Level 2 Diploma in Network Construction Operations (Gas) - Service Layer (6028-22)

Candidate logbook

www.cityandguilds.com
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Qualification title	Number	QAN
Level 2 Diploma in Network Construction Operations (Gas) - Service Layer	6028-22	600/1535/4

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Contents

Version and date	Change detail	Section
Version 2.0 14 January 2014	Evidence requirements table inserted at the end of each unit	Units
Version 3.0 01 July 2014	New elective unit 307 added; elective unit 303 withdrawn	Units
Version 4.0 21 January 2021	Amendments made to elective units 213 and 219, in line with changes made by EU Skills.	Units
Version 5.0 March 2024	Update of Quality Assurance Statement	Centre Requirements

1 About your logbook

1.1 Contact details

Learner name	
Learner enrolment no	
Centre name	
Centre number	

Keep a record of relevant contact details in the space provided below. You may find it helpful to make a note of phone numbers and e-mail addresses here.

Your Assessor(s)	
Your Internal Quality Assurer	
Quality Assurance Contact	

1 About your logbook

1.2 Introduction to the logbook

This logbook will help you complete your qualification. It contains:

- the units you need to achieve to complete your qualification
- information about your responsibilities as a candidate
- forms you can use to record and organise your evidence.

It will also tell you:

- about your qualification
- what you need to do to complete your qualification
- who will help you.

About City & Guilds

City & Guilds is your awarding body for this qualification. City & Guilds is the UK's leading awarding body for vocational qualifications.

Information about City & Guilds and our qualifications is available on our website **www.cityandguilds.com**.

2 About the qualification

The Gas Network Construction Operation qualifications are nationally recognised qualifications gained in the workplace. They are based on National Occupational Standards, which are standards written by employers and experts in your industry.

When you achieve your qualification it will prove that you can work to the standards expected by employers in your industry. Your qualification will show you are competent to do a job and have the skills, knowledge and understanding needed to do it well.

This qualification is assessed in the workplace. You should be carrying out the type of work involved in this qualification, or expect to carry out in the future. If you are not in work, your centre will need to arrange a work placement for your assessment.

3 Qualification structures

To achieve the **Level 2 Diploma in Network Construction Operations (Gas) – Service layer**, learners must achieve the following combination of units, depending on pathway chosen.

- Level 2 Diploma in Network Construction Operations (Gas) – Service layer (Self lay)
    - 37 credits from 201 - 203, 205 - 207, 209 - 210, 215, 301
- Level 2 Diploma in Network Construction Operations (Gas) – Service layer (Distribution)
    - 41 credits from 201 - 207, 209 - 210, 215, 301
- Level 2 Diploma in Network Construction Operations (Gas) – Service layer (Repair and Maintenance)
    - 52 credits from 201 - 207, 209 - 210, 215, 217 - 218, 301, 304 - 305

Units 208, 213, 219, 307, 310 and 311 are elective and may be undertaken; however credits gained will not contribute to the overall achievement of the qualification.

Unit accreditation number	City & Guilds unit number	Unit title	Mandatory/ optional for full qualification	Credit value
R/503/0316	201	Create an efficient and effective environment in Utilities Network Construction	Mandatory	3
R/503/0669	202	Maintain a safe and secure working environment in Utilities Network Construction	Mandatory	3
A/503/0665	203	Establish and maintain effective working relationships	Mandatory	2
A/503/0682	204	Install equipment for safe working on the highway for utilities network construction	Mandatory	4
F/503/0683	205	Install equipment for safe working on sites for utilities network construction	Mandatory	3
J/503/0684	206	Locate and avoid supply apparatus for utilities network construction	Mandatory	4
L/503/0685	207	Excavate and maintain holes and trenches for utilities network construction	Mandatory	5
R/503/0686	208	Reinstate excavation and pavement surfaces after utility network construction operations	Elective	5

Y/503/0687	209	Operate powered tools and equipment for routine and predictable requirements on utilities network construction	Mandatory	4
F/503/0666	210	Join materials by electrofusion	Mandatory	2
A/503/0696	213	Install or replace external gas service risers	Elective	8
J/503/0698	215*	Conduct specified testing of Gas services	Mandatory	2
L/503/0671	217*	Restore gas components to operational condition by repair	Mandatory	2
Y/503/0673	218*	Conduct specified testing of gas networks associated with leakage location	Mandatory	3
T/503/0700	219	Disconnection of Gas Meters	Elective	2
T/503/0695	301*	Install Gas services up to 63mm	Mandatory	9
R/503/0672	304*	Minimise risks to life, property and the environment during Gas escapes	Mandatory	3
D/503/0674	305*	Analyse and interpret the results of surveys to determine the location of gas escapes	Mandatory	3
H/506/0789	307	Decommissioning and abandonment of mains and services 63mm and above	Elective	7
Y/506/4757	310	Operate within the gas intermediate pressure range	Elective	3
D/506/4758	311	Operate safely in emergency situations within the gas intermediate pressure range	Elective	2

*These units require an Assessor Observation Report to be completed as part of evidence collected

4 About your approved centre

Types of approved centres

Assessment for your qualification will be carried out at your centre. Your centre may be your place of work, a college, training provider or a combination of these.

City & Guilds approves centres to offer their qualifications and regularly monitors them to make sure they meet our quality standards and follow our assessment policies.

Centre responsibilities

Your centre is responsible for the administration of your qualification. Centre staff will:

- register you with City & Guilds
- give you your City & Guilds enrolment number
- apply for your certificate(s) when you have completed your qualification or units
- support you as you work towards your NVQ
- carry out initial assessment with you
- tell you about any learning or training (and resources) you will need to help you complete your qualification
- provide an induction programme to explain how the assessment process works
- produce an assessment plan for you.

Assessment roles

The following people at your centre will help you achieve your qualification.

The Assessor

The assessor is the person you will have the most contact with as you work towards your qualification. Your assessor will:

- help you identify any training you need
- agree an assessment plan with you
- help you plan and organise your workload and evidence
- observe you carrying out your job in the workplace over a period of time
- ask you questions about the work you do
- make decisions about your evidence
- judge when you are competent and meet the national standards
- give you feedback about your evidence and competence.

You may have more than one assessor depending on which units of the qualification you take.

Quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications.

Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City and Guilds Quality Assurance processes visit: the What **is CASS**? and **Quality Assurance Standards** documents on the City & Guilds website.

The Internal Quality Assurer (previously the internal verifier)

The Internal Quality Assurer maintains the quality of assessment within the centre.

The Qualification Consultant (previously the external verifier)

The Qualification Consultant works for City & Guilds and helps to ensure that your centre meets the required standards for quality and assessment.

Witness

Witnesses do not judge your overall competence but may provide you with statements about your performance which can be used as evidence of your work.

5 About learners

Learner role and responsibilities

Your responsibilities as a City & Guilds candidate are to:

- provide your centre with your personal details so you can be registered with City & Guilds
- participate in an initial assessment and induction
- agree a personal assessment plan with your assessor
- collect and organise your evidence as agreed in your assessment plan
- attend regular meetings with your assessor to discuss your progress and to amend your plan when required
- meet with other centre and City & Guilds staff to talk about your qualification and evidence
- make sure you understand and comply with health and safety law and regulations.

Your centre **may** ask you to agree and sign a learning contract with them to show how you will be assessed for your qualification.

Learner enrolment number

Make sure you keep a note of your unique City & Guilds enrolment number on the front page of this logbook.

You will need this number again if you take any other City & Guilds qualifications. Using the same enrolment number helps City & Guilds keep a record of every unit and qualification you complete.

Moving to a new centre

If you change jobs or move to a new centre before you complete your qualification, you may be able to complete it at a new centre. Ask your centre to apply for any certificates of unit credit for you before you leave, and add them to your records.

A new centre will need your candidate enrolment number, your assessment records and evidence to help you complete your qualification.

6 The assessment process

6.1 Qualification assessment

The assessment process

Once you have chosen your units you will make and agree an assessment plan with your assessor. This will show

- the units the plan covers
- when you will be assessed
- where the assessment will take place
- what you will be doing
- what evidence you will produce
- who will assess you.

The plan should also indicate the methods of assessment to be used to collect your evidence.

Evidence can include

- direct observation in the workplace by a qualified assessor
- witness testimony of work carried out by you in the workplace written by an expert witness
- questioning – this could be verbal, written or computer based
- other evidence which can include photographs or personal accounts.

Your centre will explain the different types of evidence to you in more detail.

Types of evidence

AOR: Assessor Observation Report

WTC: Witness Testimony Checklist

WQP: Underpinning knowledge Written Question Paper

JRS: Job Record Sheet

PD: Professional Discussion

OQ: Oral Questions

PE: Photographic Evidence

6.2 Underpinning knowledge test guidance

Assessment is the process of generating, collecting and judging evidence against national standards. For a learner to prove competence, assessors must be sure that they have the knowledge listed in the standards and are able to apply this knowledge appropriately.

One method for assessing a learner's knowledge is to infer it from the learner's performance. By this method the assessor can be sure that learners have the knowledge and that they apply it to a work environment where required.

City & Guilds have produced knowledge questions and answers for **each** unit to assist assessors in the process of collecting supplementary evidence of knowledge through questioning. The knowledge questions and answers are presented on a unit by unit basis to match the underpinning knowledge stated in the standards.

Some knowledge areas are more involved than others, therefore there could be occasions where the assessor may need to confirm the learners understanding in these broader areas by addition of assessor devised questioning. All knowledge evidence gained through oral questioning and answer response method should be recorded by the assessor through either

- the Oral Questioning Record Form (supplementary recoding form within this logbook)
- or through a Professional Discussion Form (available to download from the City & Guilds website)

The short-answer questions should be taken under supervised conditions as open-book tests. This means that all activities will be completed with the assessor, or other designated supervisor, present. Strict exam regulations do not apply; it is envisaged that most learners will take the short-answer questions in their normal learning environment with their own tutor present or under full invigilated conditions.

The model answers provided are a guide to assessors who should use their own discretion based upon their knowledge and experience of the subject when marking candidate's responses.

How to use City & Guilds knowledge questions and answers

City & Guilds knowledge questions can be used:

- as a written paper to generate evidence of a learners knowledge throughout a unit
- as a basis for oral questions asked to learners during an activity or interview

Learners must achieve 100% to pass the papers. Learners achieving between 70- 99% can be asked incorrect questions through oral questioning or professional discussion. Learners achieving less than 70% will require additional training.

It has been recommended that a learner be allocated a notional time of three to four minutes to answer each question as a planning guide, although this again should be at the assessor's discretion and depend on the way in which the questions are being used.

To preserve the integrity and useful life of the questions, learners should **not** be given their answer sheets for inclusion in their portfolios. A learner's success in a written assessment should be recorded by a statement from the centre, quoting the relevant unit number or areas of knowledge assessed, which can then be used by learners in their portfolio. This should also be signed and dated by the assessor and learner.

Use of oral questioning

For questions that are to be asked as the learner is performing a task, an assessor should ensure that questions are relevant to the activity taking place. Assessors should be mindful of the effect their behaviour can have on learner performance, and take care to avoid giving clues through word, gesture or expression. Questions should be asked in the spirit of gaining information rather than pressuring a learner by creating the atmosphere of a test.

Once oral or written questions have been used, learners should be briefed on their performance in the questions and areas of weakness identified which may then need further assessment, and also positive comments to encourage learners on those areas in which they have demonstrated their knowledge. **Learner's answer sheets/assessor recorded oral responses should be retained by centres for verification purposes.** These must be signed by the assessor and dated.

7 Using your logbook

Recording forms

Learner Job Profile

You can use this form to record your personal details if you don't already have a Candidate Résumé/ CV.

Expert/Witness Status List

This is used to record the details of staff that will provide you with witness testimony.

Summary of achievement

This form is used to show which units you have chosen and how many units you have completed. When you have completed all of the units and are ready to ask for your certificate, you and your assessor will sign this.

Additional supplementary evidence forms

- **Oral Questioning Form**
  This form is to be used when recording any oral questions that were asked to the learner either by a witness or an assessor when carrying out a particular task.

- **Photographic Evidence Form**
  This form is to be used when using photographs as evidence. You are required to complete a brief description of the task being carried out in the photograph.

Units

These record where the evidence you produce meets the requirements of the unit. You should give each piece of evidence a Portfolio Reference Number (PRN).

The following recording forms have been produced for each unit and are available to download from the City & Guilds website in individual unit assessment packs. Passwords for these documents can be found on the catalogue pages on the Walled Garden.

Assessor Observation Report

Your assessor will complete this form during observation. You will both sign this as a true record.

Witness Testimony Checklist

This form will be used as a witness testimony. It can be used to form part of your portfolio and used as evidence towards your portfolio.

Job record sheet

This form can be used to feedback to your assessor what tasks you completed at the job site. It is also used to demonstrate underpinning knowledge of the tasks being carried out.

Underpinning Knowledge Written Question Papers

These question papers assess your knowledge of each unit. The questions cover knowledge and understanding of learning outcomes.

Learner job profile

If you already have your own CV you can use that instead of this form.

Name: .....

Place of Work: .....

Assessor:.....

Outline of job role

Previous roles and responsibilities relevant to the qualification:

Previous qualification and training relevant to the qualification:

Expert/Witness Status list

Learner name…….....

Name and Witness Signature	Status *	Professional relationship to learner **	Outcomes witnessed

*** Status**

1 Occupational expert meeting specific requirements for role of expert witness	3 Non expert familiar with the standards
2 Occupational expert not familiar with the standards	4 Non expert not familiar with the standards

**** Professional relationship to candidate**

Manager = M Supervisor = S Colleague = Coll Customer = Cus Other (please specify)

Summary of Achievement

Learner name:

Learner enrolment number:

Unique Learner number:

Centre number:

Assessor(s) and Internal Quality Assurer(s) must print their name and provide a sample signature in the table below. This is necessary for validating the signature provided by the Assessor/Internal Quality Assurer to confirm that the learner has met all of the necessary requirements to complete the specified unit.

Please see unit achievement list on the next page.

Assessor(s)			
Assessor(s) Name (print)	1.	2.	3.
Signature:			

Internal Quality Assurer(s)			
Internal Quality Assurer(s) Name (print)	1.	2.	3.
Signature:			

Summary of achievement

Declaration

By signing this summary of unit achievement, I confirm that all learning outcomes for the unit have been completed and that the evidence is authentic and has been obtained under specified conditions for which certification is now requested.

Units achieved

Unit Number	Date achieved	Learner signature	Assessor signature	Internal quality assurer signature	Qualification consultant signature
201					
202					
203					
204					
205					
206					
207					
209					
210					
215					
217					
218					
301					
304					
305					
Elective Units					
208					
213					
219					
307					

310					
311					

Photographic Supplementary Evidence

Portfolio Reference No:	

Learner name:

Learner signature:

Unit Number: Learning Outcome Number: Assessment Criteria Number:

Brief description of task being carried out in the photograph:
(Attach Photo in this Box)

Assessor / Witness Name:		
Assessor / Witness Signature:		Date:
IV Name:	IV Signature:	Date:

Oral questioning supplementary evidence sheet

Portfolio Reference No:	

Qualification/Level:	**Qualification number:**
Learner name:	Assessor name:
Unit Number:	Date:

Assessor question: **Candidate answer:**

Outcome/ Criteria

Learner Signature:		
Assessor Signature:		Date:
IV Name:	IV Signature:	Date:

Unit 201 Create an efficient and effective environment in utilities network construction

Unit aim:

The purpose of the unit is to assess your competence to recognised national occupational standards. This unit supports the competencies required to create an efficient and effective work environment in utilities network construction. It involves planning recourses, the work area and requires an understanding of the work activity. It includes working efficiently and effectively with other personnel.

