

Administrative house of the Province of Namur

by Wendy Auteri / 2022-05-16 00:00:00 / France / 1197 / FR



New Construction

Primary energy need :

115.92 kWhep/m².an

(Calculation method : Other)

ENERGY CONSUMPTION

Economical building *Building*

< 50	A
51 à 90	B
91 à 150	C
151 à 230	D
231 à 330	E
331 à 450	F
> 450	G

Energy-intensive building

Building Type : Office building < 28m
Construction Year : 2021
Delivery year : 2021
Address 1 - street : Rue Henri Bodart 5000 SALZINNES, Belgique
Climate zone : [Cbc] Mild, dry winter, warm and wet summer.

Net Floor Area : 10 133 m² Autre type de surface nette
Construction/refurbishment cost : 17 792 607 €
Cost/m2 : 1755.91 €/m²

Certifications :



Proposed by :

Philippe SAMYN and PARTNERS
architects & engineers

General informations

The client's grand design

As an important socio-economic and cultural player, the Administration of the Province of Namur groups together almost all of its services in a building to be constructed on its site in Salzinnes. By locating on the outskirts and on the banks of the Sambre rather than in a highly visible location in the city center, the Province of Namur is adopting a position that is both strong and sensitive, an expression of the vision it has of its role.

This location should constitute a **pole of attraction** on the scale of the city and allow the peripheral district to complement the center. It is therefore a question of creating a building capable of generating a deep affection for this new intellectual pole of Namur.

The image of a village heart, which reflects the rural character of the province and the symbiosis with nature, comes naturally to mind. It invites us to enjoy our five senses through art and culture.

The realization of the Administrative House of the Province of Namur (MAP) represents an important cost, not only financial but also environmental. The project

thus aims to obtain the maximum of BREEAM credits while highlighting the limits of this approach, as well as the questions it raises. The project achieved a score of 93.53%, an 8.53 point margin above the "Outstanding" level.

Genius Loci

Located in the hollow of a meander of the Sambre River that surrounds it on its northwestern flank, the site of the new MAP is bordered to the northeast by the former Grand Séminaire, a masterful work of refined simplicity by Roger Bastin. Also to be noted to the southwest is the former Saint-Aubain School and to the southeast a group of 10-story housing blocks, a high-voltage power line, one of whose pylons partially encroaches on the site, and a secondary railway line giving access to the SNCB's Salzinnes Central Workshops.

The emphasis placed on **urban agriculture** in the tender specifications, in keeping with a centuries-old Namur tradition, brings an **artistic and poetic dimension** to the project. It leads to allocate the whole North-East part of the site, i.e. 3300 m², to gardens and vegetable growing activities, in continuity with the existing urban vegetable gardens. Botanical science and horticultural technology are combined here with the art of the garden, the vegetable garden, the orchard, the nursery, where forms, colors, smells, and flavors mingle with the singing of birds and the humming of insects, as well as with the play of light and shadow. Natural ventilation and lighting, plants and flowers, materials with the patina of time... everything in the project is part of this movement.

Implantation

The building forms a large rectangle of 106.2 m x 61.65 m. It is located as far as possible from the Sambre, **outside the theoretical flood risk zones**, at a good distance from the noise of the trains running along the other bank.

It is logically linked to the various possible access routes, whether it be Rue Henri Bodart to the **east**, the possible road to be created to the **southwest** along the Sambre, or the pedestrian bridge crossing the railroad tracks to the **southeast**.

Its location also provides the necessary breathing space for both the Grand Séminaire de Bastin and the buildings to the **southwest**.

The implantation according to the diagonal North-West / South-East allows an optimal orientation of the facades and the functions: the work and the carriage to the East, the reception and the protocol entrance to the South, the celebration to the West (with the village square used as a parking lot) and the dreaming or meditation spaces to the North.

The ensemble is thus naturally established, without unnecessary contortions, in the manner of a large farm or small village.

