Network and Traffic Management

TRAFFIC SIGNAL DESIGN GUIDE

TRAFFIC SIGNAL, INTELLIGENT TRANSPORT SYSTEMS AND ASSOCIATED CONTROL EQUIPMENT

May 2026

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INDEX

1 Introduction

2 Design Submissions Approvals and Procedures

3 Safety Audits

4 Design Checks and Handover

5 Signal Design Standards

6 Supply and Installation Standards

7 Signal Maintenance Standards

8 Control and Communication Systems

9 Test and Commissioning Procedures

10 Civil Engineering

11 Intelligent Transport Systems (ITS)

12 CCTV

13 Generic Traffic Signal Specification
Separate Document - GCC Signals Specification V01 - May 2026

1 Introduction

1.1 Designers should use the document as an aid to comply with the required standards for the Design, Supply, Installation and Maintenance of traffic signal equipment and associated minor Civil Engineering Works set out by Gloucestershire County Council (GCC). The document is not a prescriptive design guide and should be read in conjunction with the latest edition of Manual for Gloucestershire Streets – Traffic Management Systems, the Design Manual for Roads and Bridges (DMRB), Technical Advice, Local Transport Notes and Chapter 6 of the Traffic Signs Manual.

1.2 This guide shall be used by Developers for design submissions. It shall also be used by GCC Design Teams, and Term Consultants. Clauses applicable to Developers only are marked ***(D).***

1.2 For technical information, approvals and process witnessing, reference to 'GCC' shall be the GCC Traffic Signals Department.

1.3 One of the aims of this document is to ensure that proposals for new junctions, or controlled crossings are appropriate and sustainable.

1.4 Developers and their agents are encouraged to contact GCC Traffic Signals Department or Highways Development Management (HDM) to discuss their proposals at the earliest opportunity. The preference of Gloucestershire County Council is to participate in these discussions prior to any planning application being submitted. ***(D).***

1.5 GCC or its Agents reserve the right to amend the details this document in line with any new legislation, amendment to current working practices or modifications in performance specifications, at any time.

1.6 To ensure consistency of supplied equipment, increased reliability and reduced maintenance costs, designers and Contractors are expected to only use signal control equipment approved by GCC.

1.7 For further information The Traffic Signals Manager can be contacted on 01452-328964.

2 Design Submissions Approvals and Procedures

2.1 All designs shall be approved by Gloucestershire Council HDM or its Agents and may be the subject of a Highways Agreement. During pre-planning discussions GCC will endeavour to liaise with the Developer and where viable, share preliminary network and junction data and modelling details. Charges for supplied data may be applicable. ***(D).***

2.2 The information to be supplied for approvals shall be in addition to that required to conform to the latest edition of The Construction (Design and Management Regulations). It will be the duty of the Developer to ensure that appropriate duty holders are appointed for highway works projects. ***(D).***

2.3 Submissions for junction control must be accompanied by a Transport Assessment, setting out the objectives to integrate planning and transport at the National, Strategic and Local level and to promote sustainable transport choices both for movement of people and freight. ***(D).***

2.4 Designs for traffic signal junctions must consider capacity, safety and future maintenance liability. An emphasis shall be placed on, safe maintenance without traffic management, accessibility of asset apparatus, demonstration of maintenance regimes at design stage and effective whole life costs.

2.5 Developers shall ensure that Design Organisations follow design procedures defined in the DMRB & Chapter 6 of the Traffic Signs Manual. ***(D).***

2.6 Submissions shall also include an assessment of pedestrian, cyclist and mobility impaired facilities – NMU (Non-Motorised Users) and Active Travel requirements. ***(D).***

2.7 Submissions shall include speed of road assessment, with 85%ile vehicle speeds recorded in a suitable location relative to any proposed junction.

2.8 Submissions and works are required to be checked and safety audited in four stages. The level of information to be supplied at each stage is defined below.

