

# **Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design**

## **Specification**

NVQ/Competence-based qualification

First registration March 2014

Issue 2

## Edexcel, BTEC and LCCI qualifications

Edexcel, BTEC and LCCI qualifications are awarded by Pearson, the UK's largest awarding body offering academic and vocational qualifications that are globally recognised and benchmarked. For further information, please visit our qualifications website at [qualifications.pearson.com](http://qualifications.pearson.com). Alternatively, you can get in touch with us using the details on our contact us page at [qualifications.pearson.com/contactus](http://qualifications.pearson.com/contactus)

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This specification is Issue 2. Please note updated information in the section *Relationship with previous qualifications* from the pre-publication draft specification.

This qualification was previously known as:

Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design (QCF)

The QN remains the same.

This qualification is offered as part of a Joint Awarding Body Partnership with construction industry professional bodies, the Chartered Institute of Building (CIOB) and the Institution of Civil Engineers (ICE), for whom the NVQs are steps to professional recognition.

[www.ciob.org.uk](http://www.ciob.org.uk)

[www.ice.org.uk](http://www.ice.org.uk)



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*All information in this specification is correct at time of publication.*

ISBN 9781446951927

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## Summary of Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design specification Issue 2 changes

Summary of changes made between previous issue and this current issue	Page/section number
All references to QCF have been removed throughout the specification	Throughout
Definition of TQT added	Section 1
Definition of sizes of qualifications aligned to TQT	Section 1
TQT value added	Section 2
GLH range removed and replaced with lowest GLH value for the shortest route through the qualification	Section 2
Reference to credit transfer within the QCF removed	Section 5
QCF references removed from unit titles and unit levels in all units	Section 12
Guided learning definition updated	Section 12

Earlier issue(s) show(s) previous changes.

If you need further information on these changes or what they mean, contact us via our website at: [qualifications.pearson.com/en/support/contact-us.html](https://qualifications.pearson.com/en/support/contact-us.html).



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# Purpose of this specification

This specification sets out:

- the objectives of the qualification
- any other qualification that a learner must have completed before taking the qualification
- any prior knowledge, skills or understanding which the learner is required to have before taking the qualification
- the combination of units that a learner must have completed before the qualification will be awarded and any pathways
- any other requirements that a learner must have satisfied before they will be assessed or before the qualification will be awarded
- the knowledge, skills and understanding that will be assessed as part of the qualification
- the method of any assessment and any associated requirements relating to it
- the criteria against which a learner's level of attainment will be measured (such as assessment criteria)
- assessment requirements and/or evidence requirements required as specified by the relevant Sector Skills Council/Standards Setting Body
- assessment requirements/strategy as published by the relevant Sector Skills Council/Standards Setting Body
- the Apprenticeship Framework in which the qualification is included, where appropriate.

# 1 Introducing Pearson Edexcel NVQ/Competence-based qualifications

## What are NVQ/Competence-based qualifications?

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National Vocational Qualifications (NVQs) or Competence-based qualifications reflect the skills and knowledge needed to do a job effectively. They are work-based qualifications that give learners the opportunity to demonstrate their competence in the area of work or job role to which the qualification relates.

NVQs/Competence-based qualifications are outcomes-based with no fixed learning programme, allowing flexibility in their delivery to meet the individual learner's needs. The qualifications are based on the National Occupational Standards (NOS) for the sector, which define what employees, or potential employees, must be able to do and know, and how well they should undertake work tasks and work roles.

Most NVQ/Competence-based qualifications form the competence component of Apprenticeship Frameworks. They are suitable for those in employment or those who are studying at college and have a part-time job or access to a substantial work placement.

Most learners will work towards their qualification in the workplace or in settings that replicate the working environment as specified in the assessment requirements/strategy for the sector. Colleges, training centres and/or employers can offer these qualifications provided they have access to appropriate physical and human resources.

## Sizes of NVQ/Competence-based qualifications

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For all regulated qualifications, we specify a total number of hours that learners are expected to undertake in order to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, we identify the number of Guided Learning Hours (GLH) that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.

As well as guided learning, there may be other required learning that is directed by tutors or assessors. This includes, for example, private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value – equal to one tenth of TQT, rounded to the nearest whole number.

TQT and credit values are assigned after consultation with users of the qualifications.



NVQ/Competence-based qualifications are available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).

## 2 Qualification summary and key information

Qualification title	Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design
Qualification Number (QN)	601/2668/1
Regulation start date	07/02/2014
Operational start date	01/03/2014
Approved age ranges	16–18 19+ Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please refer to the assessment strategy.
Credit value	102
Assessment	Portfolio of Evidence (internal assessment)
Total Qualification Time (TQT)	1020
Guided learning hours	470
Grading information	The qualification and units are graded pass/fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow our access and recruitment policy (see <i>Section 9, Access and Recruitment</i> ).
Funding	Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

## Qualification Number and qualification title

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Centres will need to use the Qualification Number (QN) when they seek public funding for their learners. The qualification title, unit titles and QN are given on each learner's final certificate. You should tell your learners this when your centre recruits them and registers them with us. There is more information about certification in our *UK Information Manual*, available on our website, [qualifications.pearson.com](http://qualifications.pearson.com)

## Qualification objectives

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The Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design is for learners who work in, or want to work in the construction and built environment sector as design technicians, who may be involved in producing design solutions, surveys, drawings and preparing tenders.

It gives learners the opportunity to:

- demonstrate competence in built environment design
- develop knowledge and skills related to the specified job roles in built environment design
- have their existing skills recognised
- achieve a nationally-recognised Level 3 qualification
- develop their own personal growth and engagement in learning.

The qualification structure is intended to enable the delivery of a safe, accessible, sustainable and energy efficient built environment in order to embrace and resolve the challenges of today and tomorrow, whilst respecting historic development and achievement.

It has been developed by industry practitioners and interested professional bodies to serve a wide range of design disciplines, including civil and structural design, building surveying, architectural technology and design in specialist construction areas. The standards are relevant to those working in a technical support role.

The qualification is appropriate for designers who work on new build, alterations, repairs, refurbishment and conservation projects.

## Relationship with previous qualifications

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This qualification supersedes 500/9331/9 Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design (QCF) as it has been updated in line with revisions to the National Occupational Standards (NOS) in Construction.

## Apprenticeships

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ConstructionSkills, the Sector Skills Council for the construction industry include the Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design as the competence component for the Advanced Construction Technical Apprenticeship. The Pearson BTEC Level 3 Diploma in Construction and the Built Environment provides the related underpinning knowledge.

## **Progression opportunities**

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Learners who achieve the Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design and who gain greater occupational and management responsibility can progress into construction management qualifications, including the Pearson Edexcel Level 7 Built Environment Design and Consultancy Practice, which meets the professional standards in the sector.

## **Industry support and recognition**

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This qualification is supported by ConstructionSkills. It is also recognised by Professional Bodies such as the Chartered Institute of Building and Institution of Civil Engineers as contributing towards professional standards required for Built Environment Design Technicians.

## **Relationship with National Occupational Standards**

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This qualification is based on the National Occupational Standards (NOS) in Construction, which were set and designed by ConstructionSkills.

### 3 Qualification structure

#### Pearson Edexcel Level 3 NVQ Diploma in Built Environment Design

Learners must choose one of the following two pathways: Architecture or Civil and Structural Engineering.

Learners will need to complete a minimum of 102 credits to achieve the qualification.

##### Pathway 1: Architecture

Learners must complete all five mandatory units to obtain 95 credits and a minimum of one optional unit to obtain a minimum of seven credits, giving a total minimum value of 102 credits.

##### Mandatory units–Architecture

Learners must complete all five units in this group to obtain 95 credits.

Unit	Unit reference number	Mandatory units	Level	Credit	Guided learning hours
1	L/505/9605	Produce and Recommend Detailed Design Solutions in Built Environment Design	3	44	260
2	F/506/0105	Maintain Professional Relationships and Practice in Built Environment Design	3	12	30
3	M/504/7480	Investigate Factors Affecting Project Development in Built Environment Design	3	12	50
4	L/504/7518	Prepare Drawings and Schedules in Built Environment Design	3	15	70
5	J/504/7520	Collate Project Information and Prepare Specifications in Built Environment Design	3	12	40

**Optional units–Architecture**

Learners must complete a minimum of one optional unit in this group to obtain a minimum of seven credits.

Unit	Unit reference number	Optional units	Level	Credit	Guided learning hours
6	D/506/1276	Plan, Carry Out and Present Measured Surveys in Built Environment Design	3	15	70
7	F/504/7483	Carry Out and Present Condition Surveys in Built Environment Design	3	16	60
8	H/504/7511	Monitor Tests and Present Reports in Built Environment Design	3	15	70
9	F/504/7516	Report on and Prepare Applications to Secure Consents in Built Environment Design	3	7	20
10	H/504/7525	Identify Project Energy Efficiency and Carbon Minimisation Requirements in Built Environment Design	3	10	20
11	R/504/7522	Obtain and Assess Tenders in Built Environment Design	3	12	40
12	Y/504/7523	Prepare Tenders in Built Environment Design	3	15	70
13	J/506/0106	Monitor Projects in Built Environment Design	3	23	70
14	K/504/7526	Investigate and Produce Integrated Conservation, Repair and Maintenance Solutions in Built Environment Design	3	10	40

**Pathway 2: Civil and Structural Engineering**

Learners must complete all five mandatory units to obtain 98 credits and a minimum of one optional unit to obtain a minimum of seven credits, giving a total minimum value of 105 credits.

**Mandatory units–Civil and Structural Engineering**

Learners must complete all five units in this group to obtain 98 credits.

Unit	Unit reference number	Mandatory units	Level	Credit	Guided learning hours
1	L/505/9605	Produce and Recommend Detailed Design Solutions in Built Environment Design	3	44	260
2	F/506/0105	Maintain Professional Relationships and Practice in Built Environment Design	3	12	30
3	M/504/7480	Investigate Factors Affecting Project Development in Built Environment Design	3	12	50
4	L/504/7518	Prepare Drawings and Schedules in Built Environment Design	3	15	70
6	D/506/1276	Plan, Carry Out and Present Measured Surveys in Built Environment Design	3	15	70

**Optional units–Civil and Structural Engineering**

Learners must complete a minimum of one optional unit in this group to obtain a minimum of seven credits.

Unit	Unit reference number	Optional units	Level	Credit	Guided learning hours
7	F/504/7483	Carry Out and Present Condition Surveys in Built Environment Design	3	16	60
8	H/504/7511	Monitor Tests and Present Reports in Built Environment Design	3	15	70
9	F/504/7516	Report on and Prepare Applications to Secure Consents in Built Environment Design	3	7	20
5	J/504/7520	Collate project information and prepare specifications in built environment design	3	12	40
10	H/504/7525	Identify Project Energy Efficiency and Carbon Minimisation Requirements in Built Environment Design	3	10	20
11	R/504/7522	Obtain and Assess Tenders in Built Environment Design	3	12	40
12	Y/504/7523	Prepare Tenders in Built Environment Design	3	15	70
13	J/506/0106	Monitor Projects in Built Environment Design	3	23	70
14	K/504/7526	Investigate and Produce Integrated Conservation, Repair and Maintenance Solutions in Built Environment Design	3	10	40



## 4 Assessment

This qualification is assessed through an externally verified Portfolio of Evidence that consists of evidence gathered during the course of the learner's work.

To achieve a pass for the full qualification, the learner must achieve all the required units in the stated qualification structure. Each unit has specified learning outcomes and assessment criteria. To pass each unit the learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- prove that the evidence is their own.

The learner must have an assessment record that identifies the assessment criteria that have been met, and it should be cross-referenced to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment. The unit specification or suitable centre documentation can be used to form an assessment record.

It is important that the evidence provided to meet the assessment criteria of the unit and learning outcomes is:

<b>Valid</b>	relevant to the standards for which competence is claimed
<b>Authentic</b>	produced by the learner
<b>Current</b>	sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim
<b>Reliable</b>	indicates that the learner can consistently perform at this level
<b>Sufficient</b>	fully meets the requirements of the standards.

Learners can provide evidence of occupational competence from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning programme, whether at or away from the workplace. The evidence provided must meet the requirements of the Sector Skills Council's assessment requirements/strategy.
- the **Recognition of Prior Learning (RPL)** where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of development. They must submit sufficient, reliable, authentic and valid evidence for assessment. Evidence submitted based on RPL should provide confidence that the same level of skill/understanding/knowledge exists at the time of claim as existed at the time the evidence was produced. RPL is acceptable for accrediting a unit, several units, or a whole qualification.
- a **combination** of these.

Further guidance is available in the policy document *Recognition of Prior Learning Policy and process*, available on our website.

## Assessment strategy

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The assessment strategy for this qualification has been included in *Annexe A*. It sets out the overarching assessment principles and the framework for assessing the qualification to ensure that it remains valid and reliable. It has been developed by ConstructionSkills in partnership with employers, training providers, awarding organisations and the regulatory authorities.

## Types of evidence

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To achieve a unit, the learner must gather evidence to show that they have met the required standard specified in the assessment criteria as well as the requirements of the ConstructionSkills assessment strategy. As stated in the assessment strategy, the evidence for this qualification can take a variety of forms as indicated below:

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation (S)
- professional discussion (PD)
- assignment, project/case studies (A)
- authentic statements/witness testimony (WT)
- expert witness testimony (EWT)
- evidence of Recognition of Prior Learning (RPL).

Learners can use the abbreviations for cross-referencing purposes in their portfolios.

Learners can also use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is not necessary for learners to have each assessment criterion assessed separately. They should be encouraged to reference evidence to the relevant assessment criteria. Evidence must be available to the assessor, internal verifier and Pearson standards verifier.

Any specific evidence requirements for individual units are stated in the unit introduction for the units in *Section 11*.

There is further guidance about assessment on our website. Please see *Section 12* for details.

