LV570

One, Two, Three; Adaptability!

The Development of Strandveikaia

This project deals with the development of Strandveikaia and its surrounding areas in Nyhavn in Trondheim. Its approach aims to explain the necessity for adaptability and how to achieve it in urban development. An adaptable urban development cannot be achieved through solely working on small scales. It requires a coherent development system implemented on larger scales. Nyhavn is a fitting example of this as the ost industries areas are to be transformed to meet the future goals of Trondheim.

As part of the growing awareness of climate change, there has been an increased focus on sustainable development in the past decades. Much effort is put into trying out new ways of developing urban structures in light of this trend. However, there are other global issues influencing modern cities. Uncertainty in the global economy has recently become a harsh reality, and the need for urban planning and design capable of responding to unforeseen changes, is more important than ever.

As part of a large urban transformation project, Nyhavn and changes made there can influence the entire city. The opportunity to try out new solutions in large scale development can have a significant impact on the residents and businesses which are close to the area. It can also cause synergies and function as an inspirational project for many other similar sites. Working with a goal of developing an adaptable city will require a lot of effort from both the municipality, the property owners, the urban planners and the local community. Finally, the fact that the municipality aims to transform an area with distinctive harbor functions, into a new urban residential and office area, shows that adapting is already part of system.

In the context of urban development, we see adaptability as the urban structure’s ability to adapt to both foreseeable and unforeseen changes. In nature this process happens by necessity; however we as humans have the ability to predict and plan for the future. In this sense we can start the process of change before it is needed. This is why considering the process is essential for our definition of adaptability. Developing Nyhavn over time is the only way to secure an adaptable urban structure.

By looking at the main structures of the area adjacent to the site, one can understand ways of establishing good connections and create accessibility.

The first step of the process is to establish the green infrastructure of the site. The groundwork for the main street is laid out, roads, pavements and cycle paths. The focus on green and blue structures in a spatial and structural layout allow recreational areas to be established along and parallel with the infrastructural grid. It also generates flexible and resilient urban areas.

This green infrastructure is to connect with the overall structure of surrounding districts. This will create a framework for a new and permeable system of green spaces. As a result there will be a series of connections between different Objects (residential buildings, parks, infrastructural nodes etc). Just as these connections are made with surrounding paths and roads of existing districts, they will be able to connect with the infrastructure of future development areas in Nyhavn as well.

The second step deals with developing activities in the area. The intersection of important lines will provide natural meeting points. We will introduce ‘nodes’ and alleyways which can sustain temporary activities and installations. These areas are developed with the interest of creating a sense of place and ownership through user participation and activity along the main arteries of the area. Nyhavn houses several cultural actors and these can be used as engines for urban development. As presented in Step One, the focus on space and public areas will come into play and be further developed in this step.

Why are the green structures so important?

The green elements we propose serves several purposes beyond that of recreation. By connecting downtown Trondheim with the surrounding areas of Nyhavn via a green infrastructural belt, we promote walking and cycling along the linear spaces of green elements. The vegetation also serves as buffer separating hard vehicles and remainingClaudian functions. One of the main purposes is the reduction of ours-functions, from the vegetation. In addition to this, the green infrastructure will be able to absorb storm water and handling the pollutants from the roads. These green belts have another purpose in the fact that they can help re-developed in the future, if necessary.

Step three follows quickly after the previous steps. It is vital that the construction of residential buildings follow within a short period of time. These buildings will fill the framework and provide new spaces and facilities which generates life to the area and its activities. The new buildings will co-exist with the existing ones which are to be preserved. This does not mean that they share the same typology or functions, but rather that they construct new patterns together. By generating large spaces of green structures, which are inherently adaptable, the site can respond to many different future scenarios.

We have shown the development process of Nyhavn ranging from 2020 through 2030 and 2040 on the three illustration plans shown below. For further information on this development visit the A3 document.
The Spaces of Strandveikaia

Strandveikaia is developed into a series of public spaces. These vary in size and function but they all share in the fact that they can easily be adapted to future needs. In the northern end of the area is a large park, which houses a kinder garden and vegetation. Because of risks of flooding, the area may be designed to withstand this flooding and prevent damage to surrounding buildings.

The urban square is found in the centre of Strandveikaia. It is surrounded by various buildings, some new and some old. In the area arc cultural centres and small retail businesses like cafés and restaurants. The square connects to the Kriegers building as well as the adjacent residential area. It resembles a centre as the main social area of Nyhavn. Its size and openness is meant to house a large variety of activities as for instance concerts and farmers markets.

The southern end of the area contains urban farming opportunities for residents and the kinde gardeners. In connexion with the living machine, it serves an educational opportunity for visitors.

The living machine is a bioremediation system that uses aquatic and wetland plants, bacteria, algae, protozoa, plankton, snails and other organisms to remediate polluted water. In colder climates, like the one in Trondheim, the system is housed in a greenhouse, that prevents freezing while at the same time raising the rate of biological activity. The new greenhouse on site can serve this purpose. In addition to the recreational value it represents, for instance it can handle the waste produced by the Kriegers brewery. By installing the greenhouse as a ‘living machine’, it can also clean wastewater from adjacent buildings and residential housing. The map on the right shows a pipe system which directs waste from housing units to the living machine.

In order to sustain a more adaptable future development, it is necessary to involve the local actors in the programming and development of the urban spaces of Strandveikaia. As a cultural area there are many participants which may contribute to the area future. We suggest the preservation of Strandveikaia as a cultural area through municipal zoning with room for these actors.

This grants the possibility of continued cultural activity in the area. As a result these actors should be involved with, and be given a responsibility in terms of contributing to the development of the outdoor spaces of Nyhavn. An organization based on representatives from the municipality, the cultural actors and local residents would then plan for this cultural activation in the nodes previously presented. Using technology (apps) and registration visitors and users could give feedback on the development of the area and participate.
Ultimately, Strokkur will feature a wide range of public functions as well as a multifaceted transport system handling cars, bikes, buses, and pedestrian traffic.

The focus on three steps and incremental development will to large degree allow the preservation of harbour industry to be sustained for many years to come. It is the green structures’ multifunctionality and resilient properties that allow for infinite outcomes.

For more information on the development of the surrounding area, check the digital document.

Swimming and ice skating allows for water activities throughout the year.

Culture facilities containing art galleries, rehearsal rooms, and workshops to be preserved.

Green structures provide recreation and has several multifunctional properties.

Living machine draws the grey water from all surrounding housing units.

Public areas range from small to large with multiple uses, including urban agriculture, parks and events.

Residential development is included in the area south of the cultural area.