



INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. ALL drawings are in first-angle orthographic projection, unless stated otherwise.
3. ALL drawings must be drawn to scale 1:1, unless stated otherwise.
4. ALL questions must be answered on the DIAGRAM SHEET as instructed.
5. ALL the pages must be restapled in numeric sequence, irrespective of whether the question was attempted or not.
6. Time management is essential in order to complete all the questions.
7. Print your name and surname as well as the grade in the space provided on each page.
8. ALL answers must be drawn accurately and neatly.
9. ALL necessary construction and projection lines must be shown.
10. Plan each drawing carefully from the given position, which is indicated on the diagram sheets.
11. Any details or dimensions not given must be assumed in good proportion.

ENGINEERING GRAPHICS AND DESIGN

GRADE 12

PAPER 1

JUNE 2019

TIME: 3 HOURS

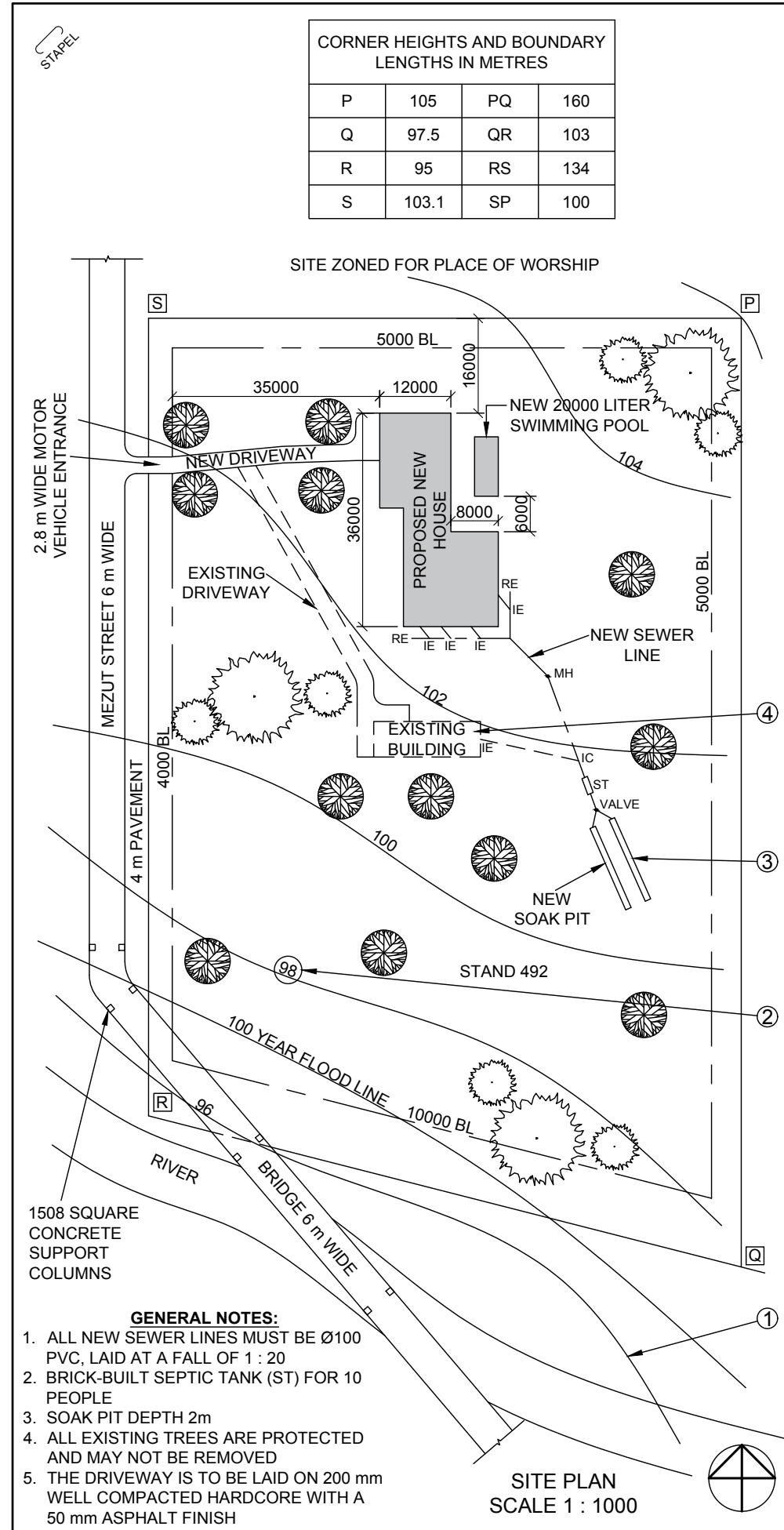
TOTAL: 100

This question paper consists of 6 pages

FOR OFFICIAL USE ONLY								
QUESTION	MARKS OBTAINED			½	MODERATED			½
1								
2								
3								
4								
TOTAL								
	2	0	0		2	0	0	

FINAL CONVERTED MARK	CHECKED BY
100	

NAME & SURNAME	MEMORANDUM	GRADE	12	1
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NOTE:
Contractors must verify all dimensions and levels on site before commencing work. Architects to be notified immediately of any discrepancies.

