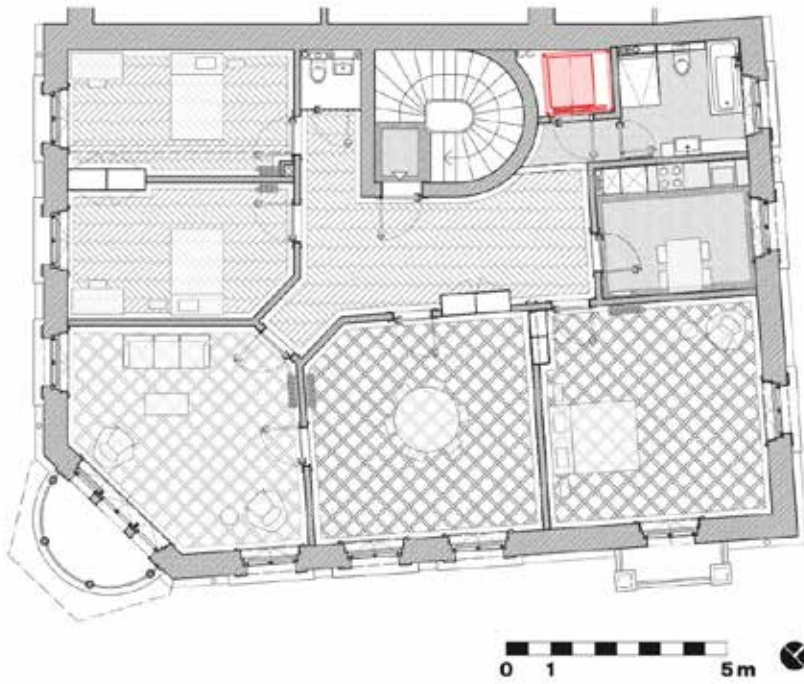


CUSTOMIZED UPGRADE



MORE THAN A LIFT
SWISS MADE



Apartment floor plan with the elevator inserted in red.

With the installation of a tailor-made lift, an architectural gem from the turn of the century was made fit for a new life cycle.

Renovating a house like this is a dream come true, enthuses architect Stefan Gysel as we walk up the spiral staircase. Gysel is part of Bern's long-established *Werkgruppe agw studio community*, a cooperative association of building professionals. His enthusiasm for the residential and commercial building at Spitalackerstrasse 60 in Bern is easy to follow: the filigree stone steps are impressive and the murals that adorn the ascent are decorative. The zenithal light falls atmospherically from far above through the stairwell and down into the entrance hall. Climbing the stairs is like walking through a piece of urban and architectural history. Gysel knows the building like the back of his hand. He says that over the planning and construction period of the past few months, he has come to

know it inside out. He understands how it was designed and constructed. He soon learnt where the only possible location for a lift would be, but he also suspected that the installation would not be easy.

The scent of the Belle Époque

The corner building at Spitalackerstrasse 60 was constructed in 1906 by architect and master builder Antonio Perello. He also designed the five adjoining buildings to the west – a stately row of buildings in exposed brick and sandstone. These houses – like the entire Breitenrain/Spitalacker district – were built around the turn of the century, when Bern's election as the federal capital, and the construction of the railroad and industrialization led to rapid population growth. The construction of the Kornhausbrücke bridge in 1898 was the starting signal for the development of the northern quarters, which until then had been separated from the old town by the deep incision

of the Aare. Antonio Perello's corner house is a typical example of the ambitiously designed buildings of this boom period. The prestigious location on the corner of Spitalackerstrasse and Moserstrasse led to a special feature: a suspended, tower-shaped bay window with verandas adorns the diagonally cut corner façade. Richly decorated cast-iron railings and supports exude the sophisticated scent of the Belle Époque.

Therefore, it is no wonder that the conservation authorities were heavily involved from the outset in the conversion and renovation of the building. For decades, nothing had been touched, but nothing had been invested either, and the building was in serious need of renovation. Today, it is hard to imagine what it used to look like, says Stefan Gysel. The conservation authorities had a great interest in the renovation – and in ensuring that the building would be used carefully and respectfully in the future. Af-



A delicate but steep staircase provides access to the apartments.



The residential and commercial building on Spitalackerstrasse in Bern is a jewel from the turn of the century. Photos: Roland Junker

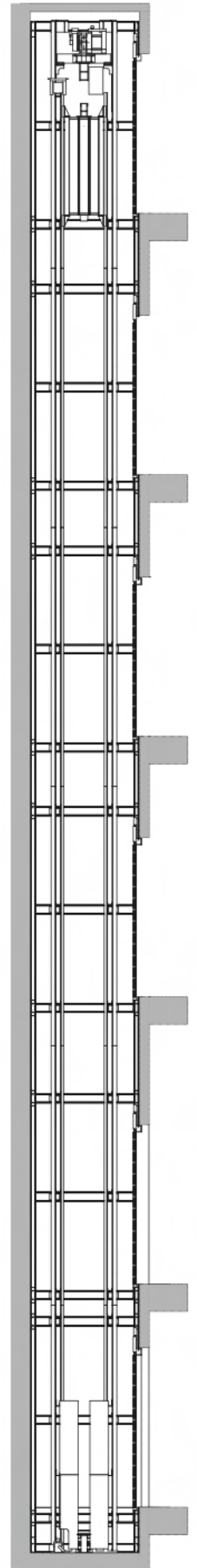
ter all, according to the wisdom of conservationists, the easiest way to protect a building is to use it. If a building stands empty, damage and decay can progress alarmingly quickly. Future-oriented maintenance therefore means not just preserving a protected building, but refreshing and upgrading it. The building should meet the diverse requirements and demands of the present and be equipped for the future.

