

		ACTION	DATE
TO	1. SENIOR ENGINEER, CONTROLLER APPLICATIONS 2. CRAIG LEITH, IMPROVEMENT PROJECTS		
FROM	THOMAS CHURCHILL	DATE	19/03/19
SITE	HUME HIGHWAY / GRETA ROAD / ROY ST OVERPASS / NORTON STREET	SITE NO.	6121
REGION	NORTH EASTERN	MUNICIPALITY	CITY OF WANGARATTA

GENERAL

Works Program Job?	Yes	Project Number	BC920CC
Classification	STANDARD	Works Order Number	4A006364

EXISTING CONTROLLER DETAILS

Type	ATSC 4	Software Version & Release	V5 R20	Lanterns	LED
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CONTROLLER APPLICATIONS

Target Date for Draft Opsheet	ASAP
Target Date for completion of Program	ASAP

Prepare Interlocking	
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PERSONALITY CHECKSUMS

	Hex	Octal
Total	23	43
Times	90	220
Pers	B3	263

Dispatched 17/04/19

Update Graphics, Site Notes	No	Site ID Revision updated to	
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Description of changes	Addition of three 'Give Way To Pedestrians' lanterns. Changes as per highlighted
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IMPROVEMENT PROJECTS - SIGNAL INSTALLATION

<input checked="" type="checkbox"/> Changes to signal hardware	<input type="checkbox"/> Changes to interlocking
<input checked="" type="checkbox"/> Additional detectors (VEHICLE)	<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	CHRIS EER	Ext	8711
	OR	Ext	
before 3:00pm on the day before switch on.			