ARCHITECT'S SIGNATURE
CLIENT'S SIGNATURE

QUESTION 1: ANALYTICAL (CIVIL)

Given:
The site plan for a proposed new house and swimming pool, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

Instructions:
Complete the table below by neatly answering the questions, which refer to the accompanying drawing title panel.

[24]

3		
2		
1	12-06-2017	Include a soak pit
REVISION	DATE	DESCRIPTION

YURI ARCHITECTS
25 AGUSTA ROAD
DURBAN
4097
TEL: 081 991 9692

PRINTED BY: THULA PRINTERS
DATE OF PRINT: 10-09-2017

DRAWING TITLE:
SITE PLAN

PROJECT:
PROPOSED NEW DWELLING AND POOL FOR MR AND MRS OLIVIER OF STAND 492, 18 MEZUT STREET, HANENHEIM, PINETOWN

PROJECT NUMBER: JB-12/2017
DRAWING NUMBER: AC 12/36/300

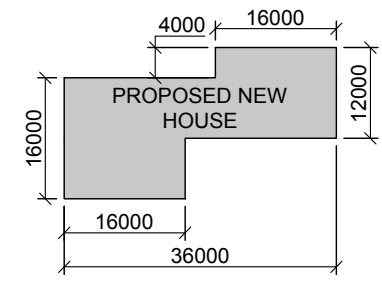
DATE: 2017-06-20
DRAWN: JOHANN
CHECKED: MORNE
SCALE: 1 : 1000

REFERENCE CODE: P1Q1-SEPT2017

QUESTIONS		ANSWERS	
1	What type of drawing is presented?	SITE PLAN	1
2	What architectural firm prepared the drawing?	YURI ARCHITECTS	2
3	What is the project number?	JB-12/2017	1
4	What is the width of the bridge in meters?	6 m	1
5	What finishing must be applied to the driveway?	ASPHALT	1
6	How many new inspection eyes are indicated?	4	1
7	What is the shortest distance from Mezut Street to the proposed new house?	47 m	1
8	What is the land used for north of the property?	PLACE OF WORSHIP	1
9	What does the line at 1 indicate?	100 YEAR FLOOD LINE	2
10	What does the circled number on the line at 2 indicate?	HEIGHT ABOVE SEA LEVEL	1
11	What is the depth of the feature at 3 in millimeters?	2000 mm	1
12	What does the broken line at 4 indicate?	BUILDING TO BE REMOVED	1
13	What does the abbreviation ST stand for?	SEPTIC TANK	1
14	What is the fall of the new sewerage line?	1:20	1
15	What is the height at corner R	95m	1
16	Which elevation of the new house is viewed from the new driveway?	WEST ELEVATION	1
17	In the space below (ANSWER 15), determine the perimeter of the proposed new house in meters.	112 m (Calculation 1, answer 1, meter 1)	3
18	In the space below (ANSWER 16), determine the total area of the stand in square meters.	14 725 m ² (Calculation 1, answer 1, meter ² 1)	3
		TOTAL	24

ANSWER 17
Show ALL calculations.

$P = 16 + 20 + 4 + 16 + 12 + 20 + 8 + 16 = 112 \text{ m}$



ANSWER 18
Show ALL calculations.

AREA OF RECTANGLE = $100 \times 134,500 = 13450 \text{ m}^2$

AREA OF TRIANGLE = $\frac{1}{2} \times 100 \times (25) = 1275 \text{ m}^2$

TOTAL AREA OF SITE = $13450 + 1275 = 14725 \text{ m}^2$



QUESTION 2: SOLID

Given:

The uncompleted front view and top view of a triangular pyramid and square prism with a square pyramid as a hole. The position of side AC.

