



Avi Friedman

Small Living. Innovative Dwellings for Affordability and Sustainability

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As people's daily routines and expectations evolve, the design of living spaces must adapt accordingly. The need for multifunctional rooms has become apparent; a living room that seamlessly transitions into a home office represents just one of the many adaptations that modern dwellers require. Architects, interior designers, and homebuilders are responding with innovative solutions like convertible furniture, built-in storage, and open-plan layouts that facilitate a compact but comfortable living environment.

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Avi Friedman received his Bachelor's degree in architecture and town planning from the Israel Institute of Technology, his Master's degree from McGill University, and his Doctorate from the University of Montréal. At McGill, where he is a full professor, he cofounded the Affordable Homes Program. He also holds a visiting professor position in Lancaster University in the UK. He is the author of 25 books, the principal of Avi Friedman Consultants Inc. and the recipient of numerous awards including the Lifetime Achievement Award from Sustainable Buildings Canada and the World Habitat Award. In 2000 he was selected by *Wallpaper* magazine as one of ten people from around the world »most likely to change the way we live«.

Distributors

Brockhaus Commission
Kreidlerstraße 9
D-70806 Kornwestheim
Germany
tel. +49-7154-1327-9219
fax +49-7154-1327-13
menges@brocom.de

Gazelle Book Services
White Cross Mills
Hightown
Lancaster LA1 4XS
United Kingdom
tel. +44-1524-68765
fax +44-1524-63232
sales@gazellebooks.co.uk

National Book Network
15200 NBN Way
Blue Ridge Summit, PA 17214
USA
tel. +1-800-4626420
fax +1-800-3384550
custserv@nbnbooks.com

As social, economic, and environmental challenges grow, traditional housing concepts are reevaluated. One of the common issues that cities around the world are facing is housing shortage. Rising costs of materials, labour, land, and infrastructure made affordable accommodations a chief concern for many inhabitants and policy makers. The need to reduce cost led to the emergence of high-density mixed-use areas that include small sized dwellings. It is a timely exploration that not only hold affordability promise, but also respond to the changing dynamics of contemporary households' lifestyles.

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The need to engage in novel thinking on urban living led to idea to write this book. It begins with an introduction that sets the stage for the complex interplay of factors influencing the shift towards smaller, more flexible homes. Each subsequent chapter introduces a key aspect of small home living-from sustainability and technological integration to community dynamics and aesthetic considerations accompanied by global case studies.

Small Living showcase compact living solutions, and it is a call to action for architects, designers, urban planners, and policymakers to embrace the possibilities of small-scale architecture. As our cities grow and our personal and collective needs evolve, the concepts explored in this book offer diverse options for sustainable, adaptable future in residential designs. Through detailed examinations and vibrant illustrations, this book illustrates a variety of environments, each telling a unique story of how limitations are transformed into innovations.

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Edition Axel Menges

Contents

6	Acknowledgments
7	Preface
9	Chapter 1: The merits of small living
30	Chapter 2: Creative Interior
52	Chapter 3: Sustainable living
76	Chapter 4: Narrow dwellings
96	Chapter 5: Urban fit
118	Chapter 6: Prefabricated homes
146	Chapter 7: Small apartments
168	Bibliography for the main chapters' introductions
172	Bibliography for the projects
178	Design and photography credits

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Avi Friedman

Preface

As social, economic, and environmental challenges grow, traditional housing concepts are reevaluated. One of the common issues that cities around the world are facing is housing shortage. Rising costs of materials, labour, land, and infrastructure made affordable accommodations a chief concern for many inhabitants and policy makers. The need to reduce cost led to the emergence of high-density mixed-use areas that include small sized dwellings. It is a timely exploration that not only hold affordability promise, but also respond to the changing dynamics of contemporary households' lifestyles.

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As people's daily routines and expectations evolve, the design of living spaces must adapt accordingly. The need for multifunctional rooms has become apparent; a living room that seamlessly transitions into a home office represents just one of the many adaptations that modern dwellers require. Architects, interior designers, and home-builders are responding with innovative solutions like convertible furniture, built-in storage, and open-plan layouts that facilitate a compact but comfortable living environment.

An often-discussed timely notion in design and construction is sustainability. Its origin and widespread use of the term sustainable development can be attributed to events and circumstances that occurred several decades ago. The 1992 United Nations Conference on the Human Environment in Stockholm addressed concerns regarding humanity's potential overuse of the earth's »carrying capacity«. The meeting provided a platform for the inaugural global discourse on the correlation between persistent environmental degradation and the prospects of mankind. It was acknowledged at that time that population growth in certain countries and excessive consumption in others have long lasting impacts in the form of land degradation, deforestation, air pollution, and water scarcity.

As people's awareness of protecting our living environment increases, the choice of smaller homes is becoming a more common and environmentally responsible decision. This shift is driven by the need to reduce resource consumption, as smaller homes require fewer materials for construction, maintenance, and repairs. Moreover, smaller homes are inherently more energy-efficient due to their reduced space, which requires less energy for heating and cooling. This efficiency translates into lower greenhouse gas emissions, playing a critical role in efforts to combat climate change. Additionally, the smaller footprint means using less land per dwelling unit, which helps preserve biodiversity and limits urban sprawl.

The need to engage in novel thinking on urban living led to idea to write this book. It begins with an introduction that sets the stage for the complex interplay of factors influencing the shift towards smaller, more flexible homes. Each subsequent chapter introduces a key aspect of small home living-from sustainability and technological integration to community dynamics and aesthetic considerations-accompanied by global case studies. These examples not only illustrate the practical application of the principles discussed, but also showcase the innovative spirit of designers and homeowners alike.

