Helsinki



Photo: Tuomas Uusheimo

Hanasaari Design Principles

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Contents

1. Introduction 3
2. Design principles 6
2.1 Urban structure 6
2.2 Hanasaari power plant buildings 7
2.3 Public outdoor spaces and cityscape 8
2.4 Traffic and parking 9
2.5 Soil and constructability 12
2.6 Municipal and structural engineering 13
2.7 Finances 14
2.8 Sustainability and climate 14
3. History of the area 16
3.1 Sörnäinen Port and Hanasaari area 16
3.2 Power plants in Sörnäinen Port 18
3.3 Architect Timo Penttilä 19
4. Background information 20
4.1 Meanwhile use of Hanasaari 20
4.2 Surrounding areas 22
4.3 Traffic 23
4.4 Soil, structures, levelling and municipal infrastructure 23
4.4.1 Soil conditions and foundation construction 23
4.4.2 Soil contamination 24
4.4.3 Municipal infrastructure 24
4.4.4 Structures and built elements 25
4.5 Green environment 25
5. Starting points of land use 26
5.1 National land use guidelines 26
5.2 Regional plan for Uusimaa 26
5.3 City plans 26
5.4 Detailed plans 27
5.5 Helsinki City Strategy 2025-2029
5.6 Helsinki's prospective green and recreational network 29

Preparation 30
Appendix 1: Values and characteristics of the Hanasaari B power plant 31
Appendix 2: Interpretations of the architecture of the Hanasaari B power plant designed by Timo Penttilä 37
Appendix 3: Architect Timo Penttilä (1931-2011) and Hanasaari B Power Plant 40
Appendix 4: Principles of dimensioning and location for the school and daycare centre 41
Appendix 5: Space required for municipal infrastructure in street areas, typical cross-sections 44

1. Introduction

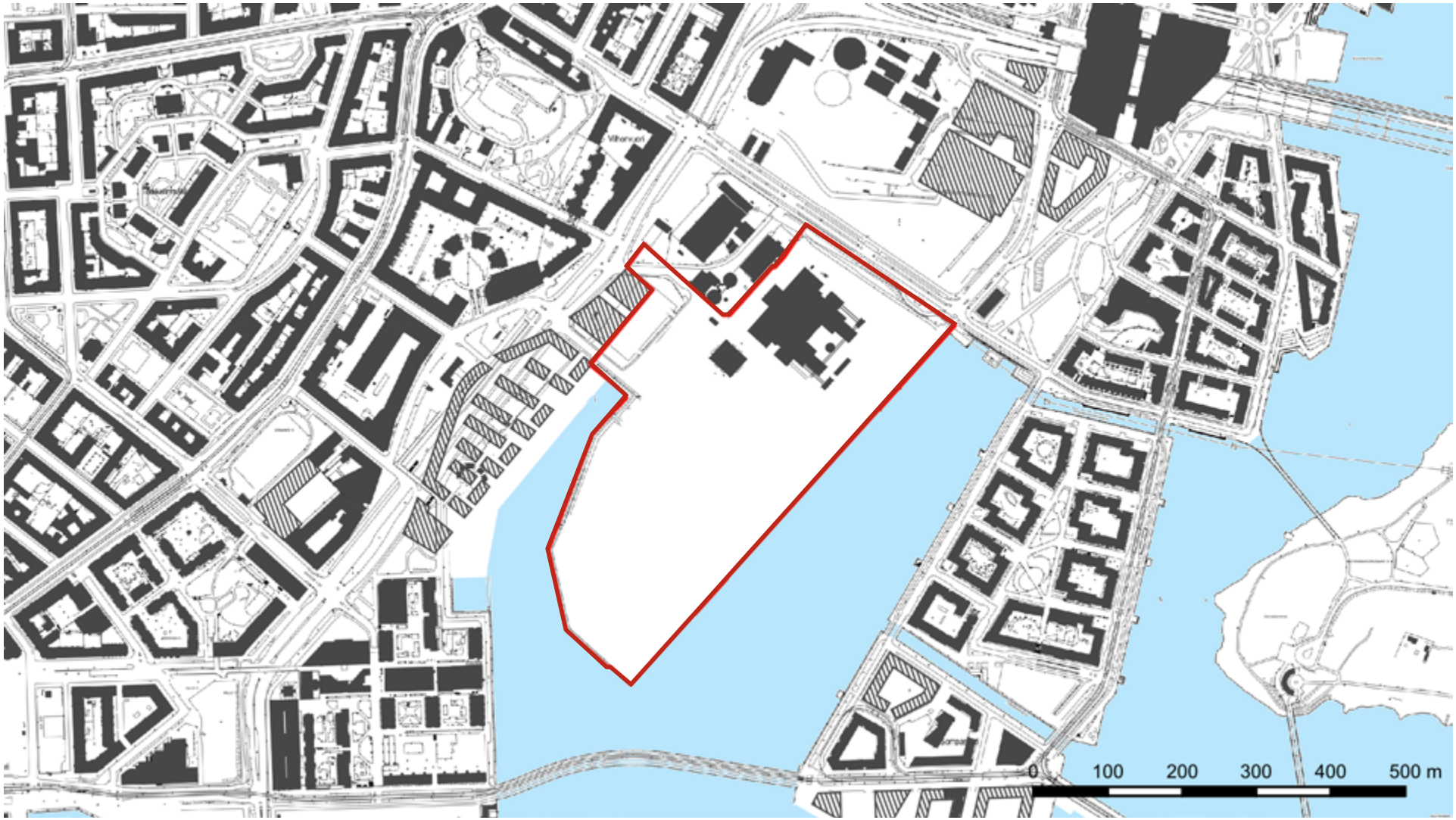
Energy production at the Hanasaari B power plant ceased in 2023 and the plant, which has been part of the City's electricity and district heat production for nearly fifty years, cooled down. The coal stockpile, which served as the power plant's energy source and had long loomed over the cityscape in the area, has been removed. What is left is the prominent architecture of the power plant, standing as a local landmark and surrounded by asphalt fields.

The Hanasaari area, which has long been closed to the city's residents, is now being developed for new uses. In accordance with the Helsinki City Strategy 2025-2029, an international idea and implementation competition for the development of the area will be organised, with the aim of producing a comprehensive master plan for the area, a concept for the power plant buildings and a partner for implementing the area.

These design principles were prepared to support the land use design of Hanasaari, defining general guidelines for the design of the area. The principles are not intended to set strictly restrictive boundary conditions for the design, but they nevertheless establish some themes related to the more extensive surrounding areas or the principles of development of the entire city, such as treating waterfronts as part of the Helsinki waterfront trail and defining the most significant urban vistas. In the Hanasaari idea and implementation competition, the design principles complement the competition programme and provide more detailed information for designers in particular.

The design principles are mainly described in text format, supported by illustrative maps. As background information, this document also contains information on the history and current state of the area as well as the more general plans and strategies that guide the design principles.





Preliminary definition of the competition area for the Hanasaari idea and implementation competition



Photo: Tuomas Uusheimo

2. Design principles

2.1 Urban structure

Hanasaari will be developed as a new urban area. In addition to residential buildings, commercial and office buildings as well as service buildings may be located in the area.

In addition to the functions located in the power plant buildings, there must be at least 140,000 sqm of GFA of new construction in the area.

One plot will be reserved for a school and a daycare centre. The dimensioning of the buildings and yards depend on the proposed amount of residential construction, in accordance with separate instructions (Appendix 4). Sufficient space for a high-quality yard will be reserved on the plot. In addition, a smaller plot (approx. 2,000 sqm) will be reserved for the City's other space needs (e.g. a library or sports facilities).

The aim is for the area to be architecturally ambitious, distinctive, internationally interesting and diverse. All construction and architecture must be of a high quality. Architecture will create a strong identity for the area.

The aim is to create a vibrant street space in the area. Sufficient space for business and service premises will be reserved on the ground floors of the buildings at central locations.

The future urban structure must be linked to the surrounding areas in terms of cityscape, functionality and transport solutions. These areas include Suvilahti, which is used for culture and event purposes, and the yet-to-be-built Sörnäistenranta area.

The waterfront on the Sompasaarenallas side will mainly retain its current outline, but light and floating structures that do not affect the shoreline may be positioned along it. On the Sörnäistenranta side, the shoreline may be altered.



Photo: Tuomas Uusheimo

2.2 Hanasaari power plant buildings

The landmark of Hanasaari, the Hanasaari B power plant, was built in 1974-1976 and decommissioned in 2023. The power plant is one of architect Timo Penttilä's main works. Hanasaari B is of great value in terms of building and cultural history, cityscape and industrial history. The decommissioned power plant buildings preserved in the demolition work also include a social building (Timo Penttilä, 1973) and a small gate building (1992). In addition to these, selected process equipment related to district heat production were preserved in the power plant.

The scale of the power plant is exceptionally extensive. It has a volume of approximately 380,000 m^3 and a current net floor area of approximately 30,000 m^2. The net floor area of the social building is 3,198 m^2.

No significant modernisation has been carried out in the buildings since their completion. The structures have an extensive repair and replacement backlog and technical challenges. The buildings are located below the recommended construction elevation with regard to sea level.

The aim of the power plant development is to create a local attraction as well as an internationally interesting waterfront destination that supports Helsinki's city brand and serves the locals, Helsinki residents and tourists alike. The aim of the competition is to repurpose the buildings and define their connection to the surrounding urban structure, transport network and public urban space.

The starting point of development is that at least the social building, as well as the turbine hall, office tower and chimney of the power plant, will be preserved. Another aim is to ensure that the power plant's skilfully designed massing will remain recognisable in the cityscape.

Parts of the power plant that should be preserved are marked in darker red colour. In addition to this, the power plant's massing should remain recognisable in the cityscape.

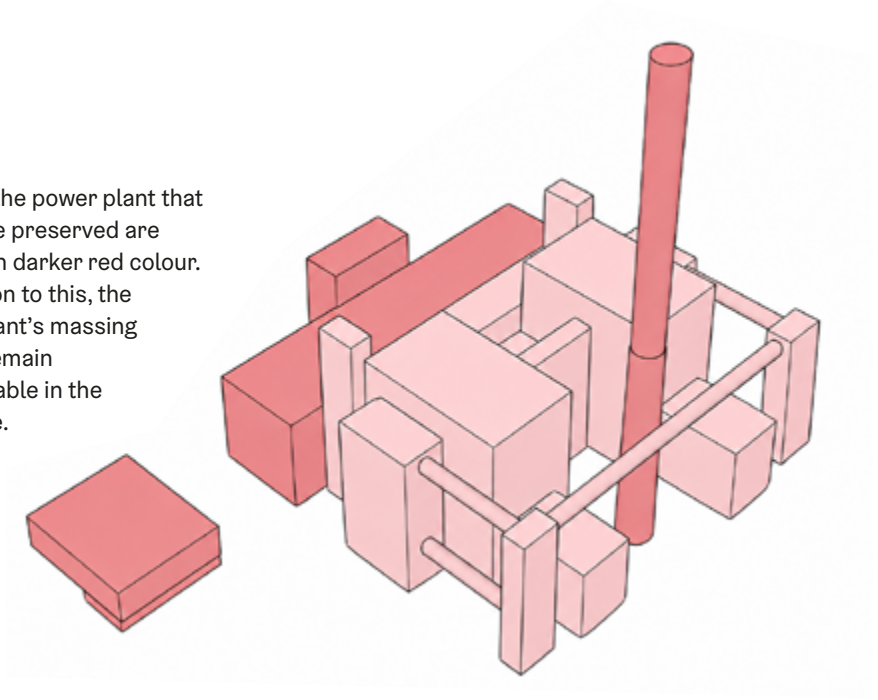




Photo: Tuomas Uusheimo

To support the development of the power plant buildings, the Helsinki City Museum has prepared a description of the values and characteristics of the buildings as well as the starting points of the transformation from the point of view of architectural history (Appendix 1), interpretations of the historical context of the Hanasaari B power plant (Appendix 2) and a description of Timo Penttilä's career and work as the designer of the Hanasaari B power plant (Appendix 3). The conservation and protection objectives of the City Museum presented in the appendices are not binding design guidelines in the competition.

