

The Swiss School of Engineering for the Wood Industry

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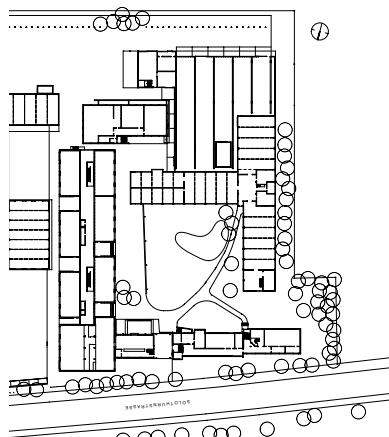
The Swiss School of Engineering for the Wood Industry is situated between the residential areas on the outskirts of the city of Biel and the industrial zones flanking the southern slopes of the Jura. The existing buildings consist mostly of single-storied production halls and storage sheds which, with their open layout, low-pitched roofs and close rapport with the surrounding landscape, are typical of school buildings of the post-war period in Switzerland. The extension of the school called for a project that would exploit the full potential of the site while preserving as much as possible of the existing conditions.

The design utilizes structures that are fundamentally different in the way they

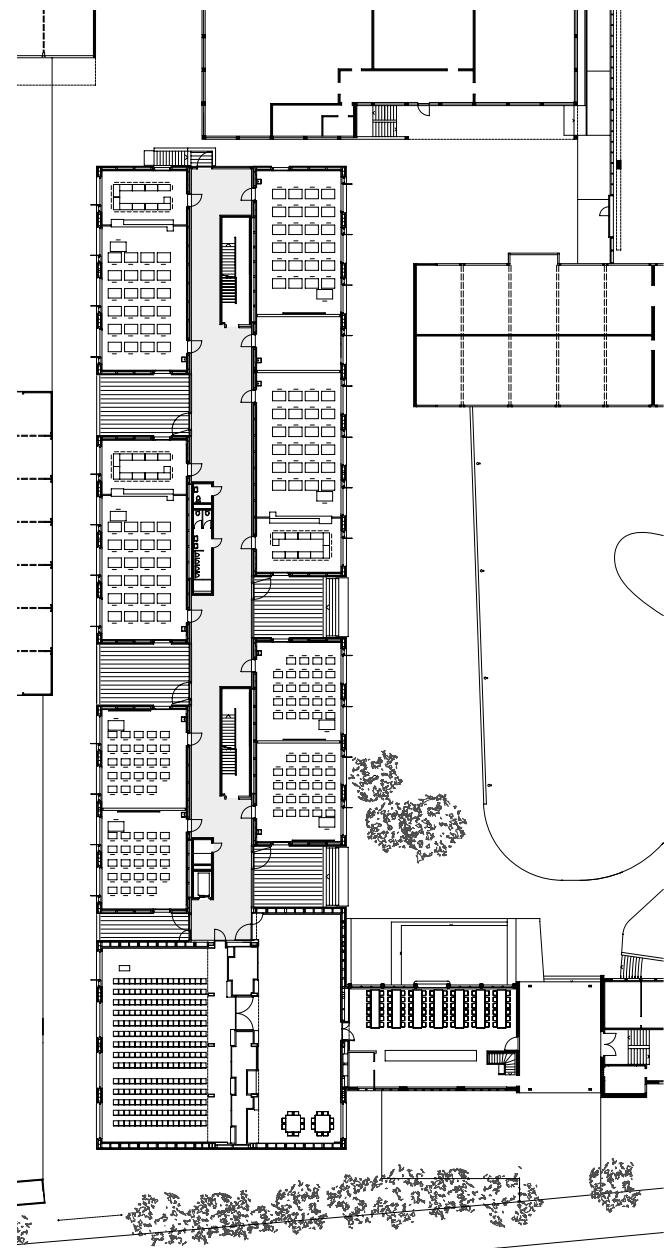


relate to the outer and inner organization of the ensemble. An extension to the production and processing halls on the southern part of the site wraps snugly around the existing building, responding to the low-lying character of the one-story woodworking halls. In contrast, the new teaching building is a four-storied wooden structure that towers above the low-pitched roofs. Its proportions and dimensions verge on the dissonant, creating a tension with the low-rise buildings. To the north, the building extends to the street, almost touching the foothills of the Jura, highlighting the topographical situation.

