



OFFICE OF TASMANIAN
ASSESSMENT, STANDARDS
& CERTIFICATION

Tasmanian Certificate of Education
External Assessment 2017

PLACE YOUR CANDIDATE
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HOUSING and DESIGN

(HDS315113)

Time allowed for this paper

- Working time: 2 hours
- Plus 15 minutes recommended reading time

Pages:	12
Questions:	4
Attachments:	Answer Sheet for Section A (Question 1 and 2) Answer Sheet for Section B (Question 3 and 4)

Candidate Instructions

1. You **MUST** make sure that your responses to the questions in this examination paper will show your achievement in the criteria being assessed.
2. There are **TWO** sections to this paper.
3. You must answer:
 - **ONE** question from **Section A** - on the A3 answer sheet for that section.
 - **ONE** question from **Section B** - on the A3 answer sheet for that section.
4. All written responses must be in English.

On the basis of your performance in this examination, the examiners will provide results on each of the following criteria taken from the course statement:

Criterion 3 Apply features and principles which will contribute to environmental sustainability within design decisions.

Criterion 4 Understands and applies architectural design principles relating to the functional use of space.

SECTION A

Answer **ONE** question from this section.

Your answer should be on the A3 answer sheet labelled **Section A**.

This section assesses **Criterion 3**.

Question 1

Refer to the sketch and plans opposite, site boundary is 30m x 55m.

The Glass House, by architect Philip Johnson, is a modernist icon and known for bringing the 'outdoor' into the inside. Your client, Moira, currently lives in The Glass House and loves its seamless integration into the landscape as well as its open plan.

Moira is about to relocate to Tasmania, and would like you to adapt the qualities of The Glass House to suit thermal comfort in that location.

Her land is located just outside of Launceston. Unlike its original location where there were panoramic views, spectacular views are now only to the south-east. The site has prevailing winds from the north-west.

Moira understands that The Glass House cannot be simply replicated for a cool temperate climate. She also knows she cannot afford a double glazed box, and due to her health condition, can no longer have an open fire place. She is seeking a new design that shares many qualities of The Glass House (aspects of open plan, simplicity and connection to the outside) but resolves these new demands.

Aim

You are required to apply passive solar design principles to the new design on the Launceston site.

Moira would also like you to:

- locate an outdoor entertaining area with a spot for a kitchen garden;
- include a new way to achieve thermal comfort for the occupants.

Response

On the **answer sheet** provided for **Section A**:

- draw a sketch plan at a scale of 1:100
- draw a sketch section at a scale of 1:100
- sketch the orientation on a site plan.

Your drawing should include orientation of the new design, indicate the materials, openings and zones, and annotations to justify the principles of passive solar design.

Section A continues.

Section A (continued)

