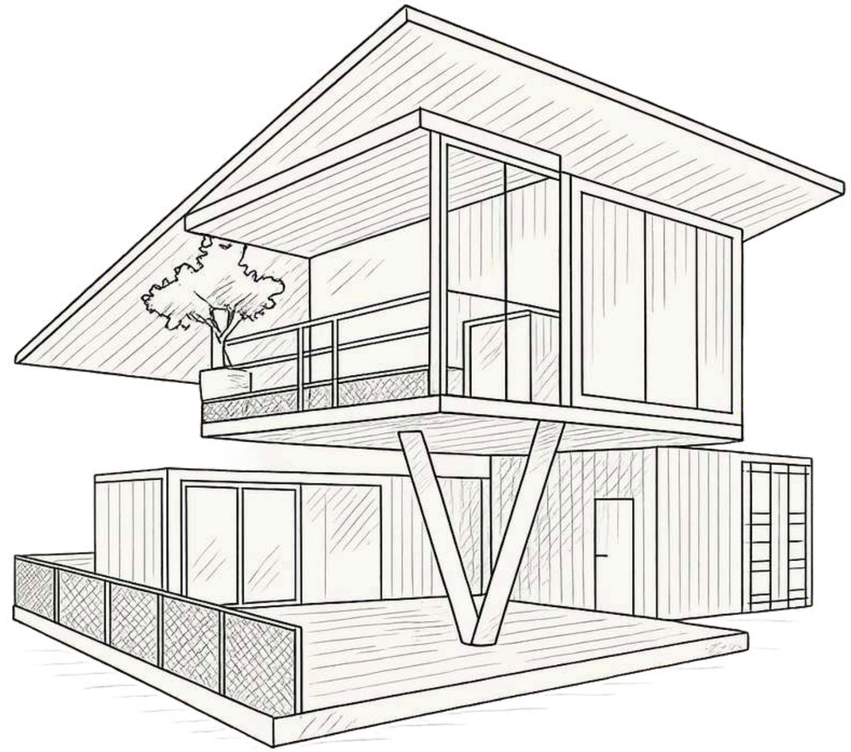
VESSEL OF LIFE

Revolting a symbol of the temporary into a discipline of permanence.

Yunling, Taiwan



About Taiwan’s Container House Landscape

As a maritime nation, Taiwan handles millions of shipping containers every year. A large number of decommissioned units are left idle at ports, becoming an abundant source of building material. In 2021 alone, Kaohsiung Port processed approximately 9.86 million TEUs of cargo. The sheer volume of trade creates both a waste management challenge and an opportunity to repurpose containers into architectural use.

In Taiwan, containers are not only tools for transport but also a resource for construction. They are often adapted into temporary buildings such as roadside shops, kiosks, or field offices. Existing studies indicate that container buildings can reduce construction costs by 20–30% and shorten build time by nearly half compared to conventional reinforced concrete structures.

Overview of Kaohsiung Harbor, Taiwan (2024)

Container houses in Taiwan are most commonly used as temporary structures. They frequently appear as small commercial units, roadside kiosks, betel nut stands, or field offices at construction sites. In rural areas, they are often converted into temporary residences or staff dormitories.

Most examples adopt simple construction methods such as single-container setups, horizontal combinations of two or more units, or basic stacking to create additional floors. These configurations prioritize speed and cost-efficiency, serving short-term or mobile business needs.

rural shelter

roadside kiosk

temp dwelling unit

betel nut stand

construction site kiosk

construction site office

Common Forms of Container Reuse in Taiwan

Earthquakes, Typhoons, Heavy Rains...

Taiwan’s climate is defined by humidity, frequent earthquakes, and typhoons. Conventional construction often struggles to balance safety, efficiency, and cost under such conditions. Decommissioned shipping containers, known for their rigidity and modularity, present an alternative capable of structural efficiency and adaptive reuse.

Directly converting containers into housing, however, exposes several issues: poor insulation and ventilation, condensation, corrosion, uneven proportions, and lack of integration with local aesthetics.

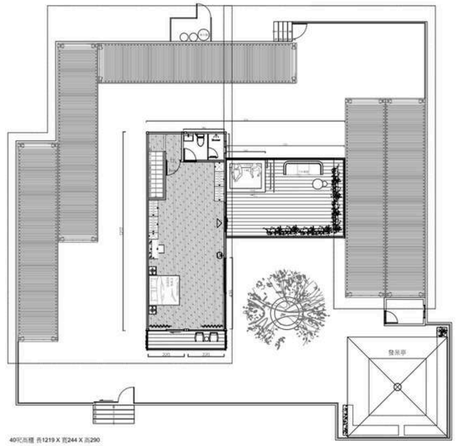
The project addresses these through systemic redesign. The structure is raised 90 centimeters to prevent flooding, pests, and moisture intrusion, creating a natural ventilation layer. A double-sloped roof and central courtyard promote airflow and rainwater drainage. Expanded-metal façades filled with local stones moderate temperature while blending into the landscape. Modular composition and precise detailing recalibrate the container from an industrial carrier into a permanent architectural language.

