Unit AC2 Conduct non-intrusive investigations

Elements

AC2.1 Prepare for operations
AC2.2 Observe and record measurements
AC2.3 Analyse and present investigation data

Unit Commentary:

This unit involves the carrying out of non-intrusive archaeological field investigations (primarily various types of survey). The unit is for archaeologists with responsibility for carrying out field investigations, i.e. they will be the most senior archaeologist in the field. They may report to a project manager or, in the case of small projects, they may be the project manager. This unit deals with the preparation for an investigation where the method statement has already been agreed, the observation and recording of measurements in the field leading to the analysis and presentation of the data.

AC2 Conduct non-intrusive investigations

AC2.1 Prepare for operations

Performance Required

This will involve:

a) verifying the **investigation** method statement with interested parties prior to commencement

b) confirming relevant **permissions** have been obtained before commencement

c) verifying relevant **insurances** as valid and sufficient for planned activities

d) ensuring that **site facilities** are appropriately located, sufficient for planned operations and fit for purpose

e) bringing suitable equipment to **site** and making safe and secure

f) checking measuring and recording equipment and, where required, calibrating accurately prior to use

g) briefing personnel assisting in the **investigation** clearly and accurately on their role, **investigation methods**, the **site**, the **equipment** and **safety arrangements**

h) providing third parties who will be affected by the conduct of the **investigation** with clear and accurate information and obtaining their co-operation

i) checking that **safety arrangements** including, signing, personal protection and access equipment comply with legislation and regulations

Occupational Context

1 Type of investigation:
- building survey
- topographical survey
- geophysical survey
- geochemical survey
- landscape survey
- aerial survey

2 Investigation methods:
- visual
- approximate measured
- detailed measurement of all specified features
- graphic / photographic
- instrumental

3 Permissions from:
- client
- site owner and occupiers
- adjoining owners and occupiers
- notifiable authorities

4 Insurances:
- third party
- personnel
- equipment
- professional indemnity

5 Site facilities
- accommodation, storage & sanitary facilities
- parking
- transport
- catering
- communications equipment
- power
- water & waste disposal
- health, safety and welfare provision

6 Type of site:
- landscape
- earthworks
- sub-surface deposits
- structures
- terrestrial
- intertidal
- underwater

7 Survey, measuring and recording equipment:
- mechanical
- optical
- electronic
- digital

8 Safety arrangements:
- personal safety and safety of others
- equipment and clothing
- safe use of access equipment
- health and safety practice and regulations
- codes of practice
- special constraints applying to site including protection of features

AC2 Conduct non-intrusive investigations

AC2.1 Prepare for operations

Knowledge Requirements

You need to know and understand how to:

- Verify the aims and goals of the project
- Verify investigation method statements
- Select and secure suitable equipment and spares
- Check and calibrate equipment
- Establish site facilities
- Brief personnel on investigation methods
- Check safety arrangements and working practices

You need to know about:

- Types and modes of investigation
- Sources of permission for access
- Types of insurance which may be needed
- Types of equipment which may be required
- Types of facilities requirements
- Types of and sources of information on safety arrangements and safe working practices, legislation and regulations which may be required

Required Skills

You should demonstrate:

- How to check and calibrate equipment
- How to check brief investigation personnel
- How to check communicate with third parties

Evidence Required

You should provide evidence that you can prepare for operations

The candidate should be questioned, based upon the documentation provided, to explore the following

- investigation method statements
- permissions
- insurances
- site facilities (on and off site)
- Information provided to third parties
- safety checks

Evidence Rules

- The candidate should have been involved in at least 2 substantive projects.

AC2 Conduct non-intrusive investigations

AC2.2 Observe and record measurements

Performance Required

This will involve:

a) conducting the **investigation** efficiently and systematically and in accordance with the method statement

b) adapting work procedures and practices appropriately to allow for different **circumstances and conditions**

c) maintaining the integrity of the site, observing **safe working practices** and ensuring disruption to other activities on the site is kept to a minimum

d) ensuring observations and measurements are accurate and fully meet specified data requirements

e) consulting expert advice in instances where additional, specialist information is required which is relevant to the **investigation**

f) advising **interested parties** promptly of potentially critical findings and constraints arising during the conduct of the **investigation**

g) identifying and recording features of the site which may require more detailed investigation

h) ensuring that **investigation** data are recorded clearly and accurately and are stored securely for later analysis

i) keeping a clear and accurate record of time spent on the investigation and of any problems arising during its course that may bear on either cost or accuracy

j) maintaining effective working relationships and ensuring that the project team is kept fully informed of progress and significant developments

k) maintaining equipment in operational order and storing it securely

Occupational Context

1 Type of investigation:
- building survey
- topographical survey
- geophysical survey
- geochemical survey
- landscape survey
- aerial survey