SCATS Data Changes -

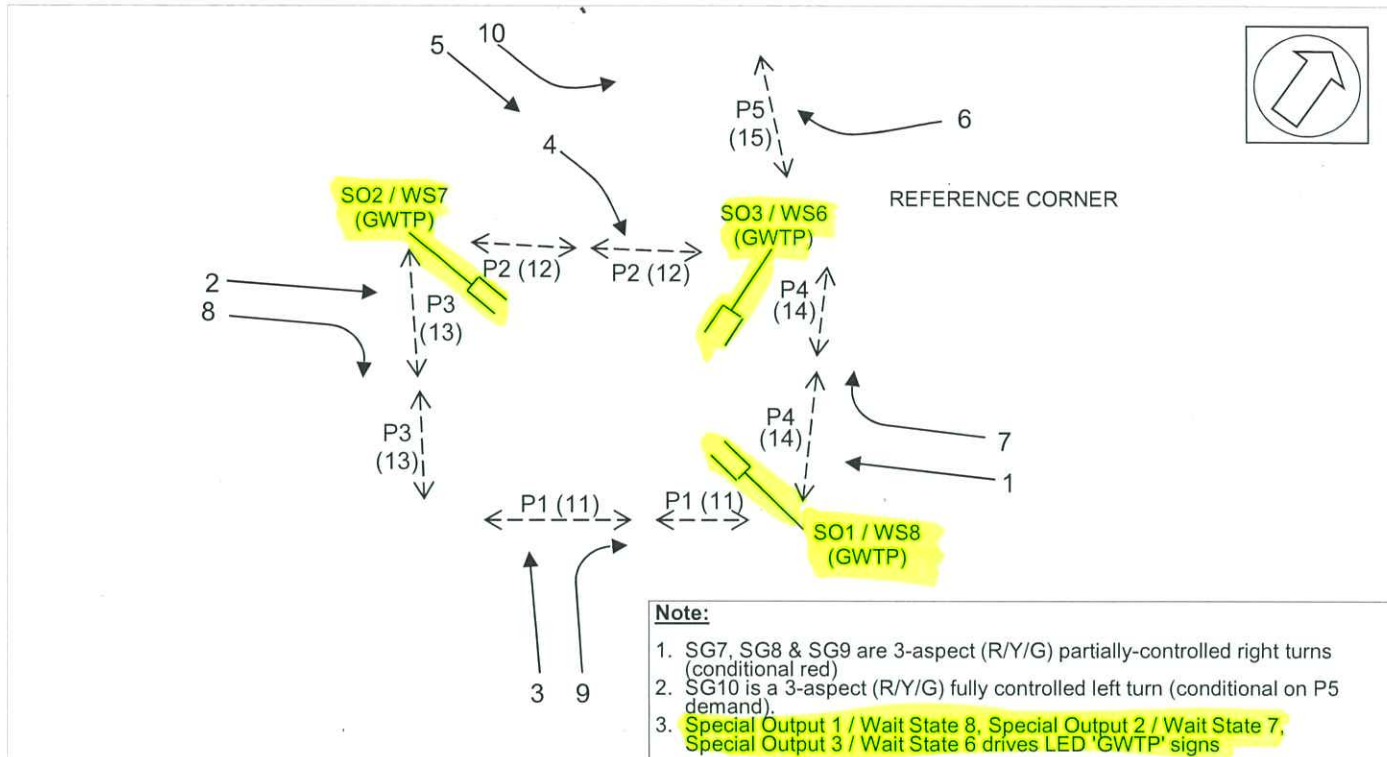
TRAFFIC MANAGEMENT CENTRE

<input type="checkbox"/> Checksum update only
<input type="checkbox"/> Changes to trim or manual intervention features required
<input type="checkbox"/> Please notify CHRIS EER (x8711) on job completion.

