

Hernesaari Local Master Plan

Design Brief for Consultants



Introduction

The shipyards have controlled the area of Hernesaari for many decades. Aker Yards, the current tenant, has organised the shipyard in such a way that it is now concentrated into a relatively defined small area on the southern edge of Hietalahti bay. The City of Helsinki and Aker Yards have renewed the rental agreement for Hernesaari (equivalent to the area for the design brief) in such a way that the shipyard will close during the years 2010 and 2012, and remove any buildings as stipulated in the rental agreement. Until that period, the planned area has a series of short-term agreements or licences, as indeed the shipyard main operations have already ceased.

The planned area for this design brief refers to the south-western point of the western harbour area near to downtown. The area is surrounded by water on 3 sides and is connected to the mainland through Matalasalmenkuja lane and Laivakatu street. Part of the area also forms a section of the Munkkisaari local master plan that will commence during 2006. In addition, the area for the Hernesaari local master plan consists mainly of the remains of the old shipyard and the wedge of Telakkakatu street.

The Hernesaari local plan area in question is zoned for industrial, commercial and harbour uses in the 2002 Master Plan (strategic development plan). The south-east shoreline and the narrow south-western extension are designated for a city park. The southern tip is zoned for public utilities and associated services. (see attached 2002 City Master Plan map)

In the forthcoming Hernesaari local plan it is intended for the main body of the peninsula to be reserved for apartment blocks, workspace, and services associated with tourism. Additionally, land will also be reserved for a helicopter pad, a yacht marina (or marinas), and a harbour to accommodate cruise liners.

The local plan area includes on the western shore, two office buildings, which, in the first instance, should be retained. The second of these is the Ford building and requires to be protected in terms of its architectural and historical character, and shall be marked on the plan accordingly. The Matalasalmenkuja lane in the south passage, along with the silos, shall be safeguarded, with the intention of re-assessing their possibilities for new uses.

The south-western area of Munkkisaari has formed a harbour dock for cruise ships. In summer, the City of Helsinki requires to offer additional berthing facilities for luxury cruise liners visiting the city. The number of cruise ships is rising each year. The intention is to provide deep water harbour facilities for the largest of these ships on a new location on the southernmost corner by making new land fillings (see map).

Consultant Work

The City of Helsinki intends to choose not more than three consultants for the making of the Hernesaari local master plan.

A necessary number of meetings between the consultants and the representatives of the City of Helsinki will be held during the work.

Local Plan area

The plan area for Hernesaari is bounded by Matalasalmenkuja lane and Laivakatu street in the northern perimeter. The total area consists of 32 hectares. The local plan border is marked on the attached map.

The Hernesaari local plan will be connected to the existing city centre street pattern on to Hylkeenpyytäjäkatu street as well as to the forthcoming Eiraranta development (see map).

Ground and soil conditions

The land is mainly made-up ground and has been used for industrial purposes. The land-fill materials include crushed rock and rubble, and other assorted waste, including building material waste. The central sections comprise of the original Hernesaari island of natural rock together with the near-by island of Hernesaarikari. Ground water follows the natural water-line of the sea.

According to the 1989 technical survey map there is an additional level of between 1 and 3 metres of sand placed on top of the land-infill, particularly on the original rock formations, and in other parts of the infill clay was used as the topping to a depth of 3 metres. This survey map also established that the land surface is +0...0.9 metres and the rock surface is 3.4 - 21.5 metres deep. Historically, the land-fill began in the 1930's and the last known additions were made during the 1990's to the eastern edge and the south-eastern parts of the peninsula. Land-fill materials are known to have included primarily surplus building materials, as for example, quarry material.

The central core of the local plan area was analysed in 2004 and revealed that there was polluted soil. In the analysis, it covered the infill layer to a depth of between 1 and 7 metres. The resulting report stated that the ground conditions are in places heavily polluted by hydrocarbons (for example, coal) and heavy metals. The research showed that though most of the top layers of the infill material consisted of sand and stone, including part brick, wood and/or metal substances. Underneath the infill surfaces lies bedrock.

The area's proposed uses will require further work to be undertaken by the City Planning department's technical service team, in particular, further technical surveys to establish the full extent of the polluted sections and how widespread the problem appears to be. By doing so, it will be possible to ascertain the amount of polluted area to be removed and the level of new infill required. The foundations of any new large buildings will need to take account of these specific conditions.

