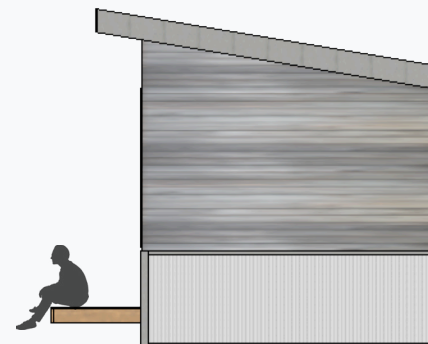
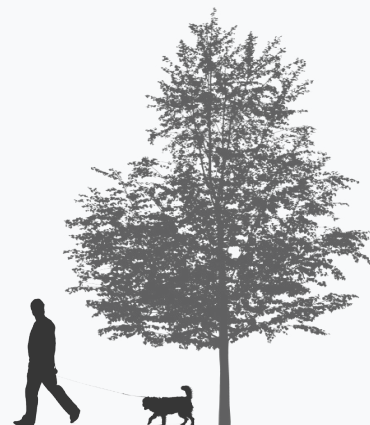
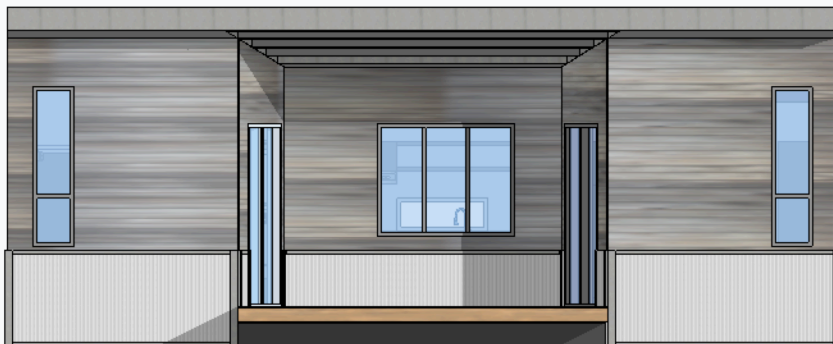


wohnHAUS 42



- 01-02 elevations
- 03-04 sites + plan
- 05-06 kitchen
- 07-08 living room
- 09-10 bedroom
- 11-12 bath
- 13-14 iso + exploded iso
- 15-16 systems + features



wohnHAUS 42

WOHNhaus 42 is a detached laneway home that is designed to be affordable, accessible, and energy efficient, while also having the ability to fit into virtually any residential lot in Calgary.

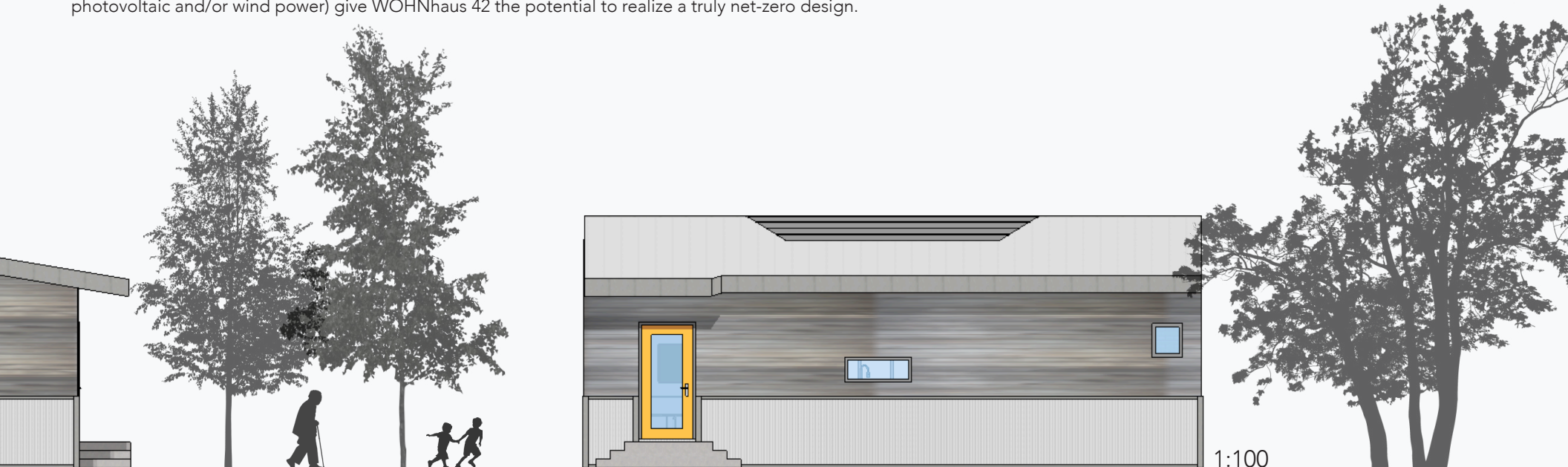
Laneway homes have the ability contribute greatly to the overall sustainability of the city by increasing urban density and creating affordable housing opportunities for people that wish to live closer to where they work, shop, and play. In addition, they have the capacity to make Calgary's urban back-lanes more green, livable, and safe. Laneway homes as an additional housing option also provide the opportunity to preserve existing streetscapes, while adding character, vibrancy, and security to the backlane. Most importantly, this type of housing is versatile and ready for diverse groups of people, including seniors ready to downsize, adult children who want to live independently, and renters who want to live in detached housing.

