higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ARCHITECTURAL GRAPHICS AND TECHNOLOGY

(Second paper)

NQF LEVEL 4

(12050644)

15 November 2022 (X-paper)
09:00–12:00

This question paper consists of 5 pages and 3 diagram sheets.

299Q2N2215

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TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. Read all the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Start each section on a new page.
5. Use only a black or a blue pen.
6. Write neatly and legibly.

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QUESTION 1: ADMINISTRATION, LEGISLATION & REGULATIONS

1.1 The Council for the Built Environment (CBE) is the highest governmental body to oversee civil, architectural, structural and other regulatory bodies in connection to the built environment.

1.1.1 What is the council called that falls under the architectural pillar of this governmental body? (2)

1.1.2 Name FIVE voluntary associations under the control of this architectural council. (10)

1.2 Name the professional who would take responsibility for the following obligations on site.

1.2.1 The professional who would check the soil on site before work starts.

1.2.2 The person or persons that commissions and pays for the building project to be completed to a professional level.

1.2.3 The professional that sets out the layout of the building on the site.

1.2.4 The professional appointed by the municipality (local authority) who signs off the final approved plans.

(4 × 2) (8)
[20]

QUESTION 2: STAIRCASES & LADDERS

2.1 Refer to DIAGRAM SHEET 1 (attached) and answer the following questions.

2.1.1 What is A?

2.1.2 What is B?

2.1.3 What is C?

2.1.4 What is D?

2.1.5 What is E?

2.1.6 Name the type of stairs.

2.1.7 What is the TOC height?

(7 × 2) (14)

2.2 List THREE materials that can be used to manufacture and build staircases. (6)
[20]

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QUESTION 3: BUILDING PLANS

3.1 Determine the percentage coverage of the following FOUR examples and show calculations.

3.1.1 Erf size = 500 m^2, area of level 1 = 150 m^2, area of level 2 = 130 m^2, area of garage = 24 m^2. (5)

3.1.2 Erf size = 975m^2, area of level 1 = 301 m^2, area of level 2 = 260 m^2, area of garage = 46 m^2. (5)

3.1.3 Erf size = 750 m^2, area of single-level dwelling is 280 m^2, area of outbuildings is 100 m^2 and area of the garage is 18 m^2. (5)

3.1.4 Erf size = 1010 m^2, area of single-level dwelling is 400 m^2, area of outbuildings is 120 m^2 and area of garage is 36 m^2. (5)

3.2 Refer to DIAGRAM SHEET 2 (attached) and name the labelled items by writing only the answer next to the letter (A–E) in the ANSWER BOOK.

3.2.1 A

3.2.2 B

3.2.3 C

3.2.4 D

3.2.5 E

(5 × 2) (10)

3.3 Write the following abbreviations used to refer to drainage sections in full.

3.3.1 CL

3.3.2 RE

3.3.3 GL / NGL

3.3.4 C

3.3.5 WC

(5 × 2) (10)

[40]

QUESTION 4: QUANTITIES AND COSTING IN A BUILDING PLAN

4.1 List any TEN typical expenses incurred by a small building contractor when building a house. (10)

4.2 Refer to DIAGRAM SHEET 3 (attached) of a foundation substructure and name the labelled elements. Only write the answer next to the letter in the ANSWER BOOK.

4.2.1 A
4.2.2 B
4.2.3 C
4.2.4 D
4.2.5 E

(5 × 2) (10)
[20]

