

Overview

"This standard is about installing and testing new and/or replacement drainage, interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment and preparing for and laying pipes

This standard is for people working in the occupational area of construction and civil engineering operations and can be used by operatives, supervisors and managers"

Performance criteria

You must be able to:

"P1 interpret the given information relating to the work and resources to confirm its relevance

P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices

P3 select the required quantity and quality of resources for the methods of work

P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area

P5 comply with the given contract information to carry out the work efficiently to the required specification

P6 complete the work within the allocated time, in accordance with the programme of work"

Knowledge and understanding

You need to know and understand:

"Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented

K2 the types of information, their source and how they are interpreted

K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 current legislation and official guidance and how it is applied

K5 the types of fire extinguishers and how and when they are used

K6 how emergencies should be responded to and who should respond

K7 the organisational security procedures for tools, equipment and personal belongings

K8 what the accident reporting procedures are and who is responsible for making the report

K9 why, when and how health and safety control equipment should be used

K10 how to comply with environmentally responsible work practices to meet current legislation and official guidance

Performance Criteria 3

Selection of resources

K11 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified

K12 how the resources should be used and how any problems associated with the resources are reported

K13 the organisational procedures to select resources, why they have been developed and how they are used

K14 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K15 how to protect work from damage and the purpose of protection

K16 why disposal of waste should be carried out safely and how it is achieved

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Performance Criteria 5

Meet the contract specification

K17 how methods of work, to meet the specification, are carried out and problems reported

K18 how maintenance of tools and equipment is carried out

Performance Criteria 6

Allocated time

K19 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept"

Scope/range related to performance criteria

"Performance Criteria 1

1 interpret drawings, specifications, schedules, risk assessments, method statements, manufacturers' and suppliers' information related to the work to be carried out

Performance Criteria 2

2 avoid risk by complying with the given information relating to at least five of the following:

2.1 methods of work

2.2 safe use of health and safety control equipment

2.3 working with and around utility services including ground penetration

2.4 safe use of access equipment

2.5 safe use, storage and handling of materials, tools and equipment

2.6 specific risks to health

Performance Criteria 3

3 select resources associated with own work:

3.1 materials, components and fixings

3.2 tools and equipment

Performance Criteria 4

4 protect the work and its surrounding area from damage

5 maintain a clear and tidy work space

6 dispose of waste in accordance with current legislation

Performance Criteria 5

7 demonstrate work skills to check, measure, mark out, cut, lay, position, fit, join, level, plumb, align, secure and test

8 use and maintain hand and power tools

9 lay bedding materials, install and test pipework and drainage structures for new or replacement, foul or surface water drainage for at least one of the following to given working instructions:

9.1 inspection chambers

9.2 surface water systems

9.3 foul water systems

9.4 surround pipe with specified materials

9.5 place backfill to trench using given work instructions for both compacted and free drainage materials

Performance Criteria 6

10 complete own work within the estimated, allocated time to meet the needs of other occupations and/or client"

Scope/range related to knowledge and understanding

"Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with:

2.1 fires, spillages, injuries

2.2 emergencies relating to occupational activities

Fire extinguishers

3 water, CO₂, foam, powder and their uses

Hazards

4 those identified by risk assessment, methods of work, manufacturers' and suppliers' technical information, statutory regulations and official guidance

Health and safety control equipment

5 identified by the principles of prevention for occupational use, types and purpose of each type, work situations and general work environment:

5.1 collective protective measures

5.2 local exhaust ventilation (LEV)

5.3 personal protective equipment (PPE)

5.4 respiratory protective equipment (RPE)

Information

6 drawings, specifications, schedules, risk assessments, method statements, manufacturers' information, verbal and written instructions, sketches, electronic data, permits, regulations and official guidance associated with installing drainage

Legislation and official guidance

7 operative's responsibilities regarding potential accidents, health hazards and the environment whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting

Maintenance

8 operative care of hand and power tools

Methods of work

9 application of knowledge for safe and healthy work practices, procedures and skills

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relating to the method and area of work and materials used to:

- 9.1 excavate trenches and provide trench support
- 9.2 confirm ground conditions, site and excavations are suitable for the drainage installation work
- 9.3 recognise the dangers of loads and structures at the edge of excavations
- 9.4 deal with groundwater
- 9.5 work around other utility services
- 9.6 install geotextile materials
- 9.7 prepare different granular and cementitious bedding
- 9.8 determine levels and gradients
- 9.9 identify the differences between surface and foul water drainage
- 9.10 measure, mark and cut drainage materials
- 9.11 lay, position, level, plumb, align, fit, join, fix and secure new and replacement drainage systems
- 9.12 lift and transport assembled drainage systems
- 9.13 construct structures of a drainage system (storm alleviation, culverts, inspection chambers, lateral drains, overflows, sumps, filter drains, soak-a-ways, cess pools, reed beds or treatment plants)
- 9.14 install pre-cast components (metal, concrete, clay and plastic) of a drainage system structure (inspection chambers, septic tanks and street iron work)
- 9.15 connect and seal new systems to existing systems
- 9.16 prepare for conducting tests on drainage systems
- 9.17 work with, around and in close proximity to plant and machinery including lifting plant
- 9.18 store and dispose of removed drainage components
- 9.19 follow specified hygiene procedures particularly when dealing with foul water draining systems
- 9.20 recognise and determine when specialist skills and knowledge are required and report accordingly
- 9.21 determine specific requirements for structures of special interest, traditional build (pre 1919) and historical significance
- 9.22 use hand and power tools
- 9.23 work at height and below ground level
- 9.24 use access equipment
- 10 team work and communication
- 11 needs of other occupations associated with installing drainage

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Problems

12 those arising from information, resources and methods of work:

12.1 own authority to rectify

12.2 organisational reporting procedures

Programme

13 types of progress charts, timetables, productivity targets and time scales

14 how times are estimated

15 organisational procedures for reporting circumstances which will affect the work programme

Protect work

16 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

17 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and specialist:

17.1 pipes, fittings and ancillary components

17.2 pre-cast (metal, concrete, clay or plastic) components

17.3 bricks, blocks and sandbags

17.4 granular materials, aggregates, cement, concrete, mortars and sand

17.5 sealant materials (adhesives, compounds, solvents)

17.6 hand and power tools

18 how to confirm resources and materials conform with the given specification

19 methods of calculating quantity, length, volume, area and wastage associated with the method and procedure to install drainage

Security procedures

20 site, workplace, company, operative and vehicles"

Behaviours

"When performing to this standard you are likely to demonstrate the following behaviours:

- 1 Work safely: consider the safety of yourself and those around you, challenge unsafe behaviour
- 2 Effective communication: oral, written, electronic, listening, body language, presentation
- 3 Respect: apply equality, diversity and inclusion in dealing with others.
- 4 Team work: work effectively and safely with others with limited supervision.
- 5 Independent working: take responsibility for safe completion of your own work.
- 6 Logical thinking: use clear and valid reasoning when making decisions to safely undertake the work instructions.
- 7 Working effectively: undertake the work in a reliable, safe and productive manner.
- 8 Time management: use own time effectively to complete the work instructions to schedule, take the time to be safe.
- 9 Adaptability: be able to adjust to changes to the work instructions, put safety first"

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Relevant Occupations Construction Operatives

Suite Building Maintenance Multi-trades Repair and Refurbishment Operations, Trowel Occupations (Construction)

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