

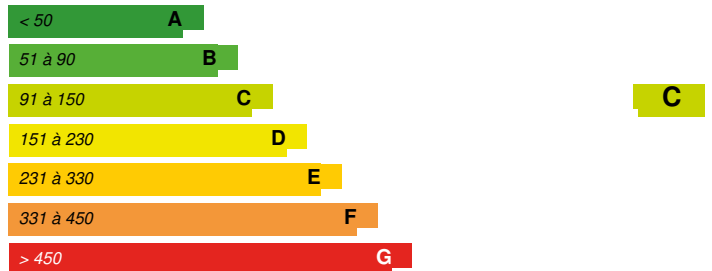
# Kindergarten School of Vasteville

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New Construction

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**Building Type** : School, college, university  
**Construction Year** : 2015  
**Delivery year** : 2016  
**Address 1 - street** : 7 Rue Jacques Prévert 50440 VASTEVILLE, France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 870 m<sup>2</sup>  
**Construction/refurbishment cost** : 1 440 215 €  
**Number of Pupil** : 125 Pupil  
**Cost/m2** : 1655.42 €/m<sup>2</sup>

## General information

This school group is an educational group between the municipalities of VASTEVILLE (50) and ACQUEVILLE. This project was initially motivated by the fact that the current nursery school was not sufficiently functional to cope with the demographic evolution foreseen following current and future subdivision projects: the building was inaccessible people with reduced mobility and some buildings (prefabricated) were in very bad condition and will have to be decommissioned.

After reflection and considering the cost of rebuilding the school, the elected officials of the territory wanted the construction of a new school group on the ground at the edge of the existing school plateau to accommodate 150 students. Only the school restaurant building has been preserved and reused as part of the new school group.

The nursery school on one level, federates around the room of motricity and the polyvalent class useful as well for the small as the big, the courses are dissociated for the young and big and on both sides of the Mobility room unfold the administrative area and rooms dedicated to children.

## Sustainable development approach of the project owner

When it was set up in 2008 for the governance of the Community of Communes of La Hague (CCH), the elected office wanted to set a strategic course for the conduct of its actions.

It has been described in a mandate program based on three fundamental axes:

- The public policies retained in the fields of its competence, in particular education,
- Sustainable development taking into account among others the management of resource and optimization of operating costs,

- Public performance measured in particular through the quality of school equipment used by the public. Given these elements, it is natural that the CCH has chosen to engage in a voluntary HQE® certification process as part of the construction of a new school group on its territory.

## Architectural description

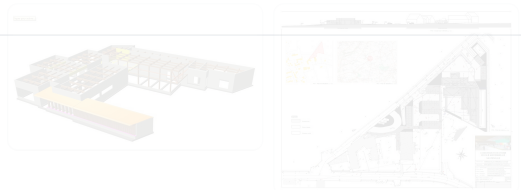
The constructive principle consists of concrete load-bearing sails, provided with insulation from the outside. The building is built on one level with a single technical level above the mobility room. The low floor is on raised slab, with screed and insulation, as well as an insulation under slab. This insulated screed incorporates a heated floor. The building has a wood frame and a light floor. Insulation on steel tray complements the high floor. The creation of a courtyard and a wall with a cladding in clear way to the west allows to form a screen against the prevailing winds at the entrance of the building and the big yard . In addition, the courtyard runs along the building and protects the entrance from the elements. The design of the U-shaped building makes it possible to have shaded and sunny areas inside the yard of the greats.

The composition of the school:

- 4 nursery classes
- 1 "polyvalent" class
- 1 dormitory
- 1 room of motricity
- 1 room computer
- 1 room BCD
- 1 office for the courses
- Sanitary
- 1 room for the ATSEM
- 1 office for the director
- Reception hall and clearances
- Premises of storage and various

See more details about this project

## Stakeholders



### Stakeholders

Function : Contractor

Communes de la Hague - Direction Infrastructures et Réseaux/Bâtiments

Anne-Sophie Massieu, [infrastructure@lahague.com](mailto:infrastructure@lahague.com)

<http://www.lahague.com/>

Function : Assistance to the Contracting Authority

Veritas

Alex Picquot

<http://www.bureauveritas.fr/>

AMO HQE

Function : Construction Manager

Besuelle-Salley Architectes DPLG

[besuellessalley@free.fr](mailto:besuellessalley@free.fr)

<https://www.besuelle-salley-architecte-dplg.com/>

Architect

Function : Assistance to the Contracting Authority

Cap Terre

<https://www.cap-terre.com/>

AMO HQE of the consortium

Function : Construction Manager

BETS

M. Simeon - [bet.simeon@bets.fr](mailto:bet.simeon@bets.fr)

<http://www.bureau-etudes-thermiques-51.com/index.php>

## BET Structures

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Function : Construction Manager  
Boulard 14

M. Lemaire - secretariat@boulard14.com

## BET Fluids

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Function : Construction Manager  
BET BADER

M.Bader - bebader@free.fr

## BET Electricity

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Function : Other consultancy agency  
SARL Plazanet

M.Plazanet - jfplazanet-economiste@club-internet.fr

Economist

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Function : Certification company  
Certivéa

01 40 50 29 09

<http://www.certivea.fr>

## Energy

### Energy consumption

Primary energy need : 93,30 kWh/m<sup>2</sup>.an

Primary energy need for standard building : 110,00 kWh/m<sup>2</sup>.an

Calculation method :

### Envelope performance

More information :

Reinforced concrete structure, a wooden frame, insulation from the outside, aluminum joinery, everlit cladding (polycarbonate with a thickness of 16 cells) and wood, and a vegetated roof terrace except on the courtyard. PVC membrane.