Climate change and adaptation, depletion of natural resources, housing affordability, and socio demographic transformations are listed and discussed in chapter 1. Interior arrangement, an important aspect that designers must negotiate, is discussed in chapter 2. The need to develop small housing prototypes that consume fewer resources and recycle others during their fabrication and occupancy has taken on an urgent priority and are looked at in chapter 3. With the current realization that large homes are costly to maintain, builders, designers and consumers are once again ex-

ploring other housing prototypes. This perspective, coupled with the shrinking size of the family and rising energy costs, has led to renewed interest in narrow homes which are discussed in chapter 4. Chapter 5 explores the introduction of small new buildings into an existing urban fabric. Attention was paid to privacy, outdoor spaces, avoiding monotony, letting light into the core of the middle units, and making efficient use of a relatively small space. In recent years, architects have demonstrated renewed interest in prefabricated methods of residential buildings. The advantages of using such systems are numerous to include time and cost savings and higher construction quality to name a few. Chapter 6 investigates small, prefabricated homes. There has been an uptick in the popularity of apartment living and micro units, which are spaces generally no larger than 56 sq. m (500 sq. ft.). These small-scale living quarters demonstrate the remarkable capabilities of contemporary interior design to optimize space efficiency and are discussed in chapter 7.

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Chapter 1: The merits of small living

With the growth of cities and the rise of challenges, such as land scarcity, high-density and affordability policy makers, designers and builders are reevaluating the current housing typologies and occupants their chosen lifestyles. High population density often results in overcrowding, traffic congestion, and land shortages-challenges that have become increasingly prominent socio-economic issues in developed and developing nations. Moreover, housing prices and living costs have risen rapidly over the past decades, especially in high-density cities such as Tokyo, Hong Kong, London, and Toronto. Typically, in many nations housing affordability is defined as spending less than 30 percent of a household's income on housing (Larrimore and Schuetz, 2017). However, an increasing number of people worldwide cannot afford a home. Choosing a smaller dwelling might be the »best« option for many based on available budgets.

Additionally, the global environmental crises society faces, from climate change to resource scarcity, have pushed urban sustainability to the forefront of policy and design considerations. This chapter delves into the social, economic, and environmental transformations that drive individuals toward compact living arrangements. The transition to smaller home designs is not merely a design trend but a manifestation of evolving understanding of home, comfort, and responsibility to the environment and society.

Societal challenges and transformations

In his work *The Metropolis and Mental Life* (1900), Simmel posited that high density stands out as an intrinsic trait of urbanization (Cuthbert, 1985). As urban centers swell with increasing populations, using limited urban land to meet rising housing demands has become paramount. Urban areas attract many people with more employment opportunities and better education, leading to increased population and pressure on available lands. For example, Hong Kong has a population density of approximately 156 sq. m (1,679 sq. ft.) per person, experiencing a surge of a million people every ten years (Census and Statistics Department, 2017). Astoundingly, at a street block level, this density can skyrocket to between 400,000 and 600,000 persons per sq. km (Yeh, 2000). This population concentration leads to inevitable issues, ranging from housing scarcity and infrastructure bottlenecks to severe traffic snarls, severely impinge upon residents' quality of life.

In response to these challenges, current housing design principles emphasize the importance of maximizing space utilization. The emergence of smaller settlements is a pragmatic strategy to accommodate larger populations without having to sprawl within city boundaries. Smaller homes make more efficient use of available space and can result in more housing units for a given area. Therefore, designing smaller homes is a possible solution to housing scarcity, but it also resonates with the principles of sustainable development and optimized urban living.

The housing affordability crisis is driven by steadily rising prices, a persistent imbalance between housing supply and demand, and high living costs. Multiple factors, including low income, unemployment, and uncertain economics, reinforce the issue. This has significantly impacted the younger »Generation Rent«, many of whom believe they may never own a home in the city (Textor, 2023). Gentrification in previously affordable areas and a shortage of social housing exacerbate the situation. The high living costs deter potential residents, impacting the city's workforce and causing many to resort to long commutes from the outskirts. In addition, metropolitan areas often experience a mismatch between housing demand and supply. For instance, Hong Kong's population of almost 7.5 million faces a shortage with less than 2.7 million homes (Textor, 2023). Housing prices in Hong Kong have increased by 50 percent over ten years, with the average cost in 2022 standing at 16,006 US \$ per sq. m (house prices in Hong Kong, 2020). Despite a median after-tax income of about US \$ 55,928 in Hong Kong, the city's housing remains unaffordable for many (House prices in Hong Kong, 2020). Mortgage expenses are burdensome in North



The In-between House in Tokyo, Japan, by YUUA is an example for insertion of small sized home into a densely built area.

85.4 percent of family income in 2021 (Statistica, 2021). The extremely high housing cost leads to an urgent need for affordable accommodations.

In densely populated urban areas, land can be scarce and expensive. Many individuals especially young people often have limited incomes, but they tend to choose small but affordable housing in urban areas because these locations offer the convenience of being close to work, social hubs and entertainment centers. In urban centers, well-designed small homes can provide a comfortable living and working environment without adding extra living costs. In Canada, about 2,068,900 young adults lived in rental apartments, accounting for 37 percent of this cohort (Randle, 2021). For them, the appeal of a prime location often outweighs the desire for expansive living spaces.

Global social, economic, and political landscapes are greatly influenced by demographic diversity and aging populations. They have a significant social impact, affecting policy choices and altering the structure of the workforce. There are possibilities and problems associated with demographic diversity, defined by many groups based on age, gender, colour, religion, country, and others (Edwards & Nakintu, 2022). While such variety may engender social unrest and necessitate alterations to the built environment and legal framework to maintain inclusivity, it can also speed up innovation by presenting a range of viewpoints. As birth rates have fallen in recent decades, the aging population has grown quickly. One in six people is anticipated to reach 60 or older by 2030 (World Health Organization, 2022). At that point, there will be 1.4 billion people over 60 worldwide, up from 1 billion in 2020 (World Health Organization, 2022). For instance, 30 percent of people in Japan are already over 60 (World Health Organization, 2022). By 2050, there will be 2.1 billion people aged 60 and older worldwide (World Health Organization, 2022). The number of people 80 or older is anticipated to triple during that time, reaching a startling 426 million (World Health Organization, 2022). These patterns underscore the urgent need for flexible housing catering to all age

groups, emphasizing socio-economic inclusivity in architectural approaches and revealing existing housing inadequacies for distinct demographic groups.