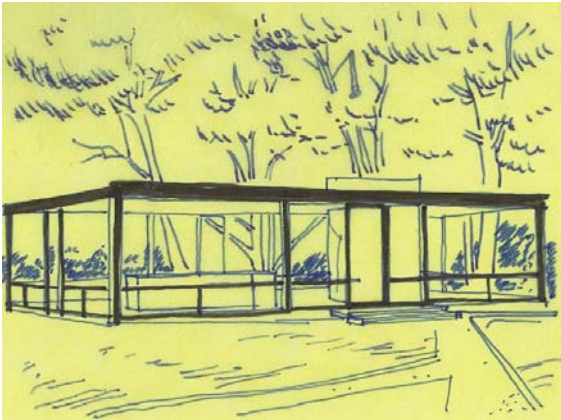
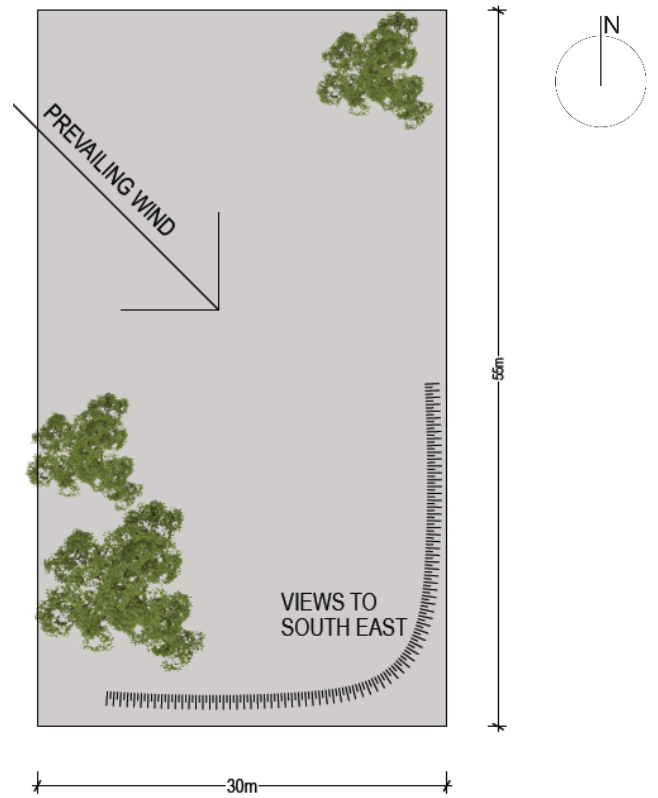
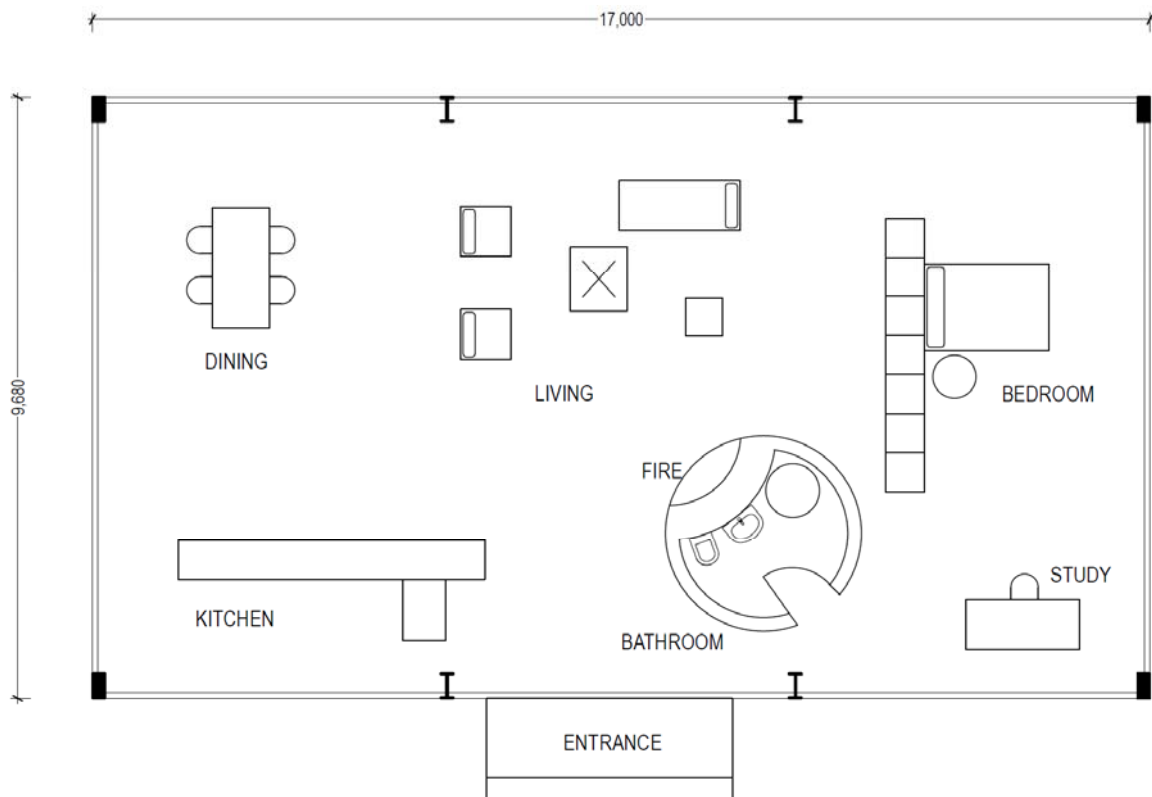


Illustration of The Glass House



Launceston Site Plan
Not to scale



Plan of The Glass House
(building height 3500mm)
Not to scale

Section A continues.

Section A (continued)

Question 2

Refer to the sketch and plans opposite, site boundary is 40m x 70m.

