



GENERAL SPECIFICATION FORM

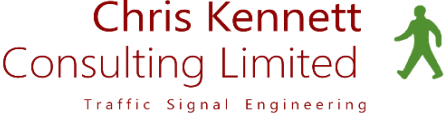
Customer:

Area Specifications & Customer Drawings:

Intersection / General Description:

Controller - New/Modification (select one): CKCL Project Number:

Specification Section:



Chris Kennett
 Consulting Limited
Traffic Signal Engineering

Intersection Number: Issue:

Equipment Installation by:

Slot Cutting by:

Civils Works by:

Communication Provider, Type and Number or IP address:

Customers Engineer:

Telephone number:

E-mail:

Incoming Electrical Supply:

Operating Voltage (select one):

Lamp Dimming (select one):

Site reference

Specification Issue No.

Form Issue

Originators Initials

Date

INDEX

Form Title	Form No.	Form Issue Number	Originator Initials	Date Originated dd/mm/yy	Sheet filled	Auditor Initials	Date Audited dd/mm/yy
TR2500 General Specification	I	1	CK	23/04/23			
Index (This page)	II	1	CK	23/04/23			
Index (Continued)	IIa	1	CK	23/04/23			
Index (Continued)	IIb	1	CK	23/04/23			
Configuration Notes	III	1	CK	23/04/23			
Site Layout	IV	1	CK	23/04/23			
Basic Site Data	V						
Basic Site Data (Continued)	Va						
Basic Site Data (Continued)	Vb						
Basic Site Data (Continued)	Vc						
Intersection Phase Data	VI						
Conflicting Phases	VII						
Phase Inter-green timings	VIII						
Phase Inter-green limit values	IX						
Lamp Monitoring & Extend Inter-green facility	X						
Additional phase delays	XI						
Use of stages	XII						
Prohibited/Alternative Stage	XIII						
Prohibited/AlternativeStage (Continued)	XIIIa						
Prohibited/AlternativeStage (Continued)	XIIIb						
Prohibited/AlternativeStage (Continued)	XIIIc						
Prohibited/AlternativeStage (Continued)	XIII d						
Prohibited/AlternativeStage (Continued)	XIII e						
Prohibited/AlternativeStage (Continued)	XIII f						
Prohibited/AlternativeStage (Continued)	XIII g						
Prohibited/AlternativeStage (Continued)	XIII h						
Master Time Clock	XIV						
Master Time Clock (Continued)	XIVa						
Master Time Clock (Continued)	XIVb						
Master Time Clock (Continued)	XIVc						

Site reference Specification Issue No. Form Issue Originators Initials Date

INDEX

Form Title	Form No.	Form Issue Number	Originator Initials	Date Originated dd/mm/yy	Sheet filled	Auditor Initials	Date Audited dd/mm/yy
Master Time Clock (Continued)	XIVd						
Master Time Clock (Continued)	XIVe						
Master Time Clock (Continued)	XIVf						
Master Time Clock (Continued)	XIVg						
Mode Priority	XV						
Fixed Time Mode	XVI						
Phase Green Timings	XVII						
Detectors and Push-buttons	XVIII	1	CK	23/04/23			
Detectors and Push-buttons (Continued)	XVIIIa	1	CK	23/04/23			
Detectors and Push-buttons (Continued)	XVIIIb						
Detectors and Push-buttons (Continued)	XVIIIc						
Detectors and Push-buttons (Continued)	XVIIId						
Detectors and Push-buttons (Continued)	XVIIIe						
Detectors and Push-buttons (Continued)	XVIIIf						
Detectors and Push-buttons (Continued)	XVIIIg						
Detectors and Push-buttons (Continued)	XVIIIh						
All-Red Extension	XIX						
Speed Discrimination / Assessment	XX						
Cableless Linking Facility	XXI						
Cableless Linking Facility (Continued)	XXIa						
Cableless Linking Facility (Continued)	XXIb						
Cableless Linking Facility (Continued)	XXIc						
Cableless Linking Facility (Continued)	XXId						
Cableless Linking Facility (Continued)	XXIe						
Cableless Linking Facility (Continued)	XXIf						
Cableless Linking Facility (Continued)	XXIg						
Hurry Call(s)	XXII						
Urban Traffic Control	XXIII	1	CK	23/04/23			
Urban Traffic Control (Continuation)	XXIIIa						
UTC Reply Bit Functionality	XXIV	1	CK	23/04/23			

