



SPACE ALLOCATION AND GUIDELINE PLAN FOR THE LANDSCAPE FEATURES OF THE SOUTH HARBOUR BAY

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LOCI JKMM Helsinki

PURCHASER

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AUTHORS

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JKMM Architects

Graphic design and layout

LOCI maisema-arkkitehdit Oy

Maps, photographs and plan images

LOCI maisema-arkkitehdit Oy and JKMM Architects,
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INTRODUCTION

FOREWORD

Several urban planning projects are currently running or about to be launched around the South Harbour bay. The now prepared space allocation and guideline plan for the landscape features of the South Harbour bay contains background information, preconditions and potential principles for steering and assessing further plans for the area. Steering individual projects in the area will require more comprehensive guidelines and an understanding of the temporal dimension.

Currently, the area is mainly used for port operations, which have taken place there since the 19th century. This document is based on an assumption that the port operations will remain largely unchanged, and therefore the new land use purposes have been integrated with the existing operations. During the commission, a review has been launched to look into the options of arranging the Port of Helsinki's operations and carrying out long-term development (the HESARAMA report). As part of the review, a partial transfer of port operations from South Harbour and Katajanokka Harbour to other harbours has also been assessed, among other things. However, these solutions have primarily not been included in this report.

The space allocation and guideline plan for the landscape features of the South Harbour bay was created alongside Ramboll Finland Oy's draft guideline plan for technical space allocation and implementation method at the South Harbour bay, and these two plans complement one another. Furthermore, this work has been supplemented by an examination of a situation in which port operations at South Harbour change in a way that allows the harbour's premises and areas reserved for lorry traffic to be utilised for construction. The additional examination has been narrowed down to focus on assessing the floor area potential of the premises and additional construction that will be freed from the harbour's lorry traffic for other activities. With regard to the addition examination, the report has not been coordinated with the guideline plan for technical space allocation and implementation method. Therefore, planning issues related to traffic, technical space allocation and implementation method have been excluded from the additional examination.

In conclusion, this report should be supplemented with a follow-up plan assessing the land use potential of Makasiiniranta and Olympiaranta without lorry traffic at the harbour. As the business model of cruiseferries also includes lorries, this option would mean changes to the current cruiseferry operations in Olympiaranta. Further planning is scheduled for the autumn of 2020 and will complement this report by producing an option 3 alongside the Makasiiniranta and Olympiaranta plan options 1 and 2.





BACKGROUND OF THE REPORT

The space allocation and guideline plan for the landscape features of the South Harbour bay is a report commissioned by the City of Helsinki's Urban Environment Division, which provides the necessary initial information and solutions for space allocations assessed at the principle level as a basis for detailed planning in the shore areas of South Harbour and Katajanokka. Several detailed planning projects are ongoing in the area. The shore areas of South Harbour and Katajanokka are being planned with the aim of strengthening the maritime atmosphere of the city centre and connecting the shore areas and passenger harbours more closely to the pedestrian-oriented city centre. The goal is to create new maritime city spaces with seaside boulevards and attractive functions and define the principles for the long-term flood protection of the area. As a part of the whole, new construction sites are being studied and solutions are being sought for allowing the buildings' street-level premises to face the sea.

OBJECTIVES OF THE WORK

The purpose of the plan is to examine the starting points of the development of land use in the area and the conditions for implementation and to produce guideline solutions for the space allocations of the area valued for its cultural history and landscape in terms of construction potential, connections, routes and flood protection. The planning area is divided into three sub-areas, each of which are given two different solution options, which are both technically feasible and of high quality in terms of landscape, as well as suitable for the character of the area. In the selection of solution options, clearly different guideline solutions have been sought, yet taking into account the starting points and objectives in each sub-area. The aim of the work is to produce easy-to-read and understandable plan material on the differences of the guideline solutions in terms of cityscape and functionality and their effects on such matters as views and floor area potential. The space allocation and guideline plan for the landscape features of the South Harbour bay is intended to serve as a basis for further planning in the area.

Simultaneously with this work, Ramboll Finland Oy drew up a draft guideline plan for technical space allocation and implementation method at the South Harbour bay, describing in more detail the space allocations for the options presented, including streets, deck and covering solutions, technical maintenance networks and waterfront and quay structures.

WORKGROUP

The space allocation and guideline plan for the landscape features of the South Harbour bay was drawn up by Loci maisema-arkkitehdit Oy with its workgroup as follows:

Landscape architectural design and overall project responsibility, LOCI maisema-arkkitehdit Oy:

Milla Hakari, Project Manager

Eetu Mykkänen, Landscape Architect

Other members of the planning group:
Pia Kuusiniemi, Sonja Kinner and Anni Virolainen

Architectural design, JKMM Architects:

Samuli Miettinen, Marcus Kujala

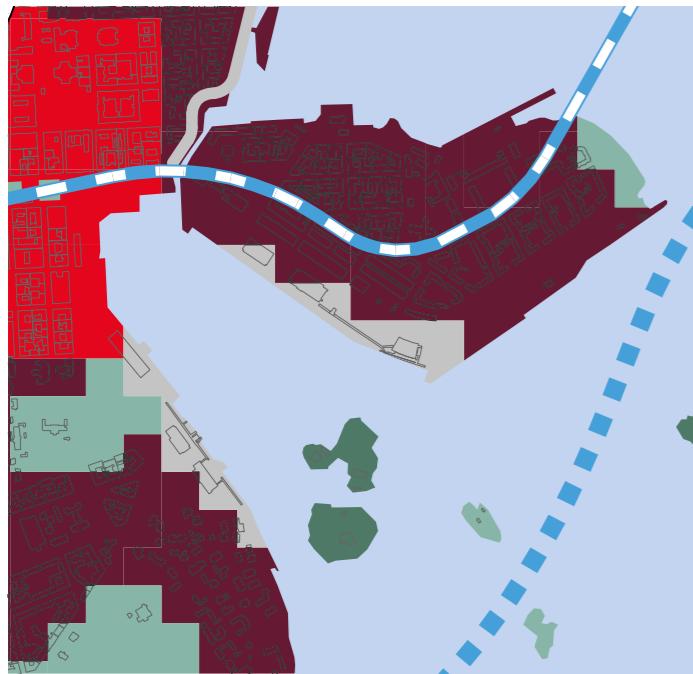
STEERING GROUP

The work was led by an extensive steering group from the City of Helsinki, which met four times during the work. In addition to this, thematic meetings involving a smaller group were held as needed.

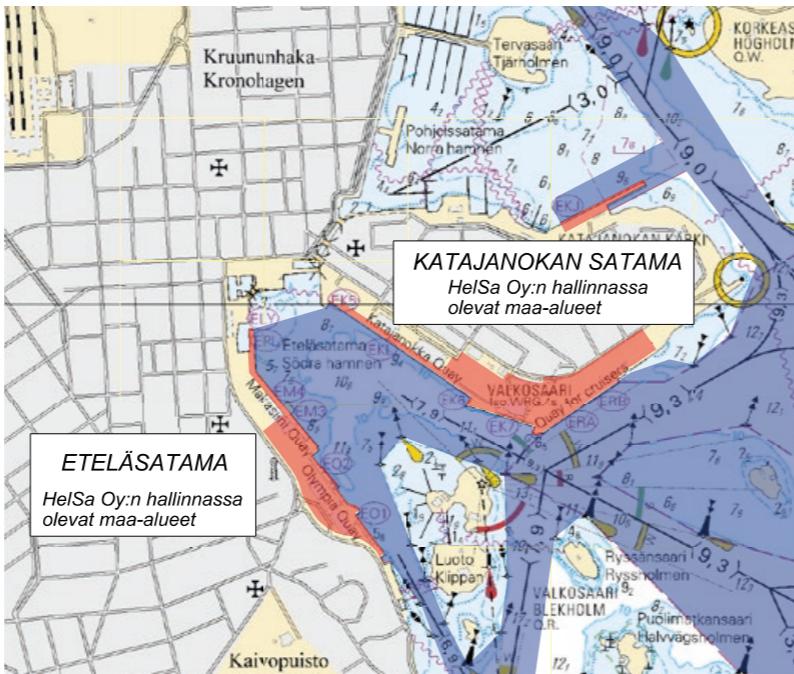
Marjaana Yläjääski from the Urban Environment Division and Mikko Juvonen from Land Use and City Structure acted as the purchaser's contact persons. In addition to the City, the steering group included representatives from the Port of Helsinki.

Marjaana Yläjääski	Land Use and City Structure / Detailed Planning
Teo Tammivuori	Land Use and City Structure / Detailed Planning
Mikko Juvonen	Land Use and City Structure / Strategic Urban Planning / Technical and Economic Planning
Jouni Kilpinen	Land Use and City Structure / Strategic Urban Planning / Technical and Economic Planning
Anu Lamminpää	Land Use and City Structure / Urban Space and Landscape Planning
Jouni Heinänen	Land Use and City Structure / Urban Space and Landscape Planning
Mirva Koskinen	Land Use and City Structure / Land Property Development and Plots
Pekka Nikulainen	Land Use and City Structure / Traffic and Street Planning
Sirpa Kallio	City Executive Office / Neighbourhood Construction
Tero Sievänen	Port of Helsinki
Satu Aatra	Port of Helsinki
Ari Parviaisen	Port of Helsinki

PLANNING PRINCIPLES



Kuva 1. South Harbour bay area in the City Plan (City of Helsinki)



Kuva 2. South Harbour bay in the Harbour Code (Port of Helsinki Ltd)



Kuva 3. Combined detailed plan for the South Harbour bay area (City of Helsinki)

PLANNING AREA

The planning area is located in the centre of Helsinki in front of the inner city and includes the entire South Harbour bay area. Located in the districts of Katajanokka, Kaartinkaupunki, Ullanlinna and Kaivopuisto, the area is both one of the most important passenger ports in Finland and one of the most visited tourist destinations in Helsinki. It is a part of the historical cityscape of Helsinki and the national landscape of maritime Helsinki, for example, as well as several nationally significant built cultural environments.

The planning area is divided into three sub-areas: the area of Makasiiniranta and Olympiaranta, Katajanokanlaituri and Katajanokanranta. The Market Square area has previously been treated in the plan 'Kauppatorin julkisen tilan yleissuunnitelma' (City of Helsinki 2019a) and the report 'Kauppatorin yhdyskuntateknisten järjestelyiden lähtökohdat' (Ramboll Finland Oy 2018), which is why the Market Square will not be separately discussed in this work.

PLACE NAMES

In this work, the designations South Harbour bay and South Harbour bay area are used to describe the entire shore area surrounding the South Harbour bay, including the area of Katajanokka. The Port of Helsinki Ltd has an established nomenclature, according to which South Harbour refers to the harbour area of Makasiiniranta and Olympiaranta, while Katajanokka Harbour comprises the south-facing harbour areas of Katajanokka.

PLANNING AND LAND OWNERSHIP

In the latest Helsinki City Plan, the planning area is marked mainly as an area for port operations. The City Plan designates the Market Square and the area south of Vironallas as business and service centre areas (C1) and Katajanokanranta as a city centre area (C2). There are multiple separate detailed plans in force for the area, which are planned to be updated in the coming years. The participation and evaluation plan for the detailed plan of Katajanokanranta and the eastern part of South Harbour has been available for viewing since January 2019.

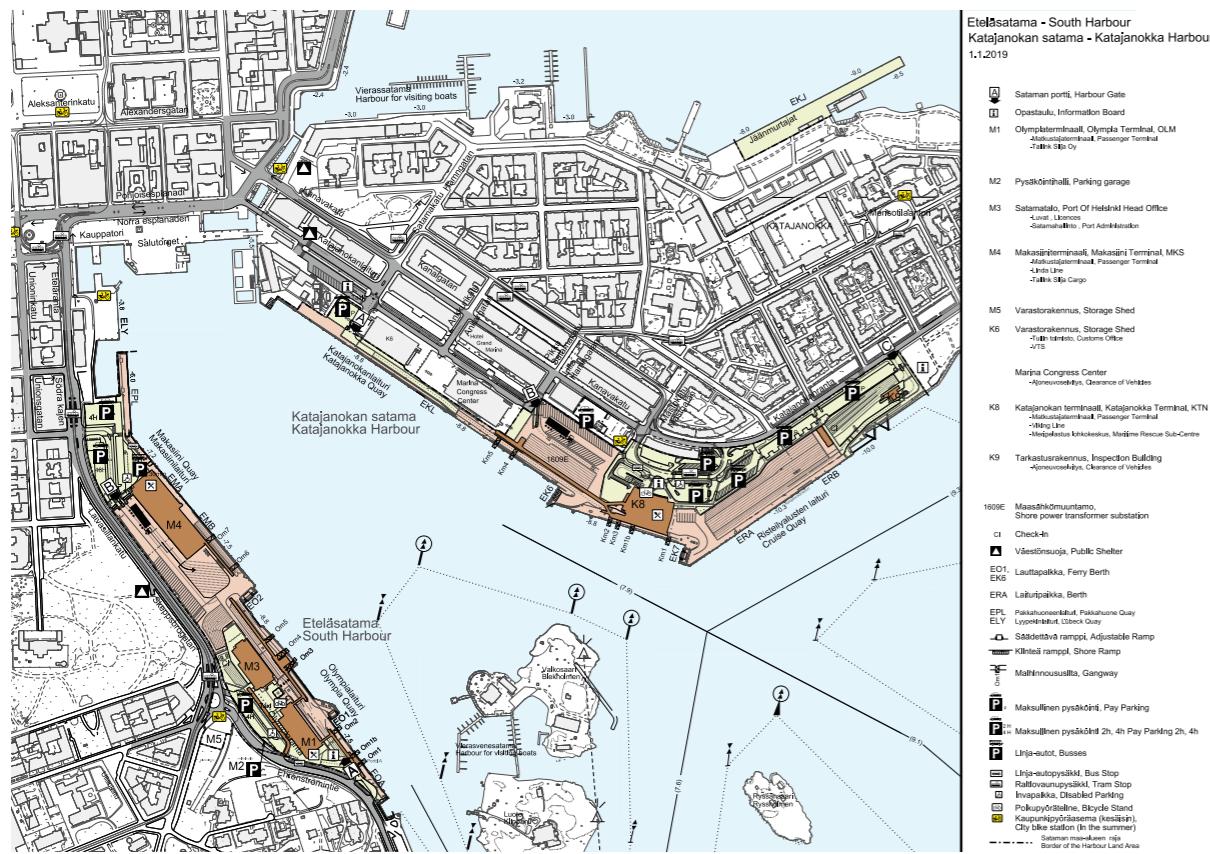
The City owns most of the land in the planning area but has leased it to the Port of Helsinki until 2074 under the current agreement. In addition, the Port of Helsinki Ltd owns the buildings, quays and other structures in the harbour area. Some of the areas used by the Port of Helsinki Ltd have been classified by the authorities as a security area that is closed to external traffic. In the current situation, the waterfront is mainly not an open urban space.

PORT OPERATIONS AND TRAFFIC

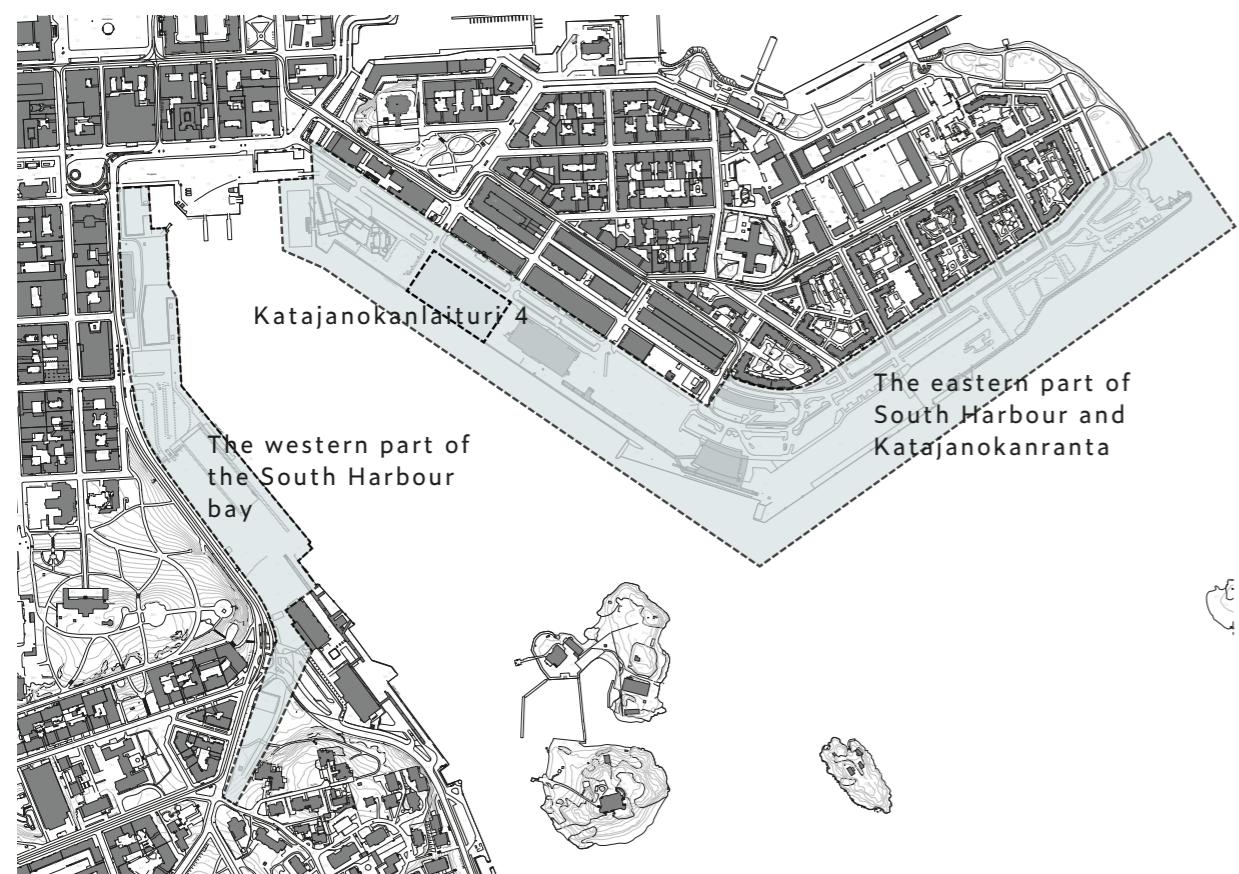
Port operations will continue in the South Harbour bay area in the future as well, which places needs for the coordination of recreational use and construction in the area. In addition to the land area reserved for the operations of the Port of Helsinki Ltd, the majority of the water area in the South Harbour bay is also part of the harbour area where ships must have room to turn in the future as well.

Makasiiniranta and Olympiaranta

In the area of Makasiiniranta and Olympiaranta, port operations will in the future be carried out on a reduced yard area, which is in line with the area covered by the Port's long-term lease, with the exception of Pakkahuone Quay and the northern part of Makasiini Quay. An area of 240 metres on Makasiini Quay on the side of the current Makasiini Terminal will be reserved for port operations. Space allocations must also take into account, among other things, the disembarkation structures necessary for port operations and – as in other harbour areas – the quay structures extending to the harbour area. If the intensification of land use in Makasiiniranta and Olympiaranta is based on deck construction, the dimensioning and structures of the deck must also take into account the turning of lorries and other harbour functions. In the area of Makasiini Terminal, which is to be demolished, it is possible to build a passenger terminal of approximately 1,500 m² in connection with other buildings planned, which the Port will lease for the needs of cruise and express traffic.



Kuva 5. Technical area map of the harbour (Port of Helsinki Ltd)



Kuva 4. Combined image of ongoing projects (City of Helsinki)

The existing cruise quays are used for various visits, such as dignitary visits and naval visits. This should be possible in the future as well. However, this does not prevent public use of the shore area or people's access to the waterfront.

The starting point for the planning is that the ships' loading and unloading of vehicles will be organised in such a way that a heavy traffic connection will be arranged from the north of the harbour area to the junction of Eteläinen Makasiinikatu and a passenger car connection along a southern route to Ehrenströmintie. Pick-up, drop-off and maintenance traffic needs will remain as they are. A tunnel connection to an underground collector street has been investigated in the area.

Katajanokanlaituri

Katajanokanlaituri will remain an area for port operations. The transfer of the lorry traffic route has been studied simultaneously with this project, and the starting point has been the transfer of the lorry route from the shore via Ankkurikatu to the Katajanokka street network. A tunnel connection to an underground collector street has been investigated in the area.

Katajanokanranta

As a basic assumption, the ERA and ERB berths (Figure 4) will remain in harbour use. However, according to the 2016 City Plan, the possibility of construction in the current queuing area of the harbour will be investigated, changing the driving arrangements to the harbour.

SOIL AND FOUNDATION CONDITIONS

Most of the area consists of mixed fill built for the use of the harbour. The filling has been conducted in several phases: some of the filling work was carried out as early as the 19th century and the most recent in the 1950s. The thickness of the fillings and the clay and non-cohesive soil layers below them varies. At its lowest, the elevation of the rock surface is below -22.

NOISE

The area is affected by harbour noise, as well as normal traffic noise. Ship noise generated by port operations partly affects the activities and structures to be located in the area.

FUTURE PROJECTS

The starting point for the future development of the area is the preservation and development of the passenger harbour in accordance with the South Harbour planning principles approved in 2008. There are several ongoing projects related to new construction in the area:

Makasiiniranta and Olympiaranta

- A concept competition is being prepared for the area to sort out the area's operations.
- New construction in the area must be coordinated with port operations.

Katajanokanlaituri

- A detailed plan and a detailed plan revision are being prepared for the area, and an architectural competition is underway for the construction of a business and office building.
- Allas Sea Pool, which is intended to be temporary, has a building permit until the end of 2030, after which the aim is to plan permanent activities for the area.

Katajanokanranta

- Residential construction has been planned for the area. The reorganisation and densification of port operations and the organisation of resident parking areas are prerequisites for complementary construction in the area.

Underground collector street

- The conditions for the construction of an underground collector street have been investigated in the areas of Katajanokanranta, Makasiiniranta and Olympiaranta and have been taken into account in this work.

LANDSCAPE AND CULTURAL HISTORY

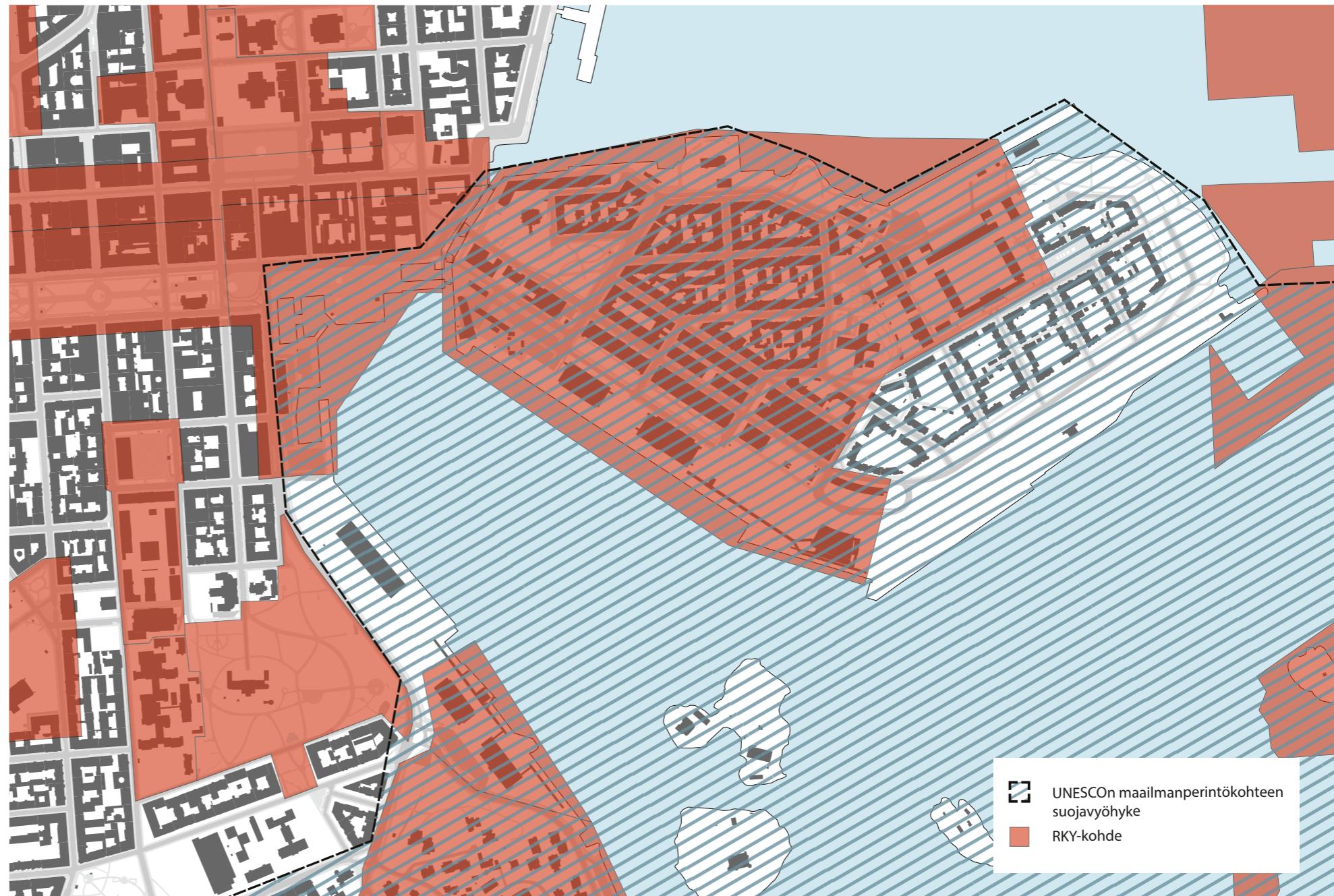
ENVIRONMENTS VALUABLE TO CULTURAL HISTORY

The area is an important part of the cultural and historical landscape of maritime Helsinki. It is located in the area of the following cultural environment zones or inventories:

- The buffer zone of the Unesco World Heritage site Suomenlinna.
- National landscape: Maritime Helsinki (National landscapes, Ministry of the Environment 1993).
- Nationally significant built cultural environment RKY: Helsinki Market Square with its buildings, the old part of Katajanokka and the Olympic Buildings. In addition to these, the RKY areas of Tähtitorninmäki observatory and park and Kaivopuisto border the planning area (Finnish Heritage Agency 2009).
- An area of Helsinki significant in terms of cultural history, architecture and landscape culture (2002 study).
- Sites of the regional inventory in the 'Uudenmaan kulttuuriympäristöt' (Uusimaa's cultural environments) study (Helsinki-Uusimaa Regional Council 2016).
- The City Plan's Cultural Environments thematic map (City of Helsinki 2016b) has legal effect regarding the RKY areas.

The following documents have also been drawn up regarding the area:

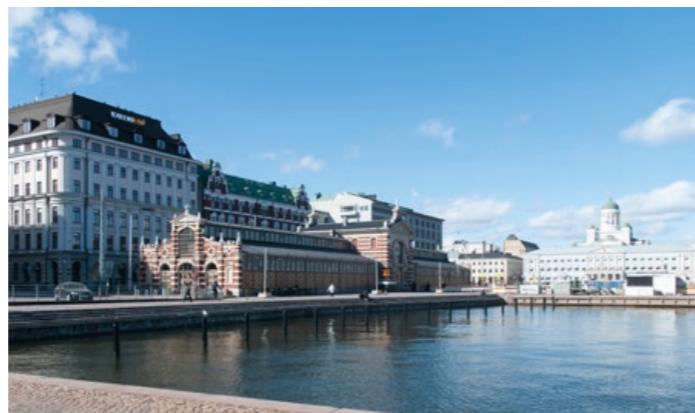
- Valuable environments in the public areas of the City of Helsinki (City of Helsinki 2008).
- Tähtitornin vuori ja Ullanpuistikko, hoito- ja kehittämисuunnitelma (Maintenance and development plan for Tähtitorninvuori and Ullanpuistikko) (Landscape Design Hemgård 2011).
- Kauppatori, Kaupunkirakennet historian selvitys (Market Square, report on the history of the urban structure) (Arkkitehtitoimisto Okulus 2016).



Kuva 6. Valuable environments



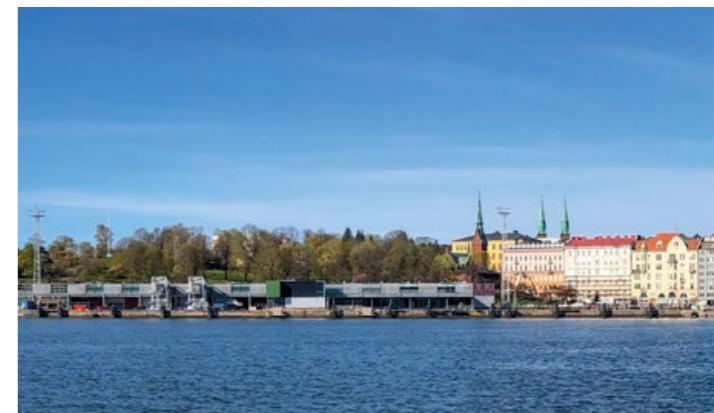
Kuva 7.
Culturally and historically valuable Olympia Terminal and Satamatalo photographed from Tähtitorninvuori



Kuva 9.
The northern end of Makasiiniranta and Olympiaranta offers a view of the Market Square, the Old Market Hall and Helsinki Cathedral.



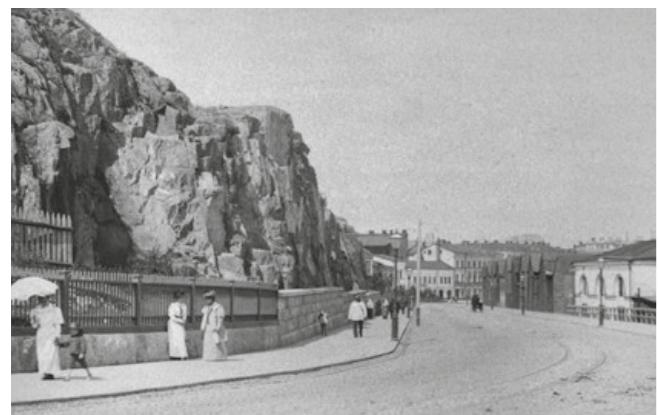
Kuva 10.
The valuable historical environment of the Market Square merges with later construction.



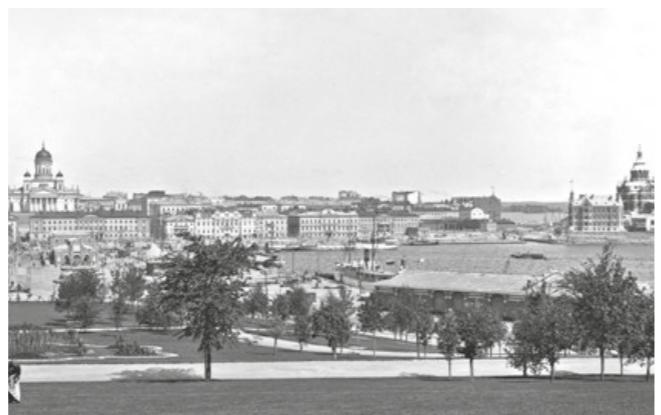
Kuva 8.
The RKY area of Tähtitorninmäki observatory and park stands out from the landscape



Kuva 11.
Aerial photo of the whole South Harbour bay area in 1939. The ships seen at the harbour show that ship traffic has been an important part of the look of the area for a long time. Tähtitorninvuori stands out as a green area in the otherwise built-in shoreline. Helsinki Cathedral and Uspenski Cathedral stand out as clear landmarks (Helsinki City Museum / Veljekset Karhumäki).



Kuva 12.
Laivasillankatu in the 1880s (Helsinki City Museum)



Kuva 13.
View from Tähtitorninvuori. The once open park area had an extensive view of Helsinki Cathedral, Uspenski Cathedral and the Market Square. (Helsinki City Museum)



Kuva 14.
View of Tähtitorninvuori from the Market Square in 1972. Tähtitorninvuori has traditionally stood out as a green backdrop to an otherwise built environment. (Helsinki City Museum)

The South Harbour bay is one of the most important historical shore areas in Helsinki, featuring many significant views and functions. The area has been, above all, a place for city life and trade, as well as arrival and departure – the city's gateway to the sea in the traditional sense. Market trade, ship traffic and port operations are key features of the cultural history in the area.

The view of the South Harbour bay from the Market Square is framed to the west by Tähtitorninvuori, which, being the first municipal park of Helsinki, has long been the only clearly undeveloped section of the coastal zone. For example, looking from the Market Square towards Makasiiniranta and Olympiaranta, the park appears as a green backdrop. For Laivasillankatu, it has served as a green border, while the other side of the street has been occupied by warehouses or harbour yard areas. Traditionally, the lower parts of the park and Laivasillankatu have had a view of the sea over the harbour area, and the shore side of Laivasillankatu has been an area for detached buildings and structures that are lower than in the inner city. They have been silhouetted against Tähtitorninvuori Park. The townhouses along Eteläranta form the facade of the South Harbour bay area facing the inner city, and the functions in front of it are subordinate in scale.

In addition to being a part of views itself, Tähtitorninvuori Park has also served as a viewpoint. Its peak commands extensive views of the rest of the South Harbour bay area and towards the Market Square, Katajanokka and the open sea. Originally, the other areas of the park were also open, offering an unobstructed view of the dock and especially towards the three large churches: Helsinki Cathedral, Uspenski Cathedral and Suomenlinna Church.

There has never been a clear viewpoint like Tähtitorninvuori on the Katajanokka side and, looking at the shoreline, the building stock is also newer, particularly in Katajanokanranta. However, Matruusinpuisto, built over a railway track that was still located in the area at the turn of the 1980s, has commanded the most extensive shore-level view of the sea in the South Harbour bay area for decades. Seen from the sea, the roofs of the Katajanokka Art Nouveau area and the long-standing harbour activities on the Katajanokka side, which continue to affect the landscape of the area, add temporal stratification to the landscape.

Kuva 15.

The South Harbour bay area in 2015 (Suomen Ilmakuva Oy).



2. SPACE ALLOCATION AND GUIDELINE PLAN FOR LANDSCAPE FEATURES

The plan includes examination of the coordination of the space allocations for the new construction planned in the South Harbour bay area with port operations, flood protection and the area's value in terms of landscape and cultural history.

The planning work is divided into the following sub-areas:

- Makasiiniranta and Olympiaranta
- Katajanokanlaituri
- Katajanokanranta

Based on plans previously drawn up by the City of Helsinki, several solution options for each of these areas have been explored during the planning process, two of which have been examined in more detail and presented in the report. The selected options present two distinct alternatives for organising flood protection, traffic and port operations in the area, as well as the massing of new buildings. The options include analysis of the impact of the measures on the cityscape and examples of outdoor arrangements.

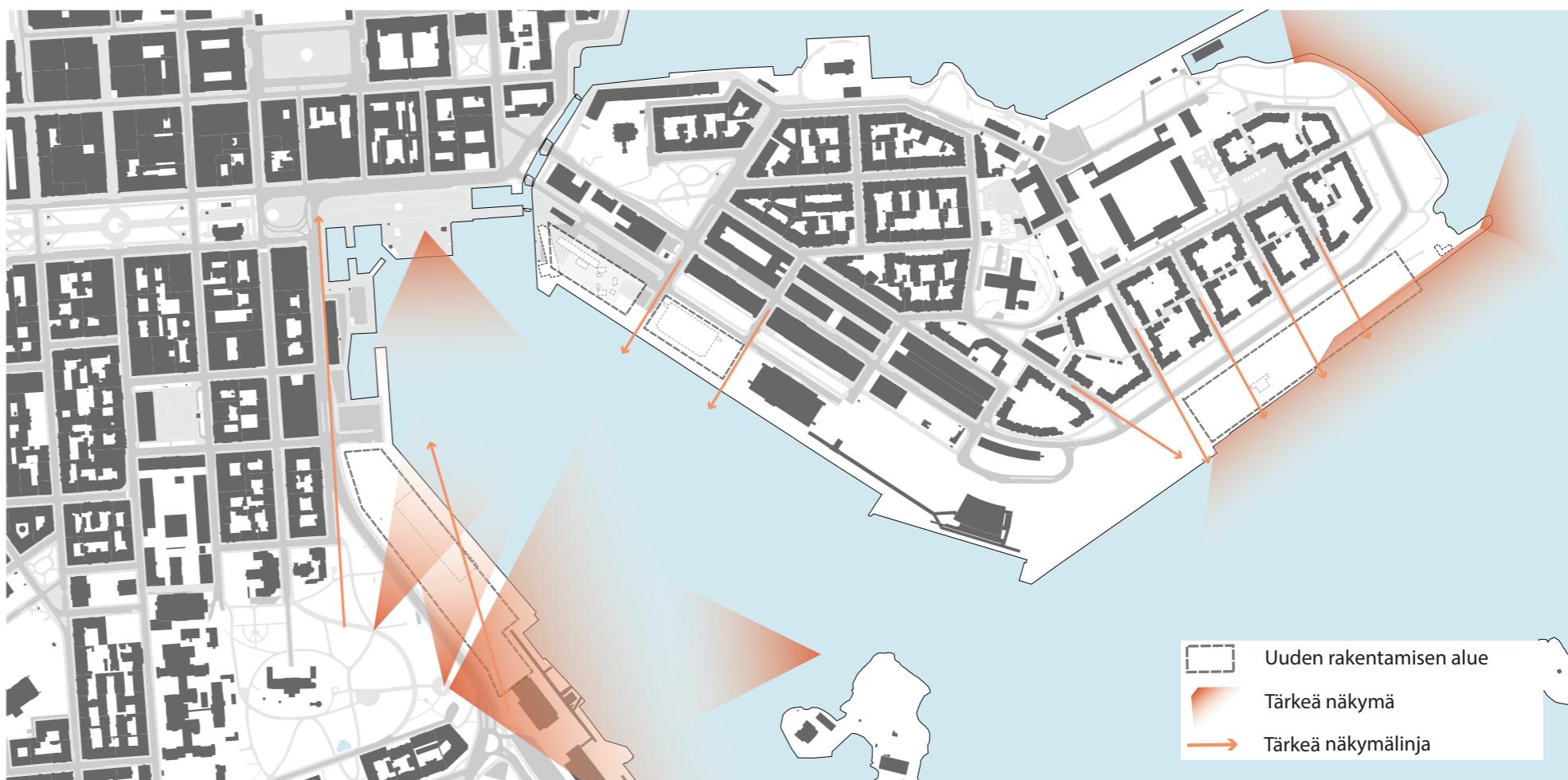
The plan options for the sub-areas have been compiled into two overall solutions in the maps of the whole area, but the different sub-areas may also be combined in other ways.



LANDSCAPE ASSESSMENT

The starting point of the planning in terms of landscape is the endeavour to adapt the new construction to the existing special environments of the area with a valuable landscape and make the previously somewhat closed waterfront more accessible and comfortable for users. The landscape values of the area create the framework into which new construction has been endeavoured to be adapted and against which the impact of construction is examined in the report. The impact of new buildings on the development of the cityscape has been studied using a city model. Illustrations drawn up based on the model aim to show the differences between the options and the consequences caused by the details of the concept solutions. At the same time, the illustrations serve as examples of cityscape solutions that must be taken into account in further planning.

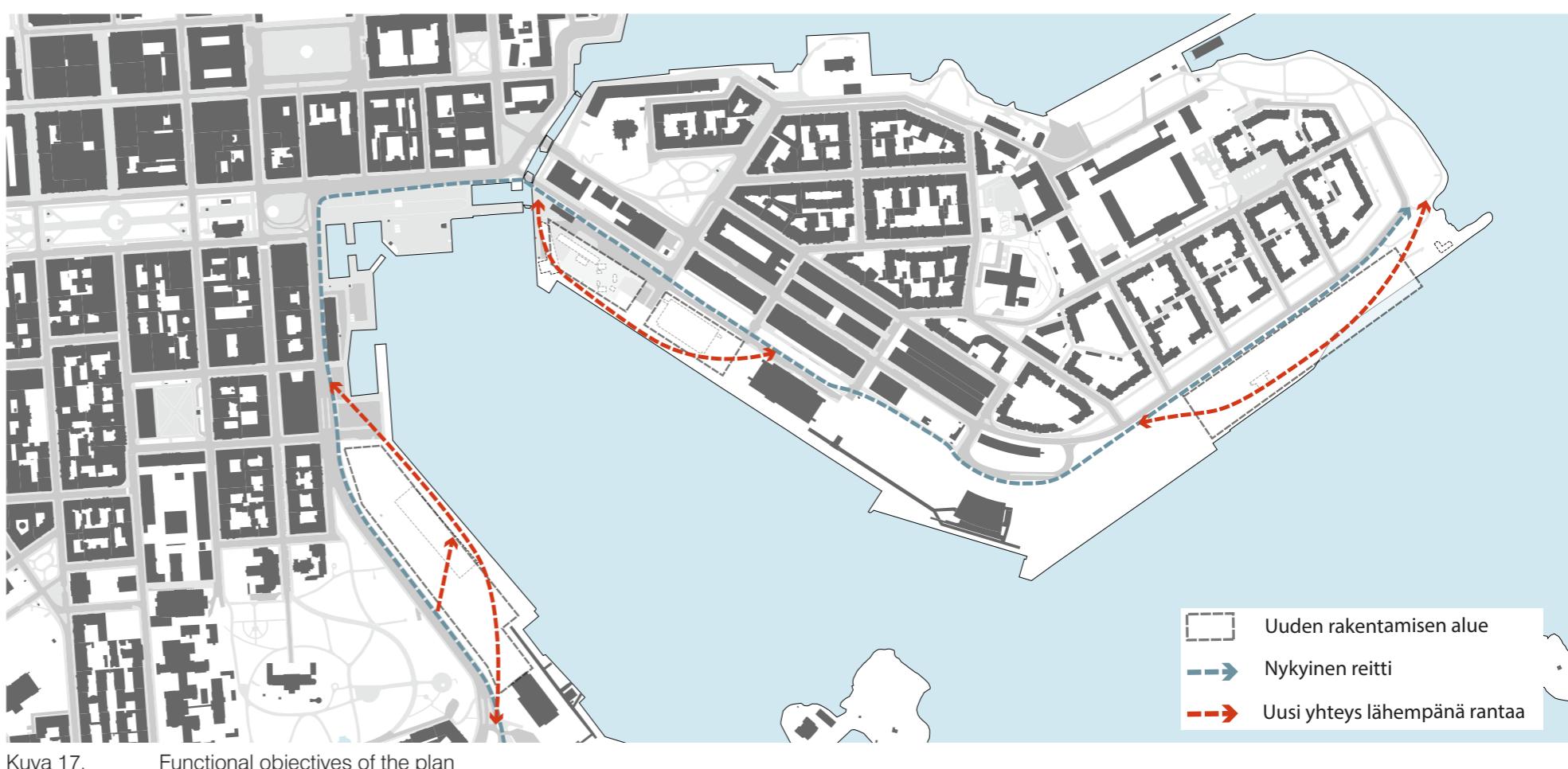
Among the most important landscape elements of the area are the valuable views of Helsinki Cathedral, Uspenski Cathedral and the sea from Tähtitorninvuori in the Makasiiniranta and Olympiaranta area. A similarly relevant feature is the South Harbour bay silhouette as seen from the sea and different parts of the area: the roofs of the Katajanokka Art Nouveau buildings, the waterfront enlivened by harbour activities and the green silhouette of Tähtitorninvuori amidst the otherwise built-in shore area. It is also important to preserve the extensive sea views that open from the parks of Katajanokanranta.



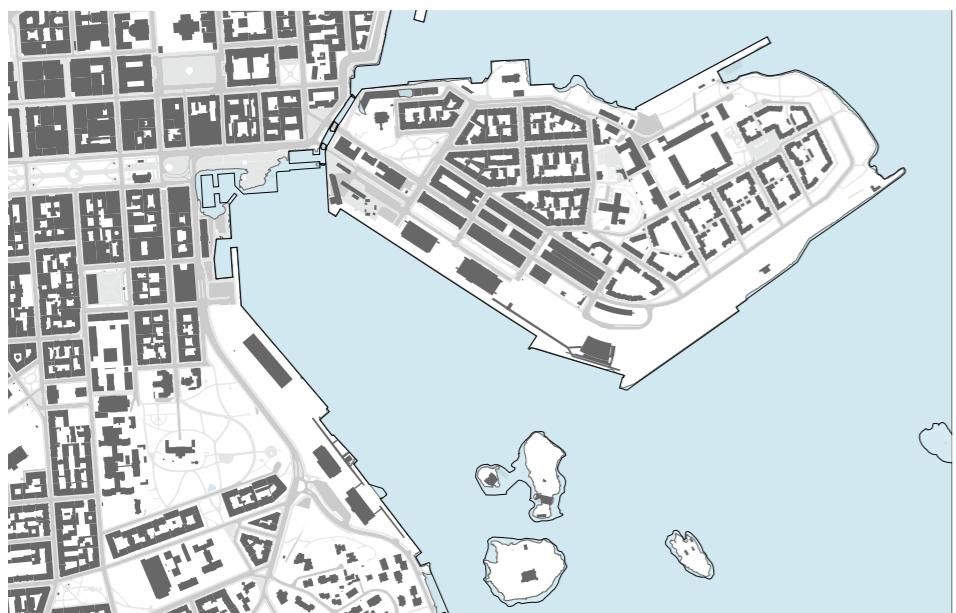
FUNCTIONAL ASSESSMENT

The functional starting point of the planning is to coordinate the preconditions of the port operations that remain in the area with the prerequisites of better transport connections, new flood protection solutions and new construction, without forgetting the existing elements valuable in terms of cultural history and architecture. The changes planned for the area will make it possible to e.g. bring pedestrian and bicycle connections closer to the shore and enhance the public and recreational use of the shore areas. Efforts have been made to resolve flood protection in connection with new construction whenever possible.

