

# BUILDING SERVICES ENGINEERING SITE MANAGEMENT Trailblazer Apprenticeship Standard

## Occupation(s)

The occupation covered by this standard is that of Building Services Engineering Site Management. Building Services are environmental systems in buildings such as electrical power, air conditioning, heating and lighting. Building Services Engineering Site Management staff lead the installation of complex environmental systems in construction projects. Typical job titles can include: Assistant Building Services Engineering Site Manager, Building Services Installation Manager or Project Engineer.

## Occupational profile

The main duties and tasks of a Building Services Engineering Site Manager are:

- To ensure that safe systems of work are in place on their site and that all staff adhere to them
- To translate design information to construction teams so they can install the equipment
- To manage the productivity on the site so that the project is completed on time
- To ensure that the project is completed to the specification and quality needed by the client
- To manage the activity on site in a way that adheres to cost and contract constraints
- To ensure that the site has minimal negative impact on the environment and community
- To manage interfaces between stakeholders associated with the project

## Requirements: Knowledge, Skills (and behaviours)

Knowledge	What is required
<b>Building Services Engineering Knowledge</b>	Understand engineering principles, codes and standards including, but not limited to: electrical, mechanical, plumbing and building management systems
<b>Building Services Engineering Solutions</b>	Understand the client's needs and the practicality of using certain engineering solutions
<b>Building Services Engineering Techniques</b>	Understand design principles, building surveys, costing, risk analysis, sustainability, Health and Safety, buildability, contract law.
<b>Project Management</b>	Understand the project management cycle including the planning, budgeting, project funding and payment processes
<b>People and Resources</b>	Understand principles of teamworking, staff co-ordination, supply chain management, performance management and the development of people.
<b>Quality Management</b>	Understand the importance maintaining of quality standards, using records, systems, tools and techniques for quality improvement.
<b>Commercial and Legal Awareness</b>	Understand budgets, costs, various forms of contract, procurement and record keeping and their impact on project success
<b>Communication</b>	Understand different forms of communication (written, verbal, electronic) and evaluate the best solution for different circumstances
<b>Working with Others</b>	Be aware of the importance of good working relationships, the needs of others and equality and diversity in the workplace
<b>Safe Systems of Work</b>	Understand obligations for Health, Safety and Welfare issues on site, how to identify potential hazards and manage the risks
<b>Sustainability</b>	Understand the environmental impact of building services engineering activities and how to minimise negative impacts during all stages of the project
<b>Commissioning</b>	Understand the importance of the commissioning process and be able to describe typical commissioning activities to enable a building to function effectively

Skill	What is required
<b>Building Services Engineering Knowledge and Understanding</b>	To develop and apply practical engineering solutions using established and emerging building services technologies
<b>Building Services</b>	Be able to identify, review and select techniques, procedures and methods to undertake

<b>Engineering Application</b>	engineering tasks. Be able to contribute to the design, development and implementation of engineering solutions and evaluate their effectiveness
<b>Management and Leadership</b>	Be able to plan for effective project management, plan and organise resources, tasks and people. Be able to manage teams and staff to meet project requirements and be able to manage quality processes.
<b>Commercial Ability</b>	Be able to prepare and control budgets and apply statutory and commercial frameworks.
<b>Health, Safety and welfare</b>	Be able to identify and manage risks of health, safety and welfare in line with legislation, hazards and safe systems of work so that people are kept safe on site
<b>Sustainable Development</b>	Be able to manage engineering activities in a way that contributes to sustainable development and implements best practice.
<b>Interpersonal Skills and Communication</b>	Be able to communicate well with others at all levels and discuss plans and issues. Demonstrate personal and social skills and an ability to deal with colleagues and stakeholders in a way that enhances equality and diversity.
<b>Commissioning</b>	Be able to commission building services engineering products after installation to enable a building to function effectively

<b>Behaviours</b>	<b>What is required</b>
<b>Take Responsibility</b>	Be responsible for your own work and that of others.
<b>Independent Judgement and Responsibility</b>	Exercise independent engineering judgement, take responsibility for actions and decisions and operate within the constraints of own skills and knowledge.
<b>Complying with Codes of Conduct</b>	Operate within the Chartered Institution of Building Services Engineers Code of Conduct and implement work activities within the context of industry issues. Promote ethical behaviour in others and promote the building services industry.
<b>Maintaining CPD</b>	Identify own development needs and take appropriate action to meet those needs. Use own knowledge and expertise for the benefit of others.

### **Duration**

The typical duration for this apprenticeship is three to four years but this will depend on the previous experience of the apprentice and access to opportunities to gain the full range of competence.

### **Entry requirements**

Individual employers will set their own selection criteria for this apprenticeship. As it requires achievement to Level 6 the typical entry requirements for this Apprenticeship will be the completion of the Level 4 Construction Technician Standard; EngTech LCIBSE status, HNC in Building Services Engineering or equivalent qualifications and commensurate experience.

### **Qualifications**

The following qualifications will be gained:

- BEng (Hons) Building Services Engineering or equivalent Level 6 Building Services Engineering Diploma, mapped to UK-Standard for Professional Engineering Competence (UK-SPEC) for Incorporated Engineer
- Industry certificates in Site Safety Plus Site Managers' Safety Training Scheme and Site Environmental Awareness Training Scheme which are required for safe operations in the workplace
- English will be required to be demonstrated at Level 3 and Maths will be required to be demonstrated at Level 5. These may be demonstrated in the BEng(Hons).

### **Link to professional registration**

This Apprenticeship will include the knowledge, skills and behaviours required to achieve Incorporated Engineer status with the Chartered Institution of Building Services Engineers and lead to the designatory letters IEng ACIBSE. The professional review process for IEng ACIBSE is included in the final assessment process for this Apprenticeship.

### **Level**

This apprenticeship standard is at Level 6.

### **Review date**

This apprenticeship standard should be reviewed three years after approval of the standard.