



DORIAN LUCAS

ENVIRONMENTAL AWARENESS IN ARCHITECTURE

SUSTAINABLE BUILDINGS



BRAUN



TINY HOUSE IF IN DRESDEN OUSIA ARCHITEKTEN

LOCATION: DRESDEN, GERMANY | **COMPLETION:** 2021 | **CLIENT:** CONFIDENTIAL | **BUILDING TYPE:** RESIDENTIAL | **GFA:** 91 M² | **PHOTOGRAPHY:** CHRISTIAN GRAYER

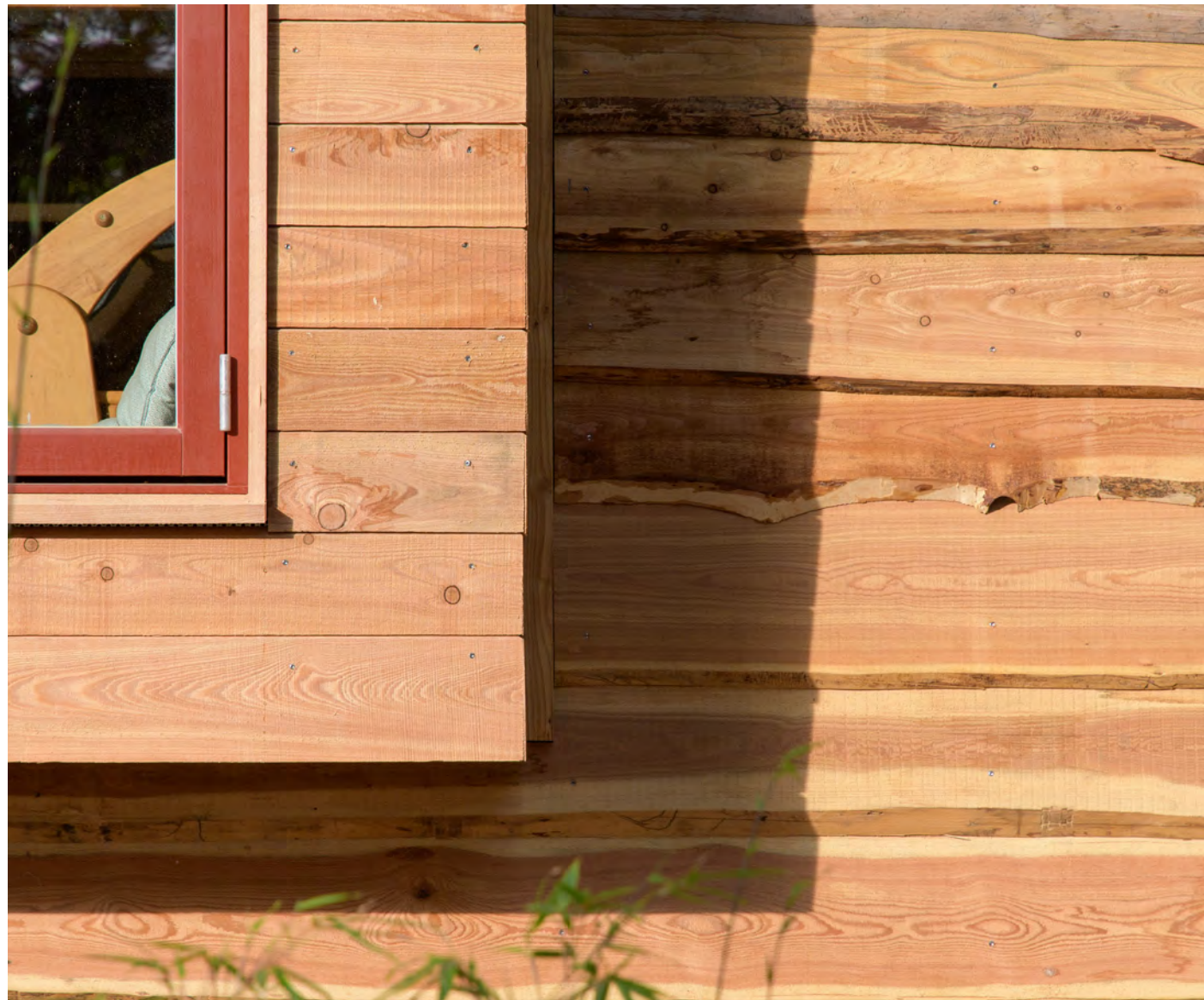
Surrounded by old trees and garden landscapes, the new construction of the 70-square-meters-small residential house stands hidden on the slopes of the Elbe in Dresden Hosterwitz. In consideration of a very low budget, the created house was reduced to the essentials and optimized in terms of space. The house was built with a lot of personal contribution. The implementation was nevertheless carried out quite consistently with ecological and sustainable building materials, as an all-wood house with rammed earth floor slab, a wooden boarding with tree edge, hemp insulation,

clay plaster, wooden windows and wooden floors. All potentially nature harming materials like construction chemicals, conventional paints, adhesives and plastics were completely avoided. Plenty of daylight enters the rooms via a circumferential skylight strip under the flying, widely cantilevered, green monopitched roof.



