HT RESIDENCE

Project Date: June 2020, construction completed

Project Size: 1400 square feet

Project Location: Manhattan Beach, California

Site Conditions: Delicate existing vegetation, surrounded by large traditional, suburban homes

Program: Single family home for an environmental attorney, digital security specialist and their two children

Project Narrative: In a neighborhood known for its traditional mansions, the design ambition for this home was to challenge the suburban status quo by introducing a **small, sustainable structure**.

On paper, its 1400 square feet disguise the density of design decisions that were required to craft a space that maximizes **healthy rituals** and **environmentally sensitive living**.

From a full size heat-recovery lap pool, to passive ventilation system, to a super-insulated roof, every inch of the double gabled volume is calibrated to **challenge convention and promote a responsible lifestyle**.

Passive Ventilation & Super Insulation

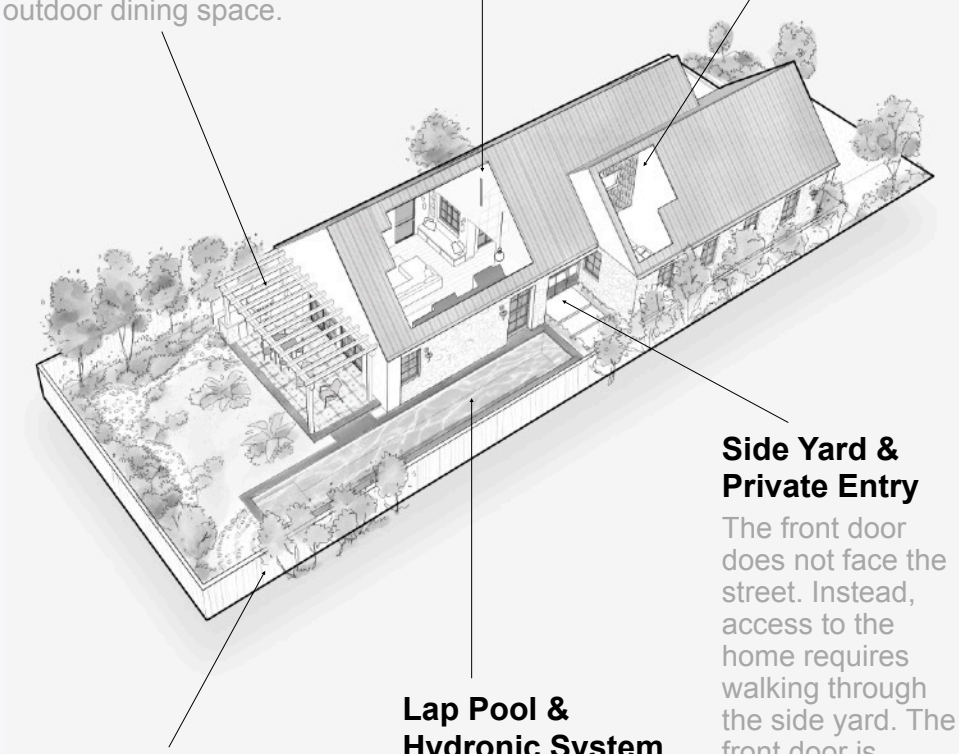
Whole house "Energy Recovery Ventilator" and super insulated R-82 roof assembly.

Kid's Loft & Reduced Size

Leveraging height of gabled roof and reducing the home's footprint.

Exterior Dining & Equipment Vault

As an alternative to an interior dining room, all equipment is located in a vault below the outdoor dining space.