Instruction:

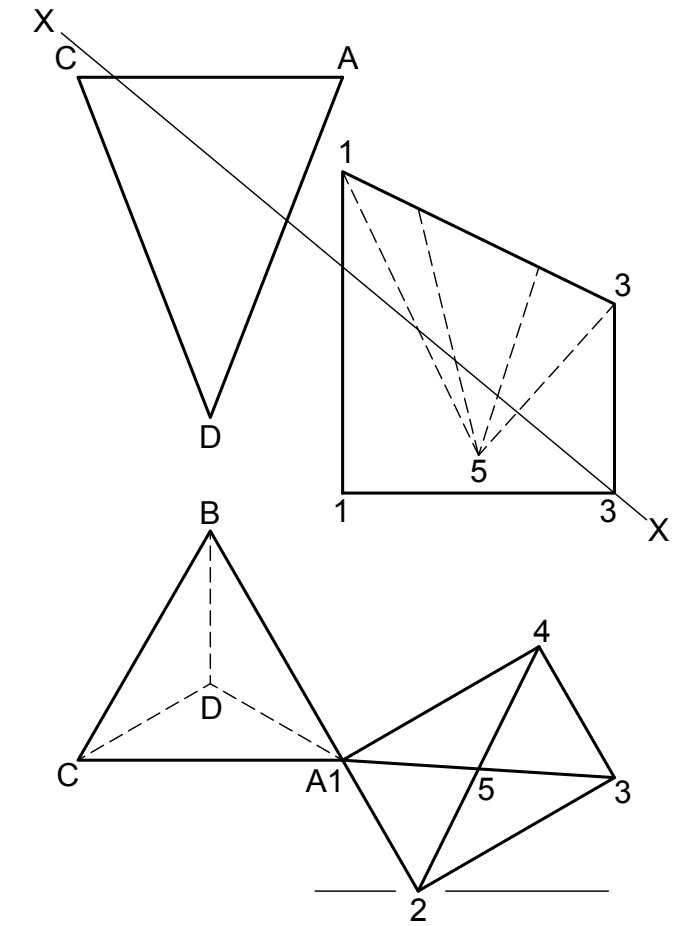
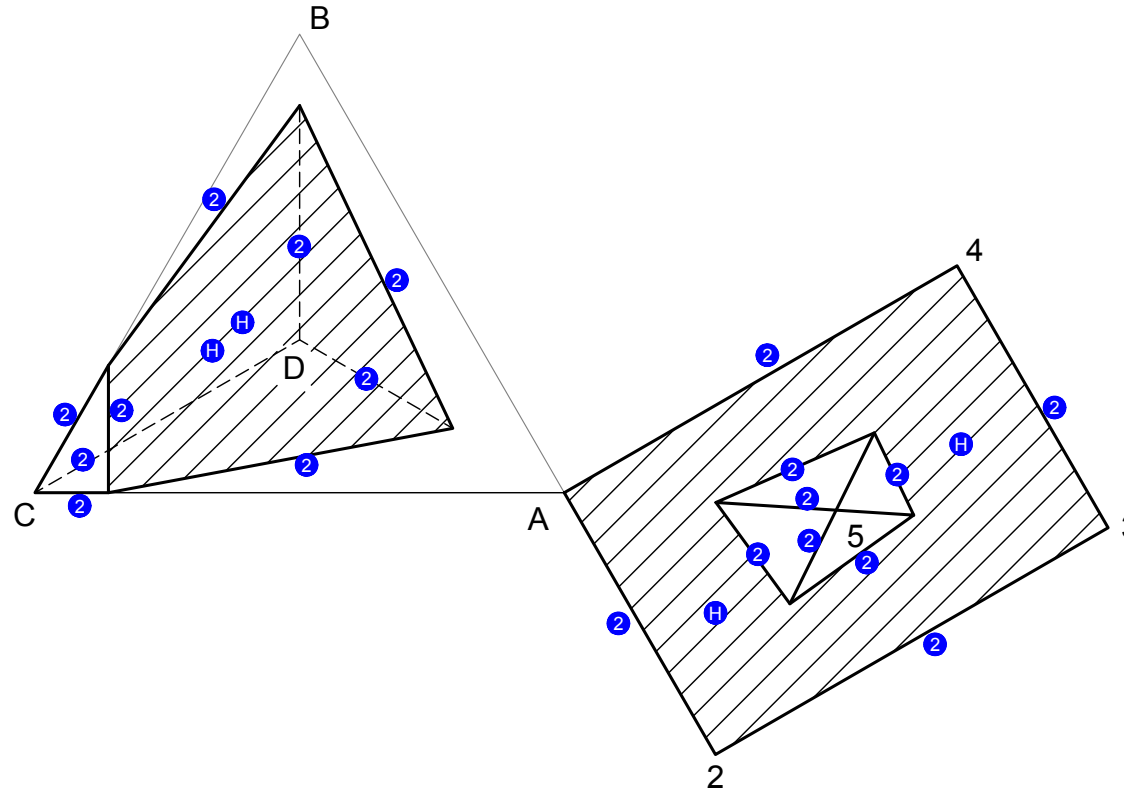