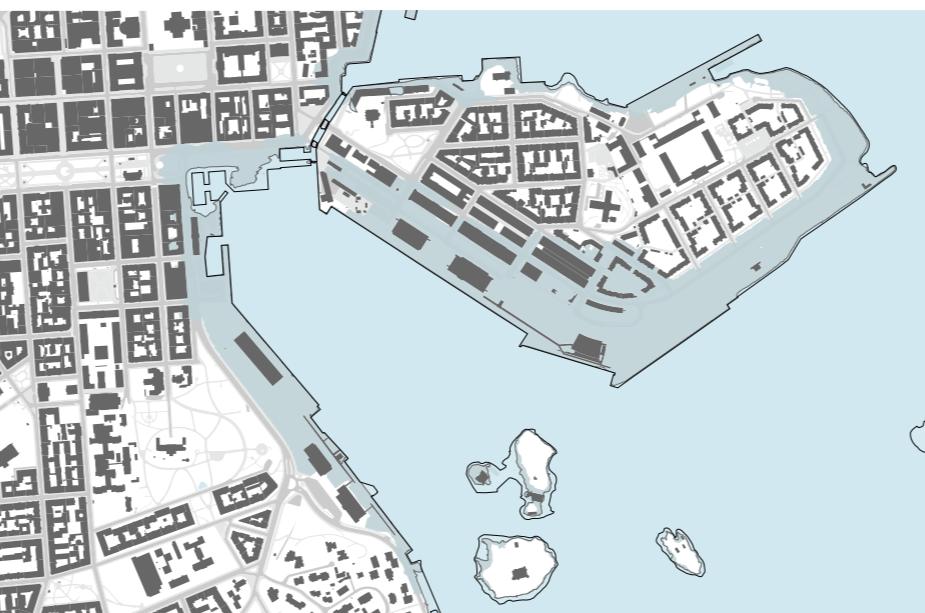
Efforts have been made to secure the logistics of passenger and freight traffic and the operation of the city's internal traffic and buildings. Efforts have been made to allocate as clear and connected functional areas as possible to new construction and the remaining port operations, so as to make the implementation of construction sensible in terms of technical and financial aspects and the cityscape. In the area of Makasiiniranta and Olympiaranta in particular, efforts have been made to show ways in which further development of the area would be sensible in both the short and long term while maintaining port operations.



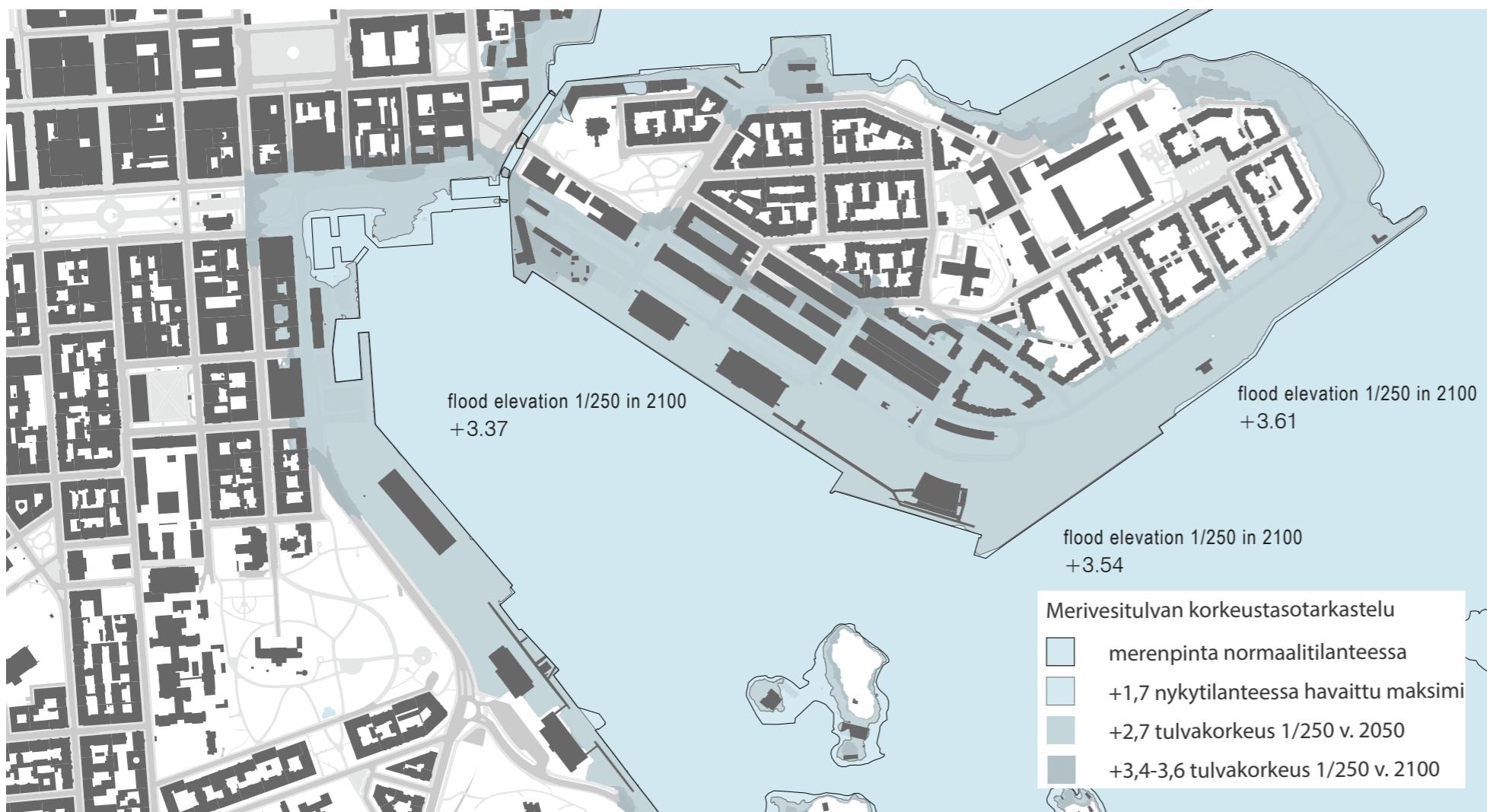
OBJECTIVES OF FLOOD



Kuva 19.
An examination of the maximum water level observed by 2020 in relation to the current situation



Kuva 20.
An examination of the water level in a projected flood situation in 2050 in relation to the current situation



Kuva 18.
An examination of the water level in a projected flood situation in 2100 in relation to the current situation

PROTECTION

ELEVATION ASSESSMENT

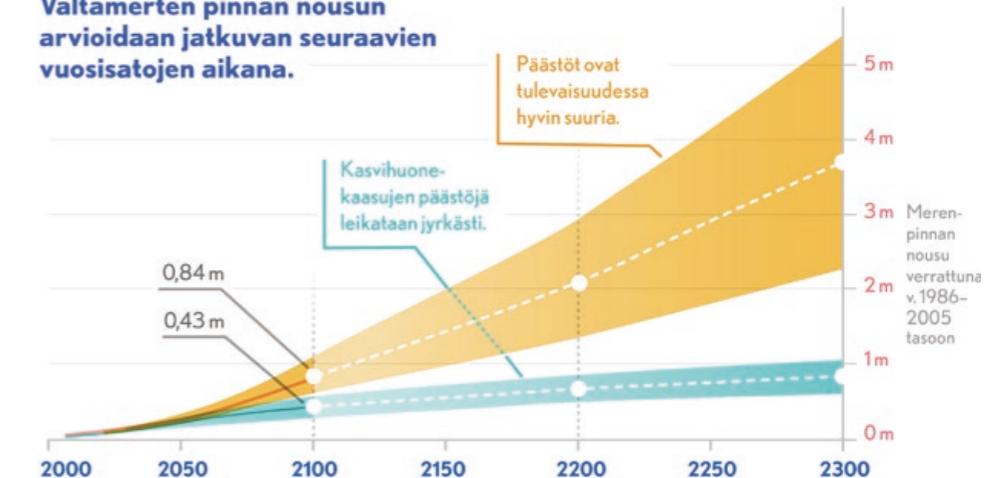
The fact that the area is located in the flood risk area has been taken into account when planning elevations by creating a connected structure to protect the coastal zone from the changing sea level. As a starting point for the elevation assessment, the work uses the possible maximum wave heights in the South Harbour bay area for 2050 and 2100 as presented in the guidelines for safe construction elevations (City of Helsinki 2016a). These vary between +3.37 and +3.61 depending on the area. Thus, the preliminary estimate for the lowest recommended construction elevation is approximately +3.4 (N2000, Helsinki 2016a). Structures below the lowest safe construction elevation must be waterproofed against hydrostatic pressure.

OBJECTIVES

The aim has been to find a flood protection solution for the entire South Harbour bay area that is sustainable in terms of landscape and the elevation of which is predicted to be sufficient to protect the shore areas even at the turn of the 22nd century. Even in the current situation, areas such as the Market Square have occasionally flooded, and as the sea level rises, flooding is likely to later threaten other parts of the South Harbour bay as well.

Flood protection will be implemented as a permanent structure, which will be largely possible to build in connection with future construction projects. Flood protection will be supplemented by operational protection where necessary, but logistical reasons prevent the protection of the entire area with operational measures alone.

Valtamerten pinnan nousun arvioidaan jatkuvan seuraavien vuosisatojen aikana.



Kuva 21.
Estimated sea level rise according to the IPCC's report. (Climate Guide)

PLAN ALTERNATIVES

COMPILED OF PLAN OPTIONS, OPTION 1

The first options VE1 for each sub-area have been compiled in the attached plan maps, the solutions of which are described in more detail in the sections for each sub-area.

Makasiiniranta and Olympiaranta (Chapter 3, p. 20–27)

The construction arrangements for this option are based on a deck structure covering the entire Makasiiniranta area, under which it is possible for port operations to continue. The pedestrian and cycling route near the shore and new buildings can be placed on the deck.

Flood protection in the area will be implemented in two stages. For shorter-term flood protection, the quay area of the harbour will be raised to +2.8, and later, as the need arises, the edge of the quay area will be raised to +3.4 by means of a flood wall, for example. On the northern side of the plot, flood protection will be combined with the operational protection of the Market Square.

The plan has also been supplemented with an examination of a situation in which lorry traffic would have ceased in the area and the largest possible extent of its space allocation would be possible to be utilised for new construction.

Katajanokanlaituri (Chapter 4, p. 49–51, 55–57)

In this option, the new plots of Katajanokanlaituri will be built above the estimated maximum water level of the year 2100 to +3.4 and the lorry traffic route used by the harbour will move from the west side of Katajanokanlaituri 6 to Ankkurikatu. The elevation difference between the outdoor area in front of the plot and the new seaside trail will serve as the main flood protection in the area and can be landscaped with social stairs, for example.

No functional changes are proposed for the harbour area in the eastern part of Katajanokanlaituri, and the overall flood protection in the area will primarily be implemented in the harbour area's fence line by integrating the flood wall into the harbour fence. The harbour yard and quays may be elevated later on.

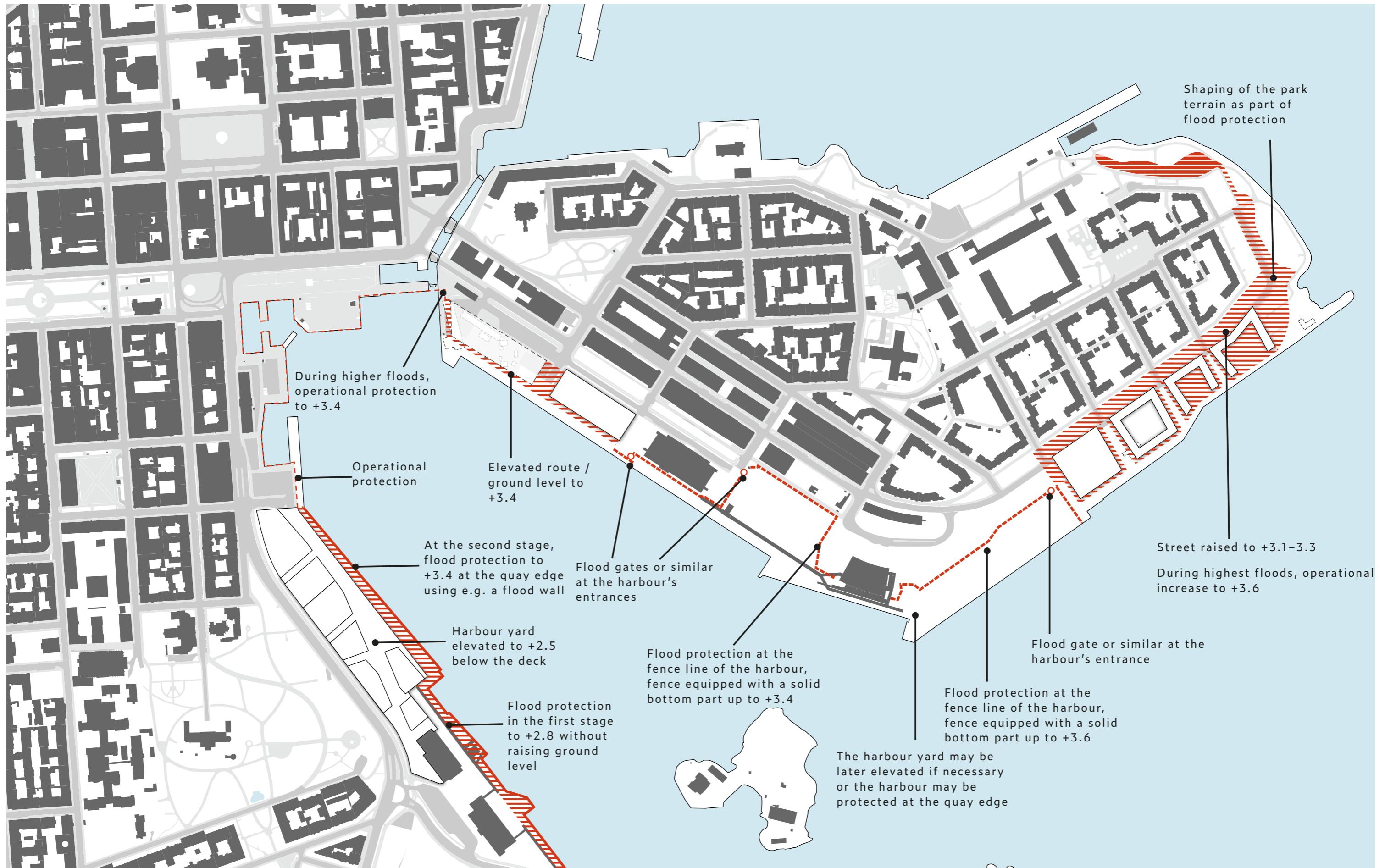
Katajanokanranta (Chapter 6, p. 60–65)

This plan option is based on a solution in which the shoreline remains in place and the new building masses are positioned into the space between the street and the shoreline. According to the plan, the Katajanokanranta street will be moved and its elevation will be raised, making it the main form of flood protection in the area. The plots will be protected by building them above the estimated maximum water level of the year 2100 at +3.6, and the protection of the entire area will be supplemented by raising the elevation of Laivastopuisto.



Kuva 22. Compilation map of the first plan options 1:7500

OVERALL FLOOD PROTECTION, OPTION 1



Kuva 23.

Compilation map of the flood protection solutions in the first plan options 1:5000

COMPILATION OF PLAN OPTIONS, OPTION 2

The second options (VE2) for each sub-area have been compiled in the attached plan maps, the solutions of which are described in more detail in the sections for each sub-area.

Makasiiniranta and Olympiaranta (Chapter 3, p. 28–37)

The construction arrangements of the option are based on a solution in which there will be no construction atop the port operations. Instead, the lorry traffic route will be moved to be as close to the shore as possible, freeing up a connected area for construction between Laivasillankatu and the harbour area remaining on the shore.

As with the first option, flood protection will be carried out in two stages. For shorter-term flood protection, the quay area of the harbour will be raised to +2.8, and later, as the need arises, the edge of the quay area will be raised to +3.4.

The plan has also been supplemented with an examination of a situation in which lorry traffic would have ceased in the area and the largest possible extent of its space allocation would be possible to be utilised for new construction.

Katajanokanlaituri (Chapter 4, p. 52–54, 55–57)

In this option, the lorry traffic route used by the harbour will be moved from the west side of Katajanokanlaituri 6 to Ankkurikatu. The main flood protection in the area will be implemented in the fence line of the harbour area using a fixed flood wall integrated in the fence, for example, in which case the construction elevation of the buildings behind the flood wall can be determined freely.

No functional changes are proposed for the harbour area in the eastern part of Katajanokanlaituri, and the overall flood protection in the area will primarily be implemented as a flood wall integrated into the fence line of the harbour. The harbour yard and quays may be elevated later on.

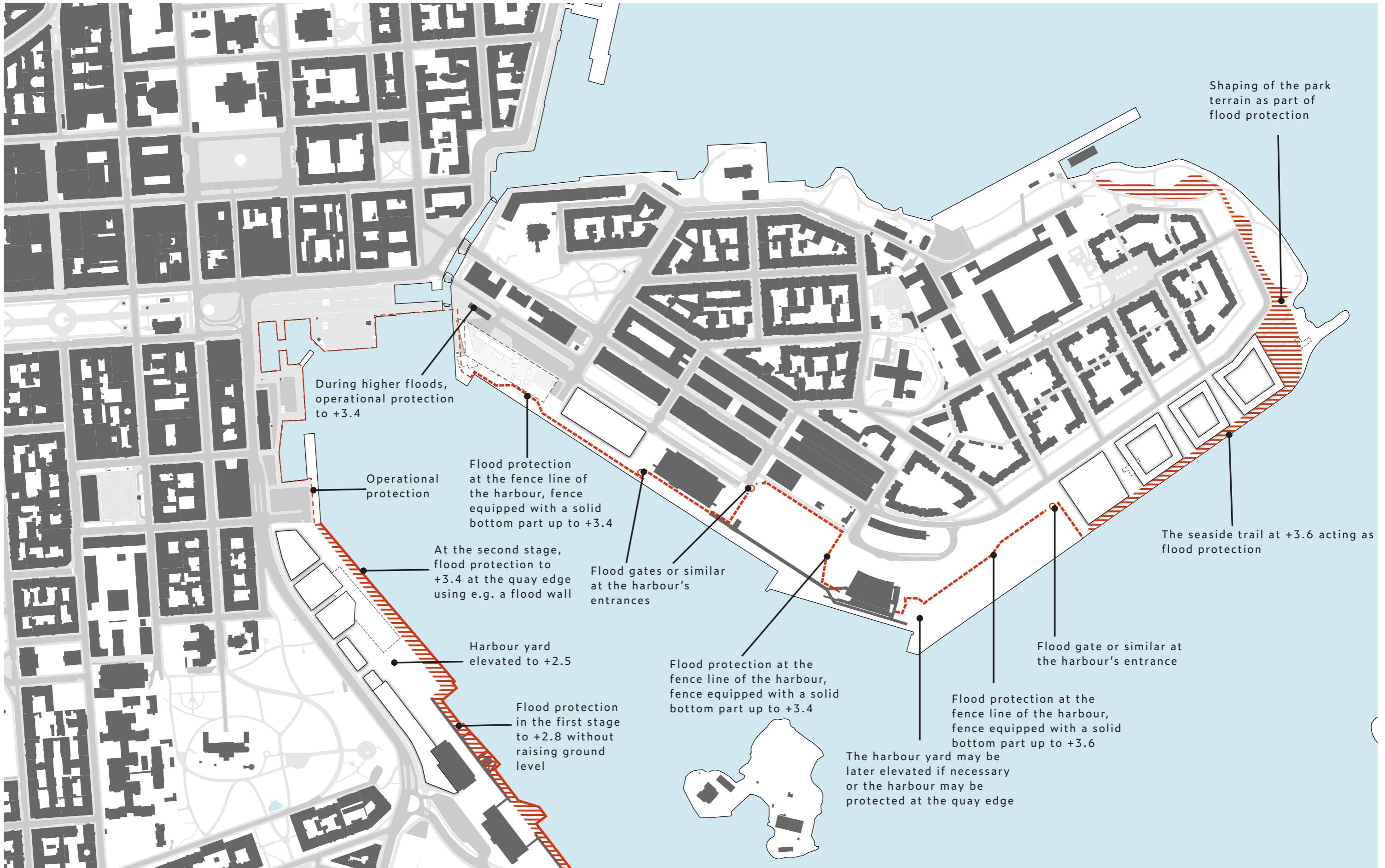
Katajanokanranta (Chapter 6, p. 66–71)

The plan option is based on a solution investigated by the City in connection with its work on the City Plan, in which the building masses will be placed partly over the existing shoreline and their foreground will be filled towards the sea. The new seaside trail will be built in front of the buildings directly at +3.6, allowing it to act as flood protection for the area along with the elevation of Laivastopuisto.



Kuva 24. Compilation map of the second plan options 1:7500

OVERALL FLOOD PROTECTION, OPTION 2



Kuva 25.

Compilation map of the flood protection solutions in the second plan options 1:5000



3.

MAKASIINIRANTA AND OLYMPIARANTA

STARTING POINTS AND OBJECTIVES

CURRENT SITUATION

The landscape of the Makasiiniranta and Olympiaranta area is dominated by the large harbour yard located below the level of Laivasillankatu. The pedestrian route follows Laivasillankatu, leaving it far from the shore but mainly above the harbour yard. Thus the route offers views over the yard towards Katajanokka and the Market Square.

The best views in the area are from Tähtitorninvuori, which commands a view of Katajanokka and the Market Square, as well as the sea, Uspenski Cathedral and Helsinki Cathedral. Satamatalo's foreground and Laivasillankatu also offer views in the direction of Helsinki Cathedral and the Market Square.

PREVIOUS PLANS

The City's review

The City of Helsinki has previously drawn up a schematic review of the construction of the area based on a heavy deck solution. Based on it, the total floor area in the area between the Old Market Hall and Satamatalo could be approximately 40,000 square metres, including the museum. However, the review does not take into account the space allocations under the deck and the effects of the solution on the landscape and cityscape.

Underground collector street

Preliminary plans have been drawn up for an underground collector street in connection with the related surveys (City of Helsinki 2019b). According to the plans, the collector street would join the harbour's traffic from below Laivasillankatu.

Future projects

A concept competition is being prepared for building an architecture and design museum in the area. This work provides background information for that project.

GUIDELINE PLAN

The plan is based on a schematic review prepared by the City. The original plan has been evaluated and developed during the work with the aim of finding alternative comparison concepts. Two alternative plans for the area are presented in this report.

When drawing up the plan, the operations and space allocations connected to the Port of Helsinki Ltd's area have been taken into account, as well as the tentatively planned connection to the underground collector street. The plan has been prepared at the same time as the preliminary guideline plan for the technical space allocation and implementation method at the South Harbour bay (Ramboll Finland Oy 2020), and the traffic solutions in the area are based on the solutions presented in it.

In addition to the plan options, the report presents a separate outline of the possibilities of the use of space and construction in the area in a situation where heavy traffic ceases in the area. These long-term reviews are presented on separate pages in the report and have not been coordinated with the guideline plan for the technical space allocation and implementation method. A more detailed study on the long-term review of the area is a topic for separate planning.

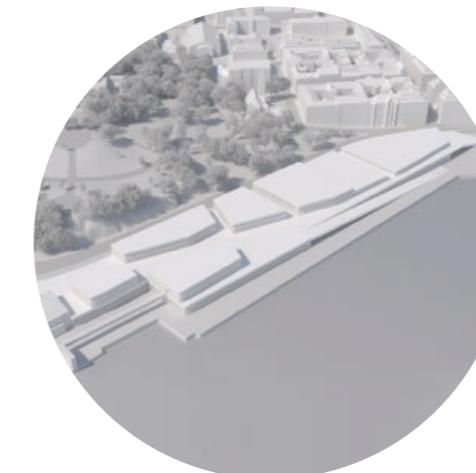
The detailed conditions for the feasibility of construction will not be specified until during construction planning. The floor areas presented in the options are indicative and will be specified during further planning.

OBJECTIVES

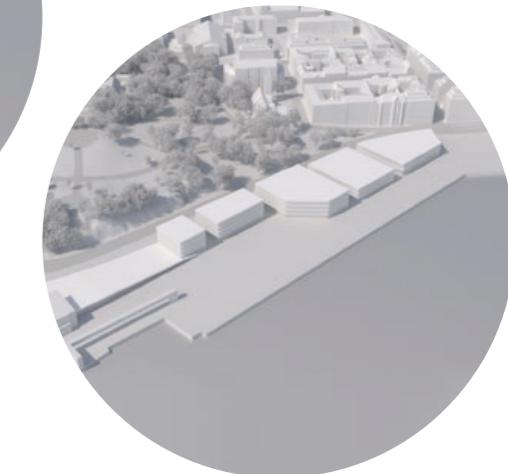
The most important objectives of the plan include

- arranging the new building masses in a way that the most important existing views are preserved
- bringing a pedestrian route closer to the shore
- preserving the character of the maritime facade of the area.

Option 1



Option 2



Tähtitorninvuori



the harbour



the sea



MAKASIINIRANTA AND OLYMPIARANTA, PLAN OPTION 1

The construction arrangements for this option are based on a deck structure covering the entire Makasiiniranta area, under which it is possible for port operations to continue. The pedestrian and cycling route near the shore and new buildings can be placed on the deck. The traffic solution is based on the current arrangements of the area, in which lorry traffic runs through the middle of the harbour yard – in the future under the new deck.

Landscape

The placement of new construction on the site of the harbour yard, which currently has an open landscape, will completely change the nature of the area. Due to the raising of the harbour yard and the space allocations related to the route, the deck above them will rise to at least 12 metres, which will reduce and even break the line of sight from the Market Square to Tähtitorninvuori Park and give Laivasillankatu a chasm-like character. The current sea views from Laivasillankatu will be lost for a long section of the street, and not all street-level business premises can be made to open onto the street.

With a high deck, the massing of new buildings cannot affect the lightness of the building mass, so the mass will appear large and uniform towards the city. However, with a sufficiently low massing, it is possible to preserve the views from Tähtitorninvuori to the sea and from the sea to Tähtitorninvuori. A limited view from the front of Satamatalo to Helsinki Cathedral can also be preserved, although the rise of the deck will not make the view natural.

However, the deck will make it possible to bring a pedestrian and bicycle route to the shore, creating a wide uninterrupted view of the rest of the South Harbour bay from the top of the deck. The deck can be extended as a social stairway towards the Old Market Hall, which will make it possible to hide the opening of the lorry traffic route that would otherwise be visible from the Market Square. This would also allow pedestrians to get on the deck without crossing lorry traffic.

Construction

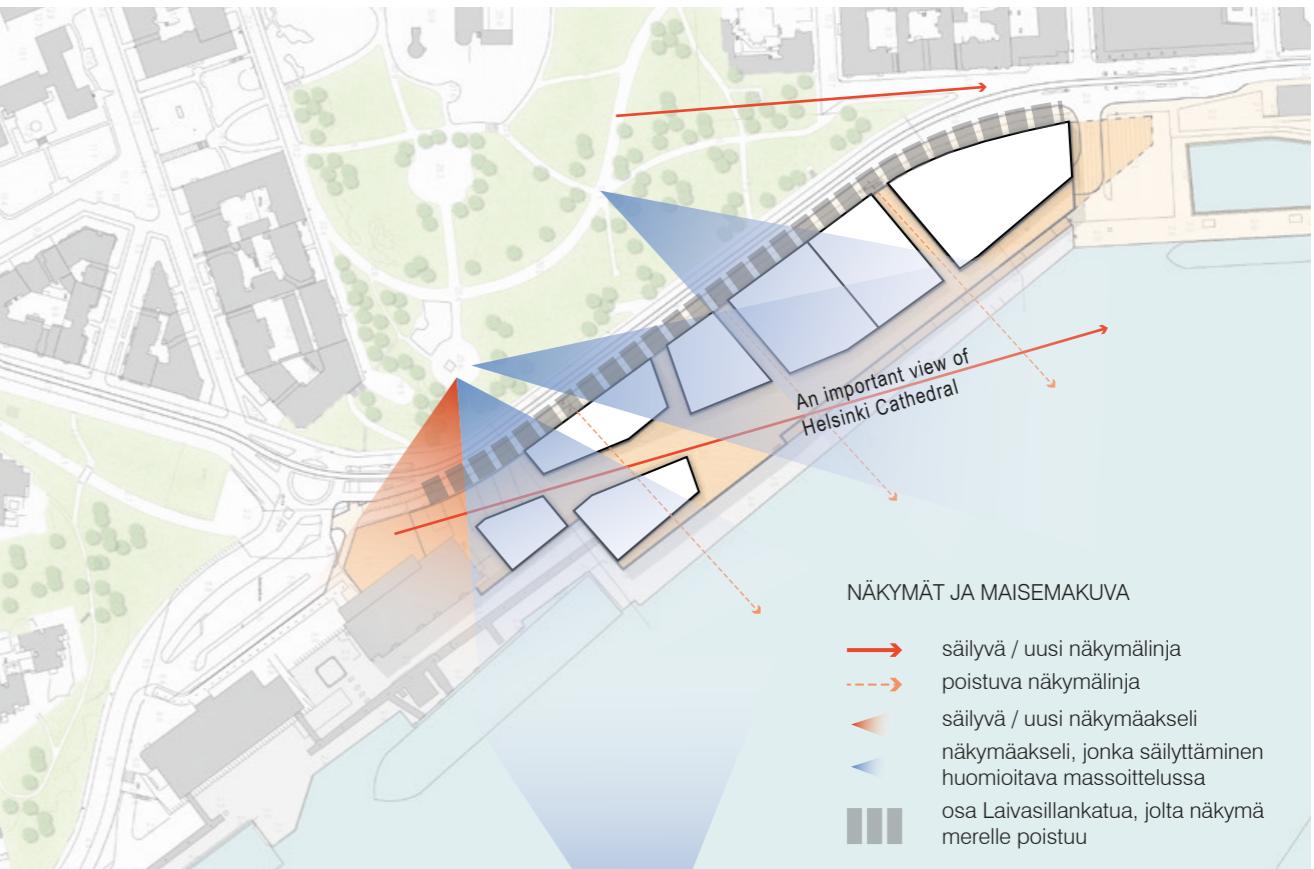
The construction area allocated onto the deck will rise high due to the space required by the harbour's traffic, deck structures and building services. Due to landscape values,

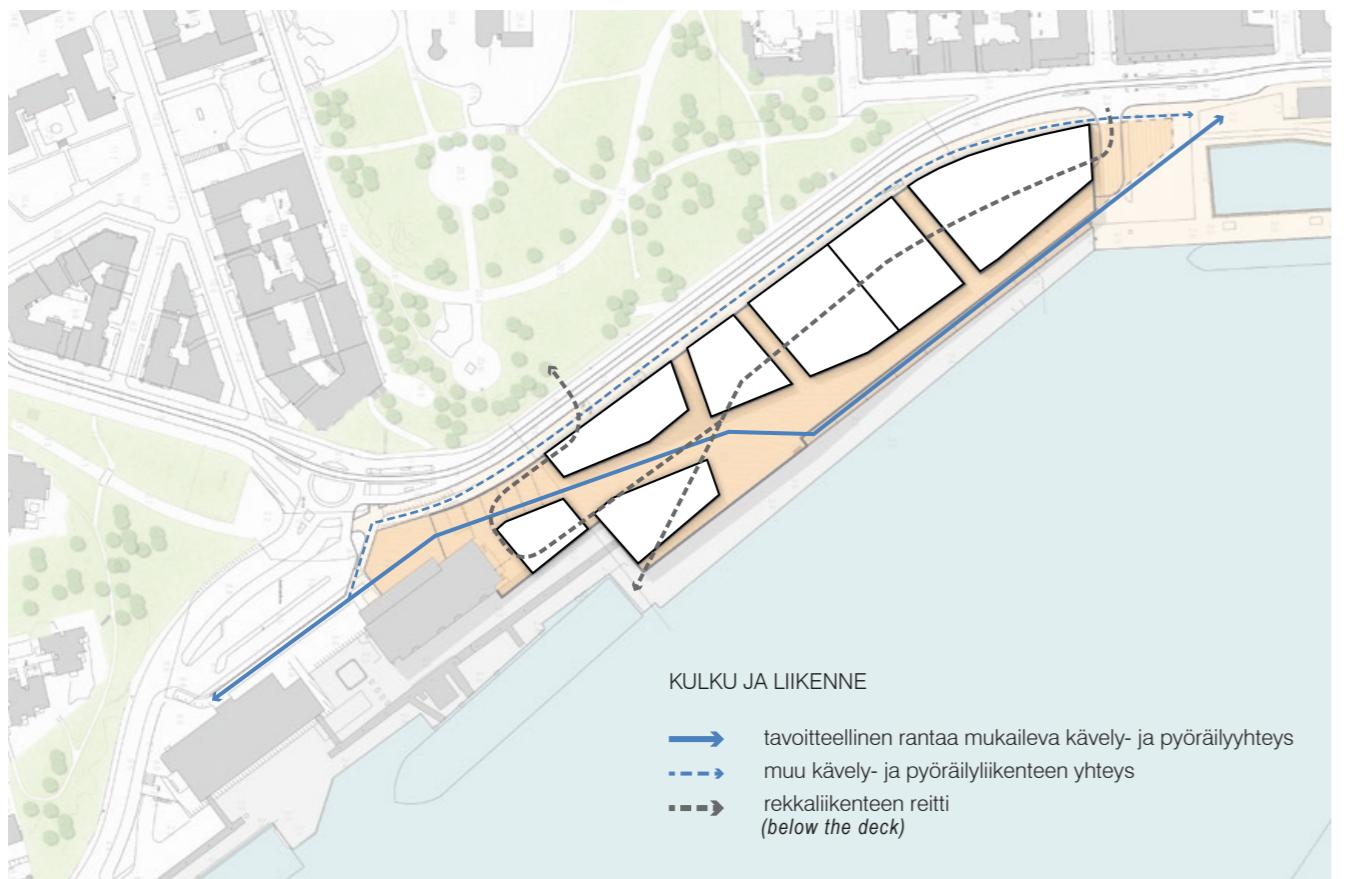
only one or two new floors of business premises can be built on the deck, and two floors can be partially placed below the deck. However, the intended use of the facilities will limit the number of floors. For example, a ceiling height of just over three (3) metres is sufficient for hotel operations, whereas an office requires a ceiling height of four (4) metres and retail premises usually require a ceiling height of five to six (5–6) metres. Depending on the situation, the free room height of a museum exhibition space should be between four (4) and seven (7) metres, or even higher depending on the size of the halls – which in practice means a ceiling height of up to almost ten (10) metres. The structuring of the floors is also affected by how they are linked to and bordered by the adjacent decks and the elevated Laivasillankatu.

In the southern part of Makasiiniranta, new construction over the harbour area will require an expensive deck structure that will distribute the loads caused by construction above the deck to the foundations of the harbour area. In the event that different typologies will be built on top of each other in the northern part of the area, a similar deck structure will be required there as well. The facilities to be built on the deck will be determined by the implementation principles of the facilities below.

At the northern end, lorry traffic will divide the lowest floors of the area into two parts, which will make it difficult to utilise them efficiently. Some of the facilities under the deck will be dark and difficult to use, and especially on the Laivasillankatu side the narrow shape of the facilities will pose major challenges. The tunnel's fire and rescue safety arrangements also form their own challenge for implementation in the concept, which must be taken into account in further planning.

If a museum building is built in the northern part of the area, it will also contribute in determining how densely the area can be built in general. The advantage of this concept is that it frees coastal construction in the northern part of the area from the harbour area and creates a direct connection to the quay area and sea. However, construction is likely to be financially unprofitable in this option, even if the masses were realised as extensive floors on the decks. The construction is technically very challenging, and the cost of the deck will be unreasonably high in relation to the new floor area gained.



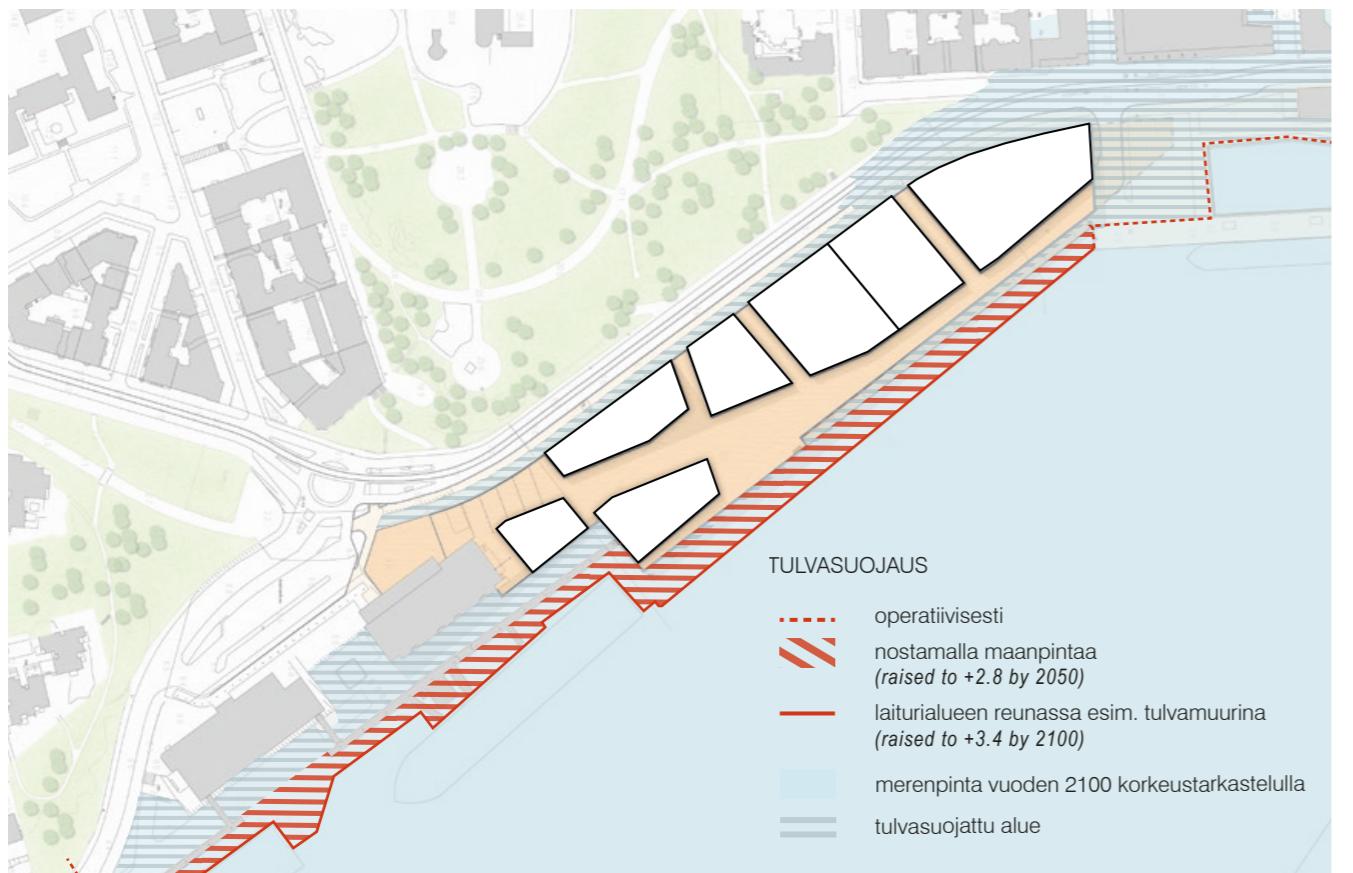


The solution as a whole limits the feasible typologies of commercial construction. Dividing the area into properties and plots is complicated and requires three-dimensional real estate formation. The option is also very difficult in terms of phasing, as the maintenance of port operations must be taken into account, as well as the impact of the changes on all harbour structures, including the quays and their bollards and other equipment, disembarkation structures, passenger corridors and their connection to passenger terminals and onshore power infrastructure, among other things. The construction of the facilities under the deck will bind the concept starting point in the future, even if the harbour is removed from the area in the future. Subsequent extension of the solution to the harbour area will require taking into account the structures and space of the lorry traffic route from the beginning as a part of the building's lifecycle. The concept is also contractually very challenging and its implementation would require collaborative models, the success of which is more uncertain than likely. The division of responsibilities between the properties and the harbour will be challenging in the connecting areas.

The total new floor area is estimated at about 40,500 floor square metres. However, at least about 16,000 floor square metres of this area will be difficult to utilise. Approximately 1,000–1,500 floor square metres of the total area must be set aside for the premises of the passenger terminal.

Traffic

The traffic solution is based on the solution presented in the preliminary guideline plan for the technical space allocation and implementation method at the South Harbour bay (Ramboll Finland Oy 2020), in which the lorry traffic route remains in its current location in the middle of the harbour yard. The deck covering the yard and lorry traffic route will allow new construction in the area while maintaining harbour traffic. However, due to the columns that will be erected under the deck, the lorry queuing capacity will be reduced by about 180 metres. In addition to this, the pick-up, drop-off and maintenance traffic of the new passenger terminal will have to be resolved. The harbour yard under the deck and the beginning of the lorry traffic route will be raised to +2.5. The pick-up, drop-off and maintenance traffic of the new passenger terminal are not presented in the plan, and their location and dimensioning will be decided later during further planning.



On the north side of Satamatalo under Laivasillankatu, space will be set aside for the entrance of the possible underground collector street. The entrance to the collector street will be pushed down to -2.2, in which case Laivasillankatu can remain at its current level. If the collector street is realised, it will become the main connection for the harbour's lorry traffic, and the route below the deck will remain a backup connection to the transport network.

The new deck will be adjusted to the current elevations in front of Satamatalo, from which the deck will rise to the required height. The pedestrian and bicycle route will run on the deck close to the shore towards the Market Square and Helsinki Cathedral. The pedestrian route will not intersect with lorry traffic at any point, but due to the large elevation difference between the deck and the street, an accessible route to the deck is only possible from the north end of the plot along a long shore-side ramp or by lift between the levels.

Flood protection

The plan will realise flood protection in two stages in order to maintain port operations. For shorter-term flood protection, the quay area of the harbour will be raised to +2.8, and later, as the need arises, the edge of the quay area will be raised to +3.4. The two-stage implementation was chosen in order to accommodate port operations. Even the moderate raising of the quay level in the first stage will require changes to the disembarkation corridors and gangways, increasing costs. On the northern side of the plot, flood protection will be combined with the operational protection of the Market Square.

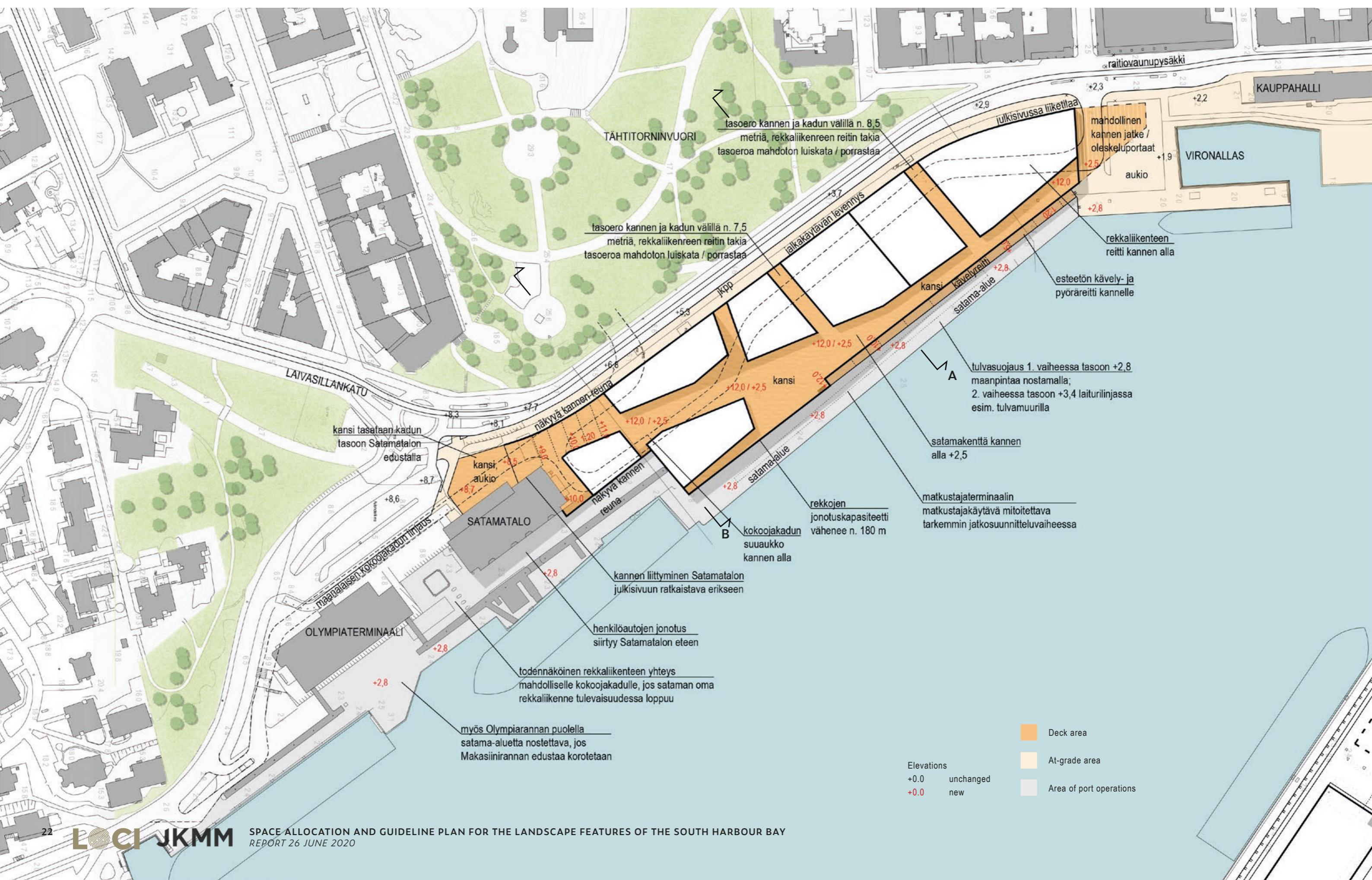
Considerations for further planning

The plan does not include the space required for pick-up, drop-off and maintenance traffic at the potential new passenger terminal. At a later stage, a place must be found for it either on the plot or in the vicinity of Pakkahuone Quay, for example. Likewise, the more precise location and size of the passenger corridor required by the terminal operations will need to be examined in more detail in the future.