Basement uplifted by 90cm

Rainwater guided into collection basin for reuse

Stones unearthed during construction collected and reused to form the perimeter wall

Environmental Challenge | From Outdated Containers to Solution



To ensure structural safety, the container framework was strengthened through reinforced welding and anti-rust treatment during assembly.

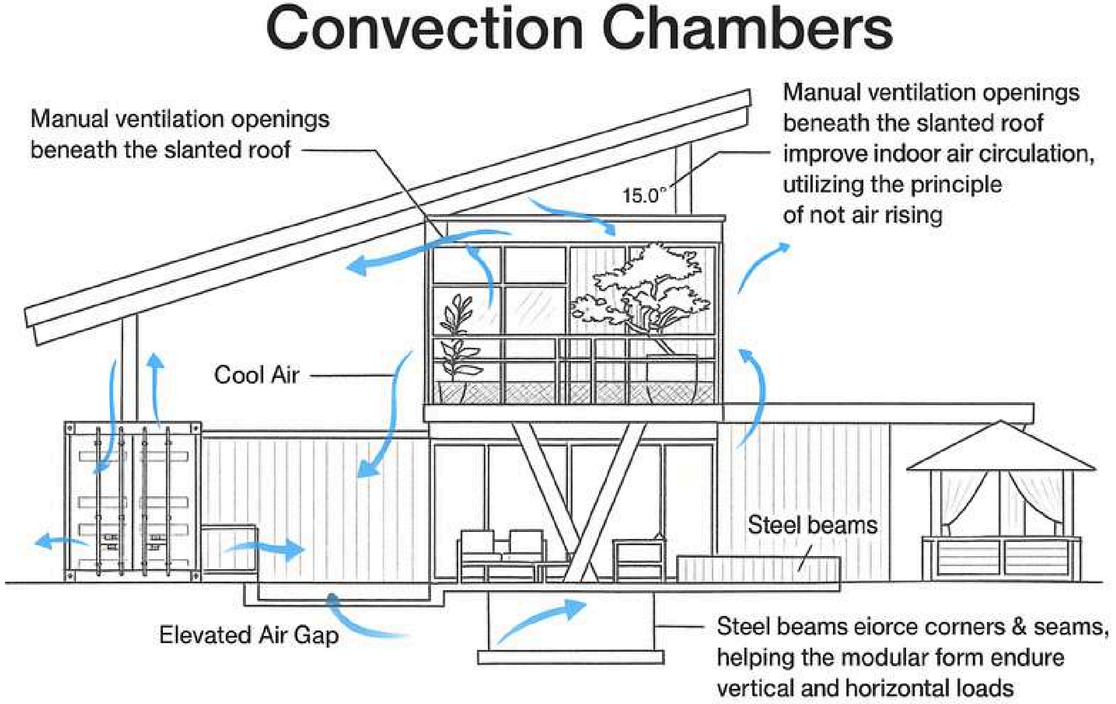
Steel beams were applied to critical corners and seams, allowing the modular structure to withstand both vertical and lateral loads. The lower base incorporates a detachable steel system, providing flexibility for maintenance and potential reconfiguration.

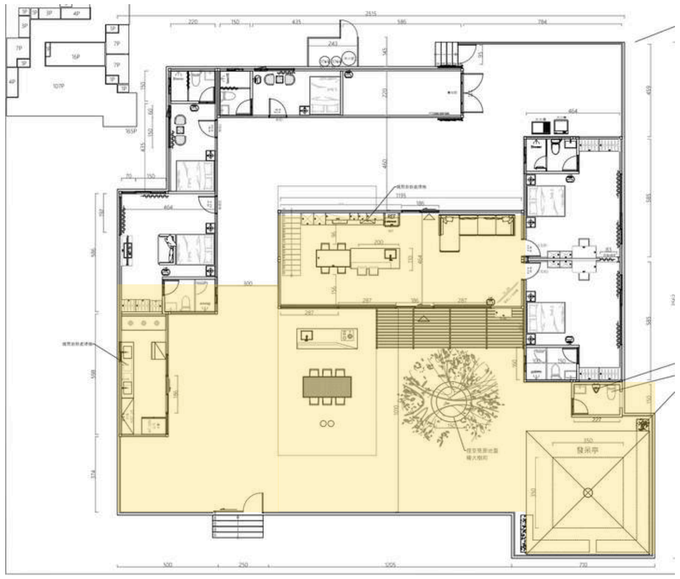
Manual ventilation openings beneath the slanted roof facilitate air circulation, creating a natural convection chamber that enhances thermal comfort and long-term environmental performance.