Side Yard & Private Entry

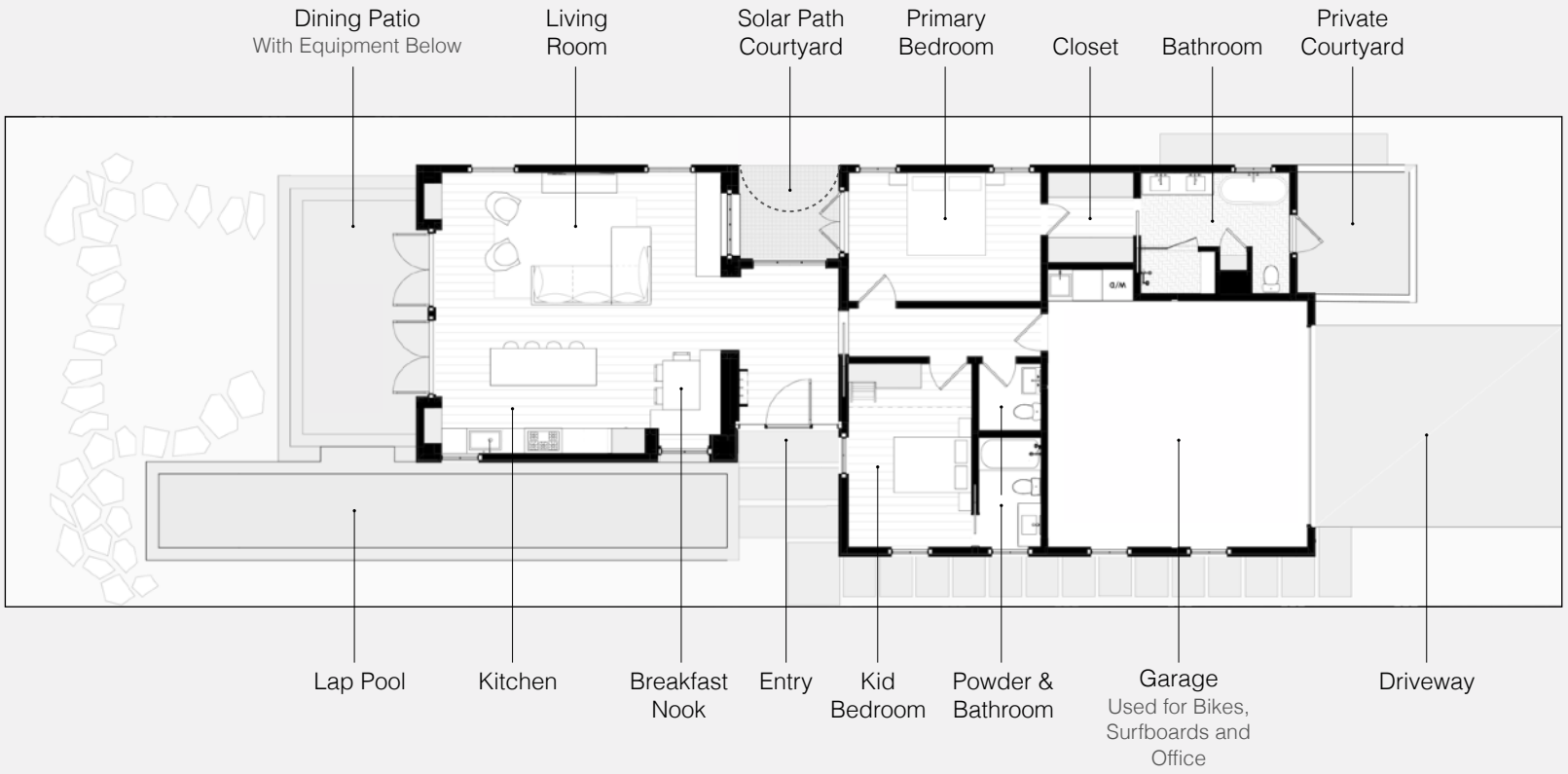
The front door does not face the street. Instead, access to the home requires walking through the side yard. The front door is located at the intersection of the two volumes. This avoids the need for a wastful interior hallway.

Lap Pool & Hydronic System

In addition to daily fitness routines, the pool is used as part of the home's hydronic heat system and is integrated into a single boiler exchange.

Protected Vegetation & Modified Engineering

Property fence was custom scribed around all existing vegetation. Pool bond beam was engineered to protect existing trees.