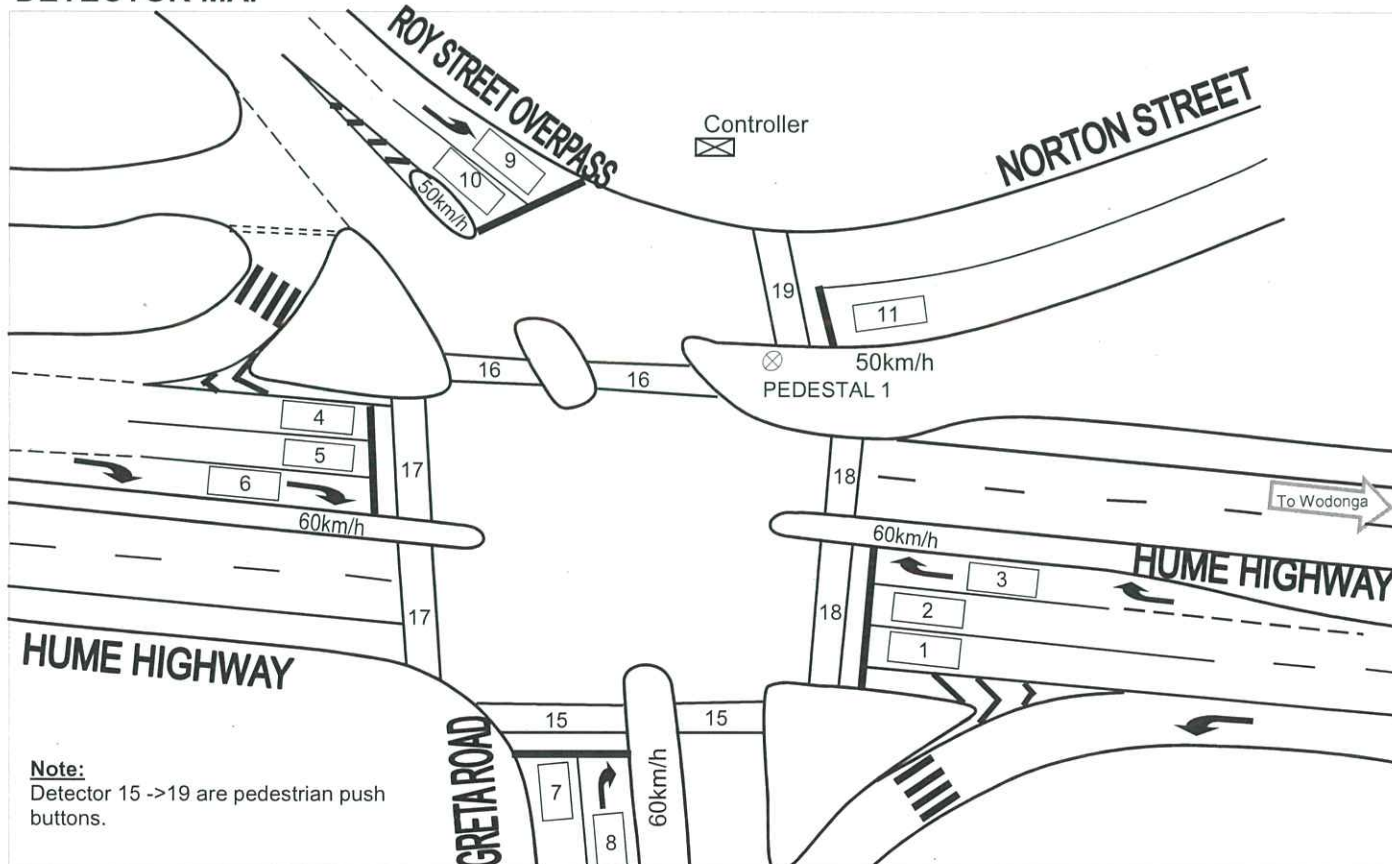
DATE PROM INSTALLED

SITE NAME	HUME HIGHWAY / GRETA ROAD / ROY ST OVERPASS / NORTON STREET			SITE NO.	6121
MUNICIPALITY	CITY OF WANGARATTA	DESIGNED BY	THOMAS CHURCHILL	DATE	19/03/19
PLAN NO.	850181 C	DESIGN CHECKED	<i>Chris Kerr</i>	DATE	22/3/2019
CONTROLLER TYPE	ATSC 4	PROM CHECKED	<i>Thomas Churchill</i>	DATE	16/4/2019

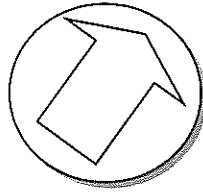
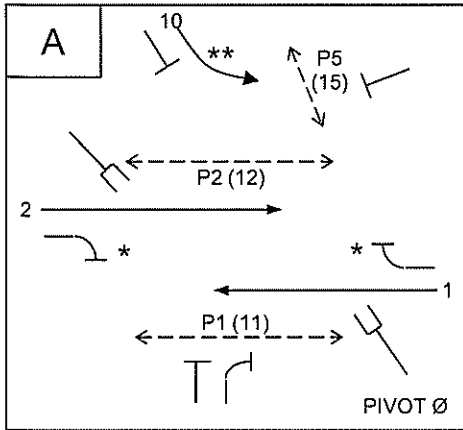
GROUP ALLOCATION