Where job was done	Time taken (hours)	Date

Unit 201 Create an efficient and effective environment in utilities network construction

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to work efficiently and effectively							
1.1	Carry out a site-specific risk assessment and review in accordance with company procedures						
1.2	Select and wear the designated PPE						
1.3	Store, maintain and use tools, work materials and equipment in accordance with the work requirements, approved procedures and practices						

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to organise their work and maintain standards to minimise hazards							
2.1	Organise work to comply with instructions and the agreed schedules						
2.2	Coordinate own work with other personnel and related activities						
2.3	Carry out activities to **approved procedures and practices**						
2.4	Carry out and confirm all work is in accordance with **standards and approved codes of practice**						
2.5	Check own work and that of other personnel to ensure compliance with specified standards						
2.6	Confirm with a **designated person** on the steps to be taken throughout the **work process**						

Range

Approved procedures and practices: use of appropriate work methods; optimise the use of time; remove and dispose of waste and surplus materials

Standards and approved codes of practice: the agreed standards and specification; the organisational policy; approved procedures and practices; statutory requirements

Designated person: specified within work and health and safety procedures

Work process: any work which may be detrimental to safety or the environment; suggestions for improvements to work methods; any deviations in standards or specification

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to use and communicate data and information							
3.1	Comply with operational and organisational procedures for communicating information to other people						
3.2	Confirm records are maintained and exchanged in accordance with operational and organisational requirements						
3.3	Confirm with designated personnel any circumstances where information appears incorrect						
3.4	Use organisational information systems to record and store, data and information						

Performance evidence required	Portfolio Reference Number (PRN)						
4. Be able to resolve problems that arise from work activities							
4.1	Report to a designated person any situations which require additional intervention						
4.2	Communicate problems and conditions outside the responsibility of the job role using approved procedures						

5. Know health and safety guidance and legislation in utilities network construction operations		**PRN**
5.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
5.2	Explain the health and safety guidance governing work in excavations	
5.3	Describe the safe procedures for handling hazardous materials	
5.4	Explain the organisational accident recording and reporting procedures	
5.5	State the legislative requirements relative to the work activity and the workplace environment, including • any licensing, certification or inspection • organisational and operational standards	

6. Understand how to create an efficient and effective environment in utilities network construction		**PRN**
6.1	Describe the industry practices and company requirements for the work activity within the remit of the occupation	
6.2	Apply **approved procedures and practices** in the context of the operations, the work activity and the workplace environment	
6.3	Describe the main physical properties of the range of materials used in work operations	
6.4	Describe how the range of materials may be affected by weather conditions	
6.5	Describe the **categories and uses** of materials used in the work activity	

6.6	Describe the characteristics of work materials relevant to the work activity, both hazardous and non-hazardous	
6.7	Identify materials used for the work which could pose a health hazard	
6.8	Explain how to identify hazardous materials	
6.9	Describe precautions to be taken when dealing with toxic fumes and dust	
6.10	Explain **safe methods of handling and storing** the **range of materials** being used for the work	
6.11	Identify types of **packaging** used for the range of materials	
6.12	Identify types of **tools and equipment** used with the operation and work activity	
6.13	Identify the range and use of personal protective equipment for the work activity	
6.14	Describe the methods of checking PPE for good condition	
6.15	State the operational and organisational requirements for storage	
6.16	Describe the **arrangements, designated places and working procedures** for storing tools and equipment	
6.17	Explain the safe lifting and handling techniques for tools, equipment and materials	
6.18	Explain the emergency procedures and actions to take in the event of emergency	
6.19	Describe **means of communication** used in utilities network construction	
6.20	Explain the procedures for reporting problems in accordance with **company policy**	
6.21	Outline the range of the **work activity and sequence of events** to achieve the intended job outcomes	

Range

Approved procedures and practices: Environmental; organisational; regulatory; emergency; operational; company procedure

Categories and uses: materials used in carrying out the work; materials arising as a result of the work

Safe methods of handling and storing: disposal of residual or waste materials; recovery of reusable materials; approved reporting procedures

Range of materials: hazardous; non-hazardous

Packaging: loose; bagged; containerised; volume/weight of standard packages

Tools and equipment: hand tools; power tools; equipment for general and specific work activities.

Arrangements, designated places and working procedures: the need for securing high value/high risk equipment; storage compounds; security arrangements; lock up stores; methods of checking materials into and out of storage.

Means of communication: written; electronic; visual signals

Company policy: statutory; organisational; emergency

Work activity and sequence of events: how to collect information from plans, schedules, work programmes; the preparatory work required, including ensuring safely provisions are in place; the processes and work methods being used for the work activity; post- work activity to satisfactorily conclude the work activity; quality control being used for the work activity

Evidence required for Learning Outcomes 5 and 6

Assessment criteria	Evidence required
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Question paper H & S (Q4)
5.3	Question paper H & S (Q5 and Q6)
5.4	Question paper H & S (Q7 and Q8)
5.5	Question paper H & S (Q11, Q12 and Q13)
6.1	Evidence achieved through observation
6.2	Evidence achieved through observation
6.3	Question paper 206 (Q2)
6.4	Question paper 201 (Q12)
6.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (201)
6.6	COSHH Exercise
6.7	Question paper 201 (Q1)
6.8	Question paper 201 (Q3 and Q4)
6.9	Question paper 201 (Q5)
6.10	Question paper 201 (Q10)
6.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (201)
6.12	Question paper 201 (Q9)
6.13	Question paper H & S (Q9 and Q10)
6.14	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (201)
6.15	Question paper 201 (Q14)
6.16	Question paper 201 (Q10 and Q14)
6.17	Question paper 201 (Q6 to Q8, Q11 and Q13)
6.18	Question paper H & S (Q7 and Q8)
6.19	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack 201)
6.20	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack 201)
6.21	Evidence achieved through observation

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 202 Maintain a safe and secure working environment in utilities network construction

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. The unit supports workforce development and describes the competencies necessary to maintain a safe and secure working environment in utilities network construction. It involves on-going monitoring during routine work. It requires taking steps to make safe any situations or work practices or referring them to designated people as specified in the work procedures. It includes being alert to, and assessing, risk or hazardous conditions, security breaches, the need to wear safety clothing, and an ability to follow procedures where emergencies arise.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to maintain the health and safety of themselves and others							
1.1	Carry out site specific risk assessments for their area of work and review in accordance with company procedures						
1.2	Select and wear PPE in the site specific risk assessment and company procedures						
1.3	Ensure work activity is carried out in accordance with **approved practices and procedures**						
1.4	Monitor site conditions/work activities and their potential to harm • yourself • other people • the environment						
1.5	Adjust working practices and other aspects of the workplace to ensure the safety of operatives						
1.6	Handle hazards, accidental breakages and spillages promptly in accordance with safe **working practices** and organisational requirements						
1.7	Comply with emergency procedures in the event of an emergency						

Range

Approved practices and procedures: safe working practices; workplace policies; health and safety requirements

Working practices: any activities, procedures, use of materials or equipment and working techniques used in carrying out your job

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to maintain the safety and security of plant equipment, equipment, and the working environment							
2.1	Maintain in accordance with health and safety specifications, site specifications and safe **working practices** • plant • equipment • hazardous locations • safe access/egress						
2.2	Store, maintain and use in accordance with safe **working practices** and organisational requirements safety clothing, PPE and health and safety equipment						
2.3	Handle unauthorised personnel in the workplace in accordance with organisational procedures						
2.4	Maintain site safety by routine health and safety checks						

Range

Working practices: any activities, procedures, use of materials or equipment and working techniques used in carrying out your job.

Performance evidence required	Portfolio Reference Number (PRN)						

3.	**Be able to respond to emergencies**						
3.1	Use the designated response procedures promptly in accordance with recognised safe practice and organisational policy						
3.2	Respond to all accidents and emergencies that are within own capability and responsibility and report promptly to a **designated person**						
3.3	Use emergency appliances in accordance with approved procedures and practices						

Range

Designated person
Those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
4.	**Be able to use and communicate data and information**						
4.1	Comply with procedures where operating as a lone worker						
4.2	Report promptly, to the designated people, **potential hazards**						
4.3	Report situations which have the potential to escalate and pose risks to people that emerge from visual inspections and monitoring data						
4.4	Maintain accurate and up-to-date records that conform to health and safety specifications and safe **working practices** on routine matters and emergencies						
4.5	Maintain audit trails of records for quality assurance purposes						
4.6	Comply with the organisation's confidentiality policies						

Range

Potential hazards: Unsafe plant, equipment, hazardous locations outside own are of responsibility, high risk hazards outside own responsibility, emergencies, breaches of security

Working practices: any activities, procedures, use of materials or equipment and working techniques used in carrying out your job

Performance evidence required	Portfolio Reference Number (PRN)						
5.	**Be able to resolve problems that could affect health and safety**						
5.1	Handle unsafe behaviour in accordance with the responsibilities of the job role and workplace procedures						
5.2	Demonstrate how to resolve day-to-day problems within the responsibility of the job role						
5.3	Refer matters outside the responsibility of the job role to designated people						

6. Know health and safety guidance and legislation in utilities network construction operations	**PRN**

6.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
6.2	Explain the health and safety guidance governing work in excavations	
6.3	Describe the safe procedures for handling hazardous materials	
6.4	Explain the organisational accident recording and reporting procedures	
6.5	Identify the range and use of personal protective equipment for the work	

7.	**Understand how to use information and communicate efficiently in network construction operations**	**PRN**
7.1	Describe the organisational requirements for storing information and documentation	
7.2	Explain the importance of supplying accurate information in a fit-for purpose format	
7.3	Explain the importance of supplying information within identified timescales	
7.4	Explain the importance of checking information received for accuracy, validity and meaning	
7.5	Identify inaccurate information and resolve misunderstandings	
7.6	Identify ways of recording verbal, written, and computerised information	
7.7	Describe when verbal, written, and computerised information should be used	
7.8	Explain how to interpret data in text, tabular and graphical formats	
7.9	Explain how to use data storage systems	
7.10	Explain the importance of storing information and documentation in the correct location	
7.11	Explain the way information is utilised when operating the processing plant and the implications of its use	

8.	Understand how to maintain a safe and secure working environment	PRN
8.1	Describe duties for health and safety as defined by specific legislation covering job role, specific responsibilities and scope in job description	
8.2	Identify hazards that may exist in the workplace	
8.3	Explain the importance of remaining alert to the presence of hazards in the work place	
8.4	Describe own job scope and responsibility for correcting risks	
8.5	Explain the importance of dealing with risks and promptly, reporting risks	
8.6	Explain the procedures for dealing with risks beyond the scope of own responsibility	
8.7	Define the monitoring procedures for hazardous-area work	
8.8	Explain the dangers associated with working in a confined space	
8.9	Explain the emergency procedures to follow when working in a confined space	
8.10	Explain the danger of work activities that could turn a relatively safe excavation into a confined space	
8.11	Explain the workplace requirements and guidance on precautions.	

Evidence required for Learning Outcomes 6, 7 and 8

Assessment criteria	Evidence required
6.1	Question paper H & S (Q1, Q2 and Q3)
6.2	Question paper H & S (Q4)
6.3	Question paper H & S (Q5 and Q6)
6.4	Question paper H & S (Q7 and Q8)
6.5	Question paper H & S (Q9 and Q10)
7.1	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.2	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.3	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.4	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.8	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))

7.9	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.10	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
7.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (202))
8.1	Question paper 202 (Q4), H & S (Q1)
8.2	Question paper 202 (Q2)
8.3	Question paper 202 (Q3 and Q5)
8.4	Question paper 202 (Q4)
8.5	Question paper 202 (Q6)
8.6	Question paper 202 (Q1)
8.7	Question paper 202 (Q2)
8.8	Question paper 202 (Q8)
8.9	Question paper 202 (Q9 and Q10)
8.10	Question paper 202 (Q7 and Q8)
8.11	Question paper 202 (Q11 and Q12)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 203 Establish and maintain effective working relationships in utilities network construction

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. The unit supports workforce development and describes the competencies necessary to establish and maintain effective working relationships in utilities network construction. It includes working effectively with work colleagues, the general public, local authorities, other utilities, job management and emergency services.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to establish and maintain productive working relationships							
1.1	Demonstrate how to deal with **working relationships** appropriately						
1.2	Demonstrate how to deal with requests positively and in a timely manner						
1.3	Support colleagues and associates that may be in work-related difficulties						
1.4	Communicate to the **designated person** all unresolved matters likely to result in a breakdown of working relationships						
1.5	Work with others to find effective ways to deal with work problems						

Range

Working relationships: colleagues, associates, managers, supervisors, customers, outside bodies and members of the general public

Designated person: those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Comply with operational and organisational procedures for communicating information to other people						
2.2	Comply with operational and organisational procedures when maintaining records						
2.3	Confirm with designated personnel any circumstances where information appears to be incorrect						
2.4	Use organisational information systems to record and store, data and information						

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to resolve problems that could damage effective working relationships							
3.1	Handle problems within the responsibility of the job role						
3.2	Communicate problems and conditions outside the responsibility of the job role to the **designated person** using approved procedures						

Range

Designated person: people specified within work and health and safety procedures

4.	Know health and safety guidance and legislation in utilities network construction operations	PRN
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
4.2	Explain the health and safety guidance governing work in excavations	
4.3	Describe the safe procedures for handling hazardous materials	
4.4	Explain the organisational accident recording and reporting procedures	
4.5	Identify the range and use of personal protective equipment for the work	

5.	Understand how to establish and maintain effective working relationships in utilities network construction	PRN
5.1	Describe how to create and maintain working relationships with different **types of personnel**	
5.2	Identify the range and roles of **other persons** involved in the work activities	
5.3	Explain how to deal with groups and individuals with diverse roles, responsibilities and business environments	
5.4	Describe how to recognise and deal with problems effecting working relationships	
5.5	State the lines of communications to be followed when communicating information to customers, clients and work colleagues	
5.6	Explain the **methods of communication** used to communicate with others	
5.7	Identify documentation to use when communicating information to individuals and groups	
5.8	Describe ways to resolve problems that are affecting productivity and the achievement of work goals	
5.9	State the legislative requirements including any licensing or certification for the work activities	
5.10	State actions to be taken in the event of an emergency	
5.11	State how to comply with the requirements of the Health and Safety at Work Act in respect of work activities.	

