

VÄHÄHEIKKILÄNKANAVA / THE VÄHÄHEIKKILÄ CANAL

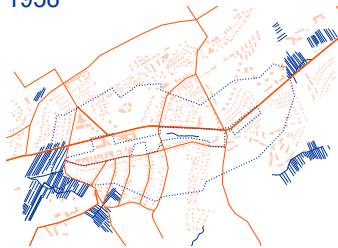
A radical mobility shift after 100 years of burying water



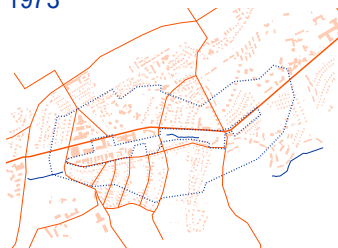
1939



1958



1973



2025



Proposed future

A Radical Mobility Shift for Water

More than a hundred years ago, the area known today as Vähäheikkilä was shaped by the slow, meandering branches of water flowing from the Aura River. This low-lying terrain was first defined by water—a soft, shifting network that made the land fertile and habitable. People gradually adapted to the area for cultivation, working with the water rather than against it. Water was not hidden; it was visible, useful, and present in daily life.

Over time, however, human occupation began to push water underground. The spongy water systems were buried to make way for roads, housing (1958), and industrial infrastructure (1973). Alongside this change came the construction of Vähäheikkiläntie - a major road that sliced through the landscape, displacing water and reducing the land's natural capacity to manage it.

Today, Vähäheikkiläntie, together with the hardened surfaces of factories and car parks, acts as a barrier and increasing area's flood risk. These elements fragment the landscape, block ecological continuity, generate noise, and offer little value as public space. There is no longer room for water. Storm water is forced into aging underground pipeline systems that are increasingly inadequate under the pressure of intensifying rainfall brought by climate change. Water, long buried and displaced, now demands attention.

In this context, the **Vähäheikkiläkanava** project proposes a radical response: transforming the existing Vähäheikkilä road (tie) into a navigable canal (kanava), where water flows once again at the heart of the neighborhood. This bold shift reorients the site from car infrastructure to water infrastructure, reintroducing hydrology as a central design force. In doing so, it unlocks new opportunities for biodiversity, urban regeneration, and civic life - reclaiming water as both a connector and a catalyst for change.

This reconnection to water is not only about ecological function—it is also about cultural memory. As the birthplace of Finland's maritime industry, Turku's urban identity has long been shaped by its relationship to water. From shipbuilding to port trade, the city has historically grown alongside its rivers and coasts. Vähäheikkilänkanava reflects on this tradition, reclaiming buried flows to re-establish the historic dialogue between the city and the water.

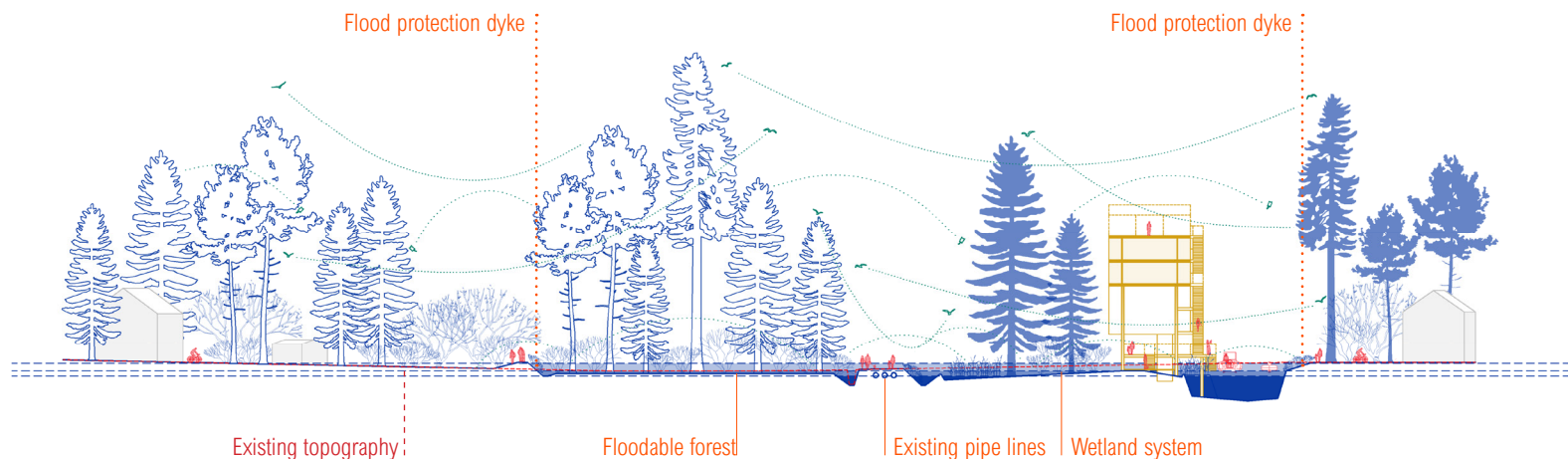
Restoring the Water: A Multi-Layered Stormwater Strategy

