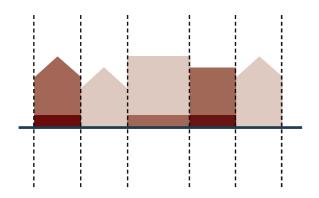
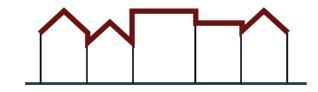


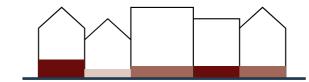
# Architectural Design guidelines

# Overall principles

How to secure a coherent yet diverse neighborhood







Varied streetscape, subdivided buildings

Varied and playful roofscape

Details in eyeheight An articulation of the ground floor, material or refinement

# **Overall principles**

### The core and the perimeter

The neighbourhood has two main architectural typologies that will be referred to in this document:

#### The perimeter

- Larger scale buildings along Kringlumyrabraut, Listabraut and Kringlan road.

#### The core

- Smaller scale buildings inspired by the old downtown Reykjavik, along the inner streets and plazas.

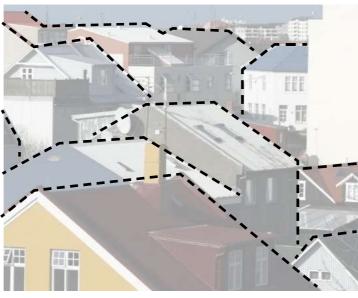


# A new interpretation of old Reykjavik

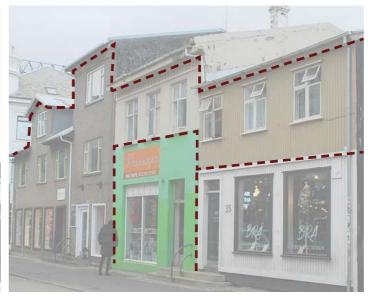
In order to create a new nieghborhood, it has to have a certain sense of place and be rooted in its context.

Before defining what is to come, an analysis of architecure found around Reykjavik was conducted.

These images show some of the key characteristics that has acted as source of inspiration for the following guidelines.