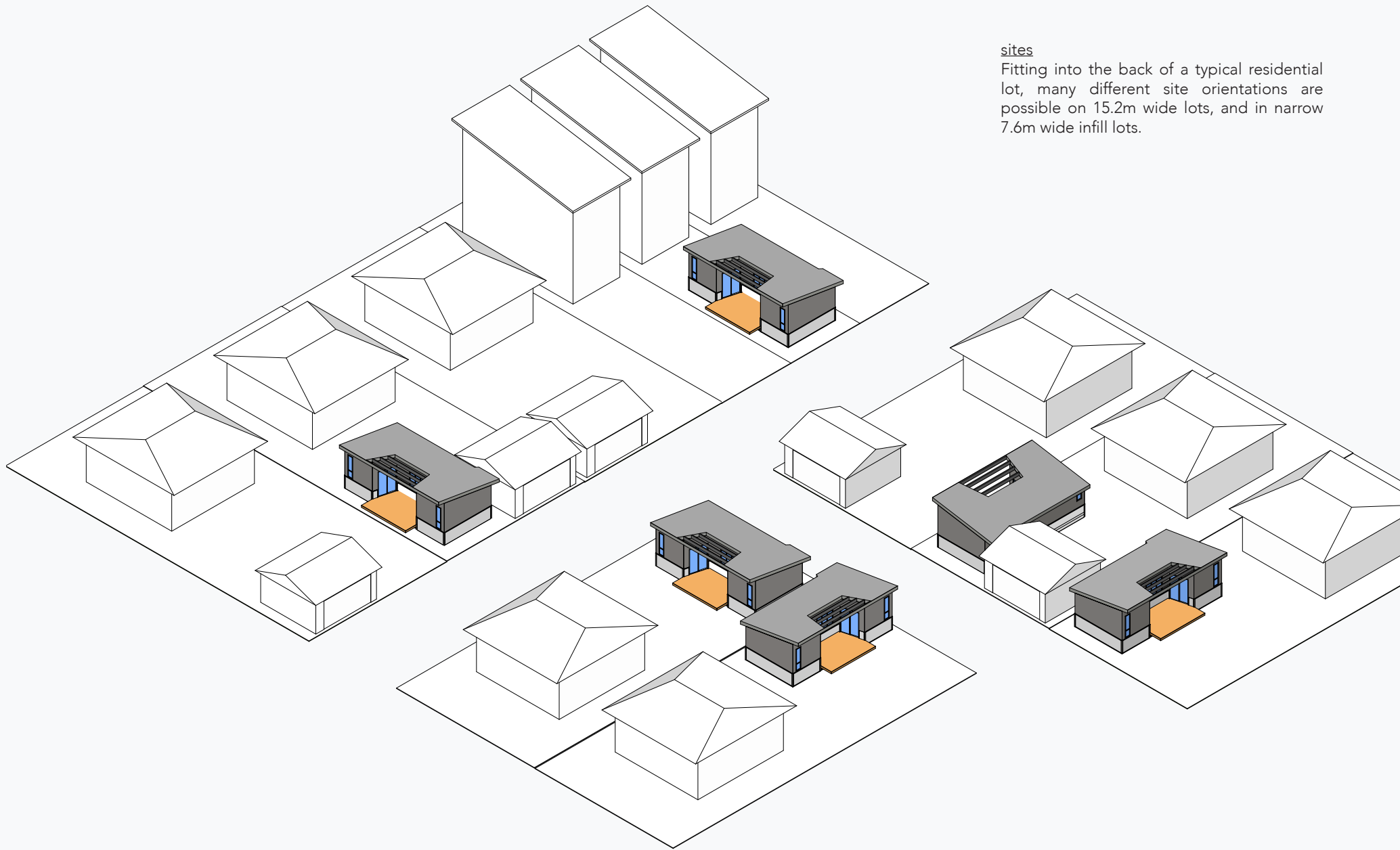
WOHNhaus 42 is designed to address the "triple bottom line" of social, economic, and environmental sustainability.

Social: By providing seniors with the opportunity to stay in their communities in a small laneway homes designed to be accessible, housing solutions like WOHNhaus 42 have the potential to reduce the extra-ordinary burden our aging population is putting on our healthcare and senior-care systems. Additionally, social sustainability is realized by increasing urban density and providing small-housing options to the general housing market that is saturated by 'nuclear-family' housing typologies.

