

Trafo Building

Main Building: A0, A1, A2
Intermediate Building: B0, B1
Hall with Gallery: C0, C1

The planning and construction of the building follow the guidelines of the 2000-Watt Society
www.local-energy.swiss

The additional requirements for primary energy demand and greenhouse gas emissions during construction and operation are met. Increased soundproofing requirements according to SIA 181 are aimed for all building components, while the standard soundproofing requirements are guaranteed.

The Trafo Building is a listed historical monument of regional significance and is protected under cantonal heritage regulations. The protection scope includes the location, exterior appearance, and the supporting structure, including the staircase. Currently, replacement windows and external doors are planned, but the final decision (preservation vs. replacement) will be made in consultation with the heritage conservation authorities during the planning process. Any tenant fit-out modifications require approval from the heritage authorities.

Barrier-free access according to SIA 500 is ensured, provided that the gallery of the large hall is internally connected to the elevator. Otherwise, a stairlift may need to be installed as part of the tenant fit-out. Direct access to the backyard from rental units can be provided by installing a ramp at the tenant's expense. A wheelchair-accessible restroom will be included in the base building setup and will be accessible to all rental units.

Building Overview

Construction

Entire building in solid construction, non-load-bearing interior walls made of gypsum stud walls and glass blocks.

Existing ceilings in reinforced concrete composite construction (staircase, main building) and reinforced concrete ribbed construction (intermediate building and hall).

New ceilings in the ground floor of the intermediate building in mixed construction (composite steel beams with solid laminated timber panels) and in the hall (gallery floor) in lightweight timber construction with a steel frame, filled with gravel for soundproofing.

Existing staircase in concrete. New metal staircases in hot-dip galvanized steel.

Steel Construction

External staircase in hot-dip galvanized steel, width 120 cm, stringers and landings in flat steel, steps with a steel frame and precast concrete elements; railing with handrail (on both sides) in flat steel, railing infill with stainless steel mesh cable system; emergency lighting integrated into the railing. Separation to the roof terrace: 2 m high with a hinged door, railing with posts and handrail in flat steel, railing infill with stainless steel mesh cable system.

Facade

Existing cement stone facade: Restoration with high-pressure cleaning, re-profiling, and improved resistance to driving rain.

Existing plastered exterior facade: Restoration with high-pressure cleaning, re-profiling, fresh paint, and graffiti protection.

Concrete window sills and steel/concrete lintels: Restoration and supplementation.

Roof edge trim, downpipes and rain gutters: Made of copper.

Windows

Wooden windows (replacement) with frame extension, triple insulating glazing, and laminated safety glass (VSG); floor-to-ceiling windows in the hall with a Ug-value of $0.5 \text{ W/m}^2\text{K}$, otherwise $0.6 \text{ W/m}^2\text{K}$; wood coating in gray on the inside, white on the outside; mullion division and frame dimensions as close as possible to the original; window sills and weather bars in natural anodized aluminum; fall protection where necessary in round steel, hot-dip galvanized; ventilation windows with tilt-and-turn mechanism.

Aluminum windows (east facade, ground floor, 3 units).

New windows with triple insulating glazing in natural anodized aluminum. Fixed glazing; window sills and weather bars in natural anodized aluminum.

Sun Protection (Shading)

Facade: External vertical awnings with zip guide rail (mounted in window reveals on the south and west, on the facade on the east, and behind the facade for the three new windows); fabric; cover and rails in natural anodized aluminum; plastic parts in black PVC; operated by an elec-

tric motor; control by the tenant, override by the central building automation system (wind, sun, frost, hail, etc.).
 Skylight intermediate building: Horizontal interior sunshade roller; operated by an electric motor; control by the tenant, override by the central building automation system (wind, sun, frost, hail, etc.).