Flexible development of the power plant is possible. Conventional models of real estate business and extensive modernisation might not be the most appropriate approach. The development of the existing structure can be a combination of conservation and preservation of building volumes, modernisation, leaving parts of the building temporarily empty, demolition and new construction, which must be designed as a whole. The development may take place in phases.

The power plant buildings can be flexibly converted into new uses, indoor and outdoor space and new public urban space. The key technical and design challenges described in Appendix x (to be completed) must be resolved in the development of thestructure. The healthy and safe use of the premises in the new use must be ensured in the design. When repurposing the buildings, the operation of the Suvilahti Cultural Centre and the requirements for housing that may be located nearby must also be taken into account.

The power plant buildings should be naturally linked with the surrounding urban structure, transport networks and public spaces. The functional concept must be viable and create value for the city and its residents.

2.3 Public outdoor spaces and cityscape

Particular attention should be paid to the greenness of the public areas and recreational opportunities in Hanasaari, as there are few green areas in the vicinity. The yards of residential blocks must have sufficient space for play and relaxation and for creating a green and attractive overall appearance. Recreational and green structures may also be located on roofs. A green street environment should be promoted through vegetation on both the streets and on plots. Green elements may be placed on walls, taking into account local climate conditions. The goal is to create a green and attractive cityscape and solutions that enrich the street space.

The waterfronts must be in active public use and easily accessible by foot and bicycle, as well as function as part of the Helsinki waterfront trail. There must be an opportunity to access the sea and a place to shore up by canoe or rowboat. The possibility of year-round swimming opportunities may also be studied. The activities in the waterfront area can also be located in water areas directly connected to Hanasaari outside the actual competition area. In addition to waterfronts, emphasis will be placed on the attractiveness and safety of other pedestrian and recreational areas.

The number of green areas in public use must be sufficient. The public areas should be attractive, take into consideration different groups of people and offer opportunities for recreation for the residents. The area must feature:

- at least one larger continuous district park
- smaller block parks and/or squares
- A park-style skateboarding area that meets the Olympic criteria[1] of World Skate (sufficient distance from apartments or another noise control solution must be taken into account in its positioning)
- playground
- a dog park (at least 50 m from housing).

[1] The Olympic criteria are available at Worldskate.org - Skateboarding & Roller Sports - Regulations - Regulation Facility certification rules (version 1.0 – October)

There must be a focus on multibeneficial green infrastructure in the design of public outdoor spaces and streets. The design of green infrastructure must focus on canopy coverage, the diversity of soil and aquatic habitats and the ability to manage stormwater, as well as the ability of the soil to bind carbon. The plan for the western waterfront across Sörnäistenranta, in particular, is for it to be green and ecologically diverse. The design solutions for blocks and public areas must mitigate the effects of wind and the urban heat island effect.

The important landmarks and most significant sightlines of the surrounding areas must be taken into account in the design. Important landmarks include the Cathedral of Helsinki and the Uspenski Cathedral, as well as the newer Kalasatama towers to the north east. The southern tip of Hanasaari also offers a long view over the sea towards Kruunuvuorenselkä. The urban structure of the areas on the waterfronts opposite Hanasaari and the views from them, as well as maintaining the long sightline from Pengerpuisto in Kallio must be focused on in the design.

The cultural and historical characteristics of the area and its surroundings should be taken into account in the design. The Hanasaari power plant should remain a landmark of the area. The Hanasaari area should blend in naturally with the surrounding areas, while forming a distinctive part of the eastern city centre. Particular attention should be paid to the design of the sea-facing facades, as the area can be seen from a distance from multiple directions.

The area must seamlessly blend in with the Sörnäistenranta local detailed plan area. The plans may also take a position on the waterfront promenade on the Sörnäistenranta side (Suvilahdenpromenadi), if this supports the link between the areas and the overall concept.

2.4 Traffic and parking

Particular attention must be paid to the walkability of the area. Safe, direct and pleasant walking connections and an attractive street environment both within the area and with the surrounding land use are the starting point of the design.

A two-way bicycle path (Baana) will be planned on the eastern waterfront of the area, Hanasaarenlaituri quay, as part of the Helsinki Baana network. It will be connected to the intersection of Parrulaituri and Vilhonvuorenkatu in the north and to Hiilisatamansilta in the south. The target width of the Baana path is 4.0 m.

A high-quality bicycle connection will be planned across the area, between Baana and the Sörnäisten rantatie street. Smooth connections from the blocks to the main cycling network will be ensured. On quiet local streets, bicycle traffic is on the road, mixed with other traffic.

There are needs for new pedestrian and cycling bridges in the area:

- The Hiilisatamasilta bridge will connect the southern tip of Hanasaari with the Merihaansilta bridge. The implementation design of the bridge will start in 2026 and construction is planned to start in 2028.
- The Pannukakunsilta bridge will connect Hanasaari and Sörnäistenranta. The design of the exact location and measurements of the bridge is part of the competition task. As a rule, different modes of transport will be separated from each other. The bridge must also be accessible to fire engines.
- There is a need for a connection between Käenkuja and Hanasaari, which will be realised with the implementation of the Sörnäistentunneli tunnel. The design of the exact location and measurements of the bridge is part of the competition task. The measurements should take into account Käenkuja's limited street space width, adjacent buildings, large height differences and accessibility requirements.

Public transport relies mainly on the metro stations, tram lines and bus lines in the vicinity of Hanasaari. The existing oil tanks are located approximately 700 metres away from both the Sörnäinen and Kalasatama metro stations. Bus line 55 currently runs along the Vilhonvuorenkatu street to Sörnäisten rantatie. The plan is for this bus line to run through Hanasaari along the new street network.

A bus terminal with break rooms for drivers, serving HSL's regular services, must be located in the Hanasaari area. The terminal serves the bus lines that run north on Hermannin rantatie road. The preliminary needs are two arrival platforms, six departure platforms and eight waiting spaces. The location of the bus terminal should take into account a smooth route and a short drive time towards Koksikatu. If large-scale events are to be held in the Hanasaari and Suvilahti areas in the future, it must be possible to close Vilhonvuorenkatu to traffic not related to the events along a distance of at least 20 metres. However, the bus terminal should also be in service during events.

Car traffic is connected to the surrounding street network at Sörnäisten rantatie and Vilhonvuorenkatu via Hanasaarenkatu and the new routing of the Parrukatu street. The streets in the area should be designed as suitable for a local network, i.e. emphasising calm traffic and avoiding unnecessary traffic through the area. The minimum width of the pavement is 2.5 m, which is also the minimum width of a route that is maintained in the winter. A width of 3.0 m also allows for the placing of traffic signs on the edge of the pavement. If there is bus traffic on the street, the width of the roadway must be 6.7-7.0 m. The width of the emergency access road is 3.5 m, and this requirement must be met on all roadways. The necessary changes should be proposed for Vilhonvuorenkatu, at least with regard to the Parrukatu junction. Changes may also be proposed for other planned streets.

The principles of market-based parking will be applied with regard to car parking. Central parking enhances the appeal of sustainable modes of transport. For bicycle parking, the parking requirement is 1 parking spot per 30 sqm of GFA. Bicycle parking must be of a high quality and easy to use. For parking in business and office facilities, the calculation guidelines for workplace areas are to be followed[2]. Shared parkinng between residential and office facilities is particularly desirable.

The recommended number of guest and service parking is 1 car parking space per 1,500 sqm of GFA and 1 bicycle parking space per 1,000 sqm of GFA, and it can be located along the streets.

The buildings should be designed for self-rescue. In the street area, it is possible to place extinguishing points (6 m x 13 m) for extinguishing roof fires (1 lifting point/building and roof height). The Rescue Department requires that in addition to Hanasaarenkatu, there is a second access route suitable for heavy equipment to the southern tip of Hanasaari. It is not possible to arrange an alternative route via the Hiilisatamansilta bridge, so another route should be provided via the Pannukakunsilta bridge.

[2] Instructions for calculating the number of parking spaces for cars and bicycles in workplace areas, approved by the City Planning Committee on 28 February 2017



Public transport routes and stops as well as quality cycle paths in the area

2.5 Soil and constructability

Most of the area was once sea, mainly reclaimed in the 1950s. Below the fill, there are soft layers of clay with layers of non-cohesive soil and the rock surface underneath. Due to the compressible layers of clay, the fills on top of them and the need to raise the ground surface, there is a need for ground improvement in the area, and buildings will be founded on piles. The preliminary foundation method for the streets and municipal infrastructure is piled slabs. A closing slab will be built between the buildings and the street piled slabs to avoid minor settlement differences. The ground-based yard areas of the plots will be preliminarily built on piled slabs.

The construction of waterfront structures as well as the ground improvement and construction of public areas and plots must be coordinated. As a rule, waterfront structures will be built first, and the stability of the area must meet the required level before constructing buildings.

The fill material contains mixed soil as well as various harmful substances, waste fractions and old structures. Harmful substances have been observed in the perched water in the northern part of the area in particular. The flow of the perched water and groundwater is from Suvilahti towards the sea. Contaminants that are easily transmitted from the soil and perched water / groundwater cause a risk of transmission to the indoor air of buildings.

The soil conditions set boundary conditions for the foundations of buildings and structures as well as the materials used in them. The soil is very aggressive to piles and other foundation structures (see section 4.4.1), which is why conventional steel or concrete piles should not be used in the area. The pile types used must be protected against corrosion and deterioration in order to meet the service life requirements. For example, drilled steel piles that only protect the reinforced concrete pile cast inside the pile from corrosion may be used. The aggressiveness of the perched water must be taken into account in the elevations of the pile slabs and the concrete grade.

Based on studies and expert assessments, the contaminated soil and groundwater in the area can be remediated for the planned use. The City is responsible for the risk-based design of the remediation to make the area suitable for future use, healthy and safe. The necessary renovation measures and risk management solutions will be implemented in connection with the construction of the area, in accordance with the decision of the environmental authority and the City's instructions. Due to the contamination of the area and the risk-based remediation method, a ventilated, sealed base floor or equivalent structure must be implemented in the buildings, regardless of their intended use.

The area's drainage and protection against seawater flooding will be implemented by raising the ground level and replacing the waterfront structures. The condition of the current waterfront structures is very poor, and sufficient areal stability and preparedness for seawater flooding must be ensured when replacing the waterfront structures. A safe building elevation in the area is approximately +3.5. The power plant buildings and their surroundings do not meet the requirements for a safe building elevation in their current state and, therefore, special attention must be paid to the design of elevations in the area. The City is responsible for the implementation of the public areas and the repair of the waterfront structures. The preliminary required total certainty of areal stability is F>2, and the waterfront structures are designed for a service life of 150 years.

2.6 Municipal and structural engineering

With regard to road traffic noise, the noise situation in the area is good, and noise does not set boundary conditions on the design. Preliminary noise assessments will be specified further as the design process moves forward, and the housing conditions in the affected area will be secured in the design of the adaptive reuse of the power plant building.