## 5 Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements below are in place before offering the qualification.

### General resource requirements

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- Centres must have the appropriate physical resources to support both the delivery and assessment of the qualification. For example, a workplace in line with industry standards, or a Realistic Working Environment (RWE), where permitted, as specified in the assessment strategy for the sector, equipment, IT, learning materials, teaching rooms.
- Where permitted, RWE must offer the same conditions as the normal day-to-day working environment, with a similar range of demands, pressures and requirements for cost-effective working.
- Centres must meet any specific human and physical resource requirements outlined in the assessment strategy in *Annexe A*. Staff assessing learners must meet the occupational competence requirements within the overarching assessment strategy for the sector.
- There must be systems in place to ensure the continuing professional development for staff delivering the qualification.
- Centres must have appropriate health and safety policies, procedures and practices in place for the delivery of the qualification.
- Centres must deliver the qualification in accordance with current equality legislation. For further details on Pearson's commitment to the Equality Act 2010, please see *Section 9, Access and recruitment* and *Section 10, Access to qualifications for learners with disabilities or specific needs*. For full details on the Equality Act 2010, please go to the [www.legislation.gov.uk](http://www.legislation.gov.uk)

## 6 Centre recognition and approval

### Centre recognition

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Centres that have not previously offered Pearson qualifications need to apply for, and be granted, centre recognition and approval as part of the process for approval to offer individual qualifications.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by a new qualification and the conditions for automatic approval are met.

Guidance on seeking approval to deliver Pearson vocational qualifications is available at [qualifications.pearson.com](http://qualifications.pearson.com).

### Approvals agreement

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All centres are required to enter into an approval agreement, which is a formal commitment by the head or principal of a centre, to meet all the requirements of the specification and any associated codes, conditions or regulations. Pearson will act to protect the integrity of the awarding of qualifications. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of approval.

## 7 Quality assurance of centres

Quality assurance is at the heart of vocational qualifications. Centres will internally assess NVQs/Competence-based qualifications using internal quality assurance procedures to ensure standardisation of assessment across all learners. Pearson uses external quality assurance procedures to check that all centres are working to national standards. It gives us the opportunity to identify and provide support, if needed, to safeguard certification. It also allows us to recognise and support good practice.

For the qualifications in this specification, the Pearson quality assurance model is as described below.

Centres offering Pearson Edexcel NVQs/Competence-based qualifications will usually receive two standards verification visits per year (a total of two days per year). The exact frequency and duration of standards verifier visits must reflect the centre's performance, taking account of the number:

- of assessment sites
- and throughput of learners
- and turnover of assessors
- and turnover of internal verifiers.

For centres offering a full Pearson BTEC Apprenticeship (i.e. all elements of the Apprenticeship are delivered with Pearson through registration of learners on a Pearson BTEC Apprenticeship framework) a single standards verifier will be allocated to verify all elements of the Pearson BTEC Apprenticeship programme. If a centre is also offering stand-alone NVQs/Competence-based qualifications in the same sector as a full Pearson BTEC Apprenticeship, the same standards verifier will be allocated.

In order for certification to be released, confirmation is required that the National Occupational Standards (NOS) for assessment, verification and for the specific occupational sector are being consistently met.

Centres are required to declare their commitment to ensuring quality and to providing appropriate opportunities for learners that lead to valid and accurate assessment outcomes.

For further details, please go to the *UK NVQ Quality Assurance Centre Handbook* and the *Edexcel NVQs, SVQs and competence-based qualifications – Delivery Requirements and Quality Assurance Guidance*. Both of these documents are on our website, at [qualifications.pearson.com](http://qualifications.pearson.com).

## 8 Programme delivery

Centres are free to offer the qualifications using any mode of delivery (for example full-time, part-time, evening only, distance learning), that meets learners' needs. However, centres must make sure that learners have access to the resources identified in the specification and to the sector specialists delivering and assessing the units. Centres must have due regard to Pearson's policies that may apply to different modes of delivery.

Those planning the programme should aim to address the occupational nature of the qualification by:

- engaging with learners, initially, through planned induction, and subsequently through the involvement of learners in planning for assessment opportunities
- using naturally occurring workplace activities and products to present evidence for assessment against the requirements of the qualification
- developing a holistic approach to assessment by matching evidence to different assessment criteria, learning outcomes and units, as appropriate, thereby reducing the assessment burden on learners and assessors
- taking advantage of suitable digital methods to capture evidence.

## 9 Access and recruitment

Pearson's policy regarding access to its qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from any barriers that restrict access and progression
- there should be equal opportunities for all wishing to access the qualifications.

Centres must ensure that their learner recruitment process is conducted with integrity. This includes ensuring that applicants have appropriate information and advice about the qualification to ensure that it will meet their needs.

Centres should review applicants' prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

For learners with disabilities and specific needs, this review will need to take account of the support available to them during the delivery and assessment of the qualification. The review must take account of the information and guidance in *Section 10, Access to qualifications for learners with disabilities or specific needs*.

## 10 Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Pearson's Equality Policy requires that all learners should have equal opportunity to access our qualifications and assessments and that our qualifications are awarded in a way that is fair to every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Learners taking a qualification can be assessed in British sign language or Irish sign language where it is permitted for the purpose of reasonable adjustments.

Further information regarding access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*.

Details on how to make adjustments for learners with protected characteristics are given in the Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units.

Both documents are on our website at: [qualifications.pearson.com](http://qualifications.pearson.com)



# 11 Unit format

Each unit has the following sections.

## Unit title

This is the formal title of the unit that will appear on the learner's certificate.

## Unit reference number

Each unit is assigned a unit reference number that appears with the unit title on the Register of Regulated Qualifications.

## Level

All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.

## Credit value

All units have a credit value. When a learner achieves a unit, they gain the specified number of credits. The minimum credit value is 1 and credits can be awarded in whole numbers only.

## Guided learning hours

Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.

## Unit summary

This gives a summary of the purpose of the unit.

## Unit assessment requirements/evidence requirements

The SSC/B set the assessment/evidence requirements. Learners must provide evidence according to each of the requirements stated in this section.

## **Learning outcomes**

The learning outcomes of a unit set out what a learner knows, understands or is able to do as the result of a process of learning.

## **Assessment criteria**

The assessment criteria specify the standard required by the learner to achieve the learning outcome.



# **Unit 1:**

## **Produce and Recommend Detailed Design Solutions in Built Environment Design**

**Unit reference number:** L/505/9605

**Level:** 3

**Credit value:** 44

**Guided learning hours:** 260

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### **Unit summary**

This unit recognises, in addition to your technical competence as a designer, the paramount importance of health, safety and welfare requirements and environmental sustainability issues. It is about ensuring that all aspects of the production and installation design are integrated. You must understand the overall design approach, and be able to apply agreed techniques that will produce a holistic design that is coherent and consistent. It is about deciding what materials, components and systems will make up the finished product. You must have a sound knowledge of the available options, and be able to make informed choices.

This unit will challenge your technical competence. It is about producing the details of the design. It is about agreeing with stakeholders what you have done so far. You must be able to report on progress to date, justify the decisions that you have taken, and gain the trust and support of stakeholders for the next phase of the work.

It is also about identifying the hazards arising from the design, eliminating them where possible, and minimising the risks arising from the residual hazards. For the purposes of this unit, a hazard is something with the potential to cause harm, and a risk is the likelihood of harm being caused, and the degree of its severity. The strategy for managing risk uses a hierarchy of eliminate/reduce/inform/control. You must be able to identify hazards associated with the design, eliminate them where possible, and inform people about the residual risks.

## Unit assessment requirements/evidence requirements

The following ranges apply:

### Learning outcomes 1 and 2

- Format:
  - o in writing
  - o graphically
  - o electronically
- Project stages:
  - o Stage 4 (Design)
  - o Stage 5 (Build and Commission)
- Aspects of the overall project design:
  - o location and size
  - o assembly and construction
  - o components and systems
  - o environmental assessment objectives
- Maintain coherence and consistency:
  - o visual performance
  - o technical performance
  - o operation and maintenance
  - o requirements of relevant legislation and codes
  - o cost
  - o health and safety
  - o environmental quality and sustainability
  - o buildability/disassembly
  - o value management
  - o concurrent design and construction
  - o comparison of costs of new and renewable energy systems in buildings
  - o building services systems and controls
  - o minimise thermal bridging and air leakage
  - o minimise emissions and waste
  - o water usage
  - o energy use (U Value Calculations, Building Energy Assessment and Carbon Rating)
  - o protect archaeological and historically valuable resources
  - o carbon footprint

- Techniques:
  - o data research
  - o conformity with regulations
  - o specialist guidance and good practice
  - o relevant previous solutions and feedback
  - o computer modelling
  - o Building Information Modelling
  - o survey and investigation
  - o performance dynamic modelling

### **Learning outcomes 3 and 4**

- Production and installation requirements:
  - o construction requirements and compatibility with site constraints
  - o adaptation of existing structural elements
  - o practicality, buildability and disassembly
  - o standardisation and component co-ordination
  - o production and installation processes, scheduling, lead-in times, construction programming/sequencing and quality control
  - o expertise including experienced crafts people
  - o fit and tolerances
  - o production resources availability and performance (plant/equipment/people/skills)
  - o materials, components and systems availability and capability
  - o strategies to address interface issues on and off-site
  - o access/transportation/traffic management
  - o health and safety
  - o system commissioning
  - o operation and maintenance information
  
- Project stage:
  - o Stage 4 (Design)
  - o Stage 5 (Build and Commission)

- Standards and guidance:
  - o British Standards
  - o Assessment Schemes
  - o codes of practice
  - o BBA Certificates
  - o EU Standards
  - o trade and industry advisory guidance publications
  - o client standards

### **Learning outcomes 5 and 6**

- Technical factors:
  - o structural forms
  - o materials and component performance standards and fitness for purpose (form, performance, appearance, availability, sustainability, efficiency of use, component life, durability)
  - o available and projected technology (including renewable energy)
  - o prefabricated components and system options
  - o performance, quality, operation and maintenance requirements
  - o building physics (energy performance of structures, insulation, fire protection)
  - o materials form, performance, appearance, availability, sustainability, efficiency of use
  - o building services integration and control
  
- Environmental factors:
  - o local ecology
  - o hydrology (tides and currents and flood risk)
  - o water use
  - o exposure/shelter/shading
  - o heating, ventilation and cooling (solar gain, temperature range, natural ventilation, thermal and ventilation performance, thermal flows)
  - o thermal properties (heat loss and SAP variables, U values, thermal bridging, air tightness)
  - o daylight and illumination
  - o acoustics
  - o energy and natural resource use and management
  - o interaction of users and buildings
  - o carbon (embodied and in-use) and carbon rating
  - o resource/waste management
  - o pollution risk and reduction of emissions and waste

- Production and installation factors:
  - o construction requirements and compatibility with site constraints
  - o adaptation of existing structural elements
  - o practicality, buildability and disassembly
  - o standardisation and component coordination
  - o production and installation processes, scheduling, lead-in times, construction programming/sequencing and quality control
  - o expertise including experienced crafts people
  - o fit and tolerances
  - o production resources availability and performance (plant/equipment/people/skills)
  - o materials, components and systems availability and capability
  - o strategies to address interface issues on and off-site
  - o access/transportation/traffic management
  - o health and safety
  - o system commissioning
  - o operation and maintenance information
  
- Data:
  - o identified construction criteria
  - o existing detailed design solutions
  
- Design parameters:
  - o client, user and community requirements, expectations, options and preferences
  - o project type/purpose/use
  - o site, location and surrounding environment
  - o geology (seismology, ground movements and soil type)
  - o transport and infrastructure
  - o planning, urban and social integration
  - o design form (architectural, structural, civil, services)
  - o design quality (character/scale/aesthetics)
  - o function/spatial planning (occupancy/room information/access and egress incl. DDA, security)
  - o programme budget
  - o cost (including whole life)
  - o development timetable
  - o risk assessment and mitigation



- o cost planning (including life cycle cost) and value management)
- o procurement
- o in-use performance
- o environmental quality and sustainability
- o environmental assessment/certification schemes
- o protection of archaeological, architectural, cultural and historically valuable resources (significance/ status)
- o statutory, regulatory and legal constraints
- o standards and codes of practice
- o health and safety
- o form, function, materials, components and systems
- o loose fit design – for flexibility/adaptability/deconstruction/disassembly
- o buildability
- o operation and maintenance
  
- Project stage:
  - o Stage 4 (Design)
  - o Stage 5 (Build and Commission)
  
- Calculations:
  - o manual
  - o computer aided
  
- Investigations:
  - o data research
  - o survey
  - o conformity with regulations
  - o specialist guidance and good practice
  - o relevant previous solutions and feedback
  - o computer/simulation modelling
  - o calculation
  - o Building Information Modelling
  - o Computer-aided analysis

- Justify – by using:
  - o sketches
  - o drawings
  - o physical models
  - o computer models
  - o diagrams
  - o calculations
  - o written reports
  - o cost estimates
  - o programming
  - o specifications
  - o outline approvals from regulatory authorities

### **Learning outcomes 7 and 8**

- Interested parties:
  - o clients
  - o CDM
  - o HSE
  - o other designers
  - o project and construction managers
  - o contractors and specialist contractors
  - o operators and maintainers
  
- Relevant health and safety regulations and legal framework:
  - o CDM regulations and Approved Codes of Practice
  - o current health, safety and welfare regulations
  - o construction and building regulations
  - o civil law and criminal law
  - o duty of care
  
- Operations and individual activities:
  - o survey and investigation
  - o construction phase
  - o operation and maintenance
  - o altering
  - o demolition/disassembly
  - o commissioning and decommissioning

- Hazards:
  - o falls from height
  - o slips, trips and falls
  - o hit by falling or moving objects
  - o manual handling
  - o health issues
  - o power sources
  - o hazardous substances
  - o trapped by something collapsing or overturning
  - o confined spaces
  - o fire
  - o obstructions
  - o moving vehicles
  - o public access
  
- Potential consequences:
  - o injury
  - o causing ill health
  - o fatality
  - o damaging property
  - o adversely affecting the natural and built environment
  - o contravening legislative requirements
  - o litigation and prosecution
  - o working conditions and circumstances
  - o buildability
  
- Assess:
  - o likelihood of occurrence
  - o severity of harm incurred
  
- Risks:
  - o high
  - o medium
  - o low

- Develop and modify:
  - o analysis
  - o identifying interactions
  - o calculation
  - o testing
  - o selecting materials, components and systems detailing and specifying consideration of costs and benefits (including whole life costing)
  - o identifying project requirements
  - o planning investigation
  - o verifying competence and resources analysis
  - o identifying interactions assessing buildability
  
- Measures:
  - o eliminate
  - o reduce
  - o inform
  - o control
  
- Design documentation:
  - o drawings
  - o specifications
  - o calculations
  - o health and safety plans and files