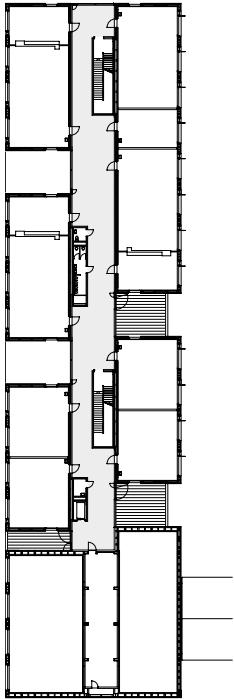
The teaching building consists of a series of wooden “boxes” with large skeleton frames. Because of the exten-



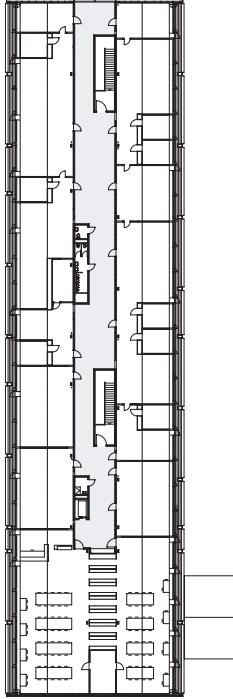
Site plan



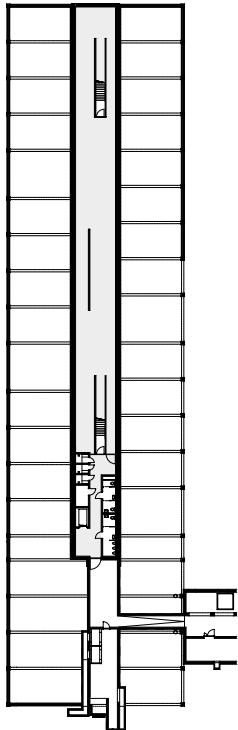
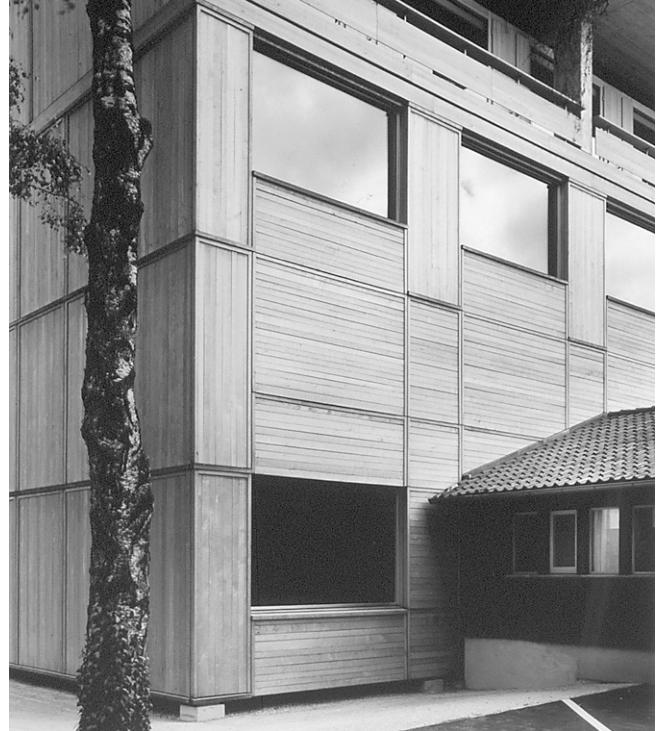
Ground floor plan