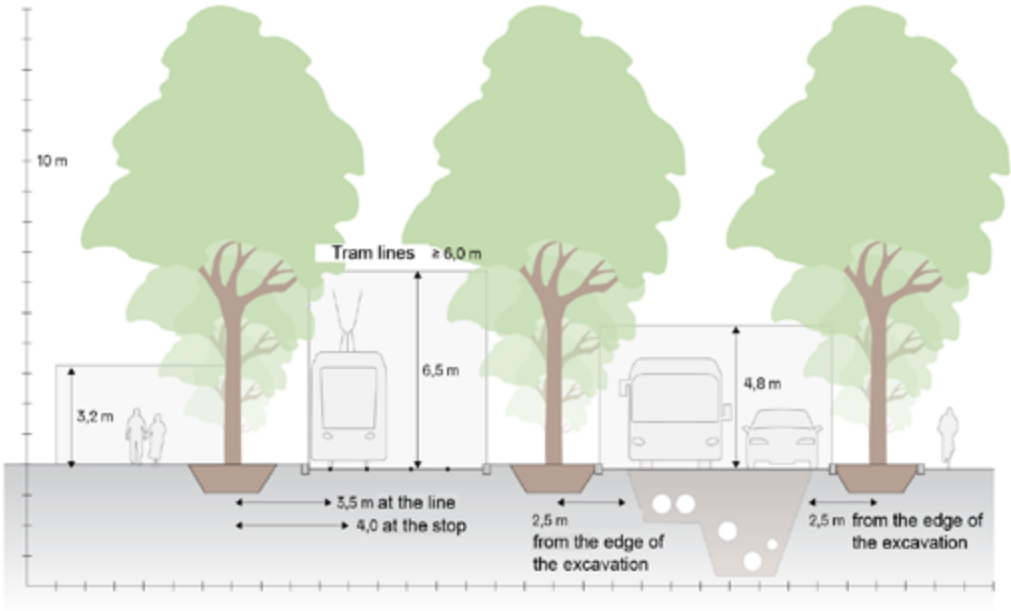
Sufficient water turnover should be ensured in the water area between Hanasaari and Sörnäistenranta. The transfer of perched water containing harmful substances from Suvilahti to the tip of Hanasaari will be prevented, for example, by means of a channel structure across the area.

Snow management shall be incorporated into the design as an integral part of the year-round functionality of the urban environment. The objective is for snow to be managed primarily within the area without significant off-site transportation. Snow shall not be dumped into the sea.

There are utility pipes that must be preserved in the area, which should be taken into account in the design solution. The boundary conditions set by the overhead line should be taken into account in the positioning of buildings and structures. The utility pipes to be preserved are the seawater intake and discharge pipes of Helen's heat pump plant. The minimum distance from a new building to the overhead line is 20 metres, while the recommended distance is 25 metres.

The area will be connected to the vacuum waste collection system in the same way as the other areas of Kalasatama. The underground collection facility is located on the Englantilaisaukio square, north of Leonkatu.

The measurements of the streets in the area should take into account the space requirements of the new underground municipal infrastructure, both in the construction phase and subsequently for the feasibility of excavation. For example, a waste collection pipe takes up space under the street in addition to conventional municipal infrastructure, and the distance between pipeline trenches and street trees must be in line with the City's design instructions to ensure the growth conditions of the tree. The space requirements of municipal infrastructure are described in more detail in Appendix 5. Traffic, the street environment and municipal infrastructure should be planned as a whole, taking into account the street category and its purposes.



Municipal infrastructure is to be placed at least as far from the trees as shown in the figure so that the wellbeing of the trees is not affected and the infrastructure can be subsequently repaired and serviced without affecting the trees. When reserving space for pipelines, attention should also be paid to the space required for the slopes or support of the pipeline trench, including working space, and the method of foundation of the pipelines, such as a pile slabs.

2.7 Finances

The implementation of the area incurs significant costs for the city due to soil improvement and remediation, the implementation of public areas such as waterfronts, streets and parks, any channel, the renovation of waterfront structures, public buildings and the modernisation of power plant buildings through the joint venture that may be established.

The city will receive income from the sale of the area's building rights and the sale or leasing of land.

The aim of the design and implementation of the area is to cooperate with the developerto shape design solution that has a positive impact on the city's finances. The city will actively monitor and steer its investments and income during the design process.

2.8 Sustainability and climate

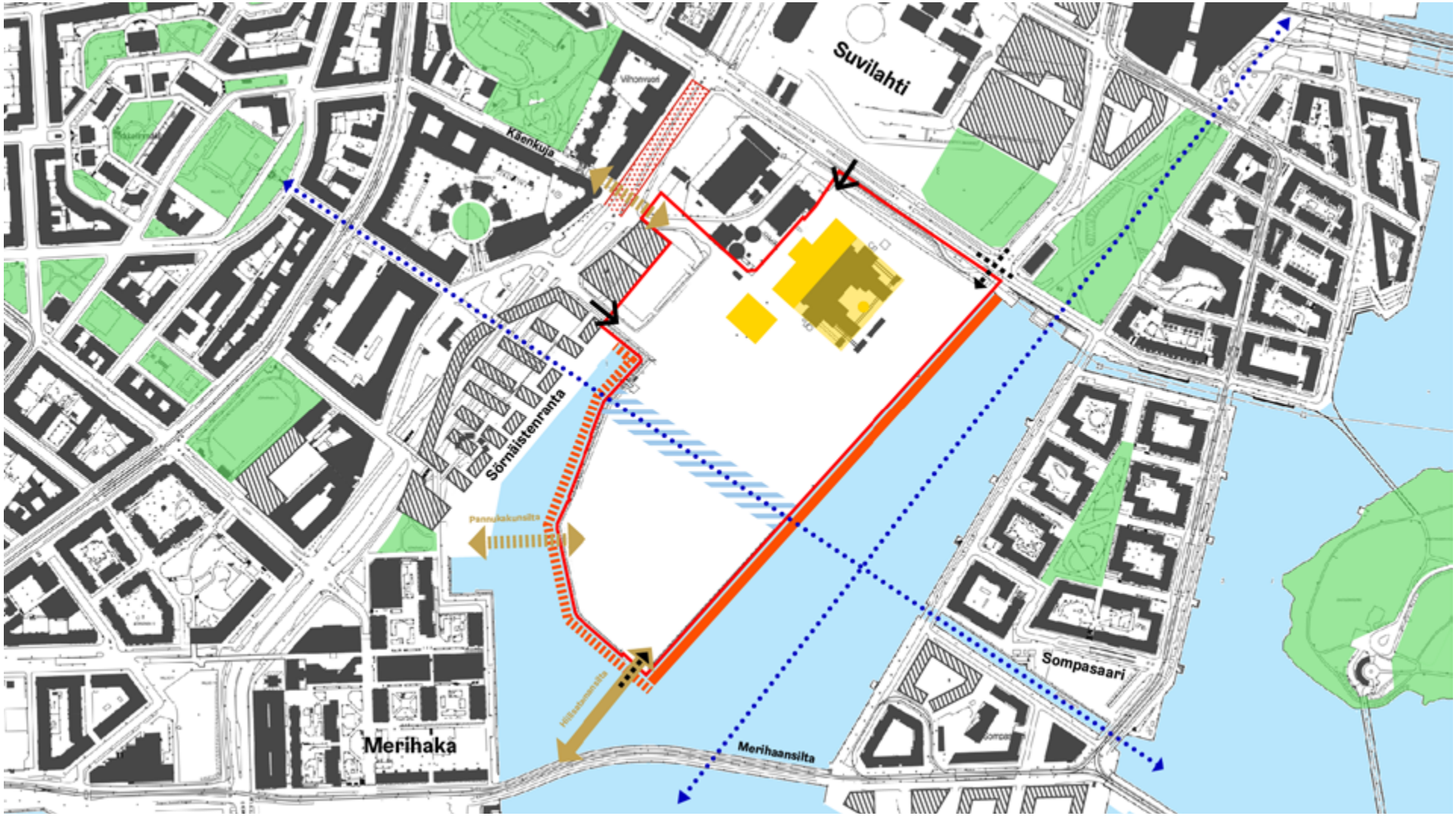
In accordance with the Helsinki City Strategy 2025-2029:

- Helsinki's goal is to reduce emissions by 85 per cent by 2030 from 1990 levels and achieve net zero emissions by 2040.
- Helsinki will increase green structures in the urban structure and ensure that new areas also have parks of different sizes.
- Promoting the circular economy of construction is part of the city's economic policy priorities.
- Helsinki is preparing for extreme weather phenomena caused by climate change proactively and in a manner that minimizes risks.
- Helsinki will increase greenery and green areas in the urban structure and public urban spaces, for example, to mitigate the heat island effect.

These objectives should be taken into account in the design from the start and they should act as a decisive factor in the design.

The different aspects of sustainability form an interconnected whole, within which solutions are reviewed simultaneously at the area and block levels:

- Low carbon (life cycle, circular economy, resource wisdom)
- Adaptable urban nature (microclimate, green factors, diversity)
- Energy and resilience (renewable energy, system flexibility and climate change preparedness)
- Ecological and economic sustainability (long-term value and profitability)



- Preliminary definition of the Competition Area
- Planned building
- Existing green area
- Mainly preserved shoreline
- Shoreline that can be modified
- Preserved sightline
- Approximate location of the possible channel
- Preserved part of a building
- Part of a building where new construction is possible after demolition
- Planned traffic tunnel (Sörnäistentunneli opening)
- Planned bridge for pedestrian and bicycle traffic
- Need for connection (bridge for pedestrian and bicycle traffic)
- Car traffic connection points
- Connecting points for Baana bicycle traffic

3. History of the area

3.1 Sörnäinen Port and Hanasaari area

Historically, the location of Helsinki was excellent for a port city by the Baltic Sea. The shores of the historic city, located in the current city centre, have all served as ports in the past. Following industrialisation, the port was moved outside the city to Sörnäinen in 1863. The port was served by a railway that was routed to the Kruunuvuorenselkä peninsula. The surrounding Kana, Hana, Sompa and Nihti islands provided the wharfs with protection from the sea.

The numerous small islands in the bay initially housed summer villas and many types of leisure activities, later also manufacturing. The earliest elements of the landscape can still be traced in the local archipelago and shoreline of nearby Vanhankaupunginlahti bay.

The port of Sörnäinen developed strongly with the export industry. The port's operations and location were determined by a railway route through a narrow streambed, ending with quays extending to the sea. The port of Sörnäinen became the country's most important export port, giving its name to the larger working-class district that emerged next to it.



An aerial photograph of the Sörnäinen Port in the 1920s. Helsinki City Museum/Somersalo



Construction of the Sörnäinen Port in the Kanasaari and Hanasaari areas in 1950.
Helsinki City Museum/Somersalo.



An aerial photograph of Sörnäinen Port in 1993.
Helsinki City Museum/Suomen ilmakuva Oy.

The growth in port traffic led to the construction of a modern port in Sörnäinen from the 1950s onwards. A new railway connection to the port was opened from the north, and the new modern quays were accordingly oriented south. The old railway connection was converted to car traffic, and the new Itäväylä highway crossed the port.

With the new port, the landscape changed dramatically and gained the characteristics it still retains to this day. Sompasaari and Hanasaari remained within the quay areas expanded to the south. The area is dominated by two new wharves. The names of the port area still contain references to the natural landscape: Nihti, Sompasaari and Hanasaari.

The first municipal electricity and gas production plants had been built in the port in the early 1900s. The energy production areas were expanded to the new port area when the A power plant was built on top of the former Hanasaari island. Subsequently, the rocks of Kanasaari served as the foundation for the chimney of the Hanasaari B power plant. The locations of the former islands can be discerned in the built environment, from the quays otherwise built on fills.

The port of Sompasaari served as a container port. The Hanasaari port area developed as an environment for energy production. The plants were surrounded by large coal fields, which were used to store the fuel for all of the power plants. Sörnäinen Port was closed down in 2008, after which the area has developed into a residential area.

