

## COSCPO03 SQA Unit Code H90G 04

### Contribute to preparations for engineering surveying operations



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#### Overview

This unit is about contributing to the preparations for engineering surveying operations. You will need to ensure that suitable equipment is selected and taken to site. You will need to work safely on site by conforming to health and safety practices. Whilst on site you will need to ensure that equipment is transported and stored safely and securely in accordance with organisational procedures. You will also need to secure survey points and information in order to leave the site ready for the next shift.

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### Performance criteria

*You must be able to:*

#### Prepare for engineering surveying operations on site

- P1 obtain **documentation and information** required for engineering surveying work
- P2 select suitable **tools and equipment**
- P3 **check tools and equipment** to ensure that they are fit for purpose and ready for use
- P4 sign out **tools and equipment** that are to be moved to the survey site
- P5 load **tools and equipment** into containers and/or onto vehicles for transport to the survey site
- P6 store **tools and equipment** safely and securely on site
- P7 set up **tools and equipment** for engineering surveying activities on site as directed in the **documentation** and by your supervisor

#### Work effectively as part of a engineering surveying operations team

*You must be able to:*

- P8 conform to **safe working practices** when on site
- P9 prepare the site for engineering surveying operations taking into account changing **circumstances and conditions**
- P10 ensure that the **tools and equipment** are operated, maintained, transported and stored in accordance with the manufacturer's recommendations and organisational good practice
- P11 carry out **instructions** on site as directed by your supervisor in order to contribute to the work of a survey team
- P12 communicate with people who are affected by operations on an engineering survey site

#### Secure a site following engineering surveying activities

*You must be able to:*

- P13 disassemble **tools and equipment** after use
- P14 clean and **check** the condition of **tools and equipment** after use
- P15 return **tools and equipment** after use in a safe condition on completion of work
- P16 report problems and faults with **tools and equipment** to supervisors
- P17 store **tools and equipment** securely on completion of work
- P18 secure survey points and information leaving the site ready for the next shift
- P19 dispose of waste safely and recycle materials in accordance with legislation and organisational requirements

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### Knowledge and understanding

*You need to know and understand:*

#### Prepare for engineering surveying operations

- K1 how to obtain **documentation and information** required for engineering surveying work (application)
- K2 how to select suitable **tools and equipment** (application)
- K3 how to **check tools and equipment** to ensure that they are fit for purpose and ready for use (application)
- K4 how to sign out **tools and equipment** that are to be moved to the survey site (application)
- K5 how to load **tools and equipment** into containers and/or onto vehicles for transport to the survey site (application)
- K6 how to store **tools and equipment** safely and securely on site (application)
- K7 how to set up **tools and equipment** for engineering surveying activities on site as directed in the **documentation** and by your supervisor (application)

#### Work effectively as part of a engineering surveying operations team

*You need to know and understand:*

- K8 how to conform to **safe working practices** when on the site (application)
- K9 how to prepare the site for engineering surveying operations taking into account changing circumstances and conditions (application)
- K10 how to ensure that the **tools and equipment** are operated, maintained, transported and stored in accordance with the manufacturer's recommendations and organisational good practice (application)
- K11 how to carry out **instructions** as directed by your supervisor supervisor in order to contribute to the work of a survey team (application)
- K12 how to communicate with people who are affected by operations on an engineering survey site (application)

#### Secure a site following engineering surveying operations

*You need to know and understand:*

- K13 how to disassemble **tools and equipment** after use (application)
- K14 how to clean and **check** the condition of **tools and equipment** after use (application)
- K15 how to return **tools and equipment** after use in a safe condition on completion of work (application)
- K16 how to report problems and faults with **tools and equipment** to supervisors (application)
- K17 how to store **tools and equipment** securely on completion of work

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(application)

- K18 how to secure survey points and information leaving the site ready for the next shift (application)
- K19 how to dispose of waste safely and recycle materials in accordance with legislation and organisational requirements (application)

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### Scope/range

#### Prepare for engineering surveying operations

- 1 Documentation and information
  - 1.1 diagrams
  - 1.2 drawings
  - 1.3 maps
  - 1.4 location
  - 1.5 graphical information
- 2 Tools and equipment:
  - 2.1 instruments (e.g. theodolite, total station, levels, moisture meters, lasers, Global Navigation Satellite Systems (GNSS))
  - 2.2 tools (e.g. cable avoidance tools, hand tools, mechanical tools, electronic tools, staff, prism, tape measure, set square, optical square, spirit level)
  - 2.3 equipment (e.g. profile boards/batter boards, traveller, stakes, pegs, steel pins, nails, line levels, string, batteries, personal protective equipment, vehicles, compass, ranging rods, survey arrows)
- 3 Check
  - 3.1 operational
  - 3.2 damage
  - 3.3 malfunctions
  - 3.4 monitor calibrations
  - 3.5 battery levels
  - 3.6 loss

#### Work effectively as part of a engineering surveying operations team

- 4 Safe working practices:
  - 4.1 personal safety
  - 4.2 equipment and clothing
  - 4.3 safe use of access equipment
  - 4.4 health and safety practice and regulations
  - 4.5 industry codes of practice
  - 4.6 regulations applying to the survey site

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- 4.7 signage
- 4.8 site access & working areas
- 4.9 traffic management
- 4.10 live services & equipment
- 5 Circumstances and conditions:
  - 5.1 topography (variations, tolerances and environmental risks)
  - 5.2 water
  - 5.3 obstacles
  - 5.4 climatic variation
  - 5.5 "live" conditions (construction sites including public areas e.g. roads, motorways, railways, civil engineering works and all infrastructure projects)
  - 5.6 unforeseen circumstances
  - 5.7 planned circumstances
  - 5.8 emergency circumstances
  - 5.9 security
- 6 Tools and equipment:
  - 6.1 instruments (e.g. theodolite, total station, levels, moisture meters, lasers, Global Navigation Satellite Systems (GNSS))
  - 6.2 tools (e.g. cable avoidance tools, hand tools, mechanical tools, electronic tools, staff, prism, tape measure, set square, optical square, spirit level)
  - 6.3 equipment (e.g. profile boards/batter boards, traveller, stakes, pegs, steel pins, nails, line levels, string, batteries, personal protective equipment, vehicles, compass, ranging rods, survey arrows)
- 7 Instructions
  - 7.1 measuring
  - 7.2 aligning
  - 7.3 positioning
  - 7.4 marking out
  - 7.5 recording
  - 7.6 checking

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7.7 securing

#### **Secure a site following engineering surveying operations**

- 8 Tools and equipment:
  - 8.1 instruments (e.g. theodolite, total station, levels, moisture meters, lasers, Global Navigation Satellite Systems (GNSS))
  - 8.2 tools (e.g. cable avoidance tools, hand tools, mechanical tools, electronic tools, staff, prism, tape measure, set square, optical square, spirit level)
  - 8.3 equipment (e.g. profile boards/batter boards, traveller, stakes, pegs, steel pins, nails, line levels, string, batteries, personal protective equipment, vehicles, compass, ranging rods, survey arrows)
- 9 Check
  - 9.1 operational
  - 9.2 damage
  - 9.3 malfunctions
  - 9.4 monitor calibrations
  - 9.5 battery levels
  - 9.6 loss

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### **Contribute to preparations for engineering surveying operations**

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**Relevant occupations** Building and civil engineering technicians;

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**Suite** Engineering Surveying Operations

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