A village building organized around patios

Entirely **built of wood and steel** on two levels of 3.6 m high, the building is covered by a **submerged roof serving as a water tower** and topped by a **photovoltaic sunshade**.

The plan is organized around eight rectangular patios measuring 15.3 m x 11.25 m. Covered by opening greenhouse canopies, the patios bring fresh air into the building. Their white facades maximize the penetration of natural light, and the canopies open fully in the event of fire to transform the covered patios into outdoor spaces.

This plan layout allows for **natural light and ventilation** throughout the floors, allowing them to be used for a wide variety of programs or functions.

The limited two-level construction allows for fluid communication between all points of the building, thus promoting team spirit, the "New World of Work" and accessibility for PRM.

The first floor includes a friendly reception area, a cafeteria that can accommodate nearly 300 people, rooms for receiving visitors, a relaxation room and a sports room equipped with showers. A large workshop, storage areas and changing rooms for the maintenance staff will complete this complex.

The second floor will house most of the offices in different areas, but also spaces for concentration, various meeting rooms for teamwork, and relaxation areas for sharing convivial moments with colleagues.

The four facades, all made of wood, are composed of a very calm alternation of overhangs and floor-to-ceiling open windows (108 cm wide on the inside and 101.25 cm on the outside). Equipped with safety railings, the windows are openable and allow everyone to enjoy the view of the gardens.

The orthogonal grid

The plan is rigorously organized on a constructive grid of 1.35 m on each side. The orthogonal plan almost naturally induces an archetypal layout of the major traffic routes: the "Cardo" from North to South and the "Decumanus" from East to West, following the example of Roman cities. It is from the central square, which is at their intersection, that the activity spreads to the "neighborhoods", then to the "neighborhoods".

The stiffness of the orthogonality is only apparent. It is only the necessary and useful base for the free expression of diversity and poetry. It is precisely the perfume of humanism and culture that transpires from the sponsor's grand design that incites him to propose this neutral structure to allow the gentle and joyful expression of diversity.

Harmonious diversity

Rather than in the structure and envelope of the building, it is in the choice of finishing touches, textiles, leathers, wallpapers, wickerwork, enhanced by artistic interventions, that the indispensable diversity of the interior spaces is created. Walls, partitions and partitions are covered with them, carpets of all kinds cover the floor, chandeliers, sculptures and other pleasant and useful objects can be hung from the wooden ceiling.

The same is true for furniture (except for that which is specifically covered by the Workplace Wellness Code, such as workstation seating). The project proposes furniture elements reused or made from the supplies of the Ressourcerie Namuroise but each occupant, in respect and dialogue with the others, can also propose a chair, a table, a cupboard that expresses his personality.

It is therefore a question of trying to use only second or third choice visuals, reused or recycled materials, making sure that it makes sense socially and culturally, that it becomes poetic. It must give a soul to the building and generate affection from all users. The approach must then be perceived as exemplary for a public administration.

Natural ventilation

The ambition to offer the **best possible indoor climate with the smallest possible environmental footprint** leads to propose **natural ventilation** for the building.

When, as in this case, the outside air is of the desired quality, it is recognized that natural ventilation of a building is not only **more pleasant** but also **more hygienic** than that achieved mechanically with conditioned air distributed by air ducts. It is also **more economical**, in terms of investment, operation and maintenance costs, the main saving being the absence of energy-consuming installations to set the air in motion and to cool it, notwithstanding the non-recuperation of energy from the warm air extracted in winter.

Interior ventilation in cool weather is provided by static vents at the top of the patio windows, at the bottom of which are floor convectors. The air is evacuated by natural draught via chimneys located every 4.05 m on the south and north facades, in the central east-west axis and in the center of the three central wings.

On summer nights, the free cooling of the granite floors is ensured by the opening of the patio windows, which are sheltered from the rain under the glass roofs.