2.9 Project works programmes shall be copied to GCC at the various design and construction stages. The works program shall identify key milestones for Street Works applications and their requirements, equipment supply, installation, testing and commissioning procedures.

2.10 Fees owed to the Gloucestershire County Council under Highway Agreements shall include commuted sums for maintenance and operation of signal installations. For further details refer to Manual for Gloucestershire Streets and GCC HDM contact. ***(D).***

3 Safety Audits

3.1 Safety audits shall be undertaken in accordance with DMRB document 'GG119 Road safety audit' and current GCC Road Safety team audit policy documents.

- Stage-1 – Completion of Preliminary Design.
- Stage 2 – Completion of Detailed Design.
- Stage 3 – Completion of Construction.
- Stage 4 – Post opening monitoring.

3.2 Design submissions shall also include the designers' safety audit exemption report.

3.3 Design processes shall comply fully with the Manual for Gloucestershire Streets.

4 Design Checks and Handover

4.1 Design Submission - Stage-1

4.1.1 The following information shall be submitted as a minimum for comment/approval at Stage-1 design. General Arrangement layout(s) presented at a scale of 1:500. Drawings to include CAD file and be prepared on an accurate topographical survey, indicating proposals for:

a) Changes to alignment, levels and structures
b) Traffic-lanes stop lines and island positions
c) Signal equipment positions
d) Pedestrian/cyclist/special facilities
e) Active Travel and GATAN compliance
f) Capacity calculations including method of control with full input/output data, electronic file submission and an accompanying rationale of the assessment features
g) Mechanical and electrical passive safety assessment
h) Swept path analysis

4.1.2 Where required, MOVA cruise speeds shall be undertaken by a specialist MOVA validation engineer.

4.1.3 The availability of any proposed passive pole type must be verified in a suitable risk assessment report. Should the preferred pole classification not be available and an alternative proposed, this must be clearly identified. The use of the proposed alternative is subject to GCC agreement and must be clearly documented in the design and the H&S file. LE and NE Passive poles should not be used in areas with high pedestrian density or

at pedestrian crossings or junction crossing facilities without robust risk assessments and prior agreement with GCC.

4.1.3 Approved junction assessment programmes are LinSig for isolated junctions and Transyt / LinSig for linked systems. A link node diagram as defined in the Transyt user guide manual must accompany Transyt assessments. LinSig assessments shall be accompanied by stage diagrams, traffic flow diagrams and a scale plan.

4.1.4 Transyt or LinSig assessments of Signalised Gyratory or Roundabout Control must be accompanied by full lane flow data assessments.

4.1.5 VISSIM is the recommended micro-simulation software. The Developer shall request approval from Gloucestershire County Council for the presentation of alternative software assessments. ***(D).***

4.1.6 Where submissions evaluate existing traffic signal junctions, every effort shall be made to record current junction performance and to validate supplied base models. Where existing junctions operate MOVA, the TM (DA / DF) logs shall be utilised to establish base model saturation flows and average stage appearance frequencies and durations.

4.1.7 GCC reserves the right to request detailed design information during stage-1 assessments as required.

4.1.8 A signal works estimate shall be supplied sufficient for starting the Commuted Sum Calculation process. ***(D).***

4.1.9 A signal works estimate shall be supplied sufficient for budgetary purposes.

4.2 **Design Submission - Stage-2**

4.2.1 The following information shall be submitted for comment/approval at Stage-2 design:

- Contract specifications for both Traffic Signal installation and Civil Engineering works. The Civil Engineering details shall include all relevant appendices as defined in the Highway Works Specification. The Traffic Signal details shall include ITS1827 controller specification data forms, MOVA_Tools file and SCOOT details where applicable.

- Specifications shall incorporate details in accordance with TC101 (formerly Appendix 12/5) as defined in the Highway Works Specification and as generically presented in this document. If nominated for use, alterations to the GCC Signals Specification shall be made by way of reference to amended and supplementary clauses only. The document text shall not be substantially altered.

