



MARKING MEMORANDUM

NATIONAL SENIOR CERTIFICATE EXAMINATION

2017

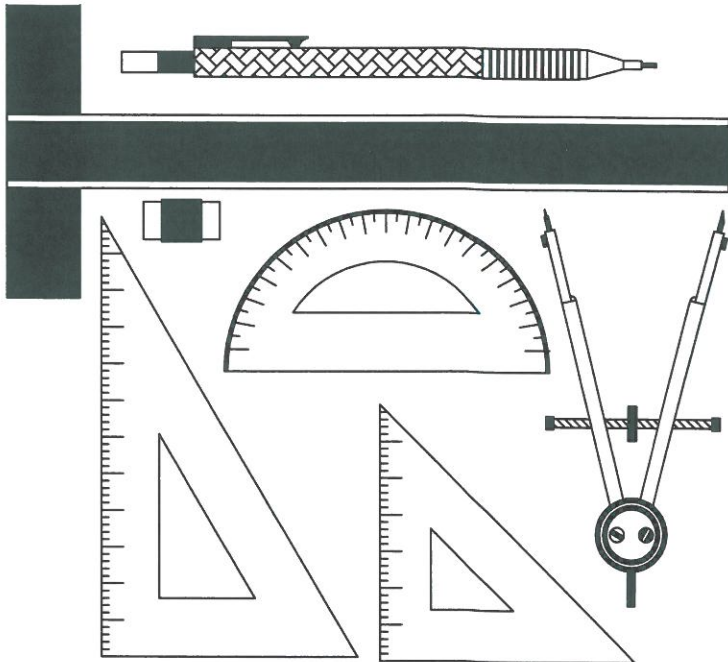
ENGINEERING GRAPHICS AND DESIGN

PAPER 1

MARKS: 200
TIME: 3 HOURS

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

- 1. This question paper consists of **6 pages** including the cover page and **4 questions**.
- 2. **All** questions must be answered.
- 3. Unless specified otherwise, all questions are in **First-angle Orthographic Projection**.
- 4. Unless specified otherwise, all questions are to be completed to a **scale of 1:1**.
- 5. **All** answer sheets must be re-stapled in numerical order, even questions that are not attempted/blank.
- 6. All **construction work** must be shown.
- 7. Print your **examination number** neatly on each page.
- 8. Use only the **answer sheets** provided.
- 9. Your drawings should reflect **neatness** and **accuracy**.
- 10. All dimensions or detail not given may be **assumed** in **good proportion**.
- 11. Your drawings should comply with SANS 10143.



FOR OFFICIAL USE ONLY									
QUESTION	SECTION	MARK			MODERATED			MAXIMUM	CODE
1	CIVIL ANALYTICAL							20	
2	INTERPENETRATION & DEVELOPMENT							40	
3	TWO-POINT PERSPECTIVE							40	
4	CIVIL DRAWING							100	
SYMBOL	TOTAL							200	
								100	

