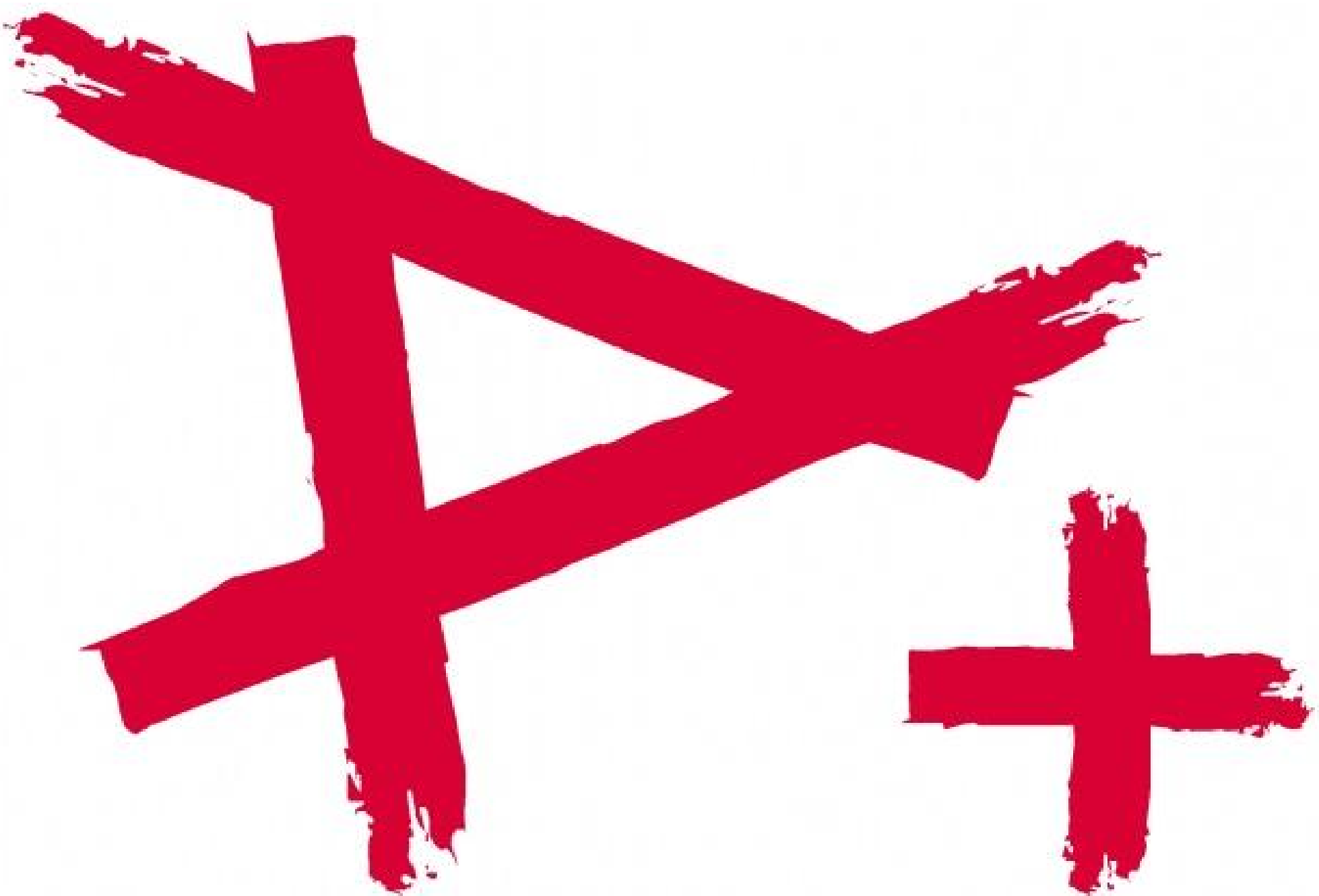
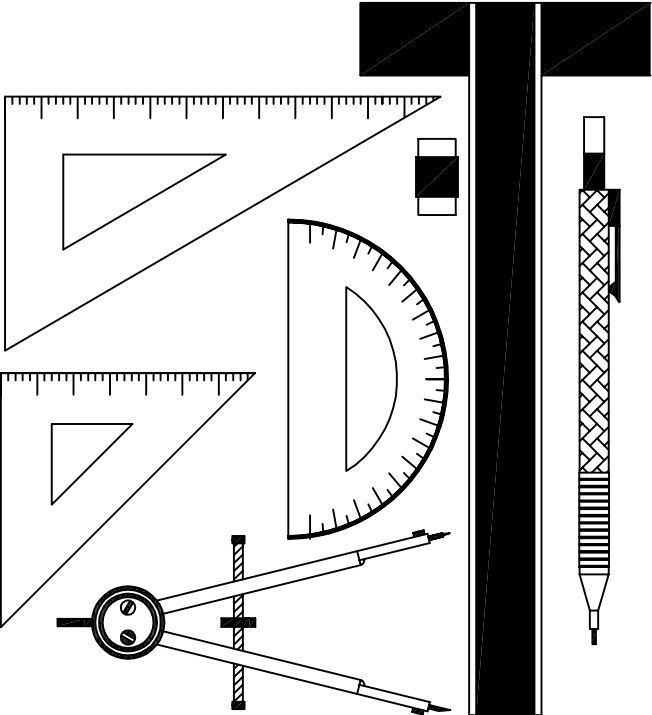