2 Mode of investigation:
- visual
- approximate measured
- detailed measurement of all specified features
- graphic/ photographic
- instrumental

3 Safe working practices (cover):
- personal safety
- safety of others (including the public)
- equipment and clothing
- safe use of access equipment
- health and safety practice and regulations
- codes of best practice
- special constraints applying to survey site including protection of features

4 Circumstances and conditions:
- structural stability
- cultural and historical significance of site and site features
- current use of site
- geotechnical factors
- weather conditions
- fragility of features and materials
- ecology
- emergency circumstances

5 Interested parties:
- site personnel (including subcontractors)
- client
- the professional and academic community
- owners / occupiers
- community and special interest groups
- regulatory authorities

AC2 Conduct non-intrusive investigations

AC2.2 Observe and record measurements

Knowledge Requirements

You need to know and understand how to:

- Conduct investigations
- Identify and follow safe working practices
- Obtain specialist information and advice
- Observe and measure accurately
- Adapt investigation procedures and practices to suit different conditions
- Record and store investigation data
- Maintain equipment

You need to know about:

- Types and modes of investigation
- Safe working practices which apply to the conduct of investigation
- Sources of expert advice and specialist information
- Circumstances and conditions which can affect investigation operations
- Data protocols used in different investigation methods
- Types of recording format and data storage systems used

Required Skills

You should demonstrate:

- How to conduct investigations using non-intrusive methods and techniques

Evidence Required

You should provide evidence that you can observe and record measurements

The candidate should be questioned, based upon the documentation provided, to explore the following:

- use of appropriate modes of investigation
- investigation data
- relevant features identified
- advice to interested parties regarding critical discoveries
- features of site which require more detailed investigation
- expert advice consulted
- time spent on the investigation and problems arising
- actions taken to deal with specific site circumstances and conditions

Evidence Rules

- The candidate should have been involved in at least 2 substantive projects.

AC2 Conduct non-intrusive investigations

AC2.3 Analyse and present investigation data

Performance Required

This will involve:

a) verifying that **data** collected during investigation is sufficient for analytical purposes and is collated accurately

b) checking and verifying investigation **data** for accuracy and integrity

c) processing investigation **data** accurately and presenting it in a format that will assist in making a balanced interpretation

d) seeking additional **data** and specialist advice where essential for accurate analysis and interpretation of investigation findings

e) ensuring that **data outputs** and supporting information comply with the requirements of the method statement, are accurate and are presented clearly in an agreed format, suitable for those who will wish to use them

f) prepare report containing interpretation, diagnosis and advice, based on **data outputs**, to **interested parties**

Occupational Context

1 Investigation data:
- visual
- approximate measured
- detailed measurement of all specified features
- graphic / photographic
- instrumental

2 Data outputs:
- measurement data
- visual records
- written testimony
- interpretive data

3 Interested parties:
- site personnel
- client
- the professional and academic community
- owners / occupiers
- community and special interest groups
- regulatory authorities

Knowledge Requirements

You need to know and understand how to:

- Identify data sources and select and collate data
- Apply valid methods to verify investigation data
- Process, format and present investigation data suitable for end use
- Advise users on the interpretation of investigation

You need to know about:

- Types of investigation data
- Limitations of techniques and data
- Types of data analysis
- Data presentation formats

AC2 Conduct non-intrusive investigations

AC2.3 Analyse and present investigation data

Required Skills

You should demonstrate:

- How to present investigation data, data analysis, commentary and supporting information

Evidence Required

You should provide evidence that you can analyse and present investigation data

The candidate should be questioned, based upon the documentation provided, to explore the following:

- investigation data
- investigation data presented including:
- specialist advice on analysis and interpretation
- commentary and supporting information presented

Evidence Rules

- The candidate should have been involved in at least 2 substantive projects.