Site reference Specification Issue No. Form Issue Originators Initials Date

INDEX

Form Title	Form No.	Form Issue Number	Originator Initials	Date Originated dd/mm/yy	Sheet filled	Auditor Initials	Date Audited dd/mm/yy
Manual Panel	XXV						
Priority / Emergency Mode Basic	XXVI						
Priority / Emergency Mode Time	XXVIa						
Priority / Emergency Mode Time	XXVIb						
Priority / Emergency Mode Time	XXVIc						
Priority / Emergency Mode Time	XXVI d						
Pedestrian Link & Facilities	XXVII						
Mid-block Pedestrian Crossing	XXVIII	1	CK	23/04/23			
Mid-block Pedestrian Crossing (Continuation)	XXVIIIa						
Mid-block Pedestrian Crossing (Continuation)	XXVIIIb						
Mid-block Pedestrian Crossing (Continuation)	XXVIIIc						
Miscellaneous Inputs and Outputs	XXIX						
Special Conditions	XXX						
Special Conditions (Continued)	XXXa						
Special Conditions (Continued)	XXXb						
Special Conditions (Continued)	XXXc						
Special Conditions (Continued)	XXXd						
Special Conditions (Continued)	XXXe						
Special Conditions (Continued)	XXXf						
Special Conditions (Continued)	XXXg						
Special Conditions (Continued)	XXXh						
Special Conditions (Continued)	XXXi						
Controller Power Calculation	XXXI						
Traffic Signal Data Summary Sheet	XXXII						
LRT Summary Sheet	XXXIII						

Additional items, such as Contract Appendices or full site layout drawings, may be included in the Index for completeness

Site reference Specification Issue No. Form Issue Originators Initials Date

CONFIGURATION NOTES

General

Site is a new Toucan crossing

All equipment is ELV.

Site is to run MOVA due to expected road speed. Detection provided by above ground detection.

NOTE: AGD318s are installed deliberately on the offside and across the crossing. This is to achieve a better angle of incidence and avoid interference and attenuation from the tree line.

Note: This form may be used to provide any general information useful to others, such as any new facilities in this issue of the specification.

Site reference

Specification Issue No.