DETECTOR MAP



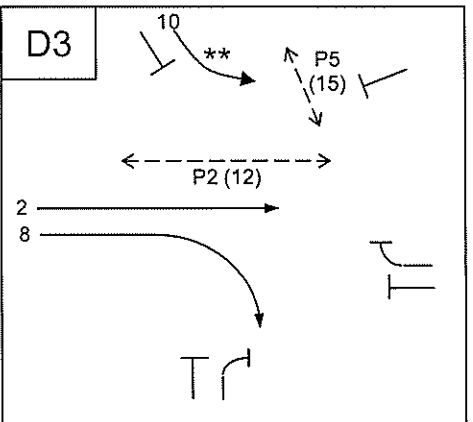
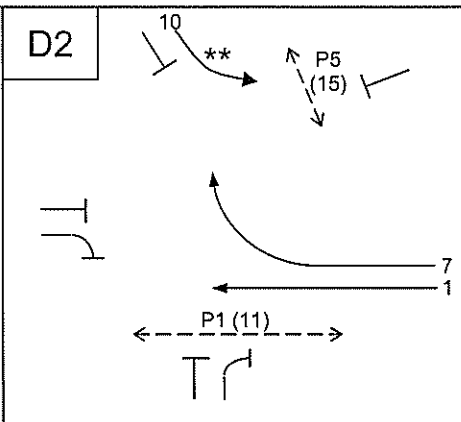
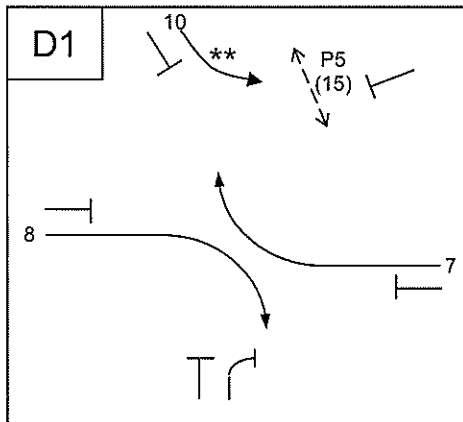
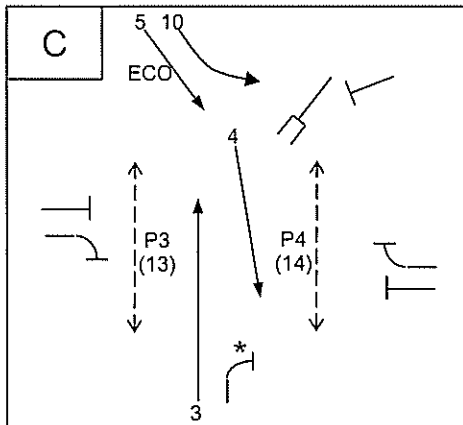
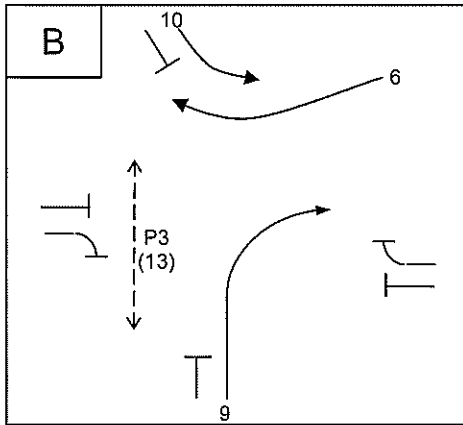
PHASING DIAGRAM



Refer General Notes

- * Red arrow drop-out operation.
- ** SG10 is conditional on P5 demand.

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



V.A. SEQUENCE ABCD

DESIGNED BY: THOMAS CHURCHILL

DATE 19/03/19

Document ID: 15569968 6121_03_TC_Opsheet

SITE NAME

HUME HIGHWAY / GRETA ROAD / ROY ST OVERPASS / NORTON STREET

SITE NO. 6121

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	I	1	A	✓			A				0			✓		
2	I	2	A	✓			A				0			✓		
3	I	3	A,D	A	D		D				0			✓		
4	I	4	A	✓			A				0			✓		
5	I	5	A	✓			A				0			✓		
6	I	6	A,D	A	D		D				0			✓		
7	I	7	C	✓			C				0			✓		
8	I	8	B,C	C	B		B				0			✓		
9	I	9	C	✓			C			✓	0				C	✓
10	I	10	C	✓			C				0			✓		
11	I	11	B	✓			B				0			✓		
12											1					
13											1					
14											1					
15	E	1	A		✓			P1		✓	6		✓			
16	E	2	A		✓			P2		✓	6		✓			
17	E	3	C		✓			P3		✓	6		✓			
18	E	4	C		✓			P4		✓	6		✓			
19	E	5	C		✓			P5		✓	6		✓			
20																
21																
22																
23																
24																
25																
26																
27																
28																
29																
30																
31																
32																