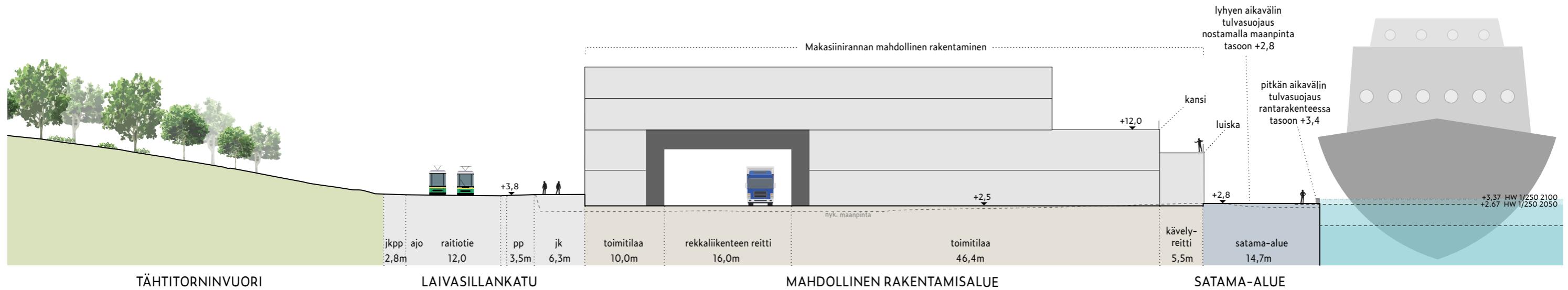
LAYOUT PLAN

1:2000

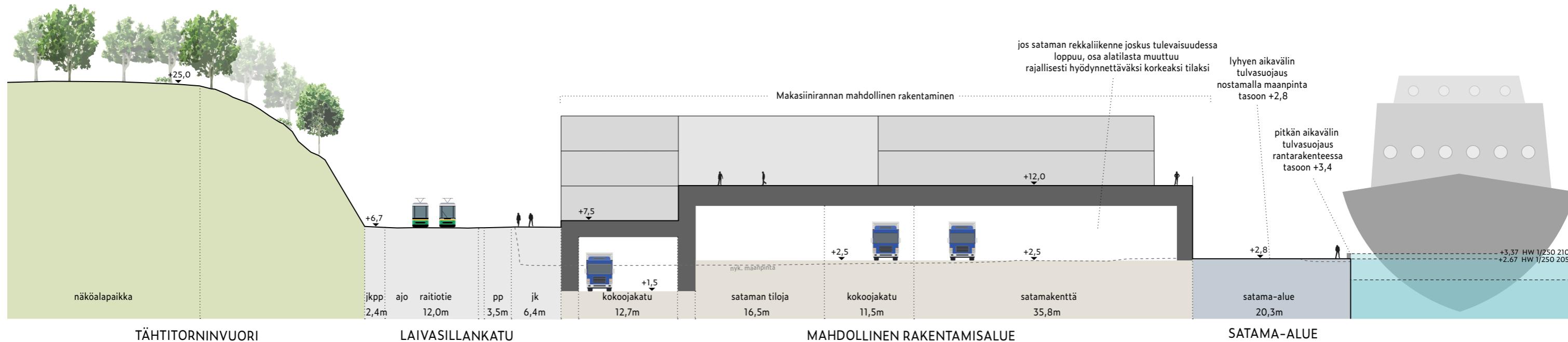
MAKASIINIRANTA AND OLYMPIARANTA, VE1



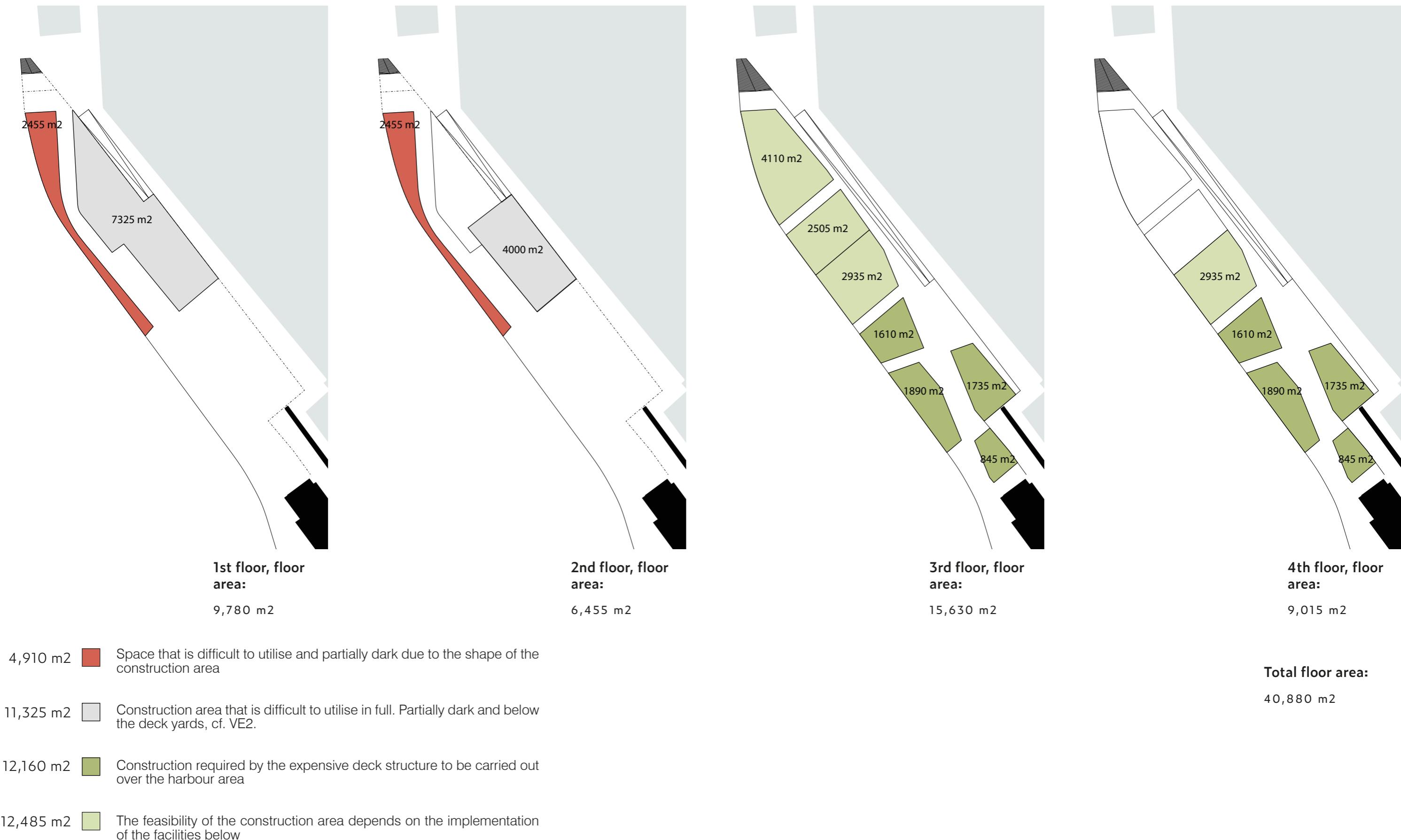
SECTION A-A 1:500



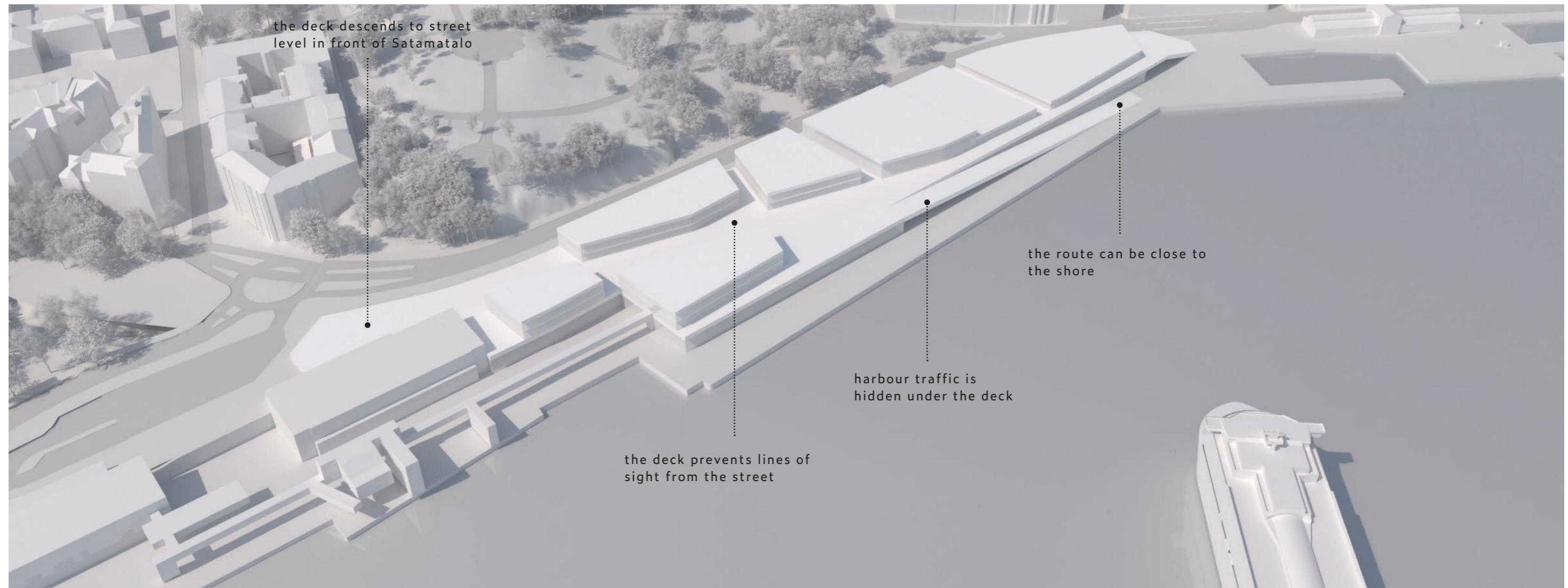
SECTION B-B 1:500



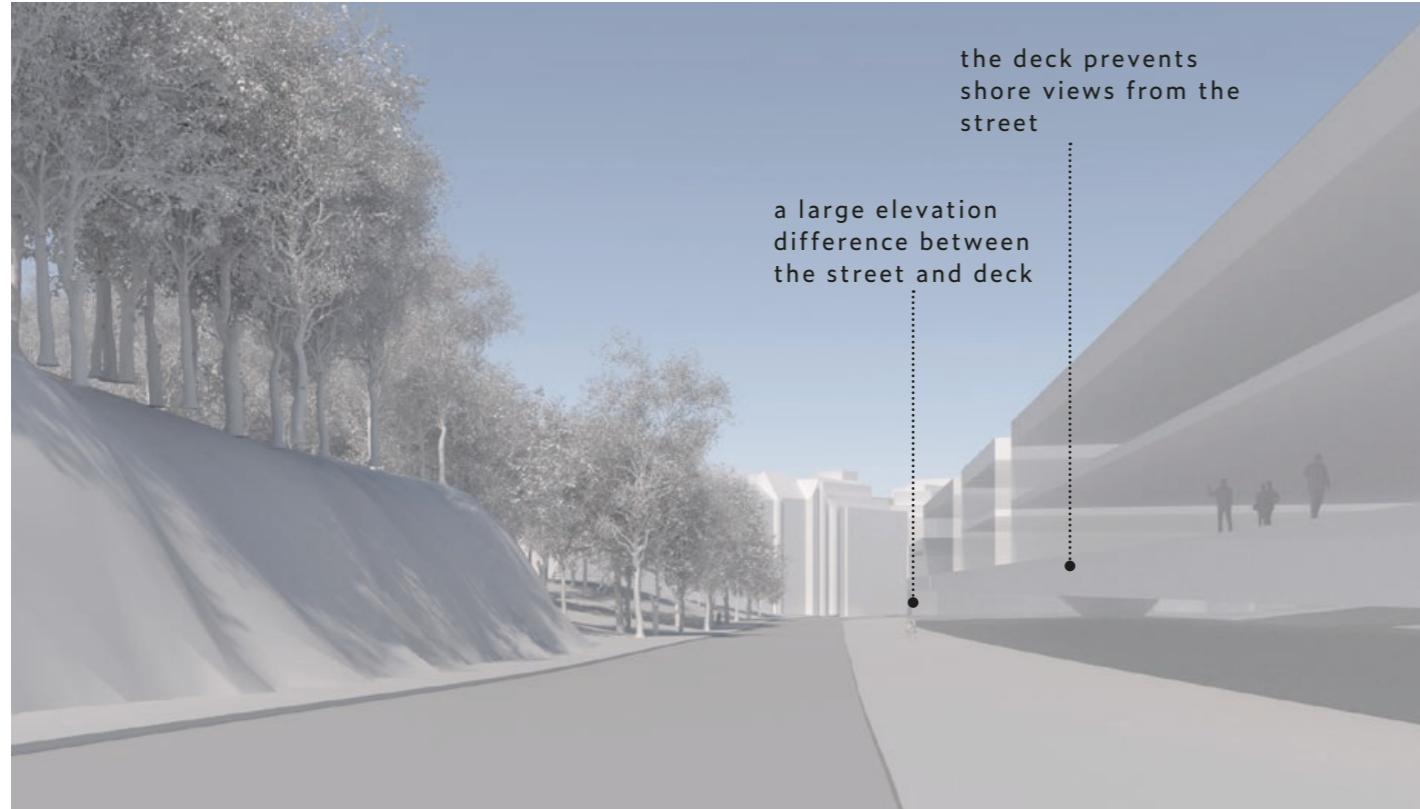
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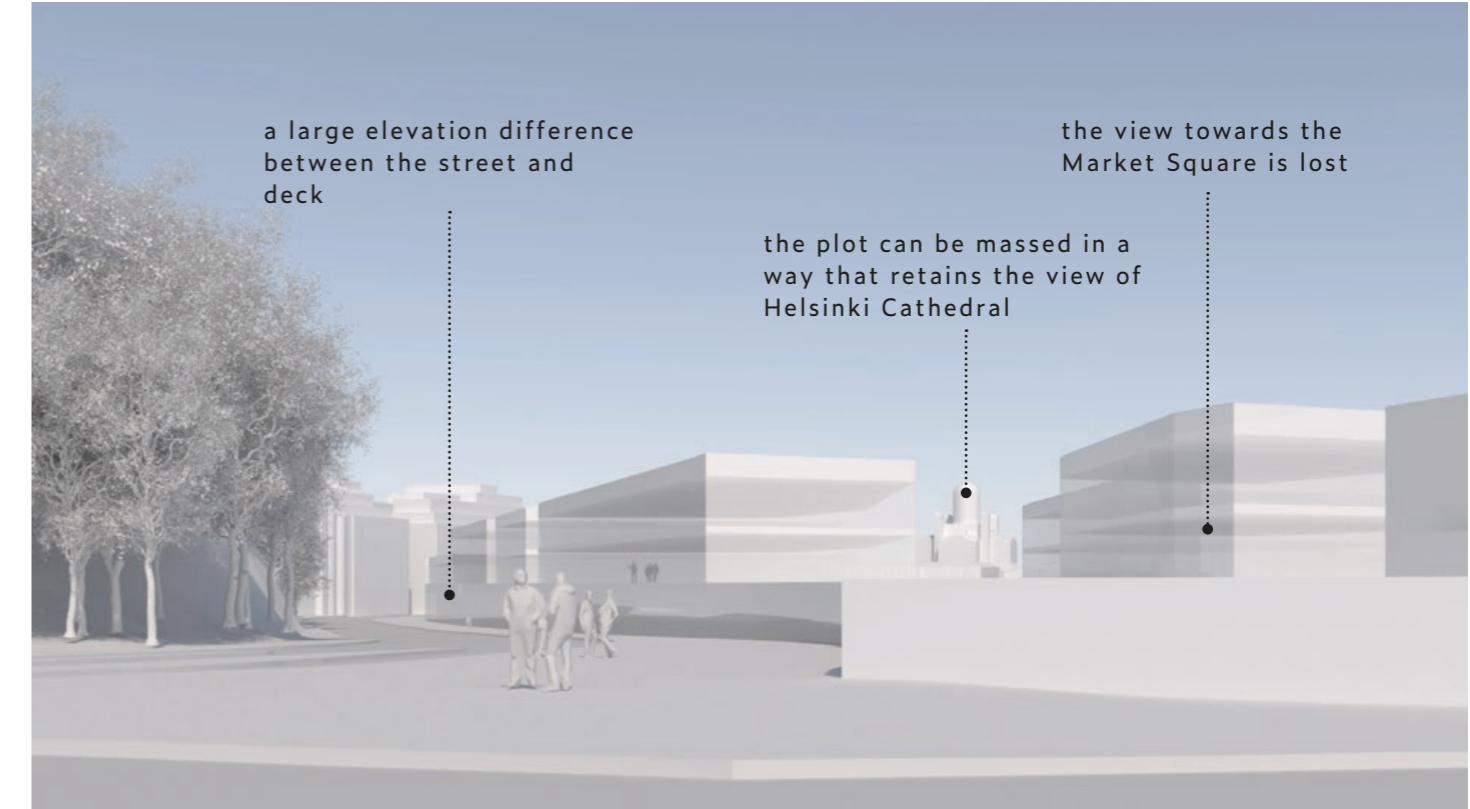
View from the Market Square



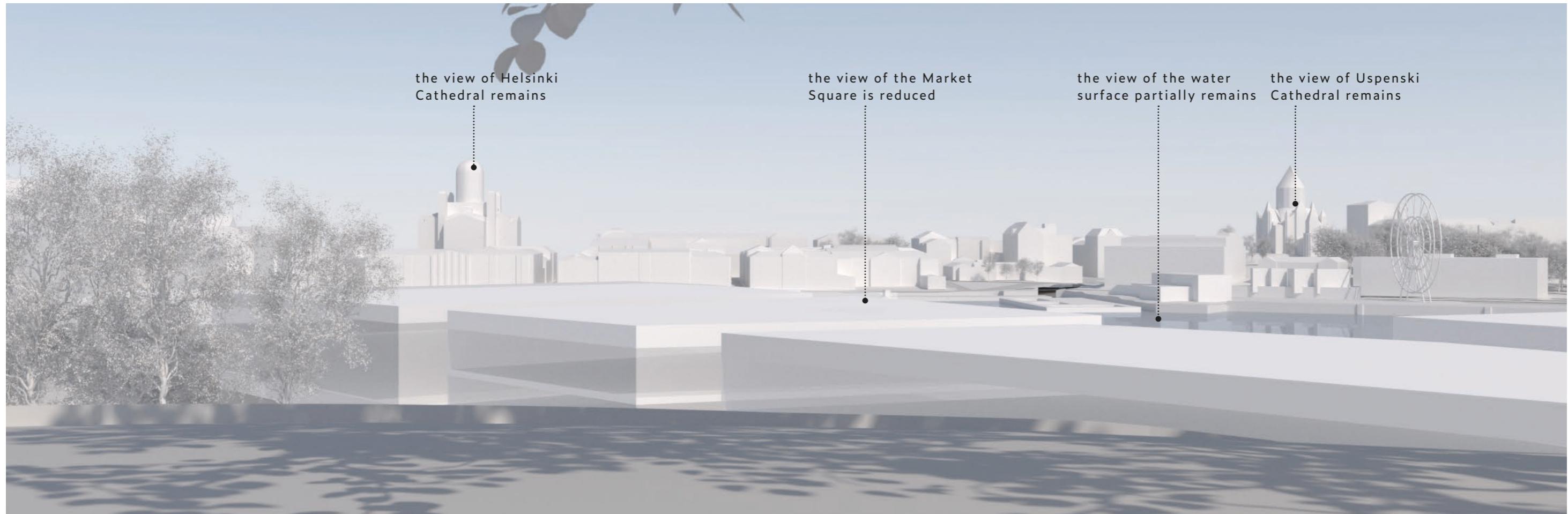
View from Laivasillankatu



View from Olympia Terminal



View from the Tähtitorninvuori viewpoint



IF THE HARBOUR'S LORRY TRAFFIC CEASES IN THE AREA

The Port of Helsinki Ltd has a lease for the harbour areas at least until 2074 in the current situation. However, if at some point the lorry traffic in the area ceases, it will be possible to put the facilities previously reserved for the Port to other use.

The additional examination related to this has been narrowed down to primarily focus on assessing the floor area potential of the premises and additional construction that will be freed from the harbour's lorry traffic for other activities, and it has not been coordinated with the guideline plan for technical space allocation and implementation method. Therefore, planning issues related to traffic, technical space allocation and implementation method have been excluded from the additional examination.

Construction

If lorry traffic ceases in the area, complementary construction may expand into the area allocated for it. The space allocation for lorry traffic that used to be located under the buildings inconveniences the further planning of the area, and the utilisation of the area as functional premises for a new building is limited. If buildings have been built on top of the structures in the first phase, the load transfer structures under them cannot be dismantled afterwards.

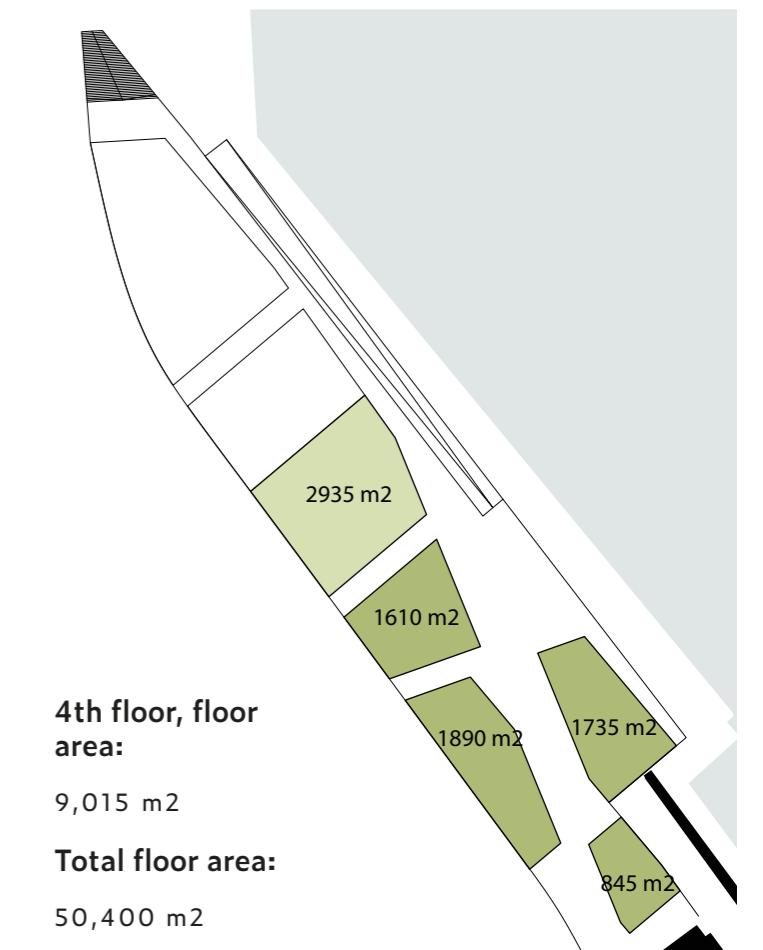
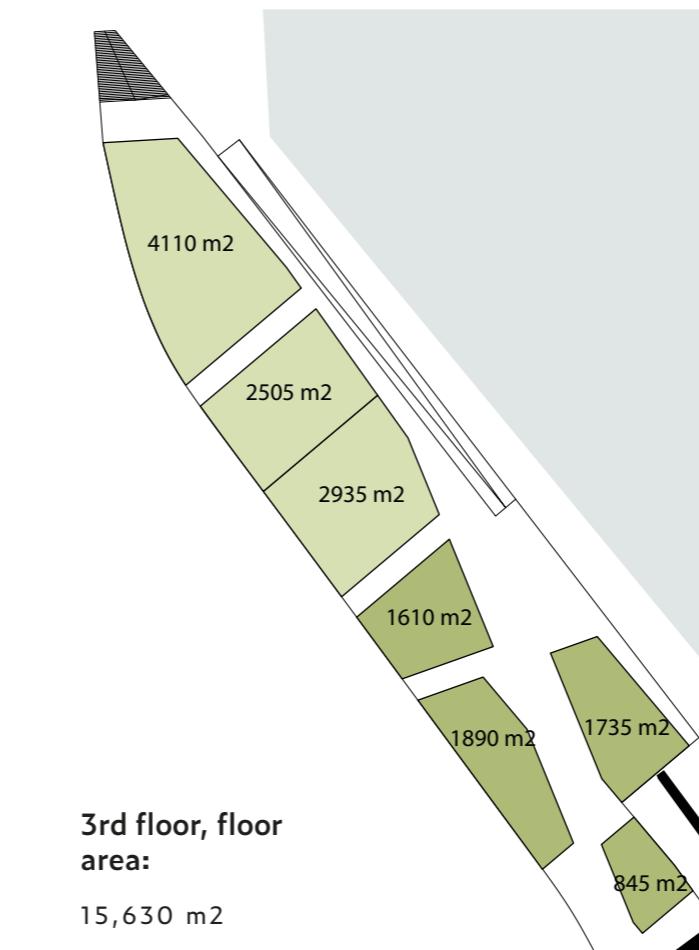
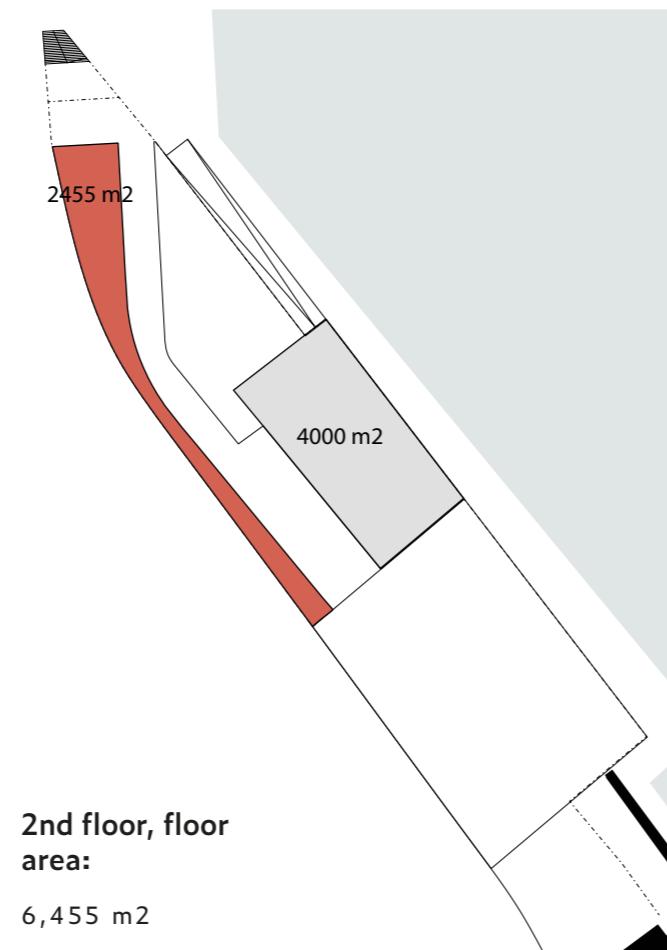
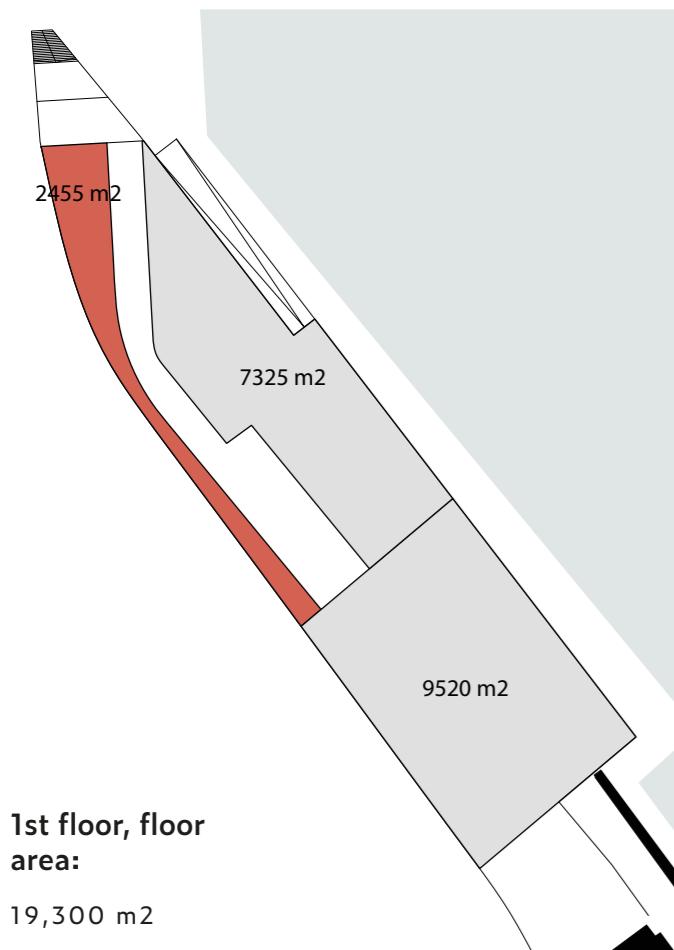
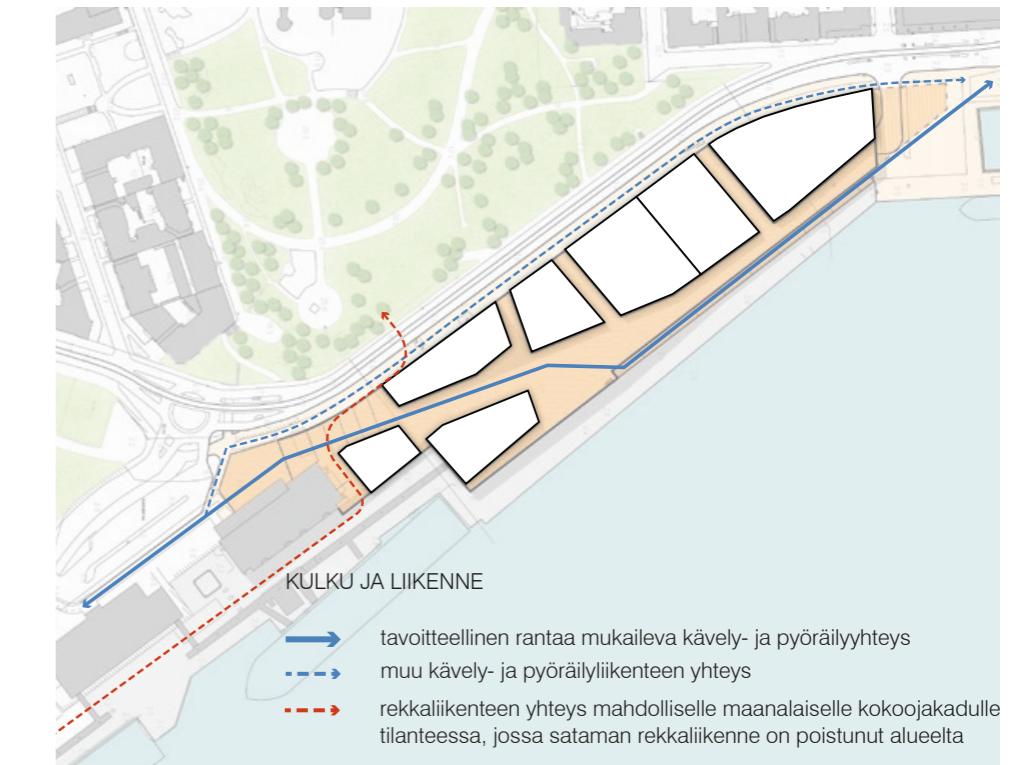
The lorry traffic area is high enough for implementing one floor of business premises, but it is too low and the adjacent premises' second-floor floors at such an elevation that implementing two floors in the area will not be possible.

Traffic

The lorry traffic connection to the collector street, the organisation of property maintenance and the consideration of the requirements of car traffic require further research. This requires the provision of background information by determining the possibility of passing through the harbour security area to the properties and the collector street or the accessibility of the properties from the west side of Laivasillankatu, for example through the entrance of a rock parking facility.

Landscape

The cessation of port operations will not affect the landscape and spatial qualities of the option. The reorganisation of the premises will primarily take place under the deck.



MAKASIINIRANTA AND OLYMPIARANTA, PLAN OPTION 2

In this plan option, the lorry traffic route will be moved to be as close to the shore as possible, freeing up a connected area for construction between Laivasillankatu and the harbour area remaining on the shore. New deck structures have only been presented in front of Satamatalo on Laivasillankatu to cover the collector street connection, and no construction has been proposed on the deck – which will have a significant impact on the cost of the deck.

Landscape

Thanks to the relocation of the lorry traffic route, the area can be built in without almost any restrictions imposed by the port operations, and there is little need for deck structures that would significantly affect the landscape. The deck presented in the plan will only cover the route of the underground collector street, and it does not need to be very high – only approximately 9 metres at its highest. The deck will also be easy to connect to the level of Laivasillankatu almost all along its width.

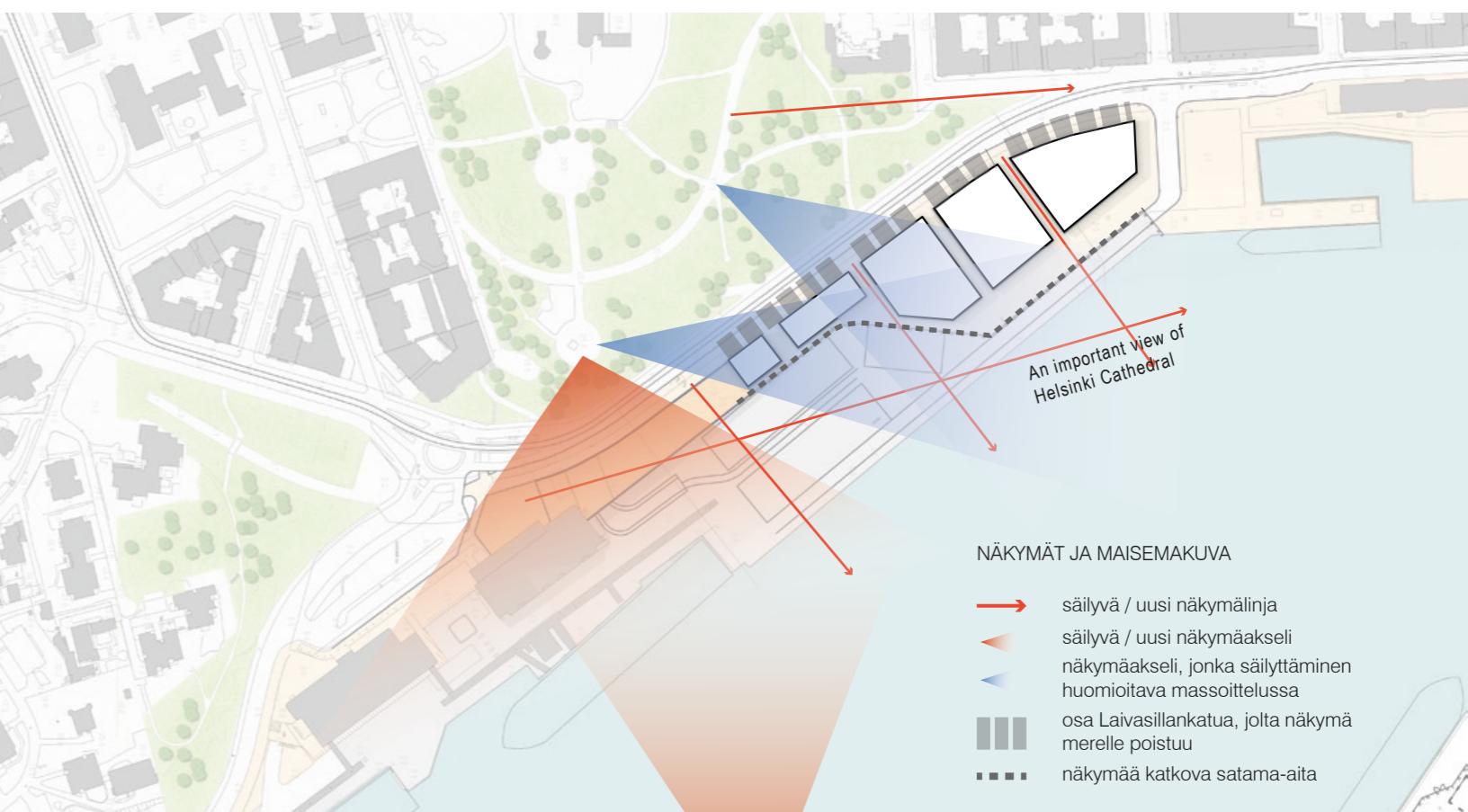
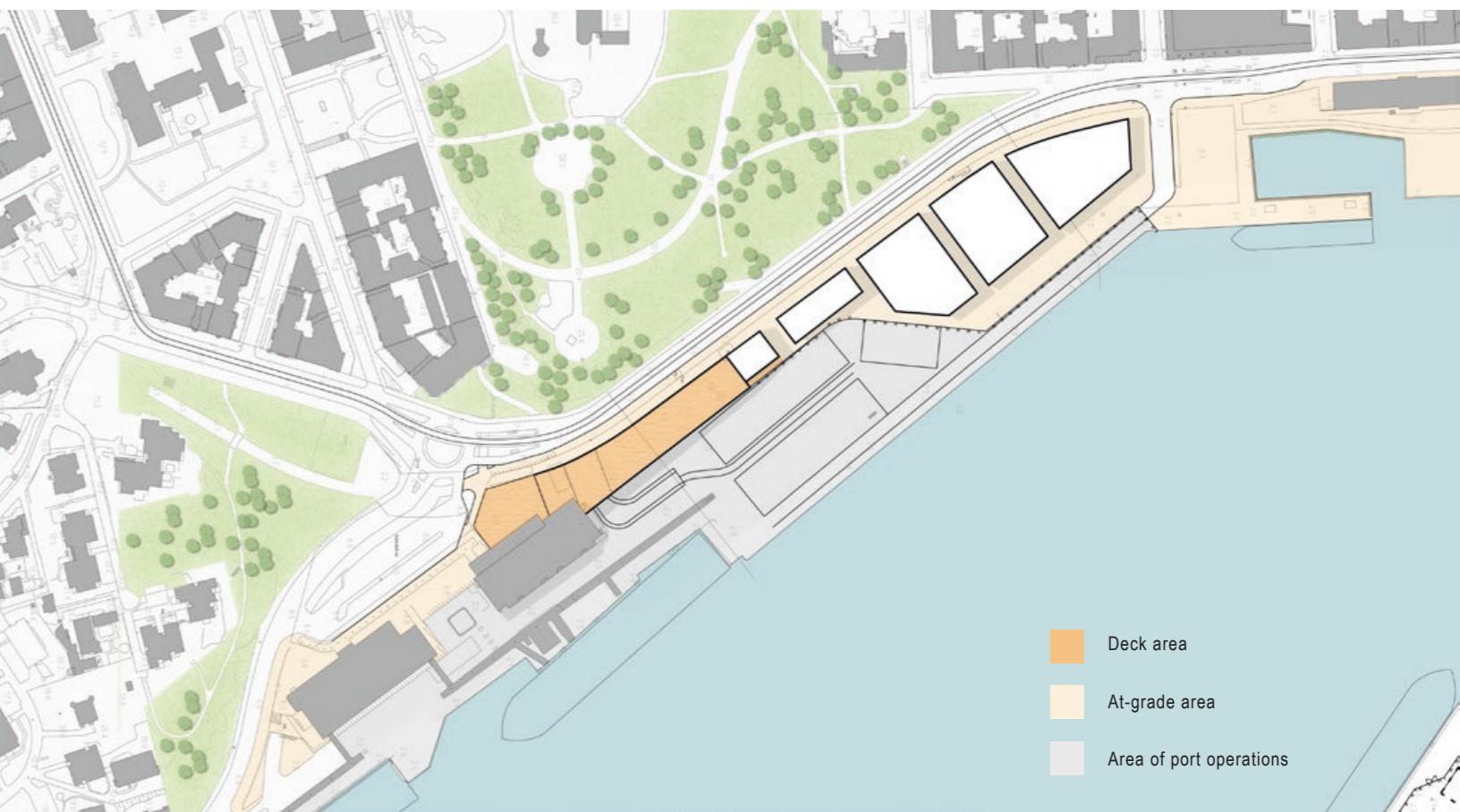
In practice, this means that it will be possible to freely distribute the building masses in such a way that views from Laivasillankatu to the sea can be maintained between them. With good planning, Laivasillankatu can be kept more open than in option 1 (VE1). Street-level business premises can be made to open onto street space, which supports the goals of inner-city-like construction. The seaside trail is located closer to the shore in the plan than it is currently, and it is possible to raise it above the level of the harbour yard. However, the high harbour fence in front of the trail will somewhat restrict the views.

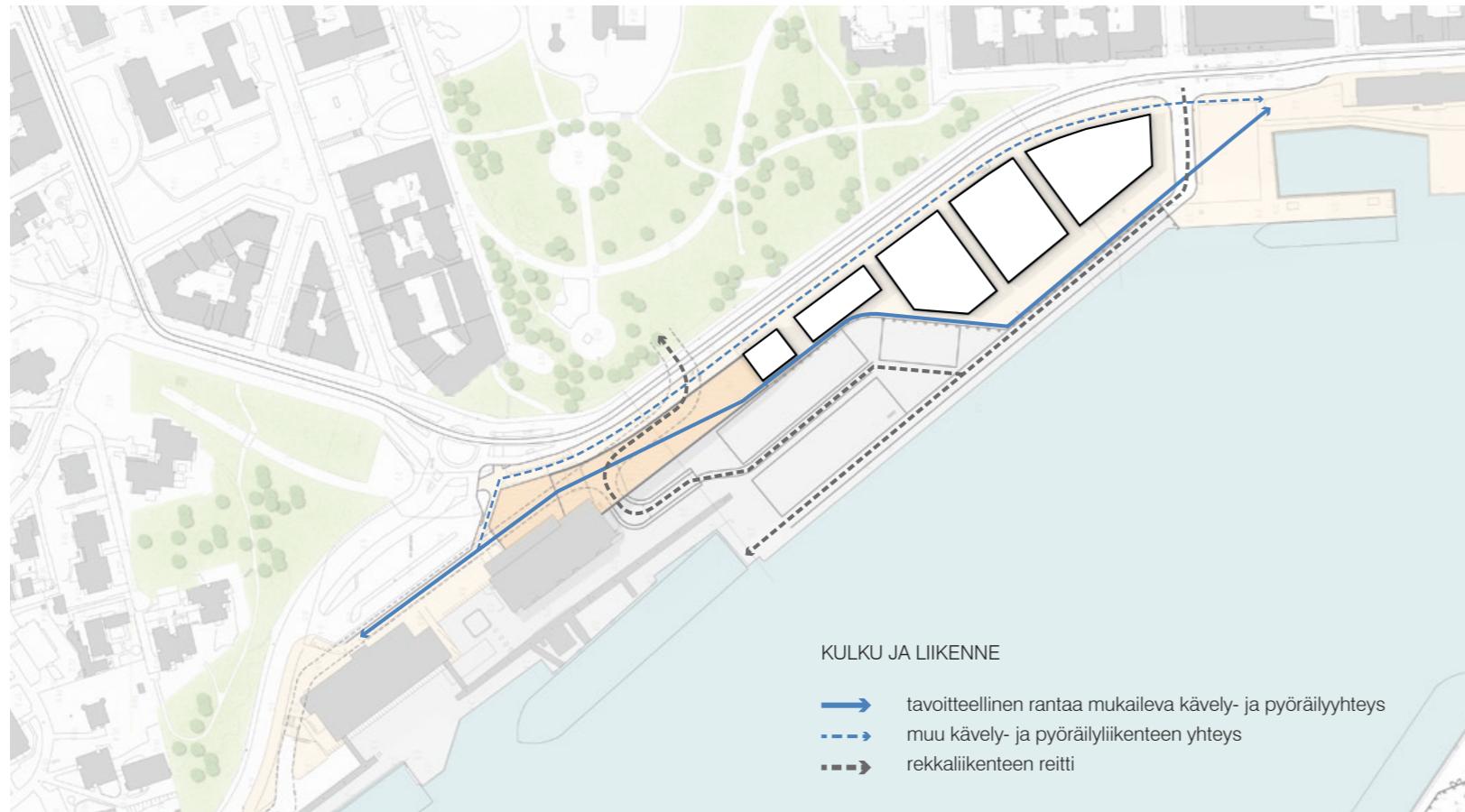
Construction

New construction will be located outside the harbour area and will not be tied to port operations or a deck structure. Thus, this option is more appropriate from the point of view of both port operations and commercial construction. The construction area is connected and can be massed freely. The port operations will not set the pace of the construction, which allows the concept to be developed independently without any challenging contract structures and the area to be divided into properties and plots as needed. New building masses can rise up directly from the ground at the shore, which provides diverse opportunities for different typologies from diverse commercial construction to museum construction. The buildings' internal floor heights can be structured and the functions grouped more freely than in option 1 (VE1).

The construction area will be easily expanded if the harbour's need for space decreases later in the future. The concept also allows for the diverse further development of the entire area if the harbour leaves the area at some point. Thus, this option allows the construction and decision-making to be carried out in stages. The weakness of this concept is that it does not build a connection to the shore but is left behind the port operations. However, on the side of Laivasillankatu the connection is natural.

The total new floor area is estimated at around 30,500 floor square metres. However, this area will be available for more varied use than in option 1.





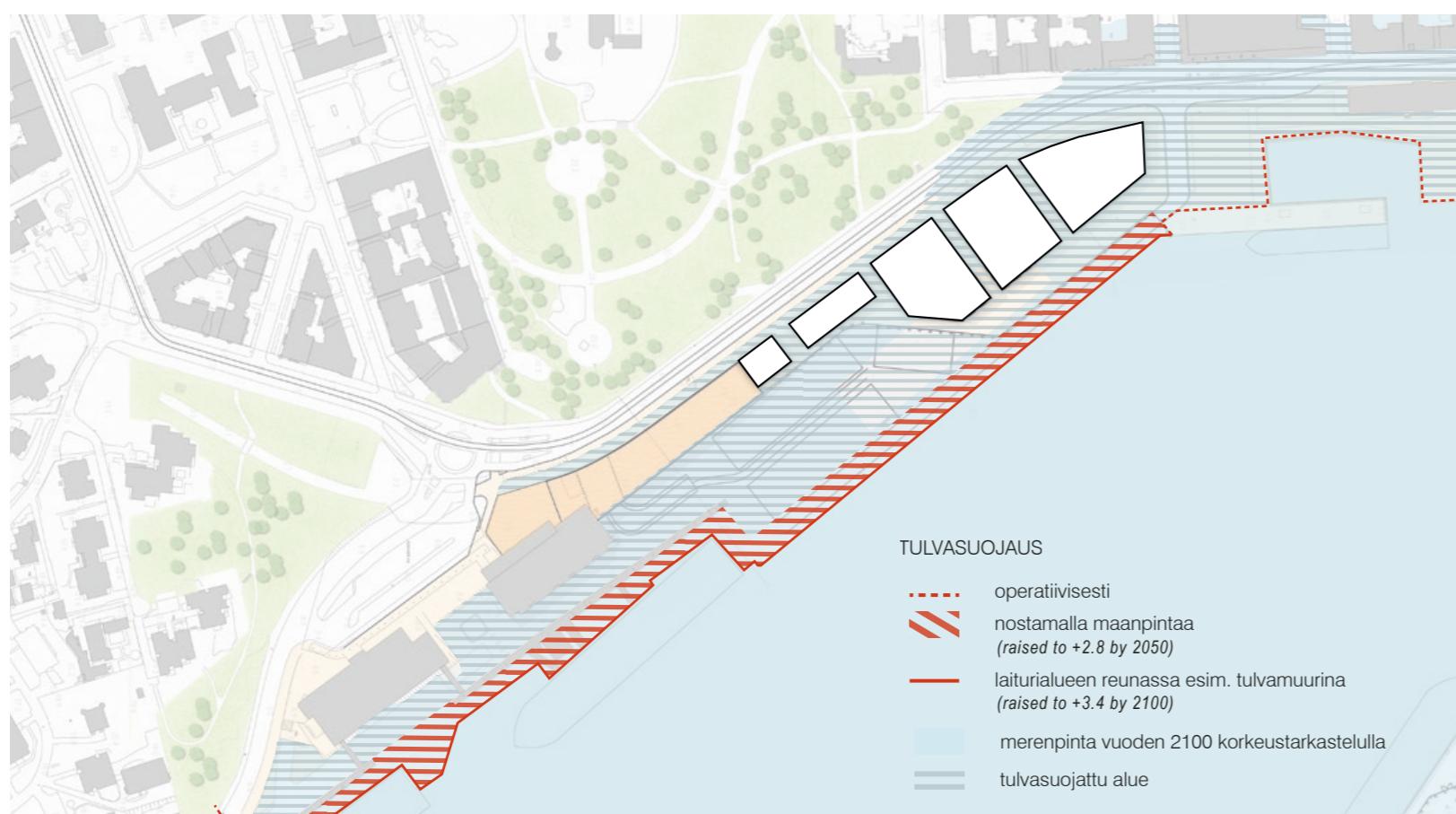
Approximately 1,000–1,500 floor square metres of the total area must be set aside for the premises of the passenger terminal.

