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## Overview

This Standard is about excavating and maintaining holes or trenches for utilities network construction. It could apply to network construction operations for a single utility or in a multi-utility environment.

It involves interpreting instructions, planning, organising and adopting safe working practices while preparing for and excavating holes and trenches, taking care of utility services and other sub-structures, providing entry and exit arrangements and providing structural support when required.

This Standard is for anyone who excavates and maintains holes or trenches for utilities network construction in a single or multi-utility environment.

## Performance criteria

### *You must be able to:*

1. use information in work instructions and specification to determine the work site and area to be excavated
2. determine excavation methods suitable for surface and sub-surface materials being removed in line with statutory and regulatory codes of practice
3. carry out and review site-specific risk assessments at appropriate times and in accordance with company procedures
4. ensure site-specific risk assessments provide adequate safeguards in work practices to deal with excavations becoming confined spaces.
5. select and wear designated PPE at appropriate times
6. select and use suitable tools and equipment for excavation methods
7. carry out excavations of a position and size that concurs with instructions and work specifications
8. carry out all safety checks before entry into excavations
9. confirm condition of ground area adjacent to excavations is safe in accordance with relevant codes of practice
10. excavate, identify, select, segregate, remove and store materials in accordance with work instructions and codes of practice
11. carry out excavations in a manner that avoids damage to supply apparatus
12. minimise damage to the natural environment in accordance with technical guidance
13. remove surplus materials in accordance with work instructions
14. confirm condition of excavations in line with approved procedures and practices and statutory requirements, providing trench support when appropriate
15. ensure work is carried out to approved procedures and practices and in compliance with statutory requirements
16. maintain the condition of excavations in line with safety standards
17. deal with dangerous situations as they arise in accordance with relevant codes of practice and safe working procedures
18. establish arrangements for access to, and egress from, excavations in accordance with statutory requirements and approved procedures and practices
19. resolve day-to-day problems within your responsibility in line with approved procedures and practices

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20. report detrimental conditions, defects or damage to excavations or supply apparatus which are outside your responsibility to appropriate people
  21. check any circumstances where information appears incorrect with appropriate people
  22. use organisational information systems to record and store data and information

## Knowledge and understanding

*You need to know and understand:*

1. statutory requirements, industry and organisational procedures and practices for excavation work including health and safety, personal protection, environmental, supply apparatus, excavation and support equipment, hazardous materials, accidents and lone working
2. the main methods of excavation including hand dig and machine and the safety risks of incorrect excavation practices
3. how to use hand tools, power tools and motorised equipment for excavation including the use of a competent banksman when excavating by machine
4. types of surfaces and sub-surfaces including flexible, composite, rigid and modular pavement construction, verge and natural ground
5. the types of sub-surface materials used for the different paving surfaces
6. how to identify different types of supplies encountered in excavation work.
7. the supply apparatus for utilities and other agencies including above and below ground services and built structures
8. how to minimize damage to the natural environment including foundations, tree roots and natural watercourses
9. how use of incorrect materials or failure to provide proper support could lead to damage to supply apparatus or sub-structures and major safety hazards
10. how your work can impact on costs and schedule
11. how to store and dispose of materials and the consequences of incorrect storage, including those with a potential environmental hazard
12. procedures for reporting and recording job progress, problems, deviations to work programmes
13. your responsibilities and the steps you should take to deal with dangerous situations whilst working in holes and trenches including poor atmosphere, instability and damaged utilities
14. who to report to and when
15. how to recognise situations that are, or could become, a confined space and how to deal with them effectively
16. circumstances where excavation support must be installed

including those relating to excavation depth, soil type or where subsidence is likely

17. materials, methods and principles for excavation support systems including those using timber, metal sheet or mechanical systems
18. how to monitor and maintain the condition of support mechanisms
19. causes of instability in excavated areas, including soil types, presence of ground water, leaks from water and drainage pipework
20. situations where excavation pumping systems may have to be used
21. the environmental considerations for disposing of trench water
22. hazards that could arise from leaks, damaged supply apparatus, damaged electrical apparatus or from working without natural or assisted ventilation

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Excavate and maintain holes and trenches for utilities network construction



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