MARKING MEMORANDUM



NATIONAL SENIOR CERTIFICATE EXAMINATION

2016

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					
2	INTERPENETRATION & DEVELOPMENT					
3	TWO-POINT PERSPECTIVE					
4	CIVIL DRAWING					
SYMBOL	TOTAL			200		
				100		

FINAL CONVERTED MARK	CHECKED BY
100	

EXAMINATION NUMBER									

Architectural drawing of a guest suite. The suite includes a bedroom with a bed, a bathroom, a dressing area, and a wooden deck. The drawing is labeled with dimensions and materials.

Labels in drawing:

- DRESSER
- ND64
- ND64
- 1500 x 4500 wooden deck
- GUEST SUITE carpet
- 5

Z G Architects

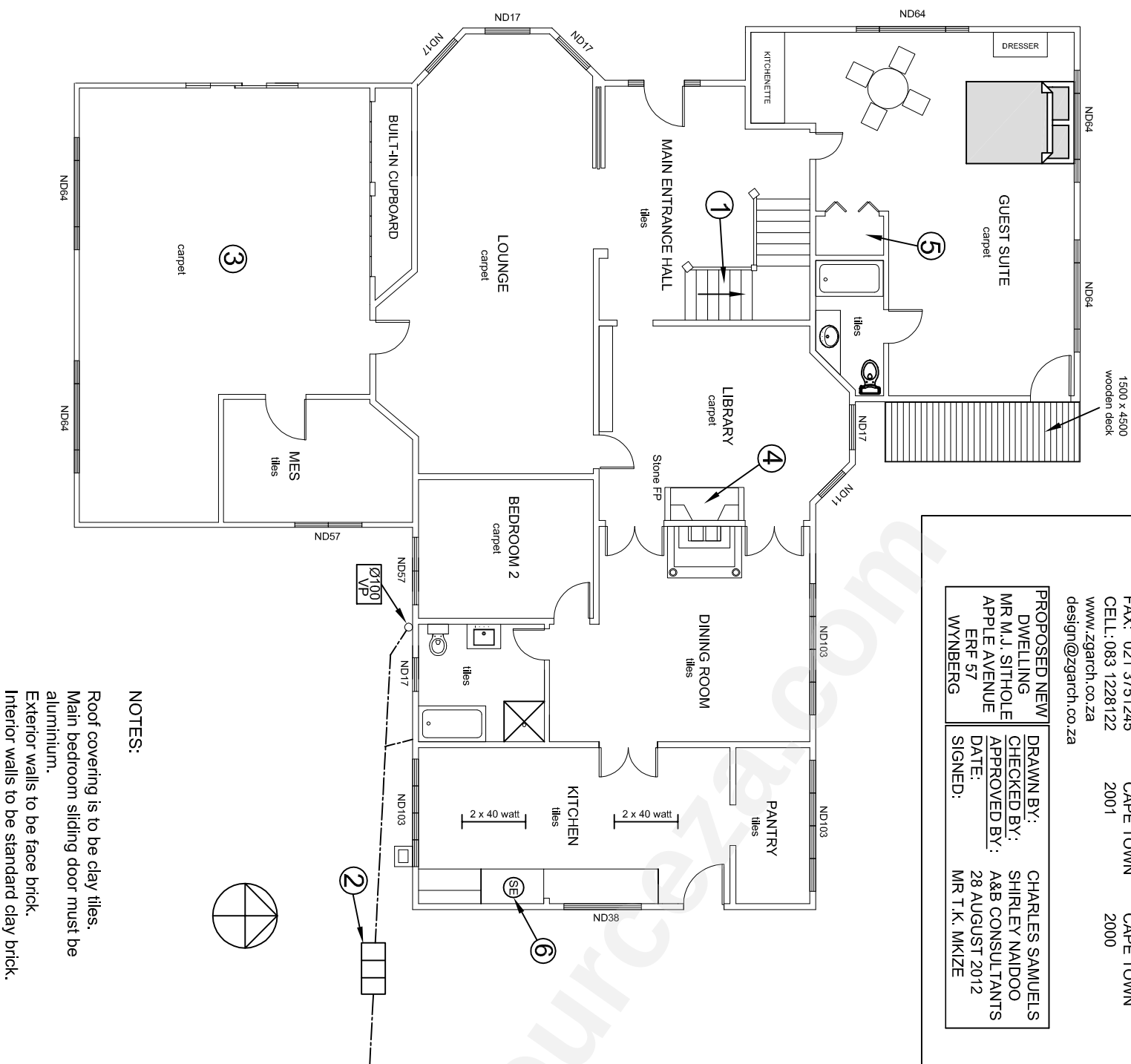
"where the future is drawn"

Architectural drawing of a house with a gabled roof and multiple windows.

Architectural drawing of a house with a gabled roof and multiple windows, showing a different angle or section.

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PROPOSED NEW DWELLING	DRAWN BY: CHARLES SAMUELS
MR M.J. SITHOLE	CHECKED BY: SHIRLEY NAIDOO
APPLE AVENUE	APPROVED BY: A&B CONSULTANTS
ERF 57	DATE: 28 AUGUST 2012
WYNBERG	SIGNED: M R T.K. MKIZE



NOTES:

Roof covering is to be clay tiles.
Main bedroom sliding door must be aluminium.
Exterior walls to be face brick.
Interior walls to be standard clay brick.

STUDY THE ADJACENT DRAWING AND ANSWER THE QUESTIONS THAT FOLLOW:

1.1 What type of civil drawing is shown?	FLOOR PLAN
1.2 How many bathrooms does this dwelling have?	3
1.3 What is the diameter of the ventilation pipe?	100 mm
1.4 Who is the owner of the property ERF 57?	Mr M J SITHOLE
1.5 In which city is the architect's office found?	CAPE TOWN
1.6 In which elevation would you see the main entrance door?	WEST
1.7 What is the feature at 1 called?	STEPS / STAIRS
1.8 What is the feature at 2 called?	SEPTIC TANK
1.9 What is the room designation indicated by the number 3?	MAIN/MASTER BEDROOM
1.10 What does the abbreviation 'FP', as indicated at feature 4, stand for?	FIRE PLACE
1.11 Suggest what the feature indicated by arrow 5 might be.	WALK-IN WARDROBE / CLOSET / DRESSING ROOM
1.12 What is the feature at 6 called?	SMOKE EXTRACTOR
1.13 How many ND17 windows are shown on this drawing?	5
1.14 How many 40 watt fluorescent tubes are used in the kitchen?	4
1.15 How many rooms have a tile floor finish?	7
1.16 How many external doors are shown on this drawing?	4
1.17 What type of brick must be used for the exterior walls?	FACE BRICK
1.18 What is the area of the wooden deck in square metres?	6.75
1.19 In the space below, draw, in NEAT freehand, the PLAN VIEW and ELEVATION VIEW of the SABS convention for a wall-mounted urinal.	

PLAN VIEW	ELEVATION VIEW
	

ANSWER SHEET 1

EXAMINATION NUMBER

QUESTION
INTERPENETRATING
& DEVELOPMENT

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

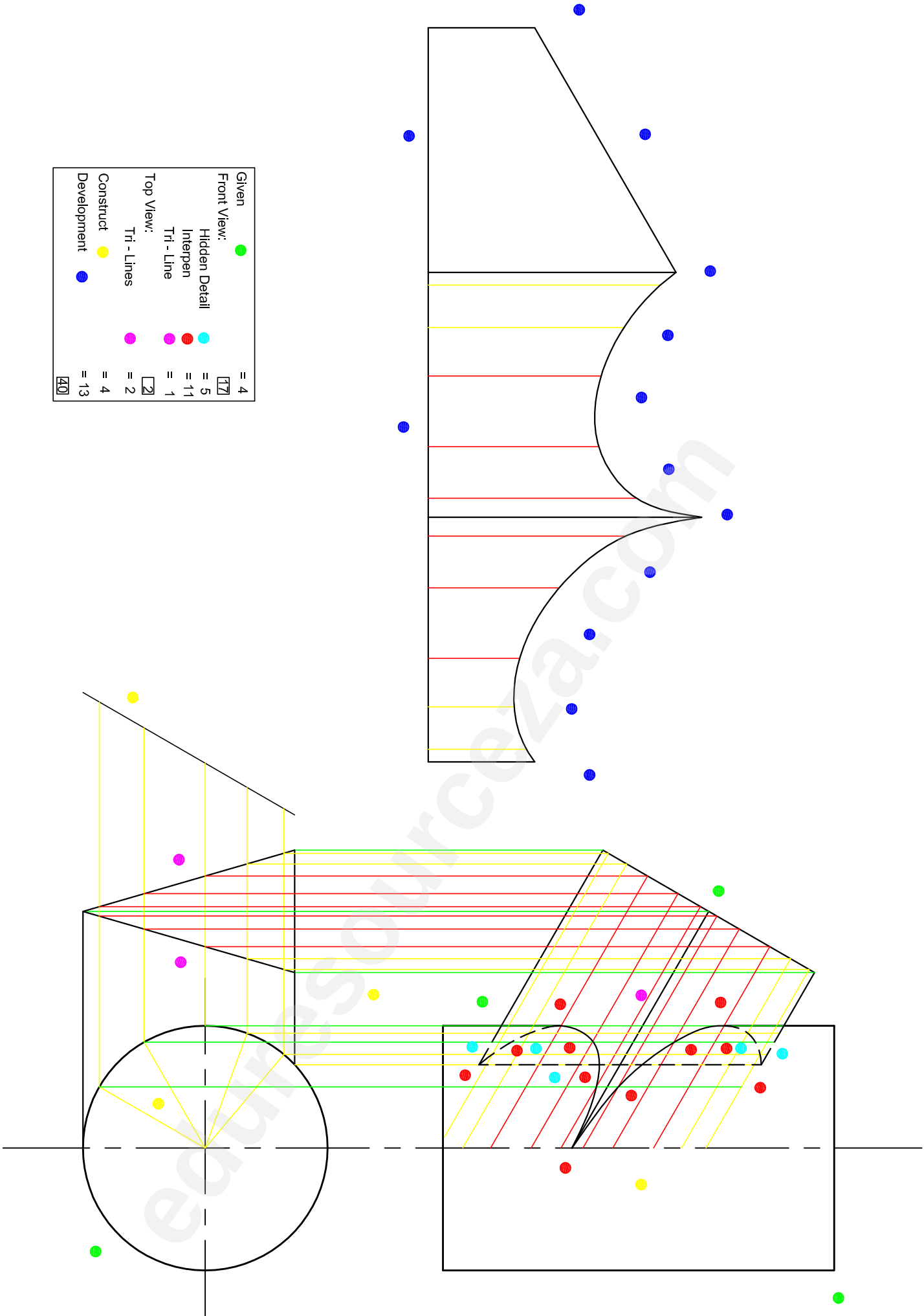
Draw the following:

- 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 triangular duct.

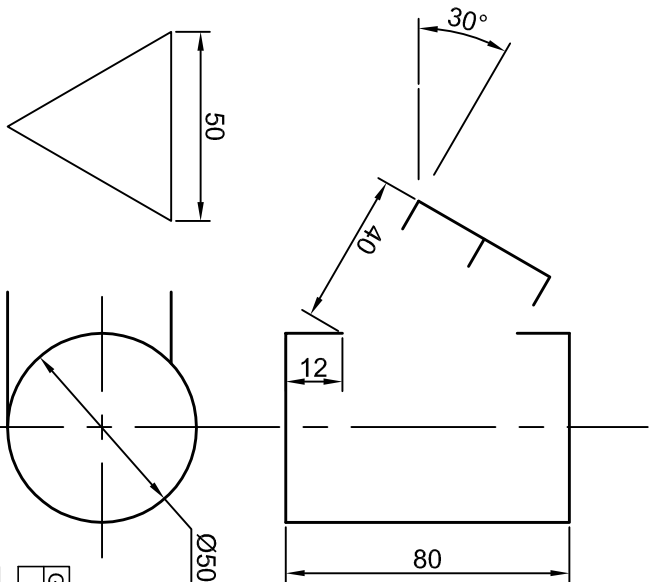
Show all construction.

ASSESSMENT CRITERIA

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



Given	●	= 4
Front View:		[17]
Hidden Detail	●	= 5
Interpen	●	= 11
Tri - Line	●	= 1
Top View:		[2]
Tri - Lines	●	= 2
Construct	●	= 4
Development	●	= 13
		[40]



GIV	4
FV	17
TV	2
CON	4
DEV	13

EXAMINATION NUMBER

ANSWER SHEET 2

QUESTION

TWO-POINT PERSPECTIVE

The figure shows the three views of an apartment. Draw a neat two-point perspective view of the dwelling.