Moreover, Traditional large-family households are less prevalent globally than they once were. Modern homes often consist of single individuals, couples without children, or small nuclear families. This shift has reduced the demand for bigger homes. Today's younger adults have varied living arrangements compared to their predecessors. In 1981, 68 percent of those between 25 and 29 lived as a couple, but by 2021, this proportion had decreased to just 39 percent (Government of Canada, 2022). Factors like aging populations and lower fertility rates mean fewer couples have children at home; in 2021, only about 30 percent of couples lived with children of any age (Government of Canada, 2022). Therefore, many older individuals opt for smaller homes once their children move out because they do not need large living spaces and can reduce long-term housing costs.

Increasing environmental concerns, driven by unprecedented disasters, emphasize the urgency to design housing that can withstand climatic emergencies. Temperatures and weather patterns are affected by climate change over the long term (United Nations, 2015). According to the United Nations, in 2015, human activity was the primary cause of global warming because of the increased use of fossil fuels and the conversion of sizable areas of forest land into agricultural fields (United Nations, 2015). Compared to the turn of the 20th century, flooding is now a more serious threat worldwide. Events like the 2021 floods in China and Germany underscore the rising threats (Lehmkuhl, 2022). Hundreds of people died, millions of properties were destroyed, and billions of dollars were lost (Lehmkuhl, 2022). Furthermore, 2022 witnessed severe drought, affecting food production, water resources, and ecosystems. Climatic conditions such as heatwaves, intensified hurricanes, and increasing wildfires, especially in the U.S., further underscore the need for change. Global agendas like the UN's 2030 Sustainable Development Goals aim to address these challenges by promoting sustainability across sectors, including urban development and architecture (United Nations, 2023). The Canadian government is actively integrating these goals, exemplified by its Federal Sustainable Development Strategy (FSDS) for 2022-2026 (Government of Canada, 2022). To incentivize energy-efficient housing, the Canada Greener Homes Grant offers financial assistance to homeowners, ensuring nationwide reach and inclusivity (Government of Canada, 2022). From an environmental perspective, smaller homes often have a reduced ecological footprint. They need fewer materials to build and consume less energy to maintain, leading to fewer carbon emissions.

In addition, the LEED (Leadership in Energy and Environmental Design) program from the U.S. Green Building Council provides recommendations for environmentally friendly construction methods, like water conservation, energy efficiency, and material selection (USGBC, n.d.). Although LEED-compliant buildings may cost more at the beginning of the housing lifecycle, they often result in long-term savings from lower energy and water bills and may be eligible for several financial incentives (USGBC, n.d.). According to research, LEED-certified buildings are more popular than non-green ones due to the rising value of sustainability in today's market (USGBC, n.d.). As a result, LEED not only encourages environmental sustainability but also advances economic development.

The history of small houses is rich and varied, reflecting a tapestry of cultural, economic, and personal influences that span centuries and continents. From ancient indigenous dwellings to the modern tiny house movement, living in small spaces has evolved to meet the needs and aspirations of different societies over time.

An historic overview of small-dwellings' design

In ancient and medieval periods, the use of small houses was often driven by the availability of materials, environmental conditions, and the need for mobility or efficient use of space. Indigenous dwellings from various parts of the world offer insightful examples of how communities designed homes to suit their environmental conditions and lifestyle needs. In North America, Plains tribes created teepees from animal skins stretched over a framework of long poles, which form a circular shape with a substan-

tial base, often measuring around 2.1 to 3 m (7 to 10 ft.) in width for a residential structure (Tikkenan, n.d.). In early times, the outside of a tipi was constructed from animal skin and eventually replaced with canvas. A typical tipi may want up to 28 Buffalo skins to sufficiently enclose the shelter (Tikkenan, n.d.). The transition from animal skins to canvas was primarily driven by the declining supply of buffalo hides and the increased accessibility of canvas, which offers the advantages of being lighter and more convenient to carry. This design is well-suited to their nomadic lifestyle and demands and exhibits remarkable resilience to the harsh weather conditions of the plains. The forceful gusts of wind can be a challenge within the vast expanse of the Great Plains. However, skillfully built tipi firmly fastened is remarkably impervious to wind due to its conical structure and meticulous anchorage (Tikkenan, n.d.). During the summer, the bottom part of the tipi covering may be raised to facilitate the entry of cooler air inside the residence (Tikkenan, n.d.). In the winter months, this heat source became crucial for life, and the ability to create a fire protected from wind and weather (Tikkenan, n.d.). Similarly, in Central Asia, the nomadic peoples developed the yurt, a round tent covered with skins or felt made from sheep's wool. The structure's circular design and the materials used were ideal for the region's harsh, variable climate, offering warmth in the cold months and coolness during the summer. Yurts represented a perfect blend of mobility, durability, and comfort, underlining the nomadic tribes' deep connection to their environment.

The Industrial Revolution marked a significant turning point, as rapid urbanization and the growth of factory jobs drew people into crowded cities. The issue became particularly noticeable in the aftermath of World War I, leading to the establishment of the Architect's Small House Bureau in 1919. Its purpose was to aid returning soldiers in acquiring their homes (Hunter, 1999). This firm offered architectural blueprints for compact residences designed for narrow plots at a minimal cost to prospective home constructors (Hunter, 1999). With the widespread use of the industrial assembly line as a favoured manufacturing method, cheap home packages became prevalent.

With the increasing popularity of automobiles and assembly line manufacturing, a new kind of inexpensive dwelling, the mobile home, arose. Mobile dwellings, modelled after tiny train wagons, according to Hunter (1999), were manufactured in large quantities and gained popularity among lower income people. In 1976, federal laws were established to create manufacturing standards for these dwellings. Consequently, the word »mobile home« was substituted with »manufactured housing« (Genz, 2001; Hart, 2003). Ultimately, the phrase »modular home« means a home manufactured in factories using modular components that are reasonably priced and could be conveniently transported for on-site assembly (Hunter, 1999). While mobile homes offered an affordable housing solution for those with lower incomes, they faced immediate resistance from municipalities concerned that such housing would lead to problems typically linked with poverty, including crime and decreased property values (Krista, 2018).