Economic: Utilizing Structurally Insulated Panel (SIP) construction, WOHNhaus 42 utilizes superior quality building materials that are produced under factory controlled conditions. These building components are transported to the building site on a flatbed truck and quickly assembled in a fraction of the time necessary for traditional stick-frame construction methods - thus realizing significant savings in labour costs, while delivering a superior quality building. Utilizing a screw pile foundation system, WOHNhaus 42's foundation is installed within a few hours (low labour costs), with minimal site disturbance (no large excavations necessary), and, can even be bored into frozen winter-time earth conditions. Should the home need to be moved, the screw pile foundation can be extracted and reused in the new location. Low cost, but high quality, durable, and low maintenance finishes and cladding complete to the economic sustainability of WOHNhaus 42.

Environmental: Seeking to achieve European standards of Passive Haus construction, WOHNhaus 42 is designed to be extremely energy efficient. SIP construction combined with energy efficient gas-filled triple pane windows deliver an extremely airtight and highly insulated (Walls >R 42, Floors + Ceilings >R52) building envelope. Natural ventilation in the summer reduce cooling loads, while heating loads are met by the highly efficient hydronic radiant heating system that also handles the domestic hot water needs for the home. Further heat recovery and ventilation needs are delivered using a small Heat Recovery Ventilator. LED lighting throughout reduces electricity needs to further minimums. Water saving plumbing fixtures can be paired with optional rain-water harvesting systems and gray water recycling. If desired, a composting toilet combined with clean energy systems (i.e. photovoltaic and/or wind power) give WOHNhaus 42 the potential to realize a truly net-zero design.





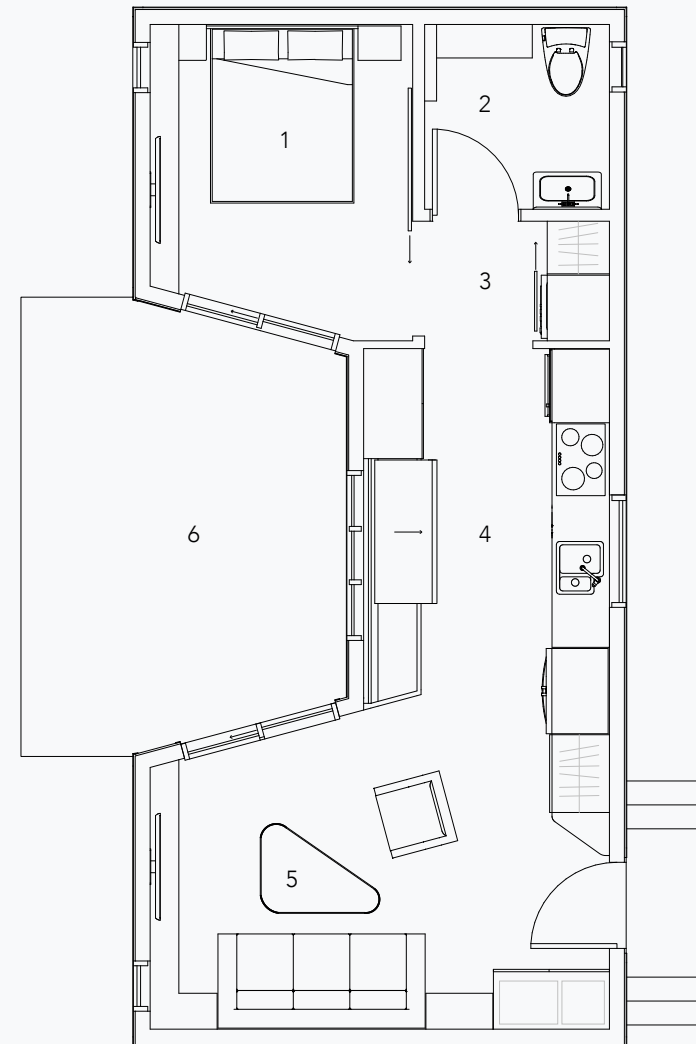
sites

Fitting into the back of a typical residential lot, many different site orientations are possible on 15.2m wide lots, and in narrow 7.6m wide infill lots.