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to confirm the purpose, methods and techniques for preparing detailed design solutions	1.1	Confirm the purpose of production and installation information and the format to be used appropriate to the project stage			
		1.2	Identify and confirm the aspects of the overall project design which interact with each other and which require production and installation information			
		1.3	Maintain coherence and consistency between the production and installation solutions and the overall design concept			
		1.4	Apply agreed techniques for investigating, calculating, testing, developing and specifying production and installation solutions			
2	Understand how to confirm the purpose, methods and techniques for preparing detailed design solutions	2.1	Explain how to confirm the purpose of production and installation information and the format to be used appropriate to the project stage			
		2.2	Describe how to identify which aspects of the overall project design interact with each other and require production and installation information			
		2.3	Explain how to confirm which aspects of the overall project design interact with each other and require production and installation information			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.4	Explain how to maintain coherence and consistency between the production and installation solutions and the overall design concept			
		2.5	Explain how to apply agreed techniques for investigating, calculating, testing, developing and specifying production and installation solutions			
3	Be able to confirm and select materials, components and systems	3.1	Investigate the production and installation requirements which are significant to the overall design			
		3.2	Confirm the priorities for the production and installation requirements of the agreed design relevant to the project stage			
		3.3	Select materials, components and systems which meet the identified production and installation requirements and standards and guidance			
		3.4	Assess whether existing design solutions which contain similar production and installation requirements might be relevant			
		3.5	Agree the solutions which best meet the significant production and installation requirements, and keep records of them for the project team			
4	Understand how to confirm and select materials, components and systems	4.1	Examine how to investigate the production and installation requirements which are significant to the overall design			
		4.2	Explain how to confirm the priorities for the production and installation requirements of the agreed design relevant to the project stage			
		4.3	Evaluate how to select materials, components and systems which meet the identified production and installation requirements and standards and guidance			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.4	Examine how to assess whether existing design solutions which contain similar production and installation requirements might be relevant			
		4.5	Evaluate how to agree the solutions which best meet the significant production and installation requirements			
		4.6	Explain how to keep records of solutions that best meet the significant production and installation requirements			
5	Be able to produce and recommend detailed design solutions	5.1	Identify, and confirm the technical, environmental, production and installation factors and data which will influence the production and installation solutions, and seek guidance where required			
		5.2	Agree design parameters for selecting and producing production and installation solutions appropriate to the project stage			
		5.3	Produce production and installation solutions by applying agreed design parameters			
		5.4	Record the data from calculations, investigations and analyses and pass them on for checking			
		5.5	Check the production and installation solutions against relevant technical, environmental, production and installation factors			
		5.6	Justify the features and benefits of the recommended production and installation solutions			
		5.7	Provide decision makers with relevant and accurate information at the right time and agree production and installation solutions			
		5.8	Maintain records of production and installation solutions			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Understand how to produce and recommend detailed design solutions	6.1	Describe how to identify the technical, environmental, production and installation factors and data which will influence the production and installation solutions			
		6.2	Explain how to confirm the technical, environmental, production and installation factors and data which will influence the production and installation solutions, and seek guidance where required			
		6.3	Evaluate how to agree design parameters for selecting and producing production and installation solutions appropriate to the project stage			
		6.4	Explain how to produce production and installation solutions by applying the agreed design parameters			
		6.5	Explain how to record and pass on the data from calculations, investigations and analyses			
		6.6	Explain how to check the production and installation solutions against relevant factors			
		6.7	Evaluate how to justify the features and benefits of the recommended production and installation solutions			
		6.8	Explain how to provide relevant and accurate information to decision makers			
		6.9	Evaluate how to agree production and installation solutions			
		6.10	Explain how to maintain records of production and installation solutions			



Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Be able to make design choices to address health and safety hazards and risks	7.1	Collaborate with interested parties to ensure the compliance of designs with relevant health and safety regulations and legal framework			
		7.2	Identify operations and individual activities that may give rise to hazards			
		7.3	Identify and prioritise the hazards arising from operations and individual activities			
		7.4	Obtain accurate information on any potential consequences resulting from the hazards			
		7.5	Assess the hazards to identify risks on an iterative basis throughout the development process			
		7.6	Eliminate identified hazards whilst developing and modifying production and installation solutions			
		7.7	Reduce identified levels of risk arising from hazards that are not eliminated when developing and modifying production and installation information			
		7.8	Identify collective and individual measures for reducing levels of risk			
		7.9	Record in design documentation any information needed by interested parties so that they can comply with their duties under relevant health and safety regulations			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
8	Understand how to make design choices to address health and safety hazards and risks	8.1	Propose how to collaborate with interested parties to ensure the compliance of designs with relevant health and safety regulations and legal framework			
		8.2	Describe how to identify operations and individual activities that may give rise to hazards			
		8.3	Describe how to identify as hazards arising from operations and individual activities			
		8.4	Examine how to prioritise the hazards arising from operations and individual activities			
		8.5	Explain how to obtain accurate information on any potential consequences resulting from the hazards			
		8.6	Examine how to assess the hazards to identify risks on an iterative basis throughout the development process			
		8.7	Explain how to eliminate identified hazards whilst developing and modifying production and installation solutions			
		8.8	Explain how to reduce identified levels of risk arising from hazards that are not eliminated when developing and modifying production and installation information			
		8.9	Describe how to identify collective and individual measures for reducing levels of risk			
		8.10	Explain how to record in design documentation any information needed by interested parties so that they can comply with their duties under relevant health and safety regulations			

Learner name: \_\_\_\_\_

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Learner signature: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 2:**

# **Maintain Professional Relationships and Practice in Built Environment Design**

**Unit reference number:** F/506/0105

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 30

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### **Unit aim**

This unit is concerned with the integration of your personal and professional competence. It is about getting the best from your relationships with other people. This is about 'emotional competence' – being confident about your own control of yourself, and relationships with the project team, so that you can deal with the concerns of others in a constructive way.

It is about communicating technical information to other people, and ensuring that they understand it. You must be able to 'talk their language', and maintain their trust in you and their support for your work. It is about practising ethically.

It is about taking part in meetings. This means getting involved with the business of the meeting and making appropriate contributions.

It is about your Continuing Professional Development (CPD) and reviewing your development needs, deciding how to meet them, carrying out your development plan and evaluating its success. This will lead on to an update of your need's review, and the process becomes ongoing. You must be able to produce and explain your CPD plans and records.

### **Unit assessment requirements/evidence requirements**

The following ranges apply:

#### **Learning outcomes 1 and 2**

- People:
  - o those to whom you report
  - o other professional colleagues
  - o those affected by your work

- Goodwill, trust and respect:
  - o demonstrating a duty of care
  - o ethical relationships
  - o professional independence
  - o honouring promises and undertakings
  - o open and honest relationships
  - o constructive relationships
  - o meeting equality/diversity legislation
  
- Inform, offer advice and clarify:
  - o orally
  - o in writing
  - o using graphics
  - o electronically
  
- Work activities:
  - o progress
  - o results
  - o achievements
  - o emerging threats
  - o risks
  - o opportunities

### **Learning outcomes 3 and 4**

- Purpose:
  - o sharing experience
  - o issuing instructions
  - o making decisions
  - o increasing understanding
  - o implementing a solution
  - o clarification to avoid disputes
  - o negotiation
  - o proposing a solution
  
- Present:
  - o orally
  - o in writing
  - o graphically
  - o electronically

- People receiving information and advice:
  - o same and other related occupations
  - o clients and customers
  - o technical and non-technical team members
  - o craftspeople and operatives
  - o senior and junior colleagues
  - o members of the public
  - o people with individual needs
  - o central and local government agencies

### **Learning outcomes 5 and 6**

- Recognised good practice:
  - o codes of practice within the occupation, discipline or organisation
  - o statute law
  - o duty of care
- Conflicts of interest:
  - o offers that may result in adverse conditions to other individuals or the community
  - o offers that involve the financial interest of the practitioner
  - o giving unfair advantage to the practitioner's family or friends
  - o acceptance of bribes or inducements

### **Learning outcomes 7 and 8**

- Purpose of meeting:
  - o updating progress
  - o decision making
  - o presentation
  - o team
- Meetings:
  - o internal to your organisation
  - o external to your organisation

## **Learning outcomes 9 and 10**

- Aims and objectives:
  - o preparation for career development
  - o short- and long-term goals
  - o intellectual challenge
  - o need for updating
  - o compliance with employer and professional requirements
  - o promotion or job change
  - o maintenance of existing competence
  - o improvements to existing competence
  - o commitment to professional excellence
  - o developing personal networks
  - o need to provide evidence of professional competence
  - o record of vocational competence
  - o awareness of development needs
- Sources of support and guidance:
  - o national/industry bodies
  - o professional institutions
  - o education and training providers
  - o in-house
  - o mentoring
  - o national occupational standards
  - o current publications
- Standards of competence:
  - o employer requirements
  - o job descriptions and personal specification
  - o professional institution requirement
  - o industry national occupational standards
- Development plan includes:
  - o priorities
  - o target dates
  - o development activities

- Development activities:
  - o formal courses
  - o research
  - o work experience
  - o personal study
  - o work shadowing/secondments
  - o workshops

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.



## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to maintain relationships with other people	1.1	Maintain working relationships with people which promote goodwill, trust and respect			
		1.2	Inform people about work activities in an appropriate level of detail and with an appropriate degree of urgency			
		1.3	Offer advice and help to people about work activities with sensitivity and encourage questions, requests for clarification and comments			
		1.4	Clarify with people objections to proposals and resolve conflicts and differences of opinion in ways which minimise offence, and maintain goodwill, trust and respect			
2	Understand how to maintain relationships with other people	2.1	Explain how to maintain working relationships with people which promote goodwill, trust and respect			
		2.2	Explain how to inform people about work activities in an appropriate level of detail and with an appropriate degree of urgency			
		2.3	Propose how to offer advice and help to people about work activities			
		2.4	Explain how to clarify with people objections to proposals			
		2.5	Propose how to resolve conflicts and differences of opinion in ways which minimise offence, and maintain goodwill, trust and respect			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to exchange information and present advice on technical issues	3.1	Obtain information which is sufficiently detailed for the purpose			
		3.2	Present technical information and advice which is complete, summarised accurately and relevant to technical issues			
		3.3	Present technical recommendations which are clear, accurate and valid, and which represent the best advice possible given the information and resources available			
		3.4	Give technical instructions and guidance which are likely to be understood by the people who will follow them			
		3.5	Present technical information and advice using a style of communication which is appropriate to the purpose and people receiving information and advice			
		3.6	Adapt and modify technical information where people are having difficulties in understanding it			
4	Understand how to exchange information and present advice on technical issues	4.1	Explain how to obtain information which is sufficiently detailed for the purpose			
		4.2	Explain how to present technical information and advice			
		4.3	Explain how to present technical recommendations			
		4.4	Propose how to give technical instructions and guidance			
		4.5	Explain how to present technical information and advice using a style of communication which is appropriate to the purpose and people receiving information and advice			
		4.6	Explain how to adapt and modify technical information where people are having difficulties in understanding it			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Be able to operate within an ethical framework	5.1	Operate in accordance with recognised good practice			
		5.2	Identify the limits of your professional expertise and working within them			
		5.3	Take clear and unequivocal personal responsibility for personal decisions			
		5.4	Confirm the terms of reference and the expectations of the people involved in contracts			
		5.5	Review offers to see if they are illegal or may generate conflicts of interest and reject any that do			
6	Understand how to operate within an ethical framework	6.1	Explain how to operate in accordance with recognised good practice			
		6.2	Describe how to identify the limits of professional expertise and work within them			
		6.3	Explain how to take personal responsibility for personal decisions			
		6.4	Explain how to confirm the terms of reference and the expectations of the people involved in contracts			
		6.5	Examine how to review offers to see if they are illegal or may generate conflicts of interest			
		6.6	Evaluate how to reject any offers that are illegal or may generate conflicts of interest			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Be able to organise and participate in meetings	7.1	Clarify the purpose of the meeting with the appropriate persons			
		7.2	Ensure that the agenda and other relevant documentation is prepared, produced and forwarded to the appropriate persons, within specified deadlines			
		7.3	Ensure that your contributions to the meeting are clear, concise and relevant			
		7.4	Ensure that contributions to the meeting help to clarify problems and also identify and assess possible action			
		7.5	Make accurate notes during meetings to the necessary level of detail			
		7.6	Produce clear and accurate records of meetings in the standard format including agreed action points and within agreed deadlines			
		7.7	Ensure that people receive records of meetings and decisions made, promptly			
8	Understand how to organise and participate in meetings	8.1	Explain how to clarify the purpose of the meeting with the appropriate persons			
		8.2	Explain how to ensure that the agenda and other relevant documentation is prepared, produced and forwarded to the appropriate persons, within specified deadlines			
		8.3	Explain how to ensure that contributions to the meeting are clear, concise and relevant			
		8.4	Explain how to ensure that contributions to the meeting help to clarify problems and also identify and assess possible action			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		8.5	Explain how to make accurate notes during meetings to the necessary level of detail			
		8.6	Explain how to produce clear and accurate records of meetings in the standard format and within agreed deadlines			
		8.7	Explain how to ensure that people receive records of meetings and decisions made, promptly			
9	Be able to undertake personal development	9.1	Identify your aims and objectives for undertaking personal development			
		9.2	Identify and contact sources of support and guidance for undertaking personal development			
		9.3	Agree relevant standards of competence against which personal development can be measured			
		9.4	Review the current personal level of performance against the identified standards of competence and identify personal development needs			
		9.5	Prepare a development plan for achieving identified development needs			
		9.6	Undertake development activities in accordance with the development plan, record them and review their effectiveness			
		9.7	Review achievement of identified development needs and record evidence of competence gained against the identified standards of competence			
		9.8	Review, revise and update aims and objectives to suit changing circumstances			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
10	Understand how to undertake personal development	10.1	Describe how to identify aims and objectives for undertaking personal development			
		10.2	Describe how to identify sources of support and guidance for undertaking personal development			
		10.3	Explain how to contact sources of support and guidance for undertaking personal development			
		10.4	Evaluate how to agree relevant standards of competence against which personal development can be measured			
		10.5	Examine how to review the current personal level of performance against the identified standards of competence			
		10.6	Describe how to identify personal development needs			
		10.7	Explain how to prepare a development plan for achieving identified personal development needs			
		10.8	Evaluate how to undertake development activities in accordance with the development plan and record them			
		10.9	Examine how to review the effectiveness of development activities			
		10.10	Examine how to review achievement of identified development needs			
		10.11	Explain how to record evidence of competence gained against the identified standards of competence			
		10.12	Examine how to review aims and objectives to suit changing circumstances			
		10.13	Explain how to revise and update aims and objectives to suit changing circumstances			

Learner name: \_\_\_\_\_

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*(if sampled)*

## Unit 3:

# Investigate Factors Affecting Project Development in Built Environment Design

**Unit reference number:** M/504/7480

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 50

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### Unit aim

This unit is concerned with gathering all the information that you will need for your work on design projects. It is about deciding what information you need, and how it will be collected, analysed and presented.