The historical notion of the »American dream« significantly influences the development of small-house living (Krista, 2018). In the early stages of the United States' development, possessing land was equivalent to becoming a citizen (Heskin, 1983; Shlay, 2006). A prevalent interpretation of the American Dream is to possess an independent, detached single-family residence along with the land it occupies (Tucker, 2015). John Archer's publication, *Architecture and Suburbia*, examines the contemporary manifestation of the American Dream in the early twenty-first century. These concepts encompass possessive individualism, the notion that individuals have exclusive ownership and control over their possessions; my arcadia, which refers to the idea that one's house is a personal sanctuary; and fragmentation and isolation, which describe the state of being divided and disconnected (Tucker, 2015). Therefore, the cultural expectation that links homeownership with a sense of safety and permanence has persisted.

Achieving the American Dream was the goal of many Americans in the early twentieth century. Due to this prevailing cultural norm, ownership of small houses is probably regarded as a more attractive and economic option compared to living in apartments. The small houses were mass-produced primarily by commercial developers and were very popular. These homes were defined by measurable features, including

no more than six main rooms and a total volume not exceeding 850 cu. m (Tucker, 2015). With a ceiling height of 3 m (10 sq. ft.), the overall floor area reached 300 sq. m (3,229 sq. ft.). If the ceiling height were reduced to 2.4 m (8 ft.), the size would adjust to 348 sq. m (3,746 sq. ft.) (Tucker, 2015).

Over the past few decades, the tiny house movement has gained prominence as a cultural and social trend, championing the principles of reducing living space, embracing simplicity, and protecting the environment. This movement towards a minimalist way of life suggests that lessening our accumulation of items can decrease life's complexities and stresses. Individuals are drawn to the Tiny House lifestyle for various reasons, including the desire to focus on what truly matters and to live with fewer distractions, aiming for simplicity. Many see tiny living as a way to live more intentionally and mindfully.

Practical considerations, such as economic benefits and environmental concerns, also play a significant role. The community of small house dwellers aims to reduce their ecological footprint, with an increasing awareness of the importance of lowering carbon emissions and taking active steps towards this goal.

Furthermore, the rise of remote work has led many to seek refuge from the bustling and often distracting traditional office environment, looking to eliminate unnecessary aspects of work and daily life. The tiny house movement provides financial advantages and paves the way for a minimalist lifestyle, offering a distinctive path to personal fulfillment and environmental responsibility.

Building small homes is a possible solution to solving social and housing issues, such as rising prices and supply-demand imbalances, especially in metropolitan areas. For many, smaller homes in downtown areas align with their financial budgets and offer more urban convenience. Furthermore, looming global environmental crises, particularly climate change and resource scarcity, have prioritized urban sustainability in planning and design dialogues. Smaller homes emerging as a sustainable choice, minimizing resource consumption and carbon emissions. Demographically, the world is witnessing significant shifts, with an aging population and the decline of traditional large-family setups necessitating diverse housing solutions. In sum, the move towards compact living emerges as a pragmatic response to socio-economic and environmental challenges.

Sonoma weeHouse, Gnarled Oaks, Oregon, USA

Design: Alchemy Architects

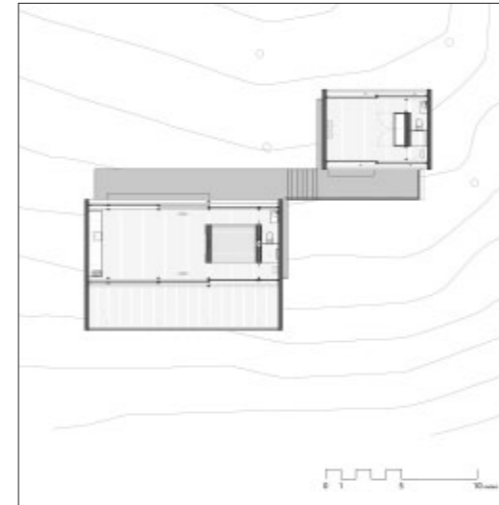
Designed in Minnesota, built in Oregon and delivered to a client in California, Alchemy's Sonoma weeHouse is a small, ultra-minimal, prefabricated home designed by Geoffrey C. Warner, AIA, and was customized in collaboration with the client, an architect himself. The project is composed of two open-sided prefabricated boxes set on concrete plinths nestled on the edge of Gnarled Oaks in the hills outside of Santa Rosa, California. The two structures were shipped essentially complete. The primary 59.4 sq. m (640 sq. ft.) living structure features an open kitchen, a sleeping area created by a whitewashed oak bed-box, a living room, and a bath.

For shipping purposes, this structure was designed as two modules: the main box, and a bolt-on porch, which cantilevers 3 m (10 ft.) into the dramatic landscape. The accompanying guesthouse 30.6 sq. m (330 sq. ft.) is an abridged version of the primary structure and features a large whitewashed oak wardrobe that forms the bathroom wall, while also providing storage and privacy. Both structures feature steel frames, 2.7 m (9 ft.) tall sliding glass walls, ipe interiors, and custom oiled oak doors on stock cabinetry. They are both sided in corrugated weathering steel, and sited to take advantage of the site's dramatic, sweeping views.

The primary box features whitewashed oak bed box in the middle of the volume, creates a kitchen-dining-living room space on one side, and a bath space on the other side. For shipping logistics, the primary box was composed of two modules, with the porch arriving 90% complete, bolted onto the main module onsite, and cantilevered into the site's dramatic landscape. The accompanying guest house is an abridged version of the larger module with a large whitewashed oak wardrobe forming the bathroom wall.

The weeHouse Sonoma demonstrates the current popular fascination around »tiny houses«, industrial tech, and sustainable living of simplicity, and an efficient but celebratory use of materials.

