

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

HIGHER NATIONAL UNIT SPECIFICATION

GENERAL INFORMATION

-Unit number-	D2XJ 04
-Unit title-	CONSTRUCTION PRACTICE: SITE PREPARATION AND EXTERNAL WORKS
-Superclass category-	TK
-Date of publication- (month and year)	
-Originating centre for unit-	SQA

-DESCRIPTION-

GENERAL COMPETENCE FOR UNIT: On completion of this unit the candidate will be competent in interpreting site layout drawings and instructions and providing an explanation of the rationale and the processes involved in site preparation and groundworks. Organise the planned layout of a construction site and to implement preparatory work prior to the commencement of constructional operations.

OUTCOMES:

1. extract information from site layout drawings
2. describe constructional methods of site preparation;
3. explain the purpose and operational processes for groundworks.

CREDIT VALUE: 0.5 HN Credit.

ACCESS STATEMENT: This unit forms part of both the Advanced Certificate in Construction Practice and the Higher National Certificate in Construction Practice, details of which are given in the Support Notes under Progression. Access to this unit is at the discretion of the centre although the candidate would normally be receiving complementary industrial experience in an area of construction and have successfully completed an Advanced Certificate in one of the following:

Brickwork
Carpentry and Joinery
Painting and Decorating
Plasterwork
Roof Slating, Tiling and Cement Work
Stonemasonry

Additional copies of this unit can be obtained from:

The Committee and Administration Unit, SQA, Hanover House, 24 Douglas Street, Glasgow G2 7NQ, (Tel: 0141-242 2168).

At the time of publication the cost is £1.50 per unit (minimum order £5.00).

HIGHER NATIONAL UNIT SPECIFICATION**STATEMENT OF STANDARDS**

Unit number: D2XJ 04

Unit title: CONSTRUCTION PRACTICE: SITE PREPARATION AND EXTERNAL WORKS

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME

1. EXTRACT INFORMATION FROM SITE LAYOUT DRAWINGS

PERFORMANCE CRITERIA

- (a) Site constructions and erections required are correctly listed.
- (b) The linear runs of temporary services required are accurately listed and dimensioned.
- (c) Quantities of materials required for site preparation are correctly determined.

RANGE STATEMENT

Construction and erections: access roads; perimeter fencing; hoardings; material storage; temporary buildings.

Temporary services: water; electricity; telephone; drainage.

Measurement: linear measurement; superficial measurement.

EVIDENCE REQUIREMENTS

Evidence of actual performance is needed to show the candidate can extract information from site layout drawings and accompanying instructions. This may be evidenced by the production of detailed lists of all service runs, site constructions and erections and materials required for a construction operation of a scale and complexity commensurate with a medium-sized contractual undertaking employing a range of trades. Where candidates are able to produce sufficient evidence from the workplace, this may be preferred to assessment under simulated conditions.

Assessment will be in the form of closed book.

All working practices must be in line with current and relevant health and safety legislation and regulations.

All the performance criteria must be met and all items in the range statement covered.

OUTCOME

2. DESCRIBE CONSTRUCTIONAL METHODS OF SITE PREPARATION

PERFORMANCE CRITERIA

- (a) The construction of a temporary access road is described fully and accurately.
- (b) The erection of perimeter fencing and hoardings is described fully and accurately.
- (c) The method of providing compounds is described fully and accurately in terms of:
 - (i) storage of materials;
 - (ii) items of plant;
 - (iii) temporary buildings.
- (d) Accurate identification is made of the types and functions of materials and components used in site preparation.
- (e) Work methods and activities are correctly identified and described which:
 - (i) optimise the use of materials;
 - (ii) satisfy current relevant statutory regulations.

RANGE STATEMENT

The range for this outcome is fully expressed within the performance criteria.

EVIDENCE REQUIREMENTS

Oral or written evidence is needed to show the candidate has a of thorough knowledge and understanding of at least one accepted method of approach to site preparation for a construction operation of a scale and complexity commensurate with a medium-sized contractual undertaking. The evidence may be supplemented by documentary evidence of the candidate's own practical experience of site preparation in the course of his/her work. Oral questioning may be used to confirm the candidate's knowledge in specific areas.

Evidence should show the candidate can describe, materials used in the construction of access roads, the reasons for erecting perimeter fences, types of hoardings, responsibilities regarding relevant statutory regulations and describe the types and functions of materials used in the construction of access roads.

All working practices must be in line with current and relevant health and safety legislation and regulations.

All the performance criteria must be met and all items in the range statement covered.

OUTCOME

3. EXPLAIN THE PURPOSE AND OPERATIONAL PROCESSES FOR GROUNDWORKS

PERFORMANCE CRITERIA

- (a) Operations required to be carried out during excavation works are fully and accurately explained.
- (b) The purposes and correct sequence of excavation are explained fully and accurately.
- (c) The purpose of and processes for providing surface finishes are fully and accurately explained.
- (d) Likely problems and hazards are identified and explained precisely.
- (e) The safe and effective use of tools and plant is clearly explained.
- (f) Accurate and relevant reference is made to current statutory regulations governing safety.

RANGE STATEMENT

The range statement for this outcome is fully expressed within the performance criteria.

EVIDENCE REQUIREMENTS

Oral or written evidence is needed to show the candidate can explain, the purpose of and the processes for the removal of top soil, the purpose of and the processes of providing excavations, the purpose of and the processes of timbering to trenches, the purpose of and the processes of providing surface finishes, problems of ground water control, problems of excavating near existing buildings, possible hazards when excavating, and the safe and effective use of 2 items of plant for excavating, consolidating or transporting purposes.