Traffic

The traffic solution is based on the solution presented in the preliminary guideline plan for the technical space allocation and implementation method at the South Harbour bay (Ramboll Finland Oy 2020), in which traffic is organised on the open harbour yard and lorry traffic runs along the shore. The harbour yard will be raised to +2.5. The pick-up, drop-off and maintenance traffic of the new passenger terminal are not presented in the plan, and their location and dimensioning will be decided later during further planning.

On the north side of Satamatalo under Laivasillankatu, space will be set aside for the entrance of the possible underground collector street. The entrance to the collector street will be pushed down to -2.2, in which case Laivasillankatu can remain at its current level. If the collector street is realised, it will become the main connection for the harbour's lorry traffic, and the route along the shore will remain as a backup connection to the transport network.

The main pedestrian and bicycle connection will be moved closer to the shore between the construction area and the harbour yard. However, the pedestrian and bicycle route will intersect at the northern end of the plot with the lorry traffic route.



Flood protection

As with the first option, flood protection will be carried out in two stages. For shorter-term flood protection, the quay area of the harbour will be raised to +2.8, and later, as the need arises, the edge of the quay area will be raised to +3.4 by means of a flood wall, for example. The two-stage implementation was chosen in order to accommodate port operations. Even the moderate raising of the quay level in the first stage will require changes to the disembarkation corridors and gangways, increasing costs. On the northern side of the plot, flood protection will be combined with the operational protection of the Market Square.

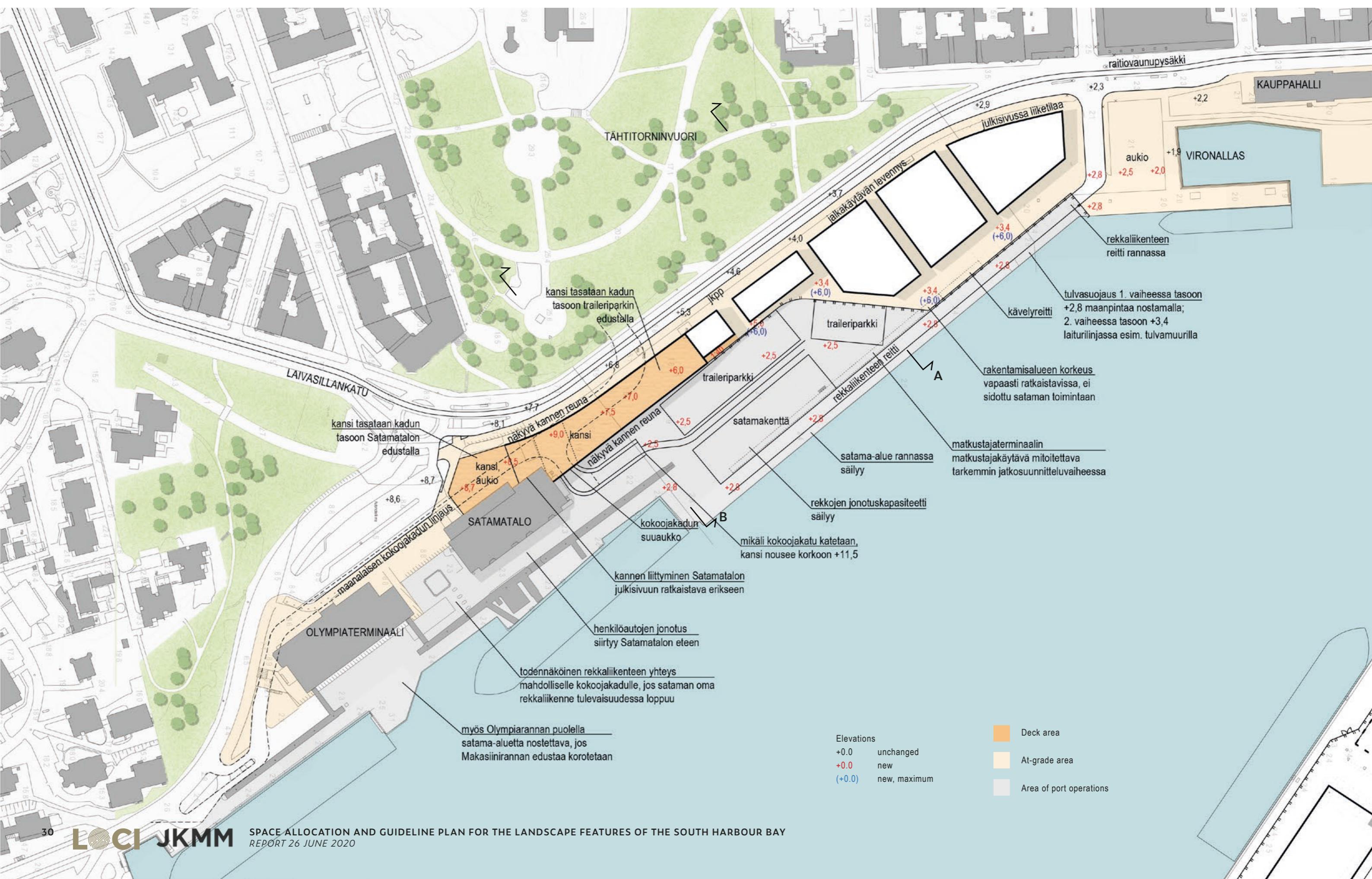
Considerations for further planning

The plan does not include the space required for pick-up, drop-off and maintenance traffic at the potential new passenger terminal. At a later stage, a place must be found for it either on the plot or in the vicinity of Pakkahuone Quay, for example. Likewise, the more precise location and size of the passenger corridor required by the terminal operations will need to be examined in more detail in the future.

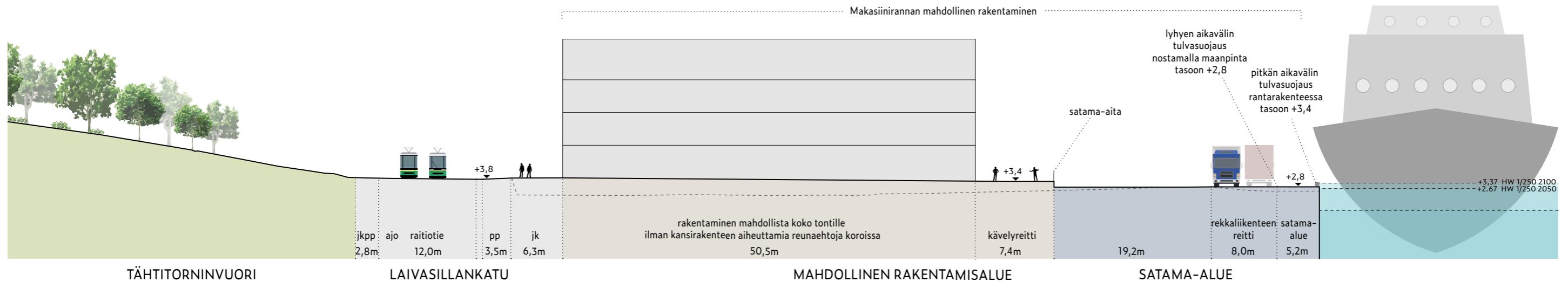
LAYOUT PLAN

MAKASIINIRANTA AND OLYMPIARANTA, VE2

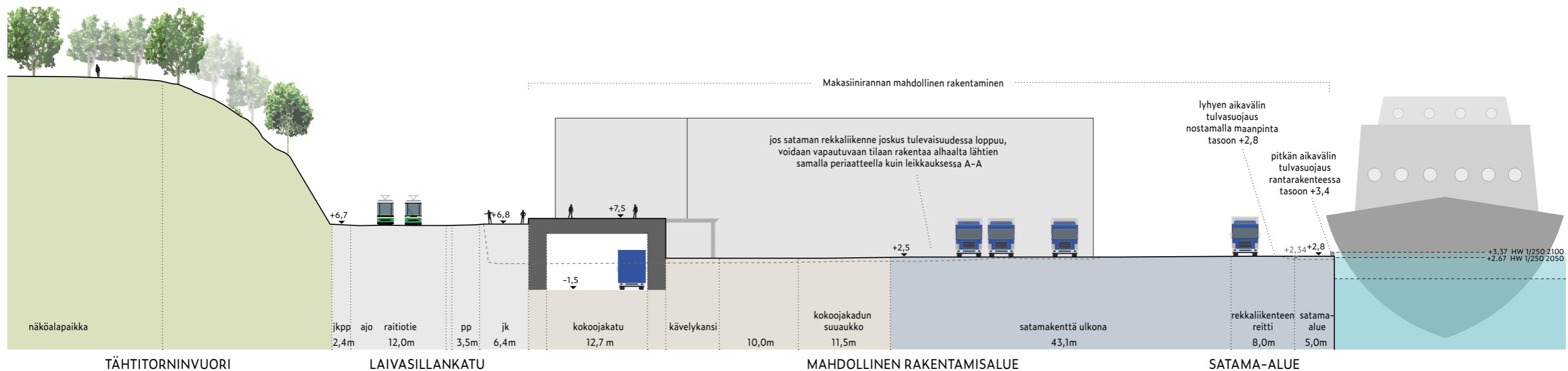
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SECTION A-A 1:500



SECTION B-B 1:500

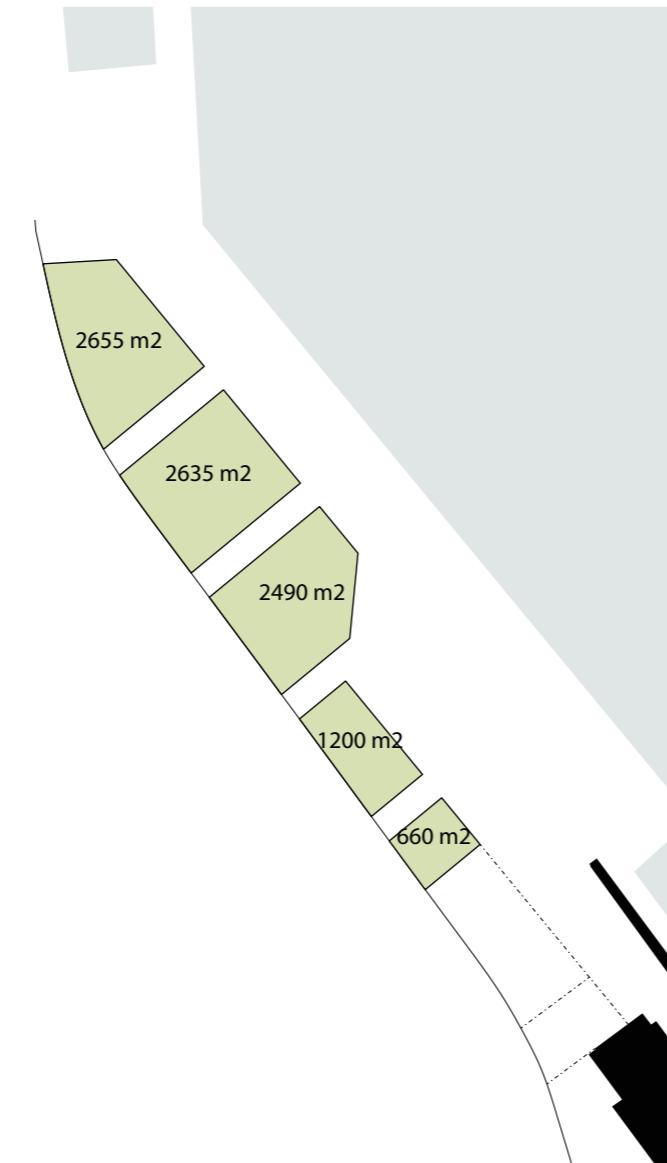


1:3000



1st floor, floor area:

9,640 m²



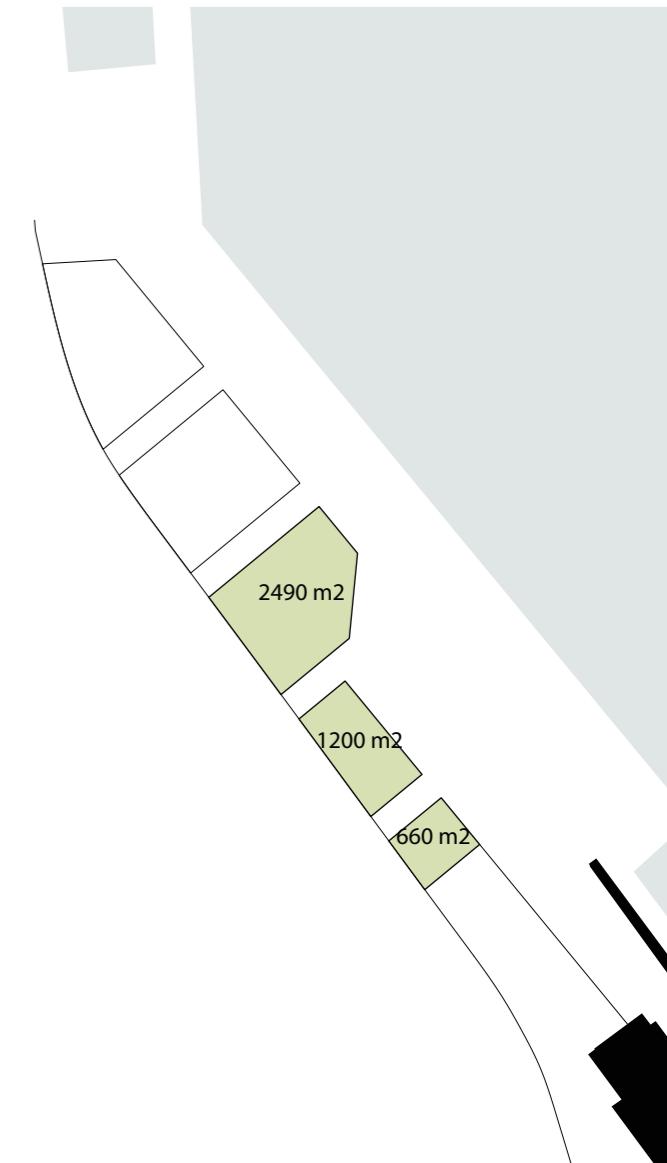
2nd floor, floor area:

9,640 m²



3rd floor, floor area:

6,985 m²



4th floor, floor area:

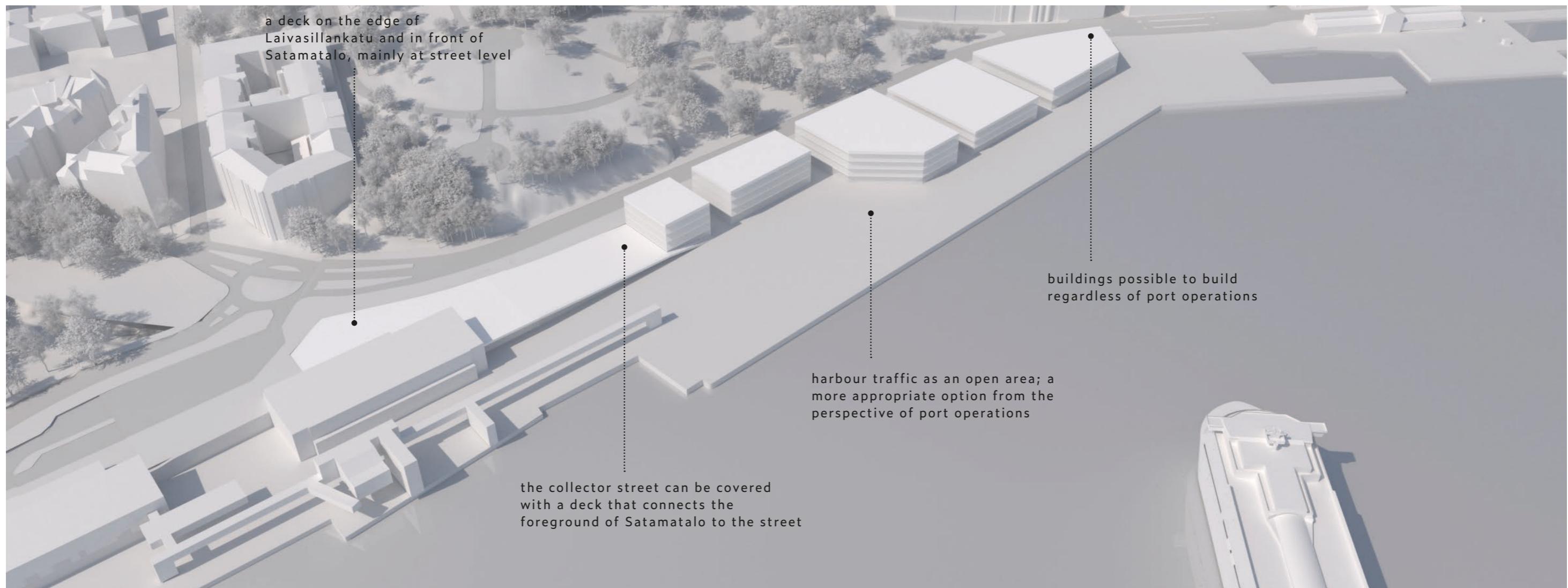
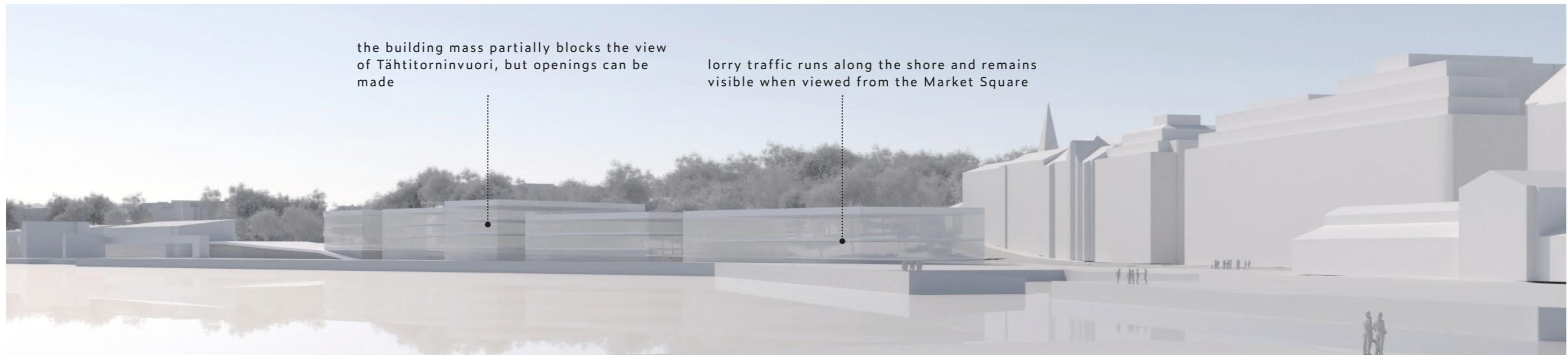
4,350 m²

All buildings and their storeys can be built independently from the foundations all the way up, regardless of the operations in the harbour area, and divided into properties/plots as needed.

Total floor area:

30,615 m²

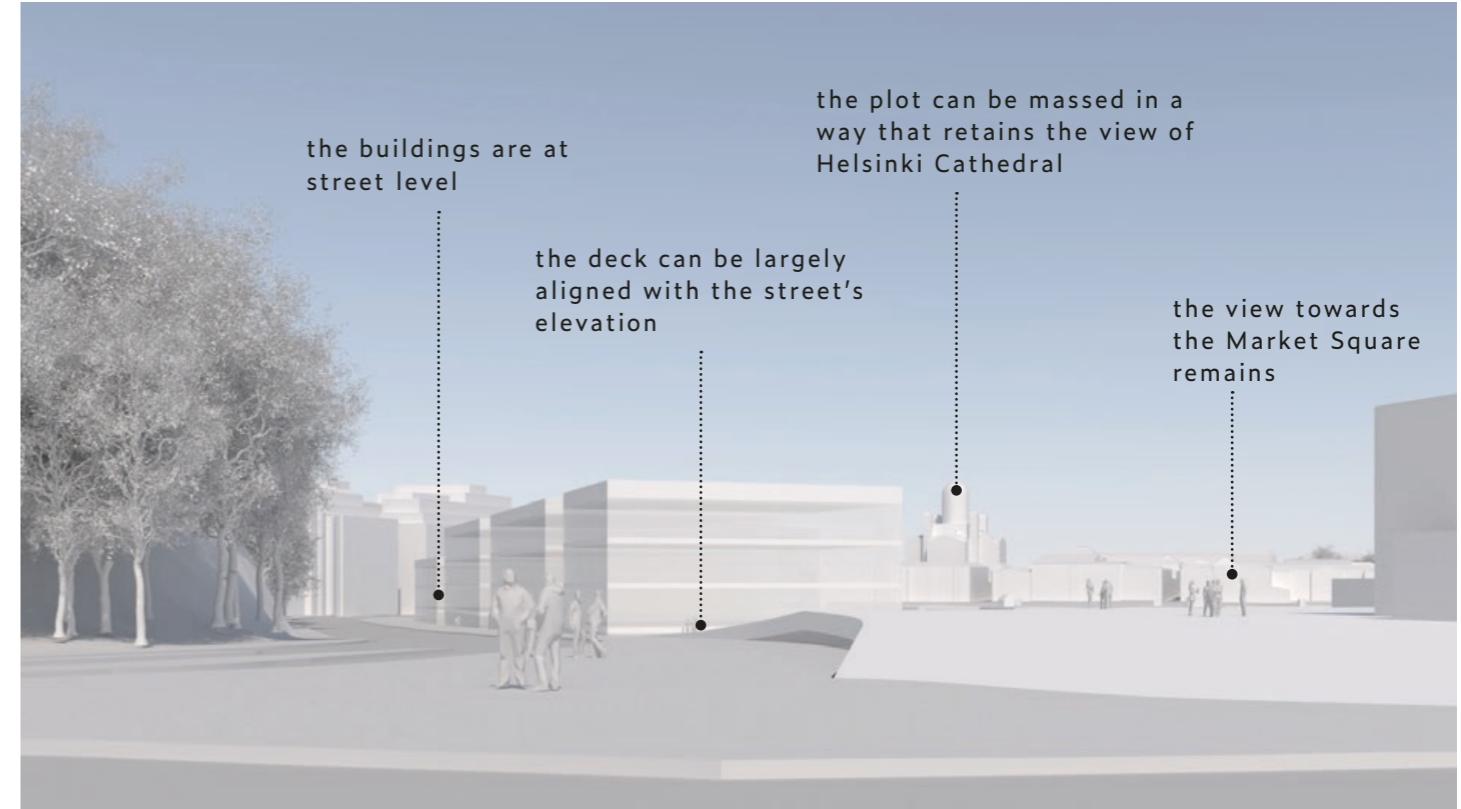
View from the Market Square



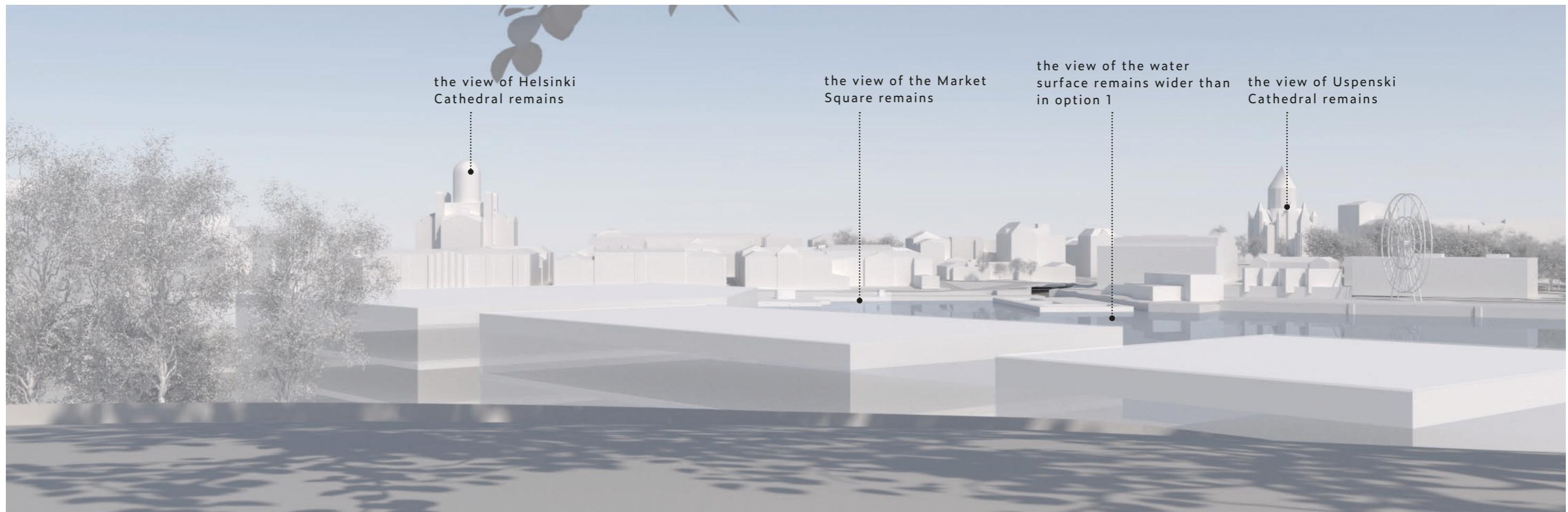
View from Laivasillankatu



View from Olympia Terminal



View from the Tähtitorninvuori viewpoint



LONG-TERM ARRANGEMENTS

IF THE HARBOUR'S LORRY TRAFFIC CEASES IN THE AREA

The Port of Helsinki Ltd has a lease for the harbour areas at least until 2074 in the current situation. However, if at some point the lorry traffic in the area ceases, it will be possible to put the facilities previously reserved for the Port to other use.

The additional examination related to this has been narrowed down to primarily focus on assessing the floor area potential of the premises and additional construction that will be freed from the harbour's lorry traffic for other activities, and it has not been coordinated with the guideline plan for technical space allocation and implementation method. Therefore, planning issues related to traffic, technical space allocation and implementation method have been excluded from the additional examination.

Construction

If lorry traffic ceases in the area, complementary construction may expand into the area allocated for it. As no structures restricting construction in the area have yet been built in the first phase, new buildings and structures can be implemented independently in accordance with the objectives of the overall plan. The new pedestrian and bicycle traffic deck from the northern edge of Satamatalo to the north and from Laivasillankatu towards the shore will rise to +9.0–9.5, which will enable the construction of one sufficiently high floor of business premises under the deck from the flood protection level +3.4 upwards. From the level of the deck upwards, floors of business premises can be implemented within the framework of a uniform structural system rising from the foundations without load transfer structures.

The long-term area plan for option 2 presents the boundaries of the building masses in the northern part of the area slightly differently from the first phase plan. This is due to the fact that the plan version has taken into account the implementation of the clearest and most

economical buildings possible from the perspective of the final situation. This makes it possible to produce a significant floor area in a meaningful way and create a consistent whole in terms of cityscape.

Traffic

The lorry traffic connection to the collector street, the organisation of property maintenance and the consideration of the requirements of car traffic require further research. This requires the provision of background information by determining the possibility of passing through the harbour security area to the properties and the collector street or the accessibility of the properties from the west side of Laivasillankatu, for example through the entrance of a rock parking facility.

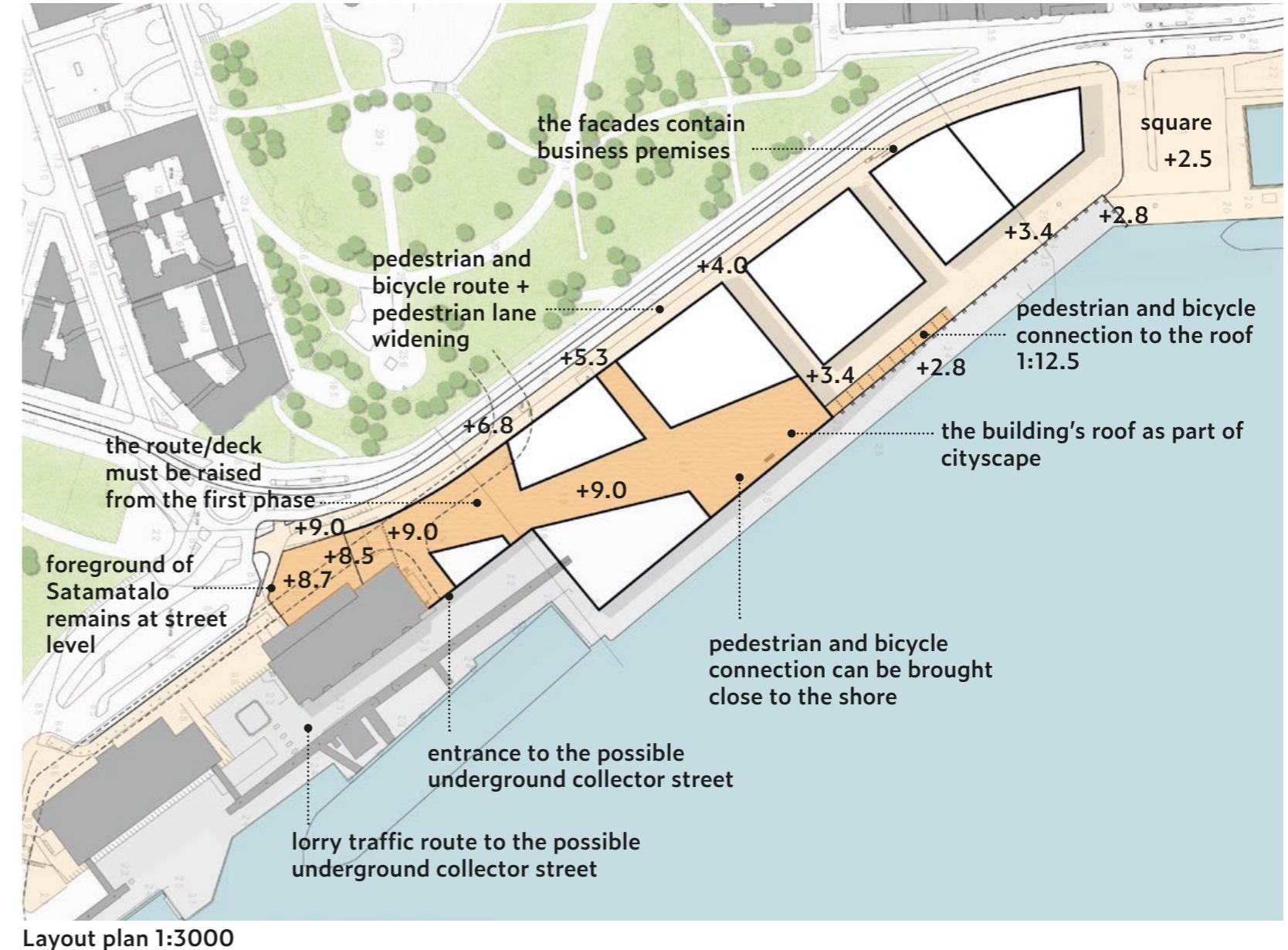
Landscape

Complementary construction in the harbour area will somewhat impair the views from Tähtitorninvuori to the sea, as the buildings will be located in the currently open harbour area. The views from Laivasillankatu will also be slightly impaired, although it is still possible to partially open the views between the buildings with the right massing.

On the Laivasillankatu side in the southern part of the area, the deck's edge can still be aligned with the street level, and the elevation difference between the street and the route on the deck can be resolved with landscape and ramp design.

On the ground floor, between the business premises, a pedestrian and bicycle traffic deck structure will be formed, from which an accessible basic-level connection parallel to the shore can be created to the north towards Vironallas. At the same time, it is possible to bring the seaside trail closer to the shore atop the new construction.

MAKASIINIRANTA AND OLYMPIARANTA, VE2

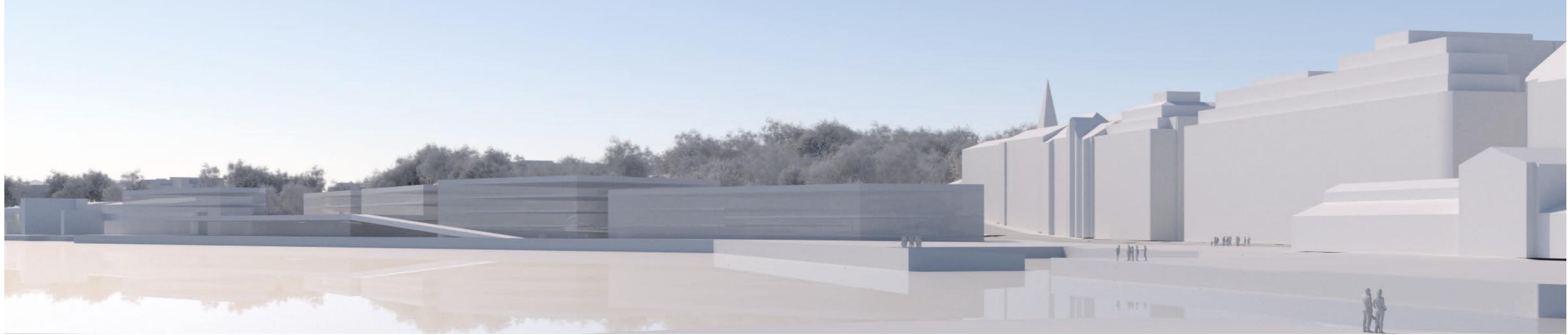


IF THE HARBOUR'S LORRY TRAFFIC CEASES IN THE AREA

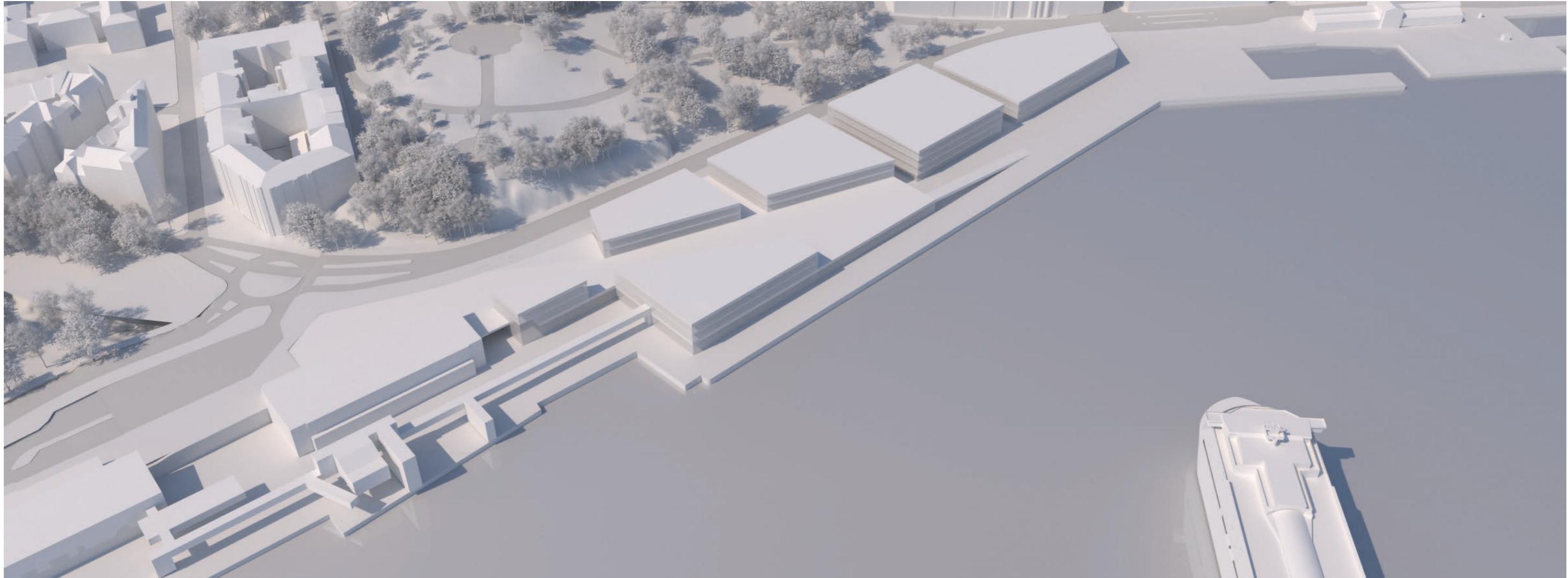
Floor area



View from the Market Square



Aerial image



FURTHER LANDSCAPE AND CITYSCAPE PLANNING GUIDELINES

The change in land use planned for the area is the largest that the Makasiiniranta and Olympiaranta area has experienced since the completion of the terminal buildings. The landscape that is currently largely open will be replaced by construction that will stand out clearly from the sea as well. At the same time, the shore, which now primarily functions as a harbour area, will become more public in nature.

To facilitate the evaluation of the change, groups of images are presented below, in which the plan options are compared to the current situation, the past and each other. The masses of the images are indicative and will be specified in later stages of the planning. The comparisons do not take into account the effects of the possible complementary construction in option 2.

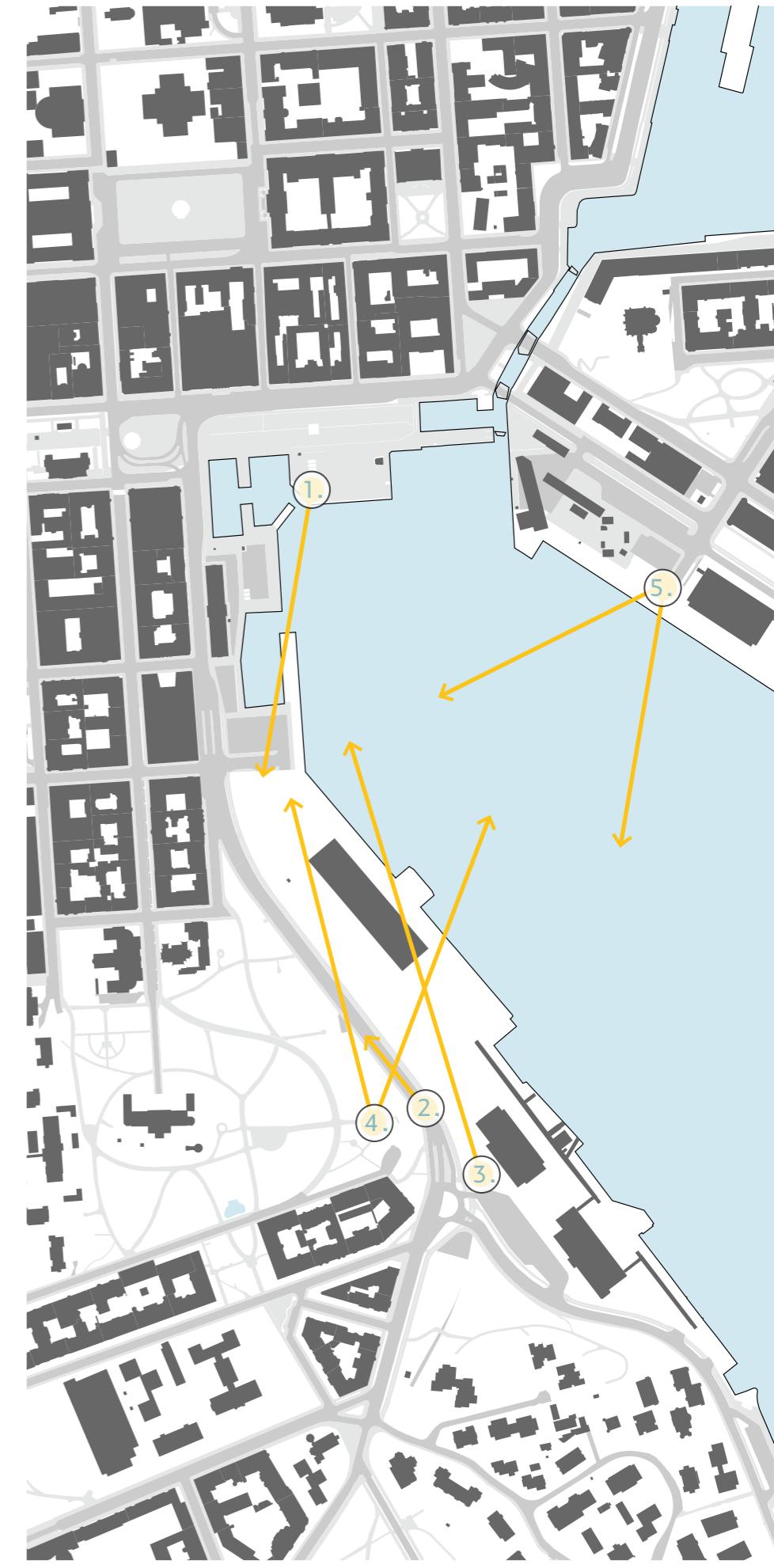
The historical images show that, over the years, the Makasiiniranta and Olympiaranta area has been lighter in nature than other construction in the city centre and its building masses more detached from each other and the rest of the city, forming an area of pavilion-like buildings on the shore. This characteristic will change in any event with new construction.

Another essential consideration when comparing the pictures is that the views from Tähtitorninvuori Park to the Market Square and towards Katajanokka will be blocked as the height of the new buildings increases. In the plan alternatives, the masses of the northern end of the new construction have been lowered in relation to the rest of the building front. Nevertheless, the views towards the Market Square will be impaired even from the highest viewpoint on Tähtitorninvuori.

CONSIDERATIONS FOR FURTHER PLANNING

In further planning, it is important to observe the following landscape and cityscape starting points in the layout of building masses:

- The height of the building masses is kept low enough to maintain the views from Tähtitorninvuori to the Market Square and the sea.
- The silhouette of Tähtitorninvuori must be outlined above the roofs of the new buildings.
- The significance of Helsinki Cathedral as the end of the view remains.
- The division of the street space of Laivasillankatu into sections is taken care of and the views of the sea are taken into account.



Kuva 26.

Locations of the view on a map.

VIEW OF TÄHTITORNINVUORI FROM THE MARKET SQUARE



Historical situation (photo from 1952, Helsinki City Museum)



Current situation

IMPORTANT LANDSCAPE VALUES

- The green silhouette of Tähtitorninvuori at the end of the view



Option 1

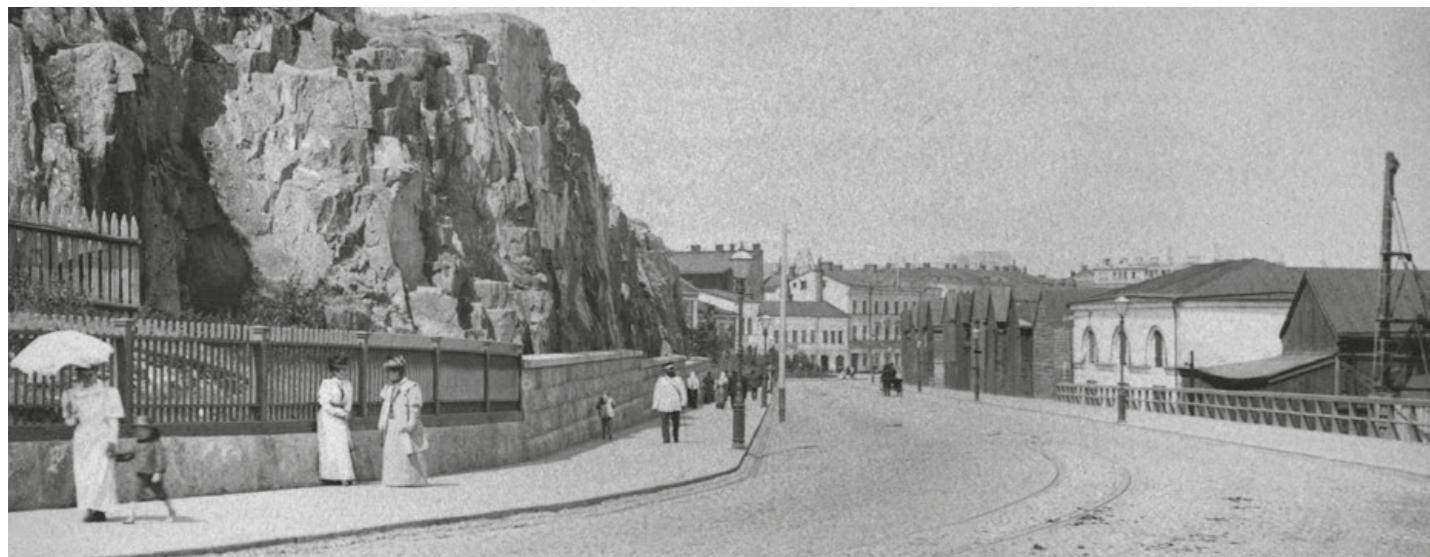


Option 2

COMMON PRINCIPLES FOR FURTHER PLANNING

- The silhouette of Tähtitorninvuori must continue to rise above the roofs of the building masses.
- The adjustment of lorry traffic to the cityscape must be taken into account.
- An accessible pedestrian and bicycle route between Satamatalo and the Market Square will be created on the shore side
- VE1: The covering of the entry point of the lorry traffic route when viewed from the Market Square requires more detailed investigation during further planning.
- VE2: The crossing of the pedestrian and bicycle route with the lorry traffic route must be arranged safely.