Steps and setbacks which create a varied roofscape



Facade Layers
which distinct buildings and uses,
private and public



In dialogue with nature giving space for life to grow



Colour Palette
which creates a strong identity

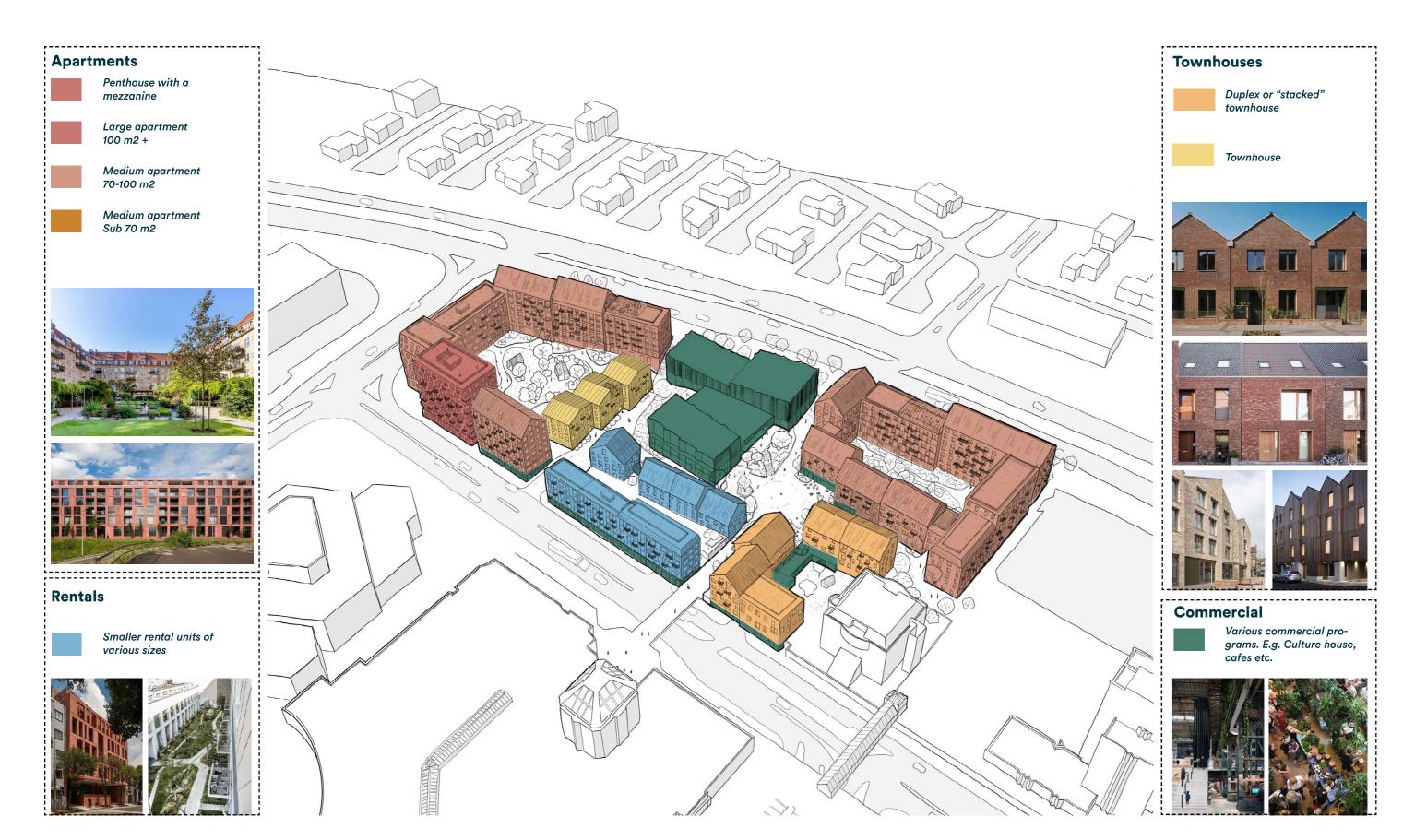


Verticality on the facade panels



Proportions
large openings due to a limited amount
of daylight

# **Typologies**



# **Definition of buildings**

In the new development it is key that the neighborhood is perceived as a cluster of several buildings, rather than being made up by big monotonous blocks.

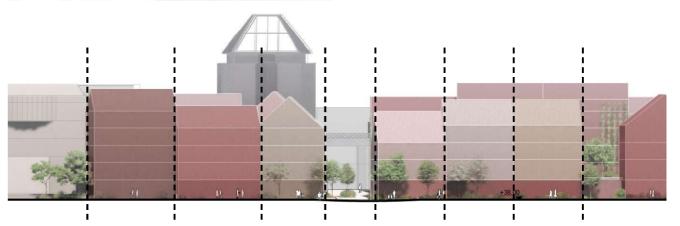
This is coming both as an inspiration from old Reykjavik as well as an ambition to make a neighborhood that relates to human scale.





Coloring of buildings differentiate with each volume







Monotonous coloring, block by block



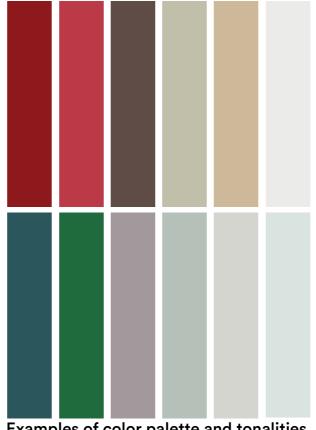


### **Color palette**

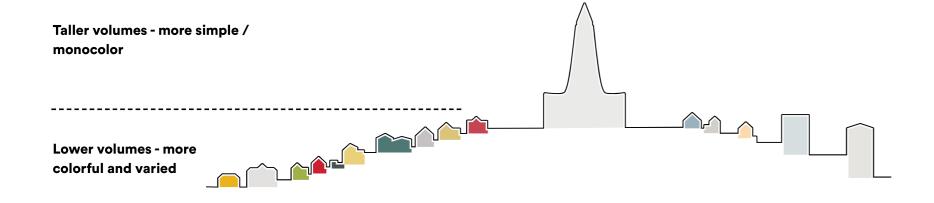
The color palette for facades is inspired by the colors found in the Icelandic architecture.

The Core is to a high degree inspired by the traditional small town houses of Reykjavik, both in terms of scale, shape, proportion and facade treatments.

The Perimeter is relating to a larger scale environment and therefore has an expression with larger scale detailing but with similar coloring as the core to maintain a cohesive neighbourhood.