Exterior Doors

Main entrance: Single-leaf doors with glass insert.
 Side entrances at escape staircases (ground floor and 1st floor): Single-leaf doors with glass insert, side panel, and transom light.
 Entrance main building and three rear entrances (west): Single-leaf doors with glass insert and side panel.
 Folding sliding door (east, 2 units): Three-leaf design with glass insert and transom light, 20 mm concrete threshold.
 Skylights: Triple insulating glazing, with mullion division, aluminum anodized.
 Surface color: Natural anodized.
 Emergency exit doors to the roof terrace (2 units): Single-leaf doors with integrated metal canopy in the frame, aluminum anodized.

Interior Doors

Main doors of rental units: Metal door, frame and leaf in natural anodized aluminum, with glass insert and transom glazing.
 Side entrance doors of rental units (connecting doors between the main building, intermediate building and hall): Metal door, frame and leaf in natural anodized aluminum, partially with glass insert.
 Doors to the shower anteroom, accessible WC, and lift vestibule in the rental units: Wooden block frame doors, flush-closing door leaf, surface with birch veneer, lacquered.

Flat Roof

Extensive green roof; lightning protection system.
 Skylight intermediate building (1st floor) with metal frame, triple insulating glazing, interior sunshade roller.
 Skylights in shafts of the main building (1st floor, 3 units) with metal frame, triple insulating glazing, sloped towards the flat roof.

Intercom/Mailbox

Mailbox system with integrated intercom: Flush-mounted in the facade, in natural anodized aluminum/brushed stainless steel, with integrated video intercom system connected to a tenant-managed cloud solution (no fixed stations).

Locking System

Dormakaba access control system included in the base building setup, mechatronic system; alternative access system possible by the tenant. 1 key/badge per 15 m² of rental space.

Signage/Facade Labeling

Common areas: (Entrance, staircase, lift) according to site standard.
 Facade: According to site standard and subject to regulatory approval. Tenant-specific modifications in tenant fit-out.

Electrical Installations

Staircase and common areas: Lighting; sockets for cleaning (Feller Standard Due Black, surface-mounted with hot-dip galvanized steel conduits on uninsulated interior walls), emergency exit signage up to the lift vestibule; rental areas are the responsibility of the tenant.
 Facade: Decorative exterior lights in industrial style (entrances and pergola), video intercom system, Kemper safe flush-mounted in the north facade, brushed stainless steel.

Sanitary Facilities

Wheelchair-accessible WC according to SIA 500 on the ground floor for shared use (if the hall is rented separately without an internal connection to the accessible WC, a separate accessible WC must be installed in the hall): Fully equipped, black fittings, electronic washbasin faucet, fully equipped with all necessary accessories.
 Shower on the ground floor for shared use: Fully equipped with mirror and washbasin, floor-level shower with drainage channel, rain shower and side fixed glazing, niche with storage compartments, fully equipped with all necessary accessories.
 Janitor's room on the ground floor with washbasin.

Heating, Ventilation, Air Conditioning, and Cooling Systems

The staircase and extension are outside the insulation perimeter, not actively ventilated or heated. The accessible WC, shower, and janitor's room are ventilated.

Lift Systems

Passenger lift in the staircase with high-quality interior fittings (walls, ceiling and handrail in brushed stainless steel, floor in anthracite-speckled rubber), two-sided access, 5 stops and 6 exits; wheelchair-accessible; designed for at least 8 people or 630 kg; speed 1.0 m/s; cabin dimensions: 1.1x1.4x2.1 m; lift doors 0.9x2.1 m in brushed stainless steel; machine-room-less, no roof structure.

Surfaces

Staircase

Floor: Existing concrete, restored with high-pressure cleaning and sealing; new anhydrite landing at the entrances to rental units on the 1st and 2nd floors.

Walls and Ceilings: Existing interior plaster, including window reveals, cleaned and repaired, new two-tone paint (gray) as per the original.

Finishes to rental units on the 1st and 2nd floors: Floor-to-ceiling glazing with glass door and glass blocks.

Dirt trap at the main entrance (ground floor): Aluminum profile mat with brush inserts, laid on the floor.

Railings: Existing railings repainted, supplemented with an additional round steel handrail and infill with a stainless steel mesh cable system.

Corridor at the emergency staircase

Floor: Anhydrite with grain polish and sealing.