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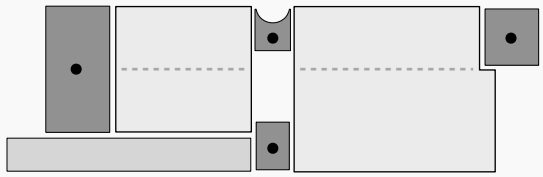
Site Plan & Floor Plan

1/8" = 1'0" 0 6 12 18 24 30 FT

Lot Area: 5,040 square feet

Building Area: 1,400 square feet



Geometry Diagam

- Outdoor Spaces

Solar Hot Water

Solar panels on the roof warm the water used for the heat exchange systems, connecting the radiant floors and leveraging the thermal mass of the pool. These solar panels are located only on the south-facing slope of the gable roof.

Super Insulated Roof

8” of closed cell spray foam, fiberglass insulation, and a fully encased ridge beam provides the roof with an insulation value of R-82.

ERV System

The “Energy Recovery Ventilator” dehumidifies the air and pulls fresh air from the coolest rooms in the home.

(The Zehnder Comfoair Q450 is the “Ferrari” of ERV systems”)

No Recessed Lighting

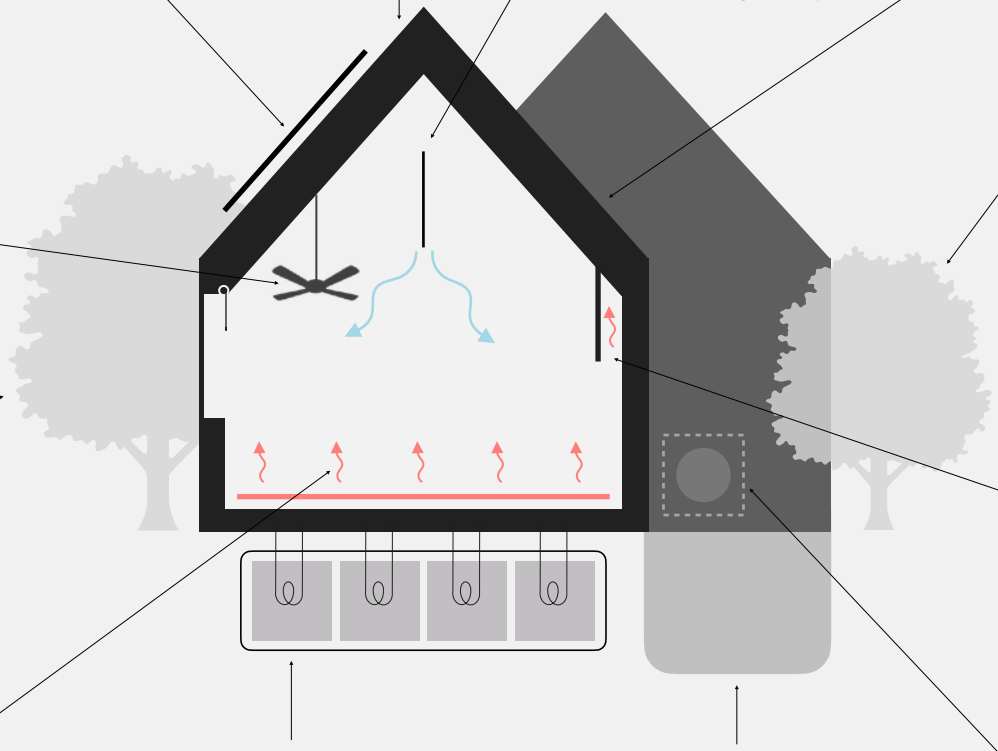
The primary spaces in the home avoid the use of recessed lighting, relying instead on ample natural daylighting.

Protected Vegetation

Baracades, signage, and a temporary irrigation system were deployed during construction to protect the existing vegetation. Carpenters scribed the branches through the fence. Locally sourced stone walls were soft stacked to avoid root damage.

