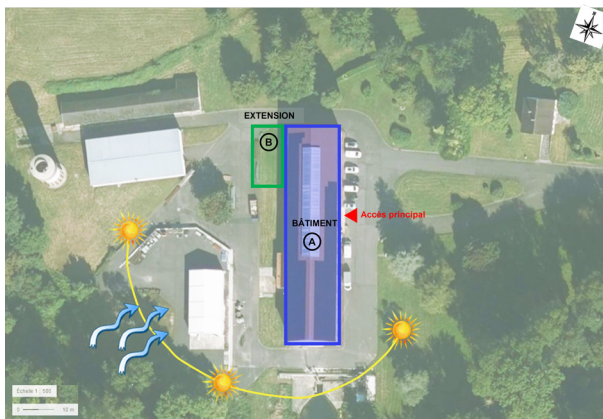


THERMAL REHABILITATION, BIOCLIMATIC ECO-EXTENSION FROM L'ATELIER DES ORMES, LOW CARBON PROJECT IN ORMES-SUR-VOULZIE (77)



INDUSTRIAL SITE : THERMAL REHABILITATION, INTERIOR FITTINGS

PUBLIC BUILDING	Eau de Paris
Location	LES ORMES-SUR-VOULZIE (77)
Project mission	Thermal rehabilitation, bioclimatic eco-extension of the workshop extension
consultants	AR ARCHITECTES, BOST INGENIERIE, EUROELEC SMART ENERGY
area	1 128 m ² (floor area)
cost	1 300 k €HT
Date	Studies in progress



Bioclimatic mass plan



Insertion of the project into the site, northwest view - Projected state

The mission concerns the Elm Maintenance and Manufacturing workshop, as well as the **future extension** of the workshop to the ground floor. The project includes the renovation and **interior rehabilitation** of the ground floor of the main workshop, the workshop mezzanine (zone A), as well as a 200m² extension to the ground floor (zone B), as well as a 200m extension to the ground floor (zone B) for the machining area.

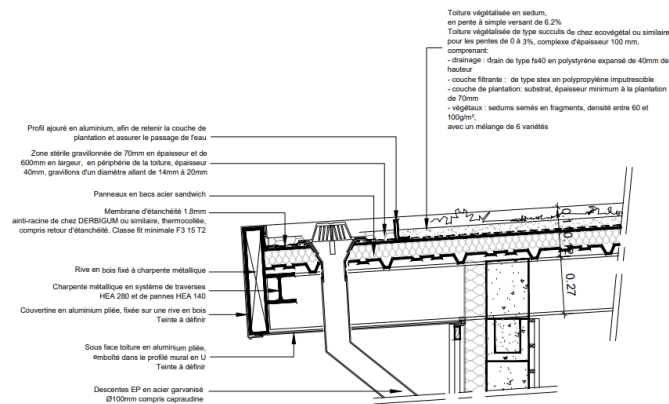
The project was designed according to the **HQE charter**, so as to be integrated into the **ZNIEFF type 2** Natural Zone, also registered in a **NATURA 2000 site**. The design of the extension, **low carbon and bioclimatic**, makes it possible to **reduce energy consumption**.



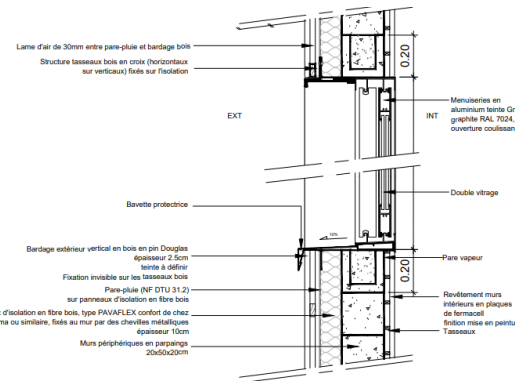
Main workshop - North east facade - Existing state



Main workshop - North west facade - Existing state



Detailed green roof section - Projected condition



Detailed section of exterior joinery - Projected condition



Green roof in sedum



Hemp wool



Wood fiber



Fermacell panel

HQE® commitments

Integration of Buildings With their environment :

Integrating the extension into the built environment:

- Light **Douglas pine wood cladding** for extension,
- **Green roof** as a cover, linked to the near and distant environment of the site.

CHOICES OF CONSTRUCTION PRODUCTS AND PROCESSES :

- Insulation in **wood fiber panels** and use of high-performance double glazing allowing good insulation as well as **hygrometric comfort**.
- Use of high-performance **Fermacell plates** in terms of both acoustic and thermal insulation as well as good fire resistance for interior veneer.

energy management :

- Interior thermal insulation of facades in need with **bio-sourced materials** (the existing building is insulated with hemp wool, the extension is insulated with wood fiber).
- Design of the **bioclimatic type** extension: **reduction of energy consumption** by heat input from the sun in winter and summer. The roof overhang to the south and southeast ensures **summer comfort**.

water management :

- Implementation of a sedum green roof to **reduce runoff** from roof rainwater.

care and maintenance management :

- All materials used are **durable** and require **little maintenance** (structure, framework, insulation, veneer, cladding, etc.).
- Implementation of **latest generation double-glazed aluminum joinery** that is efficient in the long term.
- Sedum roof composed of seedlings **resistant to water stress**.

VISUAL COMFORT :

- Visual comfort from the inside: the overflow of the roof filters direct radiation, **minimizes glare** and ensures **constant natural light**.