Renewable energies

In the case of this project, of the technologies available today, only those using solar energy and geothermal energy with a heat pump are exploitable.

Solar thermal energy would be inefficient in this case. Wind power could make very efficient use of the winds present on the site, but would produce too much noise. Cogeneration would duplicate solar and geothermal energy. The kinetic energy of the river would be too low given the slowdown generated by the locks. Finally, the quantity of biomass present on the site is too small to consider its energy exploitation, whereas it is particularly useful as fertilizer.

Parking, roads, access

The automobile entrances to the site (main entrance and parking entrance) are located in front of the long south-western façade of the building, from the roadway giving access to the former Institut Saint-Aubain from Rue Bodart. This road will perhaps be extended in the future along the banks of the Sambre towards the South in connection with avenue Woitrin.

Staff and visitors coming from rue Marinus by public transport or by bicycle can also, like the PRMs, take the elevator located as an extension of the footbridge in the south-east corner of the site and reach the main entrance via a covered gallery. The entrance for heavy vehicles is located in the northeast corner of the site.

Of the 371 parking spaces provided for cars, 12 are reserved for PRMs and 30 for visitors near the entrance, 12 are equipped with electric recharging stations, 28 are reserved for carpooling and 12 (including one for PRMs) are allocated to staff in the delivery area. 30 motorcycle parking spaces are planned near the "village square" and 103 covered bicycle spaces are planned under the canopies and galleries.

The surroundings

The open area is entirely dedicated to market gardening and staff recreation (sports fields could also be considered), it consists of different gardens divided into three parts:

1. to the northeast: **the educational garden**, with its open-ground cultivation area (next to the greenhouse and nursery) and its container cultivation area, as well as the vegetable production garden for the staff;
2. to the northwest: **the large biodiversity and relaxation garden** with its health trail and personalized insect hotels (the maximum possible amount of the existing asphalt area is also recovered, artistically treated so as not to destroy it);
3. to the southwest: **the perfume rose garden and the therapeutic garden**.

Building: 10,133 m²; land: 32,616 m²; 2017 - 2021; (01/640).

Services provided

- Urban planning
- History of the site
- Microclimate
- Hydrogeology
- Architecture
- Interior design
- Surrounding and landscape design
- Structural engineering
- Engineering of special techniques
- Commissioning Facilities engineering
- Building physics, EPB
- Energy Smart Grid
- Air quality
- Daylighting
- BREEAM Certification
- Acoustics
- Signage
- Accessibility
- Fire safety

Distinction : Regional Western Europa BREEAM AWARD 2022

Tender selected following a restricted call for tenders "design and construction" on behalf of Entreprises Jan De Nul.

Photo credit

Project author: Philippe SAMYN and PARTNERS, architects & engineers

Photos: Quentin OLBRECHTS and Henri COLLETTE

Stakeholders

Contractor

Name : Province de Namur

Contact : Valéry Zuinen; Pierre Squerrens; Nadine Schueremans

<https://www.province.namur.be/>

Construction Manager

Name : Jan De Nul nv

Contact : Nelson Moors

<https://www.jandenu.com/>

Stakeholders

Function : Structures calculist

Cerfontaine sprl

Ir David Janssen

Stability engineering with Samyn and Partners

Function : Other consultancy agency

Flow Transfer International sa

Ir Andrew Janssens

Special technical engineering with Samyn and Partners

Function : Environmental consultancy

Matriciel sa

Ir Fabrice Dery

Building physics and EPB advisor

Function : Structures calculist

Acoustic Technologies sa

Ir Jean-Pierre Clairbois

Acoustic Advisor

Function : Environmental consultancy

Ceanero asbl

Dr Cécile Goffaux, Ir Arnaud Candaele, Ir Kevin Siau

Dynamic simulations and micro-climates

Function : Environmental consultancy

BOPRO nv

Michaela Vernimmen, Ermal Kapedani

Advisor BREEAM

Function : Company

MOBIC sa

Jean-Philippe Moutschen; Patrick Moutschen

<https://www.mobicsa.be/>

Wood frame construction (local wood)

