THE ART FACTORY
THE CULTURAL CENTRE FOR THE FINE AND PERFORMING ARTS

P5 PRESENTATION
Melanie Kwaks
1 - Context
2 - Cultural Value
3 - Design
4 - Reflection
1 - Context
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4 - Reflection
How did the functional logic of the ‘Artillerie Inrichtingen’ influence the character that Campus North has today?
Latin meaning of Campus: open space or field
CONTEXT | CAMPUS NORTH | CURRENT OCCUPANTS

- Visual artist atelier
- Museum
- Art store
- Event Organizer
- Restaurants
- Furniture designer
- Lamp designer
- Furniture store
- Lamp designer
- Furniture store
CONTEXT | WEAPON DEPOT

1899 STORAGE BUILDING

Ground floor

First floor
CONTEXT | WEAPON DEPOT

1954 OFFICE BUILDING

Ground floor

First floor

2015 RENOVATION

Ground floor

First floor
How did the functional logic of the ‘Artillerie Inrichtingen’ influence the character that Campus North has today?

CONCLUSION:

SPIRIT OF THE PLACE:

Form follows Function
The Function left but the Form remains
1 - Context
2 - Cultural Value
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I believe that a building must be able to transform when the function of that building changes.

There is often a mismatch with the existing function and the new function, therefore some interventions to that building are required.

This position is in line with the spirit of the place. The buildings of Hembrug changed when a production line changed.
CULTURAL VALUE | MACHINEHALL
1 - Context
2 - Cultural Value
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<table>
<thead>
<tr>
<th>National Ballet</th>
<th>Fiction Factory</th>
<th>Performance Factory</th>
<th>AHK</th>
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</thead>
<tbody>
<tr>
<td>Timber department</td>
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<tr>
<td>Steel department</td>
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<tr>
<td>Paint department</td>
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<td>Supply storage</td>
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<td>Built up space</td>
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<td>Indoor or sheltered transport space</td>
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<td>Costume department</td>
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<td>Sculpt department</td>
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<td>Decor storage space</td>
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<tr>
<td>Rehearsal rooms</td>
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</tbody>
</table>

Program of Requirements

- Timber department
- Steel department
- Paint department
- Supply storage
- Built up space
- Indoor or sheltered transport space
- Costume department
- Sculpt department
Ground floor

First floor
PROCESS-BASED WORK
activities that people participate in

PUBLIC PRESENTATIONS
events that people attend as an audience
DANCE (& THEATER)  MUSIC  ART  PERFORMING
**DANCE / THEATER**
- practice rooms: large - medium - small
- warm-up space
- waiting area
- dressing rooms
- toilets

**MUSIC**
- practice rooms: individual - group
- performing area
- waiting area
- toilets

**ART**
- individual ateliers
- classrooms
- cleaning sinks
- storage space
- toilets

**PERFORMING**
- theaters ca. 100 persons
- backstage
- dressing rooms
- seating area

*additional facilities*
- foyer
- bar / café
- wardrobe
- toilets
GOAL:
To create a sustainable design that is futureproof

HOW?
Reduce, Reuse, Recycle

1. Reducing the energy demand

2. Reuse the rest energy

3. Solve the remaining energy demand sustainably

4. Reuse demolished materials

5. Choice of materials
   Recycled materials
   Sustainable materials
   Eco friendly materials

Solar energy
Earth energy
Heat exchanger
Filter rainwater to flush toilets
Isolate the skin
Stabilisation of the inside temperature
Reusing the steel windows
Easy recyclable/reusable
minimal negative impact on our environment
Inside

- Toe board
- Steel structure on the outside

Outside

- Plastered concrete floor finish
- Floor heating
- Floor insulation
- Concrete floor
- Ground insulation

Steel window frame

DESIGN | CULTURAL CENTER | FOUNDATION DETAIL
Inside

HR++ double glass
Insulated steel window frame
Steel U-profile
Steel plate for closing the cavity

Outside

Replacing existing single glass by new double glass
Steel window frame
post insulation using EPS-Pearls

Brick
Brick

DESIGN | CULTURAL CENTER | DETAIL
Existing materials:
- Facade: Brickwork
- Construction: Steel

New materials:
- Wall finish: Concrete, Wood
- Floor: Concrete, Floated concrete
- Construction: Wood

Reaction / Contrast

Stairs: Concrete + Wood + Staal
MUSIC
- Bamboo planks
- Poured concrete

ARTIST
- Plywood & OSB plates
- Poured concrete

DANCE
- Plywood & Wooden beams
- Concrete plasterwork

PERFORMANCE
- Recycled wooden planks
- Poured concrete with wood grains
- Floating concrete floor finish
- Floor heating
- Floor insulation
- Concrete floor
- Ground insulation

- Perforated woodboard
- Black fabric
- Timberframe wall with acoustic insulation
- Cavity
- CLT wall

- Glazed balustrade
- Channel mounted on floor

- Perforated woodboard
- Black fabric
- Timberframe wall with acoustic insulation
- Cavity
- CLT wall

- PVC top finish
- Pressure distribution layer
- Spring layer
- Floating concrete floor
- Floor heating
- Floor insulation
- Concrete floor
- Ground insulation

- CLT floor
- Concrete plasterwork
- CLT wall
- Timberframe wall with acoustic insulation
- Cavity
- CLT wall

- Wall anchor

DESIGN | CULTURAL CENTER | DETAILS
Ventilated ridge so that the smart roof can be ventilated and cooled in order to make the PV-panels more efficient. This way, the roof acts like a solar chimney. In the ridge, pipes with water run through it. The warm airflow heat up this water and can be used to heat up the building through a heat exchanger that is connected to the heat pump.

Collecting rainwater for flushing toilets

Rainwater per m² in the Netherlands: 800 liter m² of roof, including the skylights: 3500 m²

800 x 3500 = 2,800,000 liter water per year
flushing a toilet needs 6 liter of water
2,800,000 / 6 = 466,666 times the toilets can be flushed with rainwater.
Ventilated ridge so that the smart roof can be ventilated and cooled in order to make the PV panels more efficient. This way, the roof acts like a solar chimney. In the ridge, pipes with water runs through it.

In summer the extra heat that is generated by the roof is not necessarily. So there is a bypass on this system that stops the water from going to the heat exchanger.

Collecting rainwater for flushing toilets

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flushing a toilet needs 6 liter of water

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Timberframe wall with acoustic insulation:
- Perforated woodboard
- Black fabric
- Insulation
- Multiplex
- Wood finish

Steel window frame curtain wall
Wooden insulated gutter
EPDM finish

Smart roof - air grate inlet
Solar panel

Illustration: Functioning Smartroof
source: Tegnis smartroof
1 - Context
2 - Cultural Value
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REFLECTION | DESIGN PROCESS

- Sketching
- Research
- Making Models
QUESTIONS?
- Toe board
- Steel structure on the outside
- Steel window frame
- Floated concrete floor finish
- Floor heating
- Floor insulation
- Concrete floor
- Ground insulation

Outside Inside

180 68

200

280

80 110