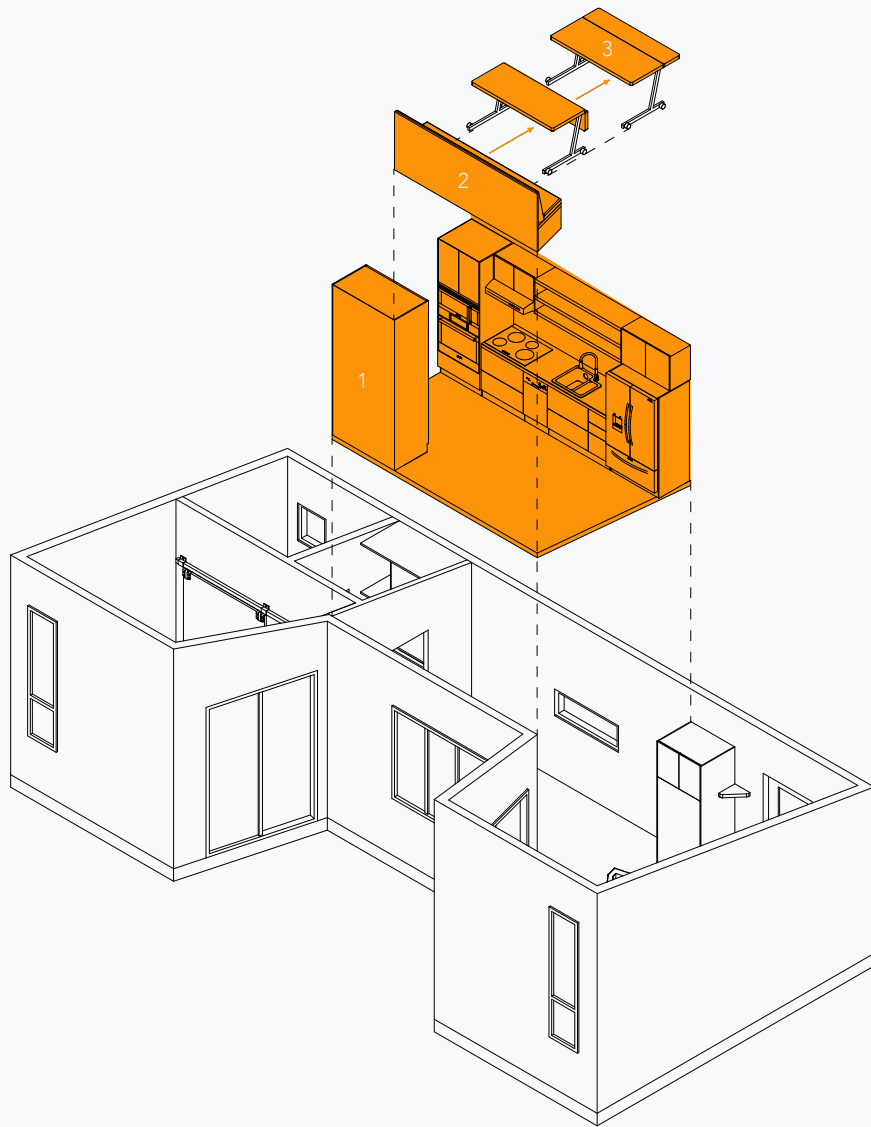
wohnHAUS 42

plan

The 42m² (455 square feet) floorplan is designed to be as space efficient as possible without compromising accessibility for persons with disabilities. Obtuse corners in the bedroom and living room create a generous pentagonal floor plan, while the 2.4m tall glass sliding doors and tall casement windows allow ample natural light in, and connect to nature and the 15.6m² outdoor amenity space in the centre. ADA compliant handles and fixtures in the trough-drained wet-room bath, along with wide doors and wall openings, aid the barrier free design. A space-saving built-in kitchen banquette, featuring a custom-built drop leaf table (that doubles as a kitchen island when pushed against up against the banquette) completes the fully equipped kitchen. A small mechanical closet houses all the home's technics behind the main entry door.



- 1 sleep
- 2 wash
- 3 dress
- 4 eat
- 5 live
- 6 grow



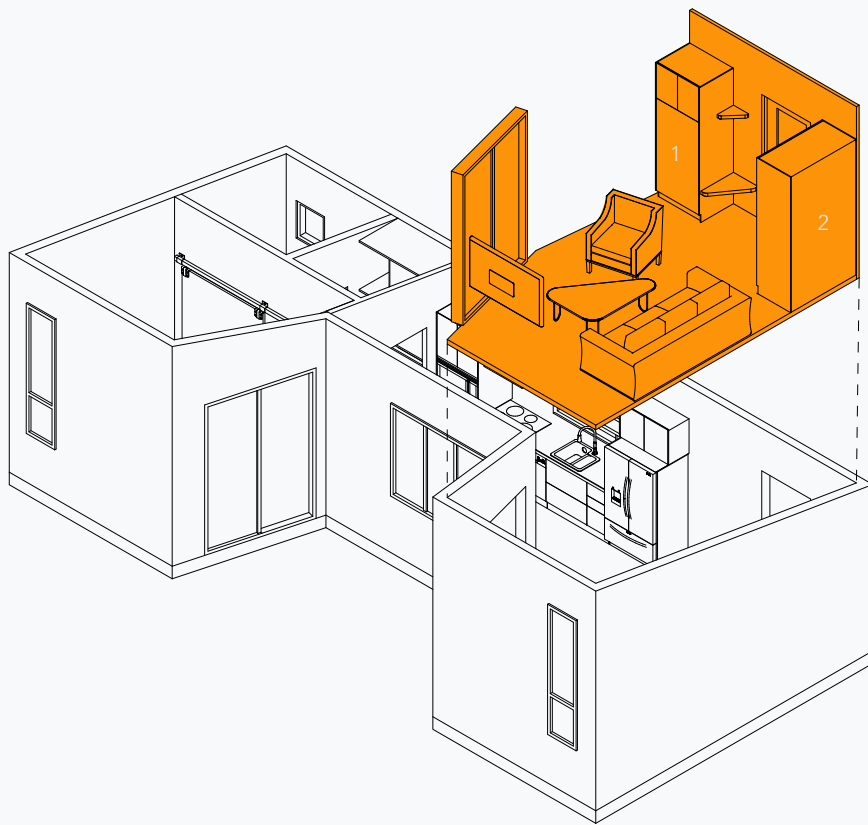
- 1 pantry
- 2 banquette
- 3 drop-leaf table