TOTAL: 100

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DIAGRAM SHEET 1

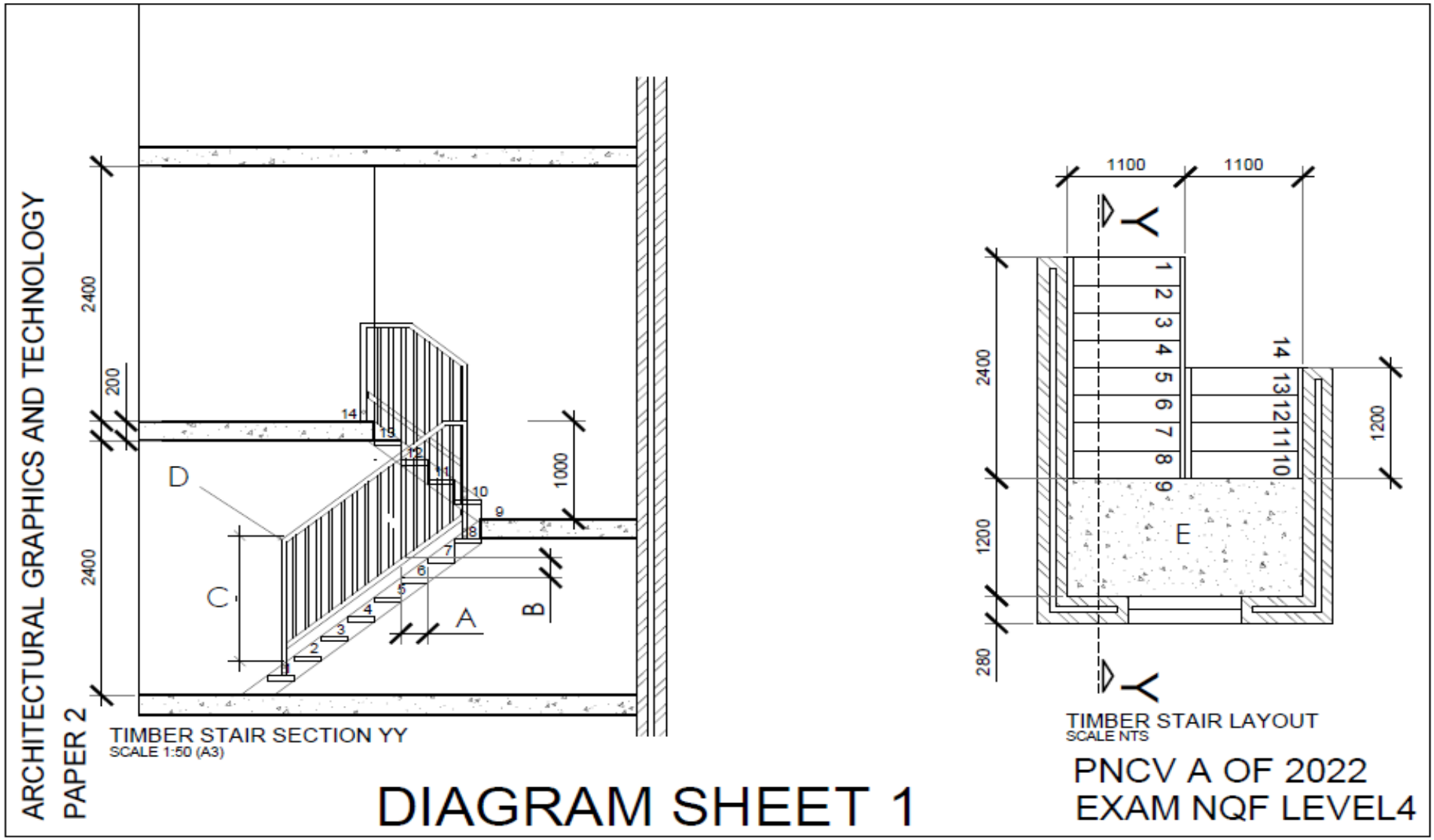

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DIAGRAM SHEET 2