You must be able to identify the parameters of the project, the data that you need to collect, where it will come from, and how you obtain it. It is about collating and evaluating the information that you have gathered.

You must be able to assemble all this information, and present the findings of your research to colleagues.

### Unit assessment requirements/evidence requirements

The following ranges apply:

#### Learning outcomes 1 and 2

- Requirements:
  - o functional requirement
  - o performance requirements
  - o cost
  - o time
- Factors:
  - o historical
  - o conservation
  - o social
  - o visual and spatial
  - o ecological and environmental
  - o construction



- o measured survey
- o physical survey
- Analyse and assess:
  - o comparison with similar projects
  - o standard checklists
  - o reference to relevant comparative research
- Sources:
  - o client records
  - o tenants
  - o site owners
  - o site managers
  - o previous owners
  - o local authorities
  - o statutory authorities
  - o public utilities
  - o government departments
  - o public and specialist libraries and archives
  - o internet

### **Learning outcomes 3 and 4**

- Methods and techniques:
  - o comparison with similar projects
  - o standard checklists
  - o reference to relevant comparative research
- Sources:
  - o client records
  - o tenants
  - o site owners
  - o site managers
  - o previous owners
  - o local authorities
  - o planning and policy documents
  - o building and construction regulations
  - o statutory authorities
  - o public utilities

- o government departments
- o public and specialist libraries and archives
- o original designs
- o contractors and suppliers
- o experts including experienced craftspeople
- o existing health and safety files
- o community consultations
  
- Factors:
  - o historical
  - o conservation
  - o social
  - o visual and spatial
  - o ecological and environmental
  - o construction
  - o infrastructure
  - o measured survey
  - o physical survey
  
- Opportunities and constraints:
  - o use/function
  - o durability
  - o legal and regulatory constraints
  - o physical and technical constraints
  - o health and safety
  - o anticipated development timetable
  - o environmental quality and sustainability
  - o standardisation
  - o purpose, location, cost and time
  - o durability
  - o occupancy
  - o significance/status
  - o community benefits
  - o energy management
  - o renewable energies technologies
  - o waste management
  - o water management

- Present:
  - o orally
  - o in writing
  - o graphically
  - o electronically

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to identify investigation requirements	1.1	Collect information about the requirements for the project and identify any gaps and uncertainties			
		1.2	Identify the factors for investigation that may be significant for the planned development			
		1.3	Analyse and assess how accurate, up to date and complete the existing information is, and deciding what additional information is needed			
		1.4	Identify what data is needed, its source, how accurate the data needs to be and what information is required from investigation			
2	Understand how to identify investigation requirements	2.1	Explain how to collect information about the requirements for the project			
		2.2	Describe how to identify any gaps and uncertainties in information about the requirements of the project			
		2.3	Describe how to identify factors for investigation that may be significant for the planned development			
		2.4	Examine how to analyse and assess how accurate, up to date and complete the existing information is			
		2.5	Evaluate how to decide what additional information is needed			
		2.6	Describe how to identify what data is needed, its source, how accurate the data needs to be and what information is required from the investigation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to investigate data and present findings	3.1	Choose methods and techniques for the investigation which are valid, reliable and consistent with legal requirements			
		3.2	Collect and collate relevant data from identified sources of information			
		3.3	Accurately analyse and evaluate the investigation data which has been collected about all of the significant trends and factors affecting the project development			
		3.4	Identify and accurately record the opportunities and constraints for project development options			
		3.5	Identify and assess previous solutions which are similar to the current circumstances to see whether they are relevant and useful			
		3.6	Present accurate findings which are unambiguous, which clearly describe all the important factors, and which detail the implications for the project brief			
		3.7	Assemble any supporting data which is relevant to the study, but which is not included in the report, store it safely and index it clearly for future reference			
4	Understand how to investigate data and present findings	4.1	Evaluate how to choose methods and techniques for the investigation			
		4.2	Explain how to collect and collate relevant data from identified sources			
		4.3	Examine how to analyse the investigation data which has been collected about all of the significant trends and factors affecting the project development			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.4	Evaluate the investigation data which has been collected about all of the significant trends and factors affecting the project development			
		4.5	Describe what to identify as opportunities and constraints for project development options			
		4.6	Explain how to record the opportunities and constraints for project development options			
		4.7	Describe how to identify previous solutions to see whether they are relevant and useful			
		4.8	Examine how to assess previous solutions to see whether they are relevant and useful			
		4.9	Explain how to present findings which describe all the important factors and detail implications for the brief			
		4.10	Explain how to assemble, store and index any supporting data which is relevant to the study, but which is not included in the report			

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# Unit 4: Prepare Drawings and Schedules in Built Environment Design

**Unit reference number:** L/504/7518

**Level:** 3

**Credit value:** 15

**Guided learning hours:** 70

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## Unit aim

This unit is concerned with producing drawings and schedules. You must be able to choose and use the standard drawing conventions, assemble the design information that you need, produce your drawings, have them checked and approved, and keep your registers and records up to date.

It is also about producing schedules. You must be able to collect the information that you need, to check its accuracy, to prepare schedules, have them approved, and keep records up to date.

## Unit assessment requirements/evidence requirements

The following ranges apply:

### Learning outcomes 1 and 2

- Drawings:
  - o location, assembly, component
  - o sketches
  - o working drawings
  - o presentation drawings
  - o coordination drawings
- Purpose (of drawing):
  - o convey the design intent
  - o coordination
  - o discipline specific
  - o interdisciplinary coordination
  - o obtain consents
  - o procurement
  - o contract



- o production
- o as built/final issue
- o presentation
- o analysis
- o factory manufacture
- o site installation
- o sub-contract and specialist details
  
- Methods and media:
  - o manual
  - o electronic
  
- Drawing conventions:
  - o detailing standards
  - o codes of practice
  - o current industry practice
  - o methods of coordination (e.g. Common Arrangement)
  
- Registers and records:
  - o incoming and outgoing drawing and document registers
  - o records of document approval and revision
  - o quality assurance documentation
  
- Checks and approvals cover:
  - o format
  - o presentation
  - o accuracy
  - o technical content
  - o completeness
  - o referencing
  - o cross-referencing and correlation with associated documents
  - o status
  - o company standards
  - o positioning
  - o dimensions
  - o tolerances
  - o composition
  - o fixing

- o annotation
- o symbols and conventions
- o interoperability
- o co-ordination
- o revision control

### **Learning outcomes 3 and 4**

- Schedules:
  - o materials
  - o construction elements
  - o components
  - o finishes
  - o fixtures and furnishings
- Schedules will be used for:
  - o obtaining consents
  - o procurement
  - o contract
  - o production
  - o record payments
  - o presentation
  - o as built/final issue
  - o factory manufacture
  - o site installation
  - o sub-contract and specialist details
  - o room data
- Methods and media:
  - o manual
  - o electronic
- Register and records:
  - o incoming and outgoing drawing and document registers
  - o records of document approval and revision

- Checks and approvals cover:
  - o format
  - o presentation
  - o accuracy
  - o technical content
  - o completeness
  - o referencing
  - o cross-referencing and correlation with associated documents and information
  - o status
  - o company standards
  - o interoperability
  - o coordination
  - o non-duplication
  - o revision control

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to prepare drawings	1.1	Produce drawings which are complete, accurate, and comply with the design requirements and are suitable for the purpose			
		1.2	Select methods and media which are suitable for the drawings required, and which can be produced with the resources and time available			
		1.3	Use standard drawing conventions and identify and justify any deviations from them			
		1.4	Clarify any information to be included which is incomplete and inconsistent and make accurate amendments			
		1.5	Keep registers and records of drawings which are complete, accurate and up to date			
		1.6	Obtain necessary checks and approvals for the content and presentation of drawings			
		1.7	Use methods for producing drawings and record keeping consistent with quality assurance procedures			
2	Understand how to prepare drawings	2.1	Explain how to produce drawings which are suitable for purpose			
		2.2	Evaluate how to select methods and media which are suitable for the drawings required			
		2.3	Explain how to use standard drawing conventions			
		2.4	Evaluate how to justify any deviations from standard drawing conventions			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.5	Explain how to clarify any information to be included which is incomplete and inconsistent, and make accurate amendments			
		2.6	Explain how to keep registers and records of drawings			
		2.7	Explain how to obtain necessary checks and approvals for the content and presentation of drawings			
		2.8	Explain how to use methods for production and record keeping which are consistent with quality assurance procedures			
3	Be able to prepare schedules	3.1	Select a format for the schedules which meets the requirements of the production process, the method of measurement used and the way in which the schedules will be used			
		3.2	Measure the dimensions accurately from the source documents and the site according to standard requirements			
		3.3	Check and confirm that the data is complete and reference the data, correctly, to the specification, drawings, manufacturer's references and other appropriate standards			
		3.4	Clarify any information to be included which is incomplete and inconsistent and make accurate amendments			
		3.5	Prepare schedules which include descriptions and quantities			
		3.6	Select methods and media which are suitable for the schedules required, and which can be produced with the resources and time available			
		3.7	Keep registers and records which are complete, accurate and up to date			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Understand how to prepare schedules	3.8	Obtain necessary checks and approvals for the content and presentation of schedules			
		3.9	Use methods for production and record keeping which are consistent with quality assurance procedures			
		4.1	Evaluate how to select a format for the schedules which meets the requirements of the production process, the method of measurement used and the way in which the schedules will be used			
		4.2	Explain how to measure the dimensions from source documents and the site			
		4.3	Explain how to check and confirm that the data is complete			
		4.4	Explain how to reference the data to the specification, drawings, manufacturer's references and other appropriate standards			
		4.5	Explain how to clarify and make accurate amendments to any information to be included which is incomplete and inconsistent			
		4.6	Explain how to prepare schedules which include descriptions and quantities			
		4.7	Evaluate how to select methods and media which are suitable for the schedules required			
		4.8	Explain how to keep complete, accurate and up-to-date registers and records			
		4.9	Explain how to obtain checks and approvals			
		4.10	Explain how to use methods for production and record keeping which are consistent with quality assurance procedures			

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*(if sampled)*

# **Unit 5: Collate Project Information and Prepare Specifications in Built Environment Design**

**Unit reference number: J/504/7520**

**Level: 3**

**Credit value: 12**

**Guided learning hours: 40**

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## **Unit aim**

This unit covers two areas of competence. Firstly, it covers implementing systems for collating and checking project information for design projects. Secondly, it covers preparing design specifications. It is about implementing your information system to ensure a successful project. You must be able to assess the status and collate project information, identify discrepancies, obtain checks and approvals and keep people informed.

It covers method specifications, identified from standard sources and modified as necessary. These describe how the finished products should be constructed. You must be able to produce specifications based on current information, check and cross-reference them, and have them certified.

## **Unit assessment requirements/evidence requirements**

The following ranges apply:

### **Learning outcomes 1 and 2**

- Systems:
  - o incoming and outgoing drawing and document registers
  - o records of document approval and revision
  - o revision management
  - o methods of coordination (e.g. common arrangement)
  - o electronic data transfers
  - o integration of interdisciplinary data
  - o technical query resolution



- Information:
  - o digital models
  - o electronic
  - o graphical and non-graphical data files
  - o specifications
  - o drawings
  - o bills of quantities
  - o schedules
  - o health and safety plans
- Project stage:
  - o Stage 2 (Concept)
  - o Stage 3 (Definition)
  - o Stage 4 (Design)
  - o Stage 5 (Build and Commission)
- Criteria:
  - o format
  - o presentation
  - o accuracy
  - o technical content
  - o completeness
  - o referencing
  - o cross referencing and correlation with associated documents
  - o status
  - o project brief
  - o contract conditions

### **Learning outcomes 3 and 4**

- Project requirements:
  - o to obtain consents
  - o procurement
  - o contract
  - o production
- Source information:
  - o design information
  - o statutory regulations
  - o British and EU Standards

- o codes of practice
- o technical literature
- o company standards
- Verification:
  - o format (e.g. National Building Specification)
  - o presentation
  - o accuracy
  - o technical content
  - o completeness
  - o referencing
  - o cross-referencing and correlation with associated documents
  - o status
  - o current

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to collate and check project information	1.1	Implement systems for monitoring and controlling the production of information throughout the project stages			
		1.2	Assess the status of the information and pass it on to people who need it			
		1.3	Collaborate with other members of the project team to achieve integrated project design information			
		1.4	Collate information when they have been produced and check them against the agreed criteria			
		1.5	Identify queries, discrepancies and inconsistencies in the information and refer them to other members of the project team			
		1.6	Collate revisions, requirements and additions to the design information and distribute them promptly to appropriate members of the project team			
		1.7	Obtain necessary checks and approvals of information when they are needed			
		1.8	Produce up-to-date and accurate information on progress and circulate it to the people who need the information			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand how to collate and check project information	2.1	Explain how to implement systems for monitoring and controlling the production of information throughout the project stages			
		2.2	Examine how to assess the status of the information			
		2.3	Explain how to pass on the status of the information			
		2.4	Propose how to collaborate with other members of the project team to achieve integrated project design information			
		2.5	Explain how to collate information when they have been produced			
		2.6	Explain how to check information against the agreed criteria			
		2.7	Describe what to identify as queries, discrepancies and inconsistencies in the information			
		2.8	Explain how to refer queries, discrepancies and inconsistencies in the information to other members of the project team			
		2.9	Explain how to collate revisions, requirements and additions to the design information and distribute them to responsible members of the design team			
		2.10	Explain how to obtain necessary checks and approvals of information			
		2.11	Explain how to produce and circulate information on progress			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to prepare design specifications	3.1	Produce a specification to suit the project requirements which is based on identified, current source information which has been verified			
		3.2	Select, and where necessary amend technical clauses from standard sources, which define the quality, type and standard of the materials, components and finished work			
		3.3	Check that the specification is consistent with the currently agreed design and other associated design documentation, and update it promptly and accurately when the design changes			
		3.4	Format the specification so that it is referenced and cross-referenced accurately			
		3.5	Obtain necessary verification for the content and presentation of specifications			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Understand how to prepare design specifications	4.1	Explain how to produce a specification to suit the project requirements based on current source information			
		4.2	Evaluate how to select technical clauses from standard sources, which define the quality, type and standard of the materials, components and finished work			
		4.3	Explain how to amend technical clauses from standard sources, which define the quality, type and standard of the materials, components and finished work			
		4.4	Explain how to check that the specification is consistent with the current design and other design documentation and update the specification promptly and accurately when the design changes			
		4.5	Explain how to format the specification			
		4.6	Explain how to obtain necessary verification for the content and presentation of specifications			

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## Unit 6:

# Plan, Carry Out and Present Measured Surveys in Built Environment Design

**Unit reference number:** D/506/1276

**Level:** 3

**Credit value:** 15

**Guided learning hours:** 70

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### Unit aim

This unit is concerned with carrying out measured surveys. This unit will test your mathematical knowledge and your competence with surveying instruments. It is about making the preparations – finding out what needs to be surveyed, obtaining the suitable equipment and the spares, and briefing affected parties beforehand about the work.