DESIGNED BY: THOMAS CHURCHILL

DATE 19/03/19

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	1		
2	4,5	A22	2		
3	8	B11	9		
4	11	B22	6		
5	7	C11	3		
6	9	C22	10		
7	10	C33	5		
8	3	D11	7		
9	6	D22	8		
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 XSF FLAGS

(Communications Operation of XSF flags is required)

- XSF1** – For auto introduction of P1 and P2.
- XSF2** – For auto introduction of P3 and P4.
- XSF3** – Inhibit SG10 from closing down in AØ while in Masterlink.
- XSF7** – Selects special maximum for SG7 in DØ via Special Purpose Timesetting No. 15.
- XSF8** – Selects special maximum for SG8 in DØ via Special Purpose Timesetting No. 16.

GENERAL OPERATION

- **REVn.** – First scan after start-up demands BØ & CØ.
- Clear vehicle demands during associated phase green and yellow.
- If in AØ, clear demands for DØ.
- If transitioning from AØ -> DØ (*due to master data*), run D1Ø.
- Use BØ special all red if transitioning from BØ -> AØ or BØ -> DØ.
- Use AØ yellow for DØ yellow when transitioning from D2Ø or D3Ø to phases other than AØ.

SIGNAL GROUP OPERATION

Signal Group 5

- SG5 has a 2.0 seconds ECO prior to SG4 closes down in CØ.
- If SG9 red only switches off at the start of CØ ECO period, SG5 closes down when Timer 7 expires. Timer 7 starts timing at the start of CØ ECO period.
- If SG9 red switches off during CØ green and CØ ECO period had been substituted by CØ late start period. SG5 closes down at the start of CØ ECO period (*i.e. 2.0 seconds*) and ignore Timer 7.

Signal Group 7

- SG7 is controlled by Special Movement Timer No. 1 within DØ. DØ All-Red Timesetting is substituted for Special Movement Time No. 1.
- The XSF7 flag is used to set special maximum time for SG7 in DØ. This time is accessible in Special Purpose Timesetting No. 16. SG7 will be forced off after a period equal to the DØ minimum green plus this special maximum.
- SG7 operates Green/Yellow/Red in DØ and can be switched to blank in AØ.
- If there is no P2 demand in AØ, SG7 red will be switched off at the end of AØ late start period.
- If P2 runs in AØ, SG7 is held red in AØ for the duration of Timer 1 (*which starts timing at the start of P2 walk using Special Purpose Timesetting No. 21*). When Timer 1 expires, SG7 is switched off in AØ if it is later than AØ late start period.
- AØ ECO is used to guarantee SG7 minimum blank period in AØ. Timer 2 (*Special Purpose Timesetting No. 22*) starts timing at the beginning of SG7 blank period. When Timer 2 expires, expire AØ ECO period from this approach.
- SG7 will be switched to red at the start of SG1 red and is held red in BØ and CØ.

Signal Group 8

- SG8 is controlled by Special Movement Timer No. 2 within DØ. DØ All-Red Timesetting is substituted for Special Movement Time No. 2.

- The XSF8 flag is used to set special maximum time for SG8 in DØ. This time is accessible in Special Purpose Timesetting No. 17. SG8 will be forced off after a period equal to the DØ minimum green plus this special maximum.
- SG8 operates Green/Yellow/Red in DØ and can be switched to blank in AØ.
- If there is no P1 demand in AØ, SG8 red will be switched off at the end of AØ late start period
- If P1 runs in AØ, SG8 is held red in AØ for the duration of Timer 3 (*which starts timing at the start of P1 walk using Special Purpose Timesetting No. 23*). When Timer 3 expires, SG8 is switched off in AØ if it is later than AØ late start period.
- AØ ECO is used to guarantee SG8 minimum blank period in AØ. Timer 4 (*Special Purpose Timesetting No. 24*) starts timing at the beginning of SG8 blank period. When Timer 4 expires, expire AØ ECO period from this approach.
- SG8 will be switched to red at the start of SG2 red and is held red in BØ and CØ.