1:100

wohnHAUS 42



counter-top + toekick LED lighting



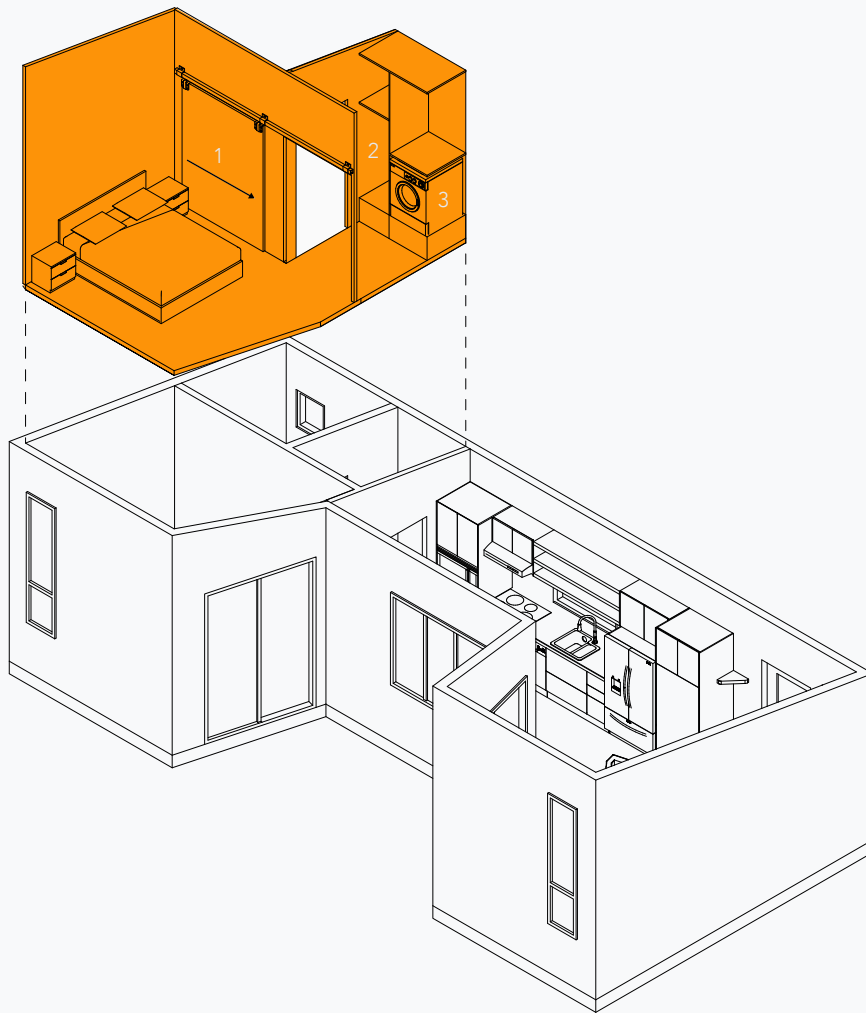
1 coats
2 mechanical

1:100



wohnhAUS 42





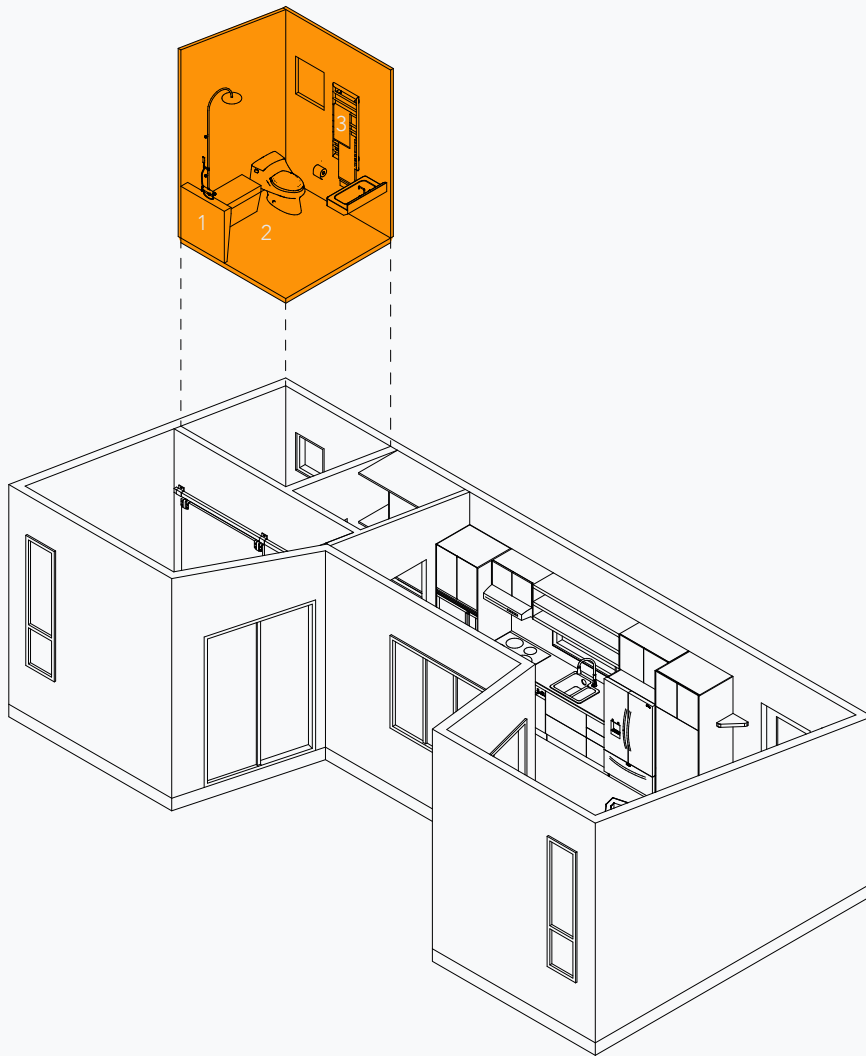
- 1 barn-door
- 2 closet
- 3 washer/dryer combo

