Extension/expansion of blood donation center, Aarau

2009

The occupancy capacity of the SRC Blood Donation Center in Aarau had reached its maximum limit for quite some time.

The project

In order for the blood donation center to be prepared for the future and to continue to operate efficiently, an expansion of the building had become unavoidable. Since there was no free space next to the building, another solution was sought. The existing building is a four-story office building, which is surrounded by a generously closed atrium at the height of two floors. Ergo: supplement the atrium area with intermediate ceilings and realize an addition above the top floor. This would expand the available space as follows: cafeteria/meeting rooms on the ground floor, 8 treatment rooms on the 1st floor and 12 doctors' offices with a wide corridor on the ground floor. It was therefore necessary to extend the four-story building in the courtyard and on the roof. To keep the additional weight low, timber frame construction was chosen for the walls. The extension building extends in the inner courtyard over the ground floor, 1st floor and roof with an additional storey. The primary supporting structure is steel columns, which were placed in front of the reinforced concrete columns on the ground floor.

The construction method

Wooden trusses are staggered on the 1st floor, spanning the width of the inner courtyard and being storey-high. The trusses take over static tasks, but at the same time they are also space-enclosing elements. The intermediate ceiling on the ground floor/1st floor is supported on steel angles that are integrated into the trusses and individual angles that are offset on the concrete walls. Tensioning direction: from truss to truss, resp. to the concrete walls. In order to close off the newly created rooms on the 1st floor and to form the corridor, the glazing to the inner courtyard was dismantled. Wooden frame walls were placed between the existing reinforced concrete columns. The intermediate ceiling of the 1st floor/addition is placed directly on the trusses. The extension is built in conventional frame construction. In order to achieve a partial shading of the long side glass front, the canopy as well as the side walls were extended strikingly beyond the facade. The projection thus created was given a warm, inviting exterior surface by means of larch grate cladding. The remaining surface was clad with Swisspearl panels. Five skylights were installed in the roof structure of the extension to provide natural corridor lighting.

Attrium before reconstruction

Relocation partition walls addition

Facade view extension north side

Facade view extension east side

Construction Data

- Glued laminated timber 12 m^3
- Three-layer boards 2120 m^2
- OSB boards 238 m^2
- Solid structural timber 23 m^3
- Frame construction scantlings 16 m^3
- Larch wood for grate etc. 475 m^2

Services of Timbatec

- SIA phase 31 preliminary project
- Cost estimate
- SIA Phase 32 Construction project
- Structural analysis and design
- SIA Phase 41 Tendering and comparison of offers
- SIA Phase 51 Implementation project
- Site supervision and site inspections

Architect

Moser+Colombo Innenarchitektur GmbH
5000 Aarau

Timber construction contractor

Schäfer Holzbautechnik AG
5605 Dottikon