- Design layout(s) shall be presented at a scale of either 1:200 or 1:250 (typically A1).

- Detailed designs shall include but not be limited to the following:

a) Civil engineering construction works.
b) Duct runs, access chamber types, locations and pole foundations.
c) Guard railing drop kerbs and tactile slab positions.
d) Carriageway and footway surface treatments.
e) Road markings, studs and signs conforming to the latest edition of the ‘Traffic Signs Regulations and General Directions’ and the ‘Traffic Signs Manual’.
f) Street Lighting.
g) Power supply details, including isolation and fuse discrimination details.
h) Signal head and pole positions, including passively safe specifications where applicable.
i) Controller position and maintenance area

j) Detection proposals
k) Telemetry facilities and connections
l) Special features and facilities
m) Standard Construction Details
n) Test schedules
o) Cable schematic details
p) Urban Traffic Control specifications and systems
q) Remote monitoring specifications and systems
r) MOVA cruise speeds, link diagram and assessment report
s) Bus priority details
t) A record of Design Considerations for the traffic signal layout, including any known issues, mitigation measures and outstanding issues shall be provided.
u) Updated passive safety report and specifications
v) Updated LinSig assessment and timing justifications

4.2.2 The labelling of above ground detection on design drawings shall follow the below format and correlate with the controller data forms detector I/O annotation.

'PHASE-DETECTOR TYPE-POLE NUMBER'. *For example:*

Name	Phase	Type	Location / Function	Input No / Mdet No
BMVD2	B	Microwave vehicle detector	Pole 2	-
GOC2	G	On-crossing detector	Pole 2	-
GKS2	G	Kerbside detector	Pole 2	-

4.2.3 The labelling of loop configurations, shall follow the below format and correlate with the controller data forms detector I/O annotation.

'PHASE-TYPE-MOVA INPUT NO (if relevant)'. *For example:*

Name	Phase	Type	Location / Function	Input No / Mdet No
AIN1	A	MOVA	IN detector	1
AX2	A	MOVA	X detector	2
ASL3	A	MOVA	Stop line	3
BQ5	B	MOVA / Hurry Call	Queue	5

Name	Phase	Type	Location / Function	Input No / Mdet No
CX	C	VA system D	40m X loop	
CY	C	VA system D	25m Y loop	
CZ	C	VA system D	12m Z loop	

Name	Phase	Type	Location / Function	Input No / Mdet No
E11121E1	-	SCOOT	-	-
N11121E1 is a SCOOT loop and has its own 8-figure alpha-numeric mnemonic relevant to the UTC system area, region, node, stage and link. (SCOOT 1,2,3 etc will not be accepted).				

4.2.4 Controller phasing shall allocate all vehicle movements first followed by pedestrian movements per stream. Dummy phases shall be allocated last in sequence.

4.2.5 Phasing and stream design of roundabouts shall normally follow the rationale of one stream per node with the circulating phase nominated first followed by the corresponding entry phase and then pedestrian and dummy phases. Where roundabouts are of a small, inscribed circle diameter and dominant traffic movements are proven to follow a simplified regulated form of control, a single stream may be considered. Roundabouts must be controlled under the MOVA control strategy with CLF fallback.

4.2.6 Passive safety details shall be provided in the specification and drawings.

4.2.7 A detailed signal works estimate shall be supplied sufficient for assisting with GCC's Commuted Sum Calculation process or internal budgetary requirements.

4.3 **Handover - Stage 3**

The following documents shall be included in the Design File in accordance with 'TA101 Traffic signalling systems' and provided within one month of substantial completion or commissioning of installations. The scheme CDM details shall be included in the Health and Safety File.

a) As built drawings and records
b) Electrical safety test records and completion certificates
c) Controller configuration forms
d) Equipment settings
e) Cable layouts and core usage
f) Power Supply Details
g) Manuals and maintenance documents
h) Communication and router settings
i) Existing site paperwork and logbook associated with decommissioned systems

4.4 The information to be supplied under this section is in addition to that required under The Construction (Design and Management) Regulations.

