Flexi	CØ RELEASE PULSE
Q- Flexi	
Q+ Flexi	

SITE NAME **MCMEEKIN / ALBERT / GIFFEN / KOROIT**SITE NO. **6831****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>	=	4	,	4	,	4
		(phases)		(split plans)		(walks)
INT	=			6831		
VC	=			5		
CS	=					
COM	=			NET		
PK	=			!		
S#	=					
LM	=					
RMN	=			0		
DCL	=			0		
AT	=			7		
BT	=			7		
CT	=			14		
DT	=			17		
ET	=					
FT	=					
GT	=					
W1	=	0		W1 T	=	14
W2	=	2 D		W2 T	=	27
W3	=	2 D		W3 T	=	30
W4	=	8		W4 T	=	24
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 = 0 PD FG NG B	A =	A =
B = 15 C	B =	B =
C = 25 D	C =	C =
D = 15 TG A	D =	D =

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																								
	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			X				X									
	2					X										X									
	3						X	X					X												
	4						X	X					X												
	5	X	X						X																
	6			X	X			X			X		X	X	X										
	7			X	X		X							X	X										
	8	X				X				X						X									
m	9								X																
m	10						X								X										
m	11	X														X									
P1	12			X	X		X																		
P2	13						X	X																	
P3	14						X	X			X														
P4	15	X	X						X			X													
	16																								
	17																								
	18																								
	19																								
	20																								
	21																								
	22																								
	23																								
	24																								

CHECKED: David Niemiecki DATE: 3/05/19