Walls: Glass blocks, lift shaft in exposed concrete, existing interior plaster.

Ceiling: On the ground floor, hot-dip galvanized composite steel beams with a solid concrete slab; on the 1st floor, existing reinforced concrete ribbed ceiling.

Dirt traps on the ground and 1st floor: Aluminum profile mat with brush inserts, recessed.

Anteroom to the shower and accessible WC

Floor: Anhydrite with grain polish.

Walls: Drywall with aluminum cladding, natural anodized.

Ceiling: Suspended ceiling in natural anodized aluminum.

Accessible WC, shower, janitor's room

Floor: Dark gray rubber granulate.

Walls: Dark gray/light gray rubber granulate.

Ceiling: Hot-dip galvanized composite steel beams with a solid concrete ceiling.

Roof Terrace Pergola

Floor: Concrete overlay and walkway with sandblasted concrete slabs, broom finish, max. 10 mm joints.

Steel structure: Hot-dip galvanized steel profiles, railing with posts and handrail in flat steel, railing infill with a stainless steel mesh cable system.

Shading: Horizontal awning with weather protection cover (natural anodized aluminum); side guides with integrated chain drive; washable and waterproof fabric. Operated by an electric motor.

Lighting and power outlets

Surroundings

Forecourt: In-situ concrete, 3 tree islands, barrier-free access on one side, stepped access on two sides.

Backyard: Existing/new in-situ concrete on different levels, connected at ground level to the walkway at the hall, 2 trees with a bench.

Shared use of the Papieri-Areal surroundings with paved areas, lawns, plantings, underground waste container systems, etc.

Bicycle Parking

Bicycle racks with stands along Papieriring as well as 30 covered bicycle parking spaces for employees in a ground-level accessible bicycle room in the Remise (shared use with the Durolux building).

Parking

Parking in the pooled underground garages of the Papieri-Areal. Visitor parking above ground along Papieri-Ring or in publicly accessible areas of the underground garages. All parking spaces are managed. Some parking spaces are equipped with electric charging stations.

Office spaces

Load Capacities

Offices: 300 kg/m² distributed load or 200 kg/m² point load.

Roof terrace pergola: 500 kg/m² distributed load or 400 kg/m² point load.

General Surfaces

Floor: Anhydrite with grain polish and sealing, prepared for an optional tenant-installed final covering (max. 15 mm).

Walls and ceilings (existing): Cleaned, re-profiled.

Plastered walls and flank insulation: 0.5 mm slurry plaster, applied but not smoothed.

Climate convectors (parapet/bench elements and integrated into the shaft wall): Clad in plywood with clear lacquered birch veneer, raw edges; perforated for integrated displacement ventilation where applicable; partially removable fronts, bench elements with foldable seating surface.

Large Hall

Floor: Anhydrite on the ground floor, gallery specifications below.

Walls: Plastered; shaft wall on the facade side in plywood with birch veneer, featuring an integrated electrical distribution cabinet and built-in cupboards.

Ceiling: Existing reinforced concrete ribbed ceiling, steel profiles repainted, exposed concrete finish.

Gallery: Box element with a tongue-and-groove profile in spruce; frame structure with hot-dip galvanized steel profiles, filled with gravel as a soundproofing measure; tenant-side impact sound insulation and final covering (e.g., linoleum, max. 20 mm total); underside with acoustic perforation.

Staircase: Width 120 cm, angle steps, stringers and landings in flat steel, railing with handrail in flat steel, railing infill with stainless steel mesh cable system; stair lift can be retrofitted as part of the tenant fit-out.

Main Building

Floor: Anhydrite; ground floor staircase steps in anhydrite (leading to the backyard exit, meeting room, and anteroom to shower/accessible WC).

Walls: Plastered; interior wall on the ground floor and shaft fronts in birch plywood, lift shaft in exposed concrete; existing steel columns (ground floor) painted; glass blocks (ground floor to anteroom shower/accessible WC, 1st and 2nd floors to staircase), fixed glazing (1st and 2nd floors to staircase); installation wall (1st floor) with gypsum cladding. Ceiling: Existing reinforced concrete composite ceiling; three skylights on the 1st floor.