1:100



wohnHAUS 42



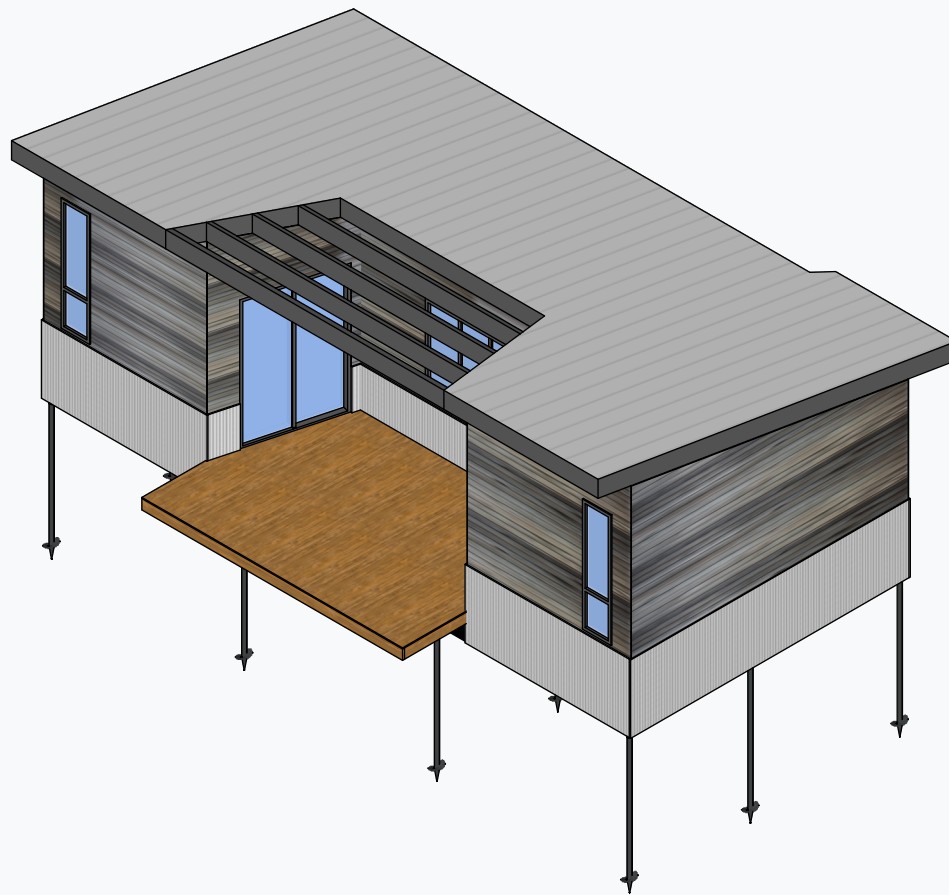


- 1 rain + wand shower
- 2 wet room w/ trough drain
- 3 towel warmer

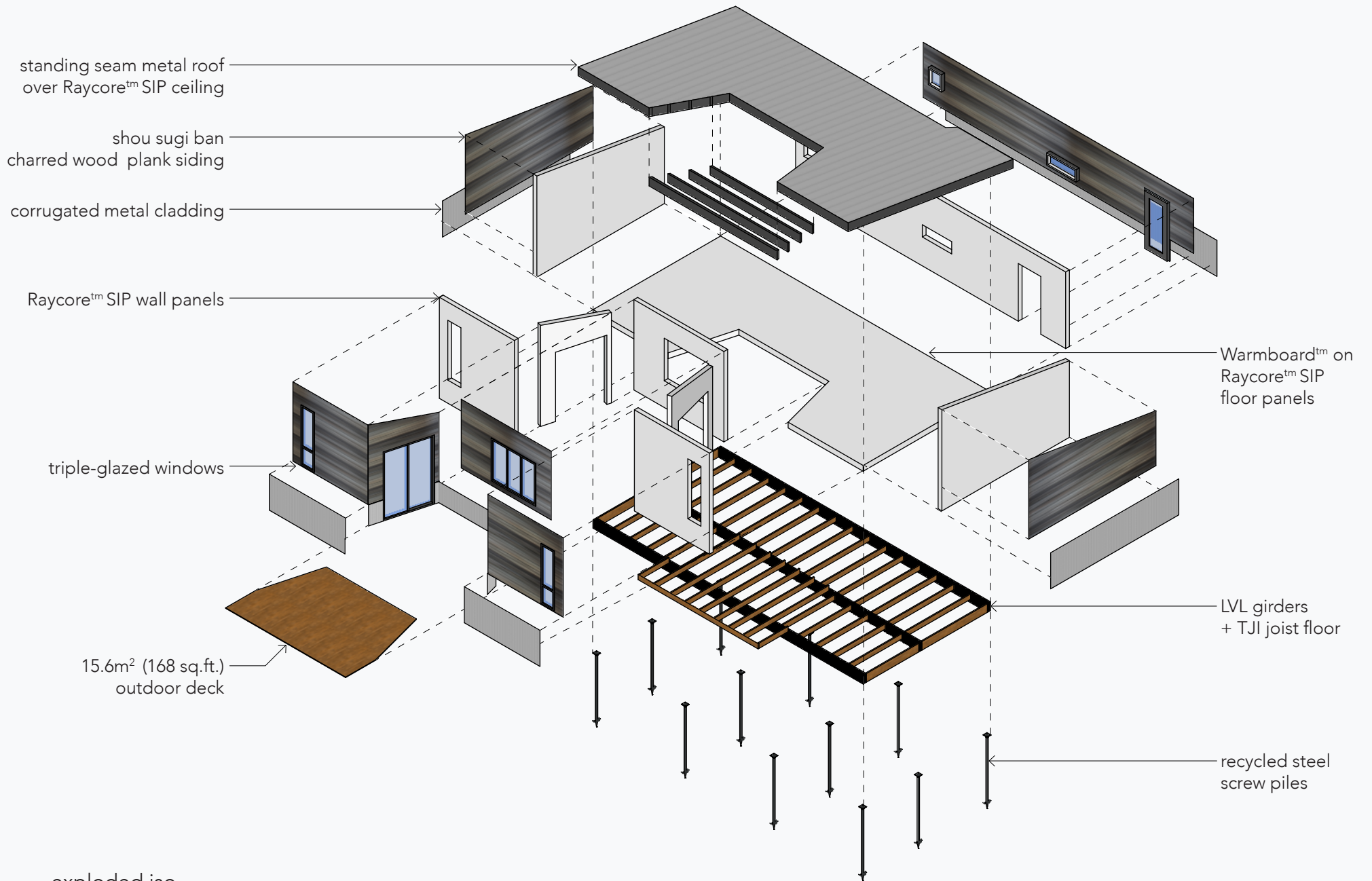
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wohnHAUS 42