1. Floor plan.
2. Front view close-up.
3. Front view.
4. Rear view.





5. The living space.
6, 7. The bed box in the main building.



Granny Pad, Seattle, USA
Design: Best Practice Architecture

Best Practice Architecture has ingeniously transformed a backyard garage into the Granny Pad, a 53 sq.m (571 sq. ft.) detached dwelling designed for multigenerational living. This project addresses the critical issues of urban density and the need for affordable housing solutions within the family unit.

Granny Pad is characterized by its open, loft-like layout that maximizes the small footprint without sacrificing functionality or aesthetic appeal. The design team focused on creating a single level living area to accommodate decreased mobility, avoiding the segmentation into smaller rooms. The space features high ceilings with exposed rafters and is flooded with natural light from strategically placed windows and skylights. The original garage door was replaced with an entrance that leads into a combined kitchen and sitting room, seamlessly flowing into a bedroom, a closet with laundry facilities, and a bathroom. Above the bathroom, a lofted space-accessible via ladder-offers additional storage and the potential for future use as an office or sleeping area.

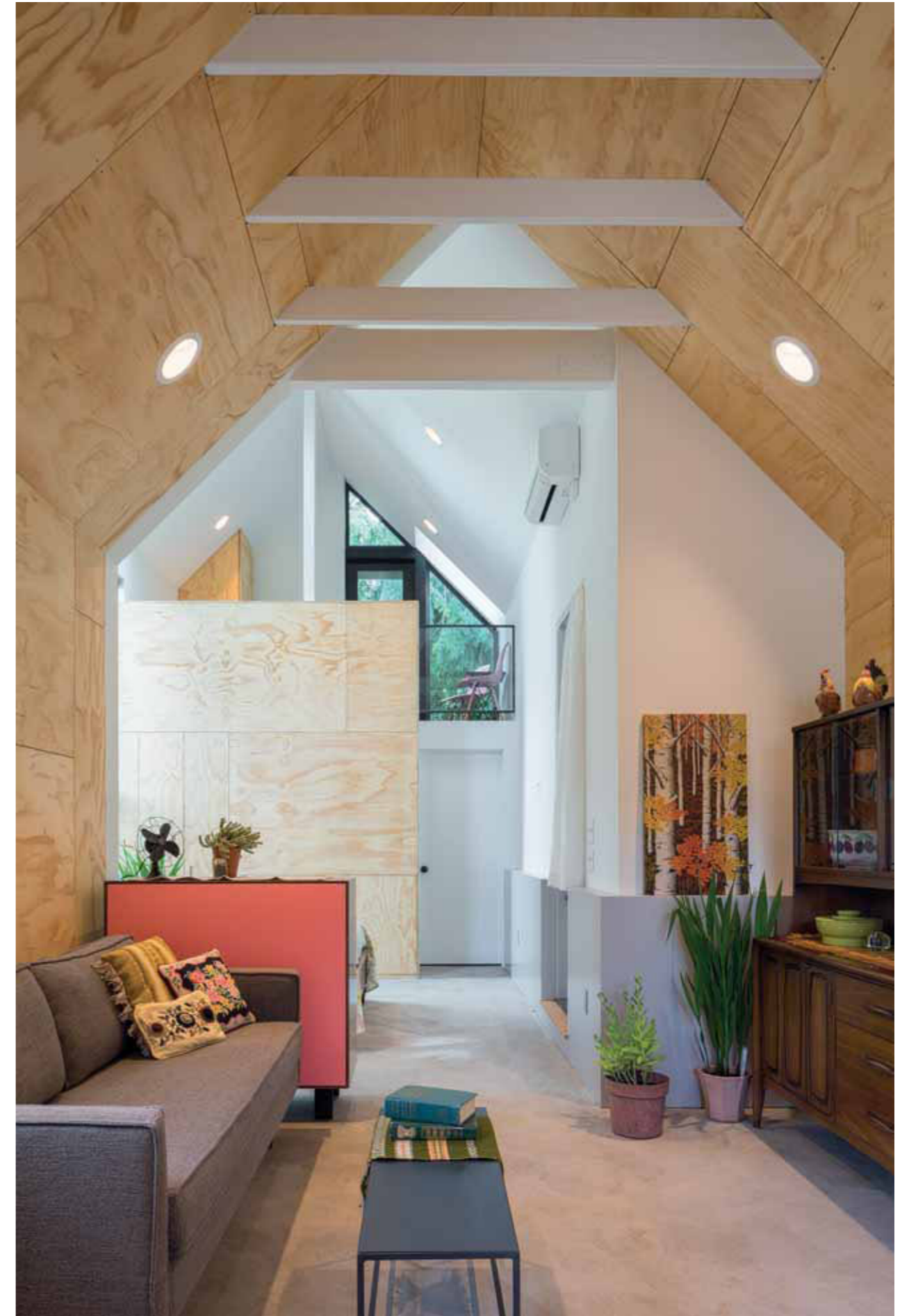
Recognizing the natural topography of the site, which includes a 1.83 m (6 ft.) elevation change, Best Practice Architecture designed the Granny Pad to integrate into the hillside. It also enhances the dwelling's privacy and insulation. The addition of a private back deck connects the living space to the outdoors, providing a serene area for relaxation and family interaction.

Granny Pad meets the immediate needs of the aging family member, and it is a versatile space that can potentially serve as a rental unit, studio, or home office, thereby adding long-term value to the property. This forward-thinking approach ensures that the space can adapt to the evolving needs of the family and potentially generate additional income.

1. Side view.
- 2, 3. Floor plans.
4. Rear and side façades.

pp. 20, 21
5. The kitchen.
6. The interior of the rear part of the house.