3.2 Power plants in Sörnäinen Port

The Suvilahti power and gas plant area next to the current Hanasaari was built in connection with the port between 1909 and 1911. The Late-Art Nouveau architecture of the power plant is one of the pioneering works in concrete construction in Finland. Architect Selim A. Lindqvist's high-quality architecture reflects the plastic shapes of concrete structures.

The Hanasaari A electricity and district heating plant was built between 1957 and 1960. The power plant was designed by architect Vera Rosendal. The facades of the concrete-framed building were made of brick and light asbestos cement panel. The plant was decommissioned in 2000 and demolished in 2008.

Rug washing pier in Sörnäinen, with Hanasaari A power plant in the background in 1960. Helsinki City Museum/von Bonin.





The Hanasaari B power plant was completed and commissioned in two phases between 1970 and 1977. The power plant was designed by architect Timo Penttilä. The power plant served the growing city's electricity and district heat production needs, and it included an office tower and a separate social building.

At that time, the growing city had integrated the industrial and port areas of Sörnäinen into the urban structure. The aim was to find a high-quality solution for the industrial building cityscape-wise.

The plant supplied district heat to the eastern inner city, and being located adjacent to the urban structure helped serve this purpose. The location of the power plant by the water was technically important in order to obtain the necessary condensate water.

Hanasaari B from the air in October 1977.
The Finnish Heritage Agency/Hannu Lindroos

3.3 Architect Timo Penttilä

Timo Penttilä (1931-2011) is one of the most prominent modernist architects in Finland. Penttilä studied architecture in Helsinki and, after graduation, worked at architect Aarne Ervi's office in 1957-59. Penttilä's independent work with Kari Virta began after the successes achieved in architectural competitions in the late 1950s. Winning the Helsinki City Theatre Architecture Competition, held in 1960, led to the construction of the theatre in 1967. The theatre is considered to be Penttilä's main work alongside the Hanasaari power plant.

In addition, key works from the early years of Penttilä's career included the Sampola Community College and Civic School (1962) and the Ratina Stadium in Tampere (1966). Later Finnish landmarks by Penttilä include the Hanasaari and Salmisaari power plants in the 1970s and 1980s. Penttilä planned the infill development of Tapiola and designed a number of high-quality residential and commercial buildings in the Helsinki metropolitan area. Penttilä also designed residential projects in Vienna in the 1980s.

Penttilä created his own independent architectural approach amidst the Finnish contemporary architectural movements. Penttilä moved to California, where he served as a visiting professor at the University of Berkeley from 1968 to 1969. Penttilä was appointed as Professor at the Meisterschule (Master School) of the Vienna Academy of Fine Arts in 1980, and he served in this position until 1998. Penttilä was an active cultural debater throughout his career, but teaching further strengthened his in-depth understanding of the theory of architecture from a philosophical perspective.

In addition to Helsinki and Vienna, Penttilä's personal life focused on the small reindeer farm Supru in Inari and a winery in Tuscany.

There is no contemporary critical architecture research or architecture exhibitions on architect Timo Penttilä's work, which has generally been considered to be a shortcoming. Penttilä's designs were always based on the individual starting points and requirements of the respective construction task as well as taking the urban environment into account. Penttilä emphasised the pragmatic purpose of architecture, but felt that pure rationalism was restrictive. His architectural practices also included intuition, imagination and an understanding of tradition.

Penttilä's architecture is appealing and evocative, offering points of connection with the users' world. Penttilä had an open-minded and compassionate relationship with the phenomena of human life that affect architecture.



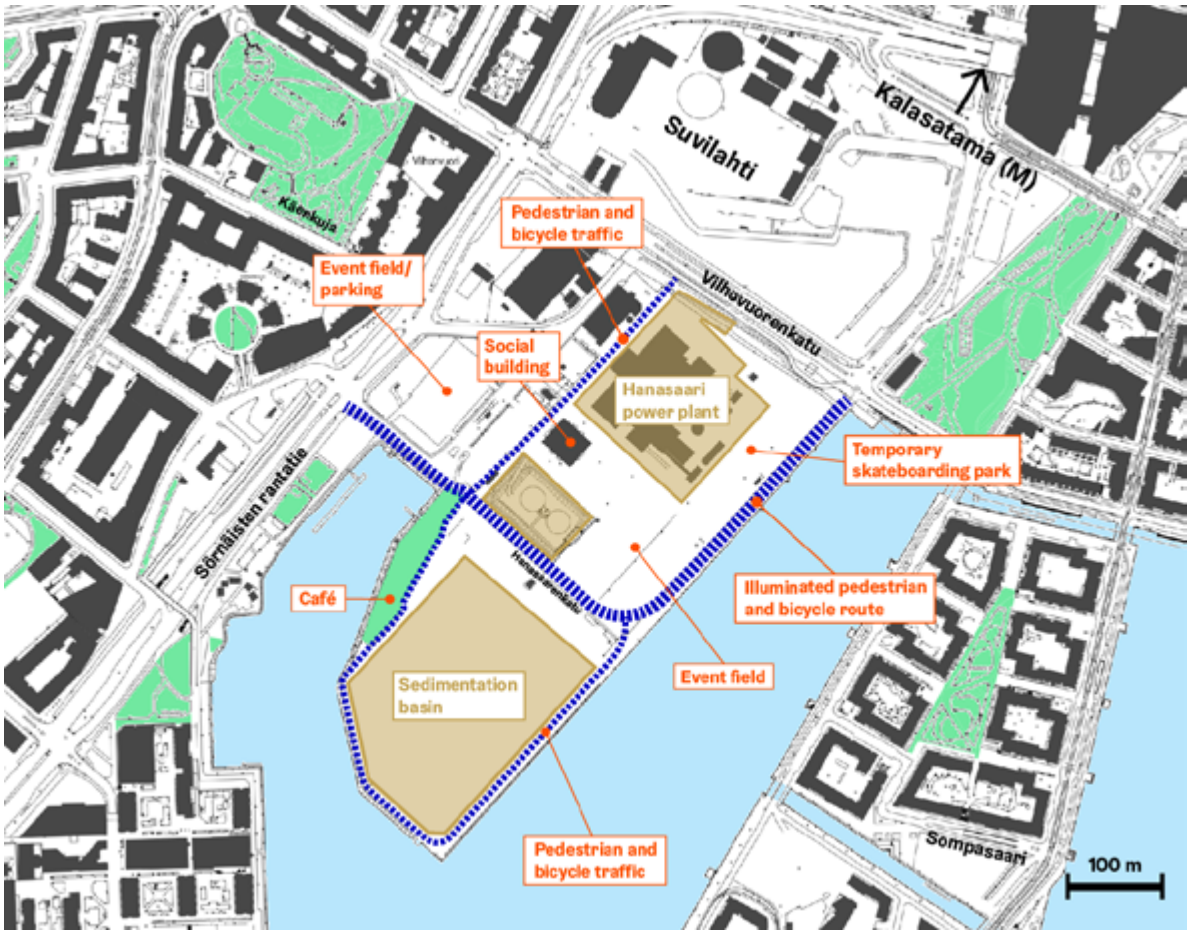
Photo: Akademie der bildende Künste in Wien. Franz Hubmann, 1989.

4. Background information

4.1 Meanwhile use of Hanasaari

The Hanasaari area is no longer used for energy production. The Hanasaari A power plant was demolished in 2008, and the port operations in the neighbouring areas were transferred to Vuosaari the same year. The Hanasaari B power plant remained in operation until 2023. After this, the local energy company Helen Ltd carried out demolition work in the area until 2025, demolishing secondary buildings and most of the power plant's process equipment. The buildings and process equipment to be preserved were defined in cooperation between the City of Helsinki, the City Museum and Helen Ltd. The possession of the area [PH1.1]and ownership of the buildings was transferred from Helen Ltd to the City of Helsinki on 1 January 2026.

In spring 2026, the City implemented measures to facilitate the meanwhile use of the area, built new pedestrian and cycling routes and improved the lighting. The area now includes an event field, a summer cafe, a beach volleyball court and a sedimentation pond, among other things. A temporary skate park will be built in front of the power plant in 2027. The area was opened to residents on Helsinki Day on 12 June 2026. The meanwhile use will continue until the soil improvement of the area starts, which is estimated to take place in the early 2030s.



After the demolition work, the buildings have been secured and minor repairs have been made to enable their meanwhile use. The Hanasaari B power plant is not open to the public for the time being, as not all of the process facilities are safe after the demolition work. The power plant is fenced off because pieces of brick tile are coming loose from the facades. Guided tours of the power plant have been organised since the opening day, and they are very popular.

The social building has been opened for short-term rental use. The change of use of the building is currently underway, aiming to significantly increase the current occupant load of 60. The meanwhile use of the power plant, especially with regard to the office tower, is being investigated. Particular challenges in the process facilities include hazardous ground gas and vapours, the need to modernise technical building systems and other investments required by adaptive reuse.



Photo: Tuomas Uusheimo

The meanwhile use of Hanasaari is a process whose concept and management model will develop over time in cooperation with the city's residents. The City will negotiate the potential meanwhile uses of the area and buildings together with Kaapelitalo Oy and Helsinki City Premises Ltd. On the opening day, 12 June 2026, the City launched a Voice Your Opinion survey, in which the residents can express their opinion on the meanwhile use of the area and its future vision. In accordance with the Helsinki City Strategy, the city residents will be involved in the design and implementation process of the meanwhile use, and this model is being planned as part of the wider development of the area.

There are two Helen Ltd oil tanks south of the power plant, one of which is still in use as a fuel storage facility. For safety reasons, the oil tanks are fenced off. The oil tanks will be demolished before construction begins in the area. In addition, there is an API oil-water separator building on the eastern side of the power plant, containing Helen Ltd's emergency exit route to Mustikkamaa, which must be taken into account in the design.

Helen Ltd will continue to use the Energy Quarter on the western side of Hanasaari for energy production. Between 2026 and 2027, Helen Ltd will build Europe's largest electric boiler plant in the Energy Block, including two district heat storage and discharge batteries. The batteries are 40 metres high.

4.2 Surrounding areas

The entire Sörnäinen district (incl. Kalasatama, Sompasaari, Vilhonvuori) housed approximately 17,000 residents and workplaces for approximately 15,000 people in 2026.

The **former Suvilahti electricity and gas plant area** is located north of Hanasaari, and it is listed as a nationally significant built cultural environment (The Finnish Heritage Agency, RKY 2009). The area came into use for cultural activities in 2008, and it will continue to be used for this purpose. Today, the Suvilahti Cultural Centre operates in Suvilahti, and the area is known for major summer events (Tuska, Flow), among other things. A new street connection, the Kaasutehtaankatu street, will be built on the eastern side of the area. On the other side of the street, there will be the Suvilahti Event Hub, an event field and a block of office premises, hotels, restaurants and commercial premises.

The services and traffic in the Hanasaari area rely on the **Kalasatama centre**, which is approximately 400 metres from the northern edge of the Hanasaari area. The Kalasatama metro station serves as a public transport hub, with two tram lines and several commuter buses stopping in addition to the metro. The Redi shopping centre, one of the largest shopping centres in Helsinki, is located next to the metro station. There is a group of high-rise buildings on top of the shopping centre, five having already been built and three still under construction. There are a few office plots around the Kalasatama centre that have not yet been built.

The **residential area of Sörnäistenniemi**, built between 2010 and 2020, is located south of the Kalasatama centre. The area has an estimated 3,000 residents and houses the Kalasatama Comprehensive School of 650 pupils.

There are two larger district parks with playgrounds near Hanasaari: Kalasatama Park and Katri Vala Park. However, there are few smaller urban green spaces compared to the neighbouring districts Kallio, Vallilla and Hermanni.