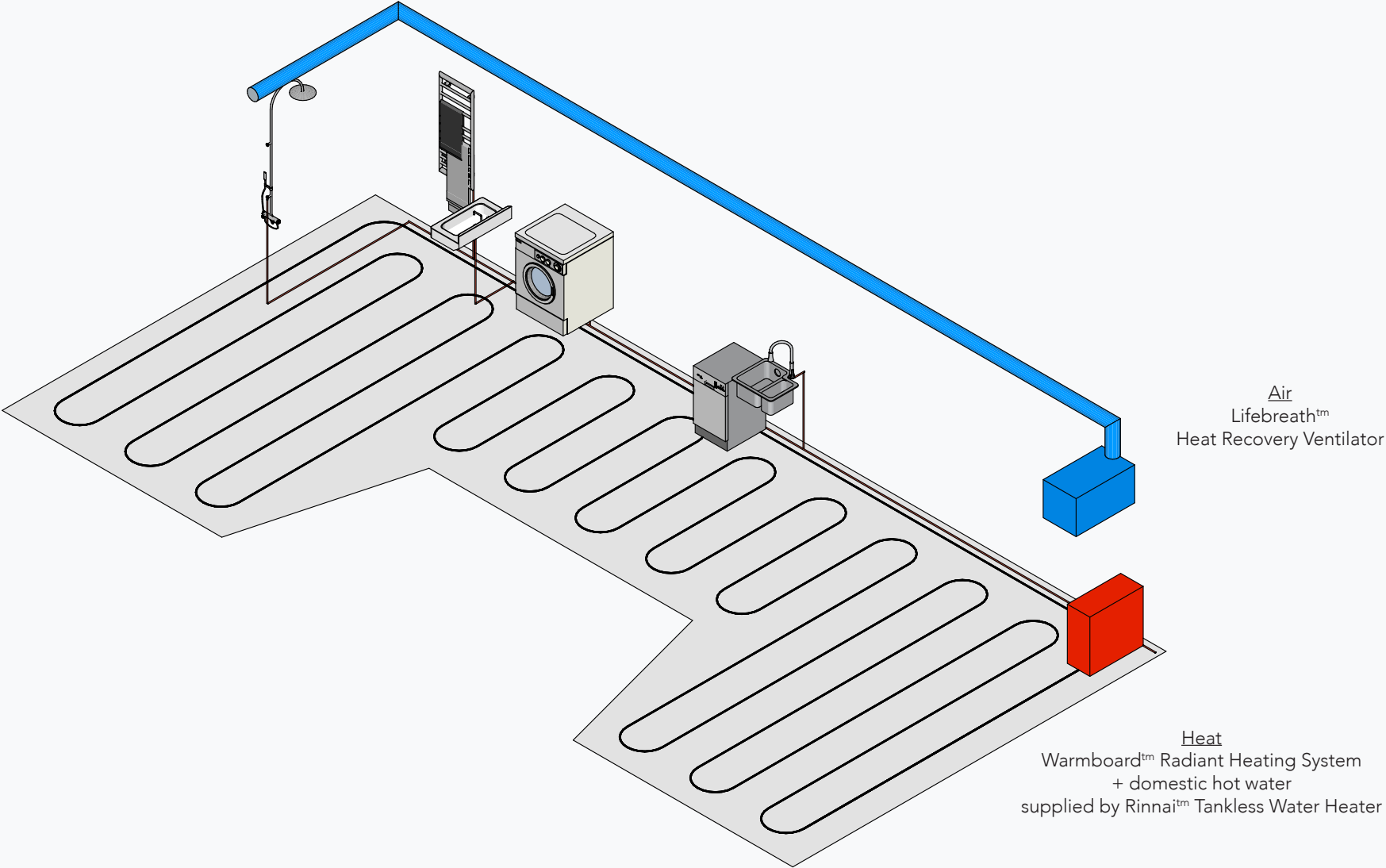


wohnHAUS 42



exploded iso

ENERGY EFFICIENT
two mechanical systems



wohnHAUS 42

Natural Ventilation Mode

awning + casement windows
move air efficiently + naturally

Passive House Performance

Raycore™
Structurally Insulated Panels
closed-cell insulation
+ staggered structural studs
(eliminating thermal bridging)
airtight <0.60 ACH@50Pa.