4.5 Where proposals either affect or are required to form a linked UTC signal system, all relevant information shall be supplied. This additional information shall include:

a) Method of control and translation strategy for SCOOT control
b) Control and reply word data
c) Instation system configuration data
d) Data transmission system details
e) SCOOT loop and database setting details
f) Other ITS related infrastructure

4.7 Where proposals either affect or are required to form a MOVA system, all relevant information shall be supplied. This additional information shall include:

a) MOVA Tools File (pre-validation and post-validation)
b) MOVA license numbers, LIN, LIF, HIC or equivalent
c) SIM Card details
c) MOVA link/lane diagram
d) Controller settings, linking statements and validation reports
e) RAM data changes

5 Signal Design Standards

5.1 In addition to the guidelines and standard details contained or referred to in this document, all signal designs shall conform to the latest Department of Transport Specifications as set out and referenced in TC101, Technical Directives, Technical Advice notes, Traffic Advisory Leaflets and Chapter 6 of the Traffic Signs Manual.

5.2 Particular attention shall be given to the design requirements for NMU's, the visually and mobility impaired.

5.3 Controlled pedestrian / cyclist facilities shall utilise near-side displays, and unless otherwise agreed with Gloucestershire County Council or his Agent, shall incorporate all detection facilities as defined in 'Traffic Signs Manual Chapter 6 Traffic Control' and TOPAS 2500.

5.4 Design processes shall conform to the Construction (Design and Management) Regulations and the DMRB.

5.5 The Developer shall undertake the duties of the Client for the purposes of and in accordance with the definition set out in The Construction (Design and Management Regulations), or any amendment or variation of the same. ***(D).***

5.6 GCC Local Requirements:

Signals	
1	All new or significantly modified installations shall be ELV. All signal aspects shall be LED type.
2	Where close-associated secondary signals are provided. Heads shall be fitted with Primary hoods.
3	Where close-associated secondary signals are provided. Poles shall be located no closer than 7.5m forward of the stop line to ensure visibility of all vehicle aspects.
4	Where unopposed side road movements are signalled, the green roundel shall be supplemented by an additional right turn arrow situated to the right.
5	Use of swan neck poles require GCC approval.
6	Passive poles shall only be specified following an accepted risk assessment of the junction environment and the available pole classification.
7	Designs shall evaluate and specify router and IP addressing for multiple integral facilities of RMU, UG405 and MOVA.
8	Use of kerbside detection shall be assessed and rationalised where possible.
9	Adjacent parallel pedestrian and cycle facilities (Sparrow Crossings) shall utilise methods of detection and timings such that pedestrians and cyclists receive coincident demand, displays and clearance periods.
10	Central reservation blackout sequencing shall incorporate a 3s red/red period immediately prior to the vehicular starting amber sequence.
11	Stop line detection shall be capable of detecting carbon fibre cycles primarily using suitable above ground detection.
12	Loop tails shall not be cut across more than two adjacent lanes. Additional perpendicular carriageway ducts and D400 chambers may be used to ease maintenance activities.
13	Loop feeders shall be 2-pair unarmoured and service only ONE detector.
14	MOVA IN loops shall be located following cruise speed assessments. Design engineers shall position IN loops in the closest location possible to the stop line especially at low-speed sites. The same rationale shall be applied to X loop positions and only in exceptional circumstances shall X detectors be positioned grater than 40m distant from the stop line.
15	230v maintenance sockets shall not service any add-on equipment.
16	230v supplies to MEC's shall be provided from the controller and be accommodated in separate LV duct runs. MEC's will generally be provided to increase cable entry capacity and shall accommodate lamp cable and or SIS electrical disconnect systems.
17	Major intersections shall be risk assessed for safety of operation in failure (signals unlit) with UPS systems incorporated into designs where appropriate.
18	Minimum island widths at new or modified junctions shall be 2.5m to enable asset maintenance.
19	Where a design incorporates equipment new to the Authority or the equipment is requested by Gloucestershire County Council, all necessary test equipment and maintenance spares shall be supplied free of charge to the Gloucestershire Network and Traffic Management Department.
CIVILS	
1	Offside longitudinal ducts shall be provided in central reserves where safe maintenance activities can be conducted.
2	Access chambers shall be set back from the kerb face by 1m or situated at the back of verge / footway.
3	An under-kerb duct and D400 access chamber shall be installed adjacent to stop lines for future use.
4	Maximum length between main access chambers and NAL sockets to be 5m.