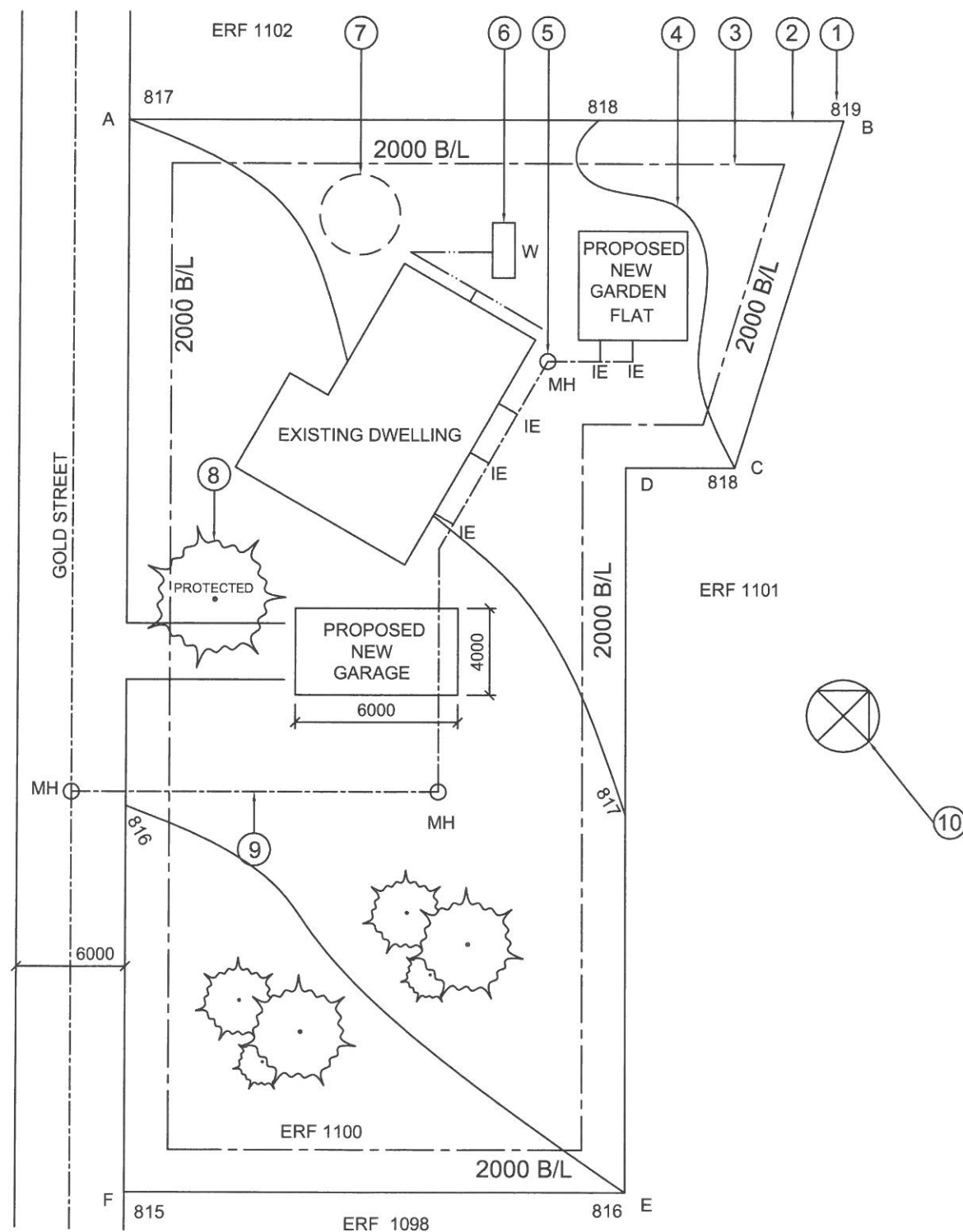
FINAL CONVERTED MARK	CHECKED BY
100	

EXAMINATION NUMBER											

"designing the future"

23 COPPER STREET
GEORGE
6529

LAND SURVEYOR'S CERTIFICATE
SIDE LENGTHS
AB = 33000, BC = 16700
CD = 5000, DE = 36000
EF = 22000, FA = 42000



CIVIL
ANALYTICAL

1.1 What type of civil drawing is shown?	SITE PLAN	1
1.2 What elevation faces the Gold Street?	SOUTH WEST ELEVATION	1
1.3 Who checked the drawing?	T B ZULU	1
1.4 In which town is the architect's office located?	GEORGE	1
1.5 On what erf number will the proposed additions be erected?	1100	1
1.6 What is the feature at 1 called?	CORNER / BEACON HEIGHT	1
1.7 What is the feature at 2 called?	BOUNDARY LINE	1
1.8 What is the feature at 3 called?	BUILDING LINE	1
1.9 What is the feature at 4 called?	CONTOUR LINE	1
1.10 What is the feature at 5 called?	MAN HOLE	1
1.11 What is the feature at 6 called?	WATER TANK	1
1.12 What is the feature at 7 called?	TREE TO BE REMOVED	1
1.13 What is the feature at 8 called?	PROTECTED TREE	1
1.14 What is the feature at 9 called?	SEWAGE / SEWER LINE	1
1.15 Which direction would you face when reversing out of the garage?	NORTH EAST	1
1.16 How many metres would Mr Villiers walk if he walked the boundary?	154.7	1
1.17 By how many metres is the highest corner above the lowest?	4	1
1.18 What is the closest Mr Villiers is allowed to build to Gold Street?	2000mm / 2m	1

$$\begin{aligned}\text{Area} &= \text{length} \times \text{breadth} \\ &= 6\text{m} \times 4\text{m} \\ &= 24\text{m}^2\end{aligned}$$

Answer:

20 MARKS

EXAMINATION NUMBER

ANSWER SHEET 1

QUESTION 2

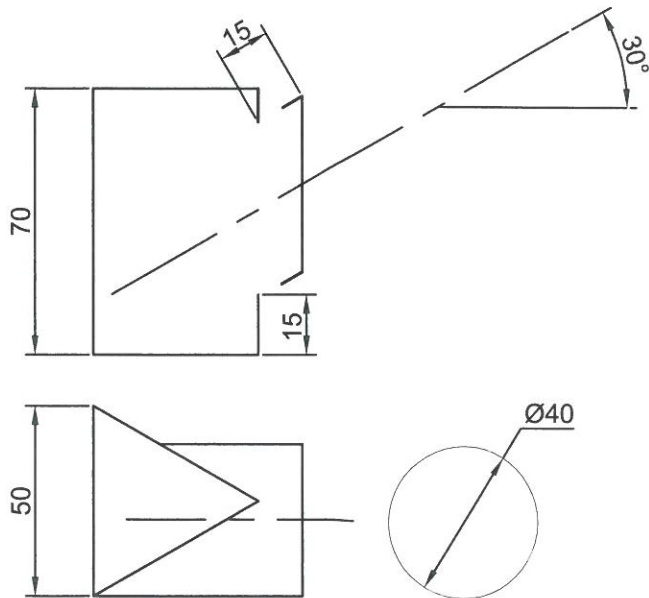
INTERPENETRATION
& DEVELOPMENT

The figure below shows the INCOMPLETE Front View and the Top View of an **EQUILATERAL TRIANGULAR DUCT** penetrated by an **CIRCULAR PIPE** drawn in First-angle Orthographic Projection. The auxiliary view of the circular pipe is also shown in the Top View.

- Draw the following:
- 2.1 the complete FRONT view clearly showing the curve of interpenetration. Show all hidden detail.
 - 2.2 the complete TOP view.
 - 2.3 the development of the two surfaces of the triangular duct that are being penetrated, clearly showing the curve of interpenetration. Show all construction.

ASSESSMENT CRITERIA

- You will be assessed on your ability to do the following:
- draw the given views 5
 - complete the front view 17
 - show necessary construction 3
 - develop and label the triangular duct 15



Given	●	= 5
Front View:		
Hidden Detail	●	= 3
Interpen	●	= 14
Construct	●	= 3
Development	●	= 15
		40

GIV	5
FV	17
CON	3
DEV	15

40 MARKS

EXAMINATION NUMBER

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ANSWER SHEET 2

CIVIL
DRAWING

100 MARKS

[illegible]