The new **Sörnäistenranta area** will be built to the west of Hanasaari. Four residential blocks, two blocks of business premises and a parking facility have been planned for the area. The new housing floor area is approximately 65,000 sqm of GFA and the commercial floor area is 31,000 sqm of GFA. The waterfront area along Sörnäisten rantatie will change and the dog parks will be removed with the construction of Sörnäistenranta. The dog parks will be relocated in Hanasaari. The new Suvilahdenpromenadi promenade will be built on the waterfront, serving as a quiet zone for walking and recreation. The detailed plan for the area took legal effect on 17 April 2024. Following the construction of the area, Sörnäisten rantatie will be aligned with the buildings on the west side of the street.

East of Hanasaari, on the other side of the Sompasaarenallas basin, is the **Sompasaari residential area**, the northern parts of which have been built starting in 2015. The southernmost part, Nihti, is still under construction and will mainly be completed by 2032. Following its completion, Sompasaari will have an estimated population of 6,000.

In the south, Hanasaari will be increasingly connected to Merihaka and Hakaniemi by the new Hiilisatamansilta bridge going forward. New residential blocks will be built in **Hakaniemenranta** in accordance with the new local detailed plan that entered into force in 2021. The new housing floor area is 58,000 sqm of GFA and the commercial and business floor area is 6,000 sqm of GFA.

4.3 Traffic

The implementation design of the Hiilisatamansilta pedestrian and cycling bridge, which will connect Hanasaari and Merihaansilta, is scheduled to start in 2026, and the bridge is scheduled to be completed by the end of the 2020s. The bridge is part of the Baana cycling network and provides a smooth and direct connection from Hanasaari and Kalasatama to the city centre.

West of the area is Sörnäisten rantatie, which is part of the city's main street network. Currently, its daily car traffic volume is approximately 50,000 vehicles. The speed limit is currently 50 km/h, but it will be reduced to 40 km/h in connection with the realignment of Sörnäisten rantatie. The change in the Sörnäisten rantatie alignment is a prerequisite for the implementation of the Sörnäistenranta local detailed plan, and it must also be completed before the Sörnäistentunneli tunnel is opened to traffic.

The 1.6 km-long car traffic tunnel Sörnäistentunneli has been planned between Hermannin rantatie and Sörnäisten rantatie. It connects the main streets more clearly and frees up space in the junction area between Junatie and Sörnäisten rantatie. The southern opening of the tunnel will be located between Vilhonvuorenkatu and Hanasaarenkatu. The investment programme allocates funding for the tunnel in the 2030s. The tunnel will remove the pedestrian crossing over Sörnäisten rantatie at Käenkuja. To partially replace this, a bridge has been planned from the upper level of Käenkuja to Hanasaari.

Vilhonvuorenkatu is a regional collector street with a daily traffic volume of approximately 6,000 vehicles once the Kalasatama area is completed. It has a speed limit of 40 km/h. There are one-way bicycle lanes on the street. There used to be a reservation for tram traffic on Vilhonvuorenkatu, which has since been removed, meaning that there will be no tram traffic on the street. In the current situation, the space reserved for the tramway is allocated to car traffic; in future, the space will be used for green infrastructure on the street, for example.

Starting from 2028, some of the bus routes to Vantaa will terminate in Suvilahti, and the new Kaasutehtaankatu street will also serve as a turning point for buses. The drop-off and pick-up stops will be located on Hermannin rantatie next to the metro station. Some of the events organised in Suvilahti occupy the entire area, preventing access to the turning point. In addition, two major events are currently held annually in the Suvilahti and Hanasaari areas, during which Vilhonvuorenkatu is closed to all traffic between Koksikatu and Sörnäisten rantatie for five days. The location of the bus terminal in Hanasaari will improve public transport in Hanasaari and, depending on its location, will also make it possible to close Vilhonvuorenkatu to car traffic.

4.4 Soil, structures, levelling and municipal infrastructure

4.4.1 Soil conditions and foundation construction

Most of the Hanasaari area is former seabed that has been filled over a long time. The quality of the filling varies from fine-grained and non-cohesive soil to boulders. Underneath the filling soil there are soft layers of clay. Some filling layers have been dredged from the tip of Hanasaari, but surveys indicate that several metres of clay have also remained in the dredged area. According to surveys, the clay layers contain sulphates (potential acid sulphate soil). Underneath the clay layers are water-conducting non-cohesive soil layers and bedrock surface. The bedrock surface is at its highest at the former islands and at its lowest in the southern part of the tip of Hanasaari, below level -20.

In waterfront areas, the stability of the area may be low in the current state.

In the area above the clay, the perched water table follows the fluctuations of the seawater level with a delay and is slightly above the average water level in normal situations.

The City of Helsinki's soil investigations database can be viewed in the City of Helsinki's map service kartta.hel.fi. The soil investigation data can be downloaded for geotechnical design from the Soili service at soili.hel.fi.

Aggressiveness of soil and groundwater

In addition to harmful substances, acidification of the soil has been observed in some places in the area. In these areas, the pH of the soil and upper groundwater (=perched water) is very low (pH 2...4). The acidity is probably due to sulphur in the soil from gas plant waste. Sulphur reacts with oxygen in the air to form sulphuric acid. In the current situation, the sulphuric acid has no impact on human health, but it can have significant ecological impacts on aquatic ecosystems, for example, as it dissolves natural metals in the soil, and they can leach into the sea. Sulphuric acid can also have a major impact on the condition and load-bearing capacity of the reinforced concrete piles used for the foundations of existing buildings. Ammonium concentrations have been observed in the groundwater in the area, which increases the degradation of concrete.

4.4.2 Soil contamination

The former Hanasaari power plant area is former seabed that was mainly filled with mixed fill materials in the 1950s. It is possible that there were various types of waste among the infill materials, as there was no environmental protection legislation at the time.

Environmental contamination

In general, the soil, the pore air contained in the soil and the perched water and groundwater are contaminated in the Hanasaari area. Several harmful substances have been found in the area, including cyanide, oils, PAH and BTEX compounds, chlorinated hydrocarbons and heavy metals. The concentrations of individual contaminants have been found to be high in places. The total amount of harmful substances is high. The environmental contamination is mainly due to previous industrial operations in the vicinity (e.g. the gas plant and benzene plant that used to be located next to Hanasaari), filling of sea, operations outside the area (e.g. a dry cleaner) and the former petrol station. Groundwater flowing to the area mainly from the north carries contaminants with it.

The area's former coal-fired power plant, which was decommissioned in 2023, has not caused significant environmental contamination, but some coal remains in the soil. There is also some coal and other waste fractions in the soil elsewhere in the area due to old operations. In addition, concrete from the demolished A power plant has been used locally in the area.

4.4.3 Municipal infrastructure

The area has a network of municipal infrastructure, most of which can be decommissioned or demolished due to the adaptive reuse of the area.

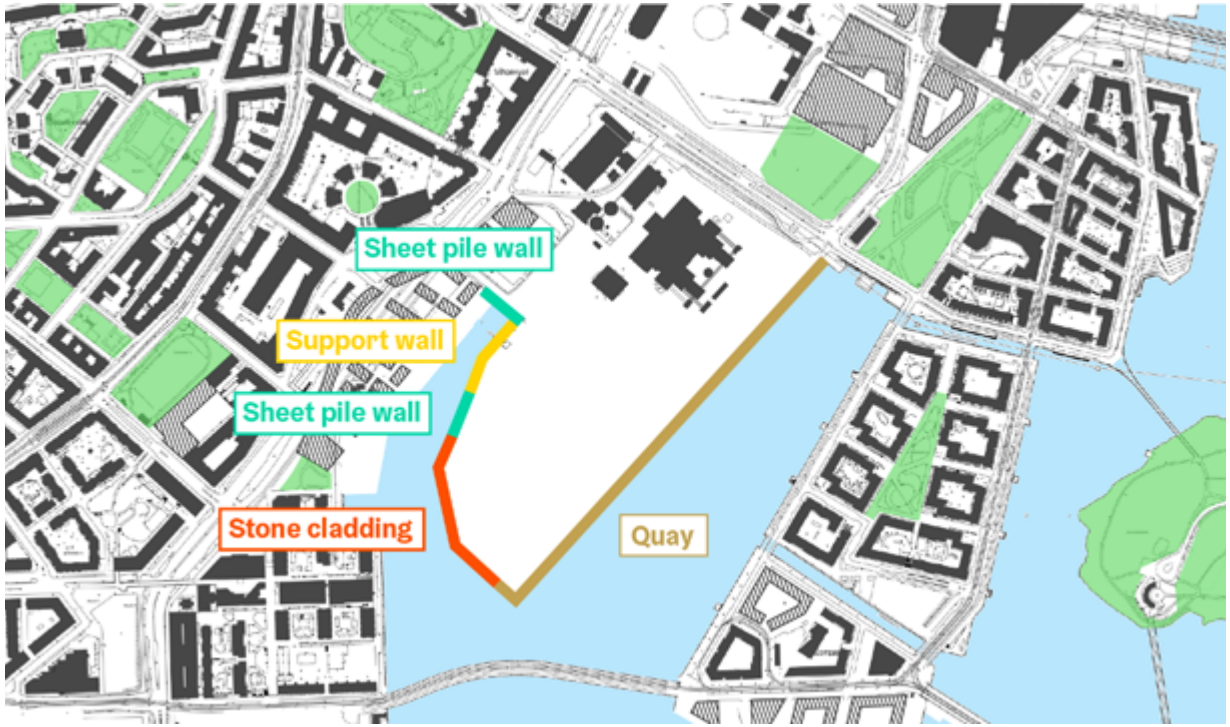
The area will retain, among other things, Helen Electricity Network's Hanasaari-Herttoniemi 110 kV overhead line, located north of the power plant, the condensate intake and discharge pipes of Helen's Katri Vala heat pump plant and district heat transmission pipes near the current power plant building. The overhead line will not be altered until it is possibly tunnelled later. The condensate pipes may be relocated, but this is technically challenging due to their large diameter of 2,000 mm. District heat transmission lines can be relocated, as long as the transmission connections they form are maintained.

The 110 kV overhead line restricts construction, as the minimum distance from a new building to the overhead line is 20 metres and the recommended distance is 25 metres.

4.4.4 Structures and built elements

The shoreline of the sloped waterfront in the southern part of Hanasaari is stone-clad, while the western part of the waterfront consists of a sheet pile wall and concrete retaining wall. On the Sompasaari side of the waterfront, there is an old, approximately 640-metre-long quay. It was built in several phases 60 to 80 years ago and is comprised of several different types of structures. From the south, there are approximately 134 m of reinforced concrete pile quays dating from 1964, followed by 116 m of timber caisson quay dating from 1960, of which approximately one-half is ground-bearing and the other half on a timber raft foundation. Old structural plans for these are available.

The oldest section, approximately 180 m, was probably built in the years 1940-1950. No original structural drawings were found, only some general drawings. According to these, the quay has a concrete deck with the rear edge supported by a timber caisson and the front edge supported by contractor-cast "pillars" in the timber caisson, founded on a timber raft.



Taking into account the time of construction of the old port quays, the limitations of the construction technology and materials used at the time, the lack of complete structural drawings and the varying foundation solutions of the structures, it can be concluded that the old structures have reached the end of their technical service lives.

The old quay structures cannot be reliably used as the foundations for Hanasaari's new waterfront structures, and it is not possible to set a service life requirement of 50 years for them.

There may also be other unknown underground structures in the area because the area has been used for industrial manufacturing and energy production for a long time.

4.5 Green environment

The area is fully built-up and there is no remaining original environment in a natural state. Correspondingly, the shoreline has been built with walls and rock-fill embankments, and the seabed has been dredged.

