GUIDANCE FOR ENGTECH CANDIDATES ON DEMONSTRATING COMPETENCE

The following are examples of evidence/activities, drawn from work commonly undertaken by Highways & Transportation technicians, which could demonstrate achievement of the EngTech Standard as set out in the Engineering Council's UK Specification for Professional Engineering Competence (UK-SPEC). You do **not** need to provide evidence for all of these activities. The reviewers appreciate that your evidence will vary according to your job role, but they will expect you to demonstrate competence in each of the objectives.

Section A: **Use engineering knowledge and understanding to apply technical and practical skills**
A1 Review and select appropriate techniques, procedures and methods to undertake tasks A2 Use appropriate scientific, technical or highway/transportation engineering principles
Examples of evidence: · Knowledge of design/construction manuals · Knowledge of methods of measurement · Knowledge of specifications · Knowledge of asset management techniques and maintaining asset registers · Preparing drawings using traditional or contemporary techniques · Knowledge of modelling packages and applications · Understanding of the principles of data collection and validation · Knowledge of relevant guidance, policy, legislation and Codes of Practice · Knowledge of construction processes and planning · Knowledge of safe systems of work and work site organisation

Section B: Contribute to the design, development, manufacture, construction, commissioning, operation or maintenance of products, equipment, processes, systems or services at work.
B1 Identify problems and apply diagnostic methods to identify causes and achieve satisfactory solutions B2 Identify, organize and use resources effectively to complete tasks, with consideration to cost, quality, safety and environmental impact
Examples of activities: · Commissioning/decommissioning transport infrastructure · Designing/installing highway & transportation features e.g. Traffic calming, pedestrian crossing facilities, street lighting etc. · Traffic management · Signing/lining (Traffic Regulation Orders, Notices and road space management) · Laboratory work (materials testing and analysis of results) · Accident analysis and road safety audits · Traffic modelling and analysis · Data management and interpretation · Application of national statistical data in a local context · Asset management · Procurement and evaluation of contracts · Management of networks and user satisfaction · Planning and organising construction tasks. Examples of evidence: · Engineering drawings · Desk top studies · Model runs · Specifications · Risk assessments and method statements · Spreadsheets

- Work instructions
- Procurement documents
- Technical calculations
- Road safety audit reports
- Customer and user group engagement activities
- Documents used to follow processes and procedures from IMS.

Section C: Accept and exercise personal responsibility for seeing a process through to completion. (You may include activity that is not associated with your job e.g. voluntary work or helping to run a sports or social club).

C1 Work reliably and effectively without close supervision to the appropriate codes of practice
C2 Accept responsibility for work of self and others
C3 Accept, allocate and supervise technical and other tasks

Examples of evidence:

- Minutes of meetings
- Site notes and instructions
- Site surveys
- Compliance with quality management systems
- Variation orders
- Programmes of work/programming works
- Understanding of, and working to, time and budget constraints
- Understanding of, and working to, project briefs
- Specifications, drawings and reports
- Appraisals undertaken by your employer
- Written feedback from clients or members
- Tool box talks
- Risk assessments and method statements for specific tasks

Section D: **Used effective communication and interpersonal skills.**

D1 Use oral, written and electronic methods for communication of technical and other information
D2 Work effectively with colleagues, clients, suppliers and the public

Examples of evidence:
· Use of correct engineering terminology
· Understanding of delegated responsibilities
· Awareness of contractual obligations. Emails, minutes from meetings, reports etc.

Section E: **Personal commitment to an appropriate code of professional conduct, recognising obligations to society, the profession and the environment**

E1 Comply with Professional Codes of Practice
E2 Manage and apply safe systems of work
E3 Undertake engineering work in a way that contributes to sustainable development
E4 Carry out CPD to ensure the required competence level is maintained
E5 Exercise responsibilities in an ethical manner

Examples of evidence:

- Knowledge of CIHT's Code of Conduct
- Awareness of legal obligations (duty of care)
- Awareness of environmental management systems

- Understanding and application of current safety requirements relevant to your own work (e.g. Health & Safety at Work Act 1974, COSHH, CDM 2015, CSCS card, New Roads & Street Works Act 1991, Permits to Dig, Working in Confined
- Spaces)
- Understanding and application of risk assessment methods and actions taken to
- minimise risk to health, safety, society or the environment
- Environmental awareness
- Active engagement with CIHT at a local level
- CPD record, including reflection on learning
- Awareness of ED&I, recognising inclusive behaviours and working in an inclusive and supportive manner