VIEW FROM LAIVASILLANKATU



Historical situation (photo from the 1880s, Helsinki City Museum)



Current situation



Option 1



Option 2

IMPORTANT LANDSCAPE VALUES

- Openness of the landscape and views from Laivasillankatu towards the sea

COMMON PRINCIPLES FOR FURTHER PLANNING

- The massing of buildings must strive not to allow the street space to become chasm-like and to provide a connection from the street to the seaside trail.
- VE1: The elevation difference between the deck and the street must be kept as low as possible. If the elevation difference becomes high, the possibility of arranging an accessible connection from the street to the deck as an internal arrangement within the building should be explored.
- VE2: The buildings must be massed in such a way that the street has views of the sea.

VIEW FROM IN FRONT OF SATAMATALO



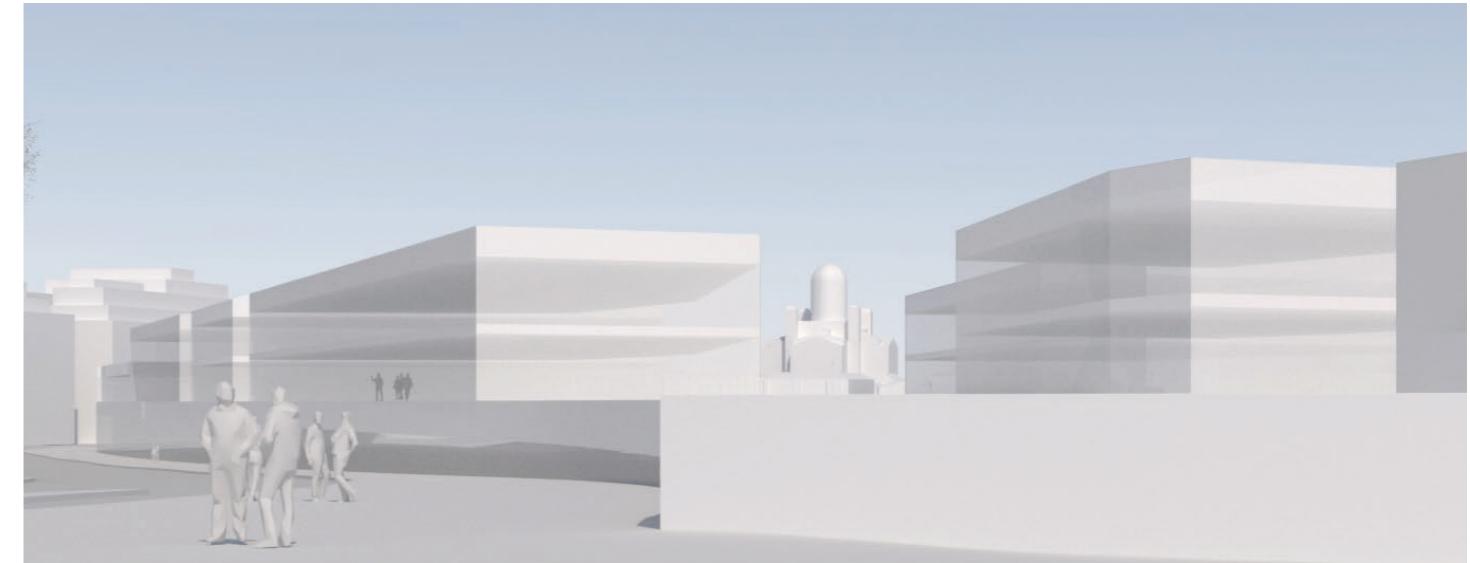
Historical situation (photo from 1872, Helsinki City Museum)



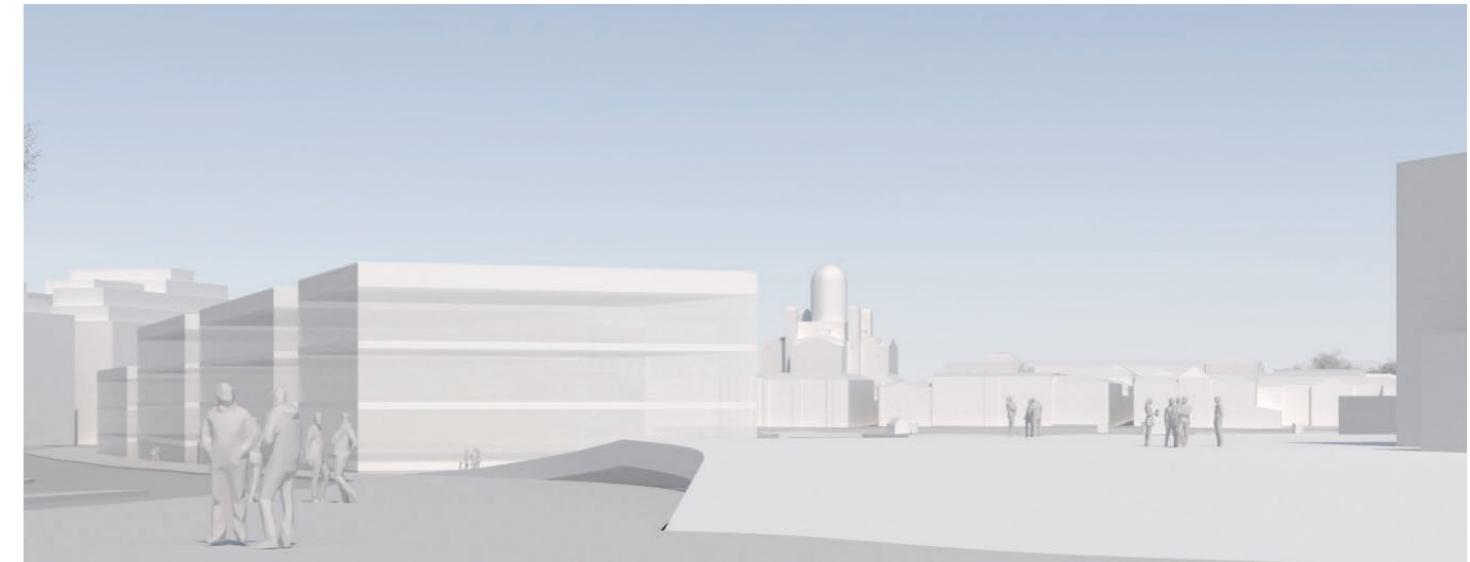
Current situation

IMPORTANT LANDSCAPE VALUES

- The view from in front of Satamatalo to Helsinki Cathedral
- Views from Laivasillankatu to the sea



Option 1



Option 2

COMMON PRINCIPLES FOR FURTHER PLANNING AND DIFFERENCES BETWEEN THE OPTIONS

- The massing of buildings must strive to provide a smooth pedestrian and bicycle connection from in front of Satamatalo to the seaside trail.
- The buildings must be massed in such a way that the view of Helsinki Cathedral from in front of Satamatalo is maintained. The view of the Market Square must also be maintained as far as possible.
- VE1: The elevation difference between the deck and the street must be kept as low as possible and the edge of the deck interesting in terms of cityscape.
- VE2: The edge of the deck must be landscaped to the same level as the street.
- VE2: The entrances to the buildings must be adjusted to be at street level.

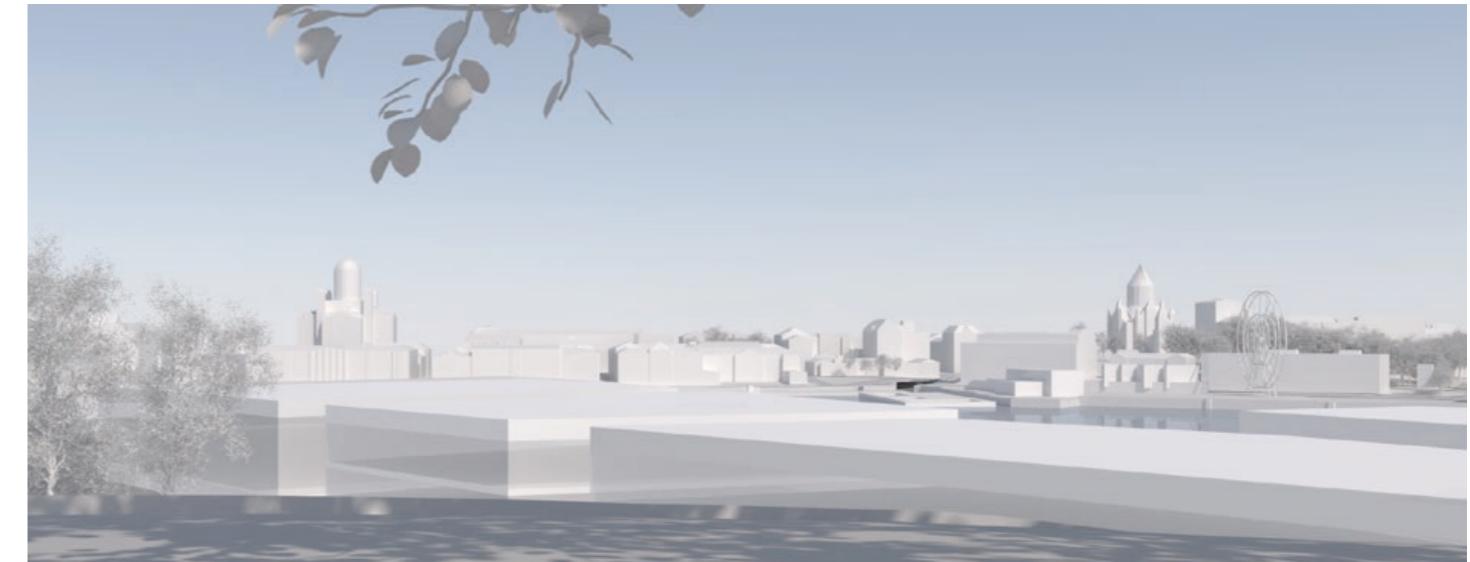
VIEW FROM TÄHTITORNINVUORI TO THE MARKET SQUARE AND KATAJANOKKA



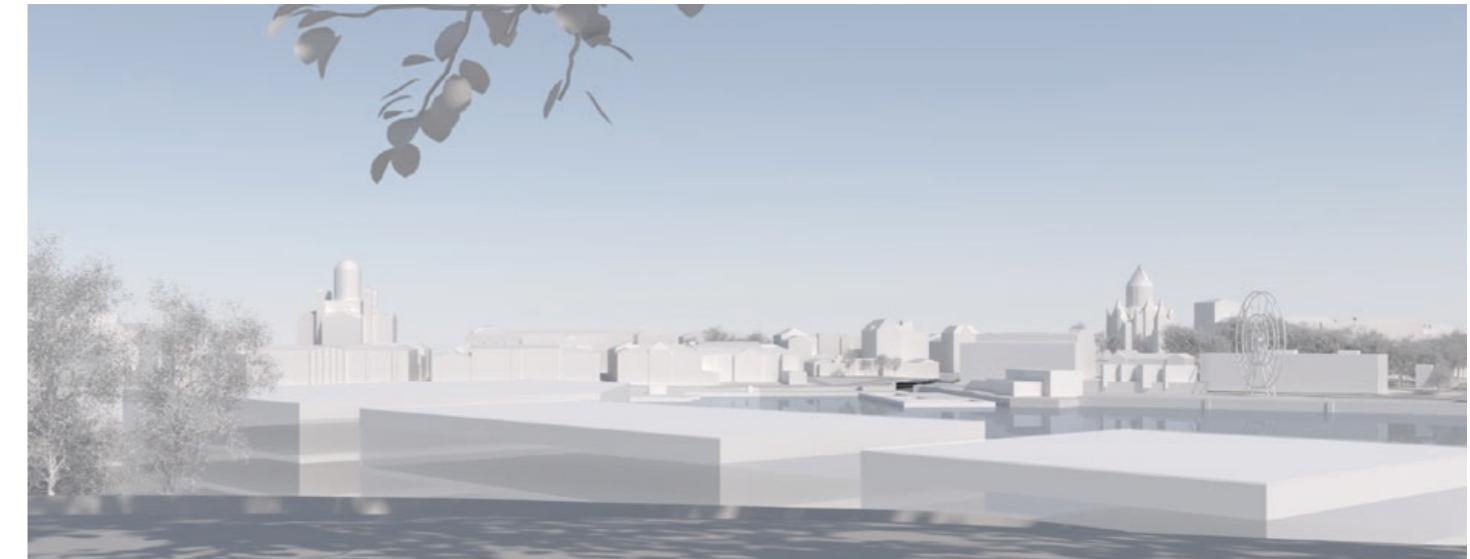
Historical situation (Helsinki City Museum)



Current situation



Option 1



Option 2

IMPORTANT LANDSCAPE VALUES

- The view of Helsinki Cathedral and Uspenski Cathedral from the viewpoint
- The Empire facade of Pohjoisesplanadi at the end of the view when looking towards the Market Square
- The sea view of the dock

COMMON PRINCIPLES FOR FURTHER PLANNING

- The buildings must not block the views of Helsinki Cathedral and Uspenski Cathedral.
- The Empire facade of Pohjoisesplanadi must remain visible above the roofs of the building masses.
- The buildings must be massed in such a way that the view of the water's surface in front of the Market Square and Katajanokka is maintained.

VIEW OF TÄHTITORNINVUORI FROM THE SEA AND KATAJANOKKA



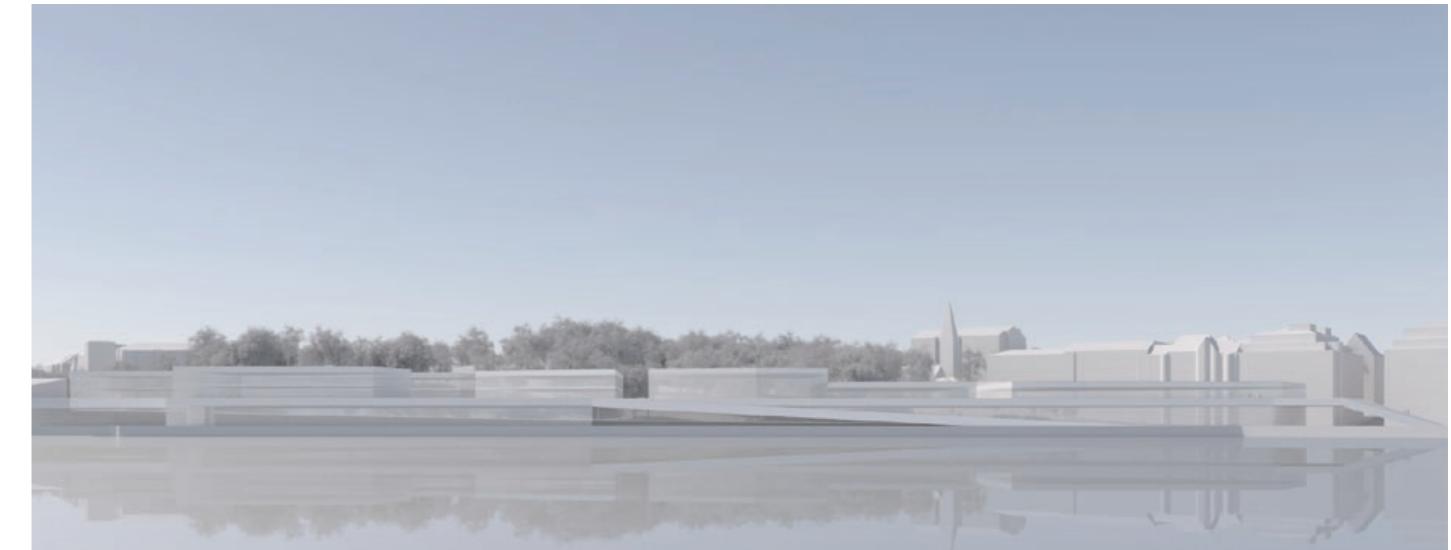
Historical situation (photo from 1890, Helsinki City Museum)



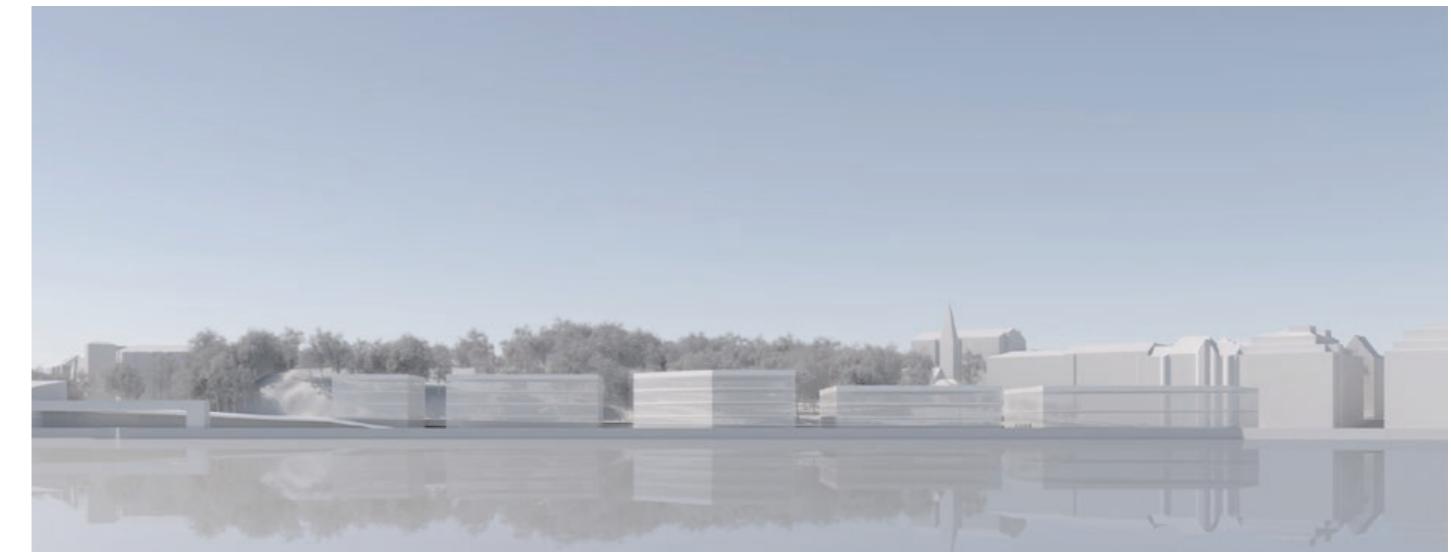
Current situation

IMPORTANT LANDSCAPE VALUES

- The green silhouette of Tähtitorninvuori at the end of the view



Option 1



Option 2

COMMON PRINCIPLES FOR FURTHER PLANNING

- The silhouette of Tähtitorninvuori must continue to rise above the roofs of the building masses.
- VE1: The sea view from Eteläinen Makasiinikatu must be taken into account when designing the social stairs at the end of the deck.
- VE2: Buildings must be massed in such a way that Tähtitorninvuori is visible between the buildings and, correspondingly, Laivasillankatu offers views of the sea.



CURRENT SITUATION

One can hardly see the sea in the Katajanokanlaituri area, as the pedestrian route runs far from the shore and is left mainly behind the harbour fence and the lorry traffic route or parking facilities. The large harbour buildings and structures necessary for port operations further divide the view. In the western part of the area, there is a sea pool that functionally connects Katajanokanlaituri, which is otherwise seen as an area of port operations, to the Market Square.

FUTURE PROJECTS

Katajanokanlaituri 4

An international invitational competition concerning plans for the area at Katajanokanlaituri 4 is underway in the area. The plot is located in Katajanokka, on the southeast side of Satamakatu by the sea. The competition will conclude in the summer of 2020. The plans presented in this work serve as part of the background information for the invitational competition. The maximum height of the new building and all its technical equipment is set at +22.0 metres above sea level, which, in practice, means an office building with four (4) storeys. The plan for this plot is particularly important as it is the start of the new waterfront facade of Katajanokka and defines its nature. The warehouse and office building currently located on the plot is planned to be demolished.

Katajanokanlaituri 2

Allas Sea Pool, built on the site of the demolished Kanavaterminaali and intended to be temporary, has a building permit until the end of 2030. In addition to this, the area includes a 3D cinema and a big wheel operating under temporary permits. In this work, the area is examined as part of the growing Katajanokanlaituri area, for which the aim is to plan a more permanent solution than the current temporary activities in the future. The plan is to continue to enable maritime activities, such as a sea pool, in the area as part of the new structure.

Katajanokanlaituri 6, Marina Congress Center

Located in a seaside block of Katajanokanlaituri, Marina Congress Center is a part of the transforming waterfront facade of Katajanokka. The premise in this work is that the building and its surroundings are kept in their current form.

GUIDELINE PLAN

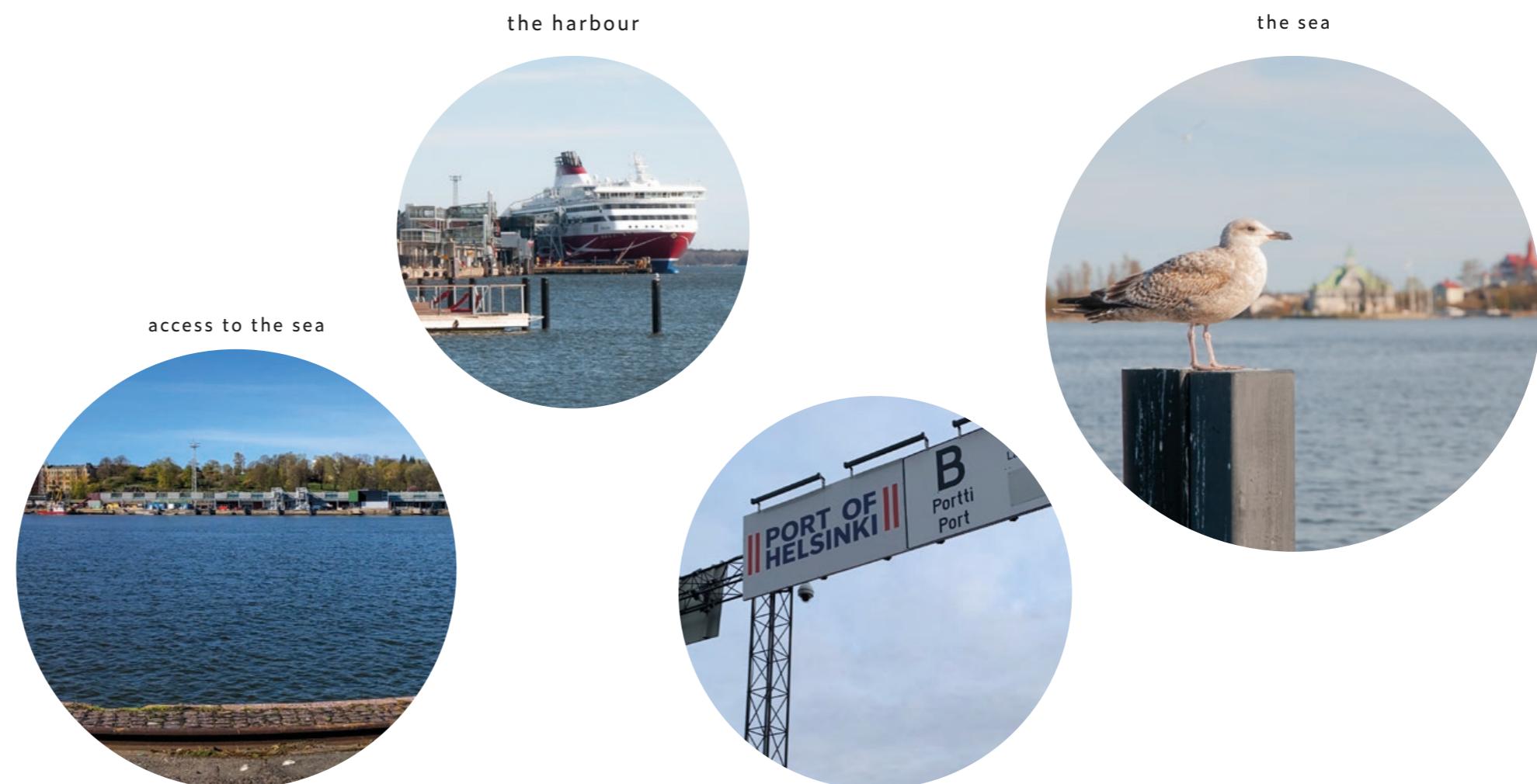
An aim of the plan has been to find different landscape solutions for the organisation of the area in terms of the implementation of flood protection. In connection with the examination of the solutions, sufficient boundary conditions have been determined as the basis for the planning of the plot. Two alternative plans for the area are presented in this report.

The plan has been prepared at the same time as the preliminary guideline plan for the technical space allocation and implementation method at the South Harbour bay (Ramboll Finland Oy 2020), and the traffic solutions in the area are based on the solutions presented in it. Regarding the Katajanokanlaituri harbour area, the starting point for the underground collector street has been the space allocation plan prepared by Pöyry, in which the location of the access ramp has been changed in Ramboll's work due to the coordination of new land use. The technical feasibility of the solution has not been examined.

OBJECTIVES

The most important objectives of the plan include

- getting a public pedestrian connection and functions activating the waterfront closer to the shore
- creating a functional flood protection solution in terms of landscape, on the basis of which it will be possible to start the planning and construction of the area and which does not require action in the harbour yard or the harbour's quay area in the short term
- maintaining the operating conditions of the harbour in coordination with the construction in accordance with the city plan.



KATAJANOKANLAITURI, GENERAL PRINCIPLES

The plan options are based on a solution in which the lorry traffic route used by the harbour will be moved from the west side of Katajanokanlaituri 6 to Ankkurikatu. In option 1 (VE1), the new plots of Katajanokanlaituri will be built above the estimated maximum water level of the year 2100 to +3.4, and in option 2 (VE2), the construction elevation can be determined freely. In the first option (VE1), the elevation difference between the plot and the harbour yard will be evened out by raising the ground level in front of the new construction; in the second option, any elevation gap between the construction elevation and the ground level will be bridged inside the buildings. The harbour area and the fence surrounding it will remain in their current place.

Construction

At Katajanokanlaituri 4, the maximum height of the new building and all its technical equipment is set at +22.0 metres above sea level, which, in practice, means an office building with four (4) storeys. This maximum permissible building height determines the height of new construction in the entire Katajanokanlaituri area.

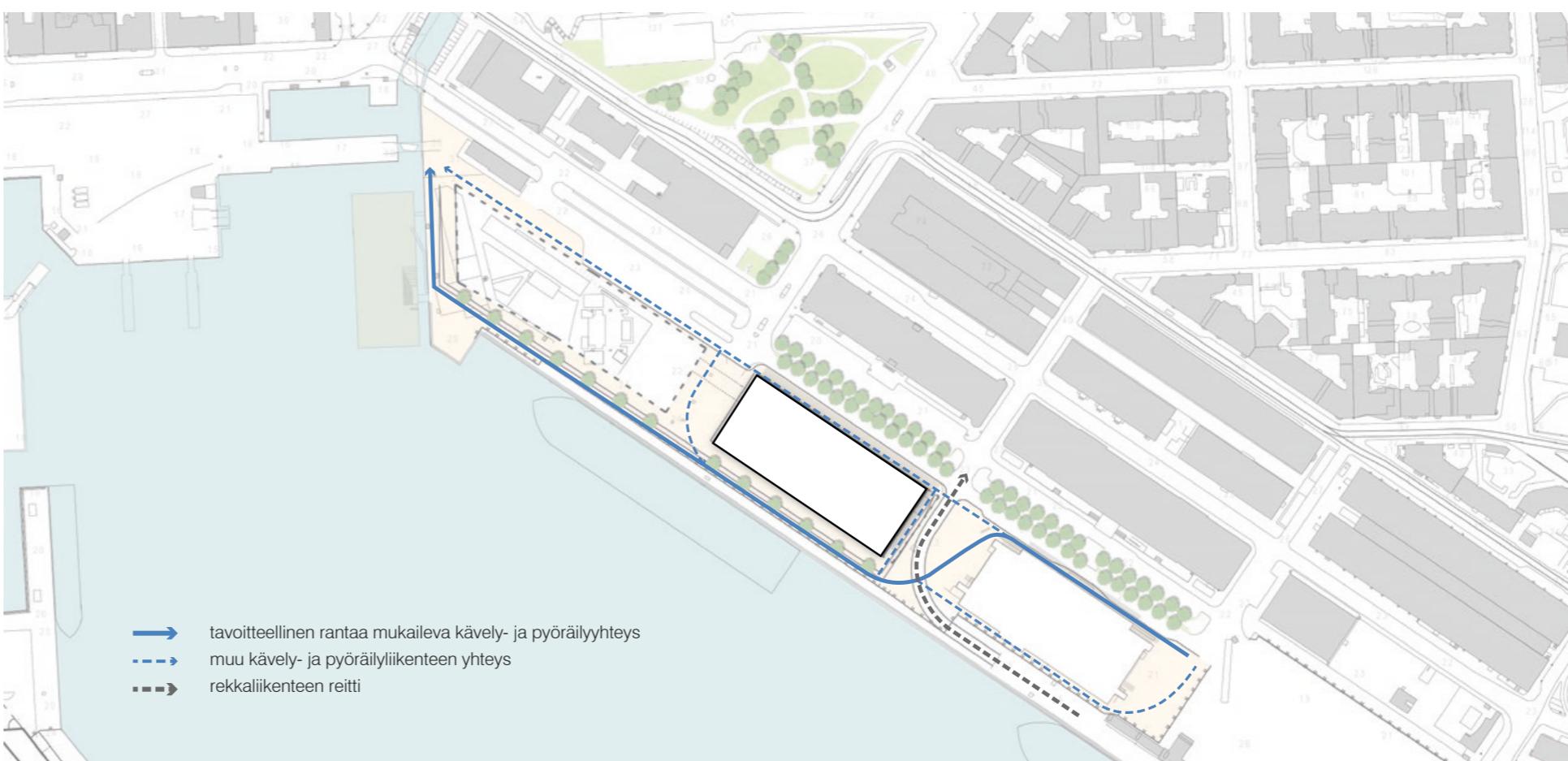
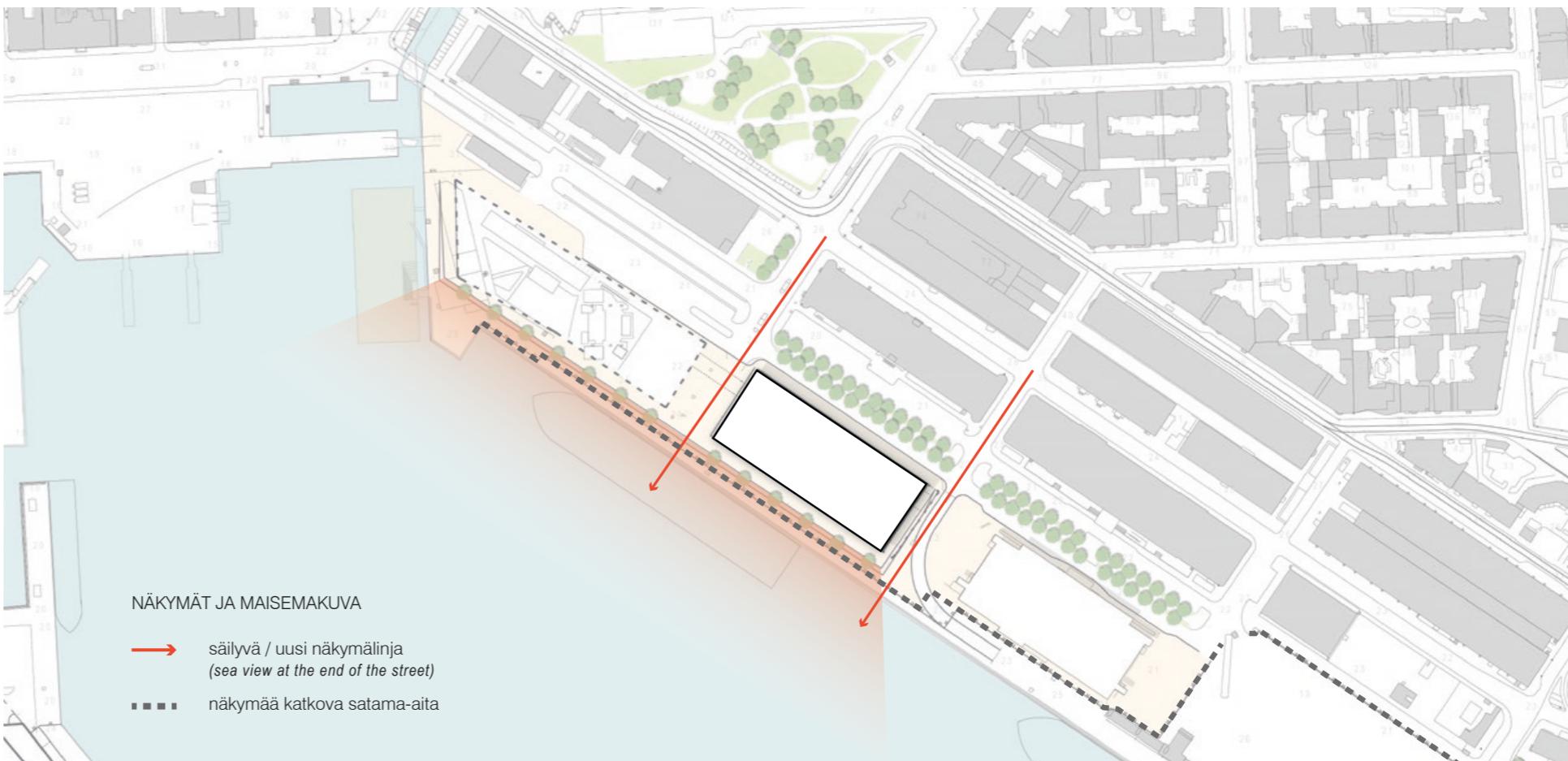
Landscape

The transfer of the lorry traffic route to Ankkurikatu will free up space for recreation and pedestrian and bicycle traffic in front of the new construction, which will activate the waterfront and make it more accessible to the public. In option 2 (VE2), the whole shore area can, in principle, be implemented at the same level as a single public, recreational area. Trees or other vegetation may also be planted between the seaside trail and the recreational area, at least in option 1 (VE1) that in any case includes the addition of new fill on top of the existing ground surface.

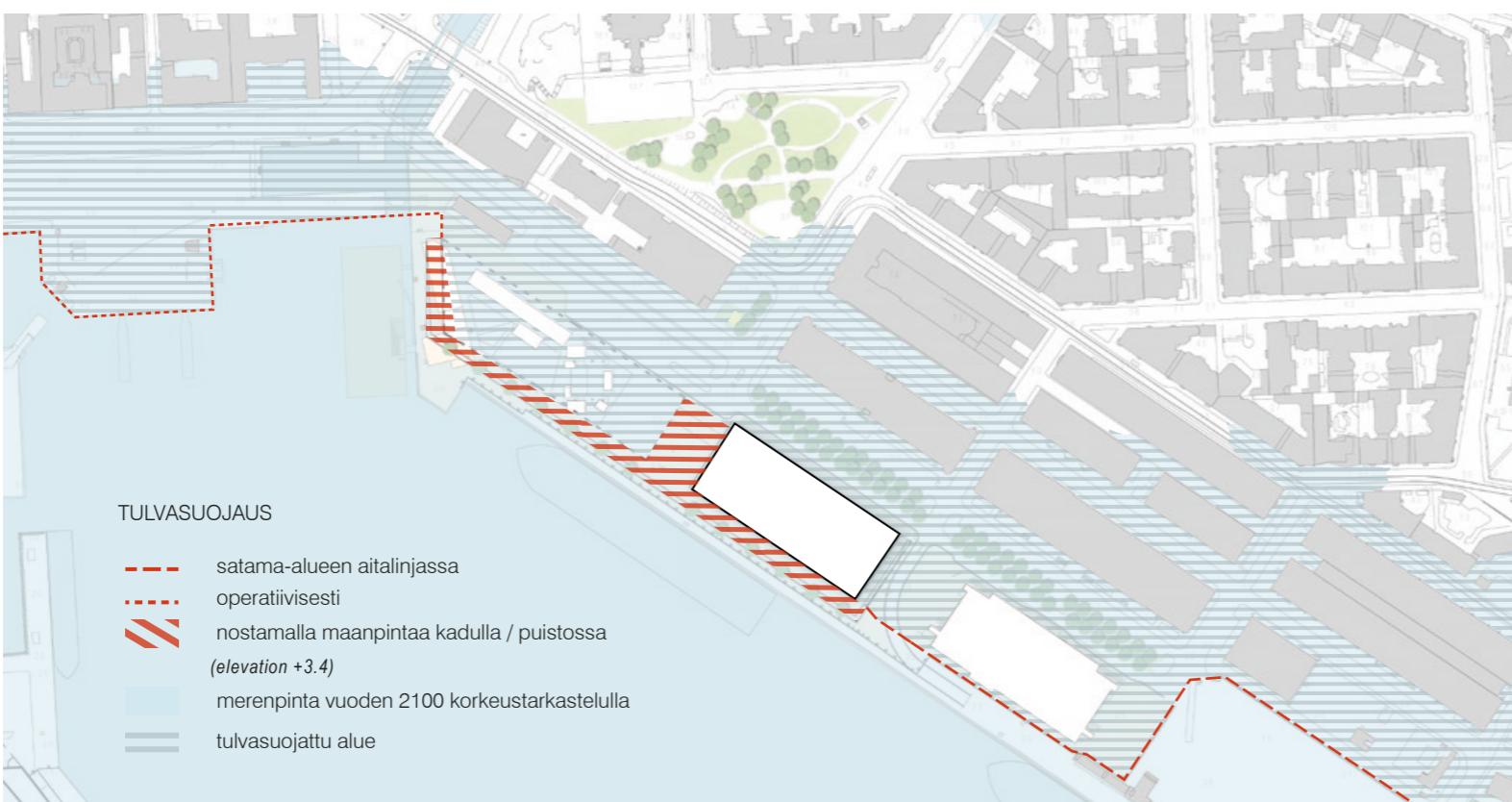
Depending on the option, it is possible to see the sea from the plot over and/or through the harbour fence, and the views of the sea typical to Helsinki that open at the ends of the streets will continue to be there in the future as well.

Traffic

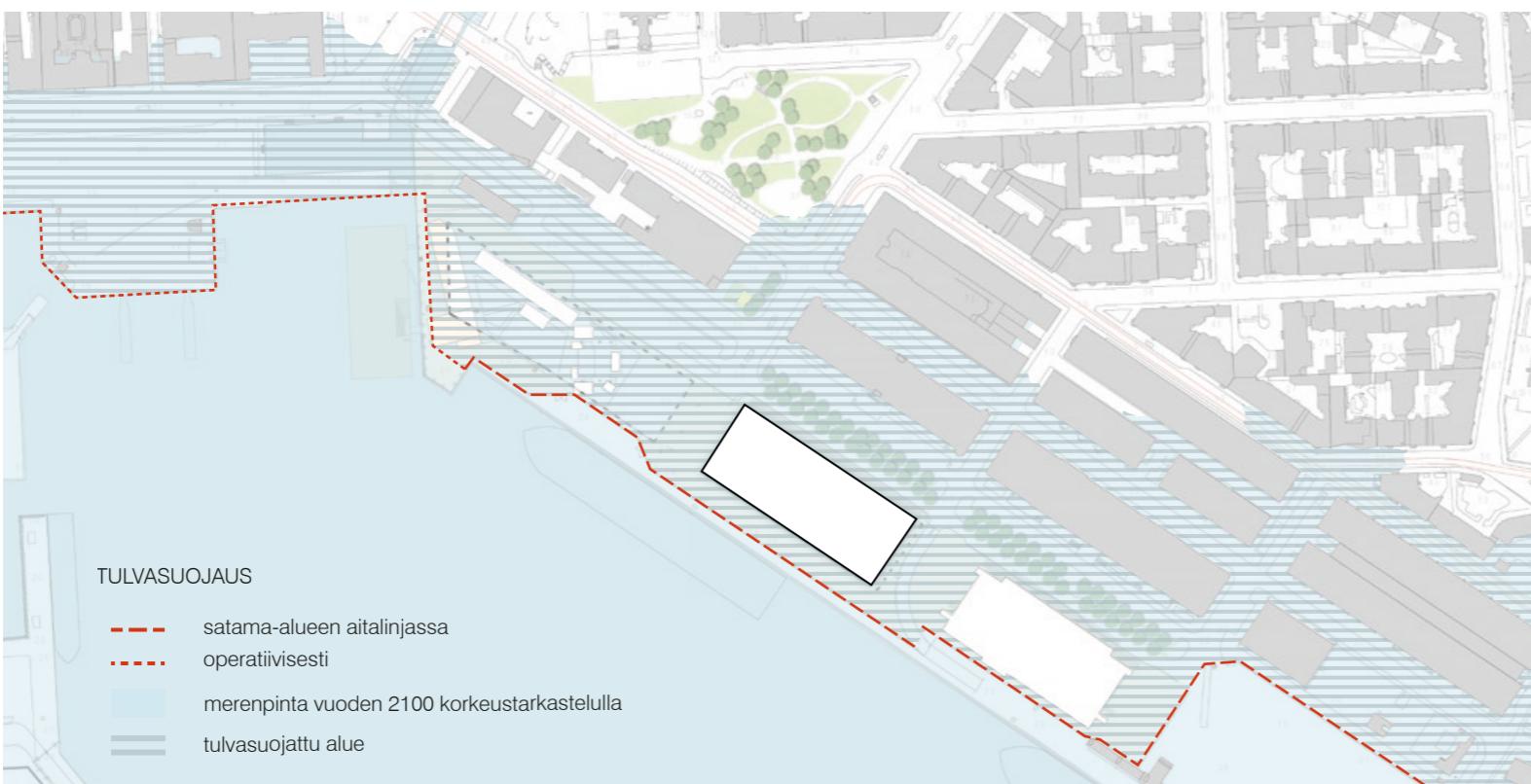
The current lorry traffic route in the harbour area will be moved to run between the new plot and Marina Congress Center on Ankkurikatu, freeing up space between the plot and the harbour quay area for pedestrian and bicycle routes, recreational areas and the bridging of any elevation gaps. With the transfer of the route, lorry traffic will intersect with the pedestrian and bicycle route in the square between Katajanokanlaituri 4 and Katajanokanlaituri 6 in the future, and in the further planning phase it must be decided how to safely separate the route from lorry traffic in the square. The harbour's security area at the shore will remain.



Option 1 (VE1)



Option 2 (VE2)



Flood protection

The new buildings will be built above the estimated maximum water level of the year 2100 to +3.4. In the first plan option (VE1), flood protection can be realised with a social staircase, which will act as passage from the plot to the shore at the same time. In the second option (VE2) and in areas where no new construction is planned, flood protection will be carried out with a flood wall integrated into the harbour fence line and, at the lorry traffic route, with a flood gate. If the square is decided to be raised to +3.4 during further planning, the need for a flood gate is eliminated. Flood protection will connect to the Market Square's operational protection on the northwest side of the plot and the flood wall integrated into the harbour fence in front of Marina Congress Center in the southeast.

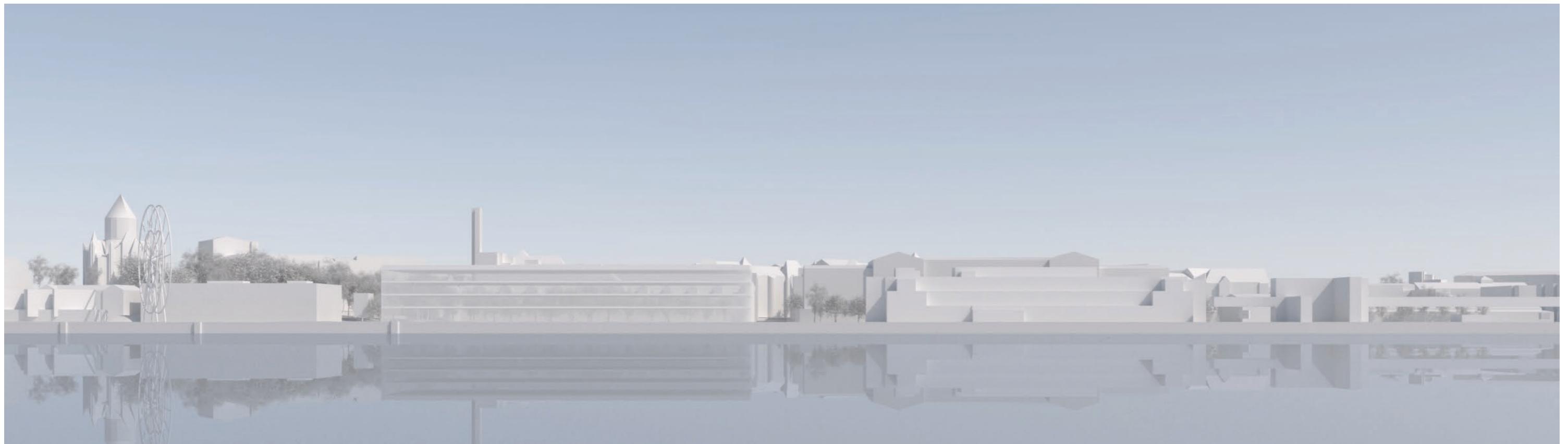
Considerations for further planning

The realisation of the intersection of lorry and pedestrian traffic in the square and the raising of the square (VE1) must be planned in more detail in the future. If the public area in front of the new construction is built at an elevation of +3.4 before the transfer of lorry traffic, the elevation gap must be temporarily bridged on the plot (VE1).

In the future, it must be investigated if the tramway can be rerouted to have the tram come to Katajanokka along the southern bridge and turn from Katajanokkanlaituri to Satamakatu and from there to its old route.