Foundations

For both the Hernesaari and Hernesaarikari areas exists the possibility to build directly upon the rock formation or to build from the ground up. In most cases where land infill predominates, only low and lightweight buildings shall be allowed. Heavier buildings will require support by pile foundations. Embankments can be founded on made-up ground. In so far as building vertically on the shoreline, this will require the existing building line to be moved back, thus making it easier for the foundations to be laid. Public utilities service networks will be allowed on made-up ground.

Climate

Helsinki is situated at the entrance to the Gulf of Finland. Hernesaari sits adjacent to Helsinki's downtown peninsula at its remotest corner on its southwest border, and thus means that the climate will have a major impact on the development. Hernesaari is open to the elements, and is particularly windy, both from the southwest and easterly directions. Over long periods, winds tend to blow regularly from the south and southwest.

In winter, the most typical winds blow in from the north and the east, and more moderate winds from the south and west. The heaviest winds come from the southwest. Spring sees moderate to strong winds gathering from the east and southwest. Exceptionally strong winds are seldom (over 14 m/s) whilst winds blowing in from the north and southwest directions are more common.

In summer, winds tend to be blowing from the southeast and southwest, and are generally fair to moderate. Strong winds may blow in from the southwest on occasions. Autumn can generally be described as having moderate winds from the south and west. Strong, blustery winds will tend to come up from the south and north, and in particular from the southwest.

Building levels have to take account of being well above normal sea level in order to be aware of climatic change. The street network should be at least a minimum of +2.6 metres above normal sea levels for apartment blocks and a minimum of +3.5 metres for floor levels indoors. Flood waters above normal sea levels in Helsinki are quite rare and need not be taken into account.

Hernesaari's east shoreline is unprotected from the waves. Nevertheless, the wide open waters of the general shoreline tend to dampen any impact from the waves, so

in practice, there is little shorebreak, and this is seen as one of Helsinki's strengths as a maritime city. During the final months of the year when the occasional storms hit these shores, it is rare for waves in general to be greater than 1 metre in height although sometimes individual waves may rise to two metres.

The worst storms from time to time may give rise to waves of about two metres in height, with a maximum of 3 metres. Due to the fact that the water depth is over 10 metres, waves breaking onto the shoreline are not a problem, ie there is very little shorebreak. However, during severe storms, waves reflect from the steep shoreline and their height may lengthen as a direct result. If the height of the shore bank is greater than +2.5, about once in every 20 years will there be a storm of such ferocity as to break over the bank and onto the surrounding lands. At the shoreline, water cascading onto the waterfront may be as high as 10 metres, and the storms may carry the heavy seas several tens of metres inland, but they generally do not threaten the surrounding residential quarters.

Environmental Disturbance

The existing helicopter pad gives rise to noise levels up to 133 dB. For the planning of the area, all surrounding residential buildings should accommodate noise levels and be able to absorb up to a maximum level of 80 dB adjacent to the external walls during take-off and landing. These noise levels can be carried out to a distance of 150 - 200 metres. The standard noise levels heard within nearby buildings should attain a maximum level of penetration to a standard of 45 dB, taking into account normal building standards. The metered decibel levels are not official statistics, but the level of 45 dB should be considered the norm. Outdoors, the average sound levels registered are to be at most 55 dB during the day. These recorded measurements mean in practice that the residential blocks are to be situated as far as possible from the helicopter pad area (at least 500 metres) and taking into account that the residential blocks are also to comply with noise standards for all building materials. Outdoor average noise levels will be re-assessed at a later stage of the planning process.

The western passenger harbour next door in Jätkäsaari is used on a regular basis for daily scheduled departures and cruises. The embarkation areas are located on Jätkäsaari and are planned for Hernesaari as well (see above). During the summer period departures and cruises increase significantly. Noise levels generally tend to be around 100 dB and at the most 110 dB. These noise levels must be taken into account when planning the residential quarters. Additionally, there may be an amount of exhaust fumes from the funnels to be aware of.

Car traffic will also cause noise problems in the northern part of the planned area.

The shipyard area causes some form of noise pollution in the northern part. Solvent smells may also be a problem during paint-spraying times.

Public Utilities and Technical Services

The area's main sewer is located in Matalasalmenkuja lane and the eastern part of Laivakatu street. In the middle of the peninsula, in between the industrial plots, situated on the southwest-northwest axis are the feeder sewers, water pipes and district central heating pipes.

Special Needs

Sea climate special needs will need to be assessed and follow-up research required to be undertaken. Additionally, it will be required to undertake normal building foundation analysis, bedrock pollution levels, and air quality analysis.