In-between House, Tokyo, Japan

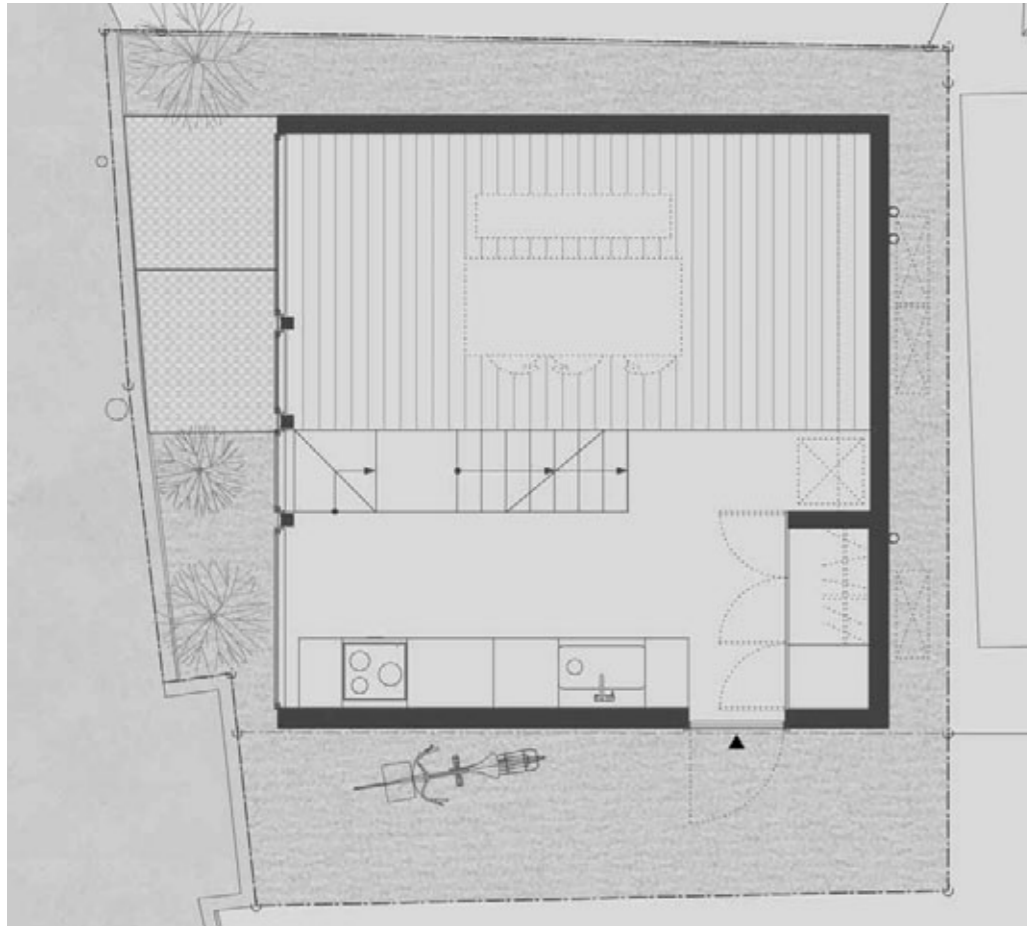
Design: YUUA

The In-between House was designed for a family of four. This single-family house maximizes its compact space while integrating traditional Japanese architectural elements with modern techniques. The residence is characterized by its 6.5 m (21,33 ft.) high central weld that unites the various spaces of the house under one continuous flow, enhancing both the functionality and aesthetic appeal.

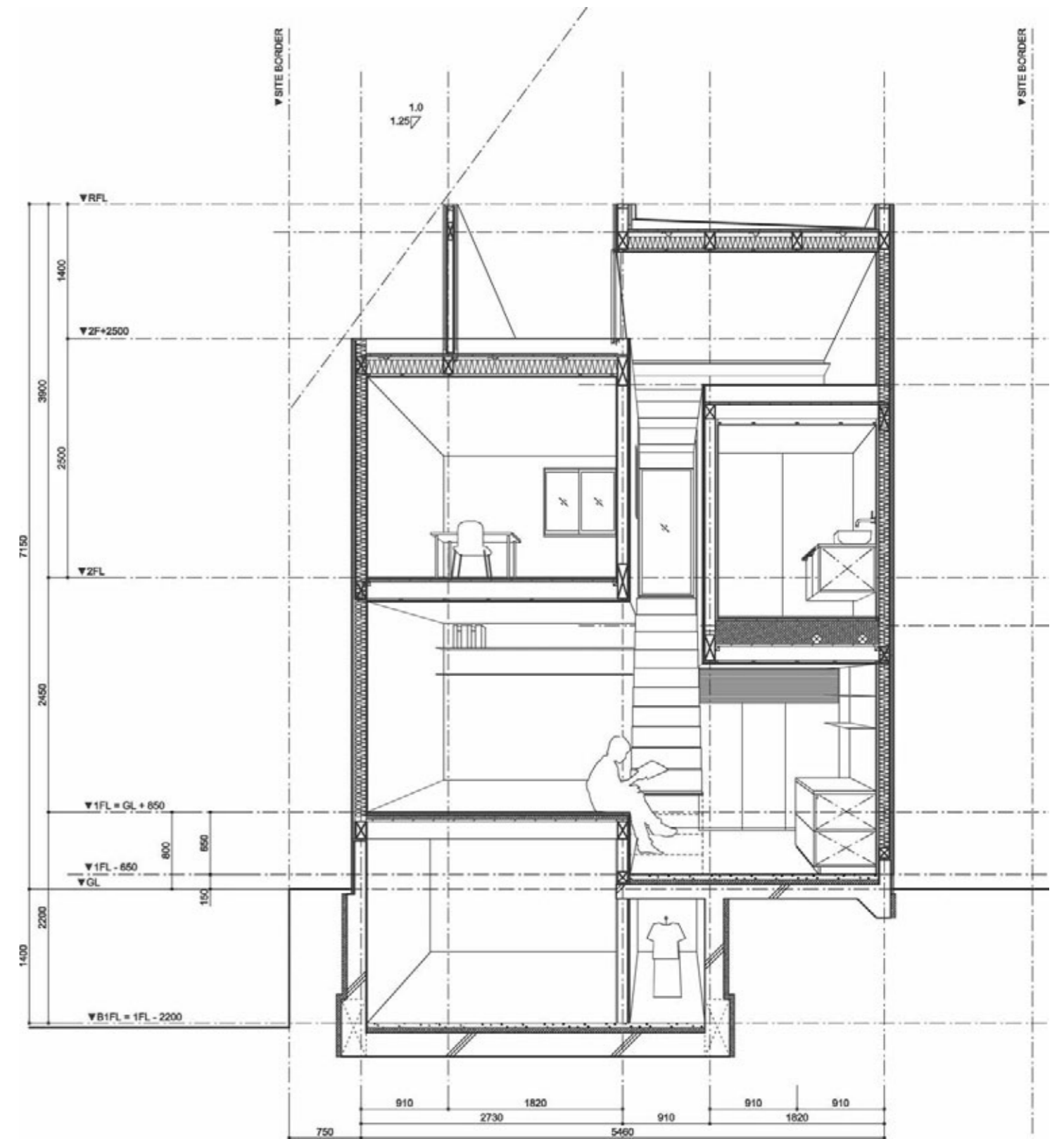
The house's design revolves around a central weld that stretches vertically, connecting the kitchen on the first floor to a loft above, and bringing abundant natural light into the home. This vertical space is defined by large glass areas on the west façade, creating a seamless transition between the interior and exterior. Three wooden boxes are strategically placed within this weld, hosting more private functions and seemingly floating within the larger open space.