Range

Types of personnel: work colleagues and associates, suppliers, contractors, other utilities, those working for statutory bodies, other organisations, other trades, representatives from statutory organisations

Other persons: other trades; representatives from statutory organisations

Method of communication: oral, written, electronic

Evidence required for Learning Outcomes 4 & 5

Assessment criteria	Evidence required
4.1	Question paper H & S (Q1, Q2 and Q3)
4.2	Question paper H & S (Q4)
4.3	Question paper H & S (Q5 and Q6)
4.4	Question paper H & S (Q7 and Q8)
4.5	Question paper H & S (Q9 and Q10)
5.1	Question paper 203 (Q5 and Q7)
5.2	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (203)
5.3	Question paper 203 (Q1 to Q4)
5.4	Question paper 203 (Q1 to Q4)
5.5	Question paper 203 (Q6)
5.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (203)
5.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (203)
5.8	Question paper 203 (Q5)
5.9	Question paper 203 (Q11) H&S
5.10	Question paper 203 (Q8)
5.11	Question paper 203 (Q1 to Q3) H&S

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 204 Install equipment for safe working on the highway for utilities network construction

Unit aim:

This unit allows you to show that you have the skills and knowledge to install equipment for safe working on the highway during utilities network construction operations.

You must select appropriate signing, lighting, guarding and traffic control equipment for the site, according to the current Codes of Practice and legislation. You must prepare the appropriate types and quantities of materials and equipment for the works and maintain your safety and security.

You must also show that you can communicate information to the relevant people and organisations throughout the operation and must resolve or refer problems that arise during highways works in line with your job responsibility.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Set out temporary signing, lighting and guarding traffic control equipment in line with industry codes of practice and current legislation							
1.1	Locate the area for highway works and determine the **characteristics and conditions of the carriageway**.						
1.2	Plan the works for minimum disruption and inconvenience to others in accordance with **approved procedures and practices**.						
1.3	Carry out a site-specific risk assessment to identify **hazards** and to determine the range of control signs and protection equipment necessary for the works.						
1.4	Select and wear the specified personal protective equipment (PPE), including high visibility vest or coat.						
1.5	Set out **control signs and protection equipment** in a safe manner, according to the risk assessment, industry **codes of practice** and current legislation						
1.6	Remove all control equipment on completion of the works.						
1.7	Store and maintain control equipment in accordance with operational and organisational requirements.						
1.8	Work to **approved procedures and practices** and in compliance with statutory requirements.						
1.9	Maintain the security of the site where work is not completed.						

Range

Characteristics and conditions of the carriageway: speed and volume of traffic; volume of pedestrian traffic; number and directions of lanes; proximity of other features such as junctions, railway crossings, pedestrian crossings, roundabouts, traffic lights.

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments.

Hazards: traffic; weather; other activities

Control signs and protection equipment: traffic signs; cones; lights; barriers; traffic lights; stop and go boards.

Codes of Practice: statutory; regulatory, including New Roads and Street Works Act.

Performance evidence required	Portfolio Reference Number (PRN)						
2. Prepare resources for highway works							
2.1	Select the **materials and equipment** for the planned works in accordance with the work instructions and specifications.						
2.2	Confirm the **materials and equipment** supplies are correct for the work requirement and are of the quality and quantity required						
2.3	Maintain in accordance with operational and organisational requirements: • the **materials and equipment** in storage • the security of **materials and equipment.**						

Range

Materials and equipment: backfill and reinstatement materials; spoil; digging and hand tools; road breaking and cutting equipment; compaction equipment

Performance evidence required	Portfolio Reference Number (PRN)						
3. Use and communicate data and information							
3.1	Use the work instructions and specifications: • to determine the safety and security requirements for the area of the highways works • to ensure compliance with current legislation.						
3.2	Use **approved procedures and practices** throughout the work activity to ensure the work complies with statutory requirements						
3.3	Check with **designated personnel** any circumstances where information appears incorrect						
3.4	Use organisational information systems to record and store data and information						

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments.

Designated personnel: those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
4.	**Resolve problems that could arise from work on the highway**						
4.1	Resolve **problems** which arise from work on the highway						
4.2	Record defects, replacements or additional equipment required and report them to the **designated person.**						
4.3	Refer **problems** and conditions outside their responsibility to the **designated person** using approved procedures.						

Range

Problems: traffic control; pedestrians; access to premises; equipment failure; materials shortage

Designated person: those people specified within work and health and safety procedures

5.	**Demonstrate general knowledge and understanding for utilities network construction operations**	**PRN**
5.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act.	
5.2	State the health and safety guidance governing work in excavations	
5.3	Describe the safe procedures for handling hazardous materials.	
5.4	Explain your organisational accident recording and reporting procedures	

6.	**Demonstrate knowledge and understanding of installing equipment for safe working on the highway**	**PRN**
6.1	State the main sources of information on statutory requirements for the control of highways works.	
6.2	Give examples of the different types of signs, lights and guarding equipment	
6.3	Give examples of the different types of traffic control equipment	
6.4	Explain the importance of: • checking and reporting defects in signs, guards, lighting and traffic control systems • ensuring that defective equipment is taken out of use.	
6.5	State the implications of incorrect signing, lighting, guarding and traffic control.	
6.6	Describe the design and purpose of each of the signs used for protecting highways works.	
6.7	Explain the statutory positioning requirements for protection equipment relative to different highways environments and conditions, to cover: • signs • lights • guards • traffic controls.	

6.8	Describe guarding arrangements for highways works, including: • the different types of guards used to protect highways works • their positioning requirements relative to the work.	
6.9	Give examples of the different types and positioning of lighting required for highways works.	
6.10	List the main road classifications, including single and dual carriageways.	
6.11	Outline the design, operation, and maintenance requirements for traffic controls including: • warning signs • priority signs • stop/go boards • portable traffic signals.	
6.12	Give examples of the different types of traffic control requirements for highways works in different road conditions.	
6.13	Explain the correct procedures and sequences for implementing traffic control equipment in different work locations.	
6.14	Explain the correct procedures for moving traffic controls as work progresses	
6.15	Explain the importance of ensuring that signing, lighting, guarding and traffic control arrangements are checked and updated regularly as work progresses.	
6.16	Explain the importance of regular maintenance and cleaning of signs and lights throughout highways works.	
6.17	Describe the statutory requirements and recommendations for signing, lighting and guarding highways works on single and dual carriageways.	
6.18	Give examples of the range and purpose of personal protective equipment used during highways works.	
6.19	Explain the importance of checking and reporting defects in personal protective equipment	
6.20	State the main **approved procedures and practices** for determining site and resource requirements, within their job role.	
6.21	List the steps that must be taken in the event of an accident or emergency on the highway.	
6.22	State the procedures for summoning the emergency services	
6.23	List the persons and organisations with whom it is necessary to liaise on highways operations	

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Evidence required for Learning Outcomes 5 & 6

Assessment criteria	Evidence required
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Question paper H & S (Q4)
5.3	Question paper H & S (Q5 and Q6)
5.4	Question paper H & S (Q7 and Q8)
6.1	Question paper 204 (Q1)
6.2	Question paper 204 (Q2)
6.3	Question paper 204 (Q2 and Q8)
6.4	Question paper 204 (Q3)
6.5	Question paper 204 (Q7)
6.6	Question paper 204 (Q4 and Q5)
6.7	Question paper 204 (Q4, Q5 and Q10)
6.8	Question paper 204 (Q4, Q5, Q8 and Q10)
6.9	Question paper 204 (Q7 and Q9)
6.10	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.12	Question paper 204 (Q4, Q5, Q6 and Q8)
6.13	Evidence achieved through observation
6.14	Evidence achieved through observation
6.15	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.16	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.17	Question paper 204 (Q1)
6.18	Question paper 205 (Q1)
6.19	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.20	Question paper 205 (Q2)
6.21	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.22	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)
6.23	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (204)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 205 Install equipment for safe working on sites for utilities network construction

Unit aim:

This unit allows you to show that you have the skills and knowledge to install equipment for safe working on site during utilities construction operations.

You must select appropriate safety equipment for the site, according to current Codes of Practice and legislation. You must prepare the appropriate types and quantities of materials and equipment for the works and maintain your safety and security.

You must also show that you can communicate information to the relevant people and organisations throughout the operation and must resolve or refer problems that arise during site works in line with your job responsibility.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Prepare, segregate and protect the work site							
1.1	Locate and confirm the area for works according to instructions and specified requirements						
1.2	Plan the work to minimise disruption and inconvenience to others in accordance with **approved procedures and practices**.						
1.3	Carry out a site-specific risk assessment to identify **hazards** and to determine the range of **control signs and protection equipment** necessary for the works						
1.4	Review the risk assessment in accordance with company procedures						
1.5	Select and wear the specified personal protective equipment (PPE), including high visibility vest or coat.						
1.6	Set out the area for the works in line with the specified requirements						
1.7	Take steps to provide for the safety of the work area and the natural environment where hazards and risk are identified.						
1.8	Maintain the security of the site where work is not completed						

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments.

Hazards: traffic; weather; other activities

Control signs and protection equipment: traffic signs; cones; lights; barriers; traffic lights; stop and go boards.

Performance evidence required	Portfolio Reference Number (PRN)						
2. Prepare resources for site works							
2.1	Select the **materials and equipment** for the planned works in accordance with the work instructions and specifications.						
2.2	Confirm the **materials and equipment** supplies are correct for the work requirement and are of the quality and quantity required.						
2.3	Maintain in accordance with operational and organisational requirements • the **materials and equipment** in storage • the security of **materials and equipment**.						

Range

Materials and equipment: backfill and reinstatement materials; spoil; digging and hand tools; road breaking and cutting equipment; compaction equipment.

Performance evidence required	Portfolio Reference Number (PRN)						
3. Use and communicate data and information							
3.1	Use information in the work instructions and specified requirements to locate the work site.						
3.2	Use **approved procedures and practices** throughout the work activity to ensure the work complies with statutory requirements.						
3.3	Check with authorised personnel any circumstances where information appears incorrect						
3.4	Use organisational information systems to record and store data and information.						

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
4. Resolve problems which could arise from preparing the site and resource requirements							
4.1	Record and report to the designated person any shortages and defects of **materials and equipment**.						
4.2	Refer **problems** and conditions outside their responsibility to the designated person using approved procedures						

Range

Materials and equipment: backfill and reinstatement materials; spoil; digging and hand tools; road breaking and cutting equipment; compaction equipment.

Problems: traffic control; pedestrians; access to premises; equipment failure; materials shortage

5. Demonstrate knowledge and understanding for utilities network construction operations		**PRN**
5.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act.	
5.2	State the health and safety guidance governing work in excavations	
5.3	Describe the safe procedures for handling hazardous materials.	
5.4	Explain their organisational accident recording and reporting procedures.	

6.	Demonstrate knowledge and understanding of installing equipment for safe working on site	PRN
6.1	Describe the roles and responsibilities of people within the site operations team	
6.2	Describe the site management structures for operations on site	
6.3	Explain the importance of referring to designated persons problems that are outside their area of responsibility	
6.4	Describe the recording and reporting procedures for: • job progress • problems • deviations to work programmes	
6.5	Explain the importance of confirming that the work location has been identified correctly	
6.6	Describe the types of information contained in written instructions, specifications and drawings	
6.7	Outline the key requirements of an effective site layout	
6.8	Describe common hazards in site works, and fit-for-purpose safety precautions and hazard prevention methods that can be used	
6.9	Describe how to deal with emergencies	
6.10	Describe the range of safety equipment that is appropriate for site operations	
6.11	Outline the main requirements of safety legislation governing site works	
6.12	Describe the materials that may pose a health hazard on site, and how to handle them safely	
6.13	Describe the personal protective equipment (PPE) that is used in site operations	
6.14	Describe the lifting and handling techniques that are appropriate to the materials, tools and equipment used in site works	

Evidence required for Learning Outcomes 5 and 6

Assessment criteria	Evidence required
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Question paper H & S (Q4)
5.3	Question paper H & S (Q5 and Q6)
5.4	Question paper H & S (Q7 and Q8)
6.1	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (205)
6.2	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (205)
6.3	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (205)
6.4	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (205)
6.5	Question paper 205 (Q10)
6.6	Question paper 205 (Q3)
6.7	Evidence achieved through observation
6.8	Question paper 205 (Q9)
6.9	Question paper 205 (Q7 and Q8)
6.10	Question paper 205 (Q1)
6.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (205)
6.12	Question paper 205 (Q9)
6.13	Question paper 205 (Q1)
6.14	Question paper 205 (Q and Q5)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 206 Locate and avoid supply apparatus for utilities network construction

Unit aim:

This unit allows you to show that you have the skills and knowledge to locate and avoid supply apparatus during utilities network construction operations.

You will be able to use appropriate search and detection methods to identify the supply apparatus for utilities and other agencies, and to mark them on the site prior to excavation. You must identify and avoid risks of damage to services and danger to personnel and must follow safe working practices throughout the operation.

You must also show that you can communicate information to the relevant people and organisations throughout location and avoidance activities, and must resolve or refer problems that arise during the work in line with your job responsibility.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Locate supply apparatus							
1.1	Use work instructions and interpret utility plans to determine the extent of the work site and to enable the **supply apparatus** to be marked						
1.2	Carry out site specific risk assessment, and review it in accordance with company procedures						
1.3	Use appropriate **search techniques** to enable the identification and marking of **supply apparatus**						
1.4	Mark the position and type of **supply apparatus** and sub-structures on the work site in accordance with work instructions and statutory and regulatory **Codes of Practice**						
1.5	Mark risks of damage to **supply apparatus** and sub-structures in accordance with statutory and regulatory **Codes of Practice**						
1.6	Record positions and types of **supply apparatus** and sub-structures in accordance with instructions and organisational requirements						
1.7	Communicate details of the position and type of **supply apparatus** and sub-structures to personnel in accordance with instruction and organisational requirements						
1.8	Report deviations in the position of equipment and identification of other structures in accordance with instruction and organisational requirements						
1.9	Carry out all work to **approved procedures and practices** and comply with statutory requirements						

Range

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

Search techniques: electronic location in following modes: with and without generator, induction, connection, radio, power; trial holes; visual examination; use of drawing and records.

Codes of Practice: statutory; regulatory, including New Roads and Street Works Act.

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
2. Maintain the safety and integrity of supply apparatus							
2.1	Maintain the position and condition of **supply apparatus** within the work site according to their specification and **Codes of Practice**						
2.2	Ensure working practices on the site avoid damage to **supply apparatus**						
2.3	Ensure that exposed **supply apparatus** are supported correctly in line with their specification and **approved procedures and practices**						
2.4	Take precautions to protect personnel and equipment from the effects of damage to **supply apparatus** according to **approved procedures and practices**						
2.5	Ensure that all work complies with: • the latest specifications • statutory regulations • company **Codes of Practice**						

Range

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

Codes of Practice: statutory; regulatory, including New Roads and Street Works Act.

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
3. Use and communicate data and information							
3.1	Check any circumstances where information appears incorrect with the designated personnel						
3.2	Use organisational information systems to record and store data and information						
3.3	Follow all required lone working procedures when working alone						

Performance evidence required	Portfolio Reference Number (PRN)						
4.	**Resolve problems which could arise from work on the highway**						
4.1	Report any damage to **supply apparatus** promptly to the designated person and make the area safe						
4.2	Resolve day-to-day problems within their area of responsibility						
4.3	Advise colleagues or managers where situations need them to intervene						
4.4	Refer matters outside their responsibility to the designated people using **approved procedures**						

Range

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments.