You must know what the survey consists of, what equipment you will need, and who will need the results. It is about doing the survey work – accurately recording and calculating observations and measurements. You will need to produce clear and accurate records of your work, and of the time you spent doing it.

It is about checking your survey records, and collating and presenting them to those who need them. You must be able to analyse your field surveys, and present a report to those who need it.

### Unit assessment requirements/evidence requirements

The following ranges apply:

#### Learning outcomes 1 and 2

- Method:
  - o approximate measured
  - o detailed measurement of all specified features
  
- Equipment:
  - o mechanical
  - o optical
  - o electronic



- People
  - o colleagues
  - o external contractors
  - o people and organisations who may be affected by the survey
- Survey arrangements:
  - o risk assessment
  - o survey responsibilities
  - o details of the survey method
  - o the site
  - o the equipment
  - o calibration certificates
- Safety
  - o personal safety
  - o equipment and clothing
  - o safe use of access equipment
  - o health and safety practice and regulations
  - o industry codes of practice
  - o regulations applying to the survey site
  - o signage
  - o site access and working areas
  - o traffic management
  - o live services and equipment

### **Learning outcomes 3 and 4**

- Safe working practices:
  - o personal safety
  - o equipment and clothing
  - o safe use of access equipment
  - o health and safety practice and regulations
  - o industry codes of practice
  - o regulations applying to the survey site
  - o signage
  - o site access and working areas
  - o traffic management
  - o live services and equipment

- Circumstances and conditions:
  - o climatic (variations, tolerances and environmental risks)
  - o live conditions (e.g. buildings and sites in use, services, roads, railways, runways)
  - o unforeseen circumstances
  - o emergency circumstances
  - o topography
  - o water
  - o obstacles
  - o planned circumstances
  - o security
- Equipment:
  - o mechanical
  - o optical
  - o electronic

### **Learning outcomes 5 and 6**

- Survey information:
  - o approximate measured
  - o detailed measurement of all specified features
  - o graphic
- Present:
  - o orally
  - o in writing
  - o graphically
  - o digitally

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to prepare for measured surveys	1.1	Confirm the extent of the measured survey and the survey method before starting work			
		1.2	Arrange for suitable equipment, and enough spares for on site maintenance, to be brought to the site and kept safely and securely			
		1.3	Check and adjust equipment so that it is accurate before it is used for taking measurements			
		1.4	Brief the people who will be involved in the survey about the survey arrangements and the safety arrangements			
		1.5	Check and confirm that signs, arrangements for personal safety, equipment and site access conform to good practice, legislation and regulation			
2	Understand how to prepare for measured surveys	2.1	Explain how to confirm the extent of the measured survey and the survey method before starting the work			
		2.2	Explain how to arrange for suitable equipment, and enough spares for on site maintenance, to be brought to the site and kept safely and securely			
		2.3	Explain how to check and adjust equipment			
		2.4	Explain how to brief the people who will be involved in the survey about survey arrangements and the safety arrangements			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.5	Explain how to check and confirm that signs, arrangements for personal safety, equipment and site access conform to good practice, legislation and regulations			
3	Be able to carry out measured surveys	3.1	Conform to safe working practices when on the site			
		3.2	Set accurate horizontal and vertical controls and record them			
		3.3	Take accurate observations and measurements using valid methods			
		3.4	Change work procedures and practices to allow for different circumstances and conditions			
		3.5	Record survey data clearly and accurately and store it securely for later analysis and inspection			
		3.6	Keep a clear and accurate record of the time spent on the survey and of any problems that arise			
		3.7	Maintain the equipment in operating condition and store it securely			
		3.8	Restore areas which have been opened up for access			
4	Understand how to carry out measured surveys	4.1	Explain how to conform to safe working practices when on the site			
		4.2	Explain how to set and record accurate horizontal and vertical controls			
		4.3	Explain how to take accurate observations and measurements			
		4.4	Explain how to change work procedures and practices to allow for different circumstances and conditions			
		4.5	Explain how to record and store survey data			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.6	Explain how to keep a clear and accurate record of the time spent on the survey and of any problems that arise			
		4.7	Explain how to maintain the equipment in operating condition and store securely			
		4.8	Explain how to restore areas which have been opened up for access			
5	Be able to analyse and present measured surveys	5.1	Collect together enough survey information to allow an accurate analysis to be made			
		5.2	Check and verify the survey information			
		5.3	Analyse the survey information accurately			
		5.4	Present the survey information, the commentary and any support information accurately, clearly and in a format which is suitable for those who need to use it			
		5.5	Advise people who will be using the survey information on how to interpret it			
6	Understand how to analyse and present measured surveys	6.1	Explain how to collect together enough survey information to allow an accurate analysis to be made			
		6.2	Explain how to check and verify the survey information			
		6.3	Examine how to analyse the survey information			
		6.4	Explain how to present the survey information, the commentary and any support information accurately, clearly and in a format which is suitable for those who need to use it			
		6.5	Propose how to advise people who will be using the survey information on how to interpret it			

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Date: \_\_\_\_\_



# **Unit 7:**

## **Carry Out and Present Condition Surveys in Built Environment Design**

**Unit reference number:** F/504/7483

**Level:** 3

**Credit value:** 16

**Guided learning hours:** 60

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### **Unit aim**

This unit is concerned with undertaking condition surveys and presenting your reports.

It is about actually doing the surveys. The 'asset' could be a building, a highway, a bridge, a reservoir, or any loadbearing or defensive construction. You must be able to confirm the scope of the work, organise what you need to carry out the survey, obtain the necessary permissions, take the physical measurements and record the results.

It is about collating the results of the survey and presenting them in a report. You must be able to demonstrate your analytical and report-writing skills, and your technical judgement (both quantitative and qualitative).

### **Unit assessment requirements/evidence requirements**

The following ranges apply:

#### **Learning outcomes 1 and 2**

- Purpose of condition survey:
  - o stability
  - o stock condition
  - o maintenance
  - o legal
  - o refurbishment, alteration or extension
  - o health and safety
  - o environmental



- Record:
  - o written
  - o graphical
  - o electronic
  - o photographic

### **Learning outcomes 3 and 4**

- Information – sources:
  - o inspection observations and measurements
  - o photographs
  - o maps
  - o charts
  - o drawings
  - o digital data
  - o archive records
  - o legal documents
  - o client records
  - o tenants
  - o site owners
  - o site managers
  - o previous owners
  - o local authorities
  - o statutory authorities
  - o public utilities
  - o government department consultative bodies (including heritage bodies)
  - o investigation and research findings
  - o industry standard and legislation
  - o published technical data

This unit must be assessed in a work environment, in accordance with the:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to inspect condition of assets	1.1	Confirm the objectives and purpose of the condition survey			
		1.2	Consult the condition survey brief, undertake risk assessment and obtain the equipment and resources and specialist advice that will be needed			
		1.3	Check and confirm, before starting the condition survey, that people who will be affected have given their permission			
		1.4	Take accurate observations and measurements which are necessary for the inspection and record them clearly, accurately and completely using agreed formats			
		1.5	Identify and record the need for further investigations when observations are inconsistent with existing data and expected findings			
2	Understand how to inspect condition of assets	2.1	Explain how to confirm the objectives and purpose of the condition survey			
		2.2	Explain how to consult the condition survey brief			
		2.3	Evaluate how to undertake risk assessment			
		2.4	Explain how to obtain the equipment and resources and specialist advice that will be needed			
		2.5	Explain how to check and confirm, before starting the condition survey, that people who will be affected have given their permission			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.6	Explain how to take and record accurate observations and measurements which are necessary for the inspection, using agreed formats			
		2.7	Describe how to identify the need for further investigation when observations are inconsistent with existing data and expected findings			
		2.8	Explain how to record the need for further investigations when observations are inconsistent with existing data and expected findings			
3	Be able to prepare condition survey reports and records	3.1	Assemble and collate information on the condition survey			
		3.2	Analyse all relevant evidence and information using appropriate methods and techniques and make a summary of condition			
		3.3	Prepare a condition survey report which meets the requirement of the brief			
		3.4	Explain clearly where and why inspection and measurement has not been possible			
		3.5	Answer questions about the condition survey and give appropriate clarification			
		3.6	Maintain internal records which are clear, accurate and complete and conform to accepted professional and statutory requirements			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Understand how to prepare condition survey reports and records	4.1	Explain how to assemble and collate information on the condition survey			
		4.2	Examine how to analyse all relevant evidence and information using appropriate methods and techniques and make a summary of condition			
		4.3	Explain how to prepare a condition survey report			
		4.4	Explain how to explain clearly where and why inspection and measurement has not been possible			
		4.5	Explain how to answer questions about the condition survey and give appropriate clarification			
		4.6	Explain how to maintain internal records			

Learner name: \_\_\_\_\_

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(if sampled)



# Unit 8: Monitor Tests and Present Reports in Built Environment Design

**Unit reference number:** H/504/7511

**Level:** 3

**Credit value:** 15

**Guided learning hours:** 70

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## Unit aim

This unit is concerned with carrying out tests and presenting the results. It is about getting the tests done, and being responsible for them. You must be able to confirm the scope of the work and the methods that you will use, to obtain the necessary permissions, to prepare a plan for the testing, and to carry out the tests to plan and within budget.

It is about presenting the test results and sharing the information. You must be able to process the test result to pull them together into a competent report, and to present the report to the stakeholders.

## Unit assessment requirements/evidence requirements

The following ranges apply:

### Learning outcomes 1 and 2

- Objectives:
  - o geographical
  - o structural
  - o environmental
  - o material
- Purpose:
  - o performance
  - o routine
  - o contingency

- Test:
  - o physical
  - o condition
  - o performance
  - o destructive
  - o non-destructive
  - o qualitative
  - o quantitative
  - o environmental
  - o materials
- Processes:
  - o as defined by relevant legislation
  - o code of practice as accepted by recognised authorities in the field
- Methods:
  - o visual
  - o approximate estimated
  - o detailed assessment of specified features
- Permission from:
  - o client
  - o site owner and occupiers
  - o occupiers
  - o adjoining owners and occupiers
  - o notifiable authorities
- Health and safety requirements:
  - o personal safety equipment and clothing
  - o safe use of access equipment (including ladders, tower scaffolds, hydraulic hoists)
  - o industry codes of practice and regulations
  - o identified by risk assessments
- Plans – will include:
  - o risk assessment
  - o arrangements for waste disposal
  - o dealing with contingencies
  - o timescale
  - o budget

### **Learning outcomes 3 and 4**

- Methods of analysis:
  - o comparison with standard test results
  - o referenced to accepted principles and practice
- Present:
  - o orally
  - o in writing
  - o graphically
  - o electronically

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.



## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to confirm and monitor tests	1.1	Confirm the objectives and purpose of the testing			
		1.2	Collate existing information and identify where it meets the objectives and purpose of the testing			
		1.3	Confirm relevant test processes and methods			
		1.4	Seek and obtain permission to carry out the test from people who might be affected and from any legal authorities who have to be notified			
		1.5	Confirm suitable quality assurance standards and health and safety requirements			
		1.6	Prepare a plan for the test and schedule it to meet the objectives and purpose of the test			
		1.7	Monitor tests and recommend modifications to maintain compliance with test requirements			
2	Understand how to confirm and monitor tests	2.1	Explain how to confirm the objectives and purpose of the testing			
		2.2	Explain how to collate existing information			
		2.3	Describe how to identify where existing information meets the objectives and purpose of testing			
		2.4	Explain how to confirm relevant test processes and methods			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.5	Explain how to seek and obtain permission to carry out the test from people who might be affected and from any legal authorities who have to be notified			
		2.6	Explain how to confirm suitable standards of quality assurance and health and safety requirements			
		2.7	Explain how to prepare a plan for the test			
		2.8	Examine how to schedule a plan for the test			
		2.9	Examine how to monitor tests			
		2.10	Propose how to recommend modifications to tests to maintain compliance with test requirements			
3	Be able to present test results	3.1	Collect and verify results from tests			
		3.2	Process the results using the most appropriate methods of analysis and chart them in a format that will help people to use them			
		3.3	Use the test results to produce an accurate report which identifies development constraints, opportunities and feasibility			
		3.4	Present the report including a commentary on the results			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Understand how to present test results	4.1	Explain how to collect results from tests			
		4.2	Examine how to verify results from tests			
		4.3	Explain how to process the results using the most appropriate methods of analysis and chart them in a format that will help people to use it			
		4.4	Explain how to use the test results to produce an accurate report which identifies development constraints, opportunities and feasibility			
		4.5	Explain how to present the report and commentary			

Learner name: \_\_\_\_\_

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(if sampled)

## Unit 9:

# Report on and Prepare Applications to Secure Consents in Built Environment Design

**Unit reference number:** F/504/7516

**Level:** 3

**Credit value:** 7

**Guided learning hours:** 20

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### Unit aim

This unit is concerned with preparing applications to secure statutory consents. You must find out what the constraints are, identify design solutions that satisfy them, and produce a report. It is about actually preparing the applications.