6 Supply and Installation Standards

6.1 The Developer shall ensure that contracts conform with and refer to all Regulations, Acts and Specifications appropriate to the works, and that Contractors and Suppliers are fully approved to work on the Highway and are accredited to ISO 9000 or equivalent. ***(D).***

6.2 All personnel working on GCC signal and ITS asset shall be Sector accredited to the relevant level for the work being undertaken.

6.3 Installation works processes shall conform to The Construction (Design and Management Regulations) and the DMRB.

6.4 Factory and site acceptance tests shall be carried out in accordance with the test schedules contained in the Generic Specification. All electrical safety tests shall be carried out in accordance with and satisfy the latest requirements of the Electricity at Work Act Regulations.

6.5 A minimum of 10 working days' notice of the test dates shall be provided to GCC or his Agent.

6.6 Construction works and activities on the Highway shall conform to the New Roads and Street Works Act.

6.7 Contractors shall be responsible for providing information board signs. The signs shall advise the public, both vehicular and pedestrian of:

a) The reason for the works
b) The anticipated start and end dates
c) Emergency telephone number

6.8 A generic specification and standard details are contained in the guide. These or equivalent shall be used to form the basis of the installation specification, which must be made representative of the proposed works and site-specific installation.

7 Signal Maintenance Standards

7.1 The Developer shall maintain the traffic signal installation for a period of either 28-days or 12-months (as required by Gloucestershire County Council); the level of maintenance shall be as defined the Generic Specification and be in accordance with the current GCC Signals Maintenance Contract. ***(D).***

8 Control and Communication Systems

8.1 UTC SCOOT

8.1.1 The existing UTC/SCOOT control system is Siemens Hosted UTC-UX supporting UTMC, ADSL, Fibre & Wireless formats. ***(D).***

8.1.2 New junctions to be added to the Urban Traffic Control system will require a Wireless communication system to be installed. British Telecom local end ADSL copper connection or local fibre connection to existing adjacent systems may also be supplied with prior discussion and approval of GCC.

8.1.3 The whole cost of communications medium shall be paid for by the Developer. This shall also include the first years' rental and 'Total Care' or similar support maintenance where appropriate. ***(D).***

8.1.4 All signal control and monitoring equipment must be compliant with UTMC2 data objects directory and have the capability to be IP addressable at no cost to GCC.

8.1.5 Industrial 4G/ADSL/VDSL ruggedized router(s) as approved by Gloucestershire County Council shall be supplied & installed. Installation shall include the set-up of IP addresses, Sub-Net Masks and mapping at the Outstations and the setting up of system IP tunnels.

8.1.6 The designer shall incorporate all aspects of UTC/SCOOT installation within his proposed works, with due allowance for additional testing and commissioning procedures, database preparation, SCOOT validation and fine tuning.

8.1.7 A report shall be produced documenting all actions undertaken. This report shall be copied to GCC within 10 working days of completion. For large schemes, interim progress reports shall be provided.

8.1.8 Where Gloucestershire County requires both MOVA and UTC control strategies these shall be provided and set up utilising optimal detection and equipment configurations.