Signal Group 9

- SG9 operates Green/Yellow/Red in BØ and can be switched to blank in CØ.
- If there is no P4 demand in CØ, SG9 red will be switched off at the end of CØ late start period
- If P4 runs in CØ, SG9 is held red in CØ for the duration of Timer 5 (*which starts timing at the start of P4 walk using Special Purpose Timesetting No. 25*). When Timer 5 expires, SG9 is switched off in CØ if it is later than CØ late start period.
- CØ ECO is used to guarantee SG9 minimum blank period in CØ. Timer 6 (*Special Purpose Timesetting No. 26*) starts timing at the beginning of SG9 blank period. When Timer 6 expires, substitute CØ late start period for CØ ECO period until hold this period till end of CØ.
- SG9 will be switched to red at the start of SG3 red and is held red in AØ and DØ.

OPERATION OF Signal Group 10 AND P5

- SG10 is conditional on P5 demand in DØ and AØ.
- SG10 can close down any time in DØ green or start of DØ yellow if SG10 minimum green (*Special Purpose Timesetting No. 15*) has expired when P5 is demanded.
- SG10 will remain green in DØ and AØ if there is no demand for P5.
- SG10 can close down any time in AØ (*Masterlink only*) if XSF3 is not set.
- SG10 will introduce in BØ and CØ and can overlap from AØ to all phases.
- SG10 uses phase yellow when it closes down in DØ or AØ.
- Use Special Movement Timesetting No. 3 for SG10 red when it closes down in DØ or AØ.
- P5 is a non-SCATS pedestrian.
- P5 can introduce in DØ or AØ when SG10 has closed and gone through its all red period.
- Provide a 3.0 seconds SOLID DON'T WALK for P5 before SG10 is green.

PEDESTRIAN GROUP OPERATION

Pedestrian 1

- P1 calls AØ.
- P1 can introduce any time in D2Ø & at the start of AØ and can overlap from D2Ø -> AØ.
- P1 auto introduces at the start of SG1 if XSF1 is set.

Pedestrian 2

- P2 calls AØ.
- P2 can introduce any time in D3Ø & at the start of AØ and can overlap from D3Ø -> AØ.
- P2 auto introduces at the start of SG2 if XSF1 is set.

Pedestrian 3

- P3 calls CØ.
- P3 can introduce any time in BØ and at the start of CØ and can overlap from BØ -> CØ.
- P3 auto introduces at the start of SG3 if XSF2 is set.

Pedestrian 4

- P4 calls CØ.
- P4 can introduce at the start of CØ.
- P4 auto introduces at the start of CØ if XSF2 is set.

DETECTOR OPERATION

Detector 3

- Detector 3 places locking call for AØ.
- Detector 3 places non-locking call for DØ when its presence timer expires.
- Detector 3 extends SG7 in DØ.

Detector 6

- Detector 6 places locking call for AØ.
- Detector 6 places non-locking call for DØ when its presence timer expires.
- Detector 6 extends SG8 in DØ.

Detector 8

- Detector 8 places locking call for CØ.
- Detector 8 places non-locking call for BØ when its presence timer expires.
- Detector 8 extends BØ.

Detector 9

- Detector 9 places locking call for CØ.
- Clear calls for CØ via Detector 9 during SG10 green & yellow in AØ, BØ & DØ.

OPERATION OF INTERNALLY ILLUMINATED SIGNS

- Special Output 1 (SO1) or Wait State 8 (WS8) drives "Give Way To Peds" sign during P1 Walk and Clearance after SG8 red switches off in AØ.
- Special Output 2 (SO2) or Wait State 7 (WS7) drives "Give Way To Peds" sign during P2 Walk and Clearance after SG7 red switches off in AØ.
- Special Output 3 (SO3) or Wait State 6 (WS6) drives "Give Way To Peds" sign during P4 Walk and Clearance after SG9 red switches off in CØ.