You must be able to show what requirements the relevant authorities seek and the timing thereof, to identify the processes and to gather further information if consent is refused.

### Unit assessment requirements/evidence requirements

The following ranges apply:

#### Learning outcomes 1 and 2

- Statutory approvals:
  - o development and use of land
  - o structures
  - o buildings and highways
  - o renewal and clearance
  - o health, safety and welfare
  - o transport infrastructure
  - o environmental sustainability
  - o conservation
  - o access (e.g. DDA)
- Consents:
  - o planning
  - o building control
  - o environmental
  - o utilities

- o funding
- Alternatives:
  - o amending the brief
  - o amending the proposal
  - o appealing
  - o withdrawing the application

This unit must be assessed in a work environment, in accordance with the:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to report on and prepare applications to secure consents	1.1	Check and confirm with the relevant authorities the requirements, current procedures and likely timescale for statutory approvals and other consents			
		1.2	Forecast how long the submission and approval of applications for consent will take and how this will fit in with the project schedule			
		1.3	Prepare and assemble the information that will be needed for the application			
		1.4	Prepare and submit a clear and valid application for the consent			
		1.5	Gather and collate further information to develop alternatives where consent may be refused			
2	Understand how to report on and prepare applications to secure consents	2.1	Explain how to check and confirm with the relevant authorities the requirements, current procedures and likely timescale for statutory approvals and other consents			
		2.2	Examine how to forecast how long the submission and approval of applications for consent will take and how this will fit in with the project schedule			
		2.3	Explain how to prepare and assemble the information that will be needed for the application			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.4	Explain how to prepare and submit a clear and valid application for the consent			
		2.5	Explain how to gather and collate further information to develop alternatives where consent may be refused			

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# **Unit 10: Identify Project Energy Efficiency and Carbon Minimisation Requirements in Built Environment Design**

**Unit reference number:** H/504/7525

**Level:** 3

**Credit value:** 10

**Guided learning hours:** 20

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## **Unit aim**

This unit is about identifying the optimum energy efficiency and carbon minimisation measures for developments and reporting your findings to decisions makers.

## **Unit assessment requirements/evidence requirements**

The following ranges apply:

### **Learning outcomes 1 and 2**

- Energy efficiency and carbon minimisation:
  - o low energy consumption
  - o low carbon targets
- Development:
  - o new build
  - o adaptation
  - o alteration
  - o refurbishment/upgrading
  - o conservation
  - o demolition/decommission
  - o relocation



- Factors:
  - o energy sources and infrastructure
  - o energy distribution mechanisms efficiency and costs
  - o energy delivery mechanisms efficiency and costs
  - o energy controls efficiency and costs
  - o environmental impact and sustainability level of energy demand
  - o installation
  - o maintenance
  - o quality (including design)
  - o cost (including whole life costs/return on investment)
  - o time
  - o energy and low carbon standards and strategies
  - o development phases (design, procurement, construction and installation, operation, maintenance, demolition/decommissioning)
  - o short, medium and long-term implications
  - o user preference

This unit must be assessed in a work environment, in accordance with the:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to identify project energy efficiency and carbon minimisation requirements	1.1	Confirm energy efficiency and carbon minimisation goals and priorities for potential developments, when in-use both currently and in the future			
		1.2	Confirm legislation, regulations and standards relevant to energy efficiency and carbon minimisation when developments are in-use			
		1.3	Identify the factors that need to be considered in choosing the optimum energy efficiency and carbon minimisation measures for developments			
		1.4	Report findings to decision makers in order that optimum energy efficiency and carbon minimisation measures can be selected			
2	Understand how to identify project energy efficiency and carbon minimisation requirements	2.1	Explain how to confirm energy efficiency and carbon minimisation goals and priorities for potential developments, when in-use both currently and in the future			
		2.2	Explain how to confirm legislation, regulations and standards relevant to energy efficiency and carbon minimisation when developments are in-use			
		2.3	Describe how to identify the factors that need to be considered in choosing the optimum energy efficiency and carbon minimisation measures for developments			
		2.4	Explain how to report findings to decision makers in order that optimum energy efficiency and carbon minimisation measures can be selected			

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*(if sampled)*

# Unit 11: Obtain and Assess Tenders in Built Environment Design

**Unit reference number:** R/504/7522

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 40

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## Unit aim

This unit is concerned with obtaining tenders from contractors and subcontractors, and selecting the ones that you wish to action. The words 'estimate', 'bid' and 'tender' are all used in the industry, and are taken here to be synonymous.

It is about sending the tender documents out to the bidders. You must be able to find out who will be bidding, prepare the tender documents, send them out, deal with any queries, and keep records up to date.

It is about assessing the bids that you receive. You must be able to review the bids, check them for errors, agree any adjustments, and inform the bidders of the results.

## Unit assessment requirements/evidence requirements

The following ranges apply:

### Learning outcomes 1 and 2

- Tenderers:
  - o contractors
  - o sub/works/trade contractors
  - o suppliers
  - o consultants
- Tender documents:
  - o invitation to tender
  - o form of tender
  - o returns procedure
  - o surveys
  - o specifications
  - o drawings
  - o schedules

- o bills of quantities
  - o health and safety plans
  - o scope of services
  - o terms and conditions
  - o schedules of rates
- Queries and information about:
  - o price
  - o quantity
  - o quality
  - o standards
  - o carriage and delivery
  - o completion
  - o maintenance
  - o after-sales service
  - o method of payment
  - o terms of payment
  - o contract conditions
  - o survey information
  - o time
  - o contractual
  - o administrative
  - o technical
  - o warranties
- Appropriate action:
  - o accept for evaluation
  - o invite clarification or amendment
  - o reject
- Variations, adjustments and corrections:
  - o price
  - o quantity
  - o quality
  - o time

This unit must be assessed in a work environment, in accordance with the:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to obtain and assess tenders	1.1	Send tender enquiries to potential tenderers, in accordance with contract requirements, and invite them to provide evidence about their experience, capability and resources			
		1.2	Collate responses from potential tenderers and confirm and agree tender lists			
		1.3	Prepare tender documents which meet statutory regulations, codes of practice and your organisational policies			
		1.4	Issue tender documents to all the tenderers on the agreed list, following the agreed procedures			
		1.5	Investigate any errors, omissions and ambiguities which are reported by tenderers, amend the tender documents to correct them and pass the information to all the tenderers			
		1.6	Keep accurate records of tender documents issued, feedback, queries and information from tenderers			
		1.7	Store the tenders received in a secure place and open them at the agreed date and time in line with organisational procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.8	Review the tenders against the criteria for acceptance, including checking for discrepancies, omissions and errors, and recommend appropriate action			
		1.9	Discuss and recommend any variations, adjustments and corrections with the successful tenderer and confirm them in writing, subject to contract			
2	Understand how to obtain and assess tenders	2.1	Explain how to send tender enquiries to potential tenderers to invite evidence about their experience, capability and resources			
		2.2	Explain how to collate responses from potential tenderers and confirm tender lists			
		2.3	Evaluate how to agree tender lists			
		2.4	Explain how to prepare tender documents			
		2.5	Explain how to issue tender documents to all tenderers on the agreed tender list			
		2.6	Examine how to investigate any errors, omissions and ambiguities which are reported by tenderers			
		2.7	Explain how to amend the tender documents to correct any errors, omissions or ambiguities which are reported by tenderers			
		2.8	Explain how to pass on to all the tenderers the information relating to amendments to tender documents			
		2.9	Explain how to keep accurate records of tender documents issued, feedback, queries and information from tenderers			



Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.10	Explain how to store and open the tenders received in line with organisational procedures			
		2.11	Examine how to review the tenders			
		2.12	Explain how to check for any discrepancies, omissions and errors			
		2.13	Propose how to recommend appropriate action			
		2.14	Explain how to discuss and recommend any variations, adjustments and corrections with the successful tenderer			

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# **Unit 12:**

## **Prepare Tenders in Built Environment Design**

**Unit reference number:** Y/504/7523

**Level:** 3

**Credit value:** 15

**Guided learning hours:** 70

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### **Unit aim**

This unit is concerned with securing contracts with clients to carry out design work for them. The words 'estimate', 'bid' and 'tender' are all used in the industry, and are taken here to be synonymous. It is about deciding how design function will be carried out. You must be able to get all the information that you need, decide the best way of working, produce a method statement, and agree this with the project team. It is about deciding how much the design work will cost. You must be able to produce a working programme, decide what resources are needed, calculate the costs, and discuss them with the project team

### **Unit assessment requirements/evidence requirements**

The following ranges apply:

#### **Learning outcomes 1 and 2**

- Project data:
  - o contractual obligations and scope and scale of works
  - o specifications
  - o detailed drawings
  - o health and safety plans
  
- Construction, installation and work methods:
  - o sequencing and integration of work operations
  - o construction and installation techniques
  - o prefabrication and standardisation
  - o working conditions (health, safety and welfare)

- Relevant sources:
  - o project team
  - o regulatory authorities
  - o technical/trade literature
  - o standard lists and procedures
- Technical criteria:
  - o materials and components performance and availability
  - o health, safety and welfare
  - o access
  - o plant and equipment performance and availability
  - o sustainability
  - o buildability
  - o site conditions
- Project criteria:
  - o cost/value
  - o client and user needs
  - o contract requirements for time, quantity and quality

### **Learning outcomes 3 and 4**

- Tender rules:
  - o invitation to tender
  - o form of tender
  - o procedures for submitting tenders
- Project requirements:
  - o construction
  - o installation and maintenance work
  - o supply of goods and materials
  - o consultancy services
  - o technology required
- Phasing:
  - o planning
  - o design
  - o procurement
  - o construction

- Estimate:
  - o cost based on a quotation
  - o unit cost built up from basic data
  - o internal and historical cost data
  - o published cost data
  
- Resources:
  - o people (in-house, external)
  - o plant and equipment
  - o materials
  - o finance
  - o time
  
- External factors:
  - o location
  - o contractual requirements
  - o special working conditions and methods
  - o resourcing conditions

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to evaluate and recommend work methods	1.1	Assess the available project data and summarise it to enable decisions on construction, installation and work methods to be made			
		1.2	Obtain more information from relevant sources in cases where the available project data is insufficient			
		1.3	Identify work methods which will make the best use of resources and which meet project, statutory and contractual requirements			
		1.4	Evaluate the work methods against relevant technical and project criteria and recommend the one which best meets the criteria			
		1.5	Prepare an outline method statement which is accurate, clear, concise and acceptable to all the people involved			
2	Understand how to evaluate and recommend work methods	2.1	Examine how to assess the available project data			
		2.2	Explain how to summarise project data to enable decision on construction, installation and work methods to be made			
		2.3	Explain how to obtain more information from relevant sources in cases where the available project data is insufficient			
		2.4	Describe what to identify as work methods which will make the best use of resources and which meet project, statutory and contractual requirements			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3		2.5	Evaluate the work methods against relevant technical and project criteria			
		2.6	Propose how to recommend the method which best meets the criteria			
		2.7	Explain how to prepare an outline method statement			
	Be able to estimate the resource requirements and costs within a tender	3.1	Develop a proposed plan of work and draft programme which meet the tender rules, project requirements and phasing			
		3.2	Estimate what resources will be needed, their sources, availability and costs			
		3.3	Modify the cost to take into account any relevant external factors			
		3.4	Produce the overall estimate of costs and check that it is complete, accurate and in a form which is suitable for a judgment to be made			
		3.5	Explain and clarify the tender assumptions to support the projected costs			
		3.6	Collate, arrange and submit tender offer information in accordance with tender instructions			
		3.7	Collate together all the tender information, record it, store it securely and only pass it on to people who have the authority to receive it			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Understand how to estimate the resource requirements and costs within a tender	4.1	Propose how to develop a proposed plan of work and draft programme which meet the tender rules, project requirements and phasing			
		4.2	Examine how to estimate what resources will be needed, their sources, availability and costs			
		4.3	Explain how to modify the costs to take into account any relevant external factors			
		4.4	Explain how to produce the overall estimate of costs			
		4.5	Explain how to check that the overall estimate of costs is complete, accurate and in a form which is suitable for a judgment to be made			
		4.6	Explain how to explain and clarify the tender assumptions to support the projected costs			
		4.7	Explain how to collate, arrange and submit tender offer information			
		4.8	Explain how to collate together all the tender information			
		4.9	Explain how to record, store and pass on all the tender information			

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# Unit 13: Monitor Projects in Built Environment Design

**Unit reference number:** J/506/0106

**Level:** 3

**Credit value:** 23

**Guided learning hours:** 70

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## Unit aim

This unit applies to designers who go onto site and get involved in monitoring the construction process and health and safety requirements.

It is about ensuring the quality of the work. You must be able to confirm what quality you want, implement systems for carrying out the work to the agreed standards, deal with contingencies and non-compliance, and gather feedback to identify what can be improved. It is about working to programme.

You must be able to implement systems for monitoring progress, to deal with resource problems, delays and disruptions, and to continually seek ways of improving progress.

It is about controlling costs and organising payments. You must be able to implement cost control systems; deal with variations, identify cost savings; and prepare information for instructions and certificates.

