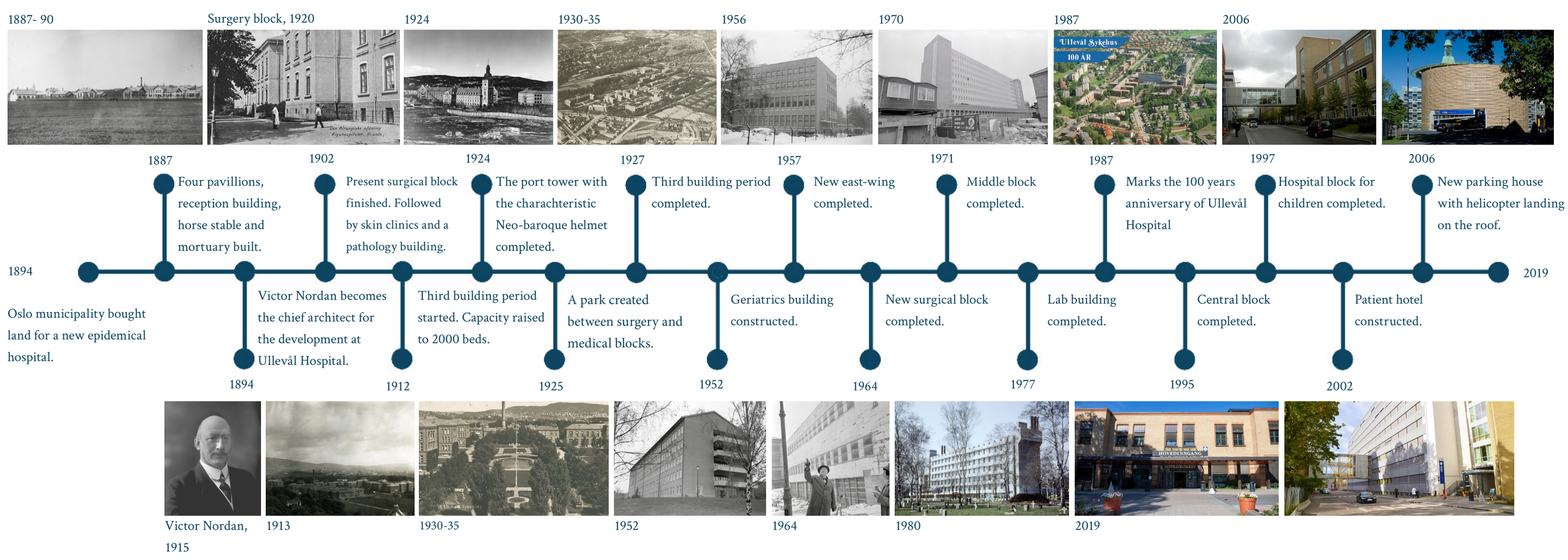


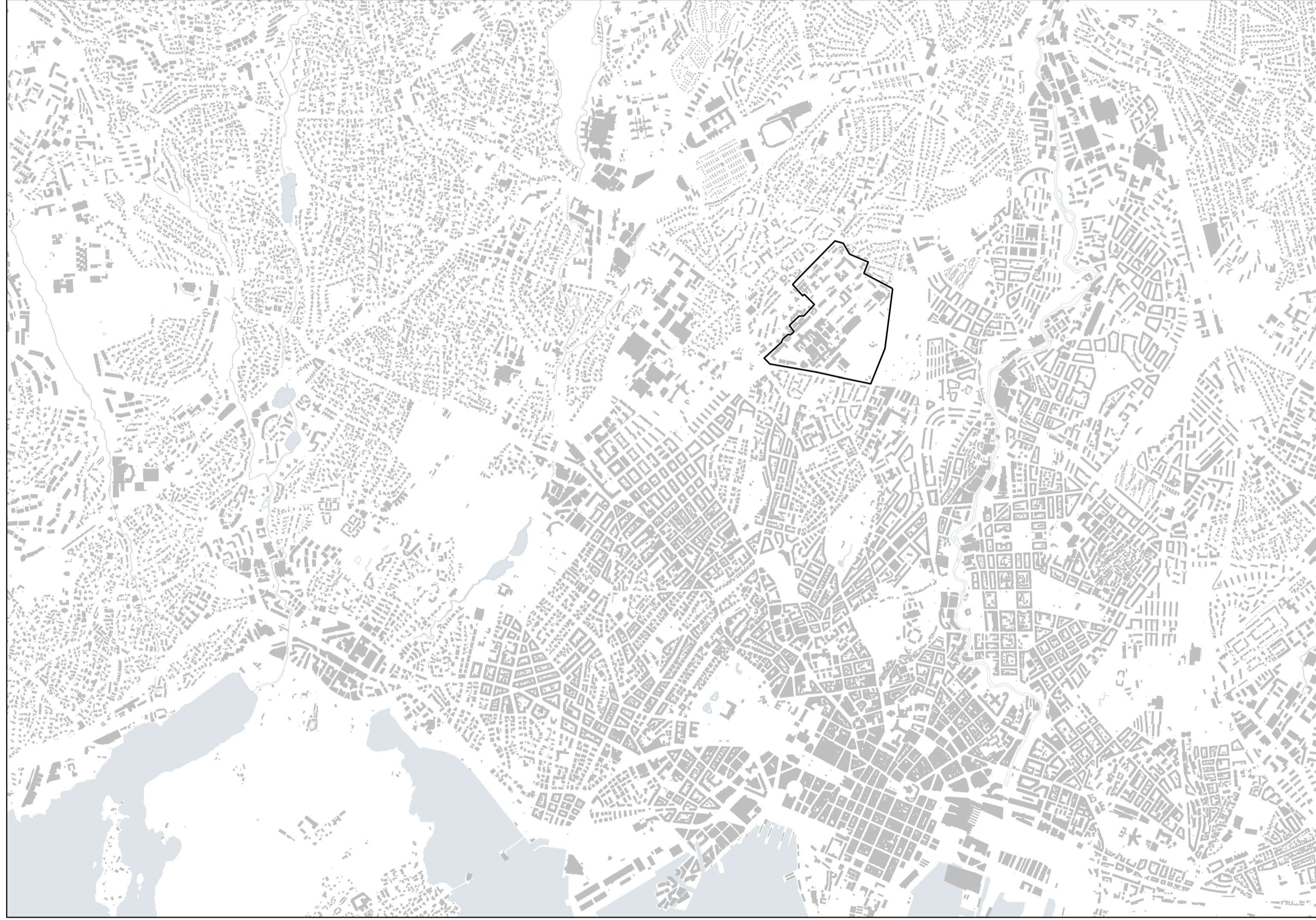
SITE | PROTECTION | HISTORY



Timeline of development at Ullevål Sykehus



Map outlining the area of Ullevål Sykehus



1:20 000 plan of Oslo outlining the area of Ullevål Sykehus



Buildings and vegetation at Ullevål Sykehus



Material palette at Ullevål Sykehus

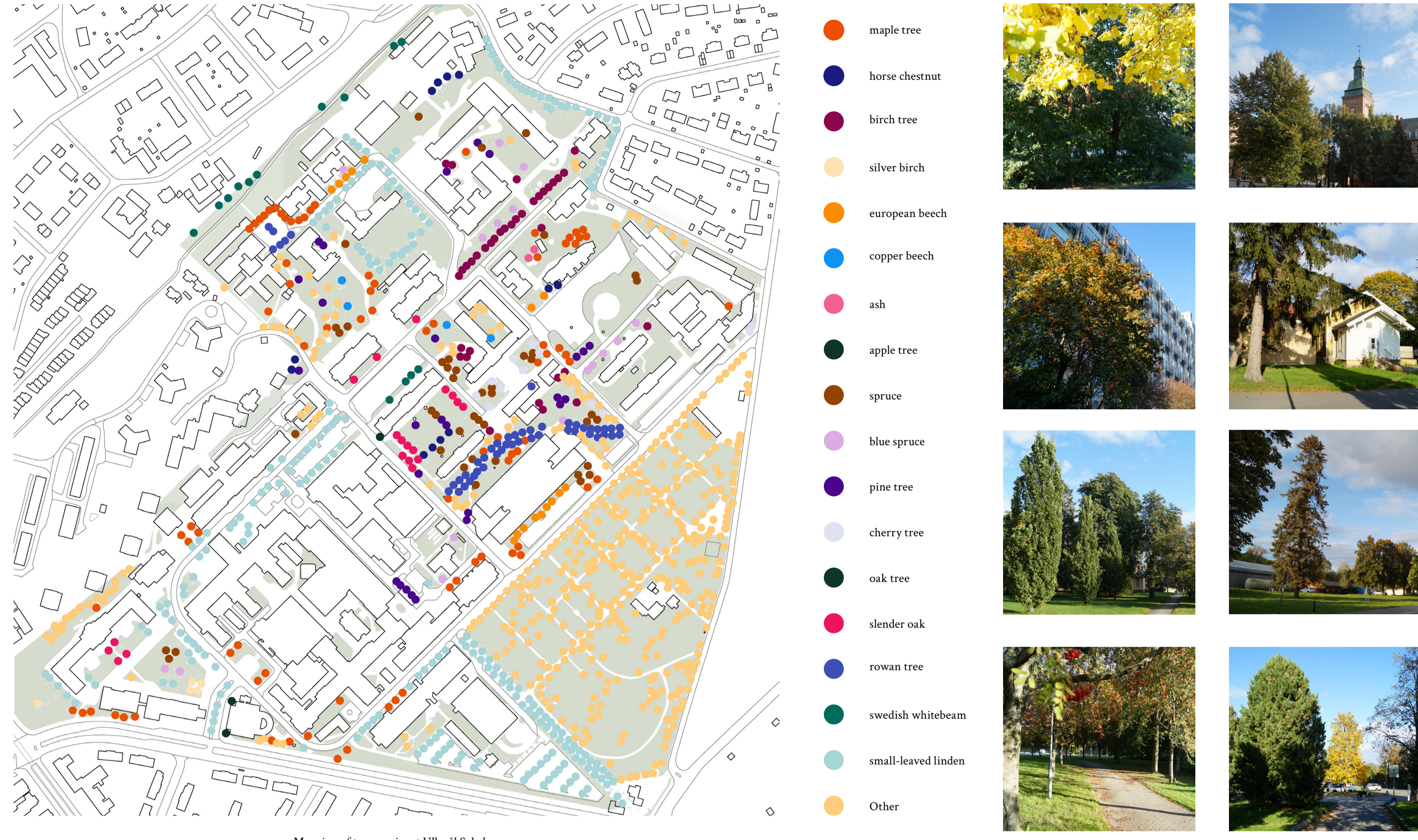


1:2000 site plan



Section AA 1:1000

VEGETATION AT ULLEVÅL SYKEHUS



Mapping of tree species at Ullevål Sykehus



The four main green areas at Ullevål Sykehus

TYPOLOGIES FOR DEVELOPMENT OF GREEN SPACES

Meadow

They have rich diversity of flora, up to 40 different species of vascular plant can be found in one square meter. As a result they are perfect environment for beetles, wasps, grasshoppers and butterflies. However, they do not appear by themselves, and depend on human activity to exist. Luckily they are very easily planted and maintained, with reaping once a year. Normal lawns found in urban areas do not offer much in terms of biodiversity, and replacing some with meadows would be effective. A meadow can range from one square meter to one hectare.