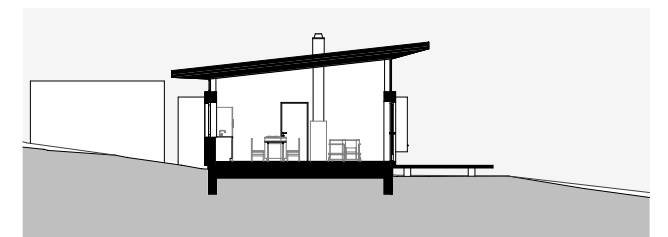
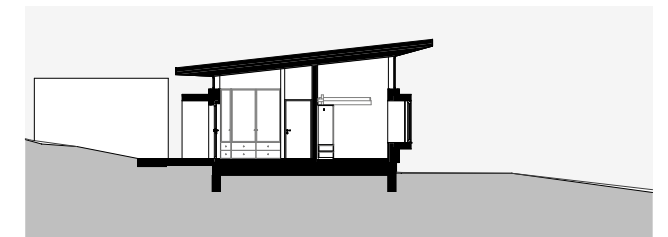


As a character-giving and economical design concept, the vestibule, the bathtub, the parents' closet and the seating window in the children's room were pushed through the exterior wall as space-saving extensions and economical design concepts. They give the façade an expansive structure and depth. The building is heated by only one central tiled stove, the bathroom has a small electric floor heating. Hot water preparation is provided by an instantaneous water heater and room ventilation can be mechanically controlled. Sun protection is secured by the wide overhanging roof, thus the materials and construction ensure optimal winter and summer thermal protection.



ECOLOGICAL ASPECTS: basic wood stove | wood fiber insulation | solid wood house | flat green roof | low-tech house | clay plaster | minimal area consumption | planning and construction to the extended self-construction