Green areas are mainly grass areas or meadows self-sown into grass areas with trees planted in rows. The existing row of fully grown willow trees was planted on the edge of the Hanasaari A power plant plot in the past. According to the aerial photographs, the more free-form wooded areas have been supplemented through self-sowing. The condition of the trees has not been assessed. If trees are designated for conservation in the design solution, it should be noted that the elevation of the ground cannot be modified near the roots of the trees. The roots of the trees can be assumed to be as wide as the crowns of the trees.

5. Starting points of land use

5.1 National land use guidelines

In particular, the following national objectives are emphasised in the design of the Hanasaari area (Government decision of 14 December 2017):

- Site major new residential, workplace and service function areas so that they are easily accessible by public transport, walking or cycling.
- Promote a nationwide regional structure that is polycentric, networked and based on good connections, and support the vibrancy of the various regions and the utilisation of their strengths. Create capacities for the development of economic and enterprise activities and sufficient and diverse housing production required by demographic development.
- Create capacities for low-carbon and resource-efficient community development based primarily on the existing structure. Strengthen the cohesion of the community structure in large urban regions.
- Promote good accessibility of services, workplaces and recreational areas for the various population groups. Promote walking, cycling and public transport as well as the development of communication, mobility and transport services.
- Prepare for extreme weather events and floods and the impacts of climate change. Locate new construction outside flood risk areas or otherwise ensure flood risk management.

5.2 Regional plan for Uusimaa

The regional plan is not valid in the area of the legally effective general city plan.

5.3 City plans

The design of land use in the Hanasaari area is, for the time being, controlled by the Sörnäistenranta local master plan, which came into effect on 14 March 2008. In the local master plan, the power plant area is designated as an Energy Supply Area and the surrounding areas in the Competition Area as a Services and Administration Area and as an Apartment Building-Dominated Residential Area. Some of the water areas on the Sompasaarenallas side of Hanasaari have been designated as Port Area and Water Traffic Area. The areas covered by the local master plan are already largely covered by the plan, and with regard to Hanasaari, it no longer meets the city's objectives for land use in the area as the power plant has been decommissioned. The process aimed at repealing the local master plan was initiated in 2026.

Following the repeal of the local master plan, the aim is for the City Plan 2016 to come into effect in the area. In the city plan, the entire area is designated as City Centre (C2). This designation refers to the city centre that is developed as a functionally mixed area of housing, retail and public services, business facilities, administration, parks, recreation and sports services, as well as urban culture. The ground floors and street-facing premises of buildings must primarily be designated as commercial or other business facilities. If the intended use of a building or part thereof is changed, it is necessary to ensure that the multi-purpose and mixed structure characteristic of the city centre is retained and that there are sufficient commercial and business facilities. An area-specific review should be carried out in connection with adaptive reuse. The area is being developed on the terms of sustainable modes of transport, especially walking and cycling.



Photo: Paavo Jantunen

In addition, according to the City Plan 2016, all centres will be densified and developed as urban infrastructure. When designing centres, special attention should be paid to the scale of pedestrian traffic and the functionality of pedestrian, cycling, parking, maintenance and public transport arrangements. Parking should primarily be located in parking facilities and on the side of the street. Detailed designs must designate sufficient areas for appropriate public transport interchanges and Park & Ride facilities. Large retail units should be integrated into housing, services or other similar functions, and the ground floors of the buildings should open onto the streets. Large units should rely on the trunk route network of public transport. The dimensioning of large units in the retail trade should be based on local demand. The number of parking spaces will be limited.

5.4 Detailed plans

A large part of the area does not have a valid local detailed plan.

Detailed plan No. 3635, approved on 3 February 1956, is valid on the northern side of the power plant, and the area is designated as a Factory Block.

Detailed plan No. 8460, approved on 9 July 1982, is valid on the eastern waterfront. The area is designated as a Port Area, in which buildings necessary for the port's operations may be constructed in addition to the necessary quays and loading facilities, tracks, access routes and parking places.

A small section of detailed plan No. 10960, which came into effect on 3 August 2007, is valid on the western edge of the area, with the area designated as a street area.

Detailed plan No. 12576, which came into effect on 22 January 2020, is valid at the southern tip of the area, and it makes it possible to construct the Hiilisatamansilta bridge.

The competition area includes part of the Sörnäistenranta detailed plan, which came into effect on 17 April 2024, with the area designated as a park. The aim is to design the Suvilahdenpuisto park designated in the Sörnäistenranta local detailed plan as a whole.

5.5 Helsinki City Strategy 2025-2029

The City Council of Helsinki approved the Helsinki City Strategy 2025-2029 (“A Helsinki we can be proud of”) on 27 August 2025

According to the Helsinki City Strategy:

- Development of the old Hanasaari power plant and its surroundings provides an opportunity to create an architecturally ambitious, internationally appealing and multifaceted community that honours the area’s rich history while also meeting the needs of the future. We will arrange an international idea and implementation competition to develop Hanasaari. Before the area is developed, we will enable its temporary use and include residents in the design of this temporary function.
- Development of the Hanasaari area is also linked to the development of three nearby spaces: the Suvilahti Event Hub, the Tukkutori Wholesale Market and the Helsinki Prison, which is scheduled for decommissioning. The goal is for the areas to someday combine to form an appealing urban hub.
- We want every resident of Helsinki to be proud of their local neighbourhood. A good neighbourhood provides a smoothly functioning everyday life, accessible services and a pleasant living environment. Every neighbourhood should be appealing, lively and green. Well-functioning neighbourhoods encourage an active lifestyle and a strong sense of community.
- Helsinki’s proximity to the Baltic Sea makes it a distinctive and unique capital city, as seawater surrounds the Helsinki peninsula on three sides. The nearby sea is an intrinsic part of the lives of Helsinki residents. We will ensure that Helsinki continues to be an attractive and smoothly functioning maritime city.
- Helsinki takes its obligation to combat climate change and biodiversity loss seriously. We have committed to the implementation of ambitious climate goals. We are raising our emissions reduction targets by striving to achieve an 85 per cent reduction in greenhouse gas emissions from 1990 levels by the year 2030. Helsinki has also pledged to achieve its target of net-zero carbon emissions by the year 2040 at the latest.
- Helsinki is preparing for extreme weather phenomena caused by climate change proactively and in a manner that minimizes risks. We are reducing heat islands in the city’s indoor and outdoor spaces with appropriate city design and construction. We are ensuring that Helsinki is adequately prepared for stormwater, seawater and waterway flooding. We are adding more green infrastructure.

5.6 Helsinki's prospective green and recreational network

In the prospective green and recreational network (VISTRA 2021), Hanasaari is included in the area of land use reviews of the city plan, according to which special attention should be paid to securing the green and recreational network in connection with more detailed land use design. In practice, this means that land use choices have a decisive impact on the types of green and recreational areas that can be implemented in the area, and high targets have been set for these areas in the competition.

The following VISTRA goals are related to the design area:

- green finger (significant continuous recreational environment whole and core area and/or connection to the ecological network)
- supplementary waterfront trail (the area's shoreline and Hiilisatamansilta bridge)
- supplementary connection on the street (Pannukakunsilta)
- action proposal (new district park in Hanasaari, the proposed location does not need to be followed, but it must be connected to the waterfront trail)



Photo: Paavo Jantunen

Preparation

Working group

Detailed planning:

Otso Huhtala, Chief Architect
Sinikka Lahti, Team Manager
Janne Prokkola, Unit Manager
Elina Suonranta, Team Manager

Traffic design:

Riikka Österlund, Traffic Engineer

Urban space and landscape design:

Eeva-Maija Ekman, Landscape Architect
Paula Hurme, Landscape Architect

Land management and design/technical and economic design:

Mikko Juvonen, team leader
Kati Immonen, Specialist
Jarkko Nyman, Project Manager

Development of real property and plots:

Päivi Hietanen, Project Director, Hanasaari Power Plant Adaptive Reuse
Krista Holm, Project Coordinator
Satu Järvinen, Unit Manager, Soil Contamination
Mia Kajan, Specialist
Mirva Koskinen, team leader, Foundation Engineering
Anu Kumara, real estate councel

Buildings and public property, facilities:

Kirsi Torikka, senior indoor air quality expert

City Executive Office, Urban Development:

Tuomas Hakala, Project Manager

Culture and Leisure Division, City Museum: :

Mikko Lindqvist, Architect

Other cooperation:

Climate Unit
Innovation services

Appendix 1: Values and characteristics of the Hanasaari B power plant

Note! The conservation and protection objectives presented in the appendices are not binding in the competition and are not binding design guidelines.

Environment

The Hanasaari power plant is part of the historically valuable industrial environment of the eastern waterfront area of Helsinki, and it has undergone major structural changes since the 1990s (RKY 2009: Osuusliikkeiden ja teollisuuden Sörnäinen, Suvilahden voimalaitosalue). However, energy production will continue to be linked to the environment of the Hanasaari power plant in new forms.

The Hanasaari power plant was linked with the surrounding manufacturing and port area's cityscape and structure. In future, the views towards the power plant that are important in the cityscape will include the diagonal view from the south-west and the frontal waterfront view from the east. The outline of the power plant adjoins the reflecting pool of the port.

The immediate vicinity of the power plant included an extensive coal field from which diagonal conveyors transferred fuel to the power plant's boilers. The ground surface surrounding the power plant is an important design factor in the transformation. In Penttilä's architecture, the fixed relationship between the environment and architecture is a key factor.

In future, the solutions and materials of the Hanasaari power plant's base surface will be linked to the plant's history and operations.



View of the coal field in front of the Hanasaari B power plant in 1977.
Helsinki City Museum/Heikki Salmela.



Helsinki City Museum/Heikki Salmela, 1977.

Building masses

The layout and massing of the Hanasaari power plant is rich and vibrant. The building masses as a whole are designed on the basis of the intended use and clearly reflect the energy production process. The design is based on a grouping that surrounds the chimney and opens towards the sea, while forming an enclosing building line towards the city. The chimney of the power plant extends freely against the sky in the silhouette of the Hanasaari power plant. The massing was designed on the basis of a 5.4 m modular grid in all three dimensions. The 150-metre-high slipform concrete chimney of the power plant is a key element of the composition and silhouette of the power plant, and it is the highest (retained) structure in the city.

The massing of the building and the cityscape silhouette are key elements of the whole, which may be supplemented with discretion.

Facade materials

The facade elements of the power plant are cladded with brick tiles, a building material characteristic of industrial architecture. From a distance, the bricks form a uniform warm, reddish-brown surface on the building. From close up, the prefabricated facade surface creates a pixel-like, vibrant range of shades, with the patina adding its own character. Some prefabricated brick elements have been repaired, but the completely renewed surface structures have lost their vibrancy and connection to the whole.

The copper-brown coated sheet metal facades of the power plant are related to boilers and ash and slag treatment. These building masses are at the heart of the composition, surrounded by brick-surfaced masses. The coloured metal panels of the facade were originally mentioned as products of the American Robertson building system.

The open facades of the office tower and the turbine hall are the facades with brick elements that are to be preserved. The properties of the original material can be preserved by investigating the protection or recycling of the facade material on site. Prefabricated brick elements can be replaced by reproducing the look of the original brick material. The sheet metal facades can be retained or their surfaces replaced in the original manner. The solid materiality of the building masses is to be preserved in the transformation.



Photo: Tuomas Uusheimo

Details

The facade details are part of the power plant's modular design principle. The horizontal 5,400 mm prefabricated element division is articulated in the facade by profiled vertical lines, the shading of which gives rhythm and air to the massing. The sharpness of the corners of the building is emphasised by their staggered "Miesian" profiling. The building masses are interconnected with recessed glass-structured articular elements. The eave mouldings are linear and light.