- PP - Picture Plane
- HL - Horizon Line
- GL - Ground Line
- SP - Station Point

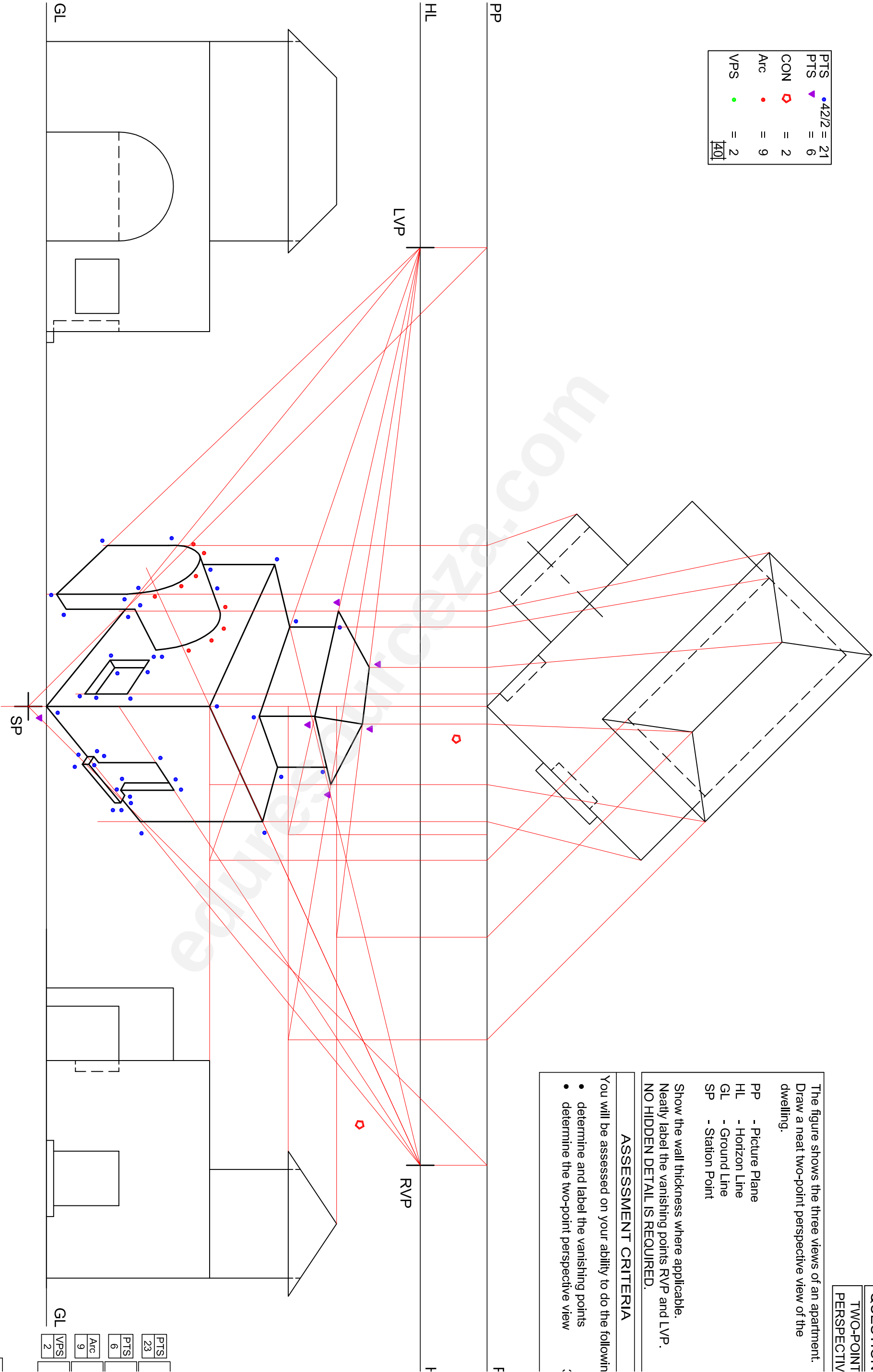
Show the wall thickness where applicable. Neatly label the vanishing points RVP and LVP. NO HIDDEN DETAIL IS REQUIRED.

ASSESSMENT CRITERIA

You will be assessed on your ability to do the following

- determine and label the vanishing points
- determine the two-point perspective view

PTS	42/2 = 21
PTS	= 6
CON	= 2
Arc	= 9
VPS	= 2
	40



PTS	23
PTS	6
Arc	9
VPS	2

ANSWER SHEET 3

EXAMINATION NUMBER

QUESTION

CIVIL

DRAWING

Assessment Criterie

Sectional South Elevator

1	Ceiling Battens		
2	Wall Plates		
3	Ceiling Board		
4	Truss Plates		
5	Roof Truss		
6	Purlins		
7	Roof		
8	Walls		
9	Window		
10	Floor & Foundation		
11	DPC		
12	Hatching		
13	Fascia Board		
14	Roof Detail		
15	Walls - elevation		
16	Labels		
17	Outside window		
18	External Door Position		