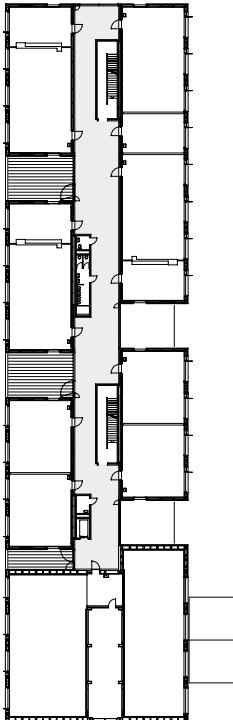
Level 2



Level 4



Basement level



Level 3

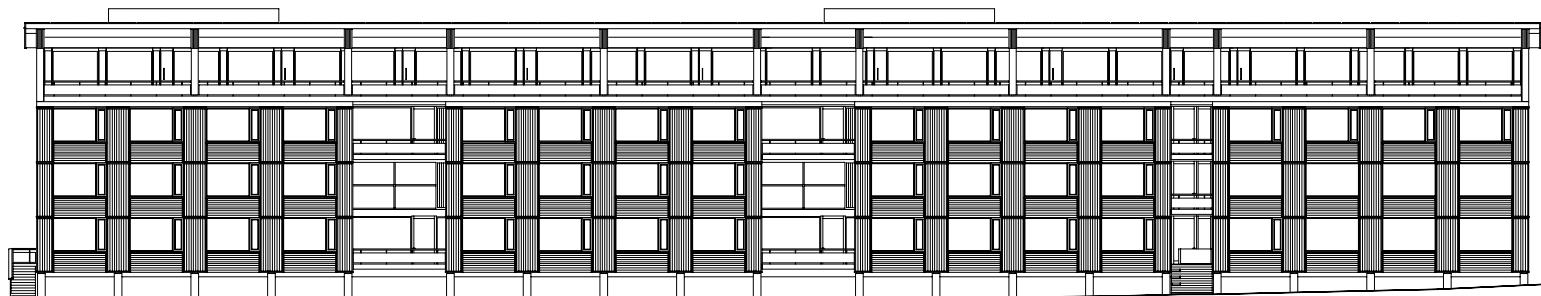
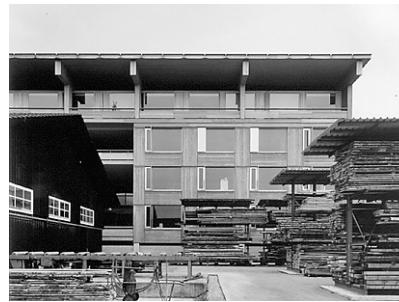


sive spans which are possible in wood-frame construction, it was possible to design the building in such a way that the modular structure corresponds to that of the classroom units and their partitioning. The structural beams are assembled in a grid-like planar system. Over-sized apertures on the façade echo the underlying skeleton, which serves both as a casing for the large windows and, through the balustrades, as supports for the ceilings below. The ceilings are composed of unclad, hollow, glued-timber beams which are laid edge-to-edge to form an uninterrupted surface for the floor above. The outdoor terraces span between the classroom boxes in such a way that the orthogonal change in the load-bearing direction is visible from both inside and outside.

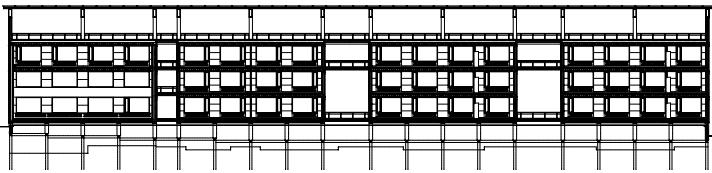
The materials and structure were chosen for their resilience and functionality. Inside the building a monolithic central circulation zone made of pre-stressed concrete conforms to the relevant fireproofing and load-bearing requirements. Prefabricated components of wood and wood-based materials, used on each side of the concrete core and

over it, permitted speedy construction and roofing of the building. Although they provided an opportunity to test certain industrial wood-fabrication processes, the components are above all an essential part of the spatial concept of the design, in which the rigid box constitutes the basic element. The classroom volumes are treated as individual units, integrated with a structure that is composed throughout of open and closed spaces. These are aligned in such a way that light can penetrate the interior through the open spaces. The fine lines on the wooden surface of the façade alternating with views into the depths of the building result in a chiaroscuro effect.

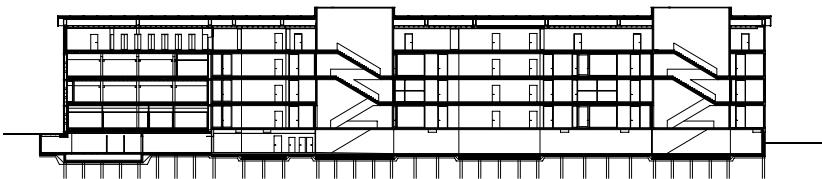
Rather than simply adapting and expanding a traditional mode of construction, the use of wood in this scheme generated a new definition of the parts of a building and their scale. In keeping with this approach, the many apertures and outdoor spaces within the overall structure are a spatial expression of the circulation between the production halls and the classrooms.



East Elevation



Section through wood "boxes" looking east



Section through corridor looking east