5.	**Demonstrate general knowledge and understanding for utilities network construction operations**	**PRN**
5.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
5.2	State the health and safety guidance governing work in excavations	
5.3	Describe the safe procedures for handling hazardous materials	
5.4	Explain their organisational accident recording and reporting procedures	
5.5	List the range and use of personal protective equipment for the work.	

6.	**Demonstrate knowledge and understanding of the different types of utility apparatus**	**PRN**
6.1	Describe typical locations and depths of the usual range of underground **supply apparatus**	
6.2	State the key physical properties of the supply pipeline or components of **supply apparatus**, including: • size (diameter) • colour • material and its resistance to impact from excavation activities • methods of identification	
6.3	Describe the physical properties of the supply being carried by different types of **supply apparatus**, including where relevant: • ignition characteristics • density relative to air • electrocution risk • risk of water damage.	

6.4	Describe the risks that arise when the safety and integrity of **supply apparatus** is not maintained.	
6.5	Describe the methods of marking and warning of the presence of underground **supply apparatus** (e.g. identification tape).	
6.6	Describe the possible effects of damage to the **supply apparatus**	
6.7	Explain the implications of damage to the different types of **supply apparatus**, including where relevant: • personal danger to the health or life of the operatives, or to others on site • damage to the environment • additional job costs in repair • delay to job progress	
6.8	Give examples of the types of hazards associated with different supplies and actions to take in the case of damage	
6.9	Explain why it is important to provide adequate support and protection for **supply apparatus**	
6.10	Describe the industry procedures and practices for confirming the location and marking of **supply apparatus**	
6.11	Give examples of different methods used to provide temporary and permanent support to protect **supply apparatus** exposed during site excavations	

Range

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

7.	**Demonstrate knowledge and understanding of equipment and techniques used for locating supply apparatus**	**PRN**
7.1	Describe the principles of operation and method of use of electronic detection equipment	
7.2	Describe the safe procedures for handling the range of equipment necessary to carry out the task in hand	
7.3	Explain how to interpret the results of readings from electronic detection equipment	
7.4	Explain the possible effects of external influences on electronic detection equipment readings	
7.5	Explain how to visually locate and identify underground **supply apparatus**, using: • markers • signs and features • existing records	
7.6	Describe the situations where trial holes can be used to locate underground supplies	
7.7	Describe how to mark the position of supply services on the surface to ensure accurate location of the excavation	
7.8	Explain the consequences of marking out excavations incorrectly, including: • costs • loss of time • material wastage	

7.9	Explain the importance of protecting supply apparatus exposed during excavation work	
7.10	State the precautions to be taken when locating supply apparatus, including statutory and regulatory requirements	

Range

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses

8.	**Demonstrate knowledge and understanding of roles, responsibilities and communication requirements for locating utilities apparatus**	**PRN**
8.1	State the main sources of legislation relating to highways operations in the proximity of other **supply apparatus**	
8.2	Name the persons or organisations who must be notified where there is damage to supply apparatus or other underground structures	
8.3	List the regulations that govern the location of supply apparatus where this exposes other services	
8.4	Outline the requirements of the legislation that applies to new roads and street works	
8.5	Explain why it is important to refer problems outside their area of job role responsibility to designated people	
8.6	Describe the procedures for reporting and recording: job progress; problems; deviations to work programmes	
8.7	Outline the roles and responsibilities of the various organisations involved location work and how to liaise with them effectively	

Range

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

Evidence required for Learning Outcome 6, 7and 8

Assessment criteria	Evidence required
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Question paper H & S (Q4)
5.3	Question paper H & S (Q5 and Q6)
5.4	Question paper H & S (Q7 and Q8)
5.5	Question paper H & S (Q9 and Q10)
6.1	Question paper 206 (Q1)
6.2	Question paper 206 (Q2)
6.3	Question paper 206 (Q3)
6.4	Question paper 206 (Q4)
6.5	Question paper 206 (Q5 to Q9)
6.6	Question paper 206 (Q4)
6.7	Question paper 206 (Q4)
6.8	Question paper 206 (Q4)
6.9	Question paper 206 (Q13)
6.10	Question paper 206 (Q5, Q6, Q7 and Q12)
6.11	Question paper 206 (Q13)
7.1	Question paper 206 (Q10 and Q11)
7.2	Question paper 206 (Q10 and Q11)
7.3	Evidence achieved through observation
7.4	Evidence achieved through observation
7.5	Question paper 206 (Q5 and Q6)
7.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (206)
7.7	Evidence achieved through observation
7.8	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (206)
7.9	Question paper 206 (Q13)
7.10	Evidence achieved through observation
8.1	Question paper 206 (Q12)
8.2	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (206)
8.3	Question paper 206 (Q12)
8.4	Question paper 206 (Q12)
8.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (206)

8.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (206)
8.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (206)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 207 Excavate and maintain holes and trenches for utilities network construction

Unit aim:

This unit allows you to show that you have the skills and knowledge to excavate holes and trenches for utilities network operations.

You will be able to confirm the requirements for excavation on site and select and use the most appropriate tools and equipment for the specified excavation activity. You must confirm the excavation requirements with the work specification and minimise damage to supply apparatus and the natural environment during the operation. You will be able to maintain the integrity of the excavation and maintain access and egress arrangements in line with safety requirements.

You must also show that you can communicate information to the relevant people and organisations throughout excavation activities, and must resolve or refer problems that arise during the work in line with your job responsibility. Throughout the operation, you must follow the work specification and Codes of Practice, and must maintain safe working procedures.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Excavate on site to requirements							
1.1	Determine the suitable excavation method for the **surface and sub-surface** materials being removed, and which meets with statutory and regulatory Codes of Practice						
1.2	Carry out a site-specific risk assessment and review it according to company procedures						
1.3	Select and wear the designated personal protective equipment (PPE)						
1.4	Select and use the most suitable tools and equipment for the excavation method to be use						
1.5	Confirm the position and size of the excavation in accordance with instructions and the work specification						
1.6	Excavate, identify, select, segregate and store materials in accordance with work instructions and Codes of Practice						
1.7	Carry out the excavation in a manner that avoids damage to **supply apparatus**						
1.8	Minimise damage to the natural environment according to technical guidance						
1.9	Keep gullies and water courses clear at all times						
1.10	Support and protect exposed **supply apparatus** in line with work instructions and relevant Codes of Practice						
1.11	Remove surplus materials according to work instructions and requirements						
1.12	Confirm the dimensions and condition of the excavation against the instructions and the work specification						
1.13	Ensure work is carried out to **approved procedures and practices** and complies with statutory requirements						

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments.

Supply apparatus: supply apparatus for utilities and other agencies; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

Surface and sub-surface: flexible, composite, rigid and modular pavement construction; verge; natural ground.

Performance evidence required	Portfolio Reference Number (PRN)							
2. Maintain the integrity of the excavation								
2.1	Confirm that the method used to support the excavation is fit for purpose to: • the size of the excavation • the nature of the ground conditions and adjacent structures							
2.2	Install and remove support mechanisms according to instructions and relevant Codes of Practice							
2.3	Maintain the condition of the excavation by adjusting support mechanisms and removing ground water as required							
2.4	Monitor and maintain the condition of support mechanisms safely in accordance with operational and organisational safe working procedures							
2.5	Resolve situations that require measures to deal with dangerous atmospheres, according to relevant Codes of Practice and safe working procedures							
2.6	Establish arrangements for access to and egress from the excavation in line with statutory requirements and **approved procedures and practices**							
2.7	Ensure that all relevant safety checks are undertaken before any entry into the excavation							
2.8	Ensure that the site-specific risk assessment provides adequate safeguards in work practices to deal with the excavation becoming a confined space							
2.9	Confirm that the condition of the ground area adjacent to the excavation is safe, in line with relevant Codes of Practice							
2.10	Work to **approved procedures and practices** and comply with statutory requirements throughout excavation operations							

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
3. Use and communicate data and information							
3.1	Use the information in the work instructions and specification to determine the work site and the area to be excavated.						
3.2	Report detrimental conditions and defects in the excavation and support mechanisms that are outside their responsibility, according to relevant Codes of Practice.						
3.3	Use **approved procedures and practices** and statutory requirements to determine any requirements for excavation support						
3.4	Check any circumstances where information appears to be incorrect with the designated personnel.						
3.5	Use organisational information systems to record and store data and information relating to excavation work.						
3.6	Follow all required lone working procedures when working alone						

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
4. Resolve problems which could arise from excavation work							
4.1	Report any damage to **supply apparatus** promptly to the designated person						
4.2	Resolve day-to-day problems within the responsibility of their own job role						
4.3	Advise colleagues or managers where situations need them to intervene						
4.4	Refer matters that are outside their responsibility to the designated people using approved procedures						

Range

Supply apparatus: supply apparatus for utilities and other agencies; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses).

5.	Demonstrate general knowledge and understanding for utilities network construction operation	PRN
5.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
5.2	State the health and safety guidance governing work in excavations	
5.3	Describe the safe procedures for handling hazardous materials	
5.4	Explain their organisational accident recording and reporting procedures	

6.	Demonstrate knowledge and understanding of how excavation work must be carried out to comply with legal and industry requirements	PRN
6.1	Outline how **activities in involved in excavation work** can be carried out in compliance with legislative requirements and good industry practice	
6.2	Outline the responsibilities of the employer and employee in relation to **activities in involved in excavation**.	

Range

Activities in involved in excavation: assessment of risk; personal protection; excavation activities; the support of supply apparatus; the support of excavations; the competence of personnel; care for the environment; provision and use of equipment; reporting of accidents; dealing with hazardous materials and substances

7.	Demonstrate knowledge and understanding of excavating in a variety of situations using different techniques and equipment	PRN
7.1	Describe the safe procedures for handling the range of excavation support equipment	
7.2	Describe the different **methods of excavation**, and how to decide which is appropriate	
7.3	Describe the different types of surfaces and sub-surfaces that may require to be excavated	
7.4	Explain why a competent banksman is needed when excavating by machine	
7.5	Describe the **consequences and implications** of using incorrect excavation and reinstatement practices	
7.6	Describe the requirements for selecting, storing and using backfill and reinstatement materials	
7.7	Describe the requirements for disposing of surplus materials	
7.8	Explain how to recognise when an excavation is or could become a confined space, and how to deal effectively with this	
7.9	Describe the methods and principles of **excavation support systems**, and where their use is most appropriate	

Range

Methods of excavation: by hand; by machine

Consequences and implications: other utilities; cost of operation; time; customers; members of the public; colleagues and other workers; scale of activity.

Excavation support systems: timber; steel; mechanical

8.	Demonstrate knowledge and understanding of the tools and equipment used in the course of excavation activities	PRN
8.1	List the tools, equipment and machinery that are used for hand and machine excavation	
8.2	Describe the criteria used to select the most appropriate tools, equipment and machinery for excavation activities	
8.3	Explain the importance of economy in using powered or motorised equipment for excavations	

9.	Demonstrate knowledge and understanding of responsibilities to others during excavation work	PRN
9.1	List the different utility organisations that may own apparatus that could be affected by excavation activities.	
9.2	Describe how the different buried apparatus could be identified	
9.3	Describe the potential environmental impact of excavation activities and the agencies responsible for environmental protection	
9.4	Describe the potential consequences of not providing the necessary protection to underground apparatus and features.	
9.5	Describe the roles and responsibilities of people within the site or highways operations team.	
9.6	Explain the importance of referring problems outside their responsibility to the designated persons.	
9.7	Describe the procedures used to report and record the **detail of excavation activities**	

Range

Detail of excavation activities: job progress; problems; deviations from the programme of work

Evidence required for Learning Outcome 6, 7, 8 and 9

Assessment criteria	Evidence required
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Question paper H & S (Q4)
5.3	Question paper H & S (Q5 and Q6)
5.4	Question paper H & S (Q7 and Q8)
6.1	Question paper 207 (Q2, Q3 and Q4)
6.2	Question paper H & S (Q1 to Q4)
7.1	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
7.2	Question paper 207 (Q4, Q5 and Q6)
7.3	Question paper 207 (Q7)
7.4	Question paper 207 (Q8)
7.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
7.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
7.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
7.8	Question paper 216 (Q3 and Q6)
7.9	Evidence achieved through observation
8.1	Question paper 201 (Q9)
8.2	Question paper 207 (Q10)
8.3	Question paper 207 (Q10)
9.1	Question paper 206 (Q4)
9.2	Question paper 206 (Q8 and Q9)
9.3	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
9.4	Question paper 206 (Q4)
9.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
9.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)
9.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (207)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 208 Reinstate excavation and pavement surfaces after utility network construction operations

Unit aim:

This unit allows you to show that you have the skills and knowledge to reinstate excavations and pavement surfaces following utilities network construction operations.

You will be able to confirm the requirements and prepare for reinstating excavations and select and use the most appropriate tools, equipment and materials for the required reinstatement activity. You must confirm that all materials and equipment are fit for purpose and complete the reinstatement, replacing ironwork, kerbs and edge restraints in line with requirements.

You must also show that you can communicate information to the relevant people and organisations throughout reinstatement activities and must resolve or refer problems that arise during the work in line with your job responsibility. Throughout the operation, you must follow the work specification and Codes of Practice, and must maintain safe working procedures.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Prepare for reinstatement of excavation and pavement surface							
1.1	Confirm the location of the excavation and the holes and trenches, according to instructions and work specifications						
1.2	Carry out a site-specific risk assessment, and review it according to company procedures						
1.3	Select and wear the designated personal protective equipment (PPE).						
1.4	Follow safe working practices for working in the vicinity of hazardous materials						
1.5	Confirm that the **area for reinstatement** is in accordance with statutory and regulatory Codes of Practice.						
1.6	Carry out preparation procedures for reinstatement of the excavation in accordance with statutory and regulatory Codes of Practice						
1.7	Protect **supply apparatus and sub-structures** in accordance with the relevant Codes of Practice.						
1.8	Select stored materials for reinstatement, according to the relevant Codes of Practice.						
1.9	Select hand tools, powered tools and equipment for reinstatement						
1.10	Confirm that tools and equipment are: • appropriate for the materials to be used in reinstatement • in a suitable condition for use, according to manufacturer's specifications and operational requirements.						
1.11	Report remedial work and defects in the excavation that are outside their responsibility, according to organisational and operational procedures.						
1.12	Work according to **approved procedures and practices** and comply with statutory requirements						

Range

Area for reinstatement: flexible pavement construction; composite pavement construction; rigid pavement construction; modular pavement construction; verge/natural ground

Supply apparatus and sub-structures: supply apparatus for utilities and other agencies; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses)

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
2. Carry out reinstatement of excavation and pavement surface							
2.1	Confirm that materials to be used for reinstatement are fit for purpose and meet statutory and regulatory Codes of Practice, including: • new and reusable materials for backfill, sub-base, road-base and pavement surface • cold-lay materials.						
2.2	Confirm that the area and type of structure being reinstated meet statutory and regulatory Codes of Practice						
2.3	Follow laying and compaction procedures for the material that meet statutory and regulatory Codes of Practice						
2.4	Report defects and deficiencies in the laying and compaction of materials, that are outside their responsibility, in accordance with organisational and operational procedures						
2.5	Maintain suitable conditions and the security of the excavation throughout reinstatement operations						
2.6	Replace ironwork, kerbs and edge restraints in line with relevant Codes of Practice						
2.7	Store and dispose of surplus materials in line with work instructions and statutory and regulatory Codes of Practice						
2.8	Complete the work by checking and confirming that the quality and condition of the finished reinstatement and the work site conform to statutory and regulatory Codes of Practice						

Performance evidence required	Portfolio Reference Number (PRN)						
3. Use and communicate data and information							
3.1	Use records to determine potential deep excavations, confined spaces and hazardous materials.						
3.2	Use information in the work instructions and specification to determine the work site and the area to be reinstated.						
3.3	Use approved procedures and practice and statutory requirements to determine the requirement for excavation support.						
3.4	Check any circumstances where information appears to be incorrect with the designated personnel.						
3.5	Use organisational information systems to record and store data and information relating to reinstatement work.						
3.6	Follow all required lone working procedures when working alone						

Performance evidence required	Portfolio Reference Number (PRN)						
4.	**Resolve problems which could arise from reinstatement work**						
4.1	Report any damage to **supply apparatus and sub-structures** promptly to the designated person.						
4.2	Resolve day-to-day problems within the responsibility of their own job role						
4.3	Advise colleagues or managers where situations need them to intervene						
4.4	Refer matters that are outside their responsibility to the designated people using approved procedures.						

