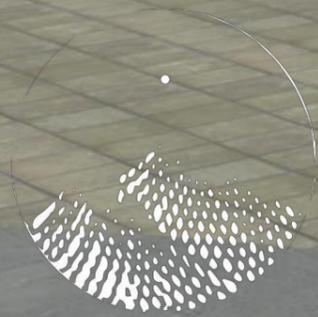




daycare centre and after-school care

The sustainable BSO



STUDIO PEKKA





The sustainable BSO

Teason for this plan

The merger of the schools Aquamarijn and Oberon and the proposed new building has for KDV and BSO Zonnelicht the consequence that they can no longer use some parts of the building. Especially the rooms in primary school Oberon which are used by Zonnelicht for 3 BSO groups, a creative room, break room for staff and for parent evenings, parties, performances etc and the necessary extra square metres for the group Saturn.

Fact is that Zonnelicht needs replacing space to be able to keep fulfilling its current functions properly. The municipality of 's-Hertogenbosch acknowledges this and has promised to think along in possible solutions for rehousing of Zonnelicht's activities. Renting equivalent spaces in or near the new building, or realising a new building by Zonnelicht itself is not an option after thorough investigation for financial reasons.

Project proposal

Zonnelicht does not only want to continue fulfilling its current tasks, but also has the ambition to strengthen its vision, the quality of the offerings regarding developmental activities, which is shared and appreciated by parents and children. To ensure this, Zonnelicht would like to propose to keep the rear building part of the Aquamarijn and around the gym for the BSO groups, and to be able to continue the earlier mentioned functions that the organisation performs.

Advantages of our proposal are:

- Sustainable redevelopment (renovation/reuse)
- Connection old/new (campus idea)
- Green ambition (grass roof/solar panels/heat pump/water reuse/biodiversity)
- Knowledge centre for and by children
- No demolition costs for the municipality (Eur 26.000 savings)
- No additional construction budget required from the municipality
- Revenues from redevelopment (leasehold)

Activities in the Sustainable BSO

Take note of sustainable systems, such as:

- How a grass roof works (installation, operation and maintenance)
- How does a solar panel work and where does the energy won go?
- How does a grey water circuit work, how does one collect water and what can one use it for?
- How does a heat pump work, where does it get its heat from (air/water), how deep do you have to drill to get water and how does the circuit to the heating system work?
- Knowledge of energy transition
- Nature education programme
- Learning about plants and growth processes
- Seed exchange system
- Taking note of and examining biodiversity

- Green excursions/after-school nature activities:
 - Grow wizzkid: the total concept for daycares & schools that deals with food skills. It is a wonderful combination of nature and technique, in which different cultivation techniques are addressed.
 - Children in permaculture, a lesson plan with stories, songs, games and activities for earth care, people care and fairshare.
 - The Preserved Land
 - Earth Education Netherlands
 - Earth Keepers
 - WNF
- Understanding ecosystems.

Nutritional skills

Training in food skills is promoted through experiments and research into food aspects. Sowing, nurturing, harvesting vegetables and making them into dishes creates knowledge and awareness of food and its impact on the environment.

Hidden impact

Thinking about the impact that our consumption behaviour has on the environment can playfully help children to make conscious choices to become more sustainable.

Orientation to self and the world

What choices do I make and what impact do those choices have on the world around me (discover and design), such as:

- Awareness in the amount of resources needed to produce a certain good or service
- Awareness of packaging possibilities
- Awareness of sustainable materials



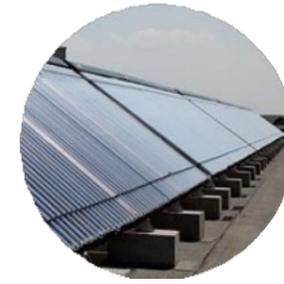
Play and learning forest:
Preserve the current grove for general shared use. A wilderness and a place to do things.



Green roofs
Green roofs provide water buffering and reduce the heating of the building by the sun in summer, as well as providing a habitat.



Green wadi area:
Excess water can infiltrate naturally here, preventing dehydration and enriching the natural diversity, humid habitat



Solar collectors
Simple heating of water for tap water and heating. Reduction of energy costs and learning resources



sustainable
Re-use of existing buildings



Facelift
In both buildings, natural wood in the existing brick façades in combination with wooden fixed sun



Bicycles
Semi-paved bicycle parking, natural infiltration and stimulation of bicycle use



Green facades
Green walls reduce fine dust, provide a habitat for insects and birds and protect against solar radiation.