Pollinator Garden

By growing plants that provide pollen and nectar, we can help pollinators thrive. A pollinator garden provide a varied all year habitat where trees, bushes and flowers provide a continuous source of nutrition. Fruit trees flower in the spring, berries and most flowers in the summer and some all through to autumn. The unique microclimate in the garden must also be considered. Pollinators favour spaces sheltered from the wind.



Harvesting at Getmyra, Getmyra School Garden, Oslo, 1910-1920.

Biodiversity

Biodiversity is variety of life on our planet, and essential to our future existence. The continued loss of biodiversity, just as climate change, represent an acute threat to the overall habitability on Earth. According to a recent study, 40 percent of the insect species on our planet may cease to exist. In fact, three out of four of the most important agricultural plants depend on pollinating insects to produce good crops. Much of our diet is the product of plants, like bread, tomatoes, apples and nuts, and all need pollination. In Norway, one in four of our pollinating insects are listed as endangered. The Norwegian Institute for Bioeconomy, NIBIO, have expressed concern regarding two continuing tendencies.

1. The landscape is changed because of large scale agriculture, with focus on greater efficiency. Patches of agricultural land becomes bigger and more uniform. In between spaces and pockets are often neglected, for example field, stream and road edges. There are in such spaces our pollinating insects often dwell.
2. Secondly, a decrease in flower species in meadow, pasture and grass is evident. They are vital, because they offer nutrients to pollinating insects.

Homogenous landscapes dominated by either productive forest, arable landscape or buildings makes it more difficult for insects and plants to thrive. Loss of plant diversity affect insects, who in turn are important nourishment for birds, bats and other animals.



Unknowns photographer, Getmyra School Garden, Oslo, 1910-1920.

The good dirt

Recently The Washington Post published an article written by allergist Coby Stone. She suggests that our increasingly sterile environments may cause health problems. According to her, exposure to natural areas such as farms and forest is important early on in life. In some circumstances, exposing children to more bacteria may prevent allergies. She explains that our modern view on dirt comes from something called the "hygiene hypothesis".

As society progressed from one that was chronically burdened with infectious diseases caused by poor sanitation, we reduced our exposure to the things that gave our immune system an appropriate training and tolerance. Growing up in a rural area exposed to farm animals appears to confer decreased risk of allergies and asthma for your lifetime, even among genetically similar populations.

As well as potentially preventing development of allergies, soil may also contain a small microbe, M.Jaccus, that has shown to boost levels of serotonin and norepinephrine, working similarly to anti-depressives once inside the human body. The effect of this soil bacteria was discovered by accident a decade ago. In order to help the immune systems of her lung-cancer patients, Mary O'Brien, injected a serum made from the bacteria. To her surprise, she discovered an unexpected effect. The receiving patients reported feeling happier and in less pain than that those not treated with the serum.



Diagram showing placement of allotment gardens

Diagram showing potential vegetable markets



Vegetation at Ullevål Sykehus

Health

Recent scientific studies have shown that urban green spaces can have important health benefits. Already in 1984, a researcher named Roger Ulrich discovered a curious pattern. Patients given rooms overlooking trees were discharged on average a day sooner than the other patients. Why? In 2015 a study was published in the journal Scientific Reports, with researchers from the United States, Canada and Australia. They studied the city of Toronto, comparing two sets of data, with 95 000 respondents. The first measures the distribution of green space, while the second measures health. According to the researchers, an increase of ten trees on a block created a one percent increase in the mental and physical health of nearby residents.

Furthermore, a study made in the U.S. between 1990 and 2007 found that cardiovascular illnesses rose in placed were trees yielded to the emerald ash borer plague, contributing to 20 000 more deaths. The data from the Toronto-study also suggests an increase of trees can help people suffering from cardio metabolic conditions. According to Marc Berman, the leader of the study, just looking at a tree could have positive benefit:

The environment has to have some kind of stimulation to activate your involuntary attention - your fascination...Your eye is captured by the shape of the branch, a ripple in the water, your mind follows.