Range

Supply apparatus and sub-structures: supply apparatus for utilities and other agencies; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses)

5.	**Demonstrate general knowledge and understanding for utilities network construction operations**	**PRN**
5.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act in relation to reinstatement activities.	
5.2	State the health and safety guidance governing work in excavations	
5.3	Describe the safe procedures for handling hazardous materials.	
5.4	Explain their organisational accident recording and reporting procedures	
5.5	List the range and use of personal protective equipment for the work.	

6.	**Demonstrate knowledge and understanding of plant and equipment used for reinstatement activities**	**PRN**
6.1	List the hand tools, powered tools and motorised equipment that are used in reinstatement work.	
6.2	Describe safe procedures for handling reinstatement equipment	
6.3	Describe the maintenance requirements for hand tools, powered tools and equipment used for reinstatement work.	
6.4	Describe the types of equipment used to compact materials, including hand and power tools and motorised equipment.	
6.5	Describe the methods used to compact reinstatement materials	
6.6	Describe the maintenance requirements for compaction equipment used in reinstatement	

7.	Demonstrate knowledge and understanding of legislation and best practice for reinstatement operations	PRN
7.1	Outline the legal and operational responsibilities of the employer and employee in relation to **reinstatement activities**.	
7.2	Outline the legislation controlling the use of hand tools, powered tools and equipment	
7.3	Outline the main industry **approved procedures and practices** for reinstatement work	
7.4	Describe the roles and responsibilities of people within the site or highways operations team.	
7.5	Explain the importance of referring problems outside their responsibility to the designated persons.	
7.6	Describe the procedures used to report and record details of reinstatement work	
7.7	Outline site management structures for site or highways operations.	

Range

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments

Reinstatement activities: personal protection; handling and operating equipment; provision and use of equipment; working with hazardous substances; excavation and reinstatement

8.	Demonstrate knowledge and understanding of reinstatement activities	PRN
8.1	Describe the different types of **reinstatement surfaces**.	
8.2	Describe the sub-surface requirements for each type of pavement surface.	
8.3	Describe the **preparation procedures** for reinstatement	
8.4	Describe the **types of materials** that can be excavated, and defects that can arise with them.	
8.5	State the remedial actions to be taken when defects are encountered	
8.6	Explain how to segregate the different **types of materials** used in reinstatement	
8.7	Describe how to check the condition of the reinstatement material that is to be used.	
8.8	Outline the specifications for **surface, sub-surface and general reinstatement materials**.	
8.9	Describe the methods used to store and protect excavated material to prevent deterioration.	
8.10	Describe the types of surface finishes used in reinstatement	
8.11	Describe the common defects in reinstatement, including settlement and surface damage, and the appropriate remedial action to take.	
8.12	State the specifications for materials in **reinstatement surface** structures	
8.13	Explain why it is important to ensure that reinstatement materials are stored in the correct conditions.	

Range

Reinstatement surfaces: flexible; composite; rigid; modular; cold-lay bituminous material; verge/natural ground

Preparation procedures: edge trimming; surface formation; removal of loose debris; repair information

Types of materials: backfill; sub-base; road-base; pavement surface

Surface, sub-surface and general reinstatement materials: fine fill materials; backfill materials; granular sub-bases; cement bound excavated material; road-base materials; bituminous road-based materials; surfacing materials; concrete footways; modular surfacing; cold lay

9.	Demonstrate knowledge and understanding of other agencies, utilities, their apparatus and communication requirements	PRN
9.1	Describe the different types of **supply apparatus and sub-structures** for utilities and other agencies that may be encountered during reinstatement.	
9.2	Explain the methods used to protect each type of supply apparatus and sub-structure	
9.3	Explain why it is necessary to report any spillage from fuel and lubricants, and to safely prevent their spread, in line with company procedures.	
Type of evidence ➔		

Range

Supply apparatus and sub-structures: supply apparatus for utilities and other agencies; above and below ground services; built structures (eg foundations); the natural environment (eg tree roots, natural watercourses)

Evidence required for Learning Outcome 6, 7, 8 and 9

Assessment criteria	Evidence required
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Question paper H & S (Q4)
5.3	Question paper H & S (Q5 and Q6)
5.4	Question paper H & S (Q7 and Q8))
5.5	Question paper H & S (Q11, Q12 and Q13)
6.1	Question paper 208 (Q7)
6.2	Question paper 206 (Q6 to Q8)
6.3	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
6.4	Question paper 208 (Q7)
6.5	Evidence achieved through observation
6.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
7.1	Question paper H & S (Q1 to Q4)
7.2	Question paper PEWER/LOLER
7.3	Question paper 207 (Q3)
7.4	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
7.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
7.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
7.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
8.1	Question paper 208 (Q5)
8.2	Evidence achieved through observation
8.3	Evidence achieved through observation
8.4	Question paper 208 (Q8)
8.5	Question paper 208 (Q6)
8.6	Question paper 208 (Q2 and Q3
8.7	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
8.8	Question paper 208 (Q4)
8.9	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
8.10	Question paper 208 (Q8)
8.11	Question paper 208 (Q6)

8.12	Question paper 207 (Q3)
8.13	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (208)
9.1	Question paper 206 (Q4)
9.2	Question paper 206 (Q13)
9.3	Question paper 206 (Q1)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 209 Operate powered tools and equipment for routine and predictable requirements on utilities network construction

Unit aim:

This unit allows you to show that you have the skills and knowledge to operate powered tools and equipment during utilities construction operations.

You must show that you can communicate information to the relevant people and organisations throughout reinstatement activities, and must resolve or refer problems that arise during the work in line with your job responsibility. Throughout the operation, you must follow the work specification and Codes of Practice, and must maintain safe working procedures.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Prepare powered tools and equipment for routine and predictable use							
1.1	Use work instructions and specifications to confirm the operations requiring the use of **powered tools and equipment**						
1.2	Carry out a site specific risk assessment, and review in accordance with company procedures						
1.3	Select and wear the designated **personal protective equipment (PPE)**.						
1.4	Carry out pre-start inspections on the **powered tools and equipment**						
1.5	Record and report any defects of the **powered tools and equipment** and take out of service until rectified.						
1.6	Confirm **powered tools and equipment** are safe, correct and ready for use in accordance with the work requirements.						

Range

Powered tools and equipment: power generation (including electric, pneumatic and hydraulic); cutting and grinding; pumping; compacting; pipe jointing

Personal protective equipment (PPE): head; eyes; ears; respiratory system; hands; feet; body.

Performance evidence required	Portfolio Reference Number (PRN)						
2. Run and operate powered tools and equipment							
2.1	Carry out start and stop procedures to confirm functions are in accordance with safe control and the manufacturers' operating instructions						
2.2	Operate tools and **equipment** safely in accordance with specifications						

Range

Equipment: power generation (including electric, pneumatic and hydraulic); cutting and grinding; pumping; compacting; pipe jointing

Performance evidence required	Portfolio Reference Number (PRN)						
3. Shut down and carry out post-stop checks on powered tools and equipment							
3.1	Stop **powered tools and equipment** safely						
3.2	Carry out post-stop checks in accordance with organisational and operational procedures						
3.3	Leave **powered tools and equipment** safe and secure						

Range:

Powered tools and equipment: power generation (including electric, pneumatic and hydraulic); cutting and grinding; pumping; compacting; pipe jointing

Performance evidence required	Portfolio Reference Number (PRN)						
4. Use and communicate data and information							
4.1	Carry out all work to approved procedures and practice and in compliance with statutory and regulatory requirements.						
4.2	Carry out site-specific risk assessment, and review in accordance with company procedures						
4.3	Record and report defects in tool and **equipment** performance to the designated person						
4.4	Record and report the need for replacement tools and **equipment** to the designated person						
4.5	Check any circumstances where information appears incorrect with the designated personnel						
4.6	Use organisational information systems to record and store data and information.						

Range

Equipment: power generation (including electric, pneumatic and hydraulic); cutting and grinding; pumping; compacting; pipe jointing

Performance evidence required	Portfolio Reference Number (PRN)						
5.	**Resolve problems which arise from operating powered tools and equipment**						
5.1	Report any damage to tools and **equipment** to the designated person						
5.2	Refer problems that are outside their responsibility to the designated person using approved procedures.						

Range

Equipment: power generation (including electric, pneumatic and hydraulic); cutting and grinding; pumping; compacting; pipe jointing

6.	**Demonstrate general knowledge and understanding for utilities network construction operations**	**PRN**
6.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act.	
6.2	State the health and safety guidance governing work in excavations	
6.3	Describe the safe procedures for handling hazardous materials	
6.4	Explain their organisational accident recording and reporting procedures	

7.	**Demonstrate knowledge and understanding of working with powered tools and equipment**	**PRN**
7.1	Describe the **hazards** posed by **powered tools and equipment** and explain how the associated risks must be illuminated or controlled	
7.2	Describe the full range of **personal protective equipment (PPE**) that must be worn when operating **powered tools and equipment**.	
7.3	Describe the key features and characteristics of **powered tools and equipment**, including the type of work for which they are suitable.	
7.4	outline how **powered tools and equipment** should be operated, including: • starting and stopping routines • operation to comply with all **approved procedures and practices**.	
7.5	Describe the training certificates and license requirements for operating **powered tools and equipment**.	
7.6	Outline the industry recognised practices for their specific trade occupation and general construction work activities, including current statutory requirements	
7.7	Describe the manufacturer's recommendations for starting the **powered tools and equipment**.	
7.8	Describe the operational safety procedures that must be observed when starting and stopping **powered tools and equipment**.	
7.9	Describe the operational problems that can occur with the **powered tools and equipment** being used and how these might be resolved.	
7.10	Describe how to report problems with and damage to **powered tools and equipment**	
7.11	Explain the importance of maintaining tools in good working order, including the sharpening of cutting tools	

7.12	Describe the routine and emergency operational procedures for the **powered tools and equipment** being used, including manufacturer's recommendations	
7.13	Describe the pre- and post-use maintenance checks that should be carried out on **powered tools and equipment**, including those recommended by manufacturers and in operational and organisational procedures	
7.14	Explain why it is important to report and to prevent the spread of spilled fuels and lubricants, in line with company policies	

Range

Hazards: vibration; handling; fumes; dust; moving parts; heat; electricity; fuel; substances

Powered tools and equipment: power generation (including electric, pneumatic and hydraulic); cutting and grinding; pumping; compacting; pipe jointing

Personal Protective Equipment (PPE): head; eyes; ears; respiratory system; hands; feet; body.

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments; manufactures' instructions

Evidence required for Learning Outcomes 6 and 7

Assessment criteria	Evidence required
6.1	Question paper H & S (Q1, Q2 and Q3)
6.2	Question paper H & S (Q4)
6.3	Question paper H & S (Q5 and Q6)
6.4	Question paper H & S (Q7 and Q8)
7.1	Question paper 209 (Q6 and Q9)
7.2	Question paper 201 (Q9)
7.3	Question paper 209 (Q5 and Q10)
7.4	Question paper 209 (Q10), Evidence achieved through observation
7.5	Question paper 209 (Q3)
7.6	Question paper 209 (Q7)
7.7	Evidence achieved through observation
7.8	Question paper 209 (Q2 and Q4)
7.9	Question paper 209 (Q1)
7.10	Question paper 209 (Q1)
7.11	HAVS Question paper
7.12	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (209)
7.13	Question paper 209 (Q4)
7.14	Question paper 209 (Q8)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 210 Join materials by electrofusion processes on utilities network construction

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. This unit is designed to assess the competence required to joint materials by electrofusion processes on utilities network construction. It includes using non-automatic and automatic techniques. The jointing process may be carried out in all weather conditions in accordance with industry standards and specifications.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to make joints using electrofusion jointing techniques							
1.1	Carry out site specific risk assessment, and review in accordance to company procedures						
1.2	Select and wear the designated PPE						
1.3	Check that jointing related equipment and consumables are as specified and fit for purpose						
1.4	Use the correct electrofusion jointing technique to produce joints of the required quality and confirm compliance with the • specified standard • specified dimensional accuracy						
1.5	Confirm that on completion of jointing activities the equipment is shut down to a safe condition						
1.6	Confirm temporary attachments, excess and waste materials are dealt with promptly in line with approved and agreed procedures.						

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Comply with approved procedures, practices, statutory and regulatory requirements involved in the work activity						
2.2	Check with **designated personnel** any circumstances where information appears incorrect						
2.3	Use organisational information systems to record and store data and information.						