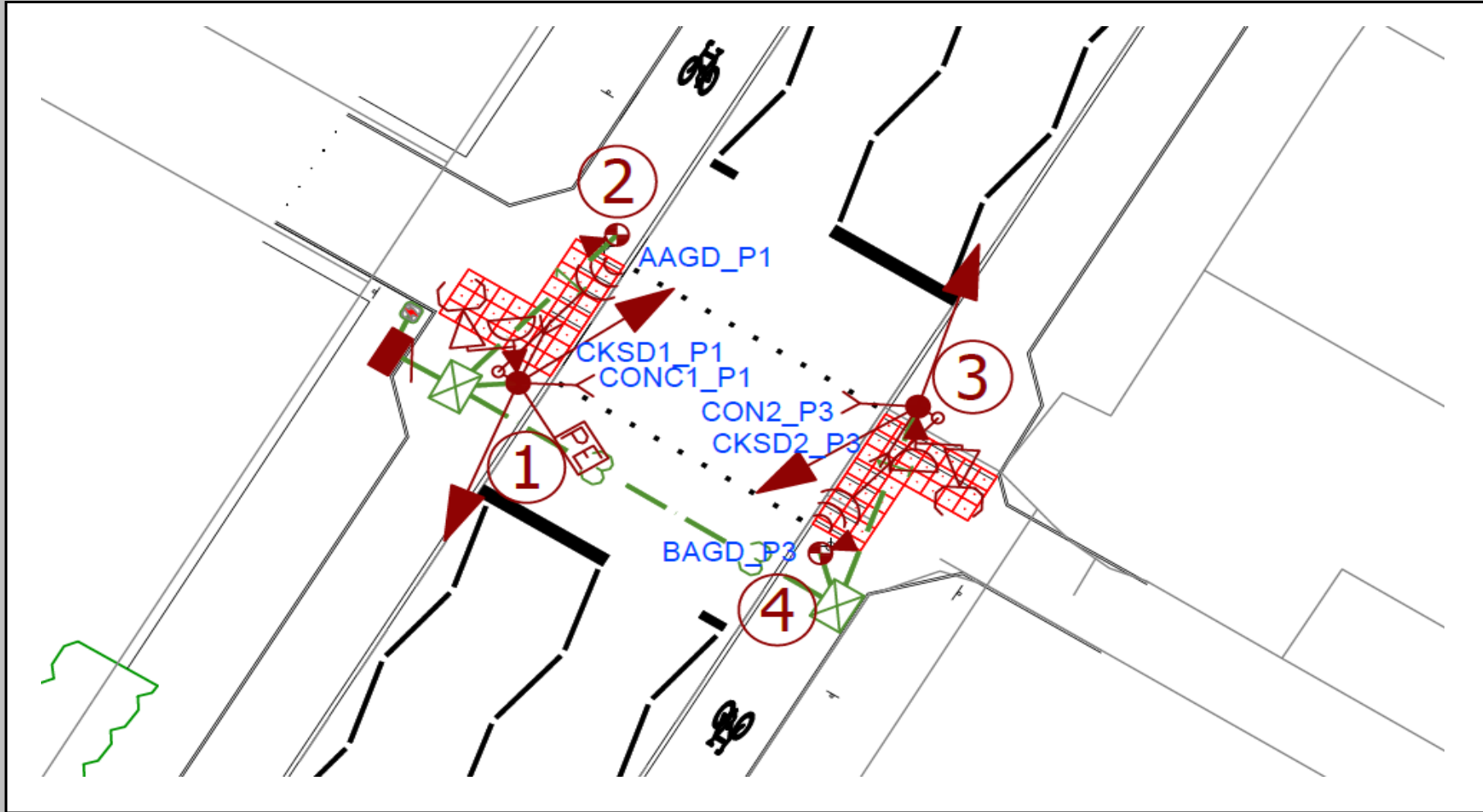
Form Issue

Originators Initials

Date

[i](#)

SITE LAYOUT



Note: This form may be used to provide a layout drawing of the junction.

Site reference **23-0462**

Specification Issue No. **1**

Form Issue **1**

Originators Initials **CK**

Date **23 April 2023**

DETECTORS AND PUSHBUTTONS

#1

Type No.	Detector Type - Inductive loop, In carriageway, Above Ground, Optical, Video, Push-button, Pedestrian kerb-side, on-crossing etc	Manufacturer - model etc	Additional Information - ancillary equipment, ELV, IP address range, number of modules, location, is it in an MEC cabinet? If so cabinet No., comments etc
1	Above Ground Ranging Radar	AGD 318 Dual Output	
2	On Crossing Detection	Generic	
3	Kerbside Detection	Generic	
4	Push Button	Generic	
5			
6			
7			
8			
9			
10			

Notes:

#1 Type No.

Use this form to specify requirements for detection equipment types. Enter Type No. against each channel of detection on the subsequent detection forms.

#2 DFM Fail / Mode Group

On the subsequent detection forms, specify the required **Failure Mode** AND the **DFM Timing Group** for each channel of detection. The failure modes are:

A - Fail Active, I - Fail Inactive, Y - Use Input on failure, e.g. A1, I3 etc.

Introduction of DFM Group Sets should be specified on the Master Time Clock Form XIV or in Special Conditions Form XXIX (dependant upon requirement).

DFM Fail Group Number #2	Active (Minutes)				Inactive (Hours)			
	Set A	Set B	Set C	Set D	Set A	Set B	Set C	Set D
1	30				18			
2	30				-			
3								
4								
5								
6								
7								
8								

Note: This form may be used to specify the type of detection technologies to be used, along with additional information as required.

Site reference 23-0462 Specification Issue No. 1 Form Issue 1 Originators Initials CK Date 23 April 2023 [i](#)

DETECTORS AND PUSHBUTTONS (Continuation)

Number	Location / Title	Type No.	MOVA No.	External	Phase Demanded	Phase Extended	Extension Time (Sec)	Non-latching	Uni-directional	Call Delay (Sec)	Cancel Delay (Sec)	DFM Fail Mode / Group (e.g. A1)	Speed Detector	Special Instructions
1	AIN1	1	1	<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
2	AX2	1	2	<input checked="" type="checkbox"/>	A	A	4	<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
3	BIN3	1	3	<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
4	BX4	1	4	<input checked="" type="checkbox"/>	B	B	4	<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
5	CONC1	2		<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
6	CONC2	2		<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
7	CKSD1	3		<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
8	CKSD2	3		<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			A1	<input type="checkbox"/>	
9	CPB1	4		<input checked="" type="checkbox"/>	C			<input type="checkbox"/>	<input type="checkbox"/>			Y2	<input type="checkbox"/>	
10	CPB2	4		<input checked="" type="checkbox"/>	C			<input type="checkbox"/>	<input type="checkbox"/>			Y2	<input type="checkbox"/>	
11	CPB3	4		<input checked="" type="checkbox"/>	C			<input type="checkbox"/>	<input type="checkbox"/>			Y2	<input type="checkbox"/>	
12	CPB4	4		<input checked="" type="checkbox"/>	C			<input type="checkbox"/>	<input type="checkbox"/>			Y2	<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	

Note: This form may be used to provide detection information for up to thirty two inputs. Use additional forms for more channels of detection.