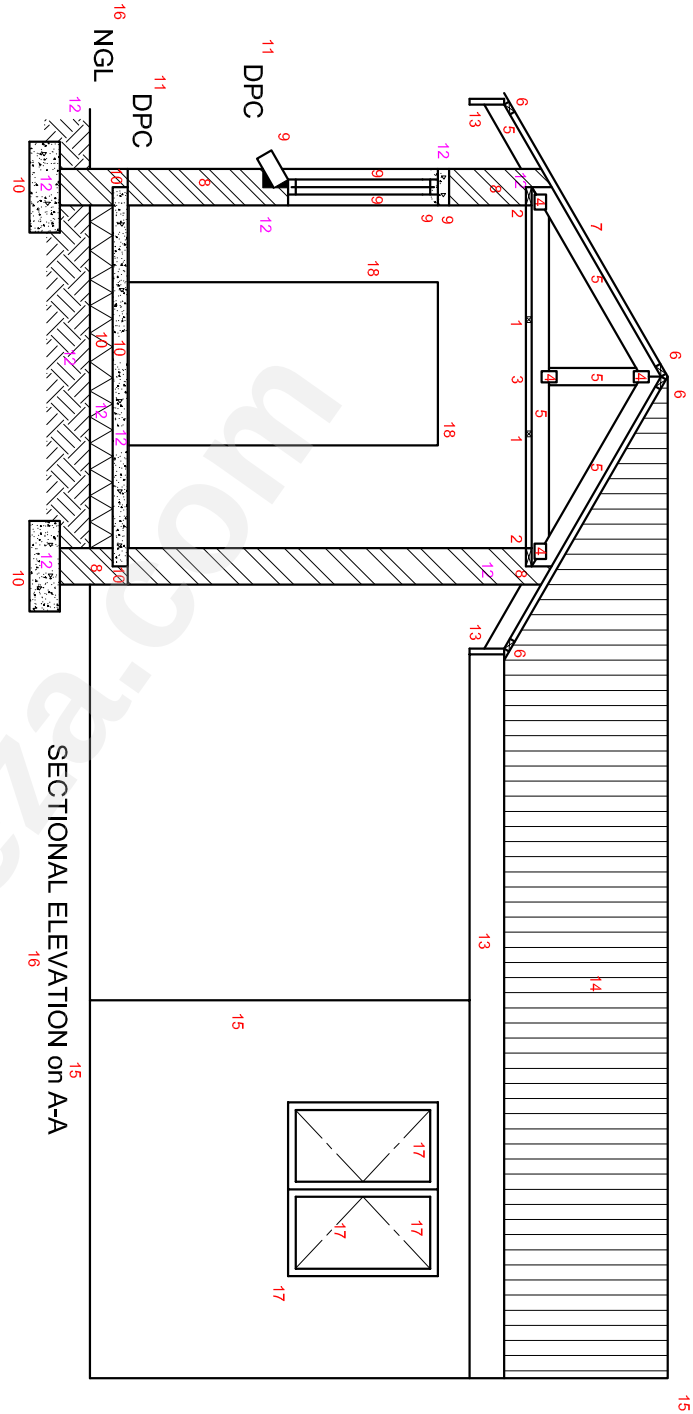
Subtotal

Floor Plan

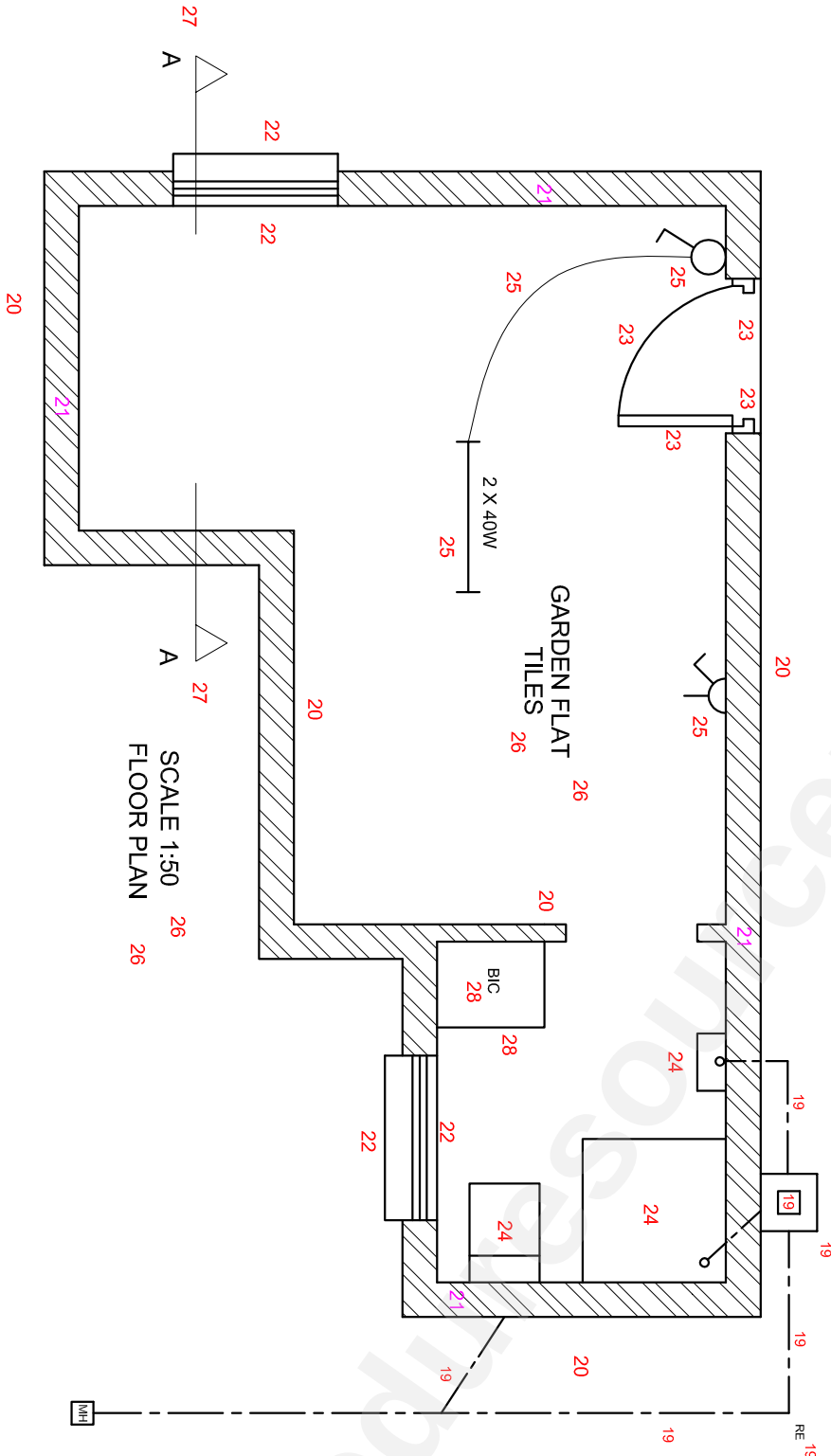
19	External Plumbing		
20	Walls		
21	Hatching		
22	Windows		
23	Door		
24	Internal Plumbing		
25	Electrical		
26	Labels		
27	Cutting Plane		
28	Cupboard		

Subtotal

TOTAL



SECTIONAL ELEVATION on A-A



SCALE 1:50
FLOOR PLAN

EXAMINATION NUMBER

ANSWER SHEET 4