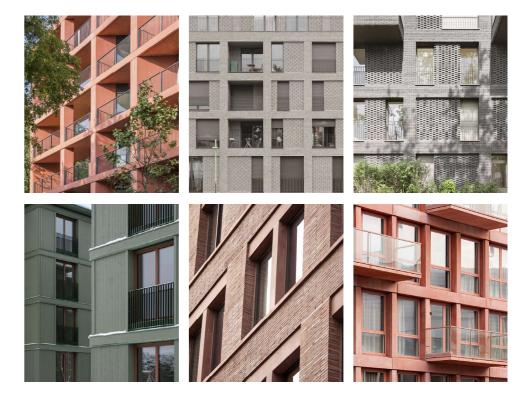
Examples of color palette and tonalities. Not limited to these exact hues.



#### Facade examples - The core



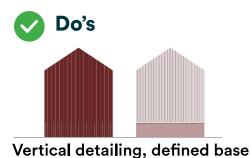
#### Facade examples - The perimeter

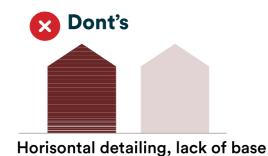


### **Detailing**

#### The core

- The character of the buildings in the core should be refined and have a high level of detailing. As a reference to traditional corrugated metal facades, the facade detailing or profiling should be oriented vertically.
- The base should have a more refined detaling or different materiality, so that it is readable as something different.
- The facades can not have a horizontal expression, neither can it appear without refined detailing or lack of a defined base.

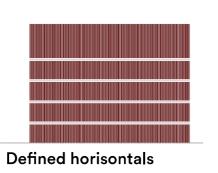




The perimeter

The buildings in the perimeter is relating to a larger scale environment and are taller than those in the core. The facades should have more defined horisontal lines or a grid-like expression in order to break down the apperance of height. The facade detailing and articulations should have a more large scale expression in order to be readable from the high speed large scale roads surrounding the project.





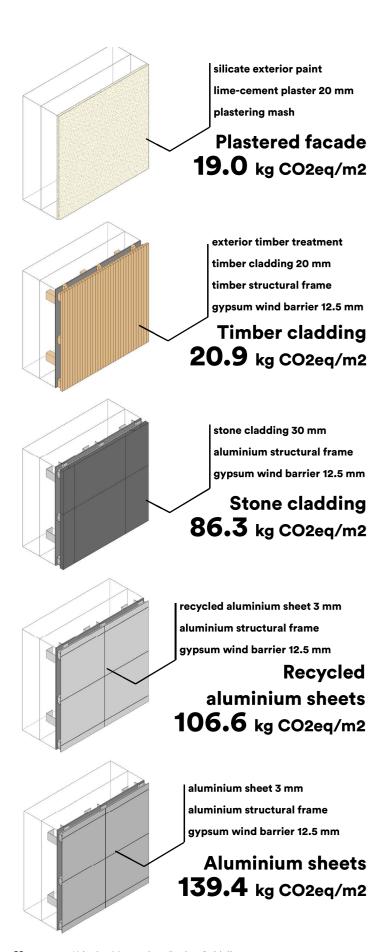
#### Facade examples - The core



#### Facade examples - The perimeter



### **Facade Materials**



#### Co2 impact of facade choices

The building envelope usually represents on average 15% of the total embodied carbon and the choices made will have an influence in almost every aspect of the building design process. Therefore, it is essential to initiate early conversations on the different materials and thicknesses that could be considered. In this assessment, the carbon footprints of five facade scenarios were evaluated. The study is limited to elements beyond the insulation and structual facade. The options are showcased from lowest CO2 emitting to highest.

A simple plastered facade has the lowest carbon emissions mainly because it does not require a structural frame. Timber cladding performs similarly well, benefiting from the significant CO2 sequestration properties of wood. Stone cladding, however, has over four times the impact of timber due to the carbon-intensive aluminium structural frame nessecary. Facade panels from recycled aluminium performs only 25% better than the one made from raw aluminium sheets and over five times worse than the one made of timber, primarily because of the structural framing is typically made from raw aluminium as it has strict quality requirements.





Upcycled facade cladding



Plaster facade



Wood cladding



#### In limited amounts



Stone cladding



Recycled aluminum

### Windows

- The size and shape of the windows are inspired by the proportions of traditional icelandic architecture.
- The windows should be percieved as square rather than elongated. Smaller windows can be inscribed in this initial shape.
- The windows should be placed in a way which rather creates an irregular rhythm than a strict and aligned.
- Vertical formats and multiple shapes and configurations or decorative elements should be avoided.