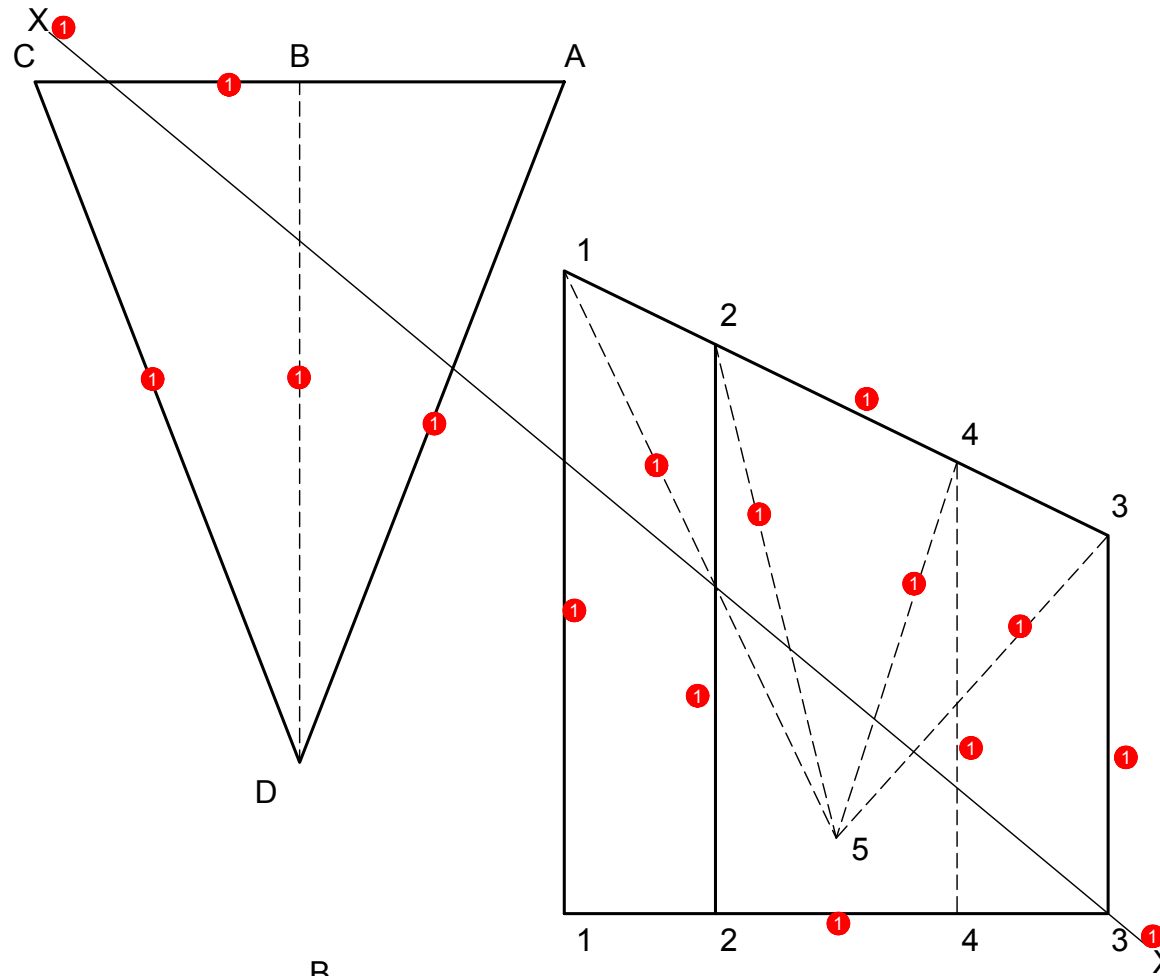
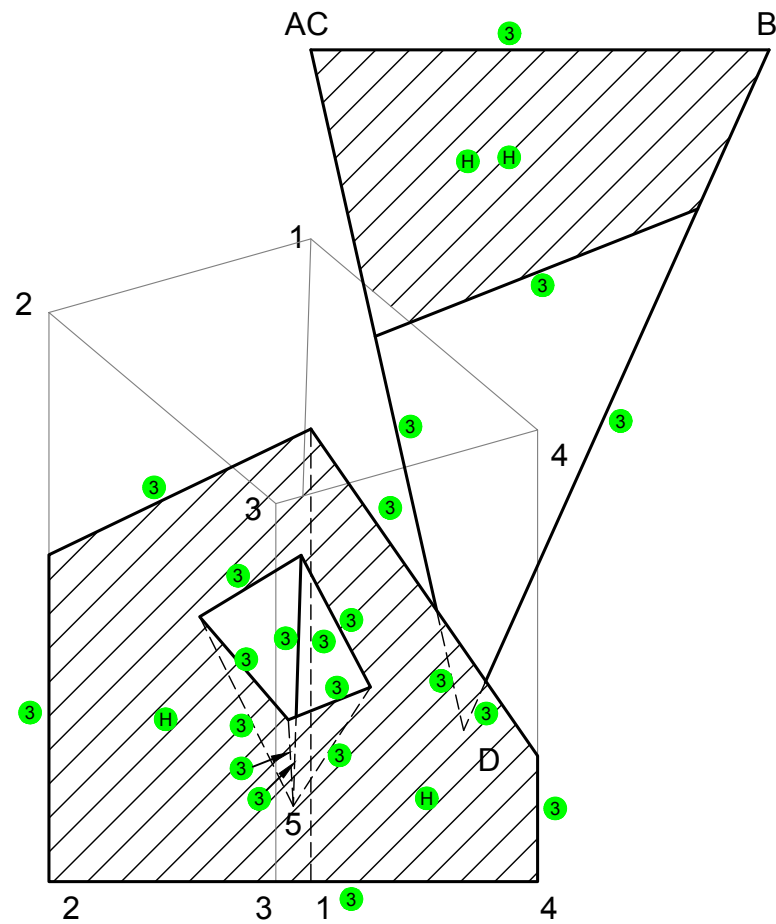
Draw to scale 1:1 the following views:

- 2.1 A sectional top view on section X-X.
- 2.2 The completed front view.
- 2.3 A section right view on section X-X.

Note:

All hidden detail must be shown.

[40]



ASSESSMENT CRITERIA			
1	FRONT VIEW	16	
2	SECTIONAL TOP VIEW	11.5	
3	SECTIONAL RIGHT VIEW	12.5	
TOTAL		40	

STAPEL

QUESTION 3: PERSPECTIVE

Given:

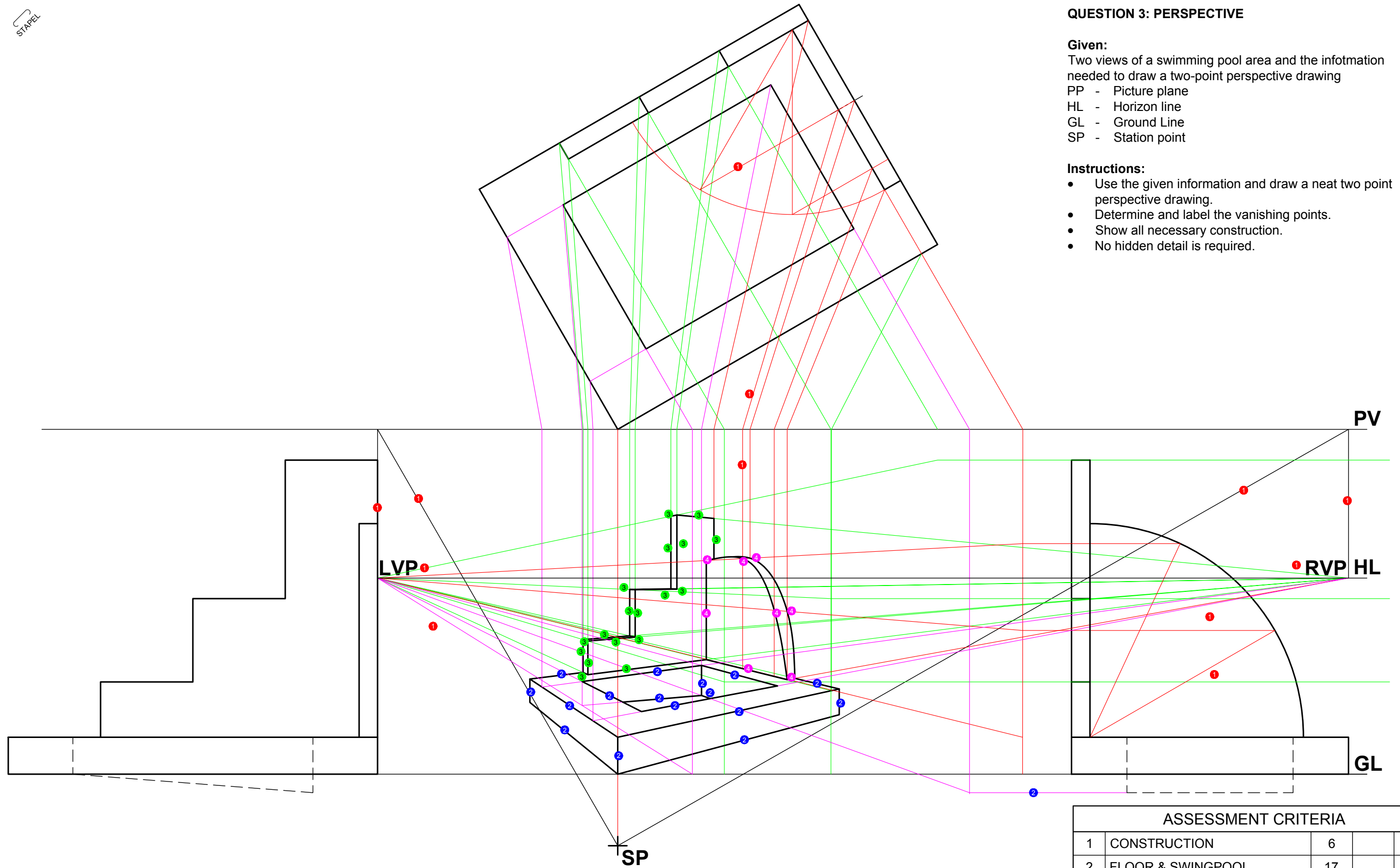
Two views of a swimming pool area and the information needed to draw a two-point perspective drawing