Key Planning Tasks

The key aims of Hernesaari's new local plan are to achieve a pleasant, high quality maritime residential environment. The area seeks its own identity and wishes to create a new, original design for living. They may include, for example, town houses, apartment blocks, and single family and semi-detached solutions, so long as they form one distinct whole rather than separate entities. Balconies, terraces and external areas associated with the dwellings are welcome additions for the residential quarters, provided they are an integral part of the development. Additionally, the use of water activities, squares, parks, gardens, well-designed street furniture will all add to the area's diversity.

The area needs to create a natural integrated quality in its surroundings and in the density of the development. The local environment also requires to reflect Helsinki's residential character in terms of architectural quality of materials and high standards of design. Height of buildings may vary and indeed it is encouraged to adopt a challenging profile. Residential density shall be similar in style to that of the city centre.

Commercial office space shall be restricted to the northwest area in Laivakatu street and the listed buildings. The existing silos shall also be retained and appropriate uses evaluated.

It is expected that Hernesaari will house a reasonably sized nursery for the under 7's that should also be capable of accommodating a new primary school extension for infants (the first two years). Any additional public service needs can be accommodated in the neighbouring adjacent housing areas. Wider regional service provision may be taken into account given the significance of Hernesaari's downtown context. Sufficient local shopping facilities will also be required, and to this extent, local corner shops within the residential precincts need to be juxtaposed with alternative options, of, say, a single, major supermarket.

The possibility of creating a link bridge between Jätkäsaari and Hernesaari requires to be taken account of in the overall planning of the area. The bridge should either be able to be raised or act as a swing bridge, whichever is the most appropriate. As to what type of traffic will necessarily use the bridge is still to be determined. The bridge maybe used with 3 options in mind:

- i. local traffic only including public transport, or
- ii. restricted to pedestrians and cyclists, or
- iii. pedestrians and cyclists and public transport as well.

The planning of the bridge should take account of all three alternatives. Additionally, a further alternative would be not to include a bridge at all.

Currently, there are two possible locations for the bridge. The first and probably the most obvious, would be to situate the bridge at the Matalasalmenkuja lane junction in line with Jätkäsaari, the bridge built at an angle onto the fulcrum point where Jät-

käsaari's shoreline bends to the north. The second alternative would be to link up the two areas from the middle portion of Hernesaari on a direct straight line across to Jätkäsaari. Each of these alternatives is shown on the attached map.

Car parking facilities shall be located within dedicated buildings and/or can be covered decks, or other type of special facilities. Residents' car parking policy is to accommodate 1 car per 125 m² of residential capacity. The norm for commercial and office space is 1 car per 350 m².

Public transport is a key element of the local plan and the main form of transport will be trams. It is intended that Hernesaari will become a main fare stage, meaning, the trams will start and complete their journeys from within the area. A possible alternative would be that the same trams operating in Jätkäsaari will continue their journey via the bridge connection between Hernesaari and Jätkäsaari. Presently, the nearest tram is situated some 400 metres away in Telakkakatu street.

In addition, the area will support both the local sailing community in the form of a yacht marina, together with harbour berths for the cruise liners.

The eastern shoreline shall be reserved for a city park. It is also required to accommodate small parks and other forms of communal garden areas for local residents.

Digital Information

Consultants may upon request, receive all the necessary information and other material in digital form.

Local Plan documents to be submitted by Consultants

- * a written statement with explanations supporting the local plan work
- * a 1: 4000 base map of the planned area.
- * 1: 2000 illustration maps detailing daylight, shadow and massing in relation to the heights of surrounding buildings, for both alternatives. Light is measured at 45'.
- * preliminary sketches of residential blocks showing at ground level and upper floors
- * elevations and sections 1: 500.
- * perspectives and axiometric sketches. One perspective should provide an overall birds-eye view of the development.
- * total gross square metres for the development, broken down to each residential-quarter/block.
- * traffic layout (including for each form of transport mode) and car parking.
- * small scale-model 1: 2000 (at the consultant's own expense).

The local plan work shall be in A3 format, including all drawings and reports. The collation and printing of all material form part of the Consultant's overall responsibility for the final brief to be submitted.

All plan materials should be in jpeg format and saved onto a dvd disc (-r formatted).

Attachments

Local Plan area boundaries
Hernesaari in 2002 City Master Plan
Proposed new locations of the cruiser harbour and heliport
Protected buildings
Proposed alternative bridge alignments
aerial view of the area from 1943
photos detailing the area (7)
draft ground conditions map
existing sewer and main pipe connections map