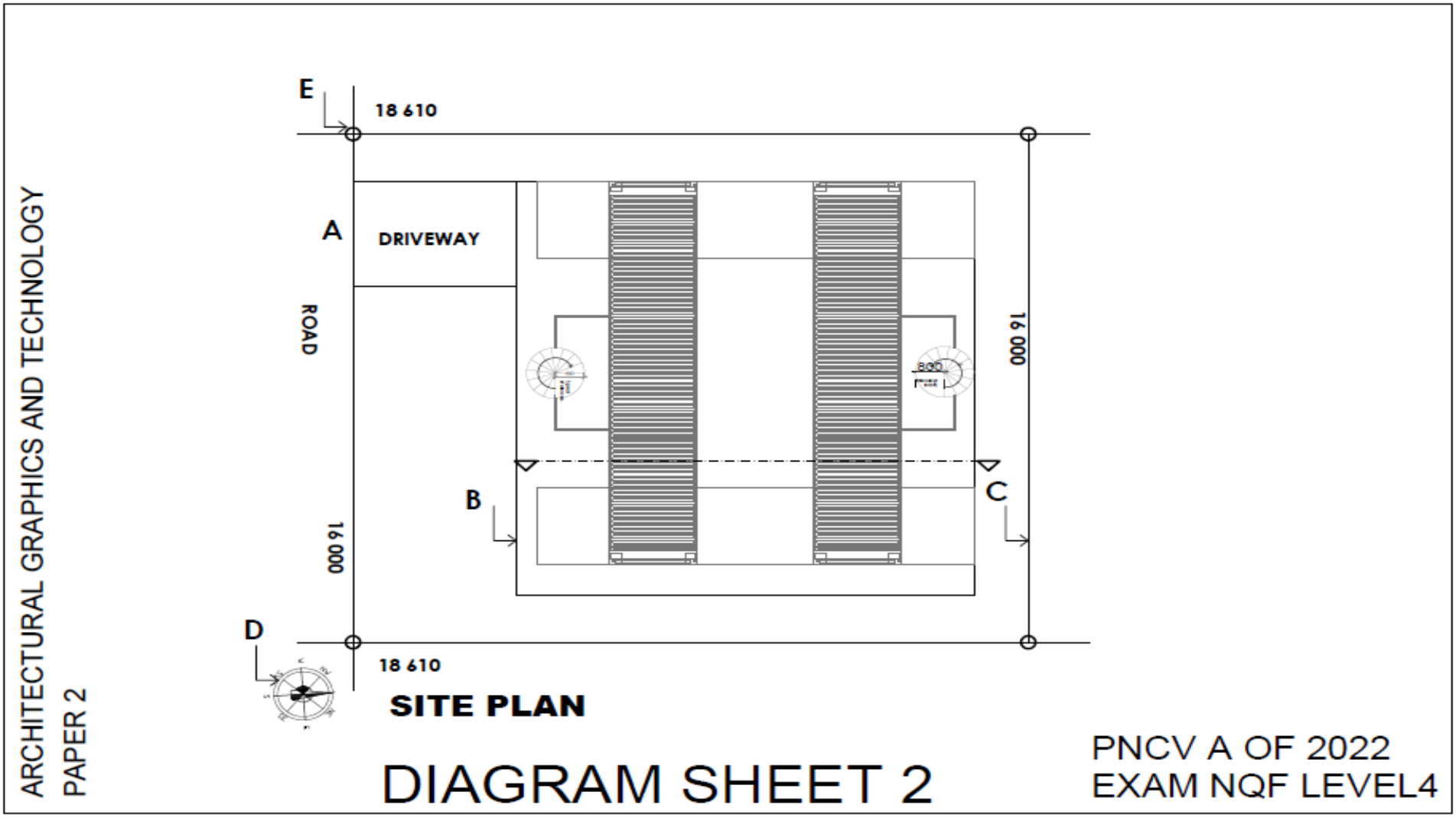

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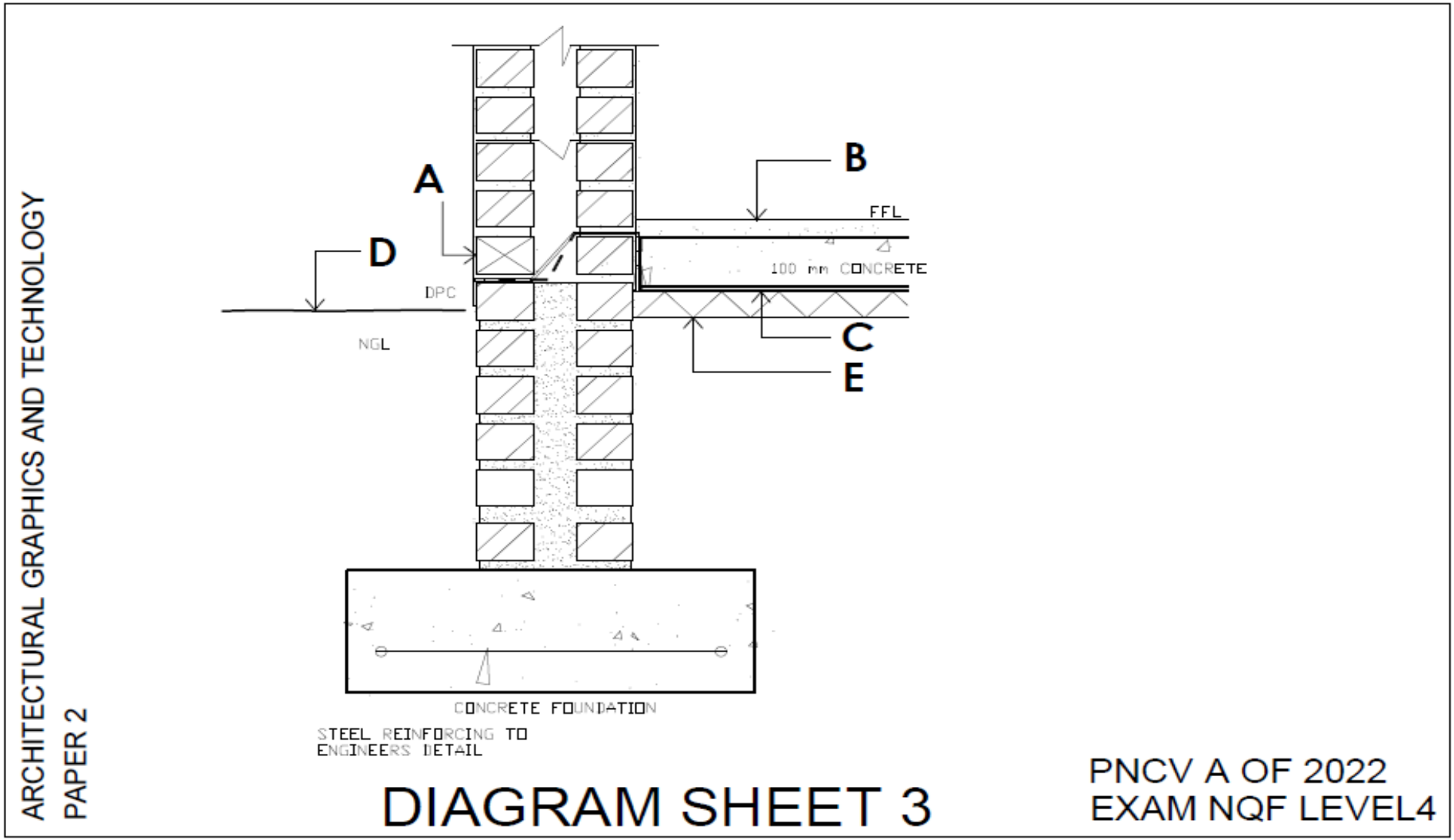
DIAGRAM SHEET 3



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