From this backbone change, together with the existing storm water line and underground pipelines, a new stormwater system is formed. It includes two interconnected systems, separated by the existing underground pipeline, which remains in use. On one side, three historical waterways are restored and connect directly to the main canal to collect water from the north part of the drainage catchment and filter it through a *pocket wetland system* next to these mainstreams. On the other side, a *floodable forest system* receives water from the remaining drainage basin, absorbing peak storm events while creating a deep ecological zone.

Both systems are connected to the current storm water ways and supported by a newly established *backyard water network* running through the Puistomäki neighborhood. These small-scale water routes not only collect runoffs but also invite residents to engage directly with water by gardening, farming, or creating small wetlands. This transforms backyards into semi-public ecological corridors and potential walking routes, subtly blurring the boundary between private and public space.

A protective dyke line defines the floodable zone and safeguards the existing neighborhood. Water levels within this system are adjustable, allowing for controlled flooding during peak events.

Together, the canal, wetlands, floodable forest, and backyard water net create a responsive, visible, and participatory stormwater infrastructure. This approach builds resilience while enabling people to coexist with, rather than fight against, water.



Ecological Continuity and Public Space

Replacing the road with water restores ecological connectivity and creates space for biodiversity. The canal re-establishes a blue corridor linked to the Aura River. Around it, new green areas replace the former car park and abandoned lands. These become a system of urban forest and seasonal wetland, creating diverse transitions from water to forest.



Marsh Marigold



Tasma Flax Lily



Water foxtail

This spatial gradient - from canal to wetland to forest - encourages species movement, especially the flying squirrels and reinforces ecological function.

Landscape and public space are no longer divided. Walkways, sitting areas, and communal gathering spots are integrated with stormwater flows and planting. Residents can walk through forest and wetland, sit by the water, and observe seasonal changes. The proposal treats the landscape as a dynamic infrastructure - managing water, enabling biodiversity, and supporting social life.



Rabbit



Flying squirrel



Water frog



House sparrow



Golden plover



Pieris rapae



Dragonfly



Moth



Stag beetles



Douglas Fir: 20-60m



Spruce: 30-46m



Bigcone Douglas Fir: 15-30m



Pine: 15-30m



Blue spruce: 12-23m



White spruce: 20-30m

Urbanism: A New Relationship Between Buildings and Water

The radical shift in mobility and landscape demands a rethinking of building typologies - deeply rooted in the relationship between architecture and the newly designed hydrological system. Grounded in the principles of the circular economy - reuse, reversibility, and buildings as material banks, the urban strategy follows three main strategies.

First, no existing building is demolished. The small-scale factories and business premises currently on site are preserved and repurposed into multi-functional housing. This approach maintains the fine-grain scale of the neighborhood while supporting the livelihood of the community. Inspired by the atmosphere of forest living, these structures accommodate soft and quiet public functions - such as communal libraries, meditation spaces, saunas, or elderly cafés, etc. - gently integrated into the wooded landscape.