Today, an upscale residential building in a popular inner-city district should be as barrier-free as possible. When – as at Spitalackerstrasse 60 – floor heights of more than three metres, a steep staircase and the client's desire for apartments for families with prams and pushchairs or for older people are added to this, the installation of a lift is more than obvious. With minimal intervention, it is possible to almost completely preserve the historical building fabric and at the same time make it fit for a further cycle of use. The renovation on Spitalackerstrasse shows how the integration of a tailor-made lift system can ensure the

preservation and continued use of the existing building fabric.

No zero eight-fifteen lift

What Stefan Gysel had in mind was also the only solution in the eyes of the conservation authorities: install a small elevator between the stairwell and the bathroom – where there had once been a service duct with a hot water boiler – to provide direct access to all apartments. „I made a rough sketch and saw that this solution would work well with the existing apartment layouts. And it also makes sense for the store on the first floor and access to the basement,“ says Gysel. However, space was extremely tight, the historical building elements were sensitive and the existing structure was fraught with many unknowns. The architect suspected that it would not work with a standard elevator from a standard company. Specialists with a sense for individual, perhaps even unconventional solutions were needed: specialists who shared Gysel's passion for the



Section of elevator shaft. 0 1m



View of the old ceilings through the incised shaft



The fitted steel frame extends through all floors.



Steel frame and spacer buffer.

Renovation and conversion of Spitalackerstrasse, 2023

Spitalackerstrasse 60, Bern

Client: private Architecture: Werkgruppe agw (Stefan Gysel), Bern

Technical specifications: rope-mechanical passenger elevator without machine room

- Payload 500kg / 6 persons

- 6 stops

- 17m delivery head

house and his commitment to respectful and careful renovation. He found them close by, at the Bern-based lift manufacturer Emch.

Problems and solutions

The location of the lift was convincing from an organizational point of view and in terms of monument preservation, but it did pose a noise protection problem: the rear wall of the planned lift shaft was also the fire protection wall for the neighbouring building. Vibrations and structure-borne noise could not be ruled out with a conventional system. An initial solution envisaged two additional concrete walls, which would be decoupled in front of the fire protection wall and to which the eleva-

tor would be attached. This proposal raised various questions. How do you pour concrete walls into a narrow shaft that extends over several floors? Does the Won't anchoring the concrete walls back also allow structure-borne noise? And are two more walls even possible if space is already tight? We had to admit that we had not yet found the optimal solution.

After some deliberation, Emch had a brilliant idea: a steel frame as a self-supporting lift shaft, made up of 6 x 6 centimetre narrow tubes: a principle that is often used in glass lifts. There, the elevator also usually hangs behind the glass shell on a steel frame. On Spitalackerstrasse, the steel scaffolding would be self-supporting in a

shaft made partially of original walls. Emch also found a convincing alternative for the anchoring and its sound transmission risk. Instead of driving anchors into the fire protection wall, spacers were used: small threaded rods with plastic buffers that were clamped between the steel scaffolding and the shaft wall, thus stabilizing the elevator shaft.

The proposal not only solved the noise problem, but also saved valuable centimetres thanks to the slim design. Virtually invisible, and hidden within the original structure, the lift nevertheless has a wheelchair-accessible door width of 80 centimetres and an internal area of 1 by 1.15 metres. "The practical implementation was a challenge,"



The new elevator, which provides direct access to all apartments, is located behind a historical room door. Photo: Merlin Photography



or designers," says Gysel. "They think and plan together, discuss, benefit from each other's expertise and find tailor-made solutions." He could continue on: about the lift pit, which is actually too low, but which is now controlled by a protective room monitoring system. Or about the Hourdis ceilings, which had to be cut off for the lift shaft holes and which now rest on a newly built angle. All of this is technically feasible, but it takes a committed and competent partner such as Emch to develop and implement such solutions: a partner who doesn't just sell a product, but designs a component. "If I need more documentation, I can always get in touch," says Stefan Gysel as he leaves. He is well equipped with plans. „Such a beautiful house, I almost couldn't stop drawing!"

Text: Marcel Bächtiger

says Stefan Gysel. "The house is old; the walls are of varying thickness and never completely straight." The architect and the Emch employees asked themselves: Would it work? Would the wall be far enough back or would there be a bottleneck? At the very beginning of the construction work, therefore, sounding holes were cut into the ceilings through all the floors. Only when the plumb line could be lowered from the very

top down to the basement did we know for sure: yes, it will work. Now the large holes for the elevator shaft could be cut. The thickest walls at the bottom determined the size of the shaft, while the clamped spacers at the top filled the air space.

Know-how on both sides

"Working with Emch's specialists is like working with highly specialized craftsmen

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