Range

Designated personnel: those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to resolve problems that arise during jointing work							
3.1	Report to the **designated person** damage to supply apparatus						
3.2	Report to the **designated person** damage to jointing equipment						
3.3	Report to the **designated person** matters outside the responsibility of the job role						
3.4	Demonstrate how to resolve day-to-day problems within the responsibility of the job role						
3.5	Handle emergency situations when they arise						

Range

Designated person
Those people specified within work and health and safety procedures

4.	Know health and safety guidance and legislation in utilities network construction operations	PRN
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
4.2	Explain the health and safety guidance governing work in excavations	
4.3	Describe the safe procedures for handling hazardous materials	
4.4	Explain the organisational accident recording and reporting procedures	
4.5	Identify the range and use of personal protective equipment for the work	

5.	Understand jointing materials by electrofusion processes on utilities network construction	PRN
5.1	State the health, safety and environment legislation and environmental procedures relevant to the work activities	
5.2	Apply the correct manual handling procedures	
5.3	Explain the industry codes of practice and company procedures	
5.4	Interpret engineering specifications relevant to the engineering activity	
5.5	Describe the different stages that take place during the jointing process and the importance of allowing each phase to complete	
5.6	Explain the need for pipe restraint, pipe support and pipe alignment	
5.7	Explain the cause and effect of **defects**	
5.8	Interpret pipe specifications	
5.9	Explain pipe compatibility	
5.10	Identify different types of pipe materials	
5.11	Describe equipment maintenance procedures	
5.12	Describe equipment calibration	
5.13	State the consequences of poor equipment maintenance	
5.14	Identify quality assurance procedures that can be applied in recognising defects	
5.15	Explain the correct reporting procedures	

Range

Defects: poor pipe restraint, poor pipe support, misalignment, contamination

Evidence required for Learning Outcomes 4 and 5

Assessment criteria	Evidence required
4.1	Question paper H & S (Q1, Q2 and Q3)
4.2	Question paper H & S (Q4)
4.3	Question paper H & S (Q5 and Q6)
4.4	Question paper H & S (Q7 and Q8)
4.5	Question paper H & S (Q11, Q12 and Q13)
5.1	Question paper H & S (Q1, Q2 and Q3)
5.2	Evidence achieved through observation
5.3	Question paper 210 (Q1 and Q9)
5.4	Evidence achieved through observation
5.5	Evidence achieved through observation
5.6	Question paper 210 (Q8)
5.7	Question paper 210 (Q1, Q2, Q4 and Q5)
5.8	Evidence achieved through observation
5.9	Question paper 210 (Q2)
5.10	Question paper 206 (Q2)
5.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (210)
5.12	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (210)
5.13	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (210)
5.14	Question paper 210 (Q9)
5.15	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (210)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 213 Install or replace external gas service risers

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. This unit is designed to assess the competence required to interpret technical specifications and design and install or replace external gas service risers. It includes being alert to and assessing, risk or hazardous conditions, the need to wear suitable safety clothing and the ability to follow operational procedures.

Location of job	Time taken (hours)	Date

Performance evidence required		Portfolio Reference Number (PRN)						
1.	**Be able to interpret technical information and design for installing components of the system**							
1.1	Produce **work details** for **component** installation use							
1.2	From the technical and design information take off • dimensions • lengths • widths • quantities • utilities plant • services • buildings • kerbs • valve requirements • boundaries • termination points							
1.3	Demonstrate how to make corrections through drawings, records and work documents							

Range

Work details: drawings, records, work documents, manuals, technical specifications and design and restriction

Component: metallic and non-metallic and all ancillary pipes and fittings

Performance evidence required		Portfolio Reference Number (PRN)						
2.	**Be able to select components and resources for installation of the system**							
2.1	Select the type of **components** in compliance with the work and quality specifications							
2.2	Comply with procedures to replace defective **components**							
2.3	Comply with procedures to replace non-match **components**							
2.4	Comply with procedures to replace sub-standard **components**							
2.5	Confirm the availability of sufficient components and **resources**							
2.6	Handle changes to the planned use of the resource							
2.7	Confirm **components** and installation meets design criteria							

Range

Components: metallic and non-metallic and all ancillary pipes and fittings

Resources: labour, plant, equipment, materials, consumables

Performance evidence required	Portfolio Reference Number (PRN)							
3. Be able to install components of the system								
3.1	Determine the **method** of installation to be used when installing **components** of the system i.e. follow the design							
3.2	Carry out a site-specific risk assessment and review in accordance with company policy							
3.3	Select and wear the designated PPE							
3.4	Confirm the condition of the excavation conforms with instructions and specifications							
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufactures instructions							
3.6	Assemble **components** to industry standards using mechanical and/or fusion welding techniques							
3.7	Carry out site-specific tasks appropriately to prevent **equipment** damage							
3.8	Position **components** in accordance with the specification							
3.9	Protect installed assets with fine fill in accordance with specification and approved codes of practice							
3.10	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice							
3.11	Connect to the existing system using in-line squeeze off, side entry or top entry tee in accordance with codes of practice							
3.12	Support and anchor installed assets in accordance with codes of practice							
3.13	Confirm that the quality of the installation complies with the specified standard							
3.14	Maintain the security and safety of the system and third parties where work is not complete or not to schedule							
3.15	Ensure work practices conform to safe working procedures throughout the work activity							
3.16	Confirm the installation is fire stopped and sleeved where appropriate							

Range

Method: Dead insertion, live insertion, new installation

Equipment: Components, tools

Components: Metallic and non-metallic and all ancillary pipes and fittings

Performance evidence required	Portfolio Reference Number (PRN)						
4. Be able to use and communicate data and information							
4.1	Provide **instructions** to individuals who will be using technical information and designs						
4.2	Confirm instructions have been understood by individuals using technical information and designs						
4.3	Report to a designated person inaccuracies in the technical information sources used						
4.4	Complete work documentation accurately						
4.5	Record work documentation in the specified place or pass to a **designated person**						
4.6	Comply with procedures if working on a 'Permit to Work' designated activity						

Range

Instructions: Oral, written

Designated person: Those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
5. Be able to resolve problems that arise from technical information and designs and installation work							
5.1	Report to the **designated person** damage or defects to **resources** using approved procedures						
5.2	Report to the **designated person** work which is incomplete and not to schedule						
5.3	Report to the **designated person** problems and conditions outside the responsibility of the job role.						

Range

Designated person: Those people specified within work and health and safety procedures

Resources: Materials, tools

6.	Know health and safety guidance, legislation and industry standards in utilities network construction operations	PRN
6.1	State the man responsibilities of the employer and employee under the Health and Safety at Work Act	
6.2	Explain the Health and Safety guidance governing work in excavations	
6.3	Describe the safe procedures for handling hazardous materials	
6.4	Explain the organisational accident recording and reporting procedures	
6.5	Identify the range and use of personal protective equipment for the work	
6.6	Explain the health and safety guidance governing working at heights	

7.	Understand how to install or replace external gas service risers	PRN
7.1	State the main responsibilities of employers and employees under the current working at height regulations	
7.2	Explain the importance of carrying out on-site risk assessments and the need for constant review	
7.3	Explain the importance of implementing a safe system of work (SSOW) document.	
7.4	Explain the importance of obtaining necessary permissions for isolation of any part of utilities network	
7.5	Explain the importance of complying with current industry standards	
7.6	State the organisation's policy and procedures for meeting the relevant • statutory requirements • regulations • codes of practice	
7.7	Explain the implications of not obtaining the correct authorisation	
7.8	Explain the implications of using incorrect plant, tools and materials	
7.9	Explain the implications of using incorrect system **components**	
7.10	Explain the actions to be taken where plant, tools, materials and system **components** fail to meet required specification	
7.11	Describe faults associated with the use of inappropriate installation methods and tools	
7.12	Identify potential dangers in the working environment	
7.13	Describe the factors affecting, and means of confirming, the suitability of excavations	
7.14	Explain the dangers of taking actions that can create confined space risks in excavations	
7.15	Describe the range of isolation methods available and the rationale for their selection	
7.16	Explain the procedure for obtaining authorisation to proceed with connections	
7.17	Identify the range of actions to be taken if work cannot proceed to schedule	
7.18	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed	
7.19	Identify methods of accessing information from different **sources**	
7.20	Identify types and causes of likely disruptions	
7.21	Identify methods of avoiding disruption	

7.22	Explain the dangers of inadequate handling and lifting procedure	
7.23	Describe the types and signs of defect likely to be present on sub-system and means of determining the appropriate safe action	
7.24	Explain the requirements for the protection of the work site and area	

Range

Sources: Reference documents, regulations, code of practice

Components: Metallic and non-metallic and all ancillary pipes and fittings

Evidence required for Learning Outcome 7

Assessment criteria	Evidence required
6.1	Question paper H & S (Q1, Q2 and Q3)
6.2	Question paper H & S (Q4)
6.3	Question paper H & S (Q5 and Q6)
6.4	Question paper H & S (Q7 and Q8)
6.5	Question paper H & S (Q9 and Q10)
7.1	Question paper 213 (Q1)
7.2	Risk assessment question paper
7.3	Question paper 213 (Q2, Q3 and Q4)
7.4	Question paper 213 (Q5)
7.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.6	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.7	Question paper 213 (Q5)
7.8	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.9	Question paper 213 (Q11) and Oral
7.10	Question paper 213 (Q6)
7.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.12	Question paper 213 (Q2, Q3 and Q4)
7.13	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.14	Question paper 213 (Q2, Q3 and Q4)

7.15	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.16	Question paper 213 (Q4)
7.17	Question paper 213 (Q4)
7.18	Question paper 213 (Q4)
7.19	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.20	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.21	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)
7.22	Question paper 213 (Q8, Q9 and Q10)
7.23	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (213)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 215 Conduct specified testing of Gas services

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. The unit supports workforce development and describes the competencies necessary to conduct specified testing of gas services. It includes making sure the manner in which tests are conducted and recorded meets the standards of quality assurance set by the organisation. It requires an understanding of safety requirements that need to be follo*wed* and adopted when carrying out test activities and procedures.

Location of job	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to perform test activities							
1.1	Perform tasks safely and ensure all work is carried out in accordance with **legislative and regulatory requirements**						
1.2	Carry out a site specific risk assessment						
1.3	Select and wear the designated PPE						
1.4	Protect the test site from third party interference and the consequences of test failure on third parties						
1.5	Comply with procedures in accordance with work instructions and manufacturers specifications when using tools and equipment						
1.6	Anchor cap ends to withstand test pressures						
1.7	Confirm equipment is functioning in accordance with system operating requirements and parameters						

Range

Legislative and regulatory requirements: Health and safety and environment regulations, legislation, company procedures, statutory procedures

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Set up and carry out the test activities, within agreed timescales, following **agreed industry standards and approved codes of practice**						
2.2	Review test results to establish that the performance of the system is in accordance to specifications and performance parameters						
2.3	Record the results of test activities and complete test record documents following reporting systems						
2.4	Use documentation in accordance with company procedures and statutory requirements						

Range

Agreed industry standards and approved codes of practice: work instructions; approved procedures and practices; statutory and regulatory requirements; drawings; plans; specifications for the pressure testing of gas network mains and services

Performance evidence required	Portfolio Reference Number (PRN)						
3.	**Be able to resolve problems which arise when performing test activities**						
3.1	Handle problems within the limits of the responsibility of the job role						
3.2	Communicate problems outside the responsibilities of the job role to the **designated person**						

Range

Designated person: Those people specified within work and health and safety procedures

4.	**Know health and safety guidance and legislation in utilities network construction operations**	**PRN**
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
4.2	Explain the health and safety guidance governing work in excavations	
4.3	Describe the safe procedures for handling hazardous materials	
4.4	Explain the organisational accident recording and reporting procedures	
4.5	Identify the range and use of personal protective equipment for the work	

5.	**Understand specified testing of gas services**	**PRN**
5.1	Outline the health, safety and environmental requirements relevant to this activity	
5.2	Explain the importance of adequate anchorage during the testing procedure	
5.3	Explain how to use various types of test, purging and commissioning specifications for gas services	
5.4	Describe how to use various types of test, purging and commissioning equipment	
5.5	Explain how to calibrate the relevant pressure gauges	
5.6	Describe why pressure gauges need calibrating	
5.7	Explain how to interpret test results against specifications and codes of practice	
5.8	Describe the effect of atmospheric pressure and temperature on test results on services	
5.9	Outline the potential consequences of test failure to the environment	

Evidence required for Learning Outcome 5

Assessment criteria	Evidence required
4.1	Question paper H & S (Q1, Q2 and Q3)
4.2	Question paper H & S (Q4)
4.3	Question paper H & S (Q5 and Q6)
4.4	Question paper H & S (Q7 and Q8)
4.5	Question paper H & S (Q9 and Q10)
5.6	Question paper 215 (Q12)
5.7	Evidence achieved through observation
5.8	Question paper 215 (Q9)
5.9	Question paper 215 (Q13)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 217 Restore gas network components to operational condition by repair

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. This unit supports workforce development and is designed to assess the competence of individuals to carry out repairs to components on mains or services.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to restore components to operational condition							
1.1	Perform work activities in accordance with **legislative and regulatory practices**						
1.2	Carry out a site specific risk assessment in accordance with company procedures						
1.3	Select and wear the designated PPE and breathing apparatus						
1.4	Check and position a minimum of two fire extinguishers in suitable locations for the work activity						
1.5	Prepare the **component** for repair						
1.6	Carry out **repairs** in accordance with specifications and work instructions, to agreed timescale using approved materials and components						
1.7	Confirm the repaired component meets the specified operating conditions and parameters						

Range

Legislative and regulatory practices: Health and safety and environment regulations, legislation, statutory and regulatory requirements, company procedures, safe working practices

Component: metallic and non-metallic and all ancillary pipes and fittings

Repairs: Joints, horizontal and circumferential cracks and breaks, corrosion and interference damage

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Produce accurate and complete records of all **repair** work carried out.						

Range

Repair: Joints, horizontal and circumferential cracks and breaks, corrosion and interference damage

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to resolve problems that arise when restoring components to operation condition							
3.1	Handle problems within the limits of own responsibility						
3.2	Communicate problems outside job responsibilities to **designated person**						

Range

Designated person: Those people specified within work and health and safety procedures

4.	**Know health and safety guidance and legislation in utilities network construction operations**	**PRN**
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
4.2	Explain the health and safety guidance governing work in excavations	
4.3	Describe the safe procedures for handling hazardous materials	
4.4	Explain the organisational accident recording and reporting procedures	
4.5	Identify the range and use of personal protective equipment for the work	

5.	**Understand the restoration of gas network components to operational condition by repair**	**PRN**
5.1	State the health, safety and environment legislation, relevant to the work activities	
5.2	State environmental procedures, relevant to the work activities	
5.3	State codes of practice, relevant to the work activities	
5.4	State company procedures, relevant to the work activities	
5.5	Describe how to select the repair technique to be used for the specification of the **component** to be repaired	
5.6	Identify various **components** in use on the gas network	
5.7	Identify types of tools and equipment to be used when restoring **components** to operating condition by repair	
5.8	Define the care and control procedures to be used to ensure compliance with live gas working	
5.9	Explain the need to deploy fire extinguishers at the scene of a gas escape	
5.10	Explain the need to wear breathing apparatus when working on a live gas repair	
5.11	Explain the types of records and documentation used to record maintenance activities	
5.12	Explain the reporting procedures to use	

Range

Components: Metallic and non-metallic and all ancillary pipes and fittings

Evidence required for Learning Outcomes 4 and 5

Assessment criteria	**Evidence required**

4.1	Question paper H & S (Q1, Q2 and Q3)
4.2	Question paper H & S (Q4)
4.3	Question paper H & S (Q5 and Q6)
4.4	Question paper H & S (Q7 and Q8)
4.5	Question paper H & S (Q9 and Q10)
5.1	Question paper H & S (Q1 to Q3)
5.2	Question paper 217 (Q2)
5.3	Question paper 217 (Q3)
5.4	Question paper 217 (Q3)
5.5	Question paper 217 (Q4 to Q7)
5.6	Question paper 217 (Q8 to Q12)
5.7	Question paper 217 (Q8 to Q12)
5.8	Question paper 217 (Q13)
5.9	Question paper 217 (Q14 and Q15)
5.10	Question paper 217 (Q16 and Q17)
5.11	Question paper 217 (Q18)
5.12	Question paper 217 (Q19)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 218 Conduct specified testing of gas networks associated with leakage location