According to a study conducted at the University of Michigan, exposure to green surroundings can help us perform better in cognitive assessments. Volunteers were sent on two different fifty-minute walks, through either an arboretum or city streets. Those who had taken the walk through the arboretum performed twenty percent better when tested on memory and attention, as well as being in a better mood.



Diagram showing potential for cultivated meadows



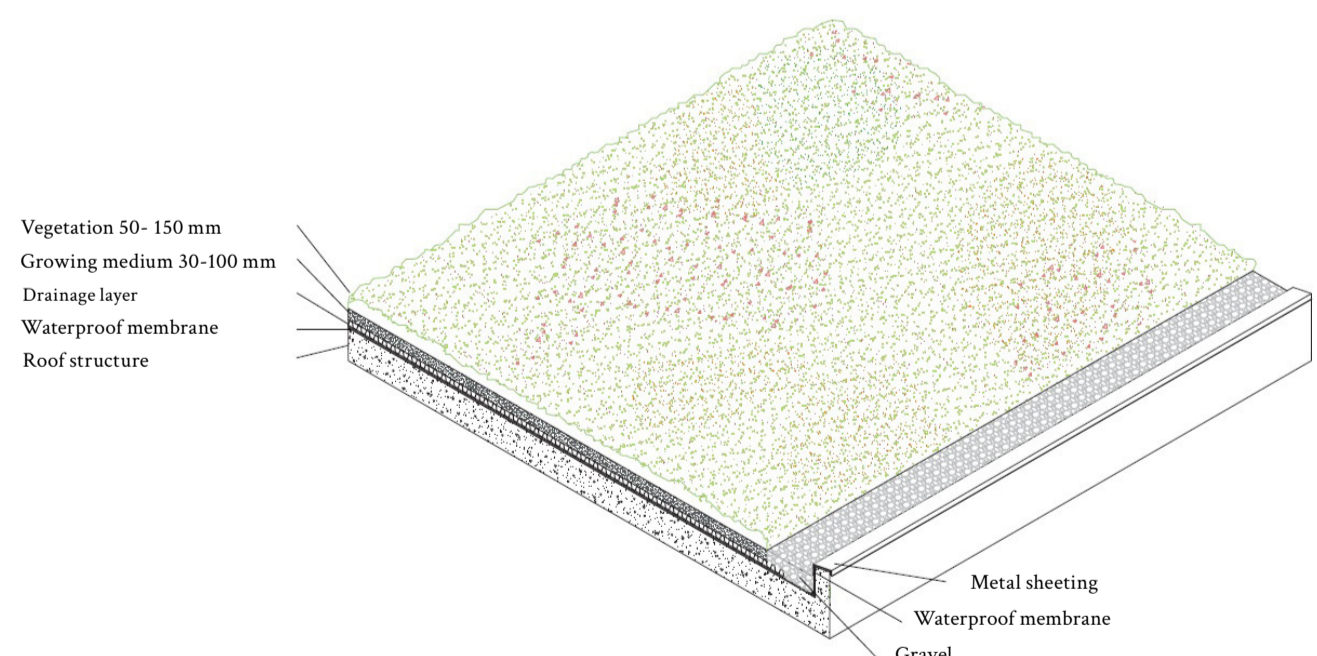
A meadow field in front of one of the buildings