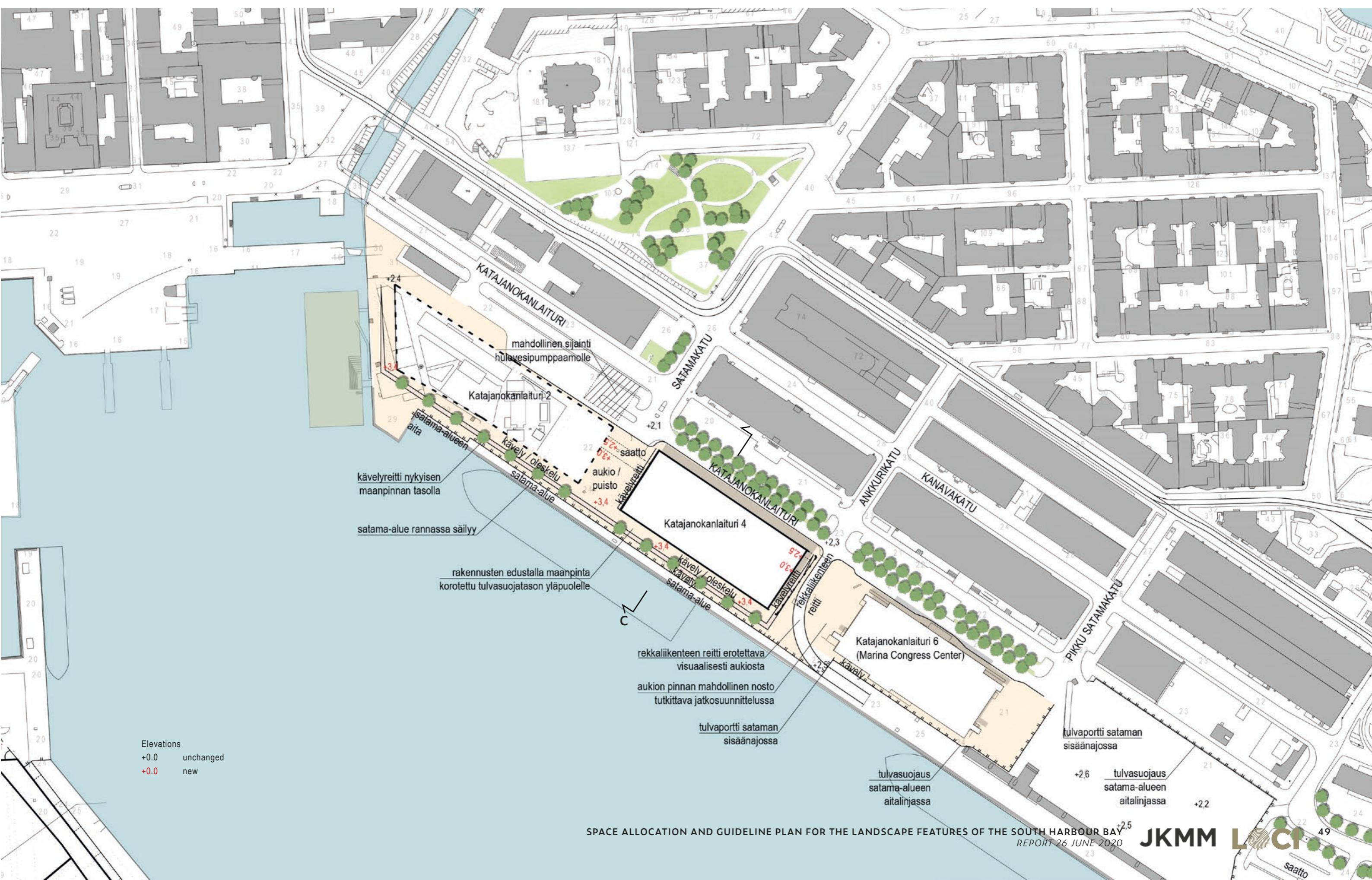
In the harbour security area, the maintenance traffic route will remain to be planned later and may affect the width of the area required by the harbour.

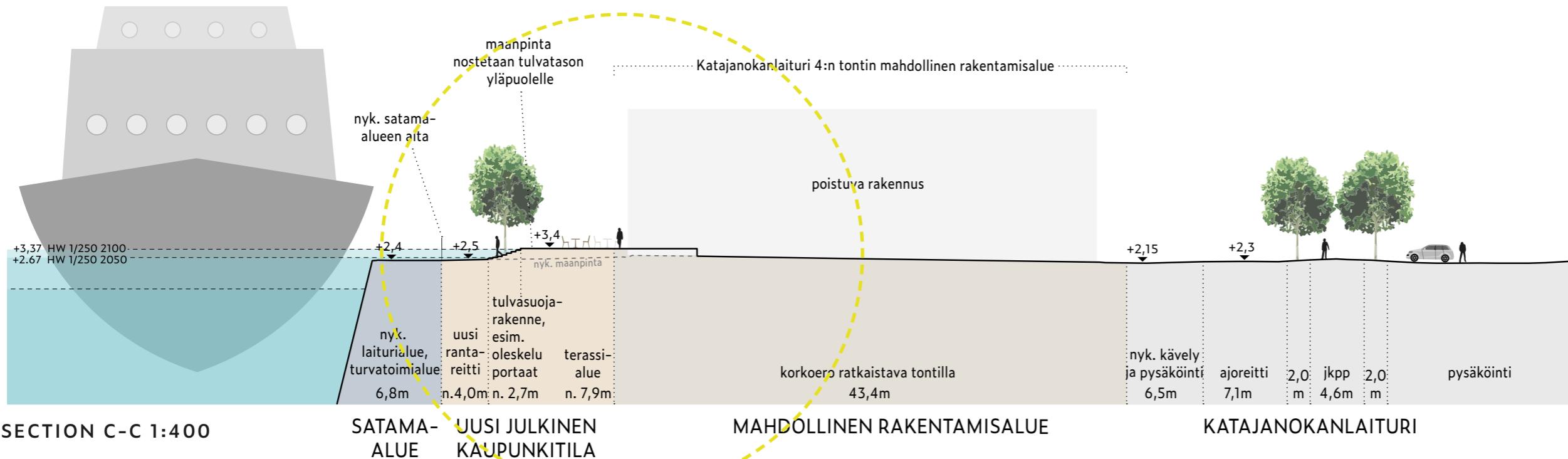
AERIAL IMAGE AND VIEWS

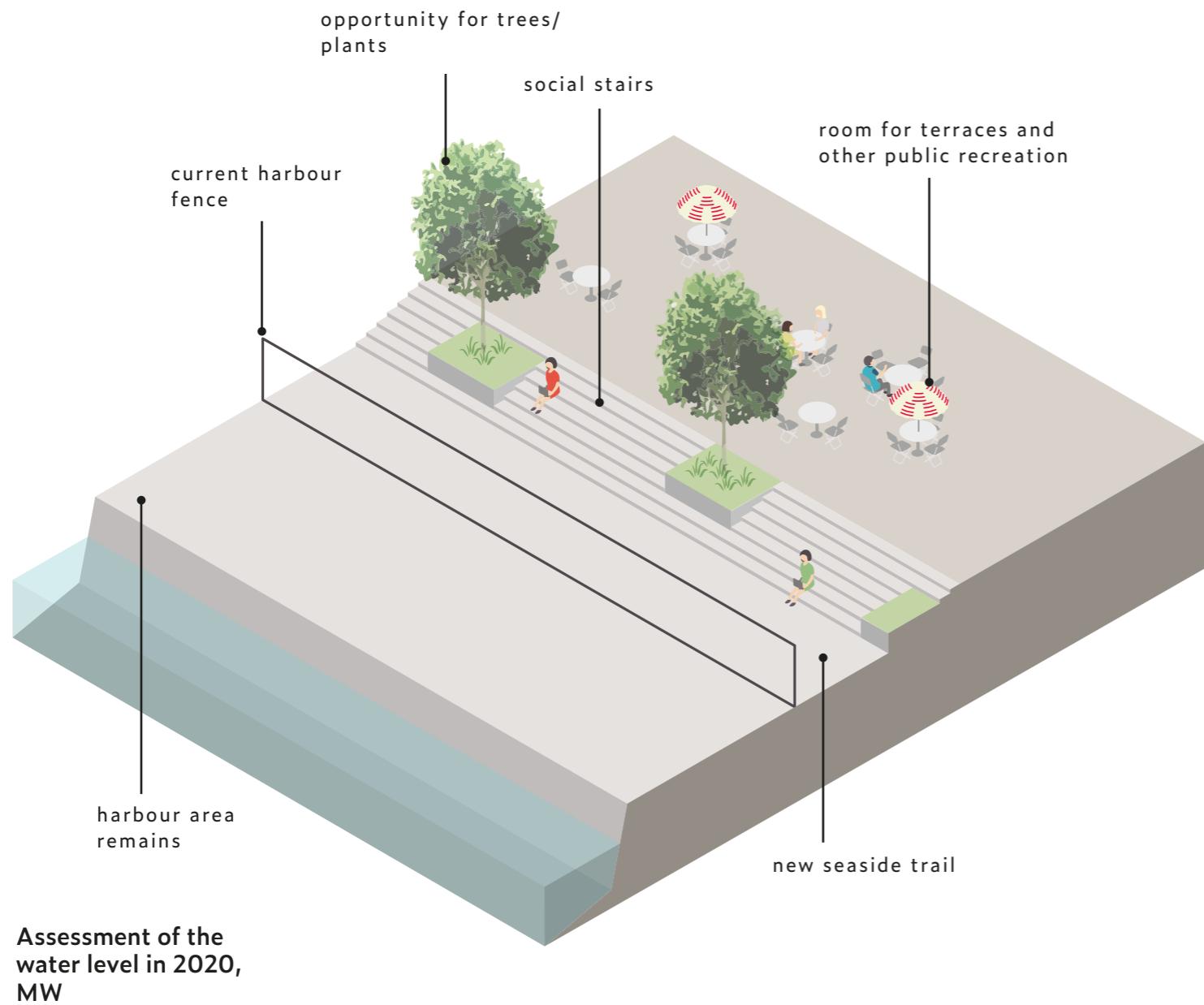


KATAJANOKANLAITURI, PLAN OPTION 1

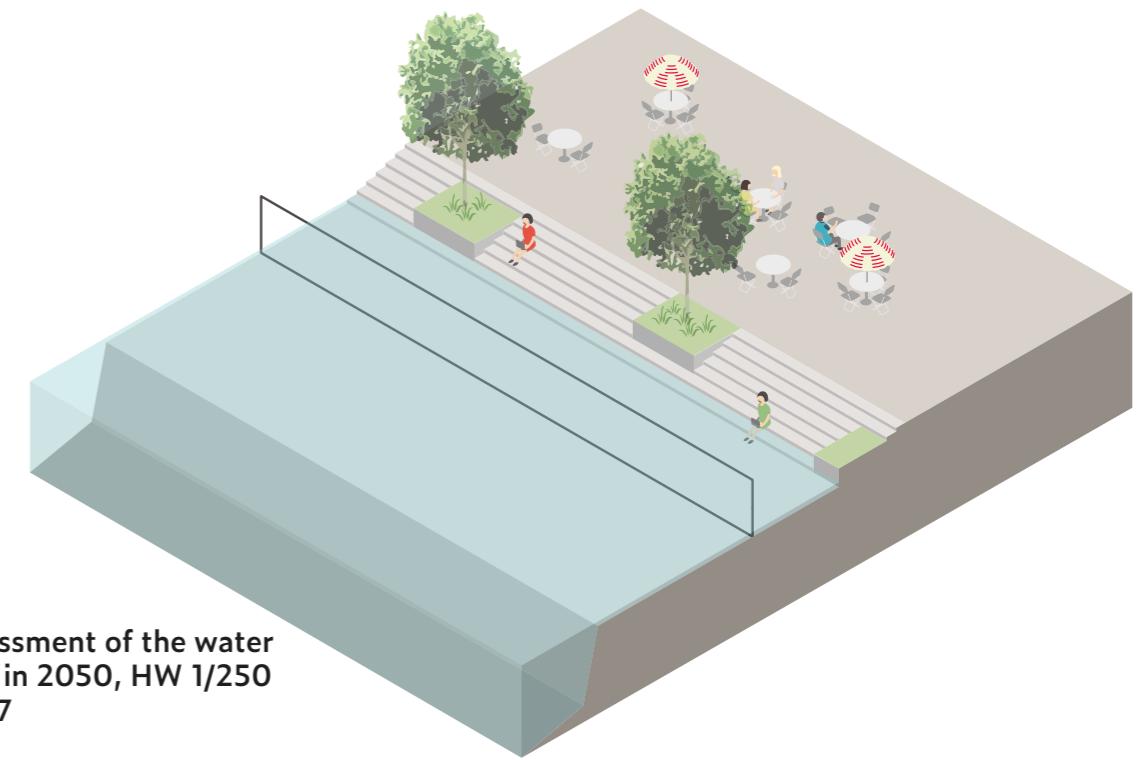
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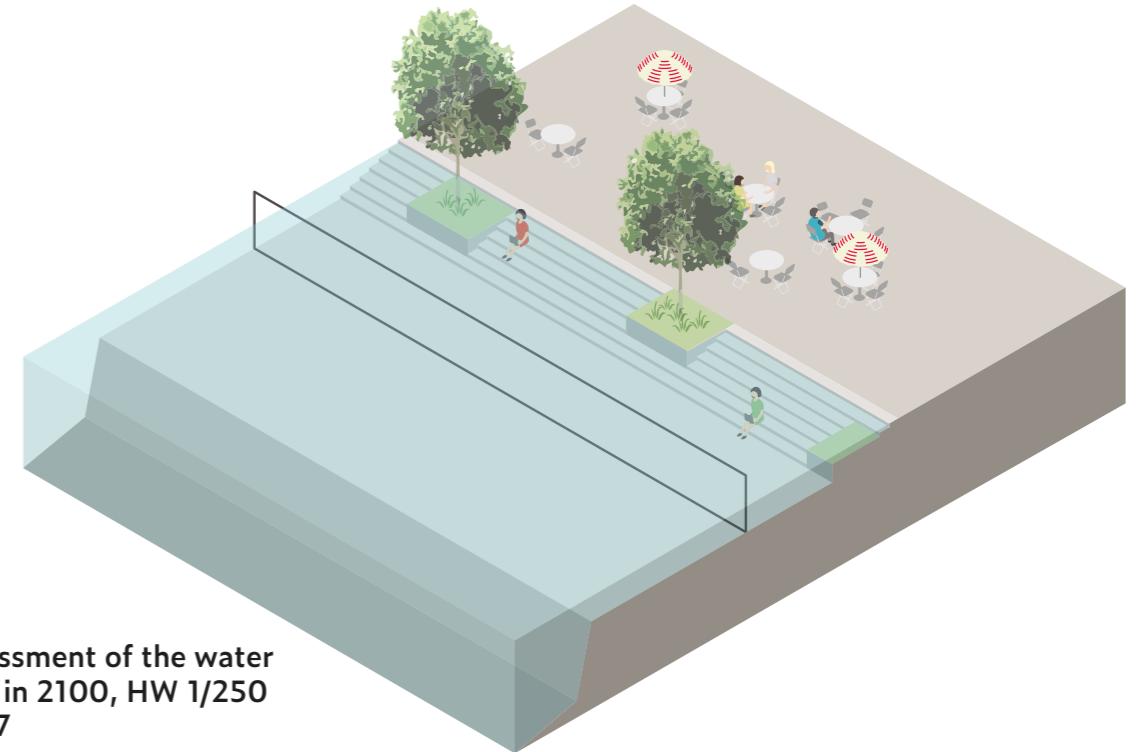




Assessment of the water
level in 2050, HW 1/250
+2.67

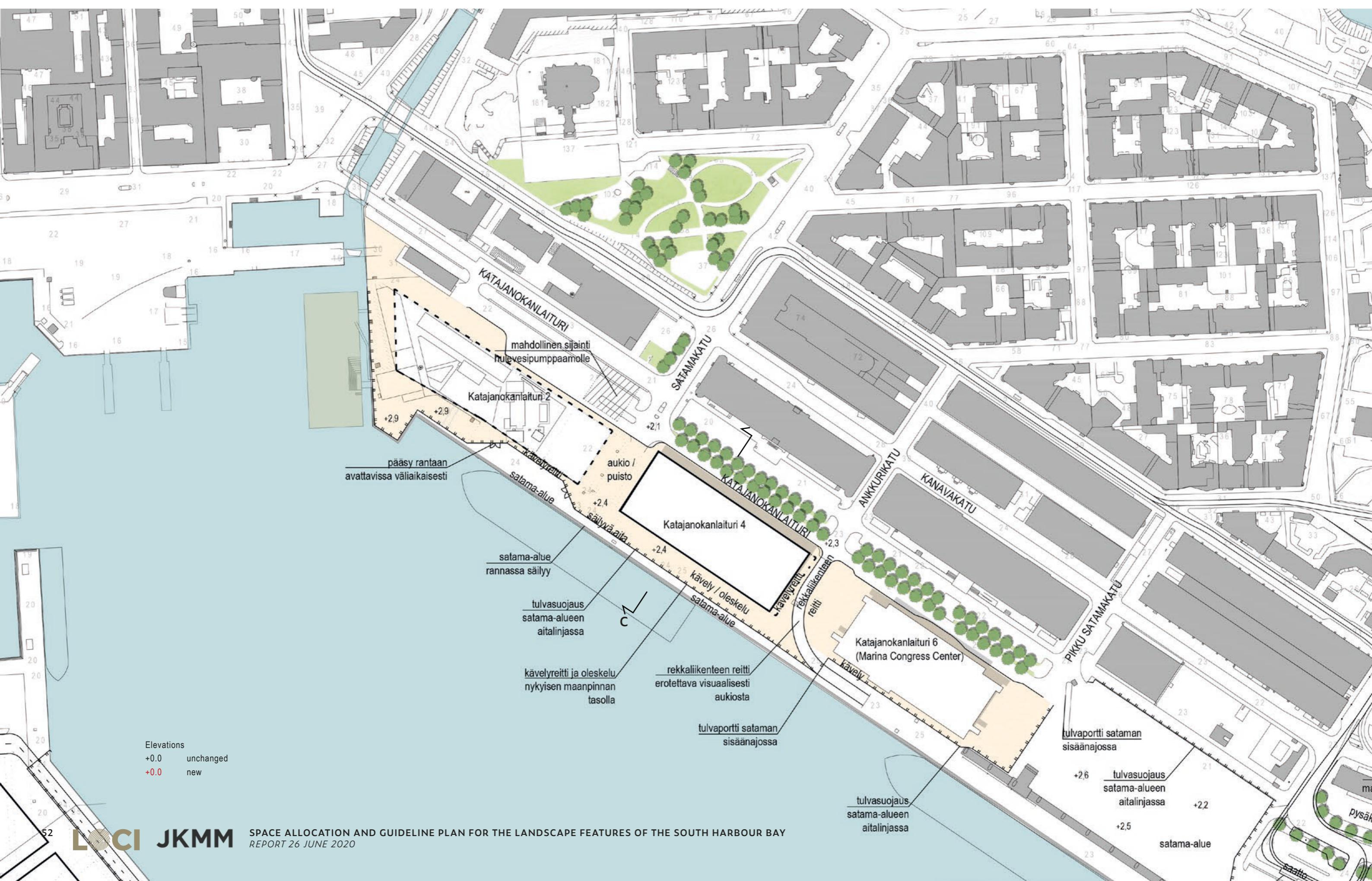


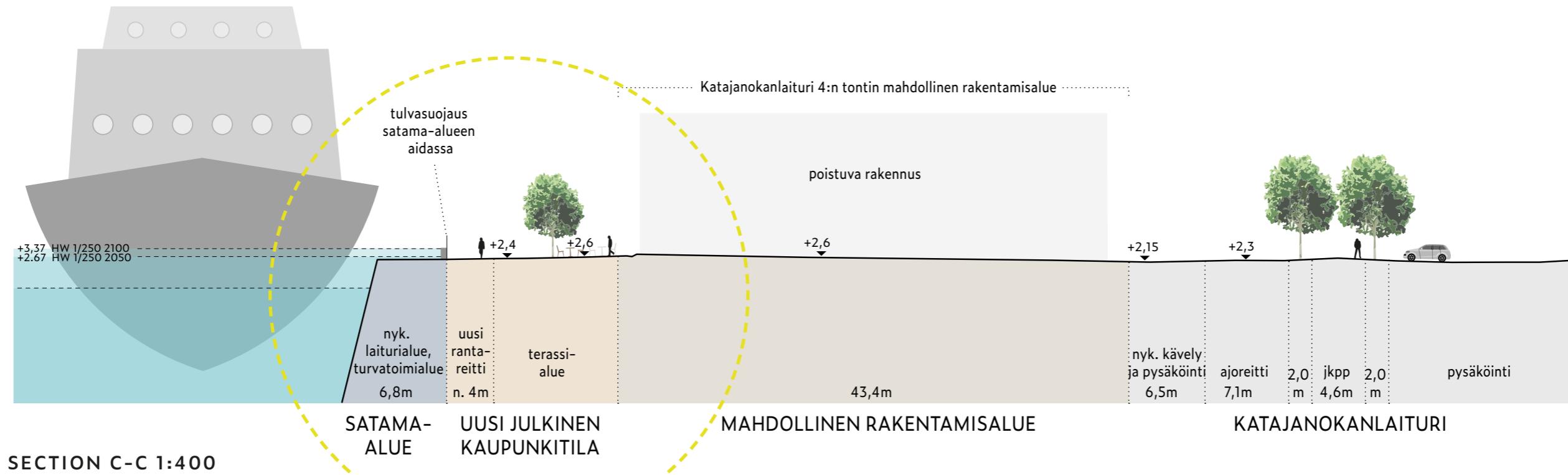
Assessment of the water
level in 2100, HW 1/250
+3.37



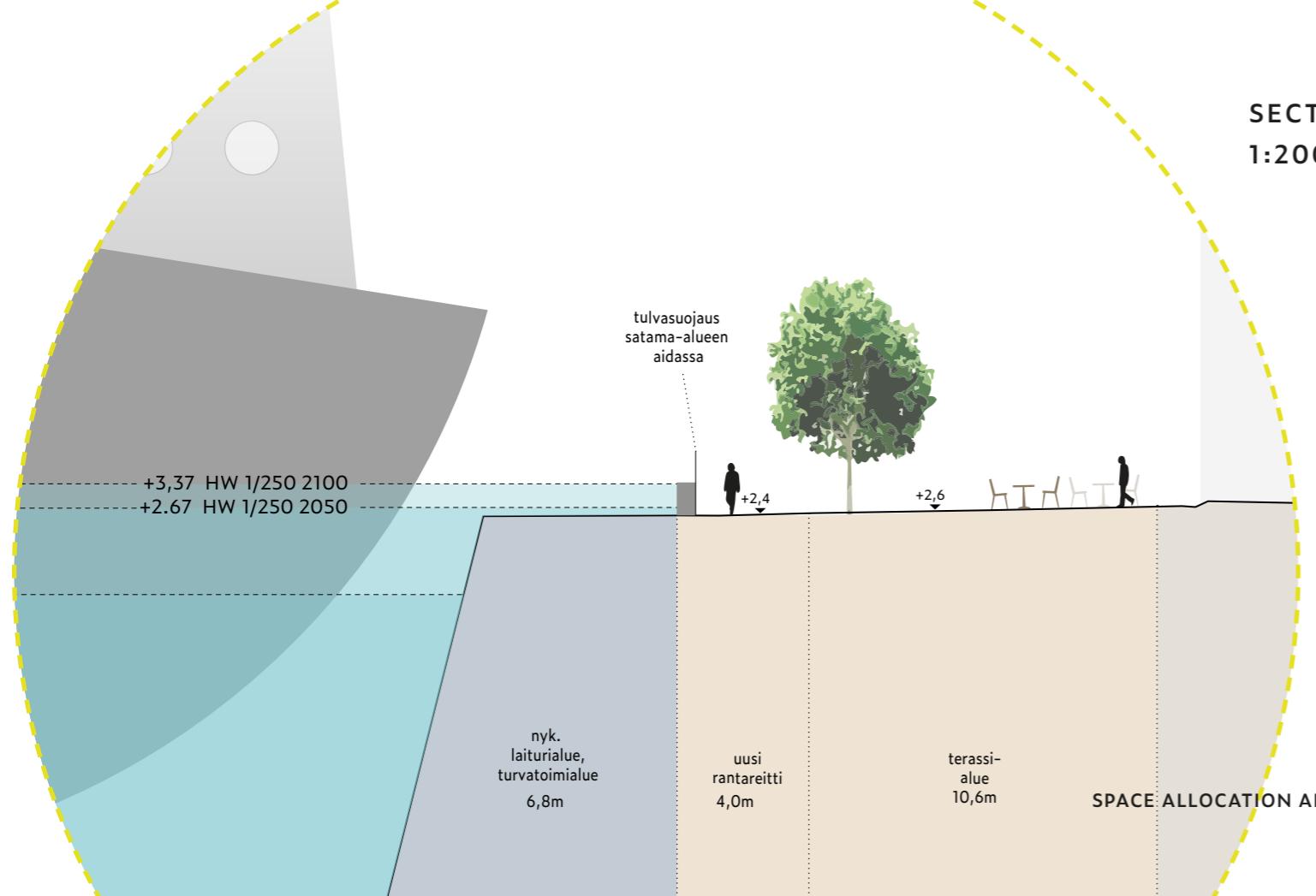
KATAJANOKANLAITURI, PLAN OPTION 2

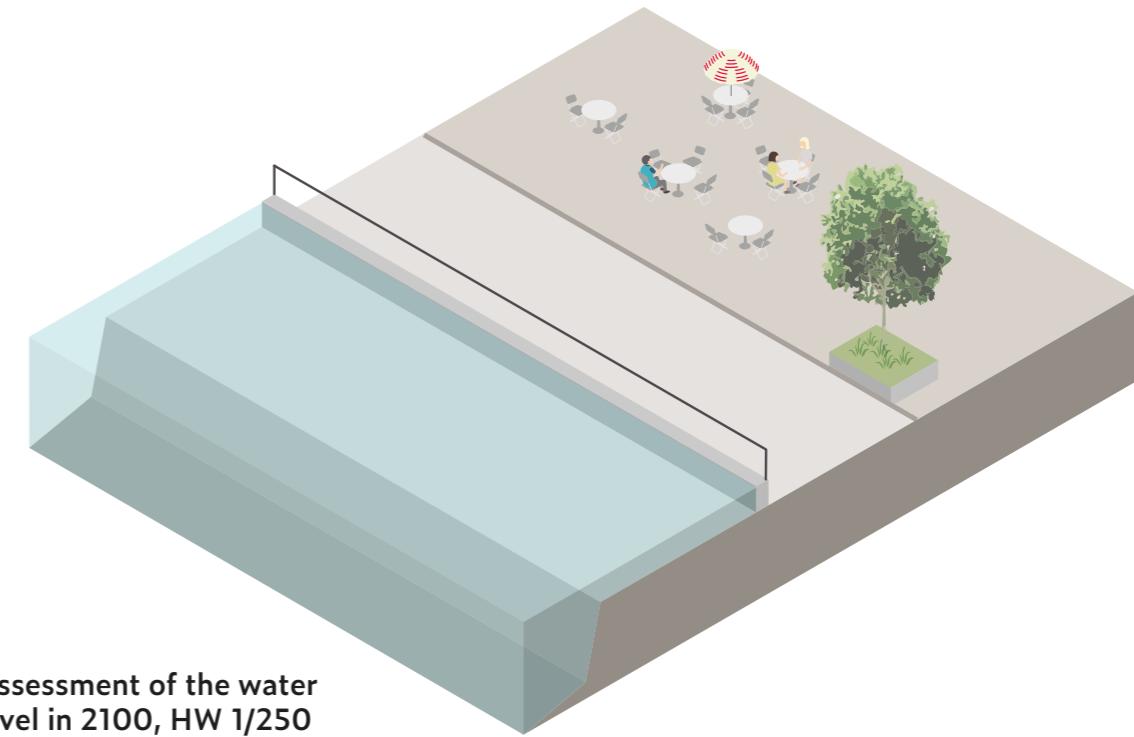
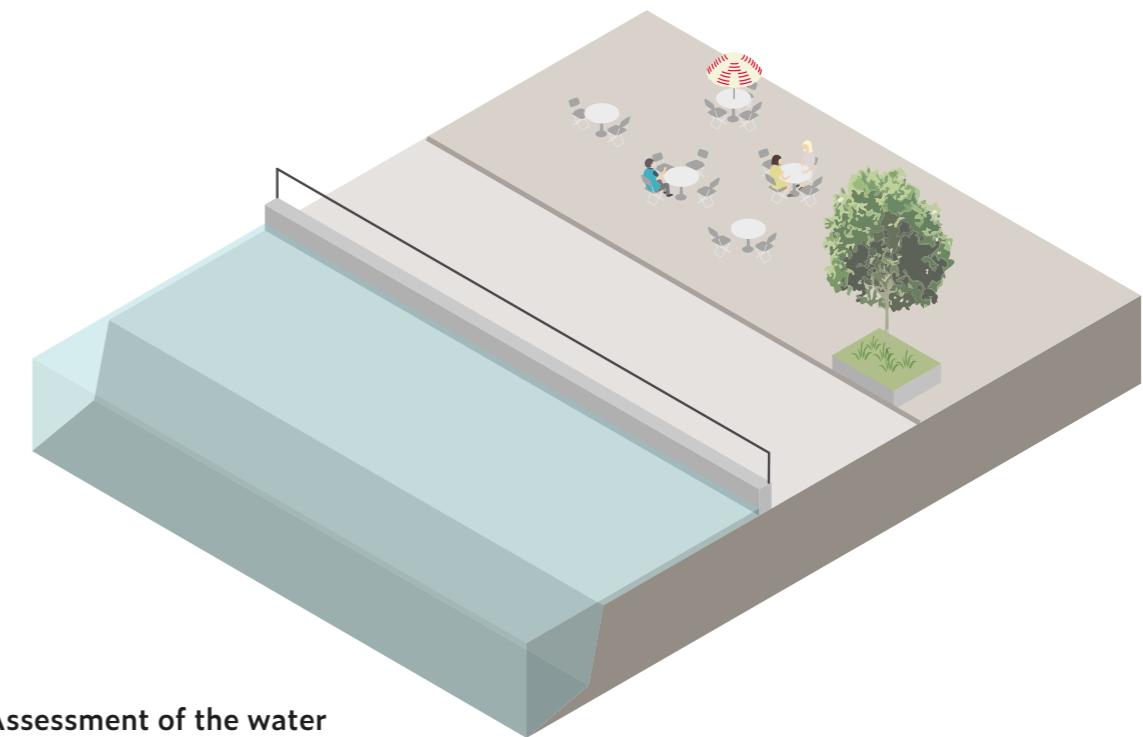
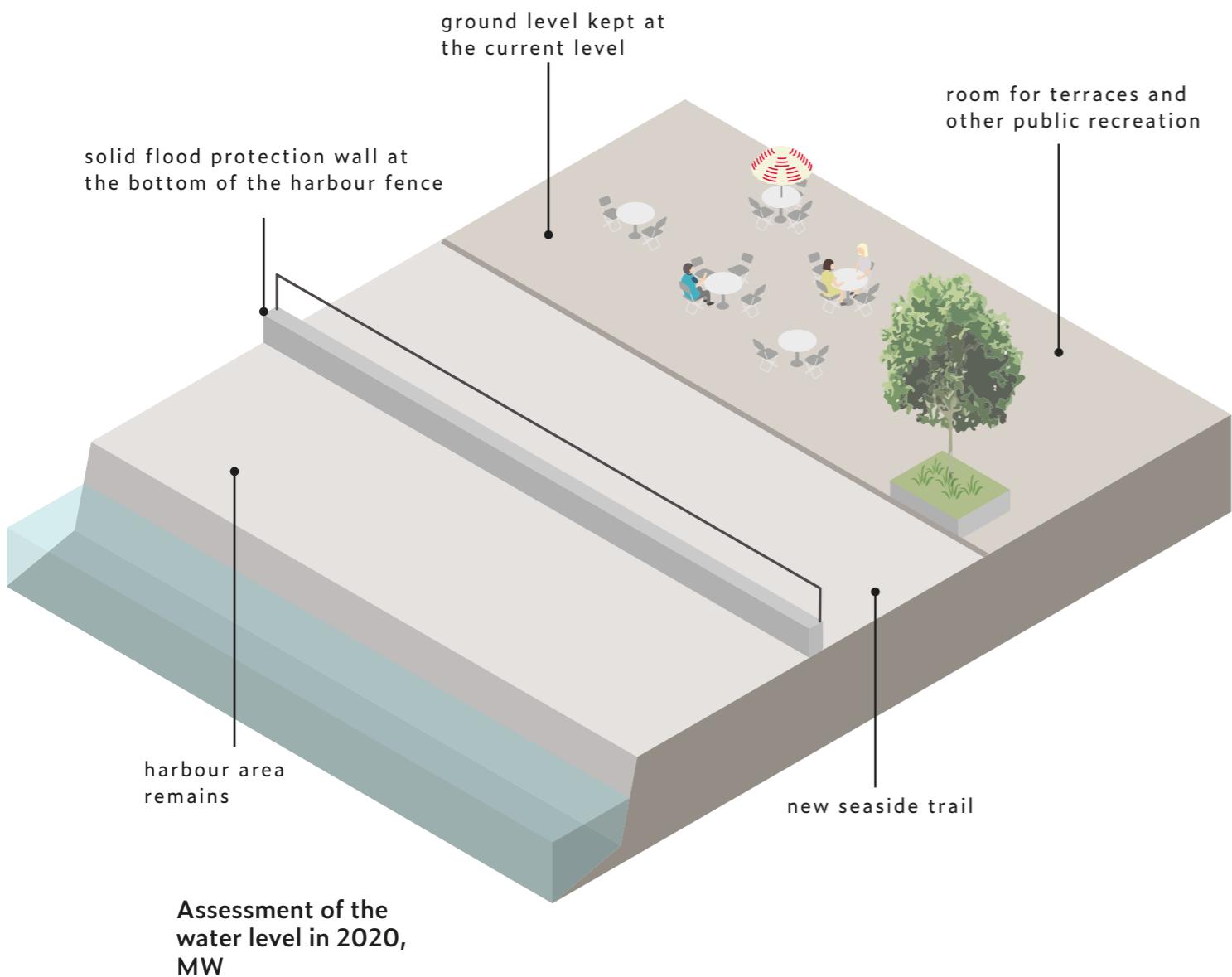
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SECTION C-C, DETAIL
1:200





KATAJANOKANLAITURI, HARBOUR AREA

port operations will continue as they are



current harbour fences



port operations are a part of the look of the area



No functional changes are proposed for the harbour area of Katajanokanlaituri. Instead, the area will remain in use for port operations within the framework permitted by the new construction of Katajanokanranta and the possible entrance to the underground collector street. The overall flood protection in the area will primarily be implemented in the harbour area's fence line by integrating the flood wall into the harbour fence. The harbour yard and quays may be elevated later on.

Flood protection

The harbour area of Katajanokanlaituri will mainly remain in harbour use, and its flood protection solutions are strongly dependent on port operations. For this reason, no short-term flood protection measures are proposed for the harbour area in principle. Instead, the overall flood protection in the South Harbour bay area can be supplemented for the harbour areas of Katajanokanlaituri in the harbour area's fence line. In this case, the solution is to integrate a flood wall into the fence of the harbour area.

However, if port operations are to continue in the future, the harbour area must also be protected from rising water and waves in the long term. For this purpose, it will be possible to raise the harbour yard or build a flood wall or similar structure along the quay edge, for example.

Traffic

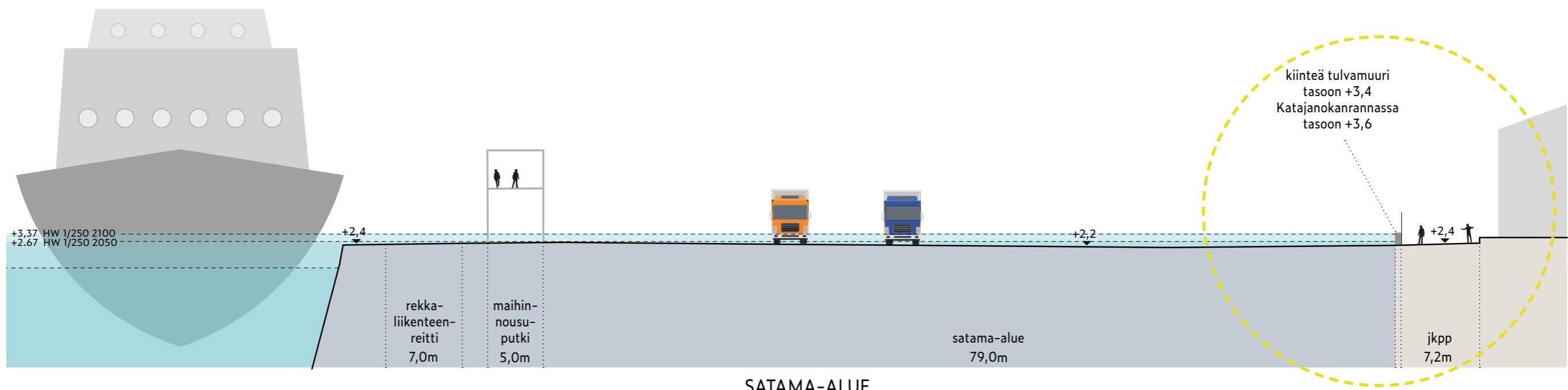
The new buildings planned for Katajanokanranta, which will extend to the current harbour area, will reduce the harbour area by approximately 850 metres. The possible entrance of the underground collector street needs to be further investigated in the further planning phase, but it is likely that it will reduce the number of parking spaces in the areas surrounding the harbour. The location of the ramp that was the starting point of the work requires the relocation of the tram line and stop.

Principles for the realisation of the flood wall

A large part of the wall surrounding the harbour area in Katajanokanlaituri will be utilised in the future as part of flood protection. In practice, this means a solid lower part of the wall, which will rise to an elevation of +3.4–3.6 metres, depending on the spot. In some places, the solid lower part can rise almost 1.5 metres above the surrounding ground, which will affect the formation of views. In such places, the route next to the wall must be raised so that the sea views are maintained.

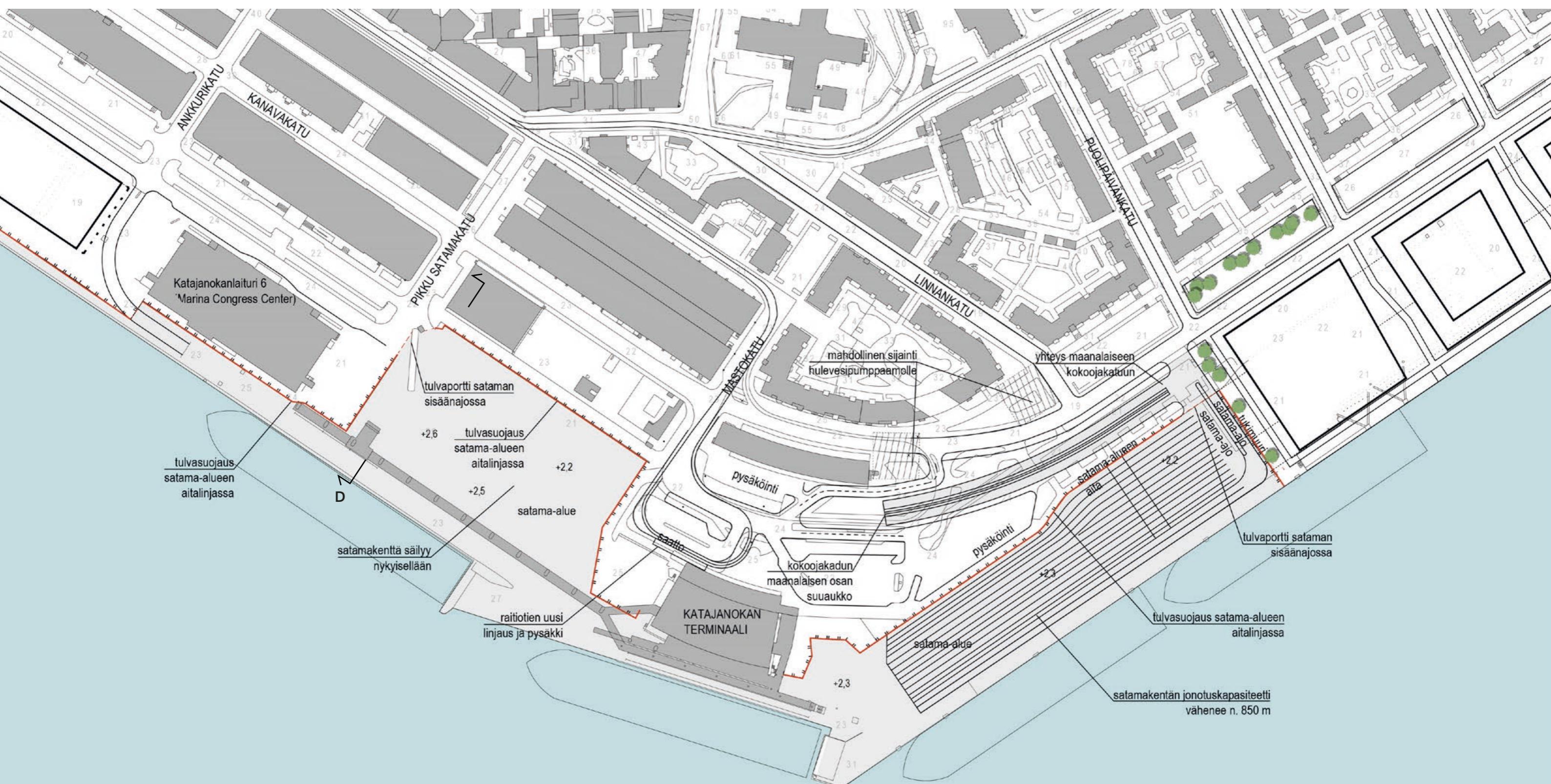
The flood wall will become a new structure with a visible presence in the cityscape and landscape, requiring careful planning. However, it will be possible to enliven the solid flood wall in many ways. For example, various art subjects can be integrated into the flood wall or the wall can be implemented as graphic concrete with images of historical views of the harbour. At selected points, signs or texts related to the brand/location of the area can be attached to the fence. The part of the fence above the wall will be implemented as a mesh fence that is as transparent as possible in order to preserve the views of the sea. In places, there will also be space for landscaping vegetation in front of the wall.