- PP - Picture plane
- HL - Horizon line
- GL - Ground Line
- SP - Station point

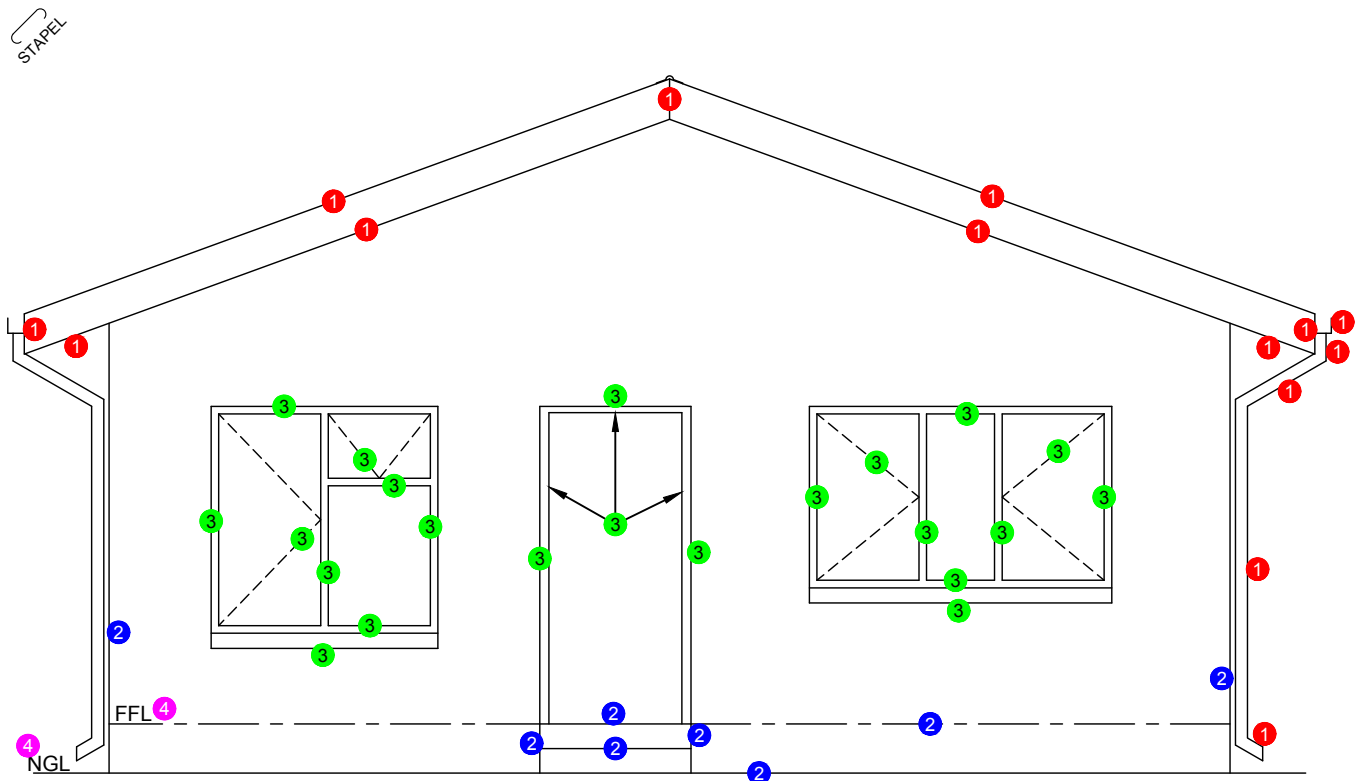
Instructions:

- Use the given information and draw a neat two point perspective drawing.
- Determine and label the vanishing points.
- Show all necessary construction.
- No hidden detail is required.