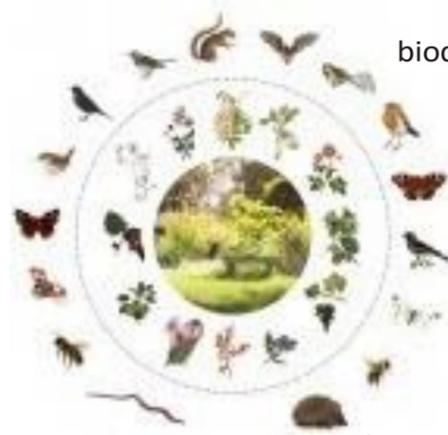


Energy roof: Own energy generation improves the energy performance (EPC). Using the measurement as a learning tool.



Nursery garden

Permaculture garden where you can learn how things grow and harvest yourself. For shared use.



biodiversity

Garden where the presence of insects and animals is encouraged. Discovery area and play nature.



Groundwater level meter

Make visible the various measures on and around the building for "climate proofing".



Recycle corner
Material separation, storage for reuse and transfer point. The future is circular



Pergola blinds

Wooden pergolas with sun protection on the south.

Rain barrels

Water saving and irrigation infiltration.



Pump and watercourse

Playing with water is fun and children learn how water 'works'.



Barefoot path

Learning is not only thinking but also experiencing and feeling.



Practical implementation

In essence, the plan for the continuation and strengthening of Zonnelicht consists of the following points:

- Accommodate the 3 BSO rooms from Oberon
- Maintain the existing gymnasium of Aquamarijn as a replacement space for current activities in the old building of Oberon. It can also be the required square metres for the Saturn Group will be accommodated
- A 'facelift' to make the old building of Aquamarijn and the current Zonnelicht into a new and more sustainable whole
- Use this as an opportunity to contribute to sustainable thinking and develop this in children.

The concept is based on the current situation, which can be upgraded and made sustainable in a 'low tech' manner with relatively few resources. The aim is to reduce energy consumption by improve the indoor climate and integrate nature into and around the buildings. In addition, a number of internal building modifications are necessary in order to meet the conditions of building physics. The quality of use and the layout of the available space will also have to be considered and will require some adjustments.

On balance, Zonnelicht then has less user surface available (see also the overview of user surfaces on this page). However, it is expected that this has sufficient potential for Zonnelicht to function well now and in the future.

Energy and indoor climate

By installing solar panels and solar collectors of sustainable energy.

The use of green roofs and good sun protection will prevent extreme heating of the building in summer. The use of green roofs and good sun blinds will prevent extreme heating of the building in summer. This has a major effect on comfort and also on energy consumption. Mechanical cooling in summer costs a lot of energy. By installing fixed sun blinds directly at the classrooms, a shady transition zone is created in which to play.

Vision and biosphere

We want to integrate nature into the buildings for both practical and didactic reasons. The vegetation roofs keep the roof cool but they also buffer water, so much water evaporates before it reaches the ground and the remainder is collected for use in the garden or infiltrated into a wadi on site.

This natural water system makes a major contribution to making our city climate proof. Moreover, it shows what natural systems have to offer. Besides building cooling and water buffering, the vegetation and water on the roofs, facades and grounds provide various biotopes for a variety of useful insects, birds and other animals. Green facades not only act as a natural sunscreen, but also capture gaseous air pollutants.

From the vision of the Zonnelicht, 'the sustainable BSO', we want to create this environment to introduce our children in a playful way to the principles and skills of a sustainable future.

By monitoring energy generation (*How much energy do you actually generate when the sun shines? And how warm does a roof get?*), looking at systems (*What does water do, where does it stay, what does it mean for plants and animals?*) and experimenting with and thinking about sustainable systems, we want to use the Zonnelicht as an educational environment.



Usage areas

Current building 870 m² gfa
Groups Tourmaline and Emerald 200 m² GLA

'Lotus' building Oberon, 840 m² GLA (disappears)

Gym 490 m² (add)



Learning to design



Nature education



Knowledge about yourself and the world



Knowledge of sustainable systems



Food skills



Knowledge of growth systems and plants