

# EUSNCO307 (SQA Unit Code - FA9G 04)

## Monitoring excavation in the highway



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### Overview

This unit is designed for the candidate to demonstrate competence in monitoring excavation work in the highway.

This unit will apply to Network Construction Operations at Level 3 and is intended for Construction Supervisors.

There are four elements in this unit:

1. Monitor excavation work in the highway
2. Monitor action taken to avoid damage to underground apparatus during excavation
3. Monitor selection, disposal and storage for re-use of excavated materials
4. Monitor site safety

This unit does not provide the full requirements of the New Roads and Streetworks Act units.

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### Performance criteria

*You must be able to:*

#### **Monitor excavation work in the highway**

- P1 ensure that the type of footway, carriageway and pavement structure is correctly identified prior to excavation
- P2 ensure that the equipment, materials and products selected to carry out and support the excavation is suitable to the operation in accordance with approved procedures and practices
- P3 ensure that the site is inspected to identify areas of high risk for excavation activities
- P4 check that appropriate caution is exercised when excavating in areas of high risk
- P5 ensure that materials are excavated at all construction levels according to approved procedures and practices
- P6 monitor the working methods used for the excavation to ensure that they minimise subsequent reinstatement
- P7 check that safe working practices are followed during excavation activities that are in accordance approved procedures and practices
- P8 identify any problems with the excavation work being carried out and demonstrate that you know the appropriate remedial action to be taken

*You must be able to:*

#### **Monitor action taken to avoid damage to underground apparatus during excavation**

- P9 ensure that utilities' apparatus is correctly located and marked
- P10 ensure that exposed utilities' apparatus is correctly identified
- P11 ensure that risks of damage to utilities' apparatus during excavation activities are identified and precautions are taken to minimise them
- P12 identify damage to utilities' apparatus and demonstrate that you know the appropriate remedial action to be taken
- P13 ensure that exposed utilities' apparatus is supported safely, using the appropriate equipment, materials and products
- P14 where the requirement exists for safe trench sidewall support, you ensure that this is identified and that the approved procedures and practices are consulted for guidance on the action to be taken
- P15 ensure that safe working practices are followed in accordance with approved procedures and practices

*You must be able to:*

#### **Monitor selection, disposal and storage for re-use of excavated materials**

- P16 ensure that excavated materials selected for re-use are checked against the range of backfill, sub-base and modular materials permitted in the current specification
- P17 ensure that excavated materials selected for disposal have been checked and confirmed as unsuitable for re-use

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- P18 ensure that the storage arrangements made for excavated materials to be re-used are safe and meet the requirements of approved procedures and practices
- P19 ensure that safe temporary storage is provided for excavated materials that are unsuitable for re-use and that they are disposed of safely, in accordance with approved procedures and practices
- P20 ensure that safe working practices are followed, that are in accordance with the approved procedures and practices
- P21 identify any problems with the selection and storage of excavated materials for re-use and the disposal of excavated materials unsuitable for re-use, and demonstrate that you know the appropriate remedial action to be taken

*You must be able to:*

#### **Monitor site safety**

- P22 monitor site operations in accordance with approved procedures and practices
- P23 assess site conditions in accordance with approved procedures and practices
- P24 ensure that checks have been carried out to ensure that appropriate safety equipment is available and is fit for purpose
- P25 ensure that safe working practices are followed on-site throughout the excavation operation, that are in accordance with approved procedures and practices
- P26 identify risks to site safety and demonstrate that you know the appropriate remedial action to be taken

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### Knowledge and understanding

*You need to know and understand:*

#### **Monitor excavation work in the highway**

- K1 the main types of footway, carriageway and pavement structure and their characteristics
- K2 the appropriate equipment to use for excavation and support operations and the factors influencing its selection (including trench width and depth, ease of access, types of ground and noise nuisance)
- K3 how to ensure that equipment is fit for purpose
- K4 how to identify areas of high risk for excavation activities
- K5 precautions to be taken when excavating in areas of high risk (including close proximity to trees)
- K6 how to check that a trench has been excavated to the correct specifications
- K7 the working methods to use to minimise the requirement for subsequent reinstatement
- K8 safe working practices for excavation activities
- K9 problems which occur during excavation work in the highway and the appropriate remedial action to take

