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)

24 November 2023 (X-paper)
09:00–12:00

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

283Q2N2324

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
ARCHITECTURAL GRAPHICS AND TECHNOLOGY
NQF LEVEL 4
PAPER 2
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. Sketches must be large, neat and fully labelled.
5. Use only a black or blue pen.
6. Write neatly and legibly.

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QUESTION 1: ADMINISTRATION, LEGISLATION AND REGULATIONS

1.1 The following acronyms are for important architectural councils, voluntary associations, building councils, engineering councils in the South African built environment. Give the full wording for the following building-related acronyms:

1.1.1 SAIAT

1.1.2 SAIA

1.1.3 SACAP

1.1.4 ECSA

1.1.5 SAID

(5 × 2) (10)

1.2 What is the difference between the *SACAP* and *SAID*? (2 × 2) (4)

1.3 Name the professional who would take responsibility for the following obligations on site:

1.3.1 The professional who will create an SG diagram and locate the site pegs.

1.3.2 The professional who will design the specifications for the structural elements of an architectural building.

1.3.3 The professional who signs off the FORM 4 document to say the built structure matches the submitted and approved council plans.

(3 × 2) (6)

[20]

QUESTION 2: STAIRCASES AND LADDERS

2.1 Refer to DIAGRAM SHEET 1 and label the following elements on the staircase shown in the diagram:

2.1.1 A

2.1.2 B

2.1.3 C

2.1.4 D

2.1.5 E

(5 × 2) (10)

2.2 List THREE different types of staircases. (3 × 2) (6)

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2.3 List TWO materials that can be used to manufacture/build a staircase. (2 × 2) (4)

[20]

QUESTION 3: BUILDING PLANS

3.1 Determine the percentage coverage of the following FOUR examples and show calculations. Round your answers off to the nearest 1.

3.1.1 ERF SIZE 900 m^2, AREA of level 1 = 180 m^2, AREA of level 2 = 160 m^2, AREA of garage = 46 m^2.

3.1.2 ERF SIZE 600 m^2, AREA of level 1 = 282 m^2, AREA of level 2 = 161 m^2 AREA of garage = 36 m^2.

3.1.3 ERF SIZE 1 150 m^2, AREA of single level dwelling is 350 m^2, AREA of outbuildings is 120 m^2 and AREA of garage is 46 m^2.

3.1.4 ERF SIZE 450 m^2, AREA of single level dwelling is 120 m^2, AREA of outbuildings is 60 m^2 and AREA of garage is 20 m^2

(4 × 5) (20)

3.2 Refer to DIAGRAM SHEET 2 of a typical site plan, please label the following items shown on the diagram:

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 List FIVE drawings that need to be compiled to create a full architectural submission to the local municipal building control office. (5)

3.4 Describe the process of compiling a rough set of sketch plans. (5)

[40]

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QUESTION 4: QUANTITIES AND COSTING IN A BUILDING PLAN

4.1 List TEN of the typical expenses that a small building contractor will incur whilst getting ready to start building a house. Only list costs that do not include the material and labour costs of building. (10)