8.1.10 Preference shall be given to Integral control systems. Hard-wired add-on hardware may be refused by GCC.

8.2 MOVA

8.2.1 MOVA will be required at all isolated junctions and controlled roundabouts and may be required at UTC/SCOOT intersections unless the site is low-speed (30mph) and detection systems may be compromised by site constraints.

8.2.2 MOVA will be required at stand-alone crossings where the speed limit or measured 85%ile speeds are greater than 35mph.

8.2.2 Any new MOVA controlled junctions shall be fully compatible with the current version of the Gloucestershire County Council RMS / UTC Instation system in terms of operation and fault monitoring (please contact GCC for details of latest system).

8.2.3 Specialist MOVA design and validation engineers shall be employed to undertake pre-works assessment of junction proposals, MOVA design and MOVA validation.

8.2.4 On completion of validation a report shall be produced documenting actions undertaken and any recommendations for improvement. The report shall be copied to GCC within 10 working days of validation being completed.

8.2.5 Preference shall be given to Integral control systems. Hard-wired add on hardware may be refused by GCC.

8.3 Remote Monitoring

8.3.1 GCC currently operates a telent Optima Hub RMS solution. The designers must contact GCC to ascertain details. All new junctions and controlled crossings shall be connected to the remote monitoring system. Site configuration data shall be supplied and installed on the Remote Monitoring System at the time of works substantial completion.

8.4 Bus and Emergency Vehicle Priority

8.4.1 As part of ongoing commitment to improve public transport systems, GCC promotes the use of Bus Priority using local control techniques under MOVA control at isolated traffic signal junctions and MOVA / SCOOT for networked junctions. Designs shall consider the effect of any proposals on both bus and emergency vehicle routes.

8.4.2 Gloucestershire County Councils approved specialist supplier is VIX ACIS for vehicle location and telent Optima Hub for data transfer.

8.4.3 Where the local authority considers it necessary the Developer will be directed to provide systems as part of their works. ***(D).***

9 Test and Commissioning Procedures

9.1 GCC representatives or their Agent will attend Factory and Site Acceptance Testing. A minimum of 10 days' notice shall be given to GCC or his Agent of Factory and Site Acceptance tests. A draft controller configuration shall be supplied in emulation and PDF formats for initial review and comment at the time of test notification.

9.2 Factory Acceptance Tests shall be carried out on the signal controller, detection system and monitoring systems at least 10 days prior to the date for installation on site. The Contractor shall demonstrate to GCC or his Agent that the controller and any peripheral equipment conforms to Highway Agency specifications and standards, the TOPAS 2500 specification forms, design layout and the test schedule.

9.3 Site Acceptance Tests shall be performed on a date agreed between the Contractor, and GCC or his Agent upon substantial completion of the whole of the works and following an accepted Pre-Commissioning certificate as identified in the specification.

9.4 The Contractor shall be satisfied that the site is complete and safe for test purposes. With full pre-commissioning of the site undertaken by a specialist signal contractor and with new civil engineering works substantially complete.

9.5 Tests shall be demonstrated in accordance with the site acceptance test schedule. If any Factory Tests are to be repeated as part of site testing, then these shall be administered in accordance with appropriate schedules. Repeat visits to complete FAT or SAT will be recharged.

9.6 As well as tests on the controller as identified above, electrical safety and earthing site installation tests shall be carried out and documented on the appropriate forms. The results of all tests shall be submitted to GCC or his Agent for approval within 10 days of works completion.

9.7 The Contractor shall ensure that the requirements of the current edition of BS7671, the Electricity at Work Act Regulations (SI 1989/635) and the Building Regulations 1991 (SI 1991/2768) amended by (SI 1992/1180) are complied with. Upon the completion of the installation, the Contractor shall issue to GCC or his Agent an electrical completion certificate as identified in the Generic Specification.