*You need to know and understand:*

#### **Monitor action taken to avoid damage to underground apparatus during excavation**

- K10 the different types of utilities' apparatus likely to be encountered during excavations and how they should be located and marked
- K11 how to identify different types of exposed utilities' apparatus correctly
- K12 potential risks of damage to utilities' apparatus and the consequences of damage
- K13 precautions to take to avoid damage to utilities' apparatus
- K14 problems which occur in the event of damage to utilities' apparatus, and the appropriate remedial action to take
- K15 the methods of supporting exposed utilities' apparatus safely and the appropriate equipment to use
- K16 the circumstances in which trench sidewall support is required, and where to find the guidelines for its provision
- K17 safe working practices for locating and avoiding underground apparatus and for excavating in the highway
- K18 safe working practices for the selection, storage and disposal of materials
- K19 problems which occur during the selection, storage and disposal of materials and the appropriate remedial action to take

*You need to know and understand:*

#### **Monitor selection, disposal and storage for re-use of excavated materials**

- K20 the range of backfill, sub-base and modular materials permitted for re-

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use

- K21 the factors influencing the selection of materials for re-use or disposal and the consequences of using unsuitable materials
- K22 appropriate and safe storage procedures for materials selected for re-use, and how the characteristics of materials affect the storage of materials (including chalk)
- K23 appropriate and safe storage and disposal procedures for materials unsuitable for re-use

*You need to know and understand:*

#### **Monitor site safety**

- K24 health and safety requirements for site operations
- K25 health and safety requirements for particular site conditions
- K26 the appropriate safety equipment to use during site operations, and how to ensure that it is fit for purpose
- K27 safe working practices on site and for excavation activities in the highway
- K28 potential risks to site safety and the appropriate remedial action to take

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### Additional Information

#### Scope/range related to performance criteria

##### **Monitor excavation work in the highway**

1. equipment, materials and products: Selection of vehicles, tools, ancillary equipment and machines, valves and fittings, pipes and consumables, health, safety and environmental protection equipment, hazardous and non hazardous materials
2. approved procedures and practices: Health, Safety and Environmental related to the individual and others, organisational, regulatory, statutory, emergency, operational, contingency plans, relevant company policies, relevant client policies (internal or external) approved materials and equipment and procedures, and risk assessments
3. risks: those which can be eliminated, reduced or remain constant

##### **Monitor action taken to avoid damage to underground apparatus during excavation**

4. risks: those which can be eliminated, reduced or remain constant
5. equipment, materials and products: Selection of vehicles, tools, ancillary equipment and machines, valves and fittings, pipes and consumables, health, safety and environmental protection equipment, hazardous and non hazardous materials
6. approved procedures and practices: Health, Safety and Environmental related to the individual and others, organisational, regulatory, statutory, emergency, operational, contingency plans, relevant company policies, relevant client policies (internal or external) approved materials and equipment and procedures, and risk assessments

##### **Monitor selection, disposal and storage for re-use of excavated materials**

7. approved procedures and practices: Health, Safety and Environmental related to the individual and others, organisational, regulatory, statutory, emergency, operational, contingency plans, relevant company policies, relevant client policies (internal or external) approved materials and equipment and procedures, and risk assessments

##### **Monitor site safety**

8. approved procedures and practices: Health, Safety and Environmental related to the individual and others, organisational, regulatory, statutory, emergency, operational, contingency plans, relevant company policies, relevant client policies (internal or external) approved materials and equipment and procedures, and risk assessments
9. risks: those which can be eliminated, reduced or remain constant

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