4.2 REFER to DIAGRAM SHEET 3 and label the following items shown in the diagram:

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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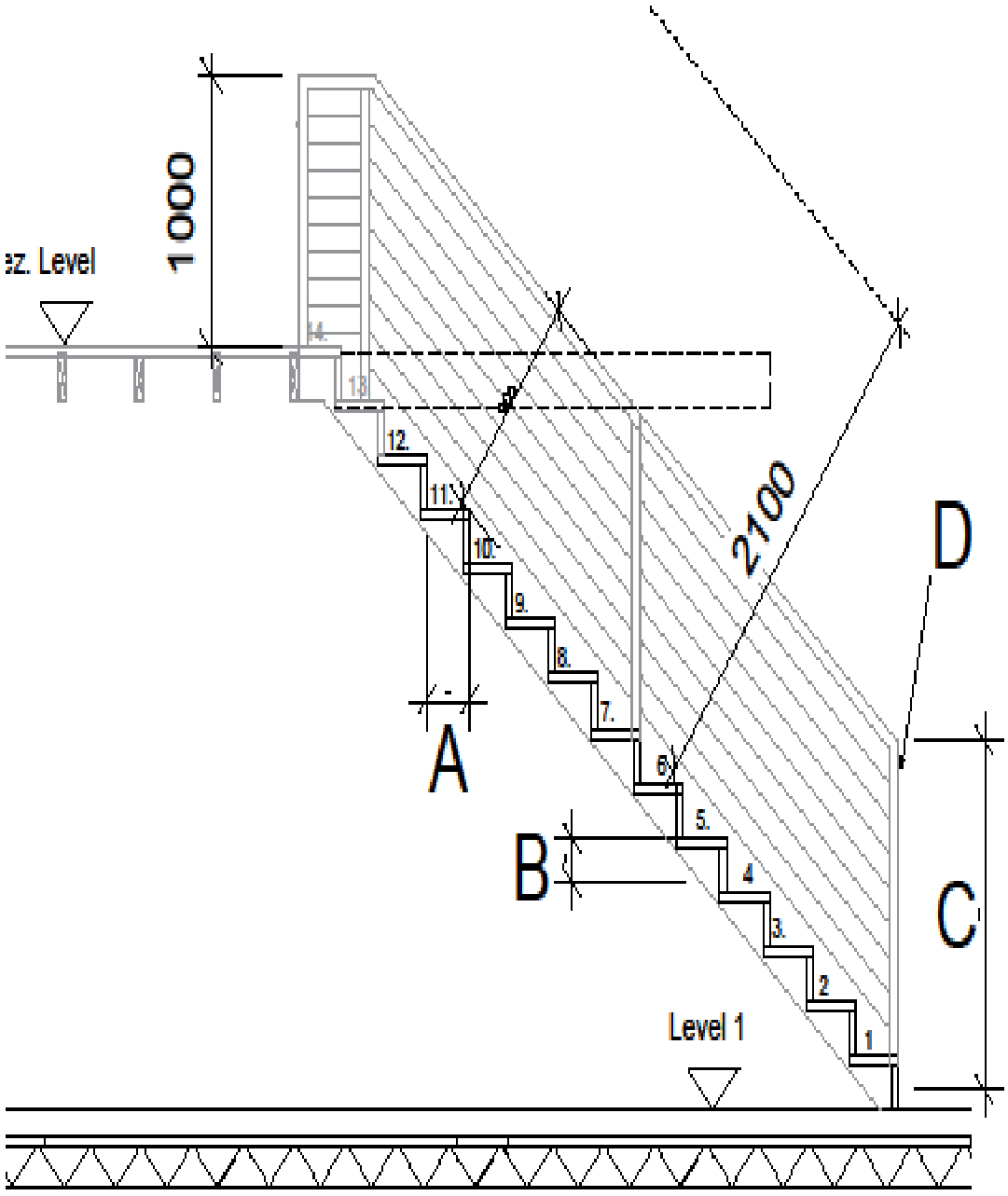
DIAGRAM SHEET 1



E = TYPICAL EXAMPLE OF WHAT TYPE OF STAIR?

TYPICAL STAIR SECTION SCALE NTS

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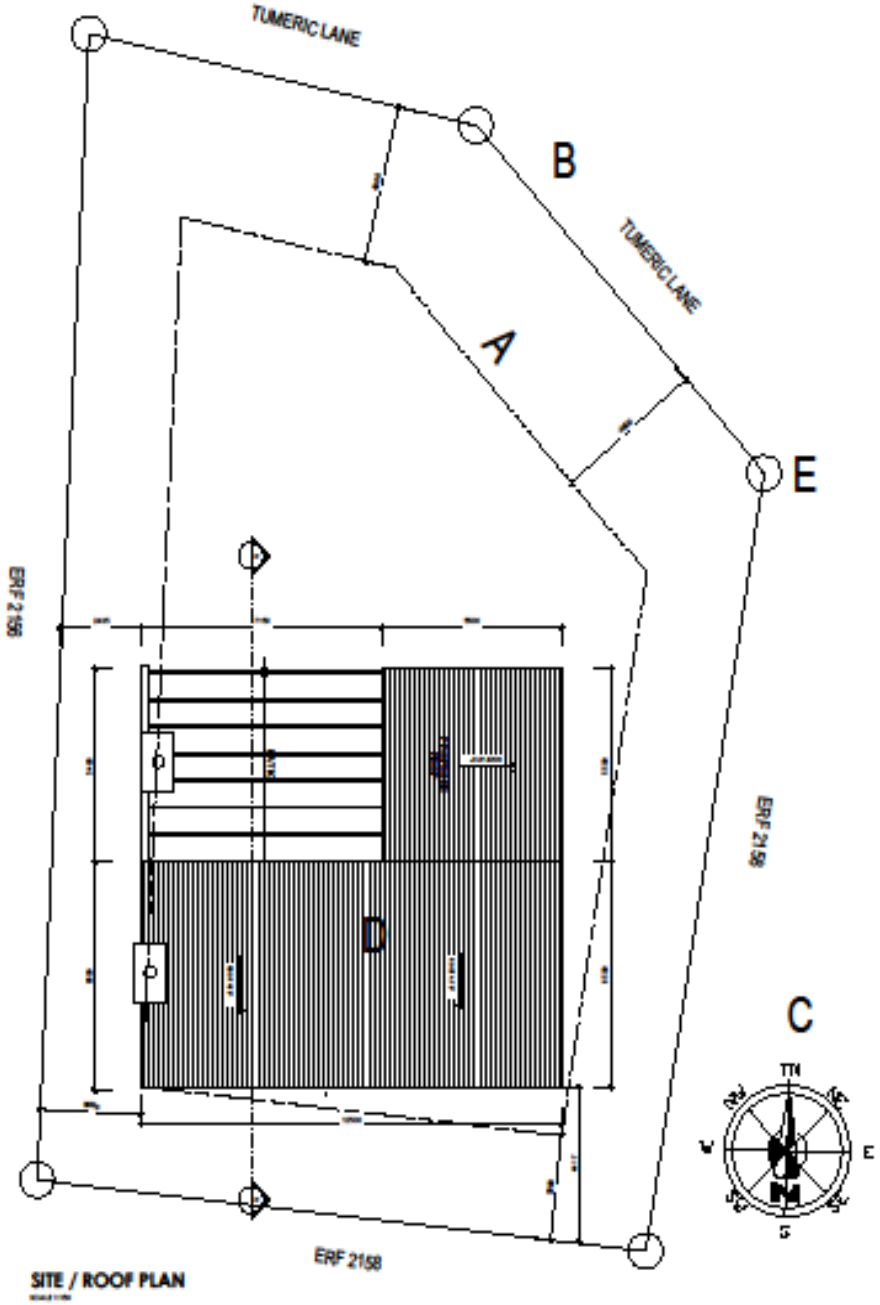
DIAGRAM SHEET 2