Site reference **23-0462** Specification Issue No. **1** Form Issue **1** Originators Initials **CK** Date **23 April 2023** **i**

URBAN TRAFFIC CONTROL

Control Words																
Bit Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Control Bit	F1	F2		TS												TO
Demand Dependent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bit Number	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Control Bit																
Demand Dependent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bit Number	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Control Bit																
Demand Dependent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bit Number	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Control Bit																
Demand Dependent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reply Words																
Bit Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reply Bit	G1	G2	WC	CS	CF	DF	LF	RF1	LE	RR						CRB
Bit Number	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Reply Bit																
Bit Number	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Reply Bit																
Bit Number	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Reply Bit																
Bit Number	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Reply Bit																
Bit Number	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Reply Bit																
Bit Number	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
Reply Bit																
Bit Number	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
Reply Bit																

O.T.U. Manufacturer and Type
NON-INTEGRAL UTMC MOVA 8 OTU

Operation Standard (select one):
MCE0105/0106

UTC initiated by (select one):
Force Bits present

Number of bits
Control 16
Reply 16

RTC Synchronisation Time
Hour 07 Minute 00 Second 00
CC Synchronisation Reply
Seconds 3

O.T.U. Address Information

Enter additional information, such as SCN, Modem number, IP address (as appropriate)

Comments TO and Force Bit required to go into MOVA mode. If not in a manually selected mode and MOVA is not running, toggle the CRB bit for 2 seconds every 120 seconds. CRB to be switched off when in manually selected mode. UTC Force Bit watchdog not to be applied. Wait Confirm to be passed to MOVA detector 5

Site reference 23-0462 Specification Issue No. 1 Form Issue 1 Originators Initials CK Date 23 April 2023

UTC REPLY BIT FUNCTIONALITY

Tick as appropriate:	G1 / G2	MC	RR	DF	CF	LF	RF1	RF2	LE				
Manual mode selected and operative	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manual mode selected	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No lamp power and/or signals off	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controller fault	<input type="checkbox"/>				<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Detector fault				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VA or FT selected	<input type="checkbox"/>		<input checked="" type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lamp failure	<input type="checkbox"/>				<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1st Safety red failure					<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd Safety red failure					<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes: 1 - Tick appropriate boxes to indicate required reply bit functionality. 2 - Use additional columns and rows to detail non-standard combinations.

Comments

Note: This form may be used to specify the required functionality of UTC reply bits.

Site reference 23-0462

Specification Issue No. 1

Form Issue 1

Originators Initials CK

Date 23 April 2023



MID-BLOCK PEDESTRIAN CROSSING DATA

Site Locations

Crossing 1:

Howes Lane

Crossing 2:

		1	2
Vehicle Phase	Fixed Vehicle Period (Sec)	30	
	VA minimum (Sec)	15	
	VA maximum (Sec)	30	
	Pre-timed maximum		
	Vehicle extension (Sec)		
Vehicle to Pedestrian Inter-green	All Red gap change (Sec)	3	
	All Red forced change (Sec)	3	
Pedestrian Phase	Pedestrian minimum green (Sec)		
	Kerbside detector extension (Sec)		
	Vehicle Termination Delay Time (Sec)		
	Pedestrian demand hold time (Sec)		
Pedestrian to Vehicle Inter-green	Pelican	Vehicle Red / Flashing Green Man [Period E] (Sec)	
		Vehicle Flashing Yellow / Flashing Green Man [Period F] (Sec)	
		Vehicle Flashing Yellow / Red Man [Period G] (Sec)	
	Pedestrian and TOUCAN far-sided signals	Minimum clearance - Vehicle Red / Pedestrian Blackout [Period v] (Sec)	
		Maximum extendible - Vehicle Red / Pedestrian Blackout [Period vi] (Sec)	
		Forced change - Vehicle Red / Pedestrian Blackout [Period vii] (Sec)	
		All Red [Period viii] (Sec)	
		On-crossing extension (Sec)	
	PUFFIN and TOUCAN near-sided signals	Minimum clearance - Vehicle Red / Red Man [Period 5/V] (Sec)	3
		Maximum extendible - Vehicle Red / Red Man [Period 6/VI] (Sec)	3
Forced change - Vehicle Red / Red Man [Period 7/VII] (Sec)		0	
Gap-change - Vehicle Red / Red Man [Period 8 / VIII] (Sec)		0	
On-crossing extension (Sec)		2	
Other facilities	Pedestrian Audible Signals	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Pedestrian Tactile Signals	<input checked="" type="checkbox"/>	<input type="checkbox"/>
UTC <input type="checkbox"/> Local-linking <input type="checkbox"/>		1	2

Notes: 1 - The extendible period 6 starts at the end of period 5.

Comments Total maximum intergreen following the pedestrian phase is 8 seconds.

Site reference 23-0462 Specification Issue No. 1 Form Issue 1 Originators Initials CK Date 23 April 2023