Ceiling Fans

Ceiling fans are used in all primary spaces to provide air circulation. Shades at windows reduce heat gain.



Deciduous Tree at Courtyard

The south-facing courtyard is protected from the summer sun, while welcoming the winter heat, due to the season loss of leaves.

Electronic Damper

Similar to a restaurant, if the makeup air for the kitchen hood ever creates measurable back pressure, an electronic damper brings in fresh air directly at source.

Hydronic Floors

Radiant heated floors provide the most efficient heat to the occupants of the home, serving six separate zones.

Heat Exchange System

The house has a single boiler system with four separate heat exchangers:

1. Solar Hot Water
2. Hydronic Floors
3. Pool Pump
4. Domestic Hot Water

Pool Heat Recovery

The lap pool is integrated into the whole house hydronic system. The thermal mass of the pool supports the heat of the radiant floors.

Heat Pump Washer & Dryer

These appliances prevent uncontrolled air change events and provide cool air as a byproduct.

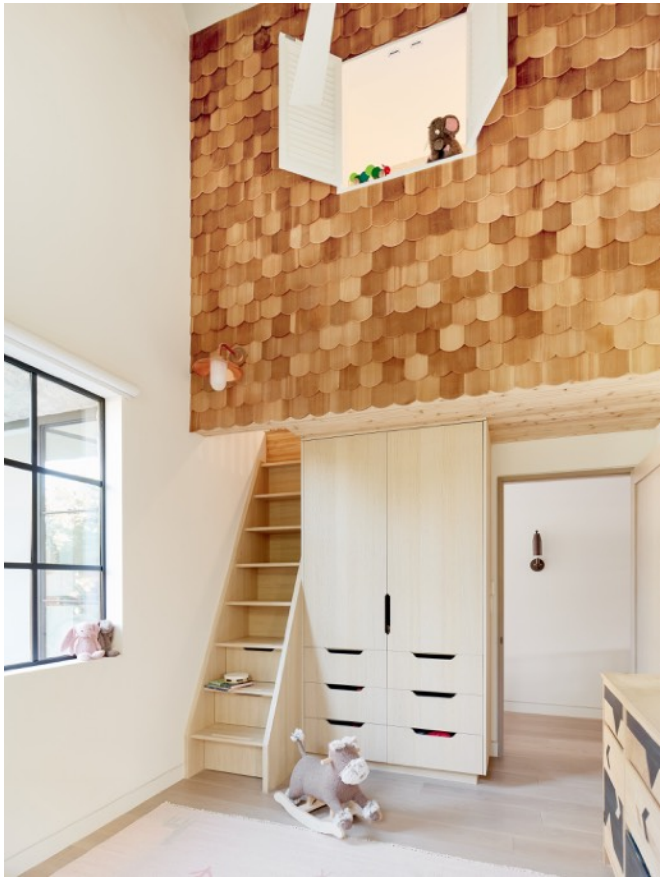
The simple geometry of the gable roof is interrupted by a subtractive arch, designating both the primary entry and the south-facing solar courtyard

Due to the home’s modest footprint, the design team maximized the use of built-in storage and shelving

No Air Conditioning

At first, the owners were nervous about not having a traditional air conditioning system. However, through a lengthy education process, they decided to deploy a more holistic approach to the home's performance. This slender 1" vent is the rare visible evidence of the ERV (Energy Recovery Ventilator) system.

The architect designed this three-legged table to provide easy access to the bench storage



The kid's room features a loft space, positioned above a built-in waredrobe and staircase with integrated drawers. Raw cedar shingles contribute to the room's playful spirit.

Flowering *Camellias* surround the lap pool, having been carefully protected and irrigated during the contruction process.

Guests approach the home by way of a narrow sideyard path, further defined by a low, soft stacked stone wall, carefully positioned to avoid damaging the existing *Camellias.*

The home culminates in a provocative composition:

The simple balance between two ridged volumes (public and private) and a generous lap pool.