The architectural team navigated stringent urban regulations by exploiting loopholes that exempt certain areas like lofts and half-basements from typical constraints. This allowed for the maximization of usable space without compromising the building's integrity. The structure itself is built from a prefabricated wooden space frame, chosen for its earthquake resistance and the lightness it lends to the architectural form. Domestic Japanese timber used throughout the interior and exterior not only pays homage to traditional Japanese building practices but also offers sustainability through its reduced carbon footprint.

In a city where timber architecture is becoming increasingly rare, the »In-between Dwelling« serves as a cultural bridge to Japan's rich architectural heritage. The use of wood is a nod to historical practices, bringing a sense of warmth and natural beauty to the urban environment. Environmentally, the design prioritizes natural ventilation through a clever configuration of the staircase and window placements, significantly reducing the need for artificial cooling and enhancing the home's overall energy efficiency.



1. Ground-floor plan.
2. Section.





3. Front view.
4. The stairs connecting the different levels.
5. View from the dining area to the kitchen.



Apartamento 43, Las Palmas de Gran Canaria, Spain

Design: cli·ma arquitectura

Originally a larger home, the space was divided into two smaller apartments through a horizontal division. The recent redesign aimed to maximize the apartment's usable space while retaining and highlighting the architectural narratives of its past transformations.

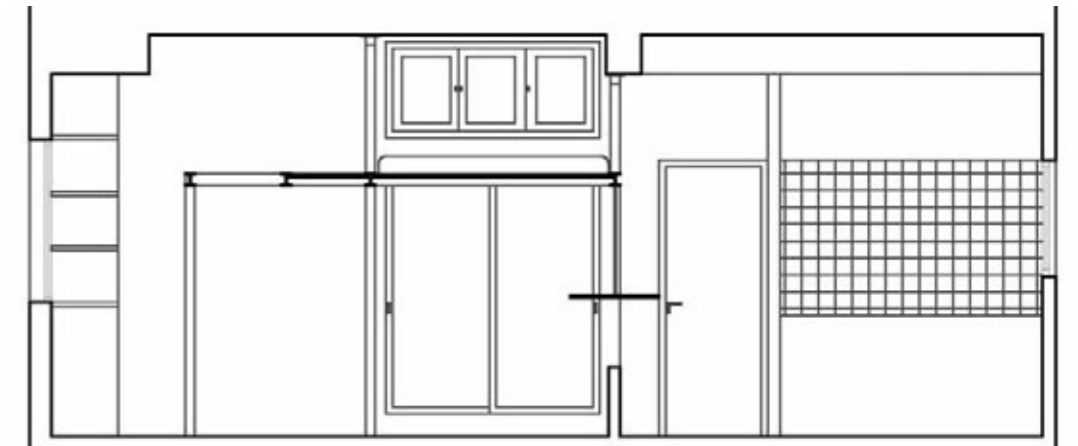
The architects decided to remove the existing false ceiling to increase the functional living area within the compact apartment. This action not only increased the vertical space by exposing the reinforced concrete slab above but also added an industrial aesthetic to the apartment. The design introduces a variety of planes between the floor and the ceiling slab, creating a multi-functional and dynamic interior landscape.

The apartment features several innovative design elements that enhance both its functionality and visual appeal. A support surface for the bed and a multi-functional bar that hangs from the structure illustrate a clever use of space, providing necessary functions without cluttering the floor area. Additionally, a creatively designed ladder serves multiple purposes: it functions as a shelf, seat, and table, exemplifying versatility in design. Along the perimeter of the loft, a railing runs, adding safety and a visually striking linear element that ties the space together.

The skirting board was removed, and the uneven surfaces left behind were painted the same color as the walls to blend seamlessly into the overall design. Similarly, unplastered blocks visible above the old false ceiling level were also painted to match the surrounding walls, contributing to a coherent and unified aesthetic throughout the space.



1. Floor plan.
2. The bed in the mezzanine
3. Originally a larger home, Apartamento 43 was divided into two smaller apartments through a horizontal division.
4. Section.