Building history survey, Okulus, 2015. Helen's archive, 1972.

The geometry of the prefabricated facade brick elements is derived from the 3M module dimensioning introduced during the construction period. The 5400×1800 mm elements are divided into 3M modules with 18×6 multiples. The MRT bricks (285×85×35 mm) of the shell elements form 17×17 brick layer grids with a stack bond. The dimensions of the prefabricated facade element correspond to the dimensions of the MRT brick on a scale of 18/1. The brick tiles for the prefabricated concrete elements of the Hanasaari power plant were supplied by the Kiikka brick factory in Äetsä, which only operated for a short time until 1986.

The power plant's windows open up the facade as long, element-length ribbon windows and vertical bands that give rhythm to the structure. For environmental reasons, few windows were planned for the power plant's production facilities, which emphasises the solid image of the massing in the cityscape.

The massing, facade treatment and positioning of windows and doors is based on the principle of symmetry. The power plant is a mirror-symmetrical entity with two identical production lines. The reciprocal proportions of the building masses are repeated in different parts of the power plant. In Penttilä's words: symmetry is the equilibrium of all components, which creates the harmony of the whole.

The details of the vertical lines and corners that give rhythm to the facades are important features, as are the principles of the articulations between the building masses. Opening new windows and light openings in the building masses is possible with careful discretion. New positions of windows and doors and any protrusions must be carefully considered, respecting the original design principles.

Interiors

The plant's large hall is reminiscent of the plant's operations as a district heat and electricity production facility. In terms of space, the most impressive hall facilities are the Turbine Hall, Boiler Halls, Feedwater Hall and Auxiliary Boiler Halls. Fragments of machinery important for district heat production have been preserved in the facilities. The colour concept typical of the building period has also been retained in the facilities: blue for maintenance and stair structures, orange and green for steel structures, blue for ventilation equipment and yellow for floor coverings. Support structures, maintenance platforms and equipment related to the operation of the power plant have also been extensively preserved.

The plant's valuable halls are to be preserved. The interiors of boiler halls may be modified and divided while maintaining the proportions of the space. Elements to be preserved in the coal mill towers are the coal silos and their funnel structures in both towers or, at the minimum, one tower. The light effect created by the windows of the halls (Turbine Hall, Feedwater Hall) should be taken into account, and new positions of windows and doors that change the characteristics are not recommended.

Upper image: The power plant's boiler halls are 50 metres high, and the original large boilers were suspended from the structures above. This allowed the thermal expansion of the boilers. The boiler structures have been demolished and the space reserved for them is now open.

Right: Over 15 metres high and 100 metres long, the Turbine Hall housed the electrical turbines of both production lines. One of them has been preserved in the facility.



Photos: Paavo Jantunen



Social building

The social building will probably be protected in the local detailed plan. The protection concerns the cityscape, facades and public interiors on the second floor.

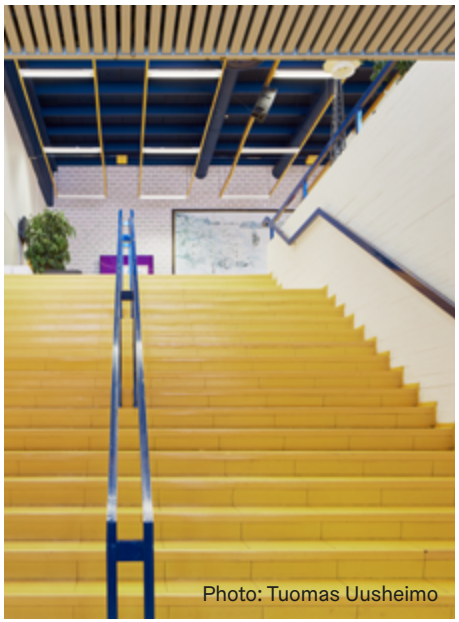


Photo: Tuomas Uusheimo



Photo: Tuomas Uusheimo

Transformation - starting points from the point of view of building history

The transformation will enable high-quality and internationally interesting architectural dialogue between the original and modernisation phases of the Hanasaari B power plant. The project parties commit to the starting points and objectives of the transformation, and assessments are also to be carried out on the basis of the plant's historical building values.

Following the transformation, Hanasaari B will continue to be recognised as representative of Timo Penttilä's architecture, in dialogue with the new transformation phase. The identity of Penttilä's architecture and the key characteristics of the power plant should be taken into account in the transformation, while the building is given a new intended use. The use of the power plant will be public and its essence will be clarified in a new way. The development of the transformation is controlled, but it can also take place in phases. Residential construction may conflict with the goal of preservation. Meanwhile uses are part of the transformation process.



Photo: Paavo Jantunen

Appendix 2: Interpretations of the architecture of the Hanasaari B power plant designed by Timo Penttilä

The architecture of the Hanasaari B power plant is innovative and independent. The power plant differs from the typology and conventional models of the building type, and it is an example of modern power plant architecture.

In his book Oikeat ja väärät arkkitehdit (Gaudeamus, 2013), Timo Penttilä presented the idea of the ostensive formation of architectural tradition. This meant understanding concepts and structures through illustrative examples and demonstrations, rather than verbally explaining them.

The group of building masses at Hanasaari B is a living process - not just a neutral shield for operations. The power plant produces positive outputs for society in the form of values, energy, the environment and architecture. The building relates to the modern era, which is characterised by the societality, rationality, structure, modularity and poetry of architecture. (pointing to "Le Corbusier")





Photos: Helsinki City Museum/Mikko Lindqvist, Le Corbusier Plan Obus (1933)

The building creates a recognisable unique place in which the site is rooted. The spirit of the site is related to the building masses and materials, the light, the views and the way the environment is perceived - including the reflecting pool. The multidimensional operations and the technical and economic aspects of everyday life are integrated into the architecture in a systematic and balanced way. (pointing to "Andrea Palladio")



Photos: Helsinki City Museum/Mikko Lindqvist,
Palladio Villa Godi (1542)



The building materials give architecture its form and scale. The materials are durable, vibrant and adaptable over time. The materials and structures create experiences beyond human scale and memory - resonant monuments. Time and age can be traced in the patina of the buildings. (pointing to “Vitruvius”)

Helsinki, 31 August 2026
Helsinki City Museum, Cultural Environment Team

Photos: Helsinki City Museum/Mikko Lindqvist,
Piranesi Augustuksen Forum (1757, The MET)





Appendix 3: Architect Timo Penttilä (1931-2011) and Hanasaari B Power Plant

Timo Penttilä's architecture forms an independent line in the recent history of Finnish modern architecture. Penttilä's production is diverse, pragmatically oriented towards construction tasks, individual and adheres to the long trajectory of construction culture. According to Penttilä's mindset, there is little that is permanent and unchanged in the history of construction: the constant change in modern society is managed by means of architecture. In Penttilä's work, this manifested itself as the architect's societal activity and internalisation of the construction tradition, as a creative cultural will. Penttilä's teaching and work with architecture theory are organically related to his design work. However, there is little critical research on Penttilä's career and works these days, which is generally regarded as a shortcoming.

When the Hanasaari B power plant was completed, it was a flagship building in Helsinki. It was the largest building in the city and also the most valuable in terms of construction costs - in today's money, the cost of the project was EUR 273 million. When completed in 1977, the Hanasaari B power plant produced one-half of the city's electricity and one-third of its district heat, with an exceptionally high efficiency, internationally speaking, of 92%. The Hanasaari B power plant was a significant project for society when it was completed, and the closure of the plant after 50 years of operation in 2023 has conveyed these factors to this day as historical values in manufacturing and construction.

Consideration of environmental values was a key objective in the design of the power plant. The architecture of the power plant, as is usually the case with Penttilä's work, was not based solely on the narrowly understood basis of rationalism, but instead focused on taking the environment and its perceptions into account. The views of socially responsible architecture - right and wrong architecture - that prevailed in the context of architectural debate were the subject of intense discussion in Finland in the 1970s. Penttilä's expressive modern architecture was then met with strong ideological resistance, especially after his first main work, Helsinki City Theatre, was completed.

Penttilä's architecture focuses on the human experience and the environment. Modern buildings are rooted in their environments, both built and natural. For Penttilä, architecture meant an independent building culture, emerging in an organic relationship with environmental factors, structural and functional requirements. In Penttilä's worldview, architectural ideas that are important in architectural art were linked to an extensive historical whole, defined by the architectural works of the past together. This special relationship with the history of architecture can serve as an inspiring starting point for assessing the cultural significance of Penttilä's design work.

A list of Penttilä's works includes 21 implemented design projects. Penttilä's works, such as the Helsinki City Theatre, are included in the scope of building preservation. Many of Penttilä's works have also been demolished or have later lost their context. The Hanasaari B power plant has been identified as one of Penttilä's main works, together with the Salmisaari power plant. The preservation of the Hanasaari B power plant has been seen as an important goal, through means of high-quality transformation that engages in a close dialogue with Penttilä's architecture.



Photos: Building history survey, Okulus 2015. Helsinki City Museum

Appendix 4: Principles of dimensioning and location for the school and daycare centre

The plan should include a plot reserved for a school and a daycare centre. The size of the plot and buildings depends roughly on the proposed amount of housing, in accordance with the following principles:

Table 1 estimates the number of school and daycare plots (=Y plots) and the number of school pupils and daycare age children. Tables 2 and 3 provide indicative values for the floor area of the school and daycare centre buildings and the sizes of their yards.

Table 1: Estimated need for Y-plots
The table below specifies the estimated need for Y-plots, if the GFA reserved for housing or population forecast is known.

GFA	Increase in number of residents	Daycare age children	School age children	Number of daycare centres	Number of schools	Y-plot reservation
40 000	1 000	60	130	1	0	1
80 000	2 000	120	260	1	0	1
100 000	2 500	150	326	1	0	1
120 000	3 000	180	390	1–2	0	1–2
150 000	3 750	225	488	2	0–1	2–3
175 000	4 375	263	569	2–3	1	3–4
200 000	5 000	300	650	2–3	1	3–4

Yard and plot size

Table 2: Yard size estimate (schools)

Yard area per pupil:

- Recess yard 3.5-7 m²/pupil
- Planted yard 3.5-7 m²/pupil
- Maintenance + parking: 15% * gross area + 200 m²

Drop-off/pick-up traffic, accessibility, noise and particulate matters, and soil must be taken into account.

Number of pupils	School building GFA	Construction area (2.5 floors)	Recess yard (m²)	Planted yard (m²)	Maintenance + parking (m²)	Total plot size
500	5 000	2 000	1 750–3 500	1 750–3 500	950	6 450–9 950
600	6 000	2 400	2 100–4 200	2 100–4 200	1 100	7 700–11 900
700	7 000	2 800	2 450–4 900	2 450–4 900	1 250	8 950–13 850

Table 3: Yard size estimate (daycare centres)

Yard area per child:

15 m² per child (according to the Finnish RT instruction card). If necessary, nearby parks, etc. can be used. Drop-off/pick-up traffic, accessibility, noise and particulate matters, and soil must be taken into account.