Function : Company

Les Ateliers Remy

Gabriel Remy

<https://www.ateliersremy.be>

Realization of the staircase in perforated sheet metal

Contracting method

Other methods

Energy

Energy consumption

Primary energy need : 115,92 kWh_{ep}/m².an

Primary energy need for standard building : 165,77 kWh_{ep}/m².an

Calculation method : Other

Breakdown for energy consumption : Summary of PEB unit results: PE consumption for heating (and humidification if PEN) (MJ): 2,114,193.56 PE consumption for cooling (MJ): 91,815.47 PE consumption for DHW (MJ): 145,383.49 PE consumption for lighting (MJ): 644,632.79 PE saving by photovoltaics (MJ): 0.00 EP consumption for auxiliaries (MJ): 610,432.99 PE saving by cogeneration (MJ): 0.00 Characteristic PE consumption (MJ): 3,606,458.30 Characteristic reference PE consumption (MJ): 7,474,203.24

Renewables & systems

Systems

Heating system :

- Geothermal heat pump

Hot water system :

- Heat pump

Cooling system :

- Geothermal heat pump

Ventilation system :

- Natural ventilation

Renewable systems :

- Solar photovoltaic
- Heat pump

Environment

Risks

Hazards to which the building is exposed :

- Flooding/Fast Recession

Risks measures put in place :

The building was located to the east of the site, as far as possible from the Sambre, **outside the theoretical areas of currently "high" and "medium" risk of flooding** . It is placed on **stilts**.

The level of its ground floor is set at 84.80 m to take into account a possible deterioration of the situation in the future.

The flood hazard corresponding to an overflow of the Sambre, **no passive drainage system can be envisaged** . The building is therefore founded on the bedrock to avoid having to stabilize the level of the water table.

Urban environment

Land plot area : 32 616,00 m²

Built-up area : 31,07 %

By establishing itself on the outskirts and on the banks of the Sambre rather than in a place of very high visibility in the city centre, the Province of Namur is adopting a position that is both strong and sensitive, an expression of the vision it has of his role.

Located in the hollow of a meander of the Sambre which surrounds it on its north-west flank, the site of the new MAP is bordered to the north-east by the former Grand Séminaire, a masterful work by Roger Bastin, with refined simplicity. . Also noteworthy in the South-West is the former Saint-Aubain School and, in the South-East, a set of 10-storey housing bars, a high voltage line, one of the pylons of which partially encroaches on the site and a path of secondary iron giving access to the Central Workshops of Salzinnes of the SNCB.

Products

Product

Galvanized exterior staircase

Les Ateliers Remy

info[at]ateliersremy.be; Gabriel Remy

<http://ateliersremy.be/>

Product category :

<https://www.construirelwallonie.be/article/un-escalier-unique-comme-carte-de-visite-professionnelle/>



Roof chimneys

Eeckhout bv

tony.dhoop[at]eeckhoutbv.be

<https://eeckhoutbv.be/>

Product category : Génie climatique, électricité / Ventilation, rafraîchissement

The building is equipped with 74 insulated stainless steel shunt chimneys 5 m high which ensure the natural ventilation of the building.



External active solar protections

F.D.S.

info[a]fds.be

<https://www.fds.be/fr/protections-solaires-externes>

Product category :

The exterior bays are equipped with external blinds with adjustable slats automatically controlled by facade linked to the level of sunshine and the position of the sun with individual override control by room or by structural span of 4.05 m.