SITE PLAN SCALE NTS

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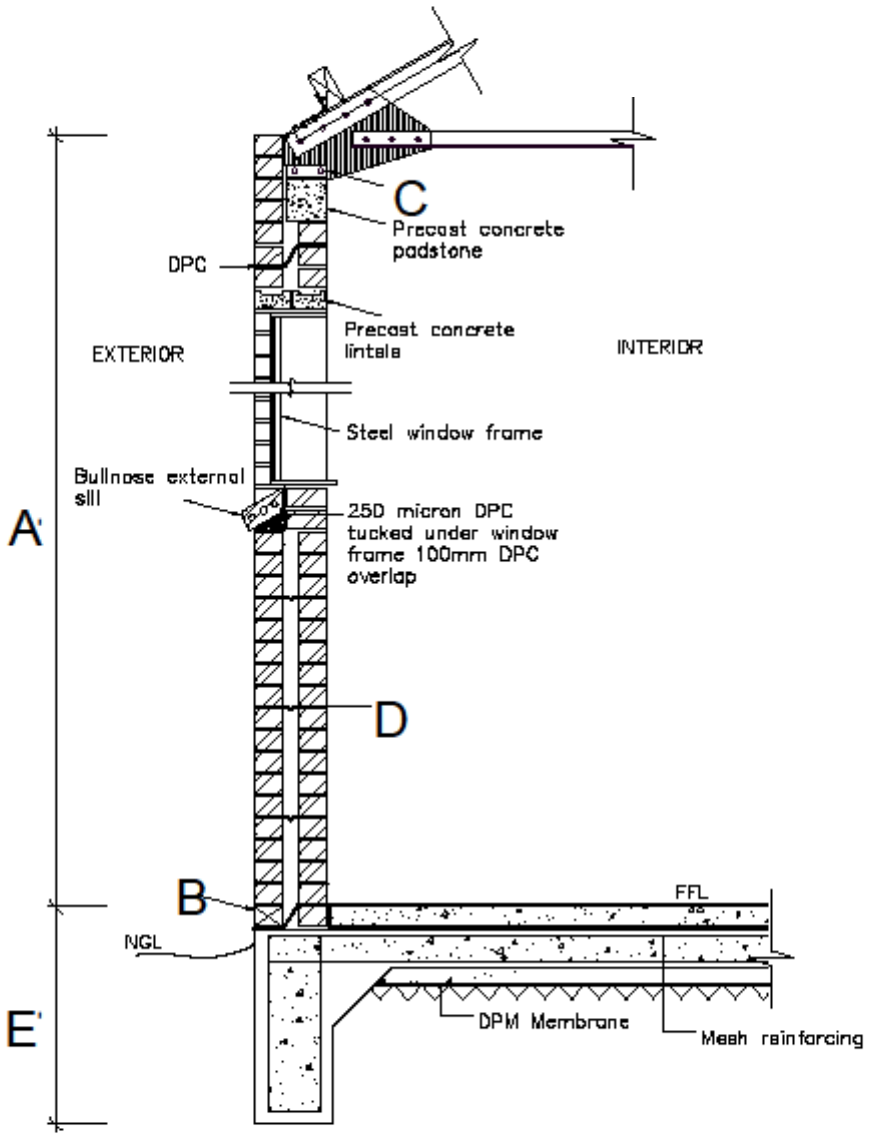
DIAGRAM SHEET 3



TYPICAL WALL SECTION SCALE NTS

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