Diagram showing location of pollinator gardens



Maintaining one of the pollinator gardens

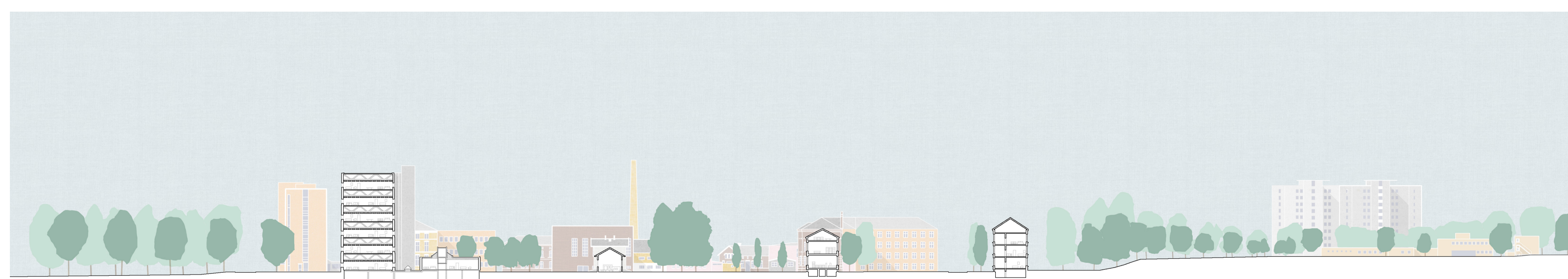
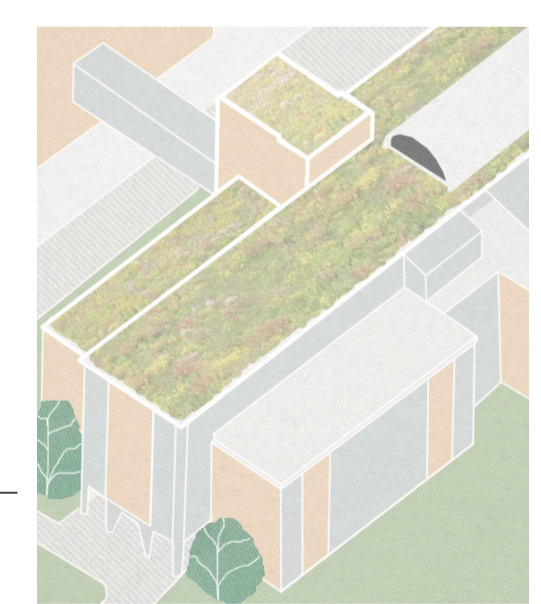