Exterior passageways on the facade

TAMCO sprl

info[a]tamco.be; mathieu.gevers[a]tamco.be; Mathieu Gevers

<https://tamco.be/>

Product category :

The gently sloping entrance esplanade which leads to the passageway, which one crosses to enter (interface between the exterior and the interior) and which is covered and glazed, also distributes the nursery and serves as entry to other functions open to the public. It also serves as a link with the service area on the east facade. It houses the bicycle parking area and is also accessible by an access ramp at the end coming in a straight line from the urban lift.

It also serves as a cafeteria terrace.



Structure entirely in local wood + facade cladding in torrefied poplar planks

MOBIC sa

Jean-Philippe et Patrick Moutschen

<https://www.mobicsa.be/>

Product category : Second œuvre / Menuiseries extérieures

The wooden structure (locally sourced) includes 12.15 m span beams in the form of boxes. These consist of small triangulated elements in solid wood assembled by "skins" in OSB panels fixed to the solid elements by robotic screwing. The cohesion of the whole is such that the panels are sufficient to absorb all the forces at the nodes of the beams, without bolted assembly.

The facades are assemblies of prefabricated elements (2.70m w x 8.10m h), each composed of columns and lintels with torrefied poplar cladding. Steel angles (L-profiles) are attached to these facade elements in order to support the planks, also made of prefabricated beams.

Prefabrication allows serious economies of scale, to optimize transport and to shorten the time of intervention on site, which also costs money.



Dalles the parking

EURODAL nv

info[a]eurodal.be

<https://eurodal.be/>

Product category :

The car park is made of large prefabricated concrete slabs, with open joints (and therefore permeable).



Costs

Construction and exploitation costs

Total cost of the building : 17 972 607 €

Contest

Reasons for participating in the competition(s)

Location

The whole is set up without unnecessary contortions, like a large farm or a small village. The real angles of 37° (= arctg (3/4)) of the Bastin and of 26.565° (= arctg (1/2)) of the project with respect to the cardinal axes add additional richness to the **play of light with the orientation and the season** .

The building, on **steel stilts** , is **entirely in wood** on two levels and covered by the photovoltaic umbrella and surmounted by **74 natural ventilation chimneys** . It is located to the east from the site, as far as possible from the river, outside the theoretical areas of currently "high" and "medium" risk of flooding, and avoiding

the noise of trains on the left bank of the Sambre. **The elevation of the building offers the possibility of a fresh air intake through the void between piles to supply the natural ventilation system.**

Thus located in the less flood-prone area, the building is bordered by market gardens and flowers, bathed in sunlight from morning to evening: the didactic and appropriation gardens in the ground and in containers as well as the production garden along its length. on the north-east side, the large "biodiversity garden - eventually completed with a relaxation area" (with its fitness trail) on its north-west side and finally the therapeutic garden on its south-west side. Spaces for rest and contemplation will be set up along undulating paths, inviting informal meetings and relaxation.

On the other hand, the reason imposes to arrange the car parks on the surface. The cost, both financial and environmental, of an underground car park, ultimately useless, in flood-prone terrain cannot be justified. The car park therefore occupies the "village square", in the most flood-prone area, on the banks of the Sambre and it is designed in the most compact way to consume a minimum of green space while preserving all the existing trees.

Clarifications on the risk of flooding

According to the Flood Portal database of the SPW (Service Public de Wallonie), the high flood hazard locally corresponds to the ground level of 82.0 m, while the medium and low hazards correspond respectively to the 82.6 m level. m and 82.8 m. These floods are reported as due to the overflow of the Sambre.

In consideration of this risk of flooding (and other criteria such as prevailing winds, ambient noise, mobility, etc.), the building is located in a low hazard zone. The level of its ground floor is set at 84.80 m to take into account a possible deterioration of the situation in the future. This level is comparable to that of the former Grand Séminaire (architect Roger Bastin), present to the north of the site, whose ground floor is located at level 85.18 m.

The flood hazard corresponding to an overflow of the Sambre, no passive drainage system can be envisaged. The building is therefore founded on the bedrock to avoid having to stabilize the level of the water table.

Building candidate in the category