Floor + Ceiling >R52
Walls >R42

low e triple glazed
argon filled windows

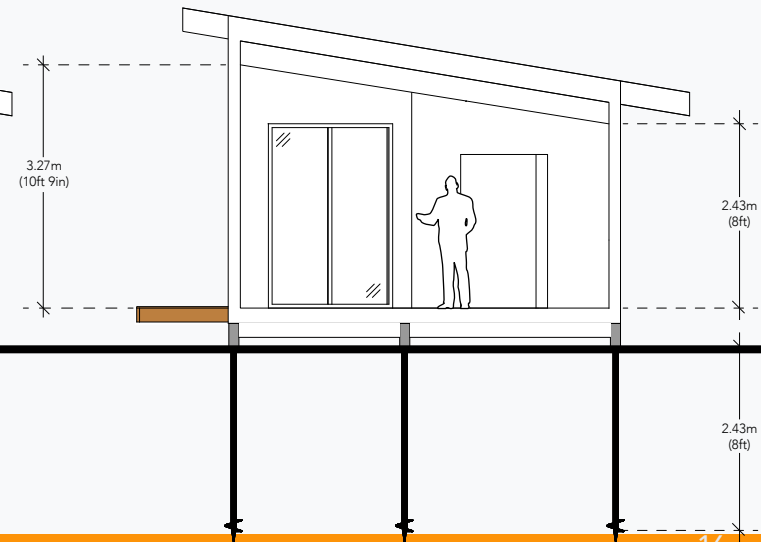
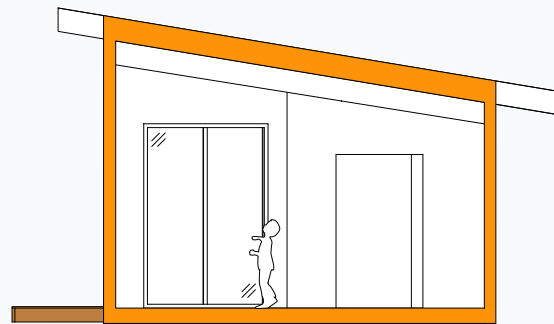
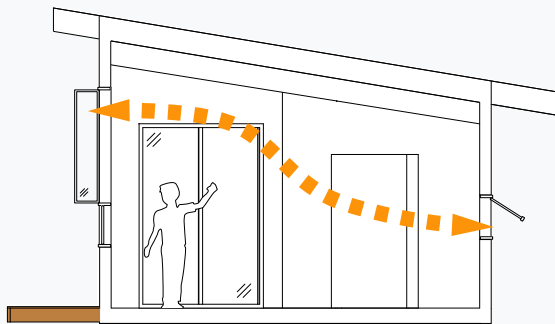
High Ceilings

+

Deep Foundations

generous interior volume
+ access to daylight

recycled steel screw piles
stable foundation system
minimal site disturbance
quick install + re-usable



1:100

BIAU
FAB
RIK