CERTIFICATES / STANDARDS: German KfW 70





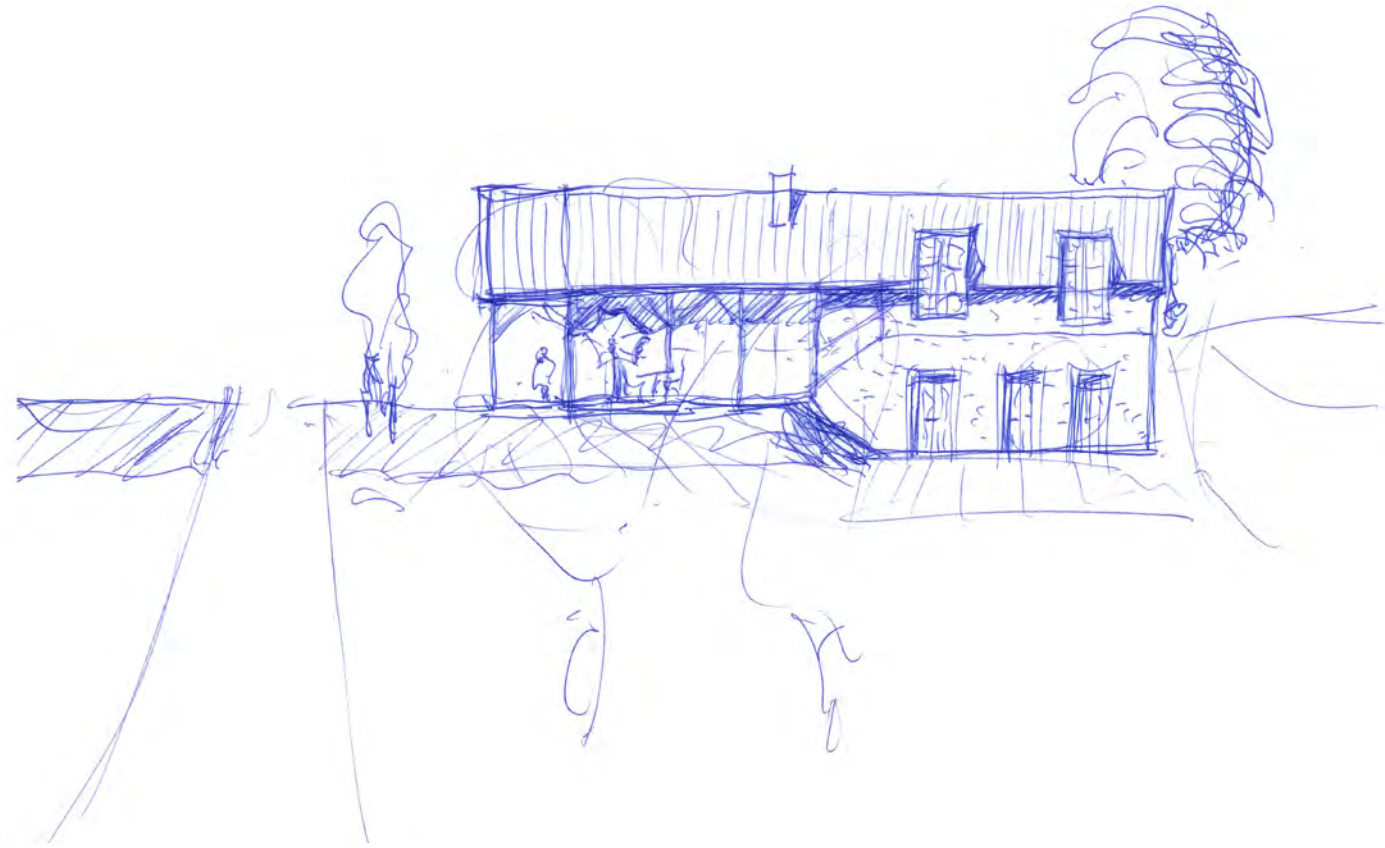
FAMILY HOUSE K IN ZUSMARSHAUSEN OUSIA ARCHITEKTEN

LOCATION: ZUSMARSHAUSEN, GERMANY | **COMPLETION:** 2020 | **CLIENT:** CONFIDENTIAL |
BUILDING TYPE: RESIDENTIAL | **GFA:** 590 M² | **PHOTOGRAPHY:** CHRISTIAN GRAYER



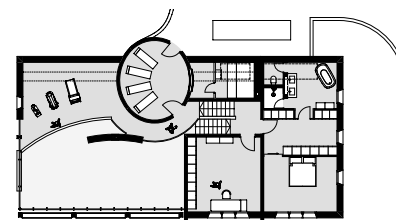
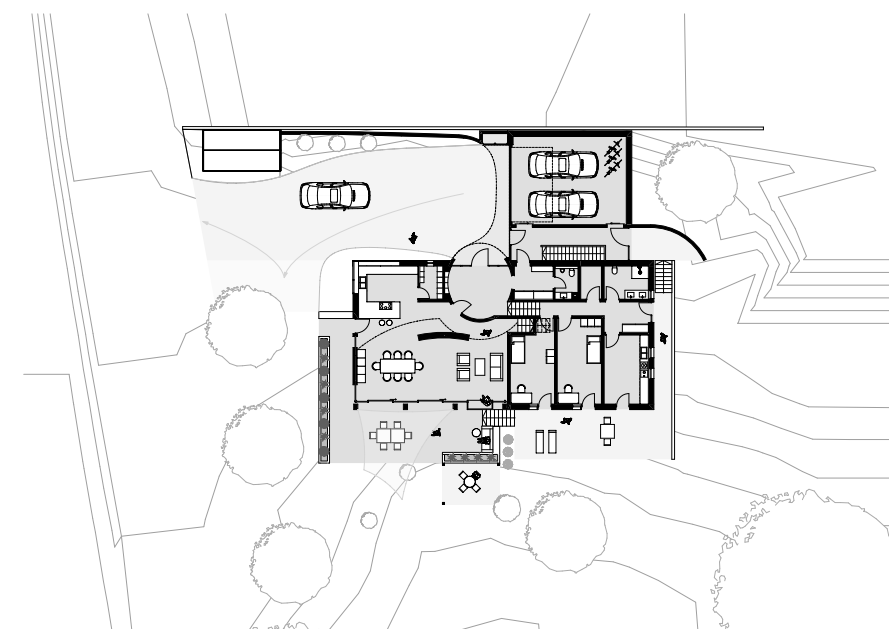
Given the peripheral location in the Swabian community, the decision was made in favor of an elongated house type with a gable roof, which best rounds off the townscape and creates a local edge typical of this region. The side garage extension nestles into the slight slope. Its greened flat roof blends with the garden landscape without any other edges. The south-west corner of the house was completely glazed to create a bright, high-ceilinged living space with a gallery, where the boundary between inside and outside blurs. On the gable end, a wall panel in the glass façade acts as a storage space for furniture and a privacy screen facing the street. To further divide the open space, a brick semi-circular wall disc was

included to divide it into different zones of space and to house the fireplace. In the entrance area there is a gray glazed rotunda, whose 3D-wooden formwork consists of squared timbers in different rectangular cross-sections.



ECOLOGICAL ASPECTS: PV system also used for hot water production | battery buffer storage | wood pellets heating | heating stove | wood fiber insulation | controlled room ventilation with heat recovery | flat green roof on the garage | rainwater cistern | solid wood house | clay plaster | geomantic positioning on the site

CERTIFICATES / STANDARDS: German KfW 70



The new single-family house was built completely in ecological sustainable construction as a solid wood house with clay plaster, a photovoltaic system, and pellet heating. The natural materials are open-pored in their surface and thus left building biologically active for the indoor climate and comfort. Construction chemicals, paints, adhesives and plastics were largely avoided. The building can be heated by the underfloor heating as well as by the wood stove in the living room.

In both winter and summer thermal protection is provided by the three-pane glazing, as well as by solar control glazing and louvers. In winter the heat can be recovered through controllable ventilation to ease the strain on the heating system.