Bruny Island Cabin, Tasmania, Australia

Design: Maguire + Devine Architects

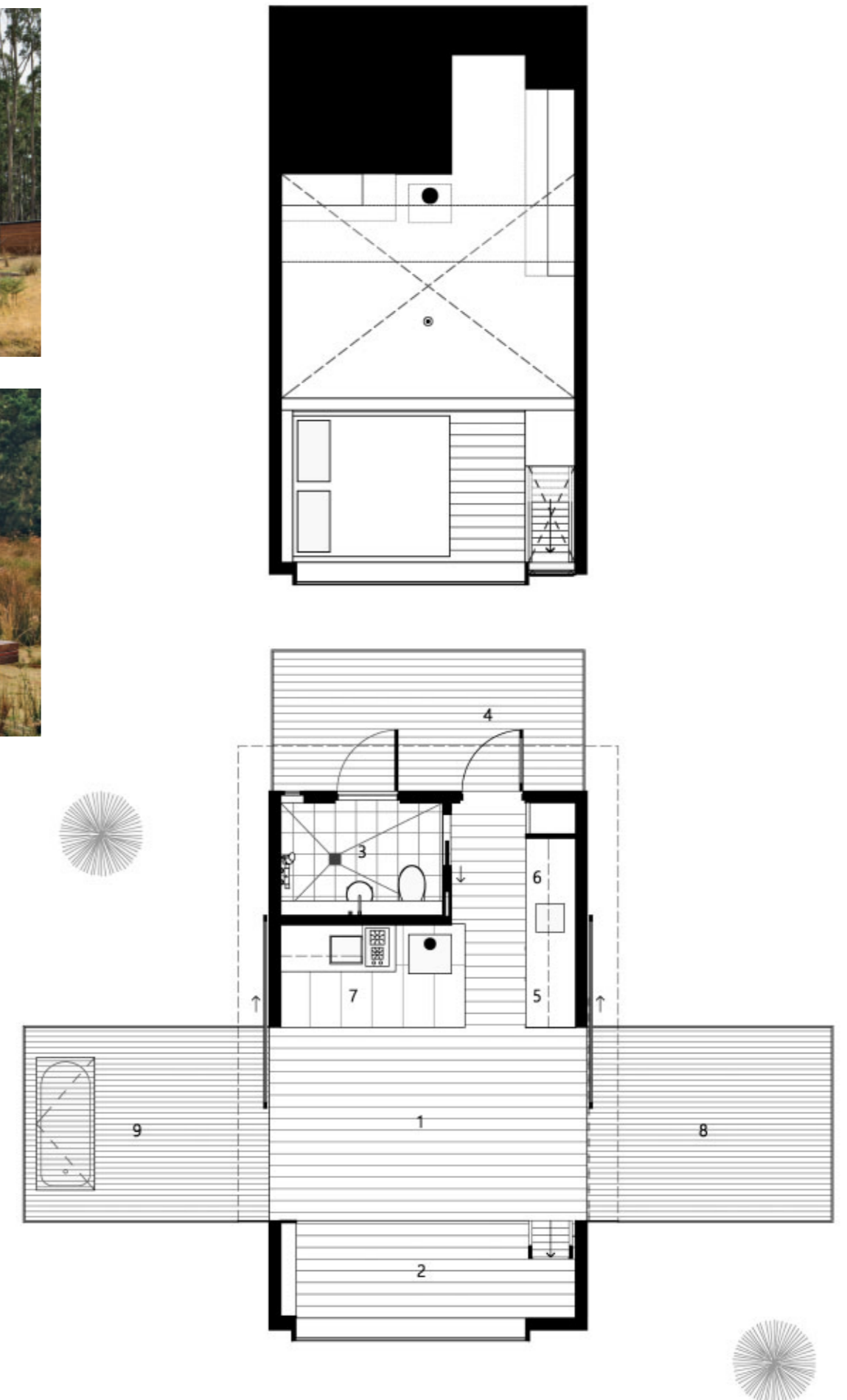
Bruny Island Cabin is a 28 sq. m (301.24 sq. ft.) off-grid retreat. The project was created for a client who owned 40 hectares (99 acres) of densely forested land on the island of Tasmania, Australia. The design incorporates aspects of traditional Japanese design since the client grew up in Japanese homes. The home combines well-crafted minimalism, built-in furniture, and indoor-outdoor living areas with the serenity and privacy of nature.

Regarding sustainability, the cabin's water supply relies entirely on rainwater collected in underground tanks. In addition, solar panels are placed on the sloped roof to generate electricity for the off-grid home, while bottled gas powers water heating and the cooker. The space is kept warm with a wood-burning fireplace, which can be stored up the slope in a separate volume. Furthermore, due to its recyclability, the home is clad in Zinalume, a zinc and aluminum alloy coated steel, a sustainable roof cover. The entry façades and outdoor decks are made of bushfire-resistant timber in compliance with local fire safety regulations. These decks span from east to west and continuously cross through the ground floor with sliding doors. One can enjoy the sunset on the western deck, where an outdoor bathtub is sunken with removable wooden panels. The eastern deck is left free. Given the site's sloping topography, the ground floor and decks are raised to be level. Their height allows one to sit at the deck's edge without needing a guardrail, creating an unobstructed connection to the outdoors.

The cabin walls are covered in light timber boards on the interior, unifying the space and making it cozy. On the ground floor, there are built-in cupboards for storage lining the walls, a compact kitchen, and a slightly raised dining area. At the center is an open space framed by sliding doors. Drawing inspiration from traditional Japanese rice paper screens, the architects used translucent glass for these doors to act as a privacy screen and a prevention measure against bird collisions, with the endangered swift parrot in mind. Other windows are located mainly along the southern façades to account for open views and avoid facing the dark line of trees at the back of the cabin. Additionally, skylights on the sloped roof provide light to enter from above the trees. The second level is accessible via a wooden ladder. In this loft-like space, a bedroom and more built-in storage are accounted for without taking away the double-height space from the ground floor.

Bruny Island Cabin is a retreat surrounded by nature and completely isolated. This allows for enhanced privacy and the incorporation of multiple sustainable design practices. From material to water and energy sources, the compact cabin is one to live in quietly and comfortably.

- 1, 2. The Bruny Island Cabin is a retreat surrounded by nature and completely isolated.
3. The bathtub on the deck.
- 4, 5. Floor plans.





- 6. On the ground floor, there are built-in cupboards for storage lining the walls, a compact kitchen, and a slightly raised dining area.
- 7. The kitchenette.
- 8. The slightly raised dining and »daybed« area.