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 → P4	36.0	60	60	60	4.0	2.5	6.5
B	9 → P4	37.0	60/50	50	45	3.5	3.0	6.5
C	3 → P2	37.0	60	60	60	4.0	2.5	6.5
D	8 → P1	37.0	60	45	45	3.0	3.0	6.0
E	→							
F	→							
G	→							

*50 km/h on Norton St & Roy Street Overpass

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			
B	D	9 → 7	25.0	45	2.0	BØ special All Red
B	A	9 → 2	25.0	45	2.0	BØ special All Red
D1	D2	8 → P1	37.0	45	3.0	SM2
D1	D3	7 → P2	37.0	45	3.0	SM1
		→				
		→				

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

PEDESTRIAN TIMES

ELECTRICIAN TIMES		WALK			CLEARANCE			MINIMUM SOLID DON'T WALK
PED	PHASE(S)	DISTANCE (m)	TIME		DISTANCE (m)	TIME		
			GRAPH	ADOPTED		GRAPH	CL1	
1	A	15.0	15	15	11.0	7	7.0	6.5
2	A	13.0	13	13	8.0	5	5.0	6.5
3	C	15.0	15	15	12.0	8	8.0	6.5
4	C	16.0	15	15	13.5	9	9.0	6.5
5	A D	11.0	8	8	11.0	7	7.0	6.5

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	2	-	2	-			
MINIMUM GREEN	3	10	8	6	6			
INCREMENT	4	-	-	-	-			
MAXIMUM INITIAL GREEN*	5	-	-	-	-			
MAXIMUM EXTENSION GREEN	6	20	10	16	6			
EARLY CUT OFF	7	4.0		4.0				
YELLOW	8	4.0	3.5	4.0	3.0			
ALL RED	9	2.5	3.0	2.5	3.0			
SPECIAL ALL RED	10	-	2.0	-	-			
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	-			
GAP 4	14	-	-	-	-			
HEADWAY 1	15	0.6	1.2	1.2	1.2			
HEADWAY 2	16	0.6	1.2	1.2	1.2			
HEADWAY 3	17	-	-	1.2	-			
HEADWAY 4	18	-	-	-	-			
WASTE 1	19	7	7	7	7			
WASTE 2	20	7	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	15.0	13.0	15.0	15.0	8.0			
CLEARANCE 1	3	7.0	5.0	8.0	9.0	7.0			
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	3.0	SG7 All Red (<i>Substitute by DØ All Red</i>)
2	3.0	SG8 All Red (<i>Substitute by DØ All Red</i>)
3	2.0	SG10 All Red (<i>Substitute by AØ All Red</i>)
4	2.5	SG5 All Red (<i>Substitute by CØ All Red</i>)
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	15	P1 walk time substitution when Q+ (<i>Flexilink</i>) is set
10	13	P2 walk time substitution when Q+ (<i>Flexilink</i>) is set
11	15	P3 walk time substitution when Q+ (<i>Flexilink</i>) is set
12	15	P4 walk time substitution when Q+ (<i>Flexilink</i>) is set
13	8	P5 walk time substitution when Q+ (<i>Flexilink</i>) is set
14	3	P5 Solid Don't Walk period
15	6	minimum green for SG10
16	6	Special maximum extension for SG7 when XSF7 is set.
17	6	Special maximum extension for SG8 when XSF8 is set.
18	0	LIMIT GREEN WATCHDOG TIMER
19	0	SPECIAL FACILITY CONTROLS ALARM TIMER
20	10	ALL RED START UP INTERVAL
21	13	Timer 1: For holding SG7 red in AØ with P2 operating
22	4	Timer 2: Minimum blank period for SG7 in AØ
23	15	Timer 3: For holding SG8 red in AØ with P1 operating
24	4	Timer 4: Minimum blank period for SG8 in AØ
25	15	Timer 5: For holding SG9 red in CØ with P4 operating
26	4	Timer 6: Minimum blank period for SG9 in CØ
27	2	Timer 7: ECO for SG5 in CØ if SG9 red has not dropped during CØ green
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	3.0
4	
5	
6	3.0
7	
8	3.0
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)	