10 Civil Engineering

10.1 Civil Engineering works associated with the installation of traffic signals shall be undertaken in accordance with the Department of Transport Highway works specification and GCC Manual for Streets.

10.2 Contractors undertaking works on the Highway shall conform to the conditions of current Health and Safety legislation and Chapter 8 traffic safety and management requirements and the New Roads and Street Works Act.

10.3 All traffic management proposals shall be subject to approval by GCC or their Agent.

10.4 Notice periods for Applications for Consent are defined in the Generic Specification.

10.5 Civil Engineering works shall be subject to a 52-week maintenance period.

10.6 All works shall conform to the New Roads and Street Works Act 1991 (latest revised edition).

10.7 Temporary warning signs in accordance with 'Traffic Signs Manual Chapter 6 Traffic Control' shall be provided for a 3-month period following completion, if required by GCC. Proposals for type and position shall accompany Stage-2 design submissions. GCC to be consulted as to whether signs are required.

10.8 Gloucestershire County Council currently adopts a policy of full duct and access chamber systems at all signal installations. Standard construction drawings refer. NAL retention sockets (or equivalent with prior approval by GCC) shall be used at all pole locations with a connection of not more than 5m to the nearest access chamber. Exceptionally, pole-boxes may be used with prior approval from GCC if site conditions negate the use of retention sockets or modifications are being made to existing installations.

10.9 Detector boxes and main access chambers shall be supplied as per standard drawings. GCC policy also includes the requirement to separate low and extra low voltage cables by utilising separate duct runs. Duct system design must therefore accommodate this requirement. In new installations, only ELV cable systems shall be installed, with the exception of linked 230v MEC power supplies between controller and MEC where appropriate.

10.10 Each road crossing shall have a minimum of three ducts with at least one spare 100mm dia duct.

10.10 All access chamber footway covers shall be non-slip with a minimum average SRV of 84 wet and 50 dry.

10.11 Access chambers covers shall have a suitable 250mm minimum concrete surround when located in soft verges.

10.12 Proposals shall include an appropriate area allocated for maintenance engineers to park their vehicles near the controller location.

10.13 A hard standing or paved area shall be provided around the controller service area, including the power isolation pillar and needs to be a minimum of 2.0m from the edge of the equipment to afford easy access even when the controller door is fully opened. The whole area must be contained within the limits of the adoptable highway. Where required, a hard surface will be provided to connect the controller area with the parking area for the maintenance vehicle.

10.14 A hard standing or paved area shall be provided surrounding all traffic signal poles and be a minimum distance of 2.5m from the pole in all directions to ensure a firm base for ladder work.

10.15 Non-standard height, mast arms and hinged traffic signal poles shall include a hard-standing area to accommodate the pole in its horizontal or rotated maintenance position.

11 Intelligent Transport Systems (ITS)

11.1 As part of its commitment to monitor and manage the network and to enable it to fulfil its duties under the Traffic Management Act (TMA) Gloucestershire County Council is committed to the deployment of ITS solutions.

11.2 The Developer will need to consider the impact of their proposals on the network and include within their proposals, options for meeting the above aims. To aid the Developer GCC have developed route-based strategies identifying locations of ITS equipment. This strategy is available upon request from the Traffic Signal Manager on **01452 328964.** ***(D).***

11.3 GCC currently use several ancillary (ITS) systems:

Automatic Number Plate Recognition (ANPR) for Journey Time Management (JTM).
CCTV systems in use are telent fixed cameras via telent RMS.

Swarco car park management and multi text Variable Message Signs are also used. GCC also use VivaCity smart sensor traffic monitoring.

11.4 ANPR equipment will be dual purpose and provide both journey time measurement and Automatic number plate recognition capability.

11.5 VMS signs will be 4-line multi text 18 to 20 characters per line or as required by GCC.

11.6 Full specification details can be obtained from the Traffic Signals Manager.

11.7 In addition to the above, GCC may seek non-specific contributions from the Developer towards the expansion of the ITS network and the development of fibre optic or other communication networks or alternatively request that the Developer installs a communications duct route as part of his works. Where the local authority considers it necessary the Developer will be directed to provide systems as part of their works. ***(D).***

11.8 GCC use a combination of communications modes on its existing ITS equipment including Wireless, Private circuits, Radio, Fibre, PSTN, and ADSL. Some of these are now obsolete and may need to be replaced as part of any works. Developers should note that it is the aim of GCC to minimise its revenue liability as far as is practicable when considering the maintenance of existing or new communications systems and all proposals must be agreed with them. ***(D).***

11.9 GCC recommend that the developer contacts the Traffic Signals Manager at an early stage to determine project requirements. ***(D).***

12 CCTV

12.1 New traffic signal junctions shall include CCTV. CCTV may also be required at new crossings and existing traffic signal junctions as directed.

12.2 GCC currently utilise Telent IP based fixed CCTV units. It must be assured that sufficient cameras are installed to allow the whole junction to be viewed. Product details can be supplied.

12.3 It should be noted that GCC's Telent CCTV system uses the same communications as the Telent RMS (remote monitoring system).

SECTION 13

Generic Traffic Signal Specification

GCC Signals Specification V01 - May 2026

Supplied as a separate document with contents as below

CONTENTS

1.0 General requirement for traffic signalling systems

1.1 Commencement of Works

1.2 Site Decommissioning

1.3 Traffic management requirements

1.4 Site working hours

1.5 Asset identification systems

1.6 Colour and external finish of traffic signalling systems

1.7 Telecommunication service provider (TSP) interface

1.8 Comms Addressing & Router

1.9 Verification requirements for traffic signalling systems

1.10 Commissioning and site acceptance – junction controllers

1.11 Commissioning and site acceptance – NMU Controllers

1.12 Insulation Resistance Tests

1.13 Loop / Feeder Tests

1.14 Earth Fault Loop Impedance Tests

1.15 Documentation requirements for traffic signalling systems

1.16 Handover Pack and Handover Procedure Summary

1.17 Post commissioning data and alterations

1.18 Site records for traffic signalling systems

2.0 Traffic Signal Heads

2.1 Lamps

2.2 Mounting of signals heads

2.3 Backing Boards

2.4 Miscellaneous

3.0 Nearside light signals demand units & wait indicators

3.1 Nearside displays

3.2 Demand units & wait indicators

3.3 Tactile Equipment

4.0 Traffic signal detectors

4.1 Inductance loops

4.2 Inductance loop installation

4.3 Above ground installation

5.0 Traffic signal controllers

5.1 Hardware and configuration

5.2 Installation

5.3 Outstation Transmission Unit (O.T.U.)

5.4 MOVA

5.5 RMU

5.6 Photocell

5.7 Training and Spares

6.0 Auxiliary equipment cabinets for traffic signalling systems

7.0 Power supply feeder pillars for traffic signalling systems

8.0 Cables for traffic signalling systems & slot cutting

8.1 Cable specifications

8.2 Cable installation

8.3 Slot Cutting Operations

9.0 Traffic signal posts (poles)

9.1 Pole specification

9.2 Passive safety

9.3 Safe Isolation System (SIS)

9.4 Pole positioning and setting out

10.0 Chambers for traffic signalling systems

10.1 General

10.2 Access chambers and foundations

11.0 Cable Ducts for traffic signalling systems

12.0 Defects correction period and maintenance warranties

12.1 Maintenance

12.2 Fault classification

12.3 Warranties

13.0 Standard Drawings

Appendix A

Factory Acceptance Test Certificate

Appendix B

Factory Acceptance Test Schedule

Appendix C

Pre-commissioning Test Schedule

Appendix D

Site acceptance Test Schedule

Appendix E

Application for consent notice periods

Appendix F

DMRB TC-101 Reference Schedule