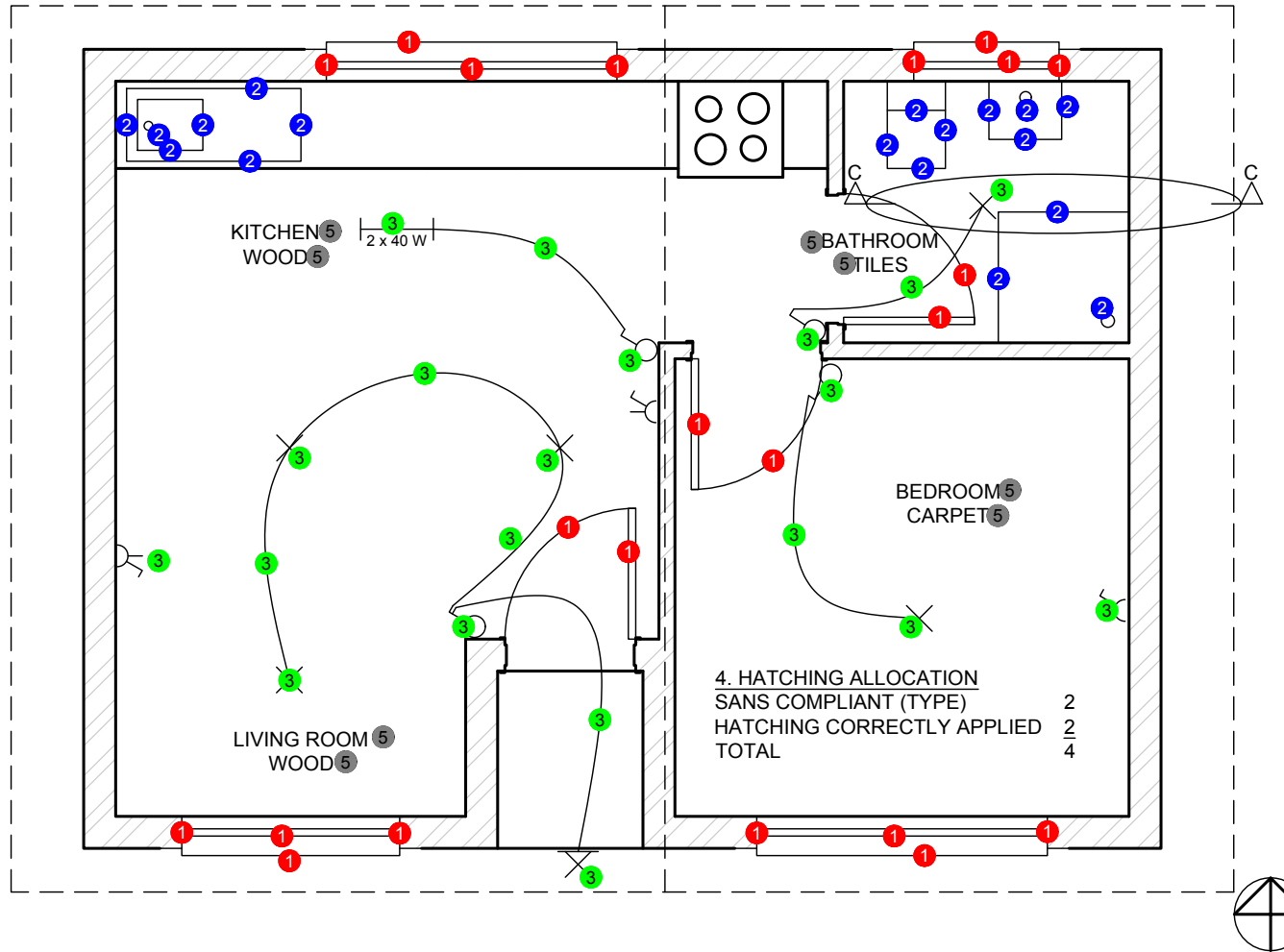
(40)



ASSESSMENT CRITERIA				
1	CONSTRUCTION	6		
2	FLOOR & SWINGPOOL	17		
3	WALL	9		
4	CIRCLE	8		
TOTAL		40		



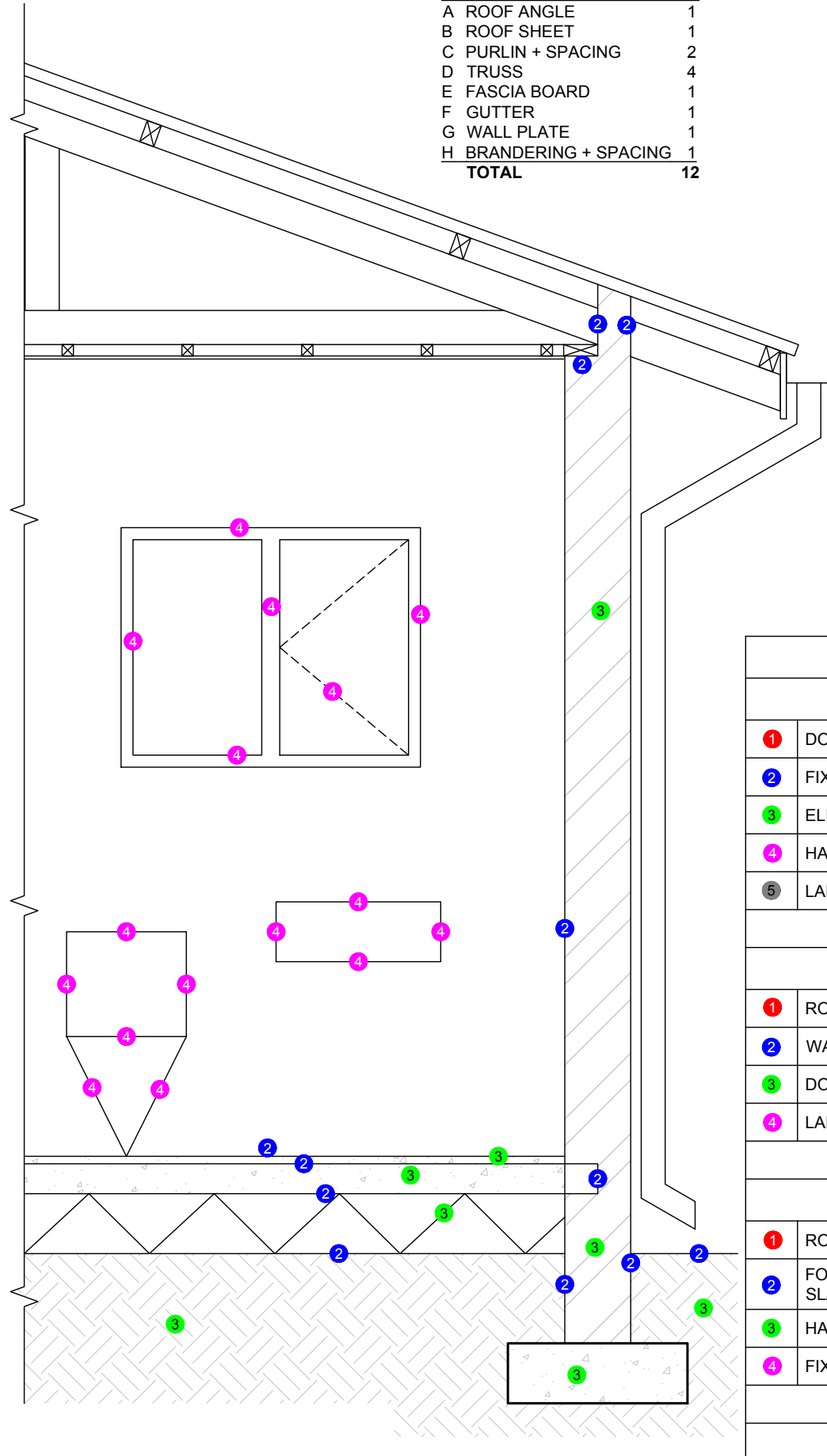
SOUTH ELEVATION
SCALE 1:50



4. HATCHING ALLOCATION
SANS COMPLIANT (TYPE) 2
HATCHING CORRECTLY APPLIED 2
TOTAL 4

MARK ALLOCATION FOR ROOF

A	ROOF ANGLE	1
B	ROOF SHEET	1
C	PURLIN + SPACING	2
D	TRUSS	4
E	FASCIA BOARD	1
F	GUTTER	1
G	WALL PLATE	1
H	BRANDERING + SPACING	1
TOTAL		12



MARK ALLOCATION FOR ROOF SECTION (4.2)

A (1)	
B (1)	
C (2)	
D (4)	
E (1)	
F (1)	
G (1)	
H (1)	
TOTAL (12)	

ASSESSMENT CRITERIA

FLOOR PLAN

1	DOORS + WINDOWS	11		
2	FIXTURES	9		
3	ELECTRICAL	10		
4	HATCHING	4		
5	LABELS	4		
SUB TOTAL 1		38		

SOUTH ELEVATION

1	ROOF + RWDP	7		
2	WALLS + FFL + STEP	4		
3	DOOR + WINDOW	11		
4	LABELS	2		
SUB TOTAL 2		24		

DETAILED SECTION

1	ROOF	12		
2	FOUNDATION + WALL + SLAB	6		
3	HATCHING	8		
4	FIXTURES + WINDOW	8		
SUB TOTAL 3		34		
GRAND TOTAL		96		