## Unit assessment requirements/evidence requirements

The following ranges apply:

### Learning outcomes 1 and 2

- Liabilities under health and safety legislation:
  - o CDM regulations and Approved Codes of Practice
  - o current health, safety and welfare regulations
  - o Construction and Building Regulations
  - o civil law and criminal law
  - o duty of care
- Relevant parties:
  - o clients
  - o CDM
  - o HSE

- o other designers
- o project and construction managers
- o contractors and specialist contractors
- o operators and maintainers
- Hazards:
  - o falls from height
  - o slips, trips and falls
  - o hit by falling or moving objects
  - o manual handling
  - o health issues
  - o power sources
  - o hazardous substances
  - o trapped by something collapsing or overturning
  - o confined spaces
  - o fire
  - o obstructions
  - o moving vehicles
  - o public access

### **Learning outcomes 3 and 4**

- Quality standards:
  - o project specifications
  - o British, European and international Standards
  - o Codes of Practice
  - o organisation standards
  - o trade advisory guidance and best practice
  - o environmental standards
  - o client standards
  - o certification and accreditation of products, systems and personnel
  - o dimensional control criteria
- People responsible:
  - o the client
  - o contractors
  - o consultants
  - o sub-contractors
  - o suppliers

- Systems:
  - o visual inspection
  - o comparison with design requirements
  - o comparison with standard documentation
  - o checking manufacturers documentation
  - o checking materials supply
  - o sampling and mock-ups
  - o testing
  - o site inspection reports
  - o contractors reports
  - o meetings
  - o checking delivery notes
  - o dimension checks
  
- Work:
  - o materials and components and their use
  - o methods of construction
  - o completed elements

### **Learning outcomes 5 and 6**

- Systems to monitor and record:
  - o visual inspection
  - o resource records
  - o site inspection reports
  - o contractor reports
  - o written, graphical and electronic records of actual work against programmed work
  - o site meetings
  - o organisational procedures
  - o comparison with project requirements
  
- Programmes:
  - o bar charts
  - o critical path
  - o method statements
  - o meeting records

- Resources:
  - o people
  - o plant and equipment
  - o materials and components
  - o time
  - o specialist services
  
- People responsible:
  - o the client
  - o contractors
  - o consultants
  - o sub-contractors
  - o suppliers
  
- Deviations:
  - o resource shortages and delivery times
  - o design problems and constraints
  - o lack of essential construction information
  - o construction errors
  - o scope of work
  - o inclement weather
  - o physical constraints
  - o environmental
  - o force majeure
  
- Corrective action:
  - o restore progress in accordance with agreed programme
  - o agree new completion dates
  - o securing additional resources
  - o altering planned work

## **Learning outcomes 7 and 8**

- Quantities and cost data:
  - o materials
  - o completed work
  - o dayworks
  - o periodic valuations
  
- Appropriate action:
  - o agree cost changes
  - o agree quality changes
  - o agree programme changes
  
- Opportunities for cost saving:
  - o waste minimisation
  - o resource management and logistics
  - o applications of new technologies and materials
  - o alternative sources and types of materials
  - o standardisation
  
- People responsible:
  - o the client
  - o line managers
  - o contractors
  - o consultants
  - o sub-contractors
  - o suppliers

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to monitor health and safety requirements in your area of responsibility	1.1	Identify your personal responsibilities and liabilities under health and safety legislation			
		1.2	Ensure that your organisation's written health and safety policy statement is clearly communicated to all people in your area of responsibility and other relevant parties			
		1.3	Ensure that the health and safety policy statement is put into practice in your area of responsibility and is subject to review as situations change and at regular intervals and the findings passed to the appropriate people for consideration			
		1.4	Ensure regular consultation with people in your area of responsibility or their representatives on health and safety issues			
		1.5	Seek and make use of specialist expertise in relation to health and safety issues			
		1.6	Ensure that a system is in place for identifying hazards and assessing risks in your area of responsibility and that prompt and effective action is taken to eliminate or control identified hazards and risks			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.7	Ensure that systems are in place for effective monitoring, measuring and reporting of health and safety performance in your area of responsibility			
		1.8	Show continuous improvement in your area of responsibility in relation to health and safety performance			
		1.9	Make health and safety a priority area in terms of informing planning and decision-making in your area of responsibility			
		1.10	Demonstrate that your own actions reinforce the messages in your organisation's health and safety policy statement			
		1.11	Ensure that sufficient resources are allocated across your area of responsibility to deal with health and safety issues			
		1.12	Develop a culture within your area of responsibility which puts health and safety first			
2	Understand how to monitor health and safety requirements in your area of responsibility	2.1	Describe how to identify personal responsibilities and liabilities under health and safety legislation			
		2.2	Explain how to ensure that your organisation's written health and safety policy statement is clearly communicated to all people in your area of responsibility and other relevant parties			
		2.3	Explain how to ensure that the health and safety policy statement is put into practice in your area of responsibility and is subject to review as situations change and at regular intervals and the findings passed to the appropriate people for consideration			
		2.4	Explain how to ensure regular consultation with people in your area of responsibility or their representatives on health and safety issues			



Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.5	Explain how to seek and make use of specialist expertise in relation to health and safety issues			
		2.6	Explain how to ensure that a system is in place for identifying hazards and assessing risks in your area of responsibility and that prompt and effective action is taken to eliminate or control identified hazards and risks			
		2.7	Explain how to ensure that systems are in place for effective monitoring, measuring and reporting of health and safety performance in your area of responsibility			
		2.8	Explain how to show continuous improvement in your area of responsibility in relation to health and safety performance			
		2.9	Explain how to make health and safety a priority area in terms of informing planning and decision-making in your area of responsibility			
		2.10	Propose how to demonstrate that your own actions reinforce the messages in your organisation's health and safety policy statement			
		2.11	Explain how to ensure that sufficient resources are allocated across your area of responsibility to deal with health and safety issues			
		2.12	Propose how to develop a culture within your area of responsibility which puts health and safety first			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to monitor contracts against agreed quality standards	3.1	Identify quality standards from available information and pass them to people responsible for their implementation, before they start work			
		3.2	Confirm the responsibilities which individuals have for maintaining quality standards			
		3.3	Implement systems for inspecting and controlling the quality of work and record the outcomes			
		3.4	Check, regularly, that work conforms to the design requirements and the specified quality standards			
		3.5	Identify work which fails to meet the requirements and specified quality standards and recommend corrective action			
		3.6	Inform people responsible about significant variations in quality standards, programme and safety implications, and suggest the decisions which they need to make and actions they need to take			
		3.7	Identify improvements from feedback received and recommend them to people responsible			
4	Understand how to monitor contracts against agreed quality standards	4.1	Describe how to identify quality standards from available information			
		4.2	Explain how to pass quality standards on to people responsible for implementing them before they start work			
		4.3	Explain how to confirm the responsibilities which individuals have for maintaining quality standards			
		4.4	Explain how to implement systems for inspecting and controlling the quality of work and record the outcomes			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		4.5	Explain how to check that work conforms to the design requirements and the specified quality standard			
		4.6	Describe how to identify work which fails to meet the requirements and specified quality standards			
		4.7	Propose how to recommend corrective action where work fails to meet the requirements and specified quality standards			
		4.8	Explain how to inform people responsible about significant variations in quality standards, programme and safety implications			
		4.9	Propose how to suggest the decisions which people responsible need to make about significant variations in quality standards and the actions they need to take			
		4.10	Describe how to identify improvements from feedback received			
		4.11	Propose how to recommend improvements to people responsible			
5	Be able to monitor contract progress against agreed programmes	5.1	Implement systems to monitor and record the progress of the contract against the agreed programmes			
		5.2	Identify inadequately and inappropriately specified resources and inform people responsible			
		5.3	Identify and quantify any deviations from planned progress which have occurred, or which may occur, and which could disrupt the programme			
		5.4	Investigate the circumstances of any deviations thoroughly and recommend appropriate corrective action			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		5.5	Recommend options which are most likely to minimise increases in cost and time and help the contract progress, and pass these on to people responsible			
		5.6	Regularly inform people responsible about progress, changes to the operational programme and resource needs			
		5.7	Identify improvements from feedback received and recommend them to people responsible			
6	Understand how to monitor contract progress against agreed programmes	6.1	Explain how to implement systems to monitor and record the progress of the contract against the agreed programmes			
		6.2	Describe how to identify inadequately and inappropriately specified resources			
		6.3	Explain how to inform people responsible about inadequately and inappropriately specified resources			
		6.4	Describe how to identify any deviations from planned progress which have occurred, or which may occur, and which could disrupt the programme			
		6.5	Examine how to quantify any deviations from planned progress			
		6.6	Examine how to investigate the circumstances of any deviations			
		6.7	Propose how to recommend corrective action			
		6.8	Propose how to recommend options which are most likely to minimise increases in cost and time and help the contract progress			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		6.9	Explain how to pass on options which are most likely to minimise increases in cost and time and help the contract progress			
		6.10	Explain how to regularly inform people responsible about progress, changes to the operational programme and resource needs			
		6.11	Describe how to identify improvements from feedback received			
		6.12	Propose how to recommend improvements from feedback received to people responsible			
7	Be able to monitor contract costs and information for certification	7.1	Implement appropriate contract cost control systems which are able to provide early warning of problems			
		7.2	Ensure that accurate quantities and cost data is calculated and presented in an agreed format to the people responsible			
		7.3	Identify and investigate any variations thoroughly and recommend appropriate action with people responsible			
		7.4	Develop and implement systems and processes for identifying opportunities for cost savings and recommend them to people responsible			
		7.5	Inspect and check work against the contract requirements, record any variations and review for a certification decision to be made			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
8	Understand how to monitor contract costs and information for certification	8.1	Explain how to implement appropriate contract cost control systems which are able to provide early warning of problems			
		8.2	Explain how to ensure that accurate quantities and cost data is calculated and presented to people responsible			
		8.3	Describe how to identify as variations in quantities and cost data			
		8.4	Examine how to investigate any variations			
		8.5	Propose how to recommend appropriate action with people responsible			
		8.6	Propose how to develop systems and processes for identifying opportunities for cost savings			
		8.7	Explain how to implement systems and processes for identifying opportunities for cost savings			
		8.8	Propose how to recommend opportunities for cost savings to people responsible			
		8.9	Examine how to inspect work against contract requirements and record any variations			
		8.10	Explain how to check work against contract requirements and record any variations			
		8.11	Examine how to review work for a certification decision to be made			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_

# **Unit 14:**

## **Investigate and Produce Integrated Conservation, Repair and Maintenance Solutions in Built Environment Design**

**Unit reference number:** K/504/7526

**Level:** 3

**Credit value:** 10

**Guided learning hours:** 40

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### **Unit aim**

This unit is about researching information relevant to the conservation, repair and maintenance of assets. This includes researching the potential impact of modern technology and repair methods on assets and identifying possible situations where incompatibility of the use of materials can be detrimental to the future of the asset. You will also need to provide decision-makers with relevant information to enable them to agree a detailed design solution.

### **Unit assessment requirements/evidence requirements**

The following ranges apply:

#### **Learning outcomes 1 and 2**

- Identify:
  - o relevant processes and procedures
  - o investigative research
  - o official bodies to be consulted
  
- Alternative sources of information and solutions:
  - o previous knowledge and experience of similar work and proposals
  - o solutions and proposals by others to similar problems
  - o specialists including experienced craftspeople and conservators
  - o industry, academic and scientific research and innovation



- Factors:
  - o physical
  - o technical
  - o environmentally induced decay
  - o social pressures and use
  - o aesthetic and spatial
  - o assessments of cultural significance and value
  - o protection of archaeological, architectural, cultural and historically valuable resources
  - o cost and budgeting
  - o time and programming
  - o health and safety
  - o resources (people, skills, finance, materials, plant, knowledge)
  - o relevant quality standards and codes of practice
  - o materials sourcing and matching
  - o fitness of purpose

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

## Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to investigate and produce integrated conservation, repair and maintenance solutions	1.1	Obtain information relevant to the conservation, repair and maintenance briefs and identify the relevant solutions			
		1.2	Obtain alternative sources of information and solutions, where existing approaches do not meet the parameters of the brief, which have the potential to offer alternative approaches			
		1.3	Research the potential impact of modern technology and repair methods on factors relating to assets			
		1.4	Identify possible situations where incompatibility of the use of materials can be detrimental to the future of the asset			
		1.5	Provide decision makers with enough relevant and accurate information at the right time to enable them to agree a detailed solution seeking guidance from experts where necessary			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand how to investigate and produce integrated conservation, repair and maintenance solutions	2.1	Explain how to obtain information relevant to the conservation, repair and maintenance briefs			
		2.2	Describe what to identify as the relevant solutions			
		2.3	Explain how to obtain alternative sources of information and solutions, where existing approaches do not meet the parameters of the brief, which have the potential to offer alternative approaches			
		2.4	Examine how to research the potential impact of modern technology and repair methods on factors relating to assets			
		2.5	Describe what to identify as possible situations where incompatibility of the use of materials can be detrimental to the future of the asset			
		2.6	Explain how to provide decision makers with enough relevant and accurate information at the right time to enable them to agree a detailed solution			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

(if sampled)

## 12 Further information and useful publications

To get in touch with us visit our 'Contact us' pages:

- Edexcel, BTEC and Pearson Work Based Learning contact details: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html)
- books, software and online resources for UK schools and colleges: [www.pearsonschoolsandfecolleges.co.uk](http://www.pearsonschoolsandfecolleges.co.uk)

Key publications

- *Adjustments for candidates with disabilities and learning difficulties, Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units* (Pearson)
- *General and Vocational qualifications, Suspected Malpractice in Examination and Assessments: Policies and Procedures* (JCQ)
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *Pearson Edexcel NVQs, SVQs and competence-based qualifications – Delivery Requirements and Quality Assurance Guidance* (Pearson)

All of these publications are available on our website: [qualifications.pearson.com](http://qualifications.pearson.com)

Further information and publications on the delivery and quality assurance of NVQ/Competence-based qualifications are available at our website on the Delivering BTEC pages. Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to the resources page of our website.

## 13 Professional development and training

### Professional development and training

Pearson supports customers with training related to our qualifications. This support is available through a choice of training options offered on our website.

The support we offer focuses on a range of issues, such as:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building in effective and efficient quality assurance systems.

The national programme of training we offer is on our website. You can request centre-based training through the website or you can contact one of our advisers in the Training from Pearson UK team via Customer Services to discuss your training needs.

### Training and support for the lifetime of the qualifications

**Training and networks:** our training programme ranges from free introductory events through sector-specific opportunities to detailed training on all aspects of delivery, assignments and assessment. We also host some regional network events to allow you to share your experiences, ideas and best practice with colleagues in your region.

**Regional support:** our team of Regional Quality Managers, based around the country, are responsible for providing quality assurance support and guidance to anyone managing and delivering NVQs/Competence-based qualifications. The Regional Quality Managers can support you at all stages of the standard verification process as well as in finding resolutions of actions and recommendations as required.

To get in touch with our dedicated support teams please visit our website at: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html)

**Online support:** find the answers to your questions in *Knowledge Base*, a searchable database of FAQs and useful videos that we have put together with the help of our subject advisors to support you in your role. Whether you are a teacher, administrator, Assessment Associate (AA) or training provider, you will find answers to your questions. If you are unable to find the information you need please send us your query and our qualification or administrative experts will get back to you.