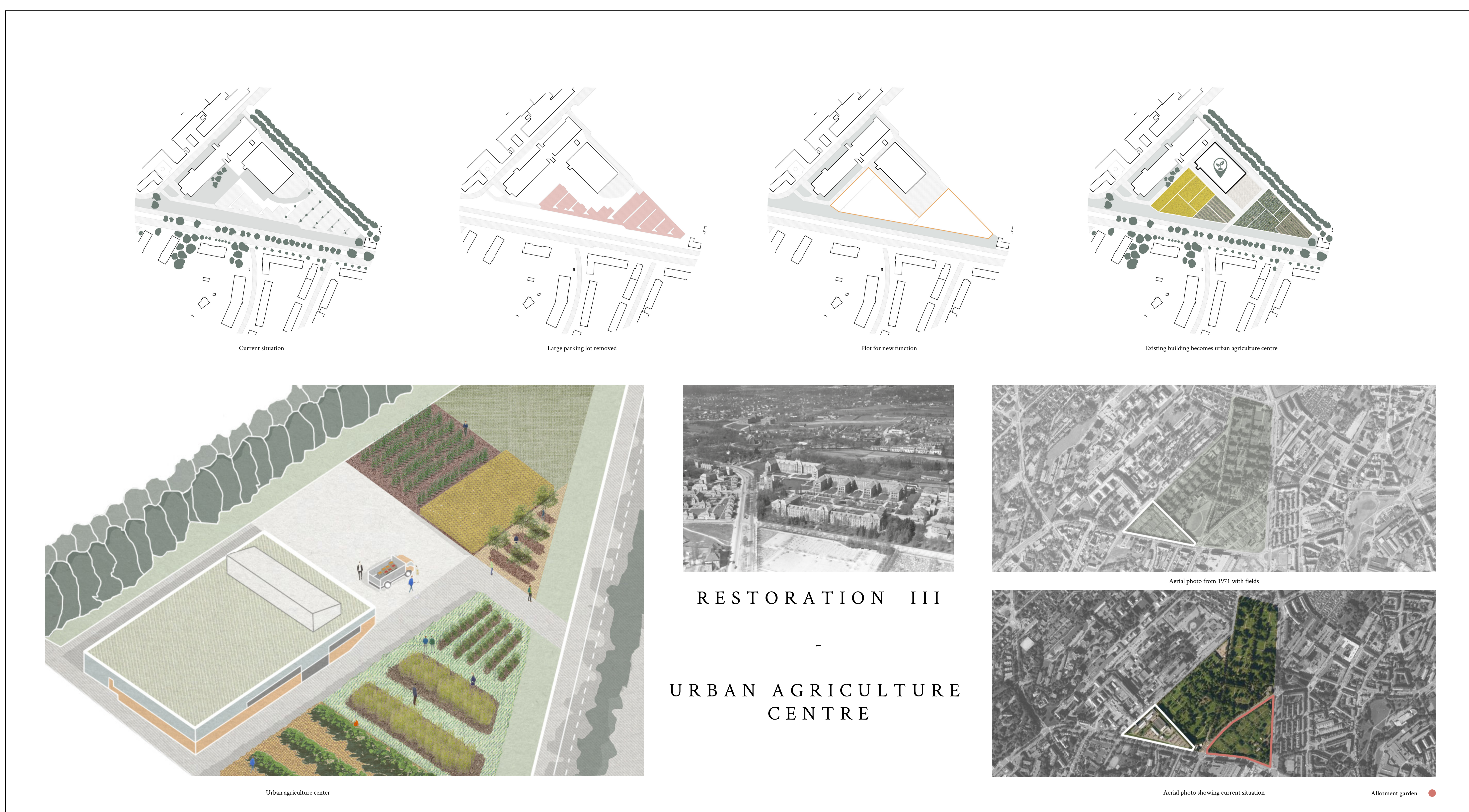
Sedum green roof

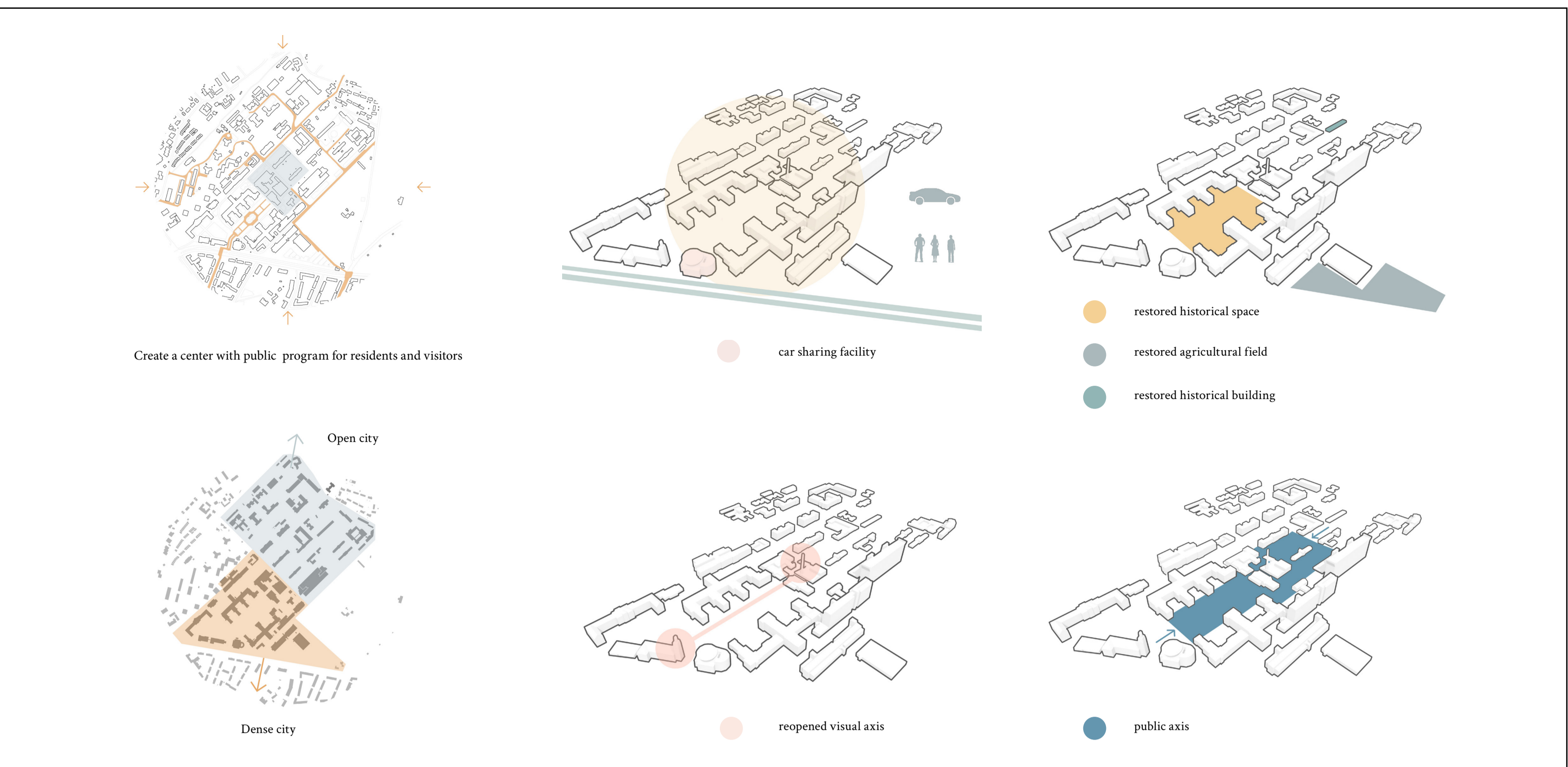
A sedum green roof is a light structure that only requires a thin level of soil and little maintenance. It can be placed on inaccessible parts of the roof and provide shelter for plants and insects. In addition, sedum green roofs contribute to stormwater management by increasing the runoff coefficient. Best suited for larger roof areas and retrofitting of existing buildings because of light weight and low cost.



Diagrams showing potential roof surfaces for green roof







PROGRAMS AND FUNCTION

The third housing market

A month ago the city council declared that they will try to build or facilitate 1000 new residential units. They plan to buy small or medium sized blocks, cooperate with private and non-commercial partners, as well as building new apartments in the "third housing market".
 The strategy relies on Oslo municipality taking an active role in buying buildings, in order to offer cheaper alternatives to what the commercial market offers. The reasons for why the city council initiates this housing policy are many. Even though the prices have increased moderately the last couple of years, buying an apartment in Oslo is very expensive, even for people in fulltime jobs. The average m² price was 72.201 kroner in november, 2019. As a consequence, people in essential professions, like nurses or primary school teachers, are finding it extremely difficult buy apartments in the city they work. As of 2018, a teacher, nurse or policeman earning approximately 450 000 kroner would only be able to buy 0.3 % of the sold apartments that year, when buying alone.

1. Randi Johansen, Daniel and Sidsi Nilsen, Harald. "Slik vil byrådet gjøre vegen inn på boligmarkedet onsløst". Aftenposten 20.05. 2019
2. Mandatkomiteen. "Senter for byplan". "Slik vil byrådet gjøre vegen inn på boligmarkedet onsløst". Aftenposten 04.12. 2019
3. Eitken, Kent-Arnar and Kjerfve, David Vajda. "Slik vil byrådet gjøre vegen inn på boligmarkedet onsløst". NRK 17.03. 2018