All working practices must be in line with current and relevant health and safety legislation and regulations.

All the performance criteria must be met and all items in the range statement covered.

MERIT STATEMENT: To gain a pass in this unit, a candidate must meet the standards set out in the outcomes, performance criteria, range statements and evidence requirements.

A pass with merit may be awarded to a candidate who substantially exceeds the minimum requirements of the unit for competence in some or all of the following:

- (a) level of accuracy;
- (b) clarity and depth of response;
- (c) logical procedural description presentations;
- (d) optimum methodologies;
- (e) clearly defined safety referencing.

ASSESSMENT

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The assessment instruments used should follow the general guidance offered by the Scottish Qualifications Authority (SQA) assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should be kept. These records will be available for external verification.

SPECIAL NEEDS

Proposals to modify outcomes, range statements or agreed assessment arrangements should be discussed in the first place with the external verifier.

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HIGHER NATIONAL UNIT SPECIFICATION**SUPPORT NOTES**

Unit number: D2XJ 04

Unit title: CONSTRUCTION PRACTICE: SITE PREPARATION AND EXTERNAL WORKS

SUPPORT NOTES: This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

NOTIONAL DESIGN LENGTH: SQA allocates a notional design length to a unit on the basis of time estimated for achievement of the stated standards by a candidate whose starting point is as described in the access statement. The notional design length for this unit is 20 hours. The use of notional design length for programme design and timetabling is advisory only.

PURPOSE

CONTENT/CONTEXT The candidate should achieve a level of competence of someone in a position of responsibility on a construction site charged with the effective organisation of work activities.

Corresponding to Outcomes 1-3:

1. This outcome should provide the candidate with skills in the interpretation of site layout drawings and in extracting technical information therefrom.
2. A knowledge of alternative methods of constructions and erections within the range should be stressed to allow the candidate to provide optimum responses in terms of materials, component and human resources. Particular attention should be paid to safe working practices.

The following safety requirements apply: HSW (Health and Safety at Work etc Act); COSHH (Control of Substances Hazardous to Health) Regulations; The Highways Act.

3. The importance of conducting the processes and groundworks operations within this outcome without error should be strongly emphasised as should the cost to the employer of any damage to existing buildings and services or of any indiscretions in terms of safety. Responsibilities regarding relevant safety legislation should be integrated throughout.

The following may be helpful for the design of learning/assessment material:

- Operations: top soil removal; services excavations; foundations excavations; timbering to trenches; provision of guardrails; shoring; strutting; rolling; compacting; positioning.

- Problems and hazards: ground water; adjacent constructions; trench collapse; existing services.
- Surface finishes: paved areas; steps; ramps; grassed areas.
- Tools and plant: hand tools; excavating plant; transporting plant; rollers; compactors.

The following safety requirements apply: HSW (Health and Safety at Work etc Act); COSHH (Control of Substances Hazardous to Health) Regulations; The Construction (General Provisions) Regulations; Building Standards (Scotland) Regulations.

APPROACHES TO GENERATING EVIDENCE Although this unit is largely cognitive, candidates should be given every possible opportunity to gain experience in carrying out the procedures outlined in the outcomes. The teaching should encourage group participation with candidates expressing their own experiences. Guidance should be given to candidates to observe practices on sites within their geographical area.

Safety should be emphasised throughout.

ASSESSMENT PROCEDURES Centres may use the Instruments of Assessment which are considered by tutors/trainers to be the most appropriate. Examples of Instruments of Assessment which could be used in conjunction with a site layout drawing are as follows:

- Outcome 1 The candidate could be set one structured question designed to generate three responses for each of the following:
- (a) symbols and abbreviations;
 - (b) listing constructions and erections;
 - (c) listing and dimensioning temporary services;
 - (d) quantities of materials.

Satisfactory performance in this outcome will be based on the candidate producing at least two correct responses to each of (a), (b), (c) and (d).

- Outcome 2 The candidate will complete an assignment which will generate evidence for all of the performance criteria.

- Outcome 3 The candidate will complete an assignment which will generate evidence for all of the performance criteria.

EXEMPLARS

PROGRESSION This unit forms part of the framework for both the Advanced Certificate in Construction Practice and the Higher National Certificate in Construction Practice. Candidates successfully completing the Advanced Certificate will be able to progress to stage II of the Higher National Certificate.

Each unit is a separate part of the framework of units for the award of the Advanced Certificate and units are not necessarily taken in a prescribed order although there is a logical sequence to the acquisition of the skills and knowledge concerned.

To gain the award of the Advanced Certificate in Construction Practice the candidate must successfully complete all of the following units:

D2XJ 04	Construction Practice: Site Preparation and External Works (x 0.5)
D2XK 04	Construction Practice: Substructure (x 0.5)
D2Y1 04	Construction Practice: Superstructure (x 2.0)
D2Y2 04	Construction Practice: Materials, Components and Finishes
D2Y3 04	Construction Practice: Services
D2Y4 04	Construction Practice: Measurement and Taking Off (x 0.5)
D2Y5 04	Construction Practice: Supervision
D606 04	Construction Site Safety

RECOGNITION

REFERENCES

1. Guide to unit writing, SQA, 1993 (Code: A018).
2. Guide to assessment, SQA, 1993 (Code: B005).
3. Guide to certification, SQA, 1996 (Code: F025).
4. Notes for unit writers, SQA, 1995 (Code: A041).

For details of other SQA publications, please contact staff in the Sales and Despatch section (Tel: 0141-242 2168) who can supply you with a copy of the publication list (Code: X037).

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