## 14 Contact us

We have a dedicated Account Support team, across the UK, to give you more personalised support and advice. To contact your Account Specialist:

**Email:** wblcustomerservices@pearson.com

**Telephone:** 0844 576 0045

If you are new to Pearson and would like to become an approved centre, please contact us by:

**Email:** wbl@pearson.com

**Telephone:** 0844 576 0045

### **Consolidated Assessment Strategy for Construction and the Built Environment – Craft, Supervisory, Technical, Managerial and Professional Units and Qualifications with NVQ in the title and SVQs**

#### **Introduction**

This assessment strategy provides principles and guidance to awarding organisations so the assessment of units and qualifications with NVQ in the title and SVQs is valid, effective and consistent, and has credibility across the Construction and Built Environment sector. This is a consolidated ConstructionSkills Assessment Strategy covering construction and the built environment – craft, supervisory, technical, managerial and professional NVQ and SVQ units and qualifications. This assessment strategy is one of the strands of the ConstructionSkills' Construction Qualification Strategy.

These principles are in addition to the requirements that awarding organisations must meet for the delivery of NVQ and SVQ units and qualifications as required by the qualification regulators' documentation.

This consolidated assessment strategy provides the overarching principles as systems may vary from one awarding organisation to another. Awarding organisations must consistently put these principles into practice.

Annex A provides guidance to help awarding organisations incorporate relevant parts of these principle requirements in their documentation.

Annex B provides a list of sub annexes relevant to specific NVQ or SVQ qualifications and units, these sub annexes contain additional information for awarding organisations where National Working Groups or Awarding Body Fora have identified the need for specific clarification. Clarification may be about the terminology of the content of the unit (ref. section 2.1), or specific occupational expertise requirements for assessors and verifiers (ref. section 4).

Awarding organisations must make this Strategy and the relevant annexes available to assessors, verifiers and candidates.

#### **Principles**

##### **1 External quality control of assessment**

1.1 Awarding organisations must use risk management for external quality control of assessment. They must evaluate all external verification reports and other data relating to assessment centres. Awarding organisations must address any risks relating to quality control, considering the sector assessment strategy requirements for:

- workplace evidence
- the use of simulation
- the occupational competence of assessors and verifiers.

- 1.2 The monitoring and standardisation of assessment decisions must be achieved by robust and strong internal and external verification systems that meet the requirements of the qualification regulators' documentation.
- 1.3 Awarding organisations must be members of the sector's Built Environment Awarding Body Forum, of which the qualification regulators are members. Members will be expected to provide feedback on National Occupational Standards (NOS), NVQ or SVQ units and qualifications, including aspects informing incremental change.
- 1.4 The Forum will, in respect of this strategy:
- build on the good relationships with awarding organisations
  - provide opportunities to identify and address particular issues of external quality control
  - contribute to improving quality and consistency
  - support awarding organisations to monitor assessment centres' performance to identify areas and levels of risk
  - provide information and statistics about take-up and completion, as well as trends and developments that can be used by ConstructionSkills and awarding organisations to identify any problem areas and agree remedial action
  - discuss matters concerning quality assurance, as well as providing the opportunity to identify issues arising from implementation of NOS and related vocational qualifications
  - inform the continuous improvement of NOS, and awards derived from them
  - identify and share best practices to build a whole industry approach to pursue excellence in education and work-based learning and assessment process to achieve competence.
- 1.5 Awarding organisations and their partners, assessment centres, verifiers and assessors must maintain robust and transparent operational arrangements. They must preserve independence in assessment, certification and quality assurance processes. Awarding organisations must ensure clear separation of their NVQ/SVQ assessment responsibilities from their industry, training, membership, certification, accreditation and commercial interests and resolve any conflicts of interest.
- 1.6 Where e-assessment is used, it must meet the requirements of the qualification regulators' documentation.

## **2 Aspects to be assessed through performance in the workplace**

- 2.1 Direct evidence produced through normal performance in the workplace is the primary source for meeting the requirements. This includes naturally occurring documentary evidence (hard copy and electronic), direct observation of activities and witness testimony as relevant. ConstructionSkills' National Working Groups will specify any exceptions to this position (see section 3).



- 2.2 Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:
- questioning the candidate
  - recognised industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
  - performance evidence.
- 2.3 A holistic approach towards the collection of evidence should be encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This would show how evidence requirements could be met across the qualification to make the most efficient use of evidence. Annex A suggests standard evidence notes for awarding organisations.

### **3 How simulated working conditions may be used to assess competence**

- 3.1 Simulations (designed situations for producing artificially generated evidence) may only be used where candidates are prevented from gathering direct evidence from the workplace in the normal way because:
- there are hazards
  - it is difficult to distinguish individual performance in team situations
  - circumstances occur infrequently or long term results are involved
  - confidentiality is important
  - there are organisational constraints.
- 3.2 Any instances where simulation is considered to be acceptable as an alternative (to direct workplace evidence) means of generating evidence, will be determined by the relevant ConstructionSkills National Working Group and stated in the unit. Annex A suggests standard evidence notes for awarding organisations.
- 3.3 The ConstructionSkills National Working Group will determine and specify on the required realistic working environment and context to be adopted. This could include appropriate:
- tools, equipment and instruments
  - materials
  - types of contingencies
  - standards and quality specifications
  - real timescales
  - quantities of work
  - physical conditions
  - relationships with people
  - types of interaction
  - communication methods and media
  - information and data.

- 3.4 Where simulated evidence is stated as acceptable in the unit, the circumstances and requirements for the simulation needs to be confirmed by discussions between the candidate and the assessor, and which are then agreed by the internal and external verifiers.
- 3.5 Where other Standard Setting Bodies' units are imported into a ConstructionSkills suite, the evidence requirements of the originating body will be adopted and specified.

#### **4 Occupational expertise requirements for assessors and verifiers**

4.1 Awarding organisations must ensure that **assessors**:

- 4.1.1 have sufficient, verifiable, relevant current industry experience, knowledge and understanding of the occupational working area at, or above, the level being assessed. This must be of sufficient depth to be effective and reliable when judging candidates' competence. Assessors' experience, knowledge and understanding could be verified by a combination of:

- curriculum vitae and employer endorsement
- references
- possession of a relevant NVQ/SVQ, or vocationally related qualification
- corporate membership of a relevant professional institution
- interview

(The verification process must be recorded and available for audit.)

- 4.1.2 have sufficient occupational expertise so they have up to date experience, knowledge and understanding of the particular aspects of work they are assessing. This could be verified by records of continuing professional development achievements
- 4.1.3 only assess in their acknowledged area of occupational competence
- 4.1.4 have a sound, in-depth knowledge of, and uphold the integrity of, the sector's NOS and this Assessment Strategy (this document)
- 4.1.5 are prepared to participate in training activities for their continued professional development
- 4.1.6 hold, or are working towards, a qualification as listed within 'Assessing and Assuring Quality of Assessment', either in the Qualifications Framework, or the Scottish Credit and Qualifications Framework (SCQF):
- Level 3 Award in Assessing Competence in the Work Environment
  - Level 3 Certificate in Assessing Vocational Achievement
  - SVQ (SCQF level) Assessing Competence in the Work Environment
  - SVQ (SCQF level) Assessing Vocational Achievement

or hold one of the following

- A1 Assess candidates using a range of methods
- D32/33 Assess candidate performance, using differing sources of evidence

Holders of A1 and D32/33 must assess to the reviewed National Occupational Standards (NOS) for Learning and Development.

In Scotland, approval for exemptions must be obtained from the Scottish Qualifications Authority.

4.2 Awarding organisations must ensure that **internal verifiers**:

4.2.1 have sufficient, verifiable, relevant up to date experience, knowledge and understanding of the occupational working area at, or above, the level being verified. This must be of sufficient depth to be effective and reliable when verifying judgements about assessors' assessment processes and decisions. Internal verifiers' experience, knowledge and understanding could be verified by a combination of:

- curriculum vitae and employer endorsement
- references
- possession of a relevant NVQ/SVQ, or vocationally related qualification
- corporate membership of a relevant professional institution
- interview

(The verification process must be recorded and available for audit.)

4.2.2 have expertise so they have up to date experience, knowledge and understanding of the particular aspects of work they are verifying. This could be verified by records of continuing professional development achievements

4.2.3 have a sound, in-depth knowledge of, and uphold the integrity of, the NOS and this Assessment Strategy (this document)

4.2.4 are prepared to participate in training activities for their continued professional development

4.2.5 hold, or are working towards, a qualification as listed in 'Assessing and Assuring Quality of Assessment', either in the Qualifications Framework, or the Scottish Credit and Qualifications Framework (SCQF):

- Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice
- SVQ(SCQF level) in the Internal Quality Assurance of the Assessment Process and Practice
- SVQ (SCQF level) in Leading the Internal Quality Assurance of Assessment Process and Practice

or hold one of the following

- V1 Conduct internal quality assurance of the assessment process
- D34 Internal verify the assessment process

Holders of V1/D34 must quality assure to the reviewed National Occupational Standards (NOS) for Learning and Development.

It is strongly recommended that within the role of Internal Quality Assurance one of the following qualifications is held.

- Level 3 Award in Assessing Competence in the Work Environment
- Level 3 Certificate in Assessing Vocational Achievement
- SVQ (SCQF level) Assessing Competence in the Work Environment
- SVQ (SCQF level) Assessing Vocational Achievement

or one of the following

- A1 Assess candidates using a range of methods
- D32/33 Assess candidate performance, using differing sources of evidence.

#### 4.3 Awarding organisations must ensure that **external verifiers:**

4.3.1 have sufficient, verifiable, relevant experience, knowledge and a broad understanding of the occupational working area at, or above, the level being verified. This must be of sufficient depth to be effective and reliable when verifying judgements about internal verification and assessment processes and decisions. External verifiers' experience, knowledge and understanding could be verified by a combination of:

- curriculum vitae and employer endorsement
- references
- possession of a relevant NVQ/SVQ, or vocationally related qualification
- corporate membership of a relevant professional institution
- interview

(The verification process must be recorded and available for audit.)

4.3.2 have sufficient expertise so they have an up to date experience, knowledge and understanding of the particular aspects of work they are verifying. This could be verified by records of continuing professional development achievements

4.3.3 have a sound, in-depth knowledge of, and uphold the integrity of, the NOS and this Assessment Strategy (this document)

4.3.4 are prepared to participate in training activities for their continued professional development

4.3.5 hold, or are working towards, a qualification as listed in 'Assessing and Assuring Quality of Assessment', either in the Qualifications Framework, or the Scottish Credit and Qualifications Framework (SCQF):

- Level 4 Award in the External Quality Assurance of the Assessment Process and Practice
- Level 4 Certificate in Leading the External Quality Assurance of Assessment
- SVQ (SCQF level) in the External Quality Assurance of the Assessment Process and Practice
- SVQ (SCQF) in Leading the External Quality Assurance of Assessment

or hold one of the following

- V2 Conduct external quality assurance of the assessment process
- D35 Externally verify the assessment process

Holders of V2/D35 must quality assure to the reviewed National Occupational Standards (NOS) for Learning and Development.

It is strongly recommended that within the role of External Quality Assurance one of the following qualifications is held at Level 3 and Level 4.

Level 3:

- Level 3 Award in Assessing Competence in the Work Environment
- Level 3 Certificate in Assessing Vocational Achievement
- SVQ (SCQF level) Assessing Competence in the Work Environment
- SVQ (SCQF level) Assessing Vocational Achievement

or one of the following

- A1 Assess candidates using a range of methods
- D32/33 Assess candidate performance, using differing sources of evidence

Level 4:

- Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice
- SVQ(SCQF level) in the Internal Quality Assurance of the Assessment Process and Practice
- SVQ (SCQF level) in Leading the Internal Quality Assurance of Assessment Process and Practice
- V1 Conduct internal quality assurance of the assessment process
- D34 Internal verify the assessment process.

#### 4.4 Selection and appointment of assessors and verifiers

All applicants should be advised that they may be interviewed. Applicants' CVs should be profiled against the activities and range of the NVQ/SVQ(s) they will assess/verify to check that the applicant has the relevant current experience, knowledge and understanding of the occupational working area:

- at, or above, the level they will be assessing
- of sufficient depth to credibly verify judgements and assessments
- to uphold the integrity of the NOS and this Consolidated Assessment Strategy.

All assessors should have experience as well as, not in lieu of, qualifications.

Where there seem to be gaps in a potentially suitable applicant's experience and knowledge, the applicant should be interviewed. Successful applicants' CVs, profiling, reasons for not needing to interview and interview records should be available for audit.

## Annex A

### ConstructionSkills' standard evidence notes for awarding organisations

These guidance notes have been produced to ensure consistency in interpreting the principles set out in sections 2 and 3 of the ConstructionSkills Assessment Strategy. The notes should help awarding organisations incorporate relevant parts of the assessment strategy principles' requirements in their documentation for construction and built environment – craft, supervisory, technical, managerial and professional NVQ/SVQs. The following general standard notes are strongly recommended for adoption by awarding organisations in their assessment specification:

Standard note 1:

*"Taken as a whole, the evidence must show that the candidate consistently meets all the following performance criteria/learning outcomes and assessment criteria across the scope/range."*

Standard note 2:

*"There must be workplace evidence against each performance criterion/learning outcome and assessment criterion. Where the workplace evidence does not cover the whole scope/range, knowledge evidence must be provided to cover the remaining items of scope/range for each relevant performance criterion/learning outcome and assessment criterion."*

Standard note 3:

*"Knowledge evidence may be established from questioning the candidate, or from industry recognised industry education and training programme assessment, or professional interview assessment, that has been matched to the requirements of the National Occupational Standards. Such assessments should also have their own independent external assessment, moderation or verification. A candidate's knowledge and understanding can also be demonstrated through presented performance evidence."*

Standard note 4:

Either:

*"Simulations are not considered to be acceptable for producing this evidence."*

OR

*"Simulations are considered to be an acceptable alternative for producing evidence for the following item(s) which is/are considered to be rare/infrequent, but key/critical to demonstrating competence. The following realistic working environment and context must be adopted for the simulation, with appropriate: tools, equipment and instruments; materials; types of contingencies; standards and quality specifications; real timescales; quantities of work; physical conditions; relationship with people; type of interaction; communication methods and media; information and data\*."*

*[\*include as appropriate]*

Final version June 2009

**August 2017**

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