WATERFRONT

Waregem

New construction of two spectacular residential towers, a cobblestone-shaped office building and a hotel.

Status
2017 - 2024

Services:
Building Services

Sectors:
Residential: Residential buildings

Client:
NV WAW-CONSTRUCT

Architect:
B2Ai en Wielfaert Architecten

Area:
30608 m²

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General

The developers ION, De Steenoven and Alheembouw engaged B2Ai and Wielfaert Architecten to design the project. Atelier Arne Deruyter was responsible for a high-quality landscape design. The Ascot and Windsor towers formed the heart of the project. Both towers had 13 floors and stood out due to the cantilever of the upper floors and the glass balustrades of the spacious terraces. This way, a compact footprint was combined with a maximum open view for each apartment. In addition to the towers, a hotel with bar and spacious terrace was realized. Further along, 3,250 m² of office and retail space was developed. The underground garage with 165 parking spaces and 240 bicycle spaces (equipped with a bicycle lift), together with the proximity of public transport and the E17, ensured optimal mobility.

Multifunctionality and central energy supply

The mix of residential, work and hospitality functions offered unique opportunities in terms of energy supply. If each entity were heated and cooled separately, much residual heat would remain unused. Thanks to modern techniques, this could be avoided. By centralizing the technical installations, creating a mini district heating network and deploying various energy generators intelligently and at the right time, all users enjoyed heating and cooling at an optimal rate.

Specifically, a central heat pump installation coupled to a BEO field (borehole energy storage) was provided for the residential towers and the hotel. This installation guarantees, among other things, passive cooling of all entities. The multifunctionality of the site offered additional advantages here: during summer, the residual heat released during the production of domestic hot water in the hotel was used to cool spaces. Conversely, apartments could draw cooling directly from the BEO field on warm days. Analysis showed that the offices, which were physically further from the central installations, functioned better as autonomous units.

Future-proofing: a sustainable energy vision

In a context where energy efficiency and climate neutrality are becoming increasingly important, it was crucial that the project not only met current needs but was also prepared for future challenges. Waterfront demonstrated how future-oriented design resulted in a robust and flexible energy system that could grow with changing needs.

By choosing a central energy supply based on renewable sources – including a heat pump installation coupled to a BEO field – the ecological footprint was significantly reduced and energy consumption optimized. The central installations provided both heating and passive cooling, leading to a CO_2 reduction of more than 35% and energy at the lowest rate according to the VREG V-test.

This approach was not only sustainable but also economically advantageous in the long term. Thanks to economies of scale and smart energy management, peak consumption could be absorbed and the system adapted to future technological developments, such as electric vehicle charging.

Integration of techniques: one system for multiple users

One of the greatest strengths of Waterfront was the far-reaching integration of techniques. Instead of equipping each building separately with its own installations, a centralized and intelligently controlled energy system was chosen that served multiple functions: living, working and staying.

This multifunctionality created unique synergies. For example, residual heat released during the production of domestic hot water in the hotel during summer was used to cool other spaces. Conversely, apartments could draw cooling directly from the BEO field on warm days. Thanks to these smart energy flows, waste was avoided and comfort maximized.

Although the offices were physically further from the central installations and therefore functioned as autonomous units, the principle of integrated design

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remained intact: each function was approached from the whole, with attention to efficiency and sustainability.

Visual comfort: technique in service of architecture

Sustainability and technique did not come at the expense of aesthetics. On the contrary, by smartly integrating techniques into the design, visual and acoustic comfort was enhanced. All technical installations were housed in a shared basement space between the residential towers, keeping roofs and facades free of disruptive elements such as ventilation units or cooling towers.
This approach ensured a calm streetscape, a better sound experience and a higher architectural quality. The buildings retained their aesthetic value, which was important not only for the user experience but also for the lifespan and value retention of the real estate.

Broad use: economies of scale for comfort and flexibility

The scale of the project made it possible to apply technologies that had already proven their value in the tertiary sector – such as hotels and offices – in a residential context as well. This increased comfort for residents and created mutual benefits between the various functions on the site.
For example, offices and the hotel could benefit at specific times from the capacity of the central installations that also served the residential units. Furthermore, each parking spot was equipped as standard with an electric charging point at a favorable rate, contributing to the electrification of the vehicle fleet.

Timing:

- Preliminary design: 08/2017 - 03/2018
- Final design: 03/2018 - 08/2018
- Construction period: 2020 - 2024
- Provisional delivery:
  Lot A: 31/12/2020
  Lot B: 15/12/2023
  Lot C: 31/08/2024

Surface area:

- Lot A: 1,901 m²
- Lot B: 4,445 m²
- Lot C: 2,790 m²

Habitable surface area:

- Lot A: 3,250 m²
- Lot B: 6,585.80 m² (hotel) and 11,664.42 m² (residential towers)
- Lot C: 9,108 m²

Construction partners:

- Architects: B2Ai and Wielfaert Architecten
- Structural engineering firm: VK Engineering
- Technical engineering firm: BM Engineering
- Technical contractors: Decat and Naessens HVAC
- Safety coordinator: Vecobo
- Structural contractor: Willy Naessens
- Developer: WAW construct, Roel Bonte, 0471/64.38.85, roel.bonte@ion.be

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