Lift vestibule doors: Wooden block frame doors, flush-closing door leaf, surface with birch veneer, lacquered.

Intermediate Building

Floor: Anhydrite; stair step (ground floor, exterior) in anhydrite.

Walls: Exterior walls plastered; interior walls retained as much as possible in their original state (preservation of metal parts, patina on walls and wall recesses, cleaned/painted); glass blocks to the anteroom of shower/accessible WC. Ceiling: On the ground floor, hot-dip galvanized composite steel beams with solid laminated timber panels featuring acoustic profiling and underlying softwood fiberboard; on the 1st floor, existing reinforced concrete ribbed ceiling, steel profiles repainted, exposed concrete finish.

Electrical Installations

Electrical connection up to the sub-distribution board for the tenant; distribution within the rental unit is the tenant's responsibility; metering at the main distribution board (ANB measurement).

Connection route from BEP to rental unit for fiber optic cable (cable installation by tenant).

Electrical connection possible via climate convectors (parapet channel) and the predefined grid of floor sockets in the base building setup.

Base building installations on uninsulated interior walls are surface-mounted, connected with hot-dip galvanized steel conduits.

Emergency exit signage within the rental unit is the tenant's responsibility.

All commercial rental units equipped with KNX for shade control and intercom/video intercom system via app (an indoor intercom station could be installed as part of the tenant fit-out); integration of lighting control and heating/cooling regulation possible within the tenant fit-out.

Heating and Cooling

Heat and cold generation within the site-wide energy system (100% CO₂-neutral).

Installation of an efficient convective "cone climate system", conditioning the space via air while optimally utilizing the building's thermal mass. This system ensures constant room temperatures with minimal energy demand. The system provides both heating and cooling. Additional cooling for IT, server racks, etc., can be implemented as part of the tenant fit-out. Climate convectors are installed in the base building setup as parapet, bench elements, or shaft walls.

Regulation is managed via the central control system, with tenants having the ability to adjust temperatures within a defined range using integrated room thermostats. Heating in winter: Supply temperature 26°C, designed for a room temperature of 21–23°C. Cooling in summer: Supply temperature 20°C, designed for a max. room temperature of 26°C. Additional air recirculation coolers can be installed as part of the tenant fit-out. Separate meters for heating and cooling. If direct entrances are used, tenants must install a windbreak to prevent drafts.

Ventilation

Ventilation system with heat and humidity recovery, filtration, and an option for additional humidification (tenant fit-out). Fully developed ventilation distribution with displacement outlets; exhaust air extraction via wet areas (adjustments to ventilation due to layout changes are part of the tenant fit-out). Simple and flexible connection of additional partitioned rooms using transfer ventilators in doors or walls (tenant fit-out).

Air volume: Demand-based hygiene ventilation with a 1.1 air exchange rate (average for the entire building).

Sanitary Facilities

Connection of predefined wet area zones within rental units with softened cold and hot water, as well as a wastewater connection (DN 100) up to the outer shaft edge for tenant-installed sanitary facilities. Separate meters for cold and hot water.

Fit-Out

Any interior partitioning within rental units: Tenant fit-out.
Additional interior staircases (in the intermediate building or a second staircase in the hall): Tenant fit-out.
Interior doors within rental units: Tenant fit-out.

Construction Cleaning

The building will be handed over broom-clean for the tenant fit-out.

Acoustics

Acoustic measures are an integral part of the room climate concept, as they impact the effective building mass relevant to the chosen heating and cooling system. As part of the base building setup, the underside of the gallery in the hall and the new ceiling in the ground floor of the intermediate building will be acoustically effective. Additional acoustic measures must be coordinated in advance with the building services planning. In principle, it is assumed that a maximum of 30% of the ceiling surface can be covered. Additional required acoustic surfaces must be addressed through interior furnishings.

Disclaimer

This short construction description is based on the current planning knowledge and outlines only some key aspects of the project. Any modifications remain expressly reserved.