SECTION D-D 1:400

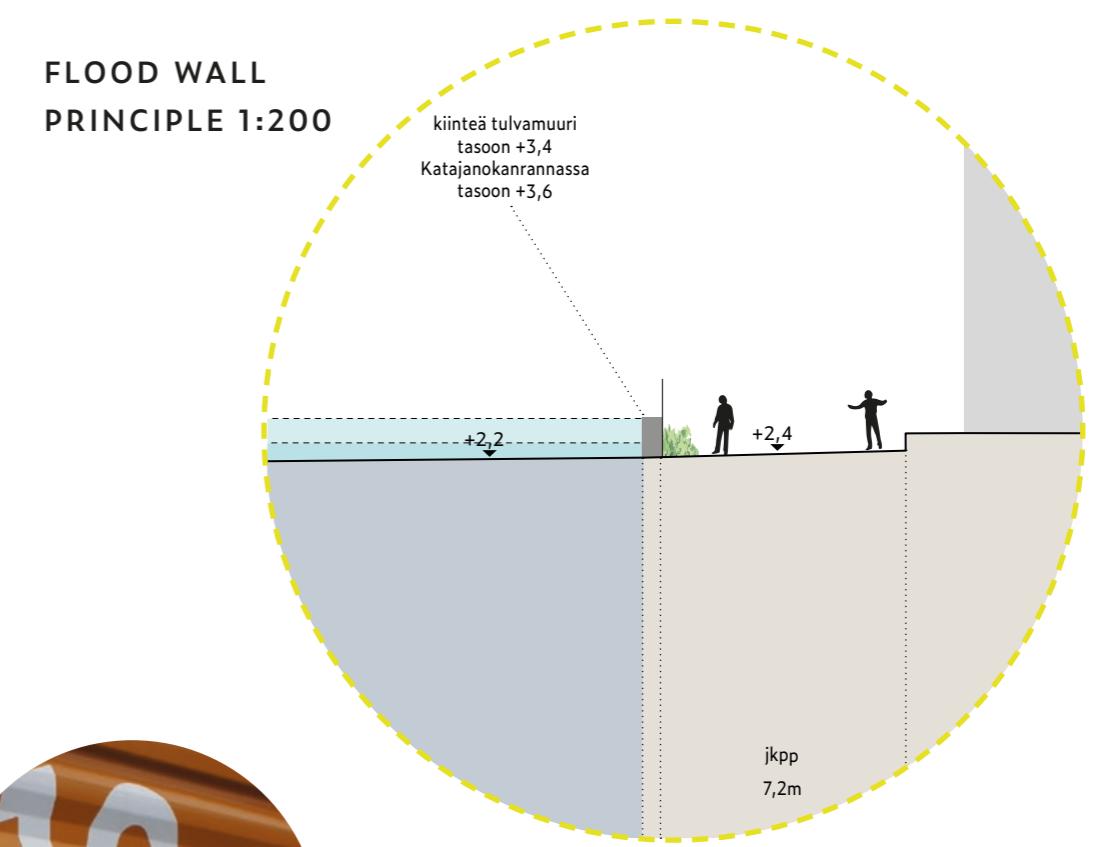
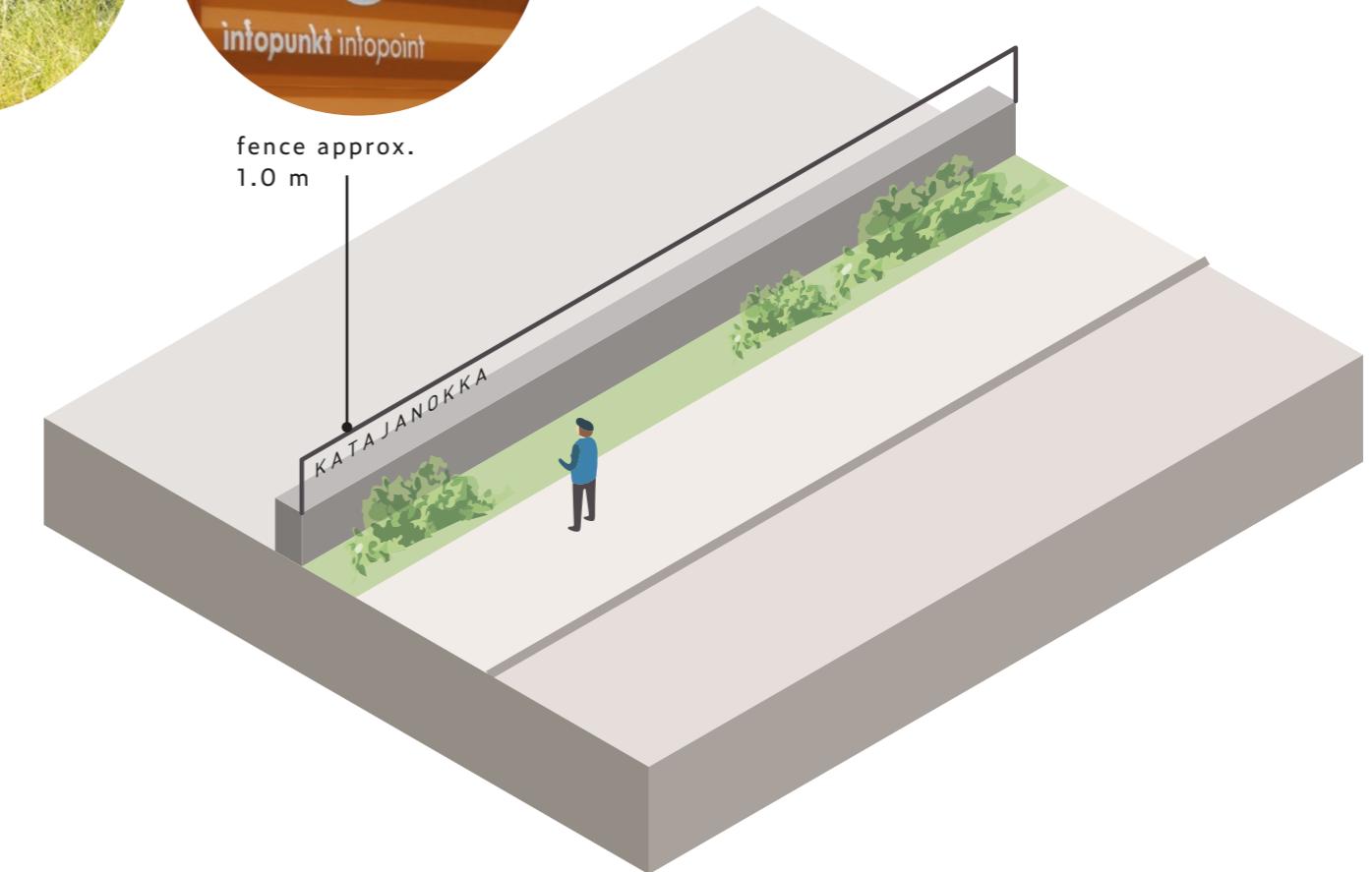
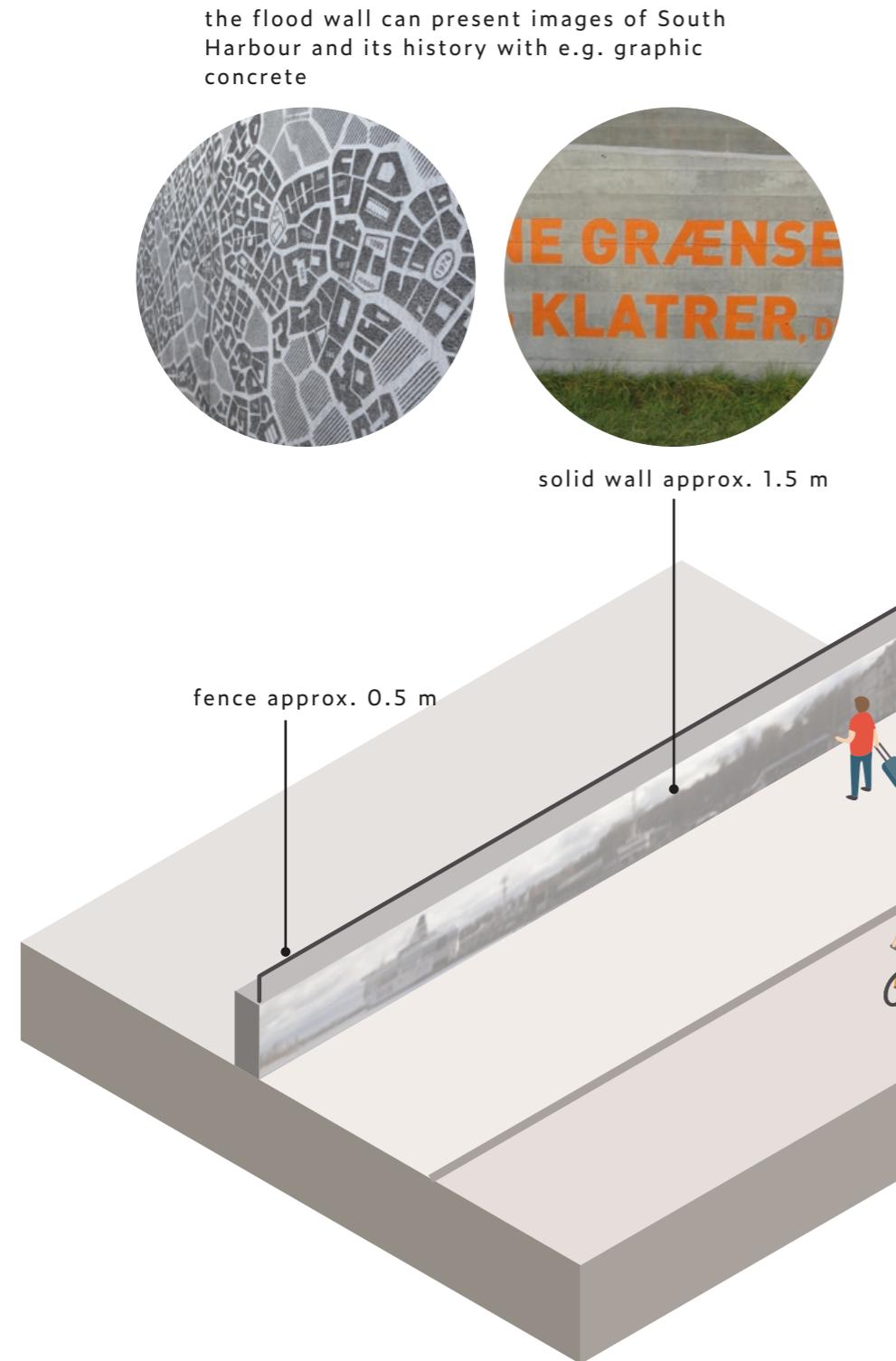


LAYOUT PLAN

1:2000



PRINCIPLES FOR THE REALISATION OF THE FLOOD WALL





5.

KATAJANOKANRANTA STARTING POINTS AND OBJECTIVES

CURRENT SITUATION

Today, Katajanokanranta is mainly an open park area with a wide, unbroken view of the sea. The park routes of Matruusinpuisto and Laivastopuisto parks follow the shoreline, and it is also possible to get close to the shore at the maintenance harbour at the eastern tip of the area. Only on the west side of Matruusinpuisto is the shore area reserved for the harbour's queuing space with no access to the seaside.

FUTURE PROJECTS

The City has planned residential construction in the area for approximately a thousand residents and has drawn up tentative drafts of the building masses corresponding to the target in connection with its city plan work. The reorganisation and densification of port operations and the organisation of resident parking areas are prerequisites for complementary construction in the area.



Kuva 27.

The work was based on the City of Helsinki's review of the location of construction in the harbour area

GUIDELINE PLAN

The building masses previously drawn up by the City in connection with its city plan work have served as a starting point for this work. The original plan has been developed and evaluated during the work, and various alternatives have been sought as reference points. The plan also took into account the operations and space allocations related to the Port of Helsinki's area. Two alternative plans for the area are presented in this report.

The plan has been prepared at the same time as the preliminary guideline plan for the technical space allocation and implementation method at the South Harbour bay (Ramboll Finland Oy 2020), and the traffic solutions in the area are based on the solutions presented in it. For Katajanokanranta, the merchant shipping lanes and the water area of the harbour / merchant shipping have been taken into account. The filling of the land area has been examined in relation to the fairway turning in the direction of Katajanokanranta.

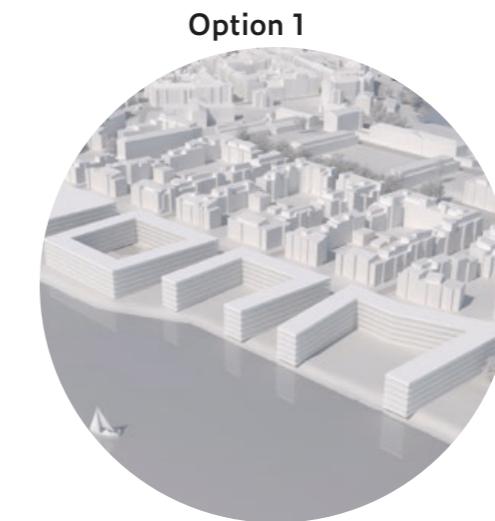
OBJECTIVES

The most important objectives of the plan include

- preserving a public pedestrian route along the shore
- maintaining the green area as much as possible or replacing it with other solutions
- creating a comprehensive flood protection solution that is functional in terms of landscape.



access to the sea



Option 1



Option 2



the sea



the seaside park



KATAJANOKANRANTA, PLAN OPTION 1

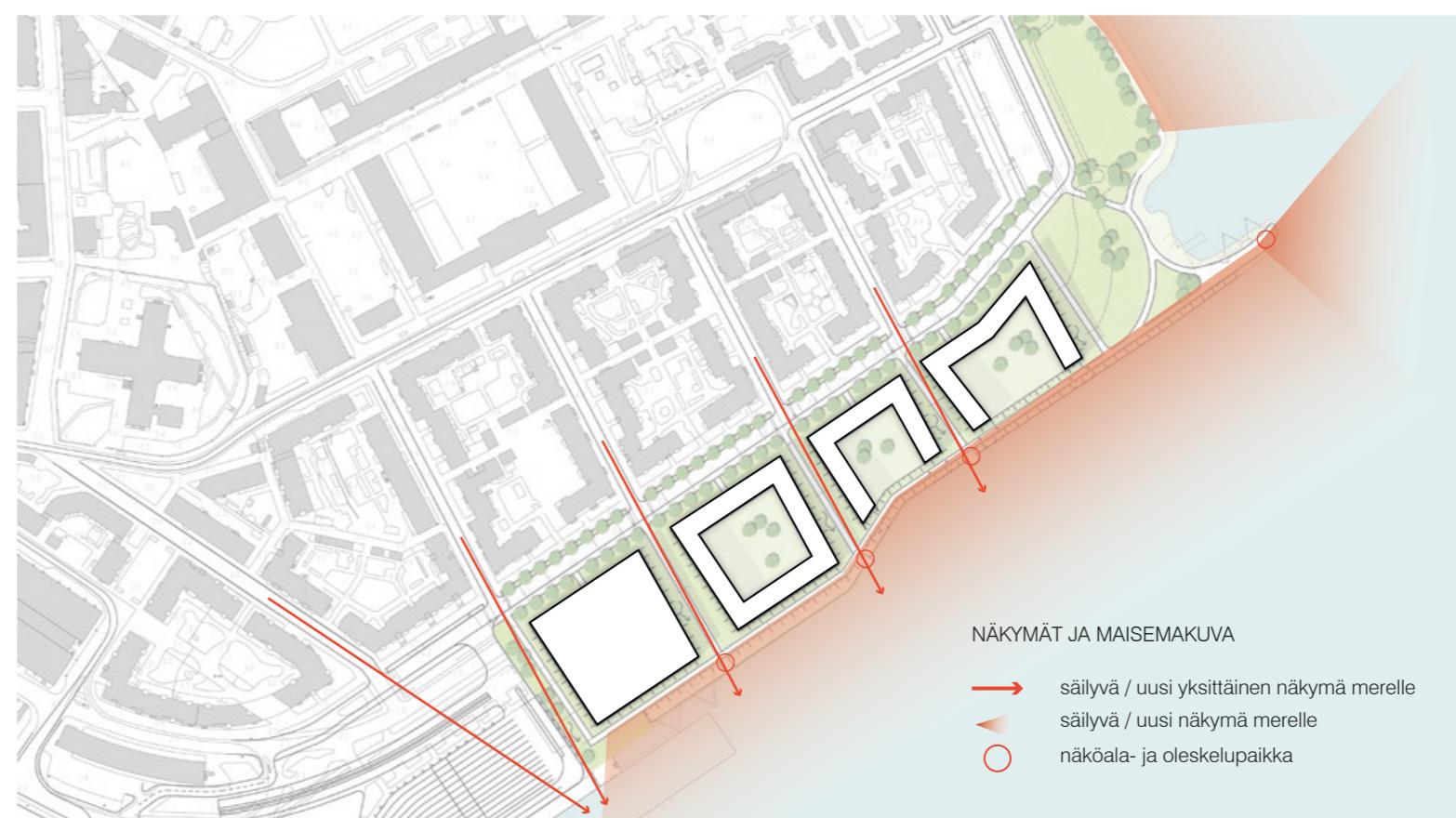
This plan option is based on a solution in which the shoreline remains in place and the new building masses are positioned into the space between the street and the shoreline. According to the plan, the Katajanokanranta street will be moved and its elevation will be raised. The shore will be maintained as a public area and the current seaside trail will be renovated.

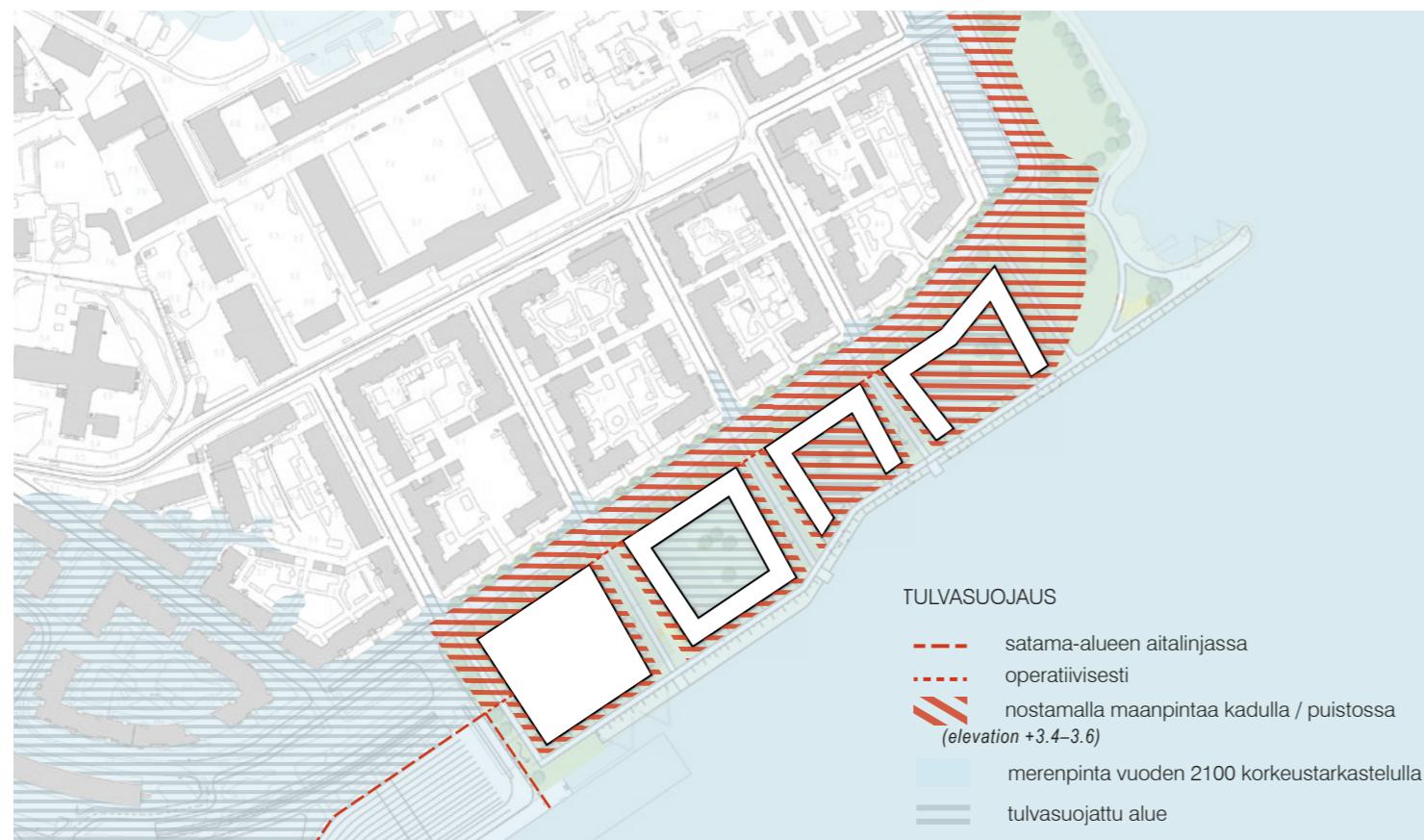
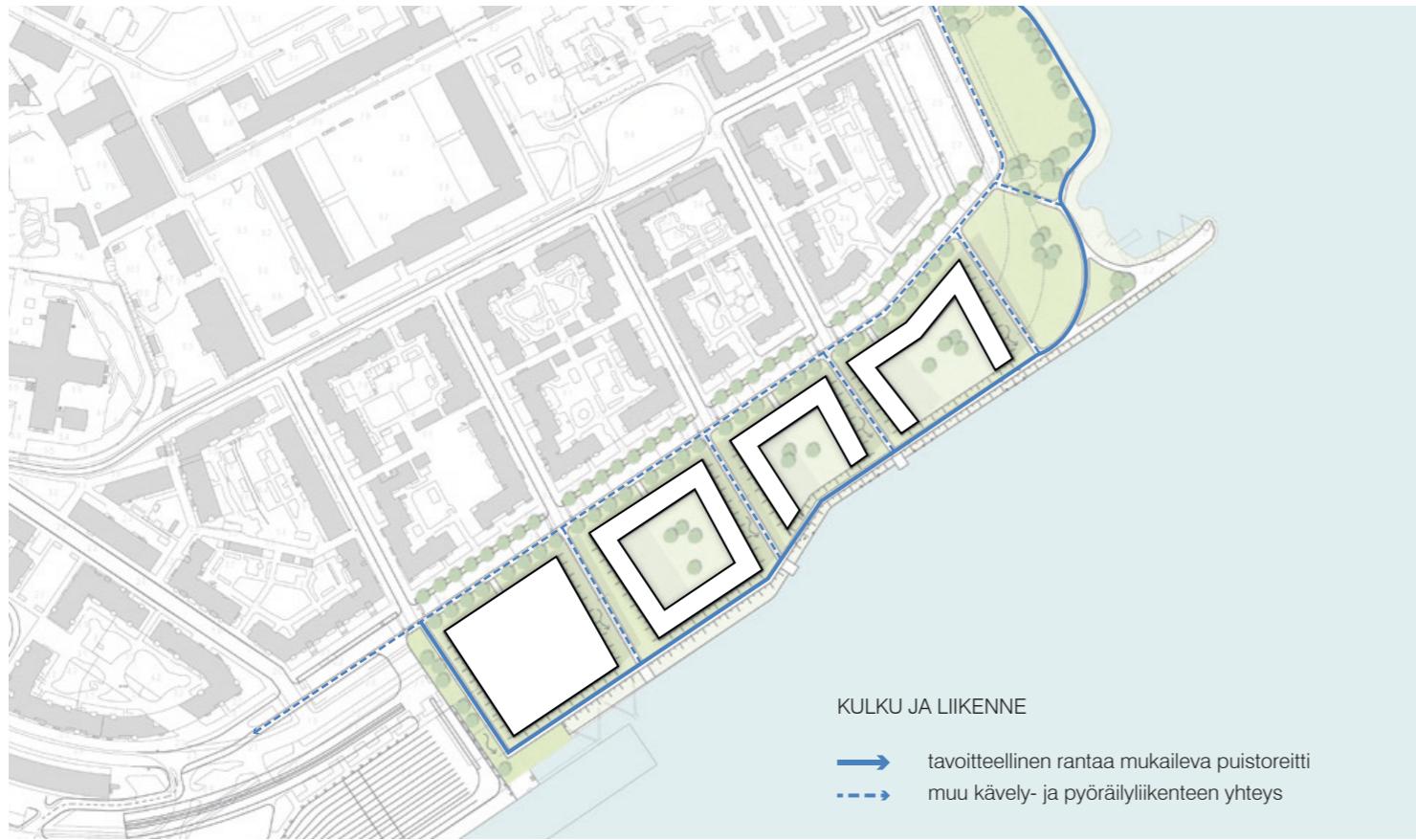
Construction and landscape

The new buildings in the area will be located to the north of the seaside trail and some of the blocks will be implemented open towards the sea, which is quite exceptional in the closed-block area of the old city centre. However, this is compatible with the shape of the shoreline to be preserved and allows more apartments to have sea views. Due to the noise caused by harbour traffic, the westernmost building mass cannot be put to residential use. Instead, it will be used for parking or business premises, for example. Due to the noise, the second westernmost block must also be closed.

The new construction will virtually completely cover Matruusinpuisto park currently located in the area, but the area of the current maintenance harbour can be correspondingly converted into a park. However, the seaside trail and Laivastopuisto park will remain in their current locations, making it possible to enjoy uninterrupted sea views from the shore.

The blocks' courtyards will be implemented at grade and above the safe level of flood protection.





Traffic

The Katajanokkanranta street will be rerouted to the site of the current parking area and raised to +3.1–3.4. The lost parking spaces will be transferred to a centralised parking facility at the area's westernmost building mass or possibly the previously planned rock parking facility, for example. The location and number of parking spaces will require further examination in the future.

The plan maintains the current seaside trail in its entirety in the same location and at the same elevation as now. The main pedestrian and bicycle route will be located along the shore in front of the new building masses.

Flood protection and shoreline construction

The flood protection of the buildings and courtyards in the area will be carried out by raising the ground level above the estimated maximum water level of the year 2100 to +3.6. The rest of the area will be protected by elevating the street, although this alone is not enough and operational flood protection will also be needed to tackle the highest floods. Laivastopuisto, located to the east of the area, will be elevated to supplement flood protection. The routes between the buildings lead towards the shore, allowing the surface run-off waters in the area to be discharged into the sea without special arrangements under normal circumstances and to maintain flood conveyance routes.

In this plan option, the seaside trail will be completely covered by water during high floods, which must be taken into account in its design and structures. It will also be located about 1.5 metres below the elevation at the front of the buildings, so the front of the buildings must be sloped towards the seaside trail. However, it is possible to place a social seating wall between the embankment and the trail, and the area in front of the blocks that open towards the sea can accommodate small areas for recreation and activities. It is also possible for the vegetation to continue uninterrupted from the courtyards to the seaside trail. In addition to this, observation platforms can be built at the ends of the street lines to pace the park-like seaside trail.

Considerations for further planning

Dredging and filling operations at Katajanokka will affect the water area and the merchant shipping lanes of South Harbour, Katajanokka Harbour and the icebreaker quay north of Katajanokka. In filling and dredging, stability in relation to the harbour area and old structures must be taken into account.

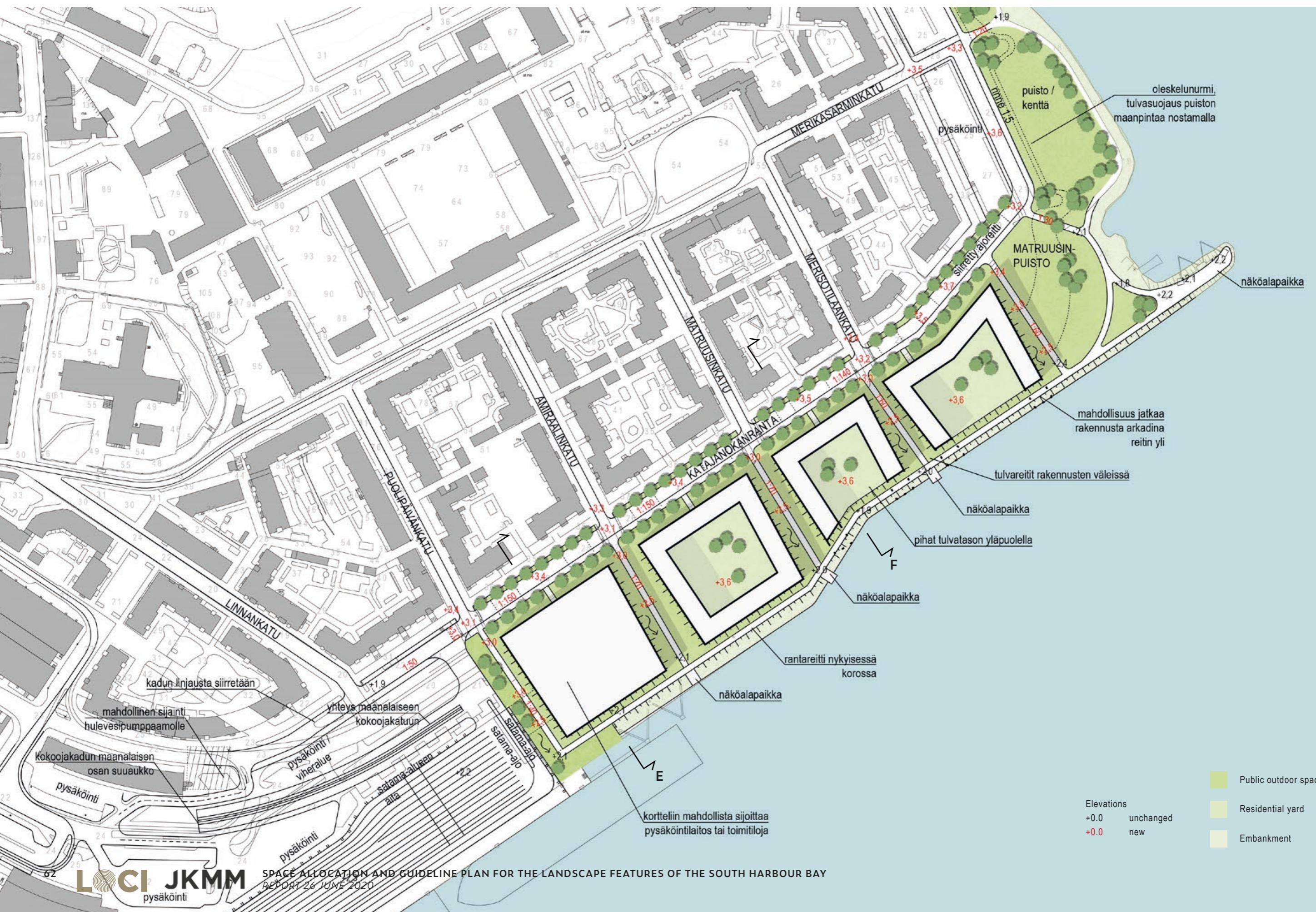
The number and location of parking spaces must be examined during further planning.

The implementation of a snow storage space at the eastern tip of Matruusinpuisto must be examined for Katajanokka's own use for snowy winters.

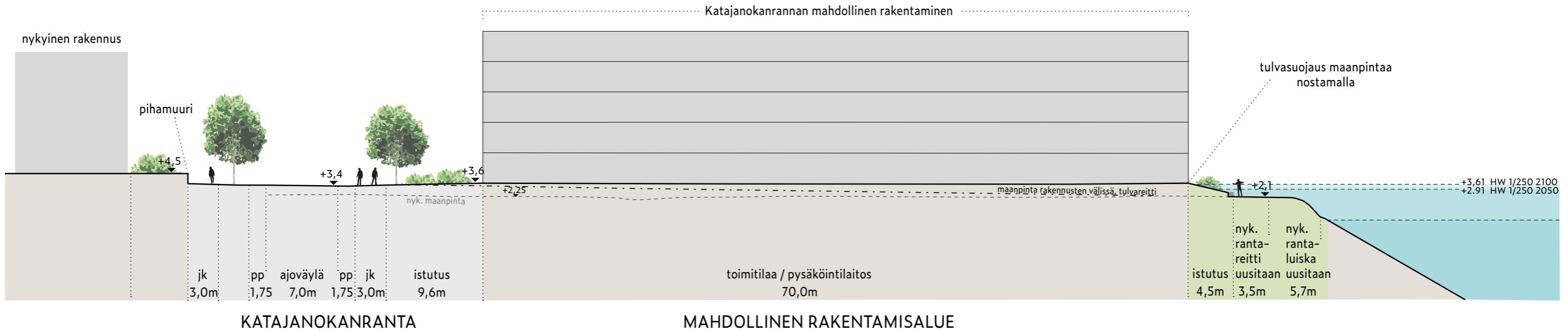
LAYOUT PLAN

KATAJANOKANRANTA, VE1

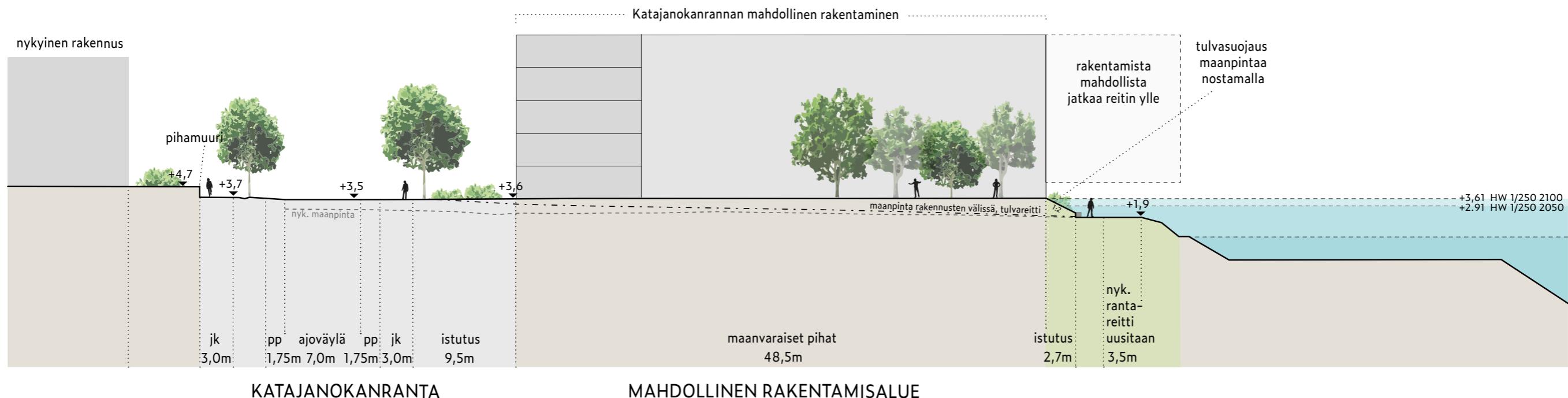
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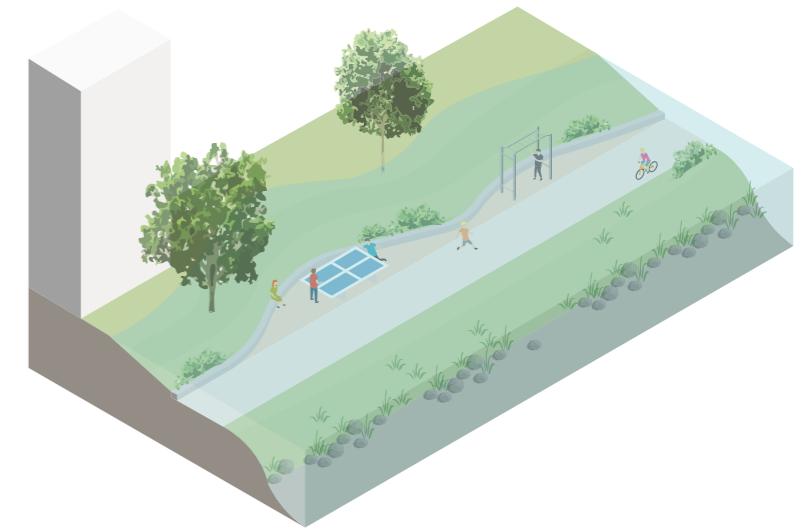
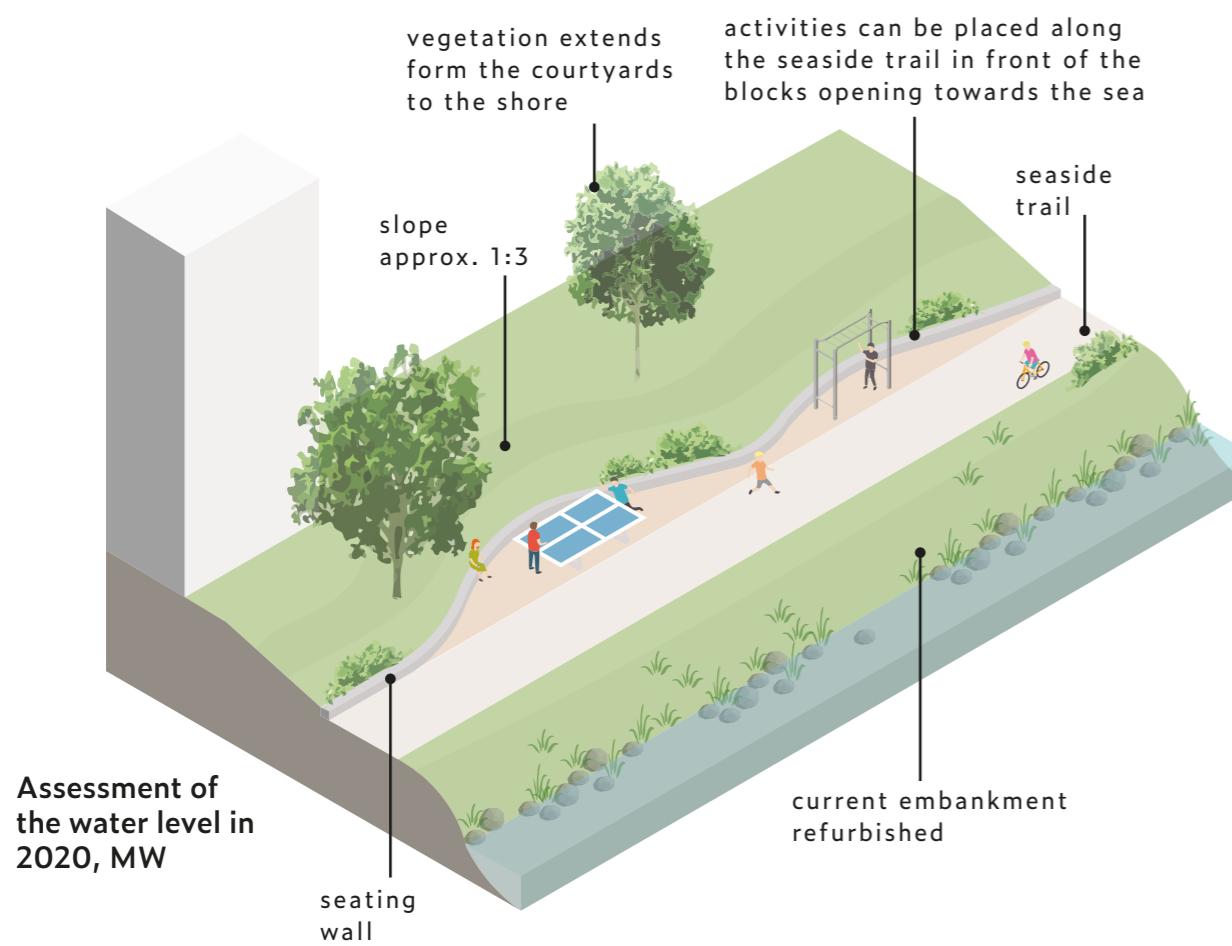
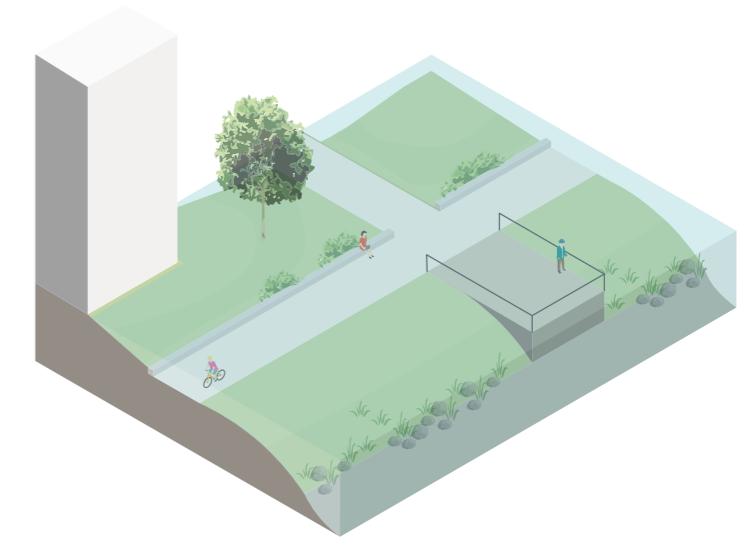
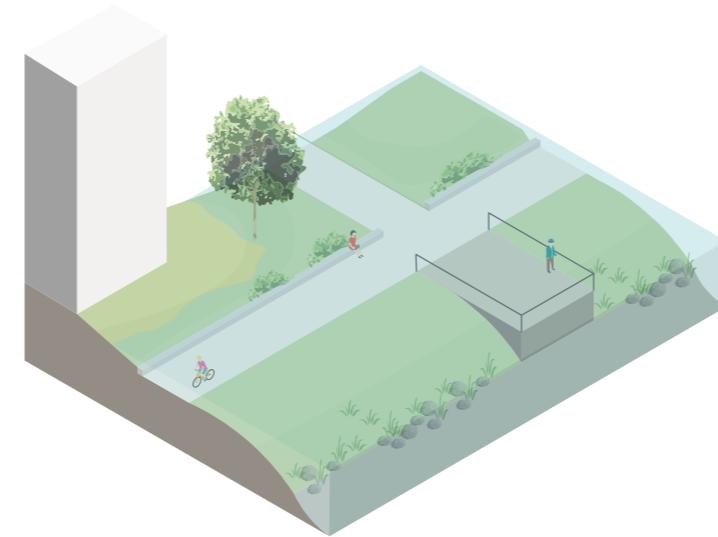
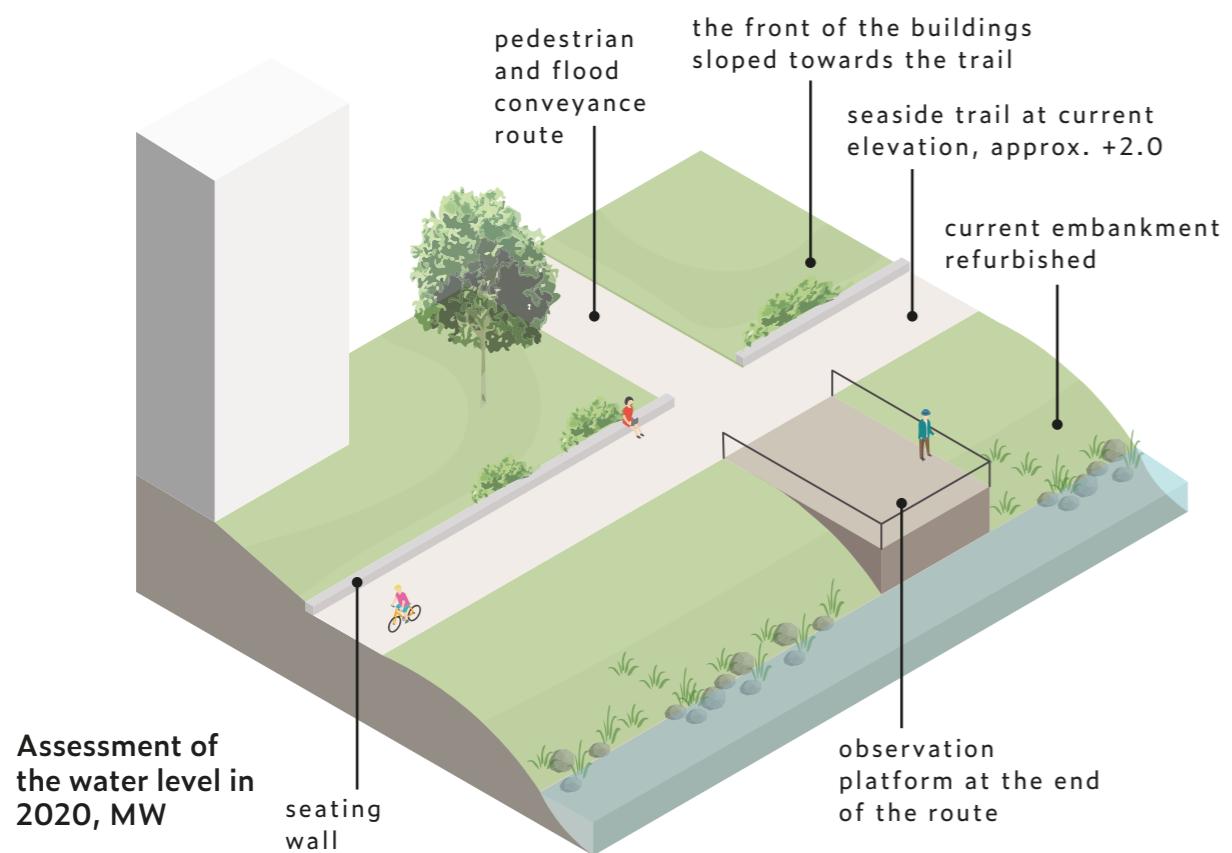


SECTION E-E 1:400



SECTION F-F 1:400

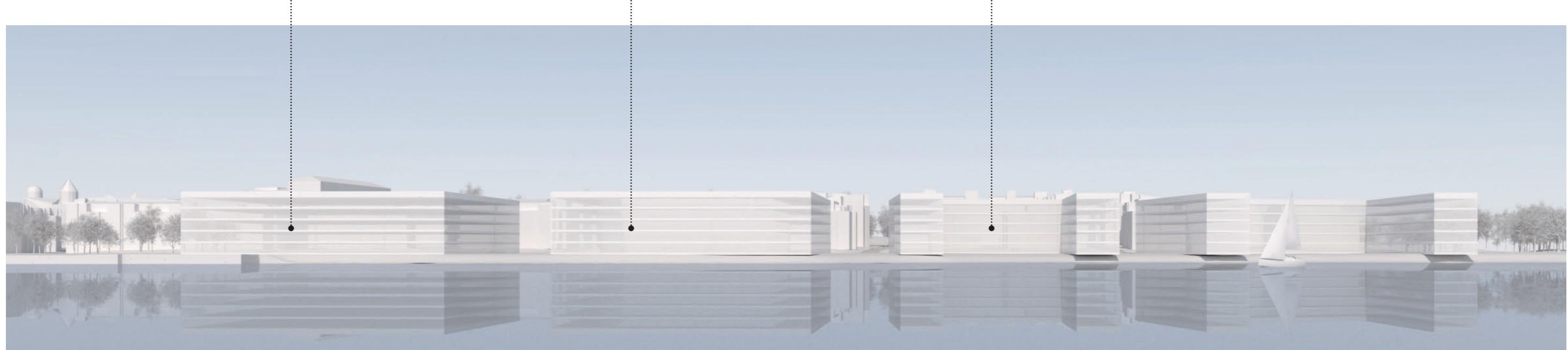




the block is not suitable for housing due to noise; instead, it can be used for business premises, services or parking facilities

the block closed towards the sea protects from vessel noise

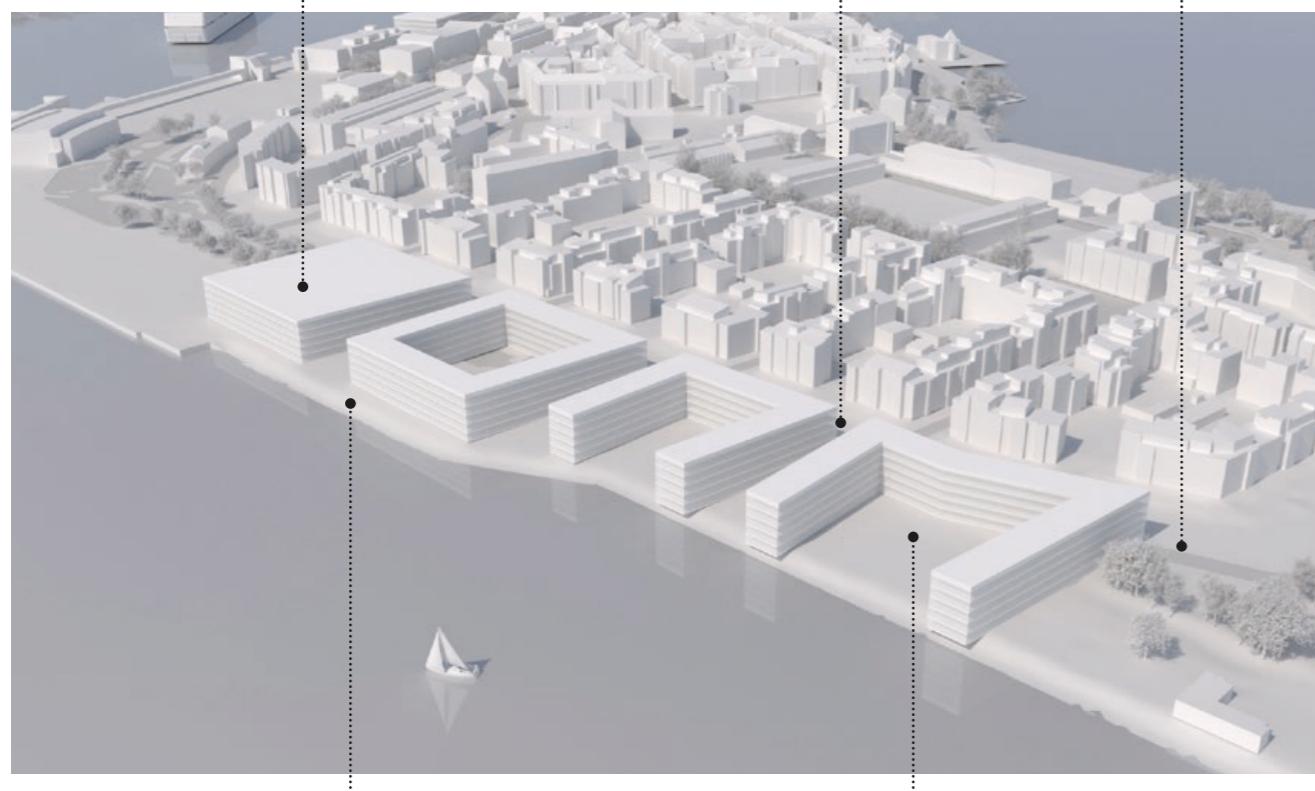
some of the blocks open towards the sea, giving more apartments a sea view and creating variation in the facades



the westernmost block used for business premises, services or parking facilities; functions and their ratio require further examination