Second, where new construction is necessary to meet Turku's growing housing demand, it is guided by water and soil conditions. New buildings are designed to be modular, flexible, and reversible, serving as future material banks. Their footprint is minimized: slightly elevated above the ground to allow water movement and species passage below, while creating opportunities for human-nature interaction at eye level. Each building is placed strategically in response to the site's dynamic water structure, acting both as a frame and a buffer - protecting sensitive wetland zones and linking the structured canal edge with the more organic ecological interior.

Third, *topological flexibility* with timber as the primary material, enabling buildings to function as carbon sinks and contribute to continuous regenerative urbanism.



Topological flexibility

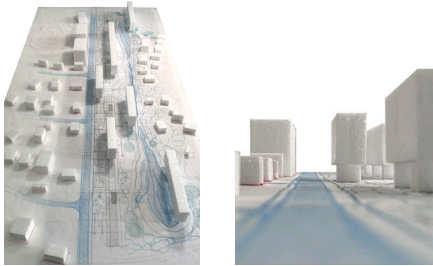


Timothy

For Phase 1 site, several building arrangements were explored through physical scale models to test their relationship with the designed landscape. The three options shown below were selected as finalists.

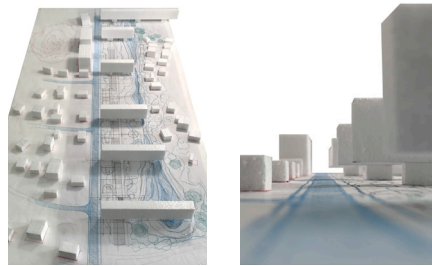
In **Phase 1**, strategies two and three are implemented through a single, elongated building along the canal's edge, providing **13,916.16 m²** of gross floor area (GFA) for housing. It forms a clear urban threshold while protecting and framing the inner wetland and hydro-logical structure. The building includes a range of unit sizes - 45, 68, 90, and 113 m² - across 1 to 2 floors, designed for flexible living scenarios. Modules can be combined into larger collectives and are materially reversible components can be dismantled and returned to a local material bank for reuse, enabling circular construction and long-term adaptability.

Study model 1



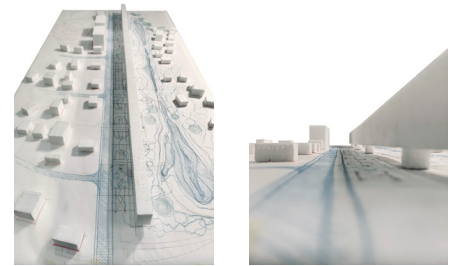
Dynamic and integrated into the landscape

Study model 2



Functional, efficient and straightforward solution

Study model 3 (Chosen option)



The building frames and protect the valuable wetland inside

After internal discussions and debates, Option 1 was appreciated for its dynamic and harmonious urban pattern, while Option 2 stood out for its functionality, efficiency, and straightforward logic.

Ultimately, the team chose Option 3 for its radical care toward the landscape. It minimizes not only the building footprint but also the spatial impact of human presence on the surrounding wild nature.

At the eastern end, this architectural logic evolves into a distinct housing–landscape pattern: buildings are placed perpendicular to the canal, playfully intergrate with existing green and housing pattern. This rhythm is in line with new hybrid typologies that combine housing, shared uses, and ecological integration - anchoring a new way of living with water.

Combined with approximately **6,000 m² GFA** from the repurposed existing structures and future buildings on the eastern edge, the total housing provision for the area reaches **20,000 m² GFA**, establishing a diverse and resilient urban fabric aligned with the water-based transformation of the site.

Conclusion

Vähäheikkilänkanava proposes a complete rethinking of how cities relate to water. Instead of hiding or controlling it, the project welcomes water back to the surface through the shift from Vähäheikkilän road to canal. From that, it generates a storm water management system, public spaces, and cultural memory. This transformation addresses urgent stormwater needs while repairing fragmented ecologies and unlocking new forms of living.

By reconnecting the site to Turku's maritime tradition, the proposal grounds its innovation in the city's history. But it is not nostalgic. It is forward-looking—showing how radical mobility shifts and ecological thinking can produce a city that is both more livable and more resilient.

Water, once buried, becomes the foundation of a renewed urban future.