Unit aim:

The purpose of the Unit is to assess your competence to recognised national occupational standards. This Unit supports workforce development and is designed to assess the competence of individuals to conduct tests to determine the location of gas leaks. It involves making sure all work is carried out safely in accordance with all health and safety requirements and regulations, industry standards, and standards set by the organisation.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to conduct specified testing of gas networks associated with leakage location							
1.1	Perform work activities safely at all times in accordance with **legislative and regulatory requirements**						
1.2	Carry out a site specific risk assessment and review in accordance with company procedures						
1.3	Select and wear the designated PPE						
1.4	Select and use the specified equipment for **testing**						
1.5	Use **testing** and purging tools and equipment in accordance with **industry standards and codes of practice**						
1.6	Determine the **testing** methods to be employed and procedure to be followed to locate the escape of gas in ducts and underground apparatus						
1.7	Set up and carry out the tests within agreed timescales						

Range

Legislative and regulatory requirements: Health, safety and environment requirements, legislation, industry standards, statutory requirements, company procedures, work instructions

Testing: Bar hole and other leakage surveys, pressure tests, and decay testing

Industry standards and codes of practice: work instructions; health and safety regulations; codes of practice; equipment specifications

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Communicate to individuals affected by the risk control measures in place						
2.2	Confirm information provided about safety systems is clear, accurate and concise						
2.3	Review the results of the test to make sure the type and precise location of the leak has been established						
2.4	Record the results of testing activities using company reporting systems and documentation						

Performance evidence required	Portfolio Reference Number (PRN)							
3.	**Be able to resolve problems that arise when testing gas networks for leaks**							
3.1	Handle problems within the limits of the responsibility of the job role							
3.2	Communicate problems outside the responsibilities of the job role to the **designated person**							

Range

Designated person: those people specified within work and health and safety procedures

4.	**Know health and safety guidance and legislation in utilities network construction operations**	**PRN**
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
4.2	Explain the health and safety guidance governing work in excavations	
4.3	Describe the safe procedures for handling hazardous materials	
4.4	Explain the organisational accident recording and reporting procedures	
4.5	Identify the range and use of personal protective equipment for the work	

5.	**Understand specified testing of gas networks associated with leakage location**	**PRN**
5.1	State the reporting lines and procedures to be used	
5.2	Identify types of test procedures that can be used to locate leaks	
5.3	Identify the correct and appropriate test procedure for a given situation	
5.4	Interpret and follow test procedures and documentation	
5.5	Explain how to calibrate the relevant pressure gauge	
5.6	Explain why the relevant pressure gauge should be calibrated	
5.7	Demonstrate bar holing, sampling and escape surveying techniques used on services and mains	
5.8	Interpret test and purging results against specifications	
5.9	Describe the consequences of test failures to the public, property and the environment	
5.10	Identify various test records that are required	
5.11	Describe the consequences of incorrectly recording and reporting test results in line with industry requirements.	

Evidence required for Learning Outcome 5

Assessment criteria	Evidence required
4.1	Question paper H & S (Q1, Q2 and Q3)
4.2	Question paper H & S (Q4)
4.3	Question paper H & S (Q5 and Q6)
4.4	Question paper H & S (Q7 and Q8)
4.5	Question paper H & S (Q9 and Q10)
5.1	Question paper 218 (Q1 to Q3)
5.2	Question paper 218 (Q4 to Q6)
5.3	Question paper 218 (Q7 to Q10)
5.4	Question paper 218 (Q13)
5.5	Question paper 218 (Q11 and Q12)
5.6	Question paper 218 (Q11 and Q12)
5.7	Question paper 218 (Q14)
5.8	Question paper 218 (Q15, Q16 and Q17)
5.9	Question paper 218 (Q19)
5.10	Question paper 218 (Q18)
5.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (218)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 219 Disconnection of gas meters

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. The unit supports workforce development and describes the competencies necessary to disconnect gas meters up to 6m3/hr.

This work is not classed as working on the downstream installation.

Location of job	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to disconnect gas meters							
1.1	Perform work activities safely at all times in accordance with **legislative and regulatory requirements**						
1.2	Carry out site specific risk assessment						
1.3	Select and wear designated PPE						
1.4	Prepare instant voltage tester (Volt Stick) ready for use						
1.5	Determine the pressure in the supply as being low or medium pressure, in line with approved procedures						
1.6	Determine the suitability of existing Equipotential Bonding, in line with approved procedures						
1.7	Determine the type of meter in use i.e. 6m3/hr, in line with approved procedures						
1.8	Comply with industry standards and approved codes of practice when • installing temporary continuity bonding • isolating the gas supply and appliances • disconnecting components • removing meter • cap open ends of meter and internal supply • cap and secure the emergency control valve						
1.9	Prevent damage to components, the meter and supply apparatus						
1.10	Confirm there is no damage to the supply apparatus						
1.11	Handle excess, waste materials and temporary attachments in line with approved and agreed procedures						
1.12	Comply with procedures where lone working is required						

Range

Legislative and regulatory requirements: Health, safety and environment requirements, legislation, industry standards, statutory requirements, company procedures, work instructions

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Use organisational information systems to record and store data and information						
2.2	Complete work documentation accurately						
2.3	Record work documentation in the specified place or pass to a designated person						
2.4	Explain the types of records and documentation used when disconnecting meters						

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to resolve problems which arise during the disconnection of meters							
3.1	Report promptly to the designated person damage or defects to **resources** using approved procedures						
3.2	Report promptly to the designated person suspected theft of gas using approved procedures						
3.3	Handle problems within the limits of own responsibility						
3.4	Report to the designated person problems and conditions outside the responsibility of the job role						

Range

Resources: Tools, equipment, materials

4. Know health and safety guidance and legislation in utilities network construction operations		**PRN**
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
4.2	State the main responsibilities of employers and employees under working at height regulations	
4.3	Describe the safe procedures for handling hazardous materials	
4.4	Explain the organisational accident recording and reporting procedures	
4.5	Identify the range and use of personal protective equipment for the work	
4.6	Describe the safe use of a standard voltage and the limitations of use	

5.	Understand how to disconnect gas meters	PRN
5.1	Explain the specific gravity of natural gas and its relationship to air	
5.2	Identify different types of meter	
5.3	Explain how to correctly handle different **types** of meters	
5.4	Describe effective methods for the prevention of dangerous concentrations of gas	
5.5	Describe potential ignition sources	
5.6	Explain Equipotential Bonding including • risks where bonding is not used • cross sectional area • warning labels • distance from meter outlet	
5.7	Identify situations where it is necessary to leave temporary continuity bonding in place on completion of the work	
5.8	Explain correct reporting procedures	

Range

Types: U6; E6; Quantum

Evidence required for Learning Outcome 5

Assessment criteria	Evidence required
4.1	Question paper H & S (Q1, Q2 and Q3)
4.2	Question paper H & S (Q4)
4.3	Question paper H & S (Q5 and Q6)
4.4	Question paper H & S (Q7 and Q8)
4.5	Question paper H & S (Q9 and Q10)
4.6	Observation and oral questioning
5.1	Question paper 219 (Q1)
5.2	Question paper 219 (Q2)
5.3	Evidence achieved through observation
5.4	Question paper 219 (Q3)
5.5	Question paper 219 (Q4)
5.6	Question paper 219 (Q4 to Q7)
5.7	Question paper 219 (Q8)
5.8	Question paper 219 (Q9)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 301 Install gas services up to 63mm

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. The unit supports workforce development and describes the competencies necessary to install gas services up to 63mm.

It includes being alert to and assessing, risk or hazardous conditions, the need to wear suitable safety clothing and the ability to follow operational procedures. Each individual will need to demonstrate competence in a minimum of three different installation techniques. Self-Lay Operatives completing this unit can be excluded from demonstrating competence in the full range of installation techniques but will usually be able to gather evidence of installing gas services by open cut, soil displacement and by insertion through suitable ducting.

Location of job	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to interpret technical information for installing components of the system							
1.1	Produce **work details** for **component** installation use						
1.2	From the technical information take off • dimensions • lengths • widths • quantities • utilities plant • services • buildings • kerbs • boundaries						
1.3	Demonstrate how to make corrections through drawings, records and work documents						

Range

Work details: Drawings, records, work documents, manuals, technical specifications

Components: Metallic and non-metallic and all ancillary pipes and fittings

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to select components and resources for installation of the system							
2.1	Select the type of **components** in compliance with the work and quality specifications						
2.2	Comply with procedures to replace defective **components**						
2.3	Comply with procedures to replace non-match **components**						
2.4	Comply with procedures to replace sub-standard **components**						
2.5	Confirm the availability of sufficient **resources**						
2.6	Handle changes to the planned use of the **resource**						
2.7	Confirm **components** and installation equipment are operational						

Range

Components: Metallic and non-metallic and all ancillary pipes and fittings

Resources: Labour, plant, equipment, materials, consumables

Performance evidence required	Portfolio Reference Number (PRN)							
3. Be able to install components of the system								
3.1	Determine the **method** of installation to be used when installing components of the system							
3.2	Carry out a site-specific risk assessment and review in accordance with company policy							
3.3	Select and wear the designated PPE							
3.4	Confirm the condition of the excavation conforms with instructions and specifications							
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufactures instructions							
3.6	Assemble components to industry standards using mechanical and/or fusion welding techniques							
3.7	Carry out site-specific tasks appropriately to prevent **equipment** damage							
3.8	Position **components** in accordance with the specification							
3.9	Protect installed assets with fine fill in accordance with specification and approved codes of practice							
3.10	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice							
3.11	Connect to the existing system using in-line squeeze off, side entry or top entry tee in accordance with codes of practice							
3.12	Support and anchor installed assets in accordance with codes of practice							
3.13	Confirm that the quality of the installation complies with the specified standard							
3.14	Maintain the security and safety of the system and third parties where work is not complete or not to schedule							
3.15	Ensure work practices conform to safe working procedures throughout the work activity							
3.16	Comply with procedures where lone working is required							

Range

Method: Dead insertion, live insertion, soil displacement, open cut

Equipment: Components, tools

Components: Metallic and non-metallic and all ancillary pipes and fittings

Performance evidence required	Portfolio Reference Number (PRN)						
4. Be able to use and communicate data and information							
4.1	Provide **instructions** to individuals who will be using technical information						
4.2	Confirm instructions have been understood by individuals using technical information						
4.3	Report to a designated person inaccuracies in the technical information sources used						
4.4	Complete work documentation accurately						
4.5	Record work documentation in the specified place or pass to a **designated person**						
4.6	Comply with procedures if working on a 'Permit to Work' designated activity						

Range

Instructions: Oral, written

Designated person: Those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
5. Be able to resolve problems that arise from technical information and installation work							
5.1	Report to the designated person damage or defects to **resources** using approved procedures						
5.2	Report to the **designated person** work which is incomplete and not to schedule						
5.3	Report to the **designated person** problems and conditions outside the responsibility of the job role						

Range

Resources: Equipment, materials and tools

Designated person: Those people specified within work and health and safety procedures

6.	Know health and safety guidance and legislation in utilities network construction operations	PRN
6.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
6.2	Explain the health and safety guidance governing work in excavations	
6.3	Describe the safe procedures for handling hazardous materials	
6.4	Explain the organisational accident recording and reporting procedures	
6.5	Identify the range and use of personal protective equipment for the work	

7.	Understand how to install gas services up to 63mm	PRN
7.1	State the main responsibilities of employers and employees under the current working at height regulations	
7.2	Explain the importance of carrying out on-site risk assessments and the need for constant review	
7.3	Explain the importance of implementing a safe system of work (SSOW) document when working in excavations	
7.4	Explain the importance of obtaining necessary permissions for isolation of any part of utilities network	
7.5	Explain the importance of complying with current industry standards	
7.6	State the organisation's policy and procedures for meeting the relevant • statutory requirements • regulations • codes of practice	
7.7	Explain the implications of not obtaining the correct authorisation	
7.8	Explain the implications of using incorrect plant, tools and materials	
7.9	Explain the implications of using incorrect system components	
7.10	Explain the actions to be taken where plant, tools, materials and system **components** fail to meet required specification	
7.11	Describe faults associated with the use of inappropriate installation methods and tools	
7.12	Identify potential dangers in excavations	
7.13	Describe the factors affecting, and means of confirming, the suitability of excavations	
7.14	Explain the dangers of taking actions that can create confined space risks in excavations	
7.15	Describe the range of isolation methods available and the rationale for their selection	
7.16	Explain the procedure for obtaining authorisation to proceed with connections	
7.17	Identify the range of actions to be taken if work cannot proceed to schedule	
7.18	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed	
7.19	Identify methods of accessing information from different **sources**	
7.20	Identify types and causes of likely disruptions	
7.21	Identify methods of avoiding disruption	
7.22	Explain the dangers of inadequate handling and lifting procedure	

7.23	Describe the types and signs of defect likely to be present on sub-system and means of determining the appropriate safe action	

Range

Components: metallic and non-metallic and all ancillary pipes and fittings

Sources: Reference documents, regulations, codes of practice

Evidence required for Learning Outcome 7

Assessment criteria	Evidence required
6.1	Question paper H & S (Q1, Q2 and Q3)
6.2	Question paper H & S (Q4)
6.3	Question paper H & S (Q5 and Q6)
6.4	Question paper H & S (Q7 and Q8)
6.5	Question paper H & S (Q9 and Q10)
7.1	Question paper 213 (Q1)
7.2	Risk assessment question paper
7.3	Question paper 213 (Q2, Q3 and Q4)
7.4	Question paper 213 (Q5)
7.5	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.6	Question paper 301 (Q1 to Q14)
7.7	Question paper 213 (Q5)
7.8	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.9	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.10	Question paper 201 (Q2)
7.11	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.12	Question paper 202 (Q2)
7.13	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.14	Question paper 216 (Q3 and Q4)
7.15	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)

7.16	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.17	Question paper 213 (Q4 and Q5)
7.18	Question paper 213 (Q4)
7.19	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.20	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.21	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)
7.22	Question paper 213 (Q8, Q9 and Q10)
7.23	Evidence achieved through oral questioning; professional discussion; or through responses recorded in job record sheet (Assessment Pack (301)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 304 Minimise risks to life, property and the environment during gas escapes

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. This unit is designed to assess the competence of individuals to assess, prioritise and minimise risks and hazards to life, property and the environment during gas emergencies. It involves implementing the appropriate procedures and policies that must be followed to reduce or remove risks and hazards. It includes making sure all the work is carried out safely in accordance with industry specific operational procedures, and systems associated with risk reduction and/or removal.