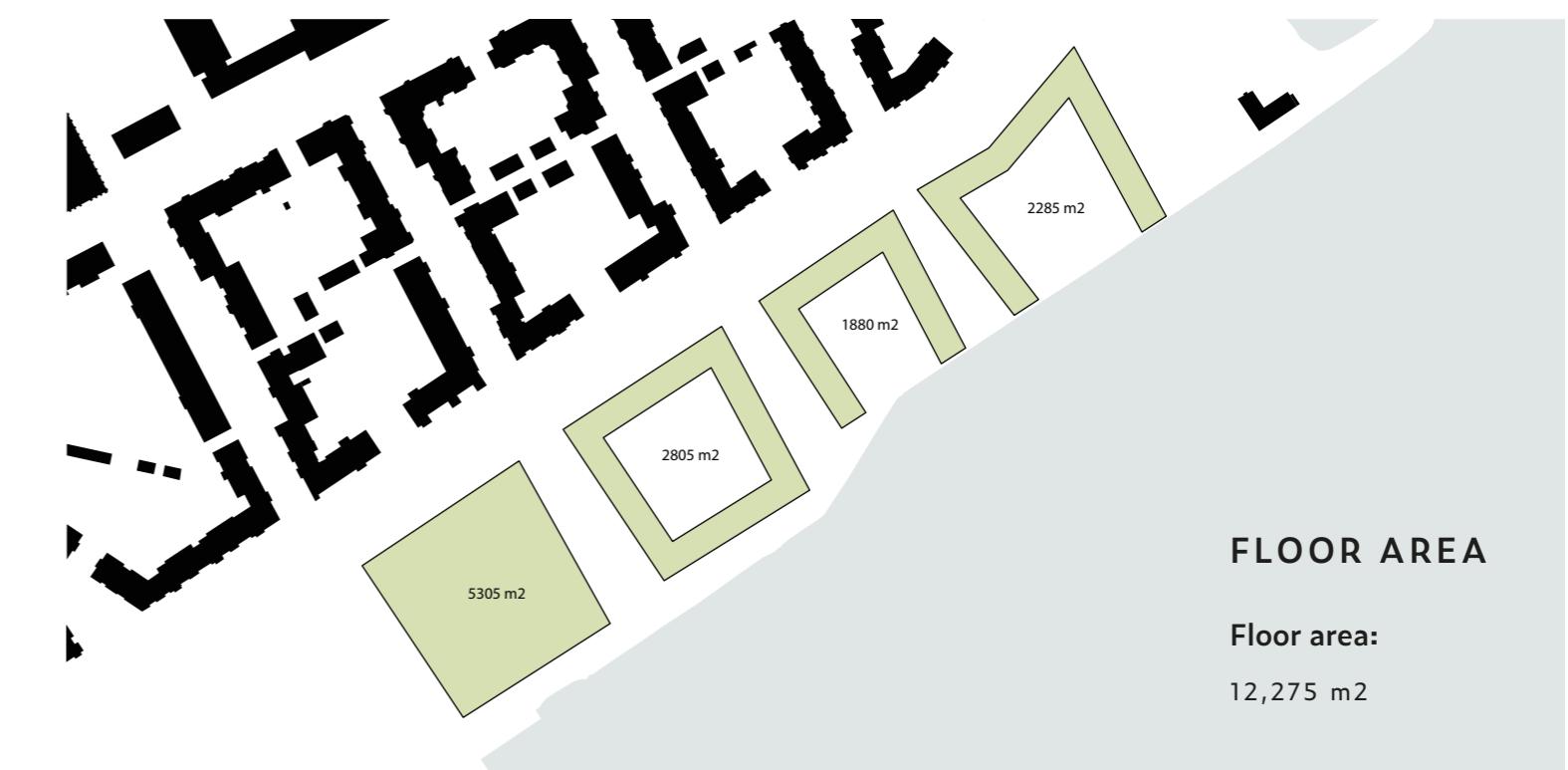
current parking spaces must be relocated

street elevated



shoreline keeps its current position

the easternmost blocks open towards the sea



KATAJANOKANRANTA, PLAN OPTION 2

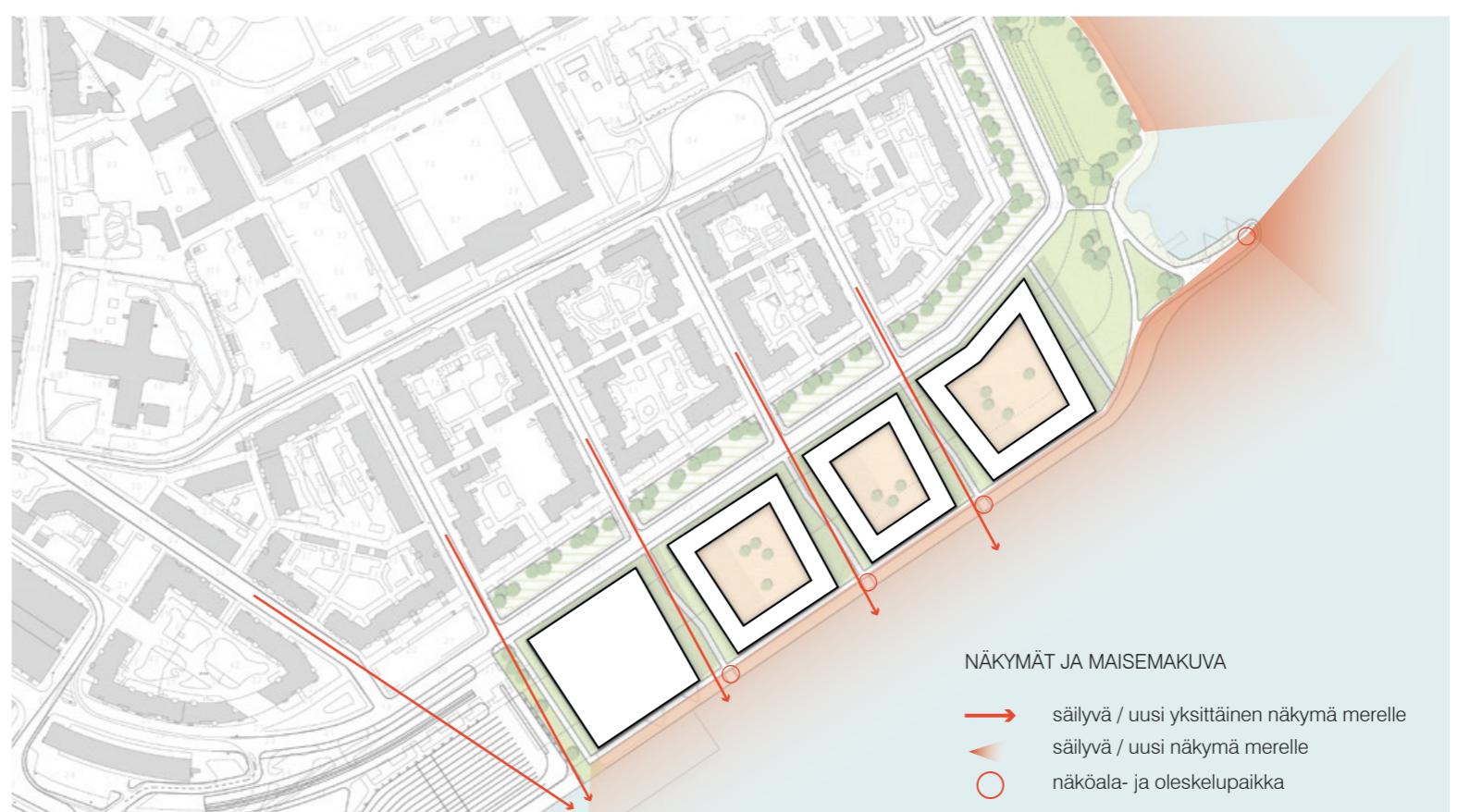
The plan option is based on a solution investigated by the City in connection with its work on the City Plan, in which the building masses will be placed partly over the existing shoreline. The area in front of the buildings will be filled to raise it to +3.6, allowing it to act as flood protection for the area along with the elevation of Laivastopuisto. The shore will remain a public area and a new park trail will be created along the shoreline.

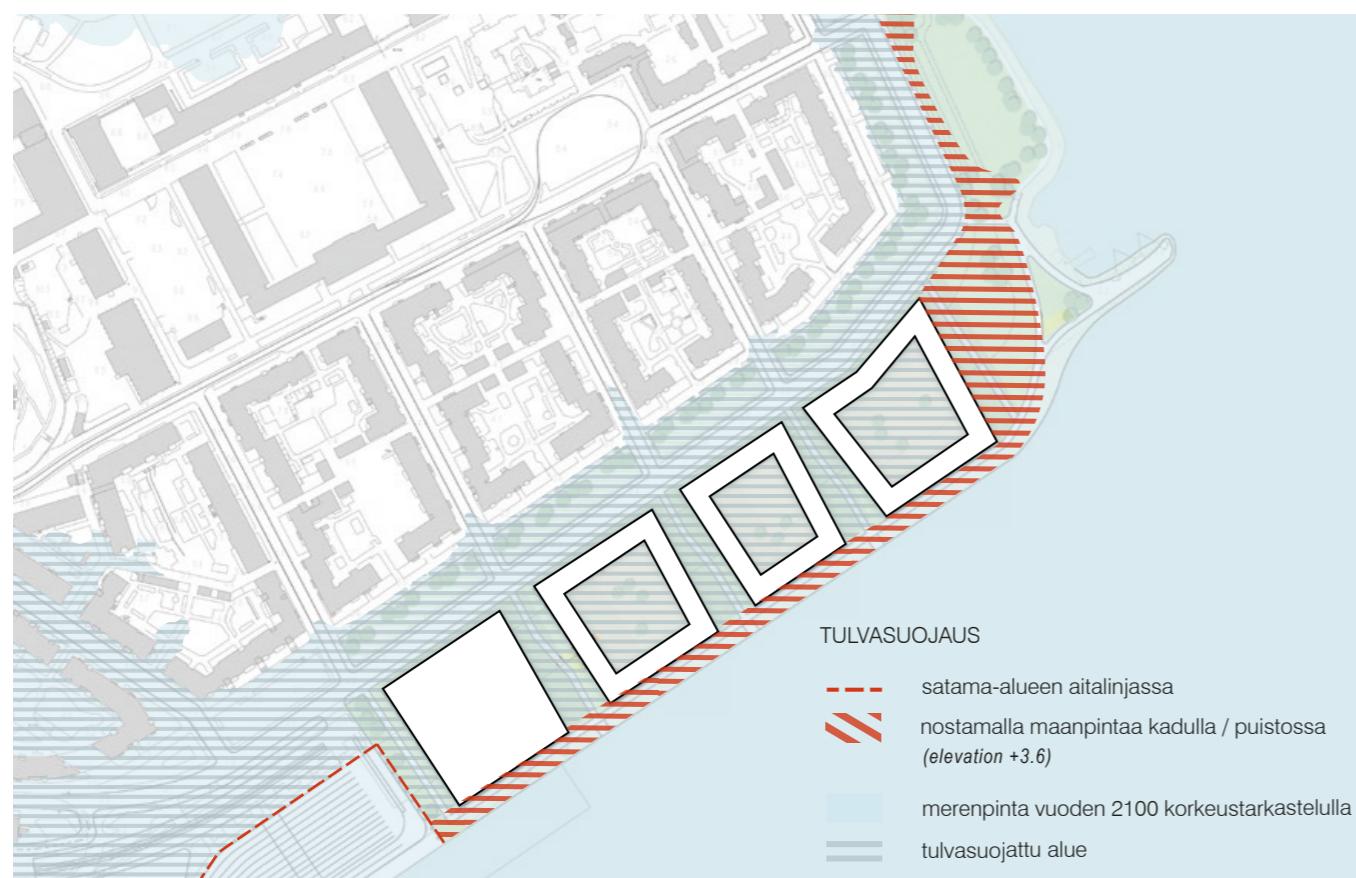
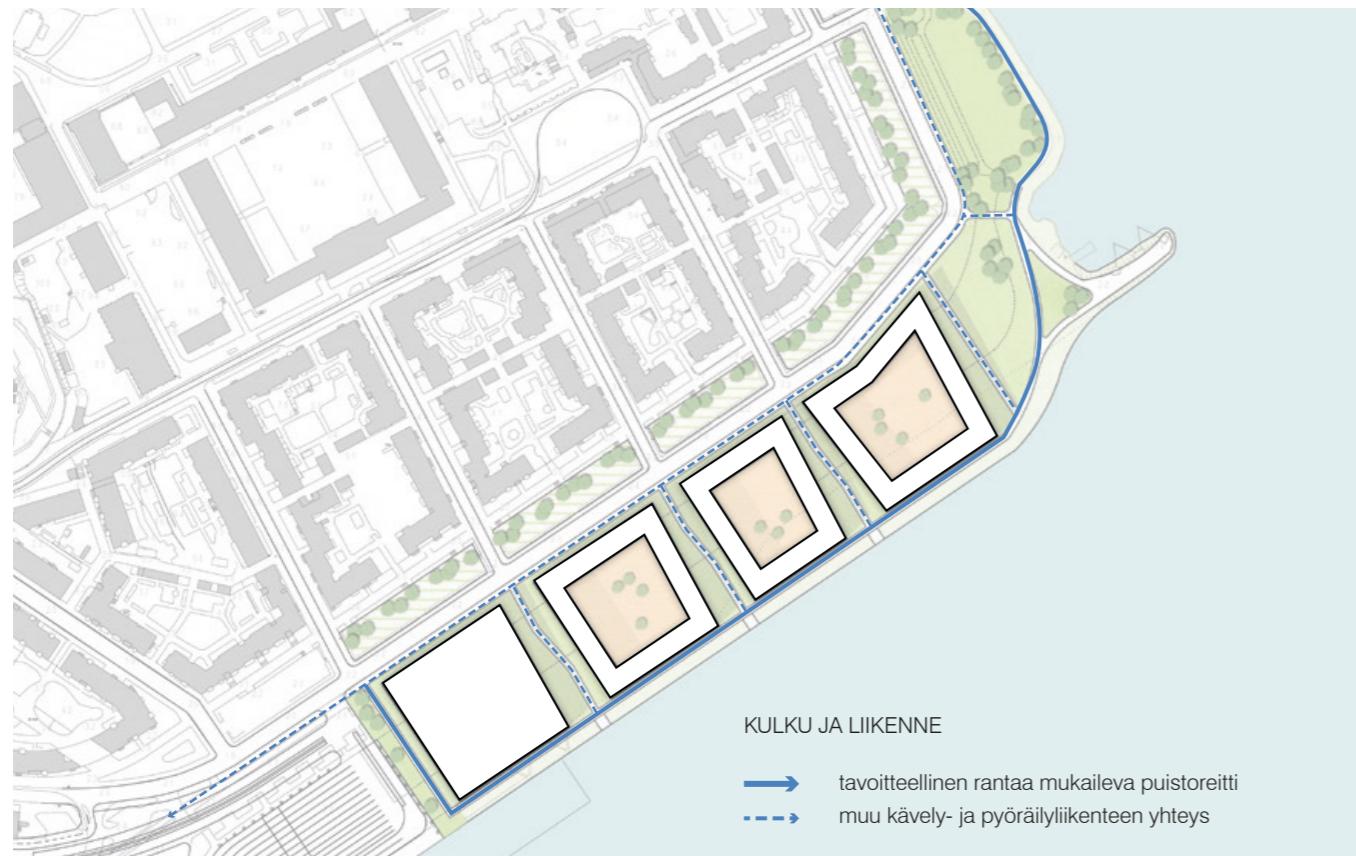
Construction and landscape

The new buildings in the area will be implemented as closed blocks, where parking will be placed under decks and the blocks' courtyards will be on decks. The new buildings will offer sea views only from the shore side, but the closed blocks will form a cohesive facade facing the sea, which is the traditional way of building in the centre of Helsinki. Due to the noise caused by harbour traffic, the westernmost building mass cannot be put to residential use. Instead, it will be used for business premises, services or parking facilities, for example.

The new construction will virtually completely cover Matruusinpuisto park currently located in the area, but the area of the current maintenance harbour can be correspondingly converted into a park. However, the new seaside trail and Laivastopuisto will continue to offer uninterrupted views of the sea. With the reorganisation of the parking spaces, it may also be possible to convert the current parking area into a green area.

The seaside trail and the front of the buildings are on the same level in this option, but the space between them is narrow. The ground floors on the shore side must be enlivened with functions so that they do not become gloomy. The ground floor can be used for the blocks' shared-use spaces, for example.





Traffic

In the plan, the pedestrian and bicycle route along the shore will be moved onto the new filled land in front of the buildings and elevated to +3.6.

In this option, the current parking areas will be converted into a park to compensate for the lost seaside park. However, this will only be possible if the cars currently using them can be relocated to a centralised parking facility at the area's westernmost building mass or possibly the previously planned rock parking facility, for example. Some of the cars can be placed in the blocks under the parking decks.

Flood protection and shoreline construction

In the plan, the seaside trail is proposed to be built directly at +3.6, allowing it to serve as a flood structure for the area. This will require a lot of filling but means that the area will not need any other flood protection measures. Laivastopuisto, located to the west of the area, will be elevated to supplement flood protection.

The new buildings will be built at an elevation of +3.6, which will place them above the estimated maximum water level in 2100. Routes between the buildings will be levelled to ascend from the street towards the seaside trail, which will require special arrangements to drain surface run-off waters in the area and pumping stations in the event of flooding. However, the seaside trail will not be submerged in any flood situation.

The seaside trail can be made more active by placing small seating platforms in the embankment, giving people the opportunity to spend time closer to the shoreline. In addition to this, observation platforms can be placed at the ends of the street lines to pace the park-like seaside trail.

Considerations for further planning

Dredging and filling operations at Katajanokka will affect the water area and the merchant shipping lanes of South Harbour, Katajanokka Harbour and the icebreaker quay north of Katajanokka. In filling and dredging, stability in relation to the harbour area and old structures must be taken into account.

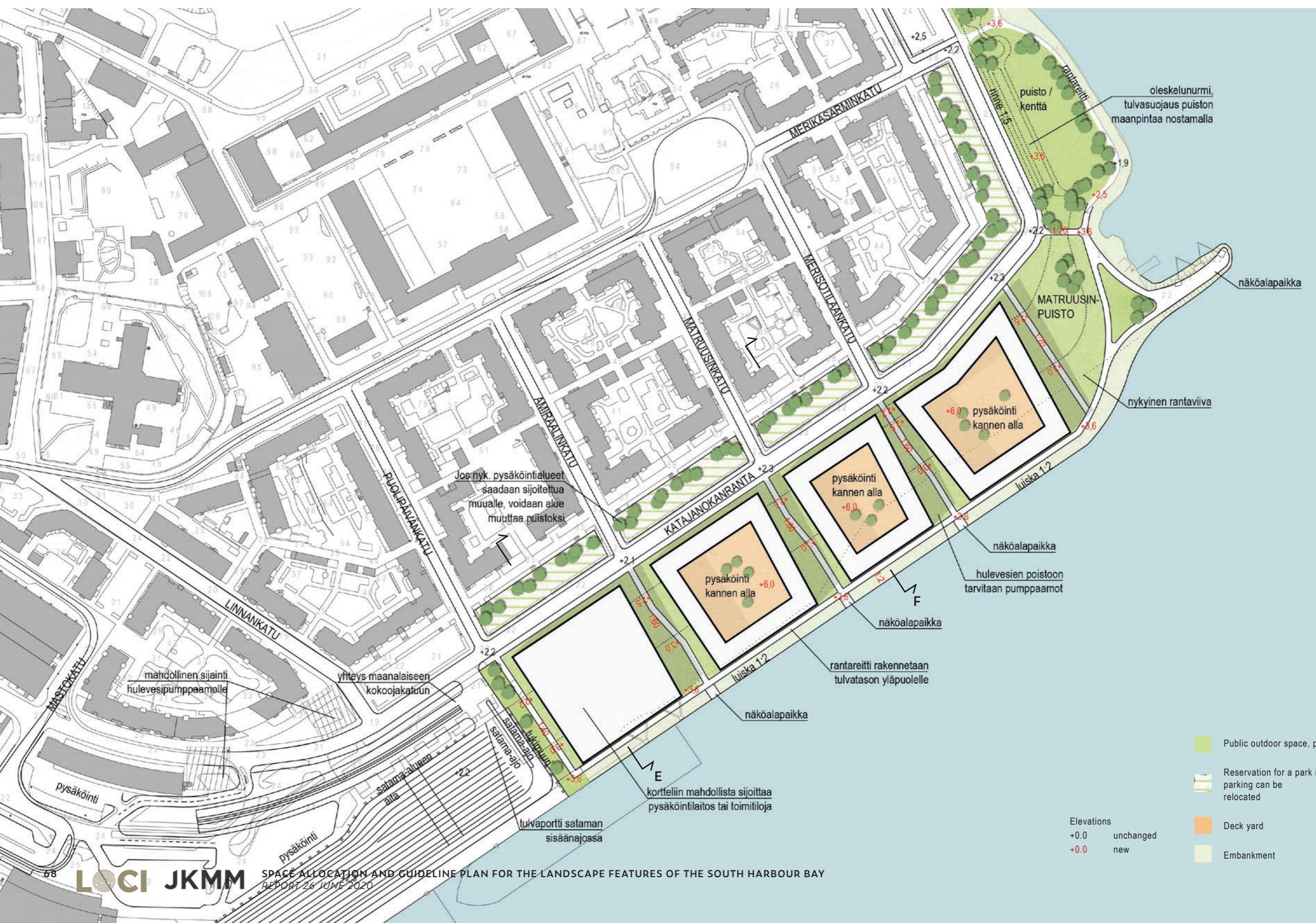
In filling and dredging, stability in relation to the harbour area and old structures must be taken into account.

The implementation of a snow storage space at the eastern tip of Matruusinpuisto must be examined for Katajanokka's own use for snowy winters.

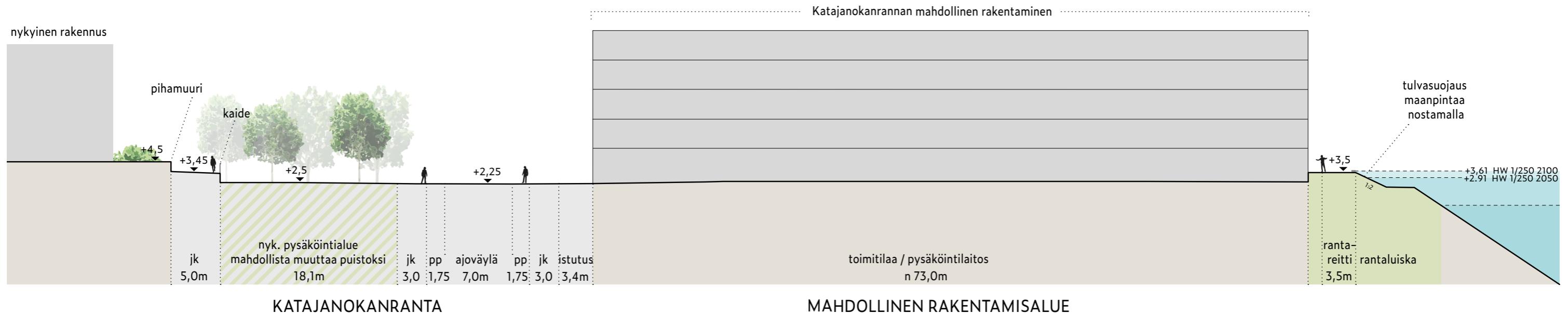
LAYOUT PLAN

KATAJANOKANRANTA, VE2

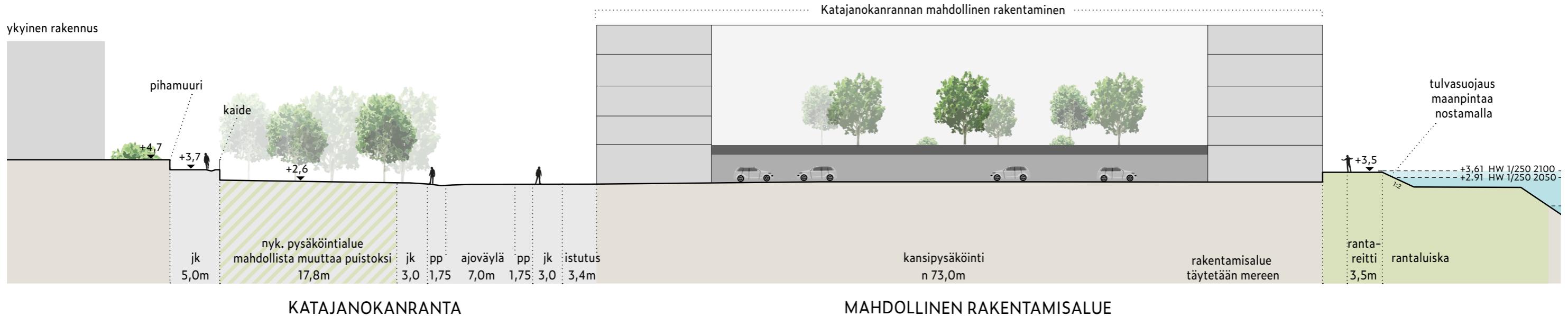
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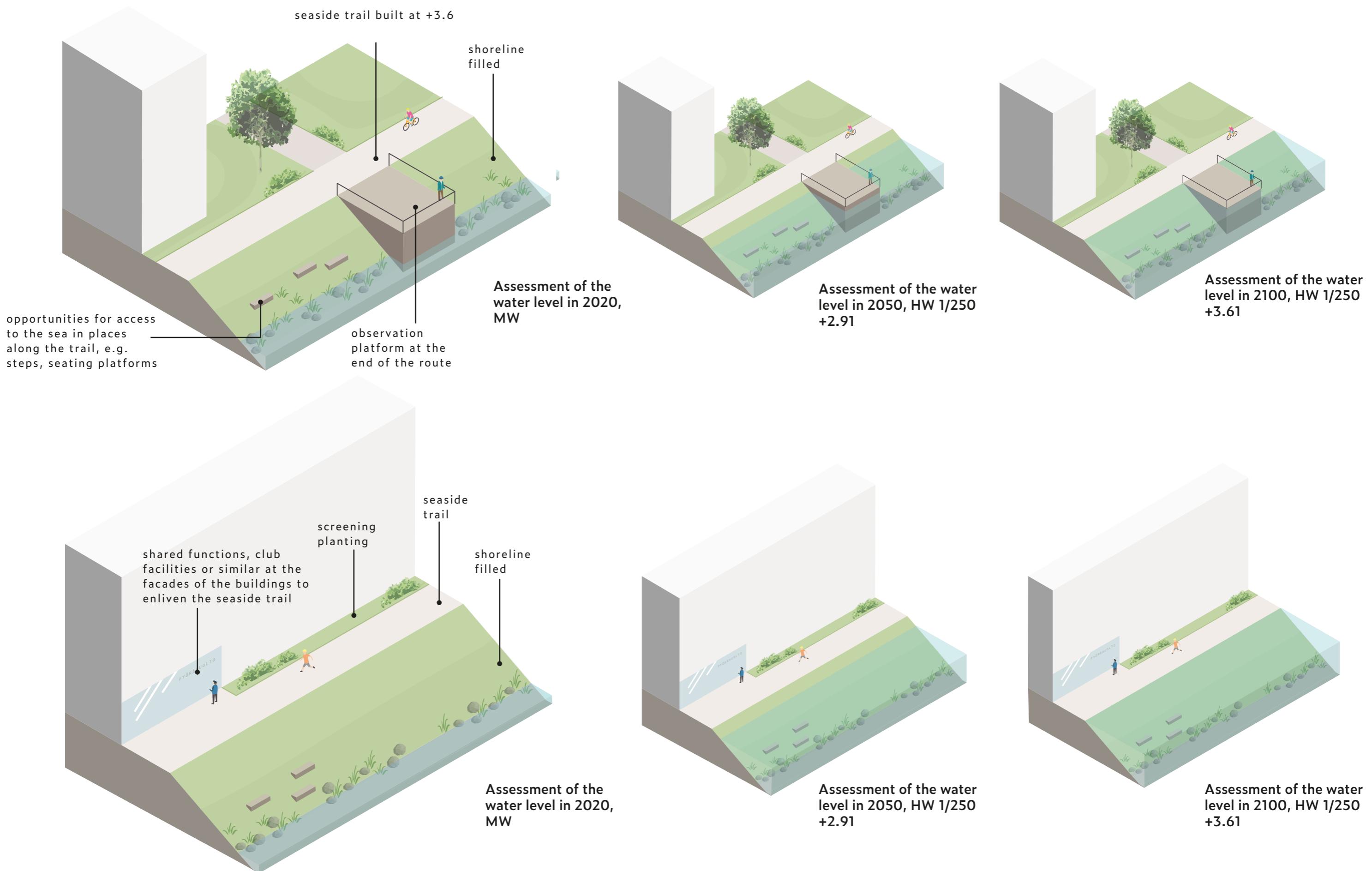


SECTION E-E 1:400



SECTION F-F 1:400

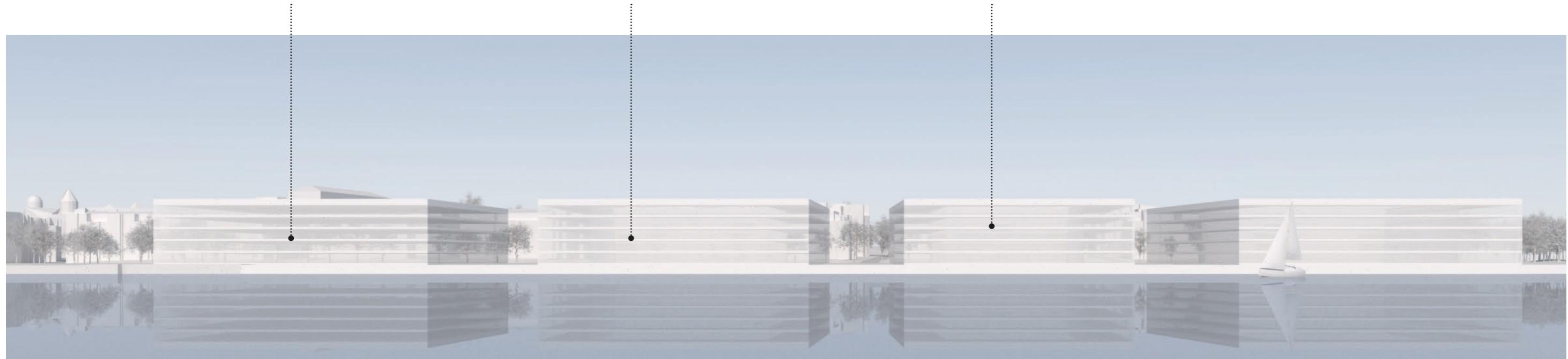




the block is not suitable for housing due to noise; instead, it can be used for business premises, services or parking facilities

the block closed towards the sea protects from vessel noise

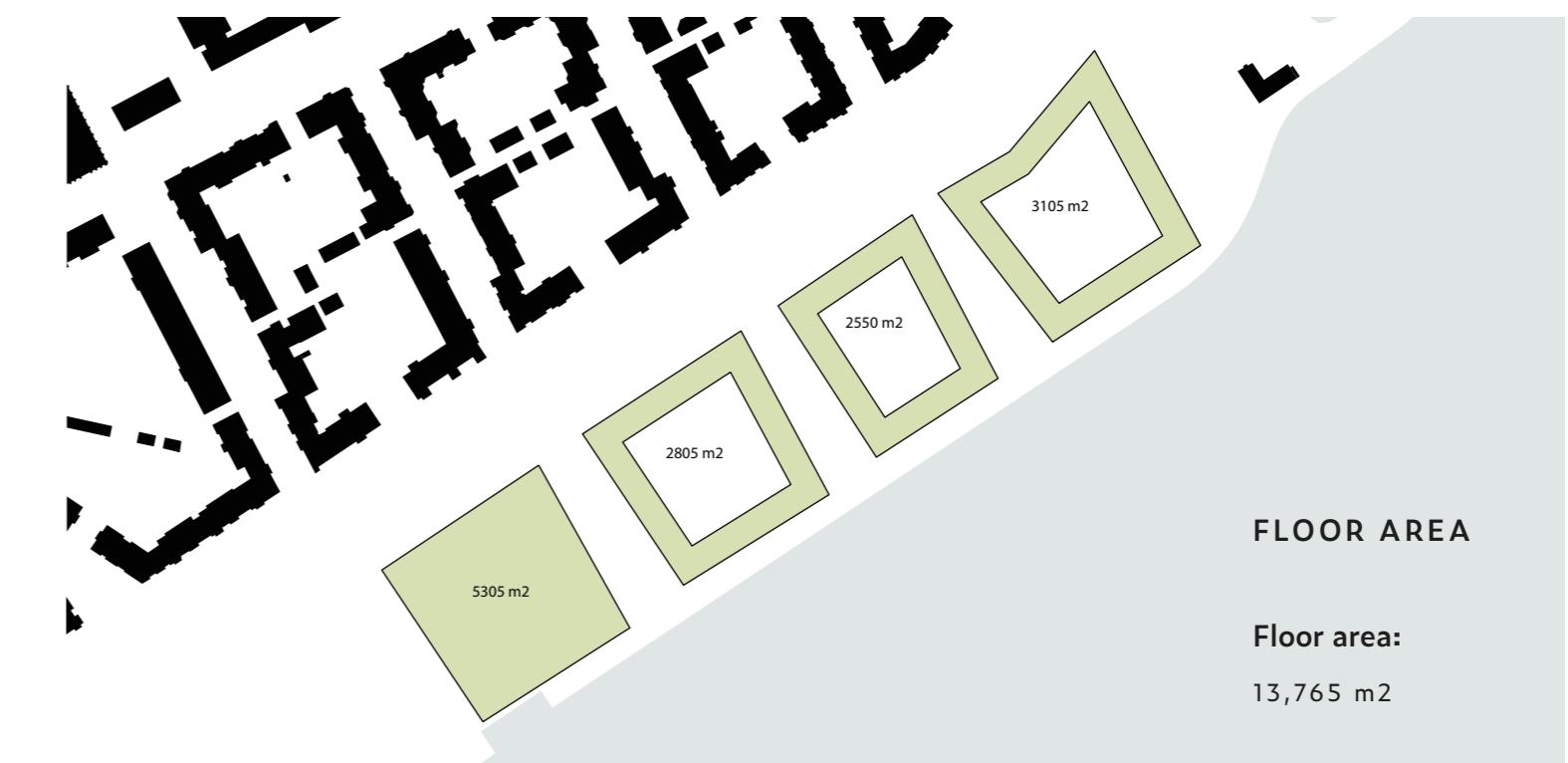
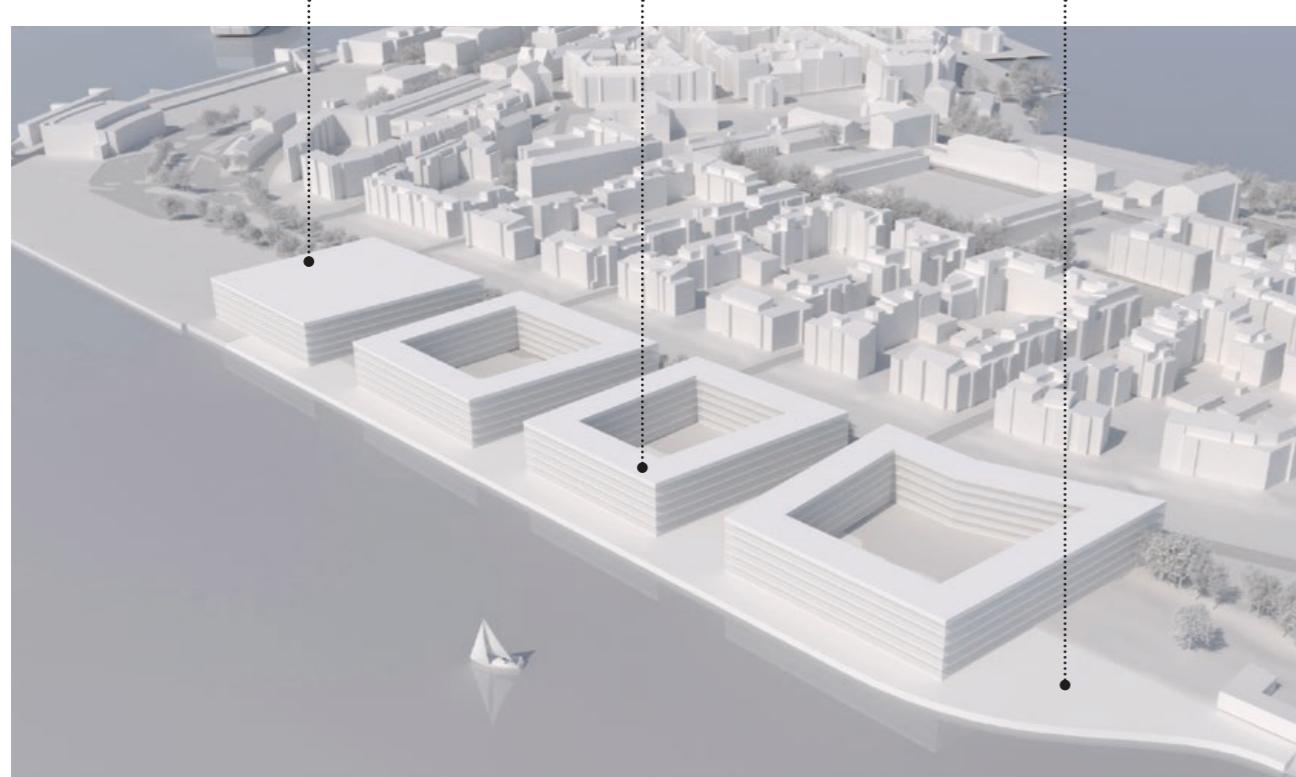
the closed blocks form a unified facade towards the sea



the westernmost block used for business premises, services and parking facilities

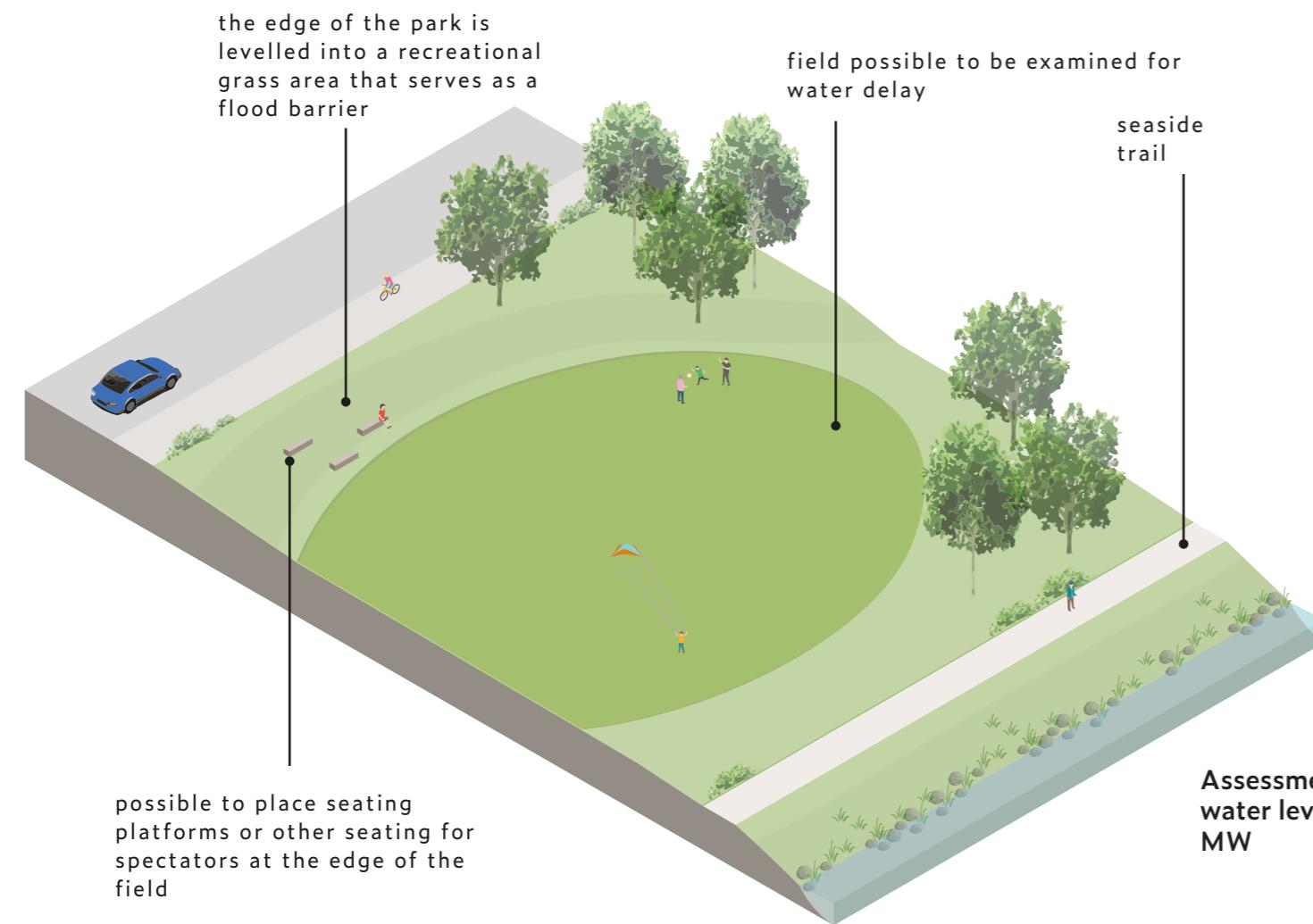
all blocks closed

the shoreline is raised and expanded towards the sea

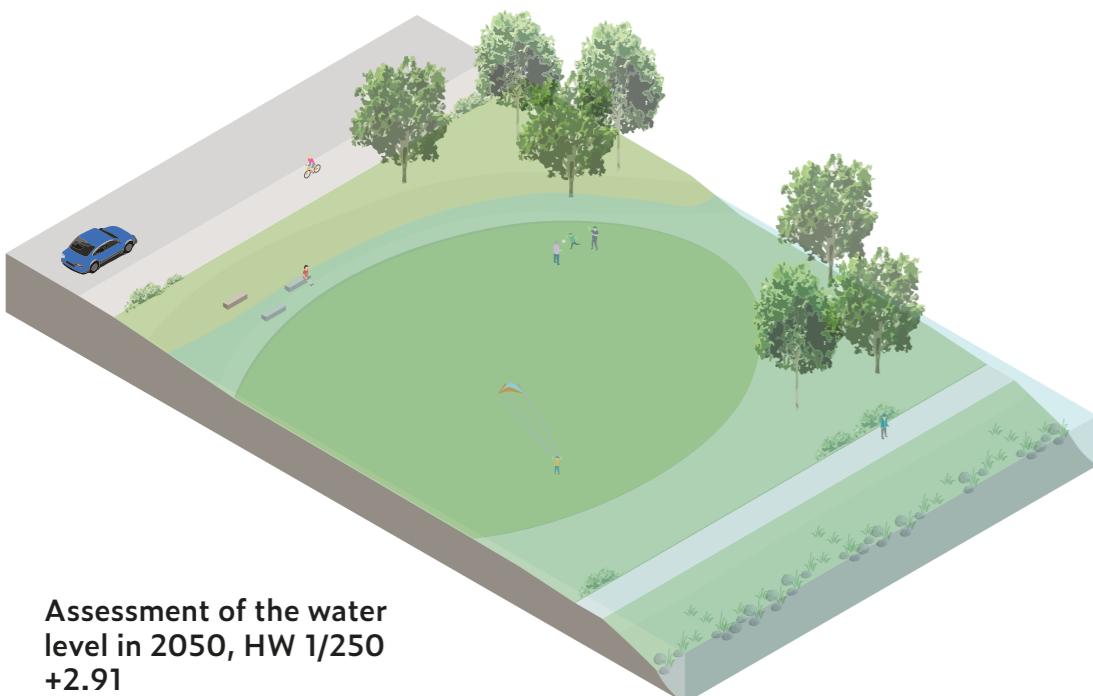


LAIVASTOPUISTO

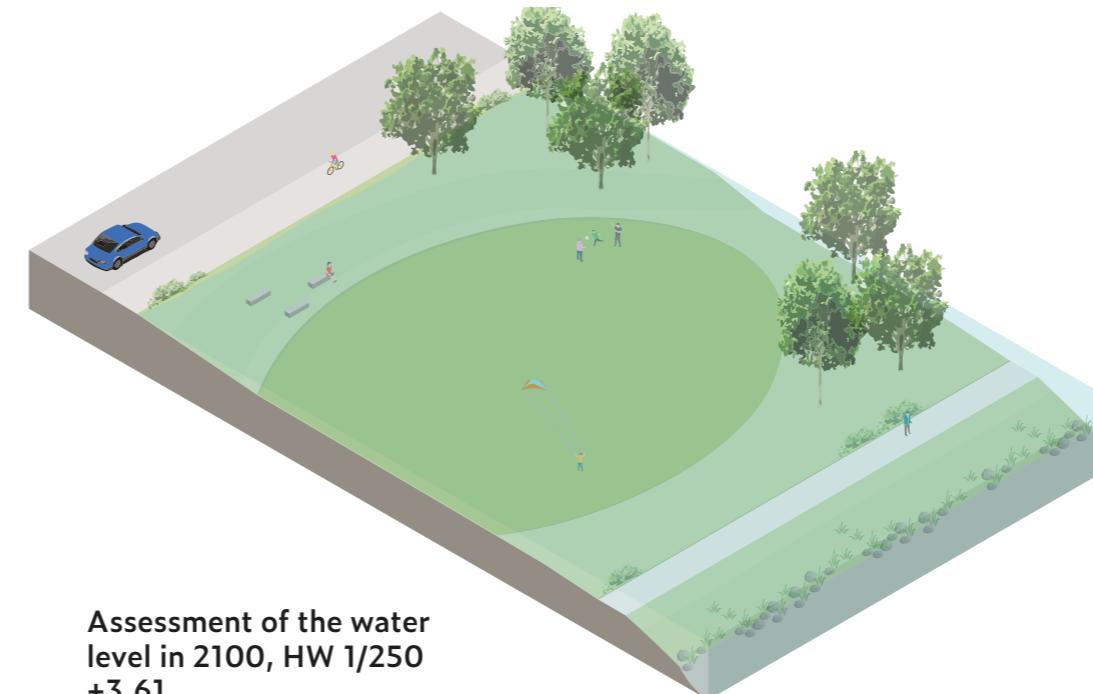
PRINCIPLES FOR THE REALISATION OF THE PARK



Assessment of the water level in 2020, MW



Assessment of the water level in 2100, HW 1/250 +3.61



Laivastopuisto park to the east of the new blocks will supplement the flood protection of Katajanokanranta. The edges of the entire park will be raised to +3.6, and at the location of the current field they will be shaped into a gently sloping recreational grass area, in connection with which it is possible to place small platforms or other forms of seating for spectators. In the Katajanokanranta plan option 1 (VE1), the edge of the park is directly connected to the level of the elevated Katajanokanranta street; in option 2 (VE2), the edge is formed into a hill that comes back down to the current elevation on the street side.

The size of the field will be slightly reduced and it will be redesigned into a multi-purpose activity area. It will be possible to examine the field for possible flood water delay during the further planning phase.



6. SOURCES



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IMAGE SOURCES

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