The load-bearing structure in concrete veil makes it possible to limit the installation of concrete slabs in the building enclosure and to obtain a great flexibility of the interior fittings, in particular with the possibility of an evolutionary partitioning, in the respect of the frames of heated floors . Rail bulkheads are preferred. The frames of openings on the east facade also allow a re-partitioning without further work.

The treatment of the envelope makes it possible to limit the losses in terms of insulation of the facades, roofs, low floor, thanks to powerful joinery and thanks to the thermal bridge treatments by external insulation.

## Renewables & systems

### Systems

Heating system :

- Geothermal heat pump

Hot water system :

- Heat pump

Cooling system :

- Radiant ceiling

Ventilation system :

- Single flow
- Double flow heat exchanger

Renewable systems :

- Heat Pump on geothermal probes

Other information on HVAC :

Sanitary equipped with mixing valves without delay flow 3l / mn

## Smart Building

### BMS :

All equipment is enslaved and controlled by GTB.

A heat meter has been installed for the entire heated zone and connected to the management PLC. Areas can be created depending on the orientation of the building for example or depending on the activities (teaching, administrative blocks, sanitary, etc. ...). An electric meter has been installed on the heat pump.

The automat is powerful and allows a number of follow-ups and controls:

- temperature monitoring by zone,
- fault detection,
- Control and management of intermittencies,
- zone control and optimization of operating times according to occupancy,
- production control,
- means for balancing systems.
- the recording and archiving of data over a certain period

## Environment

### Urban environment

The project is also part of a network of networks already well established in the vicinity of the plot: bus stop, light roads, pedestrian paths, drinking water, wastewater, and electricity. It shares certain functions such as the bus stop, the main car park, the waste room with the school group already existing on the plot adjacent to the project, including catering. The project is located on a plot adjacent to the current school group and the link between the existing buildings and the new building is neat. The VLs have access to the project car park west of the plot, via an access ramp located on Prévert Street. The site benefits from a deviation for the removal of schoolchildren by public transport vehicles. Access to the planned building is via the West, via the car park. A lighted pedestrian pathway will allow schoolchildren and their companions to join the new school from public transportation and the main car park. The different flows are well separated. The entrance to the building is located inside the courtyard of the school grounds. The covered courtyard, protected from prevailing winds and inclement weather by a low wall and a cladding, extends in the awning to the entrance.

## Products

### Product

GTB: em4 manager

Crouzet

relationclient@crouzet.com /0475 802 101

<http://www.crouzet.fr/>

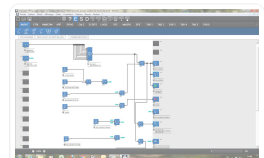
Product category : Management / Facility management

Operation of the new Vasteville school group:

- Heating system: underfloor heating by heat pump with several heating circuits (nozzles) and central double flow by hot air blowing + heating control by Wit Easy-pro.

- Two Crouzet em4 managers (one em4 in the TGBT electrical cabinet and one em4 in the secondary electrical cabinet) manage the indoor and outdoor lighting circuits, power outlets, power circuits and main balloon circuits. hot water school group Vasteville. At night, on weekends, holidays and during school holidays the lighting circuits, sockets, forces and main hot water balloon are stopped. A pusher placed at the entrance of the school allows to activate again the lighting circuits and sockets outside the school period for a limited time.

Note: traffic lighting is not controlled by an em4 it is autonomous, it is equipped with presence detectors (adjustment of brightness, operating time). During the school period the main hot water balloon operates at night during off-hours from 22:00 to 06:00 and is at rest during the day.



## Costs

## Health and comfort

### Water management

100% of the rainwater is infiltrated on the plot: green roof, several gorges, grassed parking spaces

## Comfort

### Health & comfort :

The Client wanted to conduct an operation that is well integrated with the landscape, and build a high performance, sustainable and exemplary building, with quality of use, focused on the comfort and health of future occupants. This is why, from the beginning, he has selected 3 very powerful targets to achieve this goal.

Target 1: Relationship of the building with its immediate environment - TP

Target 2: Integrated choice of products, systems and construction processes - B

Target 3: Low environmental impact site - B

Target 4: Energy management - P

Target 5: water management - TP

Target 6: Management of activity waste - P

Target 7: Maintenance / Sustainability of environmental performance - TP

Target 8: Hygrothermal comfort - TP

Target 9: Acoustic comfort - P

Target 10: Visual comfort - P

Target 11: Odor comfort - TP

Target 12: Sanitary quality of spaces - B

Target 13: Sanitary quality of air - TP

Target 14: Sanitary quality of water - TP

Actions carried out for the comfort and health of occupants:

- Test of air permeability of the frame
- Network sealing test
- FDES checked
- Maintenance book (eco-labeled maintenance product)
- Zero phytosanitary products in operation
- Notebook (Awareness display)

Calculated thermal comfort : Les températures sont définies par type de locaux, à savoir 19°C pour les locaux administratifs, les salles d'enseignement et les sanitaires. La mise en place d'un système de régulation programmable permet de moduler la température de chauffe.  
Measured thermal comfort : Bon ressenti de confort thermique

## Carbon

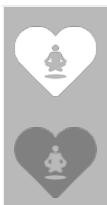
### GHG emissions

Building lifetime : 25,00 année(s)

## Contest

### Reasons for participating in the competition(s)

### Building candidate in the category



Santé & Confort





Coup de Cœur des Internautes



Prix des Etudiants