This project utilizes 12 shipping containers. Natural convection layers are introduced to improve indoor air circulation through the principle of rising warm air. These 12 modular units are arranged in a cross-interlocking layout combined with horizontal structural connections, creating an architectural framework that integrates openness and stability.

The upper and lower volumes align to form a balanced structure, transforming industrial containers into a permanent architectural framework of continuity and coherence. The slanted roof not only resonates with the surrounding mountain ridges but also serves a rainwater drainage function.

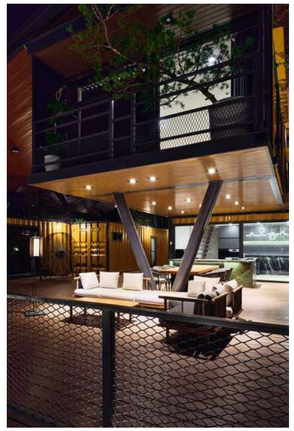
Design Logic of Container Reuse





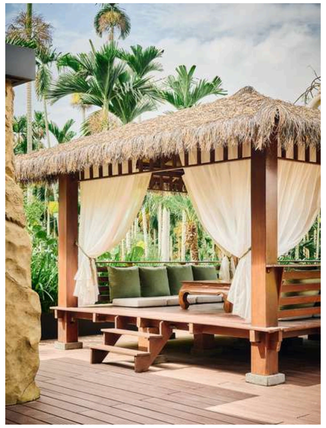
Circulation is aligned with natural light and prevailing wind, forming a gradual transition between interior and exterior layers. The kitchen and dining area anchor the home’s social core, extending toward an outdoor terrace.

Public and private zones are arranged through shifting sightlines, creating soft boundaries rather than rigid separations. A consistent floor elevation between inside and out enhances continuity, allowing airflow and movement to flow as one.



Material textures and light rhythms together construct a calm yet expressive domestic landscape, a living environment that mediates between structure and atmosphere, translating the logic of modular construction into a continuous spatial experience that sustains balance and quiet clarity over time.

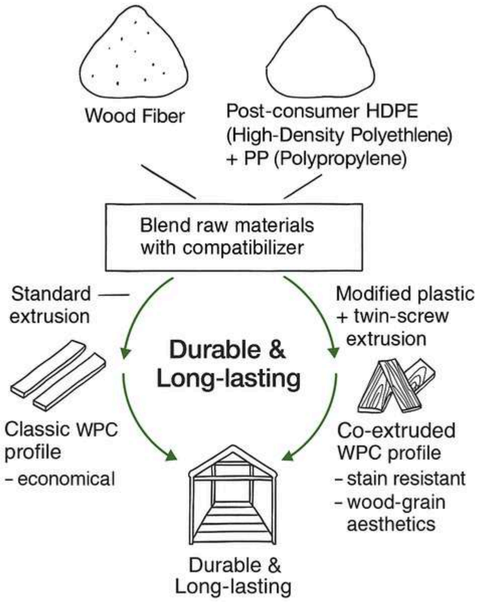
Material, Light, and Layout



Stones unearthed during construction were reused as retaining walls, woven with steel mesh to enable natural drainage and ventilation while visually grounding the building within its landscape. The outdoor decking employs solid-core PVC composite boards with a co-extruded protective layer that resists UV, stains, and surface heat, ensuring long-term durability with minimal maintenance.

Each container unit was reinforced through welding and anti-corrosion treatment, forming a hybrid structure capable of withstanding Taiwan's humid and seismic climate while remaining adaptable for future use. These material and structural systems converge within a passive climatic logic, integrating shading, airflow, and temperature regulation drawn from natural convection.

Through this calibrated relationship between site, material, and construction, the project extends the idea of sustainability beyond efficiency toward a continuous cycle of renewal, where ground, architecture, and time coexist in enduring balance.

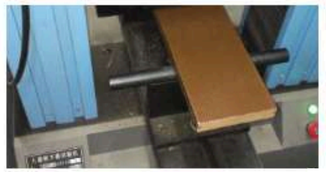


1 Compounding & Pelletizing
Recycled HDPE blended with wood fiber.

2 Extrusion
High-temperature extrusion after compour

3 Surface Finishing
Leveling and texturing the profile surfac

4 Cooling & Packing Queue
Cool down, then stage for packaging.



5 Quality Control
Final inspection before shipment.

6 Ready Stock for Delivery
Adequate inventory for prompt supply.

From Ground Renewal to Architectural Regeneration