The Glass House, by architect Philip Johnson, is a modernist icon and known for bringing the 'outdoor' into the inside. Your client, Tom, has aspired to live in a house that shares some of the same qualities and loves its seamless integration into the landscape as well as its open plan.

However, Tom's site is on Magnetic Island, Queensland and needs to suit a tropical climate. Predominant winds are from the south, with occasional westerlies during the winter and northerlies in the summer.

The land is located on the point and has fantastic panoramic ocean and bush views. It is similar to the existing site for The Glass House, however, the Queensland site is visually exposed to a popular beach on the south.

It is impractical to replicate the original Glass House on this site due to the climate and its exposure to the south, but Tom would like you to adapt the qualities so that it can still connect with the landscape, and be a comfortable space to inhabit all year round.

Aim

You are required to orientate the design on the proposed site, re-design the approach taken to the external skin, and any other changes to best suit the climate and privacy issues without losing the essence of the Glass House design.

Tom would also like you to:

- locate an outdoor entertaining area with a spot for a kitchen garden;
- include a new way to achieve thermal comfort for the occupants.

Response

On the **answer sheet** provided for **Section A**:

- draw a sketch plan at 1:100
- draw a sketch section at 1:100
- sketch the orientation on a site plan.

Your drawing should include orientation of the new design, indicate the materials, openings and zones, and annotations to justify the principles of passive solar design.

Section A continues.

Section A (continued)

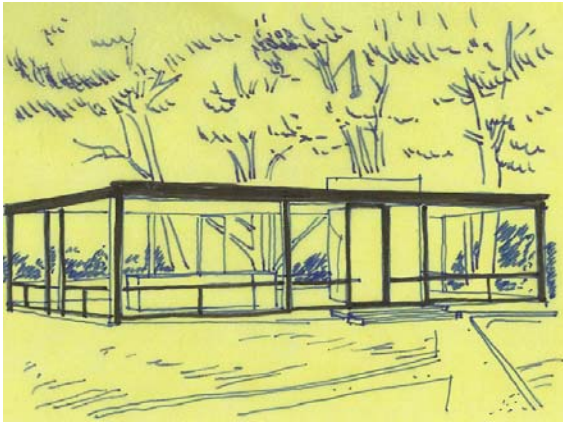
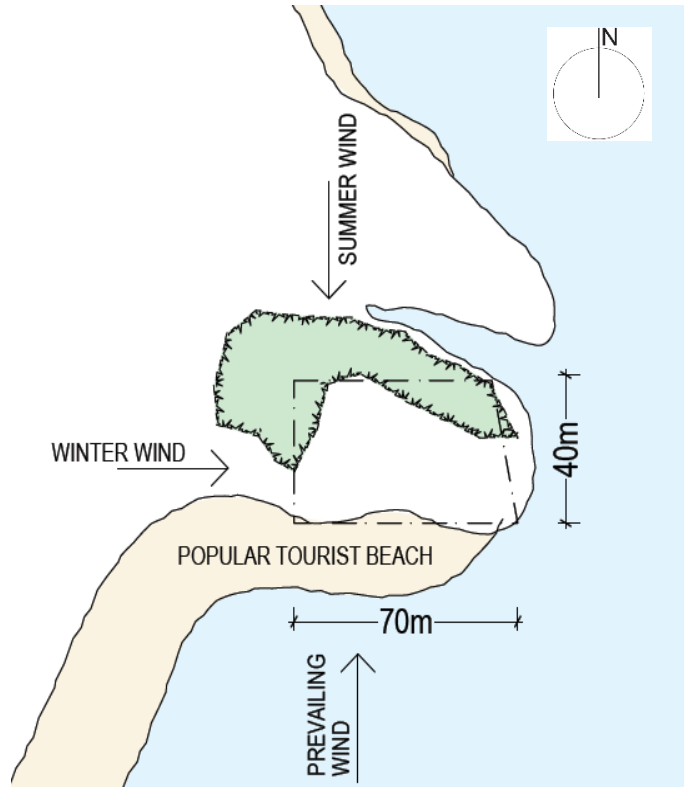
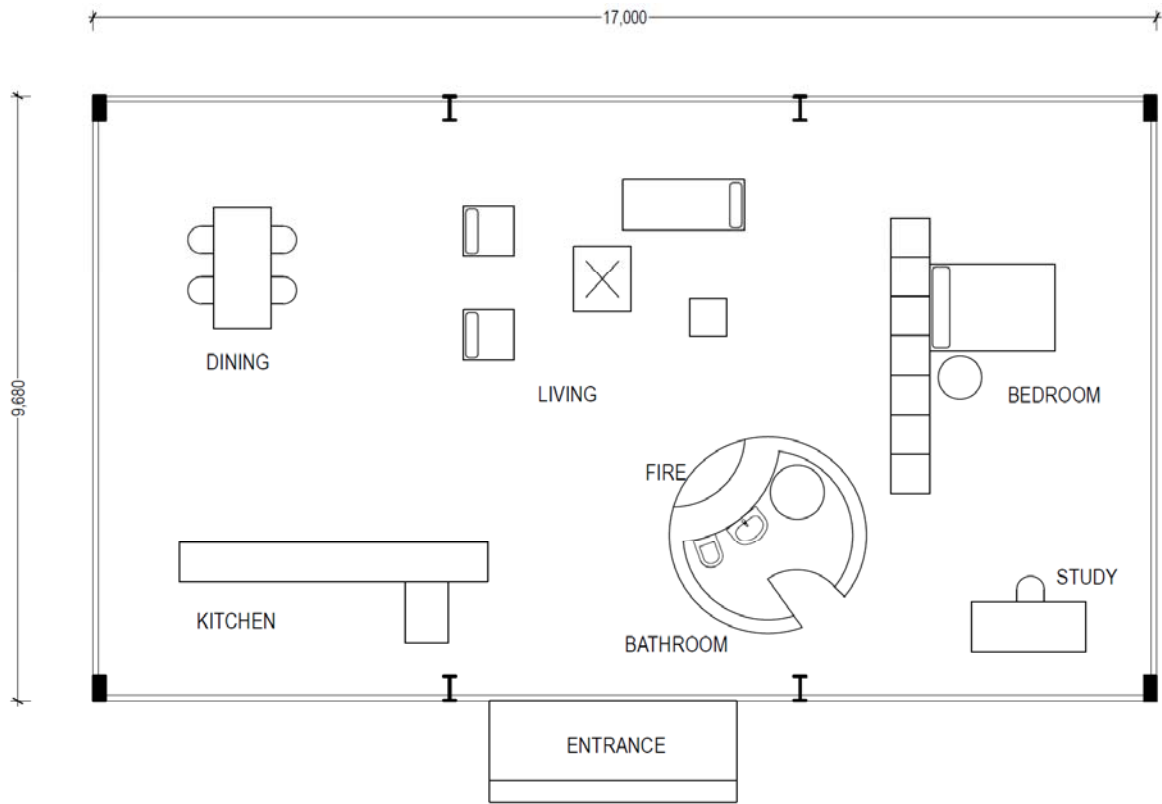