DESIGNED BY: THOMAS CHURCHILL

DATE 19/03/19

FLEXILINK OPERATION

PHASE SEQUENCES

No	PHASE SEQUENCE
1 (No Y+)	ABCD
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	Q-
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

DØ

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 (eg 25)
Y- Master	
Y+ Flexi	
Z- Flexi	PERMANENT DEMAND FOR BØ
Z- Master	
Z+ Flexi	PERMANENT DEMAND FOR CØ
Z+ Master	
R- Flexi	AØ RELEASE PULSE
R+ Flexi	CØ RELEASE PULSE
Q- Flexi	BØ RELEASE PULSE
Q+ Flexi	P1,P2,P3, P4 & P5 walk time substitutions (Refer Special Purpose Timesettings No. 9 -> 13 respectively)

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	=	6121					
VC	=	5					
CS	=						
COM	=	NET					
PK	=	!					
S#	=						
LM	=	I					
RMN	=	0					
DCL	=	0					
AT	=	7					
BT	=	7					
CT	=	9					
DT	=	6					
ET	=						
FT	=						
GT	=						
W1	=	0A	W1 T	=	14		
W2	=	0A	W2 T	=	12		
W3	=	2C	W3 T	=	15		
W4	=	15	W4 T	=	16		
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	= 15C	B	=	B	=
C	= 20D	C	=	C	=
D	= 15TGA	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	X				X	X										
	2			X	X	X		X		X				X	X										
	3	X	X				X	X	X			X	X												
	4	X	X				X	X	X	X		X	X												
	5	X	X				X	X	X	X		X	X												
	6			X	X	X		X									X								
	7		X	X	X	X	X			X			X		X										
	8	X		X	X	X				X		X		X											
	9	X	X		X	X		X	X			X			X										
	10															X									
P1	11			X	X	X			X	X															
P2	12			X	X	X		X																	
P3	13	X	X						X																
P4	14	X	X					X		X															
P5	15						X				X														
	16																								
	17																								
	18																								
	19																								
	20																								
	21																								
	22																								
	23																								
	24																								

CHECKED: Fred van Gorp

DATE: 10/12/08

DESIGNED BY: THOMAS CHURCHILL

DATE 19/03/19

INT=6121

17/04/2019

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PAGE
***   MAPPING TABLES
***   Input translation map
IMAP  EQU   *
SECT1 EQU   *
      FDB   INT1+1          ( APP A/D 1 )
      FDB   INT2+2          ( APP A/D 2 )
      FDB   INT3+3          ( APP A/D 3 )
      FDB   INT4+4          ( APP A/D 4 )
      FDB   INT5+5          ( APP A/D 5 )
      FDB   INT6+6          ( APP A/D 6 )
      FDB   INT7+7          ( APP C 7 )
      FDB   INT8+8          ( APP B 8 )
      FDB   INT9+9          ( APP C 9 )
      FDB   INT10+10         ( APP C 10 )
      FDB   INT11+11         ( APP B 11 )
      FDB   NOMAP
      FDB   NOMAP
      FDB   NOMAP
      FDB   EXT1+P1          ( P1 P.B. )
      FDB   EXT2+P2          ( P2 P.B. )
      FDB   EXT3+P3          ( P3 P.B. )
      FDB   EXT4+P4          ( P4 P.B. )
      FDB   EXT5+P5          ( P5 P.B. )
      FDB   END

SECT2 EQU   *
      FDB   END
```