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to assess risk to life, property and the environment during gas emergencies							
1.1	Perform work activities in accordance with **legislative and regulatory requirements**						
1.2	Carry out a site specific risk assessment, both inside and outside of properties						
1.3	Select and wear the designated PPE						
1.4	Assess the hazards and the level and severity of the risk involved						
1.5	Record the findings of hazard assessment						

Range

Legislative and regulatory requirements: Health, safety and environment regulations, legislation, statutory and regulatory requirements, company procedures, safe working practices, risk assessments

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to minimise and prioritise risks to life, property and the environment during gas emergencies							
2.1	Prioritise hazards and minimise the risk to safeguard life, property and the environment, including excavation and forced entry						
2.2	Make safe hazards that can be rectified safely						
2.3	Make safe sources and potential sources of ignition						
2.4	Monitor the effectiveness of the risk control measures and take prompt additional action where it is required						
2.5	Establish and maintain a safe working area						
2.6	Demonstrate how to ventilate • property • voids • ducts • drains • other street furniture						
2.7	Excavate to prevent underground tracking gas from entering • property • voids • ducts • drains • other street furniture						
2.8	Recheck the site and ensure it is clear						

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to use approved gas detection and safety equipment							
3.1	Confirm safety equipment is available for use in accordance with site specific risk assessment						
3.2	Confirm that gas detection equipment meets **standards**						
3.3	Take and record, high and low level atmosphere samples from • internal spaces • external sources • no access properties • voids • bar holes • plant • street furniture						
3.4	Check for gas ingress to properties and voids						

Range

Standards: Approved, in date, correctly calibrated

Performance evidence required	Portfolio Reference Number (PRN)						
4. Be able to use and communicate data and information							
4.1	Maintain contact with the emergency call centre						
4.2	Communicate to individuals affected by the risk control measures which are in place						
4.3	Confirm information provided about safety systems is clear, accurate and concise						
4.4	Record the results of testing activities and steps taken, using company reporting systems and documentation						

Performance evidence required	Portfolio Reference Number (PRN)						
5. Be able to resolve problems that arise when testing for escape of gas							
5.1	Handle problems within the limits of the responsibility of the job role						
5.2	Communicate problems outside the responsibilities of the job role to the **designated person**						

Range

Designated person: Those people specified within work and health and safety procedures

6.	Know health and safety guidance and legislation in utilities network construction operations	PRN
6.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act	
6.2	Explain the health and safety guidance governing work in excavations	
6.3	Describe the safe procedures for handling hazardous materials	
6.4	Explain the organisational accident recording and reporting procedures	
6.5	Identify the range and use of personal protective equipment for the work	

7.	Understand how to minimise risks to life, property and the environment during gas escapes	PRN
7.1	State the order of priority to safeguard life, property and the environment	
7.2	State the **reporting lines and procedures** to be used when dealing with gas emergencies	
7.3	Identify different types of hazards and risks that could occur during a gas emergency	
7.4	State the properties of Liquified Petroleum Gas (LPG)	
7.5	Explain the criticality of different types of risk	
7.6	Explain why it is important to reduce the risk quickly	
7.7	Describe the consequences of failure to control the risks to the public, property and the environment	
7.8	Identify the type of information on the risk which is important	

Range

Reporting lines and procedures: Who should be kept informed of progress, the criteria to be used for forced entry into buildings, the criteria to be used for excavation of properties, the policy for dealing with media and emergency services during a gas emergency.

Evidence required for Learning Outcomes 6 and 7

Assessment criteria	Evidence required
6.1	Question paper H & S (Q1, Q2 and Q3)
6.2	Question paper H & S (Q4)
6.3	Question paper H & S (Q5 and Q6)
6.4	Question paper H & S (Q7 and Q8)
6.5	Question paper H & S (Q9 and Q10)
7.1	Question paper 304 (Q1)
7.2	Question paper 304 (Q2)
7.3	Question paper 304 (Q3)
7.4	Question paper 304 (Q23, Q24 and Q25)
7.5	Question paper 304 (Q6 and Q7)
7.6	Question paper 304 (Q8 to Q12)
7.7	Question paper 304 (Q13 and Q14)
7.8	Question paper 304 (Q15 and Q18)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 305 Analyse and interpret the results of gas leakage surveys to determine the location of gas escapes

Unit aim:

The purpose of this unit is to assess your competence to recognised national occupational standards. The unit supports workforce development and describes the competencies necessary to analyse and interpret tests for escape location on services and mains operating at all relevant pressures. It includes the need to work safely to industry standards in accordance with health, safety and environment legislation, regulations and safe working practices, engineering specifications for the products, analysis methods and techniques

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to analyse and interpret the results of surveys to determine the location of escapes							
1.1	Perform work activities safely in accordance with **legislative and regulatory requirements**						
1.2	Obtain the necessary **test data** on which to conduct the analysis						
1.3	Analyse data using specified methods in accordance quality assurance standards						
1.4	Check the data analysis is accurate, thorough and takes account of the test conditions						
1.5	Compare the analysis against the product or asset specification						
1.6	Identify faults and variations from specification						
1.7	Perform necessary actions based on the findings of the analysis activity						

Range

Legislative and regulatory requirements: Health, safety and environment requirements, legislation, industry standards, statutory requirements, company procedures, work instruction

Test data: Results obtained from bar hole and other leakage surveys, pressure tests, and decay testing

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to use and communicate data and information							
2.1	Record the results of the analysis in accordance with company communication and documentation systems						
2.2	Record actions taken as a result of the analysis in accordance with company reporting systems and documentation						

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to resolve problems that arise when analysing and interpreting the results of surveys							
3.1	Resolve inconsistencies in the **test data** in accordance with company procedures						
3.2	Handle problems within the limits of the responsibility of the job role						
3.3	Communicate problems outside the responsibilities of the job role to the **designated person**						

Range

Test data: Results obtained from bar hole and other leakage surveys, pressure tests, and decay testing

Designated person: Those people specified within work and health and safety procedures

Performance evidence required	Portfolio Reference Number (PRN)						
4. Know health and safety guidance and legislation in utilities network construction operations							
4.1	State the main responsibilities of the employer and employee under the Health and Safety at Work Act						

4.2	Explain the health and safety guidance governing work in excavations						
4.3	Describe the safe procedures for handling hazardous materials						
4.4	Explain the organisational accident recording and reporting procedures						
4.5	Identify the range and use of personal protective equipment for the work						
4.6	State the health, safety and environment requirements and regulations relating to the management of gas						

5.	**Understand how to analyse and interpret the results of gas leakage surveys to determine the location of gas escapes**	**PRN**
5.1	Explain the engineering specifications for products and assets, including pressure gauge, pipe supply configurations, and location	
5.2	Describe how to use analysis methods and techniques, including comparison of standard conditions with **test data**	
5.3	Describe the various types of standard test documentation and procedures for survey completion	
5.4	Identify the measures to take in the event of an **escape** being located	

Range

Test data: Results obtained from bar hole and other leakage surveys, pressure tests, and decay testing

Escape: Controlled or uncontrolled release of gas from an engineering product or asset

Evidence required for Learning Outcome 5

Assessment criteria	Evidence required
5.1	Question paper 305 (Q1 to Q6)
5.2	Question paper 305 (Q7 to Q13)
5.3	Question paper 305 (Q7, Q8 and Q9)
5.4	Question paper 305 (Q1 to Q4)

Confirm completion of this Unit on the Summary of Achievement Form.

Unit 307 Decommissioning and abandonment of mains and services 63mm and above

Unit aim:

The aim of this unit is to provide the learner with the knowledge, understanding and skills to decommission and abandon mains and services 63mm and above

Where job was done	Time taken (hours)	Date

Performance evidence required	Portfolio Reference Number (PRN)						
1. Be able to conduct specified testing of gas networks associated with decommissioning							
1.1	perform work activities safely at all times in accordance with legislative and regulatory requirements						
1.2	carry out a site specific risk assessment and review in accordance with company procedures						
1.3	select and wear the designated PPE						
1.4	select and use the specified equipment for testing						
1.5	use testing and purging tools and equipment in accordance with industry standards and codes of practice						
1.6	purge system in accordance with industry standards and codes of practice						
1.7	carry out mains decay tests in accordance with codes of practice						
1.8	interpret decay test results to determine if asset in suitable condition for abandonment						
1.9	take actions within your own level of responsibility						
1.10	report results that require action that are outside your authority to authorised persons in accordance with codes of practice.						

Performance evidence required	Portfolio Reference Number (PRN)						
2. Be able to interpret technical information for decommissioning							
2.1	produce work details for component installation use						
2.2	from the technical information take off: a. dimensions b. lengths c. widths d. volumes e. utilities plant						
2.3	demonstrate how to make corrections through drawings, records and work documents.						

Performance evidence required	Portfolio Reference Number (PRN)						
3. Be able to select components and resources for decommissioning							
3.1	select the type of components in compliance with the work and quality specifications						
3.2	comply with procedures to replace defective components						
3.3	comply with procedures to replace non-match components						
3.4	comply with procedures to replace sub-standard components						
3.5	confirm the availability of sufficient resources						
3.6	handle changes to the planned use of the resource						
3.7	confirm components and decommissioning equipment are operational.						

Performance evidence required	Portfolio Reference Number (PRN)						
4. Be able to decommission the system							
4.1	determine the **method** for decommissioning when abandoning the system						
4.2	carry out a site-specific risk assessment and review in accordance with company policy						
4.3	select and wear the designated PPE						
4.4	confirm the condition of the excavation conforms with instructions and specifications						
4.5	select, prepare and operate decommissioning equipment in accordance with the specification and manufactures instructions						
4.6	assemble components to industry standards using mechanical and/or fusion welding techniques						
4.7	carry out site-specific tasks appropriately to prevent equipment damage						
4.8	position components in accordance with the specification						
4.9	disconnection of the existing system using flowstopping in accordance with codes of practice						
4.10	confirm that the decommissioning process is completed in accordance with codes of practice						
4.11	maintain the security and safety of the system and third parties where work is not complete or not to schedule						
4.12	ensure work practices conform to safe working procedures throughout the work activity.						

Range

Method: Direct and indirect purging.

Performance evidence required	Portfolio Reference Number (PRN)						
5. Be able to use and communicate data and information							
5.1	provide instructions to individuals who will be using technical information						
5.2	confirm instructions have been understood by individuals using technical information						
5.3	report to a designated person inaccuracies in the technical information sources used						
5.4	complete work documentation accurately						
5.5	record work documentation in the specified place or pass to a designated person						
5.6	comply with procedures if working on a 'permit to work' designated activity.						

Performance evidence required	Portfolio Reference Number (PRN)						
6. Be able to resolve problems that arise from technical information and decommissioning work							
6.1	report to the designated person damage or defects to resources using approved procedures						
6.2	report to the designated person work which is incomplete and not to schedule						
6.3	report to the designated person problems and conditions outside the responsibility of the job role.						

7. Know health and safety guidance and legislation in utilities network construction operations		**PRN**
7.1	state the main responsibilities of the employer and employee under the Health and Safety at Work Act	
7.2	explain the health and safety guidance governing work in excavations	
7.3	describe the safe procedures for handling hazardous materials	
7.4	explain the organisational accident recording and reporting procedures	
7.5	identify the range and use of personal protective equipment for the work.	

8.	Understand how to decommission gas engineering products or assets	PRN
8.1	state the main responsibilities of employers and employees under the current working at height regulations	
8.2	explain the importance of carrying out on-site risk assessments and the need for constant review	
8.3	explain the importance of implementing a Safe System of Work (SSOW) document when working in excavations	
8.4	explain the importance of obtaining necessary permissions for isolation of any part of utilities network	
8.5	explain the importance of complying with current industry standards	
8.6	state the organisation's policy and procedures for meeting the relevant a. statutory requirements b. regulations c. codes of practice	
8.7	explain the implications of not obtaining the correct authorisation	
8.8	explain the implications of using incorrect plant, tools and materials	
8.9	explain the implications of using incorrect system components	
8.10	explain the actions to be taken where plant, tools, materials and system components fail to meet required specification	
8.11	describe faults associated with the use of inappropriate installation methods and tools	
8.12	identify potential dangers in excavations	
8.13	describe the factors affecting, and means of confirming, the suitability of excavations	
8.14	explain the dangers of taking actions that can create confined space risks in excavations	
8.15	describe the range of isolation methods available and the rationale for their selection	
8.16	explain the procedure for obtaining authorisation to proceed with decommissioning	
8.17	identify the range of actions to be taken if work cannot proceed to schedule	
8.18	explain how to determine appropriate safe remedial action if for any reason work cannot proceed	
8.19	identify methods of accessing information from different sources	
8.20	identify types and causes of likely **disruption**	
8.21	identify methods of avoiding **disruption**	
8.22	explain the dangers of inadequate handling and lifting procedure	
8.23	explain the procedure for returning to work on an abandoned system.	

Evidence required for Learning Outcomes 6 and 7

Assessment criteria	Evidence required
7.1-7.5	Assessment pack for unit 307
8.1-8.23	Assessment pack for unit 307

Confirm completion of this Unit on the Summary of Achievement Form.

Appendix 1 Summary of City & Guilds assessment policies

Health and Safety

All City & Guilds centres have to make sure that they provide a safe and healthy environment for training, including induction and assessment. City & Guilds Qualification Consultants check this when they visit assessment centres.

You are responsible for making sure that you understand, and comply with, the Health and Safety practice and policies in the workplace where you will be assessed. Your assessment may be stopped if you do not comply, and your assessor will explain the problem to you. You may need to retake your assessment at a later date.

Equal Opportunities

Your centre will have an equal opportunities policy. Your centre will explain this to you during your induction, and may give you a copy of the policy.

City & Guilds equal opportunities policy is available from our website **www.cityandguilds.com**, City & Guilds Customer Relations Team or your centre.

Access to assessment

City & Guilds NVQs are open to all candidates, whatever their gender, race, creed, age or special needs. Some candidates may need extra help with their assessment, for example, a person with a visual impairment may need a reader.

If you think you will need alternative assessment arrangements because you have special needs, you should discuss this with your centre during your induction, and record this on your assessment plan. City & Guilds will allow centres to make alternative arrangements for you if you are eligible and if the NVQ allows for this. This must be agreed before you start your NVQ.

City & Guilds guidance and regulations document *Access to assessment and qualifications* is available on the City & Guilds website **www.cityandguilds.com**, from the City & Guilds Customer Relations Team or your centre.

Complaints and appeals

Centres must have a policy and procedure to deal with any complaints you may have. You may feel you have not been assessed fairly, or may want to appeal against an assessment decision if you do not agree with your assessor.

These procedures will be explained during induction and you will be provided with information about the Quality Assurance Co-ordinator within your centre who is responsible for this.

Most complaints and appeals can be resolved within the centre, but if you follow the centre procedure and are still not satisfied you can complain to City & Guilds.

Our complaints policy is on our website **www.cityandguilds.com** or is available from the City & Guilds Customer Relations Team or your centre.

Useful contacts

UK learners General qualification information	T: +44 (0)844 543 0033 E: **learnersupport@cityandguilds.com**
International learners General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 E: **intcg@cityandguilds.com**
Centres Exam entries, Registrations/enrolment, Certificates, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: **centresupport@cityandguilds.com**
Single subject qualifications Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: **singlesubjects@cityandguilds.com**
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: **intops@cityandguilds.com**
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, Evolve, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: **walledgarden@cityandguilds.com**
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 E: **business@cityandguilds.com**
Publications Logbooks, Centre documents, Forms, Free literature	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413

If you have a complaint, or any suggestions for improvement about any of the services that City & Guilds provides, email: **feedbackandcomplaints@cityandguilds.com**

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