Illustration of The Glass House



Magnetic Island Site Plan
Not to Scale



Plan of The Glass House
(building height 3500mm)
Not to scale

SECTION B

Answer **ONE** question from this section.

Your answer should be on the A3 answer sheet labelled **Section B**.

This section assesses **Criterion 4**.

Question 3

Refer to the plan opposite.

Sabal and Sabri have lived in the same house since they migrated to Brunswick, Melbourne in the 1970s. Both are planning for an early retirement and want to become part of the Airbnb phenomenon. Their current house has a double garage, but neither of them drive a car so they would like you to look at options to convert their double garage into a studio apartment that they can rent out for short term stays. They would like to maintain the existing external walls, openings and connecting door.

The conversion will need to include a:

- bathroom
- kitchenette
- space to sleep two people with some level of privacy
- living area with space to set up and work on a laptop.

The current access is through a 4.5m wide roller door from a back laneway which faces east. The only other external opening is a highlight window to the south.

Aim

To make design recommendations for Sabal and Sabri.

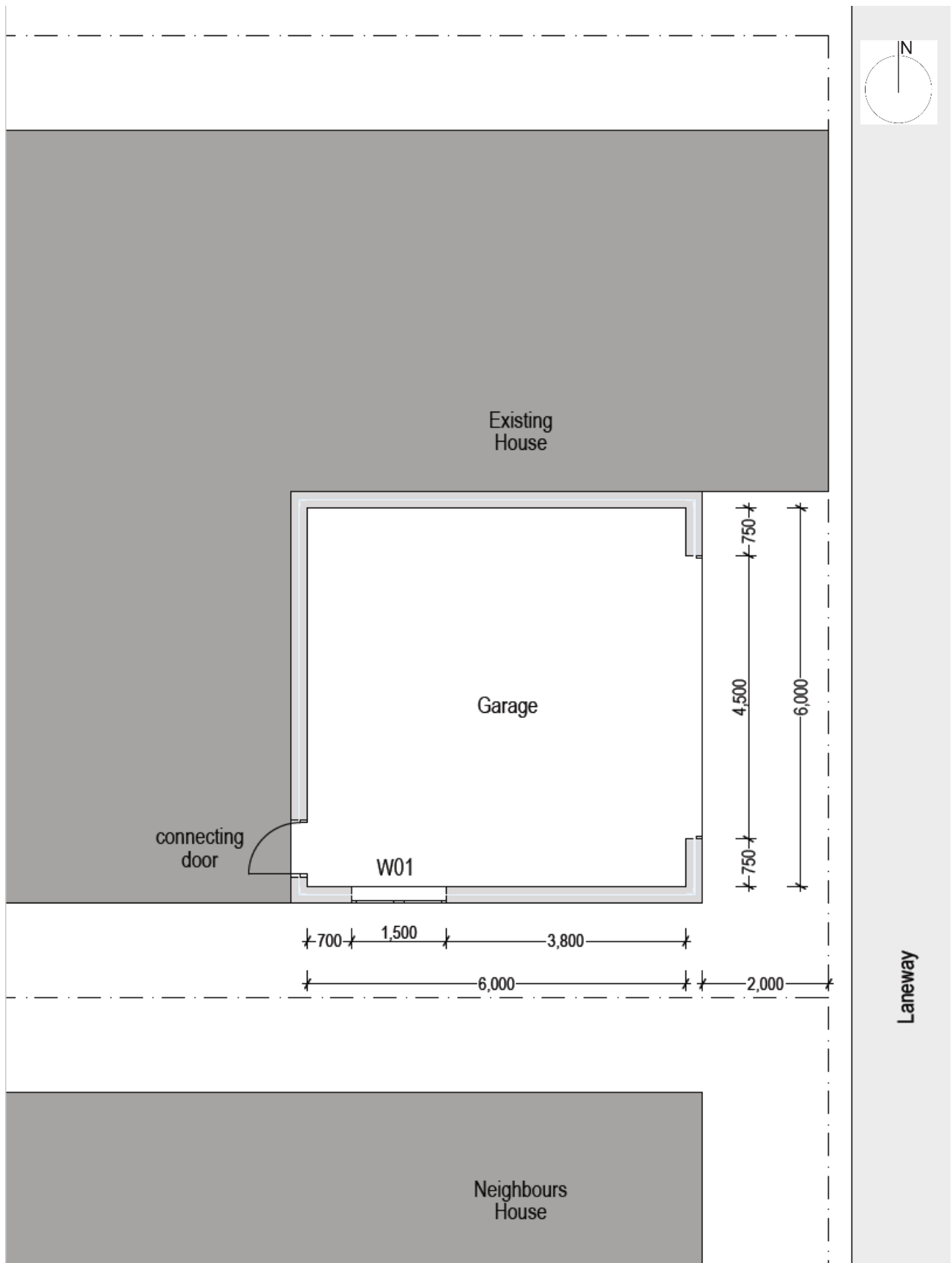
Response

On the **answer sheet** provided for **Section B**:

- draw the design layout of the new studio apartment, including new opening for garage door, furniture and fittings at a scale of 1:50
- annotate to justify the principles of functional design.

Section B continues.

Section B (continued)



Plan of Existing House + Garage
Not to scale

Section B (continued)

Question 4

Refer to the plan opposite.

Pete and Loren have just bought a 2 bedroom house in Newtown, Sydney. It has a garage that is currently unused and they would like to redevelop the space to include a new kitchen, universal access toilet for Pete's mum and space to eat. They would like to maintain the existing external walls, openings and connecting door.

The conversion will need to include a:

- kitchen
- universal access / wheelchair accessible toilet
- space to eat.

The current access is through a 4.5m wide roller door from a back laneway which faces east. The only other external opening is a highlight window to the south.