Number of children	Daycare building GFA	Construction area (1-2 floors)	Yard size (m²)	Total plot size
100	1 000	500 – 1 000	1 500	2 000 – 2 500
140	1 400	700 – 1 400	2 100	2 800 – 3 500
180	1 800	900 – 1 800	2 700	3 600 – 4 500
220	2 200	1 100 – 2 200	3 300	4 400 – 5 500
260	2 600	1 300 – 2 600	3 900	5 200 – 6 500

Location of the plot

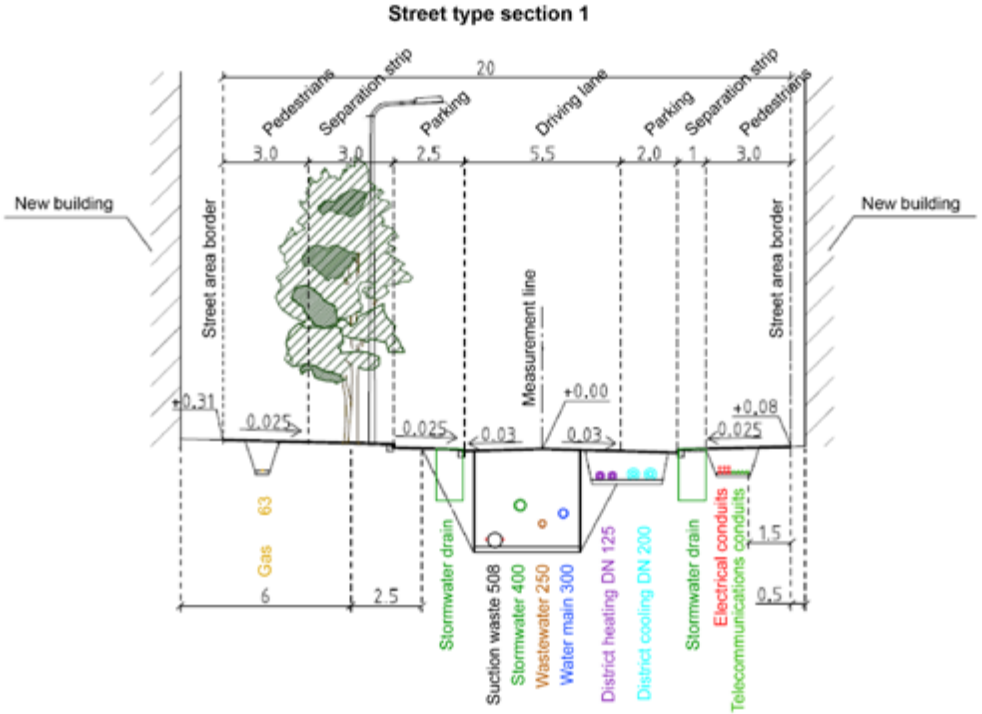
The location of the Y plot(s) should support the rest of the service network. The further south of Hanasaari the services are located, the smaller the group of residents who can use them as a local service, especially early childhood education services.

The plot should allow the service to be expanded on the plot - the need for the service in Hanasaari alone will be limited.

The plot(s) must be accessible in a diverse and safe manner:

- Personnel's perspective: accessibility by public transport (especially relying on the metro)
- Safe school journey
- Accessibility on foot and by bike
- Drop-off/pick-up areas and pupil taxis

Appendix 5: Space required for municipal infrastructure in street areas, typical cross-sections



HANASAAREN SUUNNITTELUKILPAILUAINEISTO
Kadun vaihtoehtoiset tyyppipoikkileikkaukset

AFRY

MK	1:200	
LAAT.	21.8.2026	A.Latva

Additional information and notes for type sections 1, 2 and 3

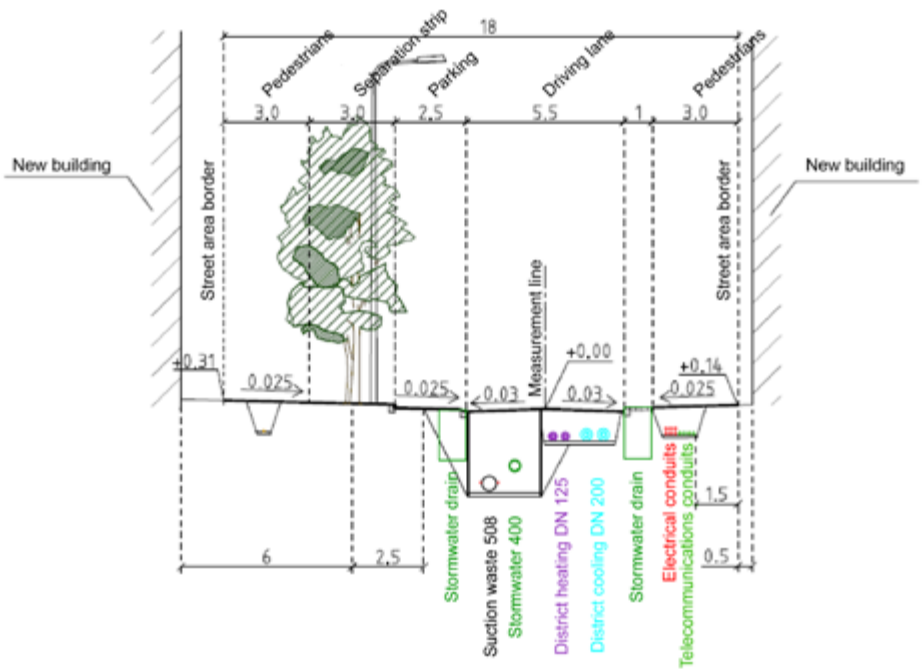
- The sections are based on the spatial needs of municipal engineering, not the needs of traffic engineering.
- The traffic engineering dimensions of the sections are not accurate. Competition groups are expected to provide creative solutions that meet the spatial requirements of municipal engineering.

Minimum area required by municipal engineering in the section

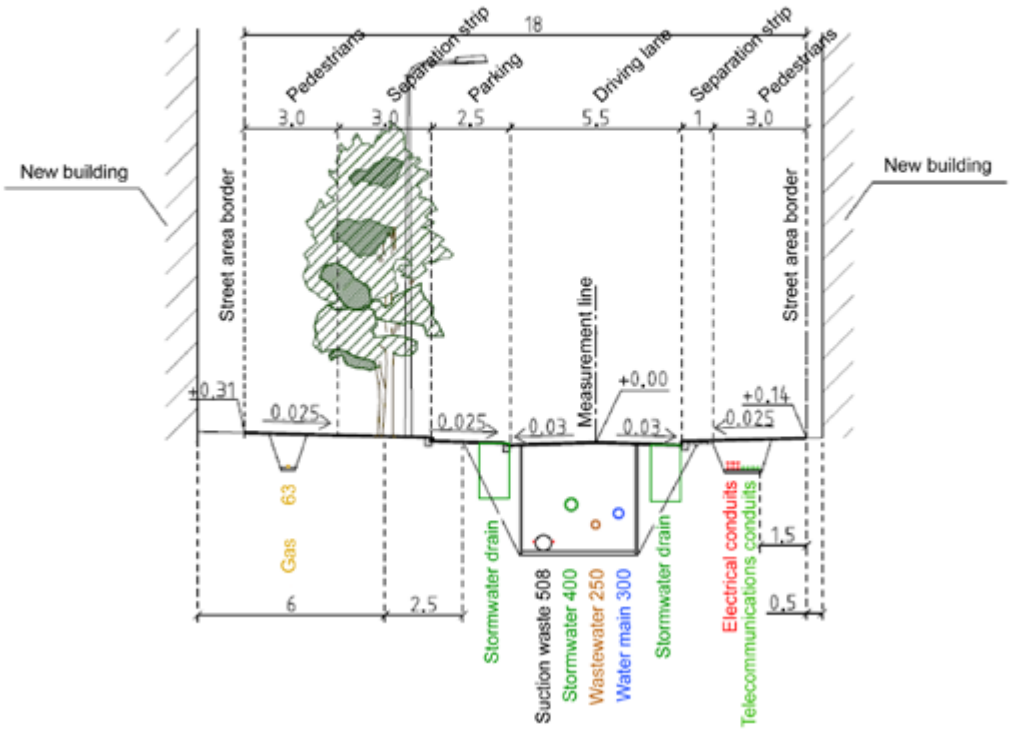
The dimensions only take into account the municipal engineering under the street and one drain for stormwater. The width of the section is the space required by the street area (from one border of the street area to the other border of the street area).

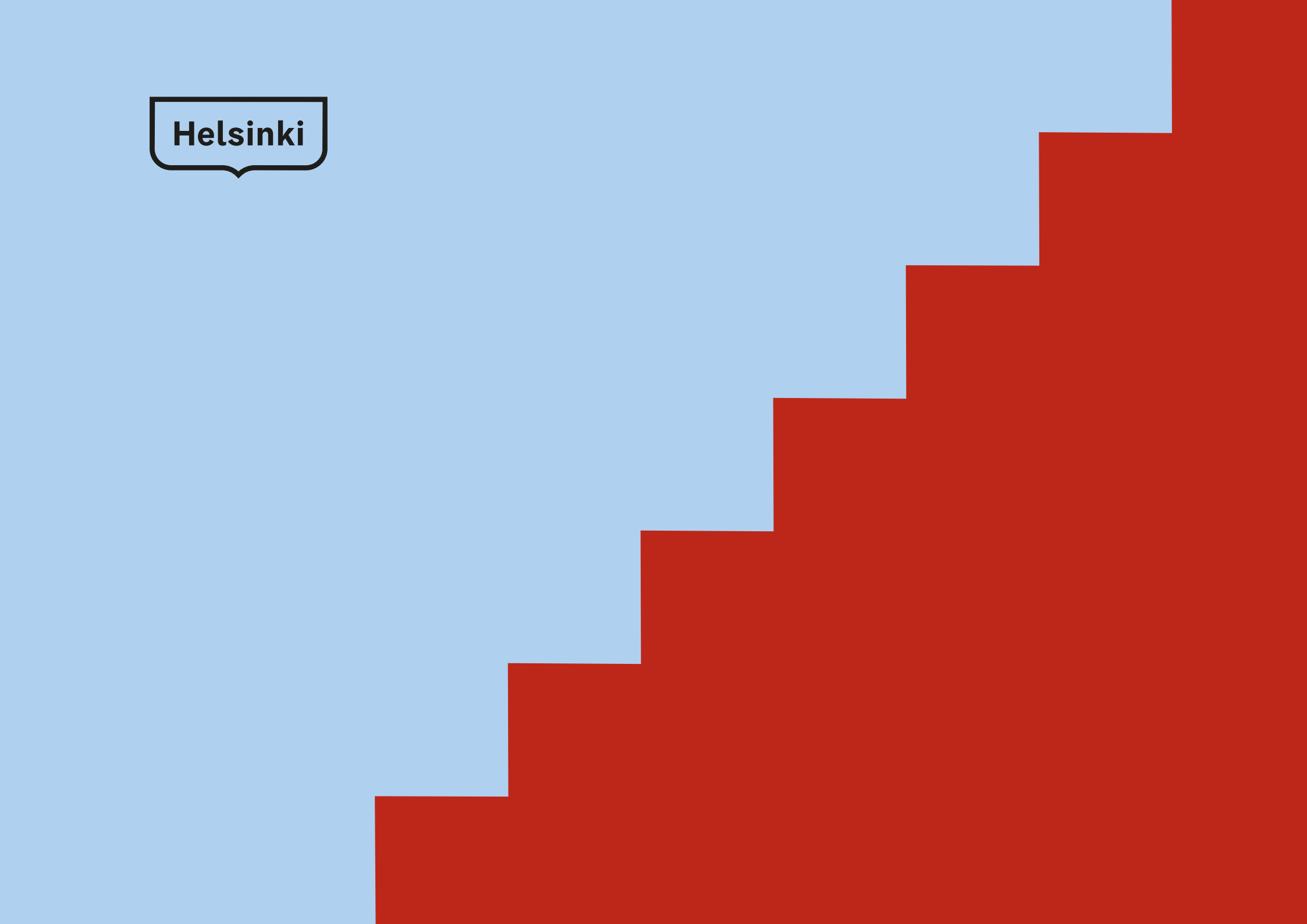
Section 1: 14 m
Section 2: 12.5 m
Section 3: 12 m

Street type section 2



Street type section 3




Helsinki