

Survey Area	Scope	Minimum Competency
Asbestos		o Proof of qualifications and experience to do the selected surveys / works
Communications / Technology and lighting	<ul style="list-style-type: none"> o Existing Intelligent Transport Systems (ITS) asset surveys including the opening and visual inspection of cabinets, visual inspection of gantry mounted infrastructure and capturing of photographs and survey data o Existing lighting asset surveys including opening and visual inspection of feeder pillars, road lighting columns, illuminated traffic signs and associated infrastructure and capturing of photographs and survey data o Cabinet and feeder pillar surround survey to identify access arrangements and suitability of location for re-use o Identification of Distribution Network Operator (DNO) source for all infrastructure and completion of associated DNO power exit point surveys (ITS and lighting) o Condition testing of power circuits for ITS and lighting equipment undertaken in accordance with the SMP Survey Guide and electrical testing of cables in accordance with BS7671 o Duct proving works (cross carriageway ducting and duct through structures) and chamber condition surveys 	<ul style="list-style-type: none"> o Proof of registration with Highways England Registration Scheme (HERS) o Current G39 / 1 certification o Valid Electrotechnical Certification Scheme (ECS) cards for all engineers
Drainage	<ul style="list-style-type: none"> o Undertaking a topographic survey to obtain geometric information on existing assets. Including Surface Water Channels (SWC), Ditches with invert level and edge level data. Existing assets with cover levels (for the avoidance of doubt this shall include a minimum of four points around the edge of the cover) and invert level data o CleverScan survey (issued in WinCan VX format) complete with coordinates (Ordinate survey) from centre of the drainage chamber to include chamber type, shape and dimensions, side lengths/widths or diameters, depths, heights or thicknesses o CCTV survey of existing drainage pipe network. To include a Connectivity survey, a Condition survey, a Geometric survey and a full survey. Photographs to be taken alongside conducted surveys and recorded in a suitable and labelled form. All surveys to be carried out in accordance with CS551 <p>Note surveys may extend beyond the scheme extents in order to ensure full catchments are incorporated to allow for full calculation of attenuation and capacity of the systems. Where drainage assets are located outside of the boundary, the drainage survey contractor shall make all necessary arrangements with the landowner to obtain access.</p>	o Proof of qualifications and experience to do the selected surveys / works
Environmental and Ecology	<ul style="list-style-type: none"> o Ecology surveys to include: <ul style="list-style-type: none"> - Undertaking an assessment of Biodiversity No Net Loss / Net Gain in line with up-to-date guidance - Establish and map the presence, or likely presence, of invasive non-native species, protected species in line with up- to-date guidance; and - Prepare the ecological inputs to an Environmental Management Plan for the works and provide data to support subsequent detailed design o Arboriculture surveys in line with up-to-date guidance o Provision of Ecological Clerk of Works o Noise surveys in line with latest guidance o Landscape surveys in line with latest guidance o Heritage surveys in line with latest guidance o Archaeology surveys in line with latest guidance o Groundwater surveys in line with latest guidance o Air quality monitoring surveys in line with latest guidance 	o Proof of qualifications and experience to do the selected surveys / works
Geotechnical (ground investigation)		o Proof of qualifications and experience to do the selected surveys / works
Pavement evaluation surveys	<ul style="list-style-type: none"> o Falling weight deflectometer o Rotatory coring o Dynamic cone penetrometer o Materials analysis (ITCY, compressive strength, WAC) o Visual survey (walked) o Video data capture o Ground penetrating radar 	<ul style="list-style-type: none"> o UKAS accreditation for all materials analysis o Certification / correlation trials for Falling Weight Deflectometer and Light Weight Deflectometer surveys o All surveys in compliance with CS229
Structures	<p>Typical structural surveys to include</p> <ul style="list-style-type: none"> o For overbridges and underbridges including other concrete elements (where specified) - tap hammer and visual delamination survey, covermeter survey, half-cell electro-potential test, resistivity test, chloride sampling, cement content sampling, carbonation testing, Ferro scan (where required), mapping cracks etc o Visual inspection of walls, parapets, joints etc o Gantry surveys including laser scan point cloud, visual inspection o Dimensional measurements for some elements 	<ul style="list-style-type: none"> o Proof of qualifications and experience to do the selected surveys / works o Competent structural engineer and / or certified bridge inspector
Topographical	<ul style="list-style-type: none"> o Geodetic survey to MCHW's Specification for Geodetic Surveying Services and DMRB's GG184 BiM Requirements o Establish and survey a framework of Permanent Ground Markers (PGM) for consistent survey(s) coordination and later for construction on the high-speed network o Prepare digital string and terrain models, with contours where applicable and other digital information as detailed by a specification in line with up-to-date guidance 	o Proof of qualifications and experience to do the selected surveys / works
Utilities	<p>Site investigations using Ground Penetrating Radar (GPR) and electromagnetic equipment (CAT and Genny) in accordance with BSI PAS 128 to:</p> <ul style="list-style-type: none"> o Verify the location of Statutory Undertakers apparatus o Prepare three-dimensional digital information which record x, y, z positive data of the buried services. 	o Proof of qualifications and experience to do the selected surveys / works