Aim

To make design recommendations for Pete and Loren.

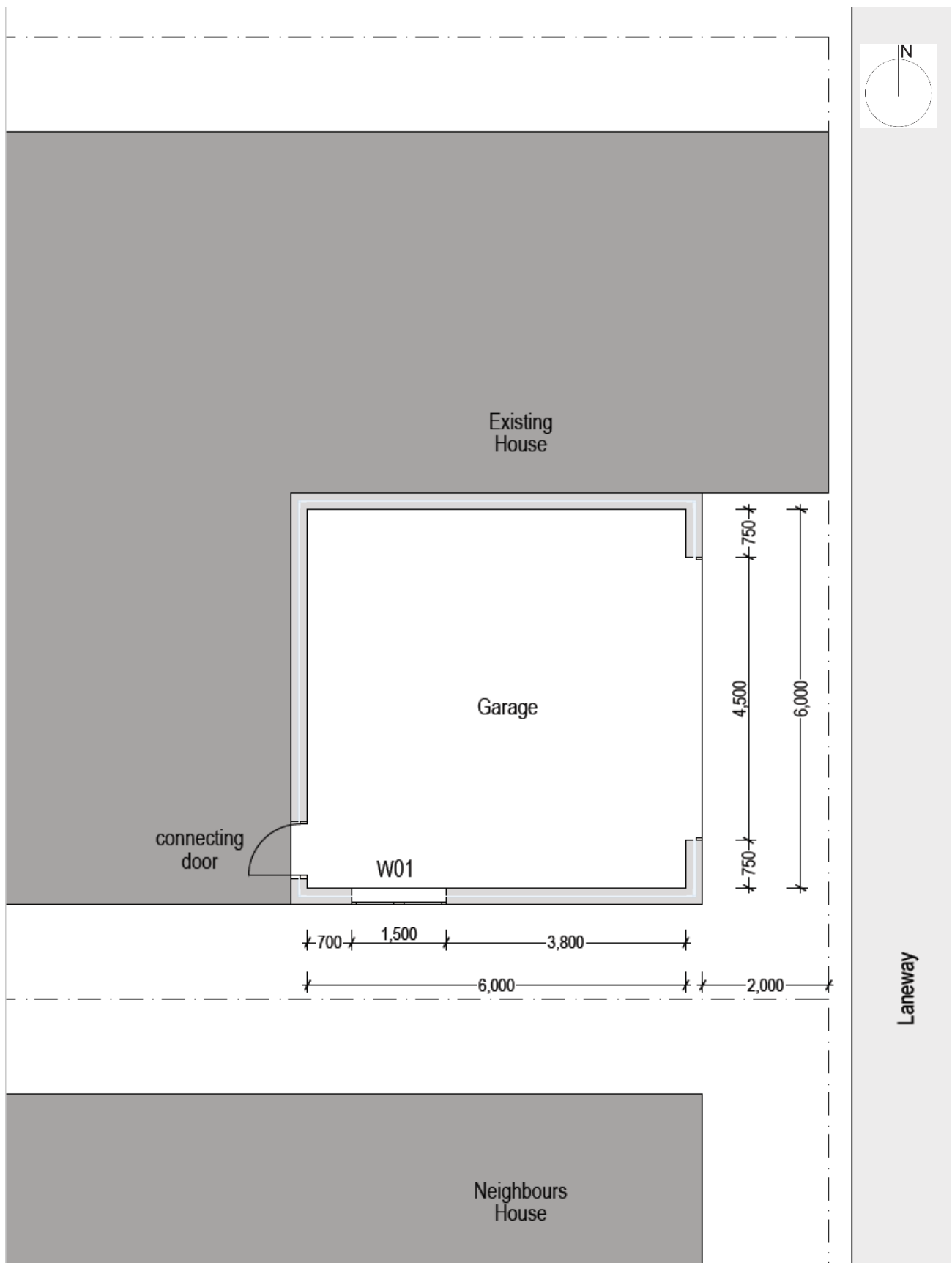
Response

On the **answer sheet** provided for **Section B**:

- draw the design layout of the new space, including new opening for garage door, furniture and fittings at a scale of 1:50
- annotate to justify the principles of functional design.

Section B continues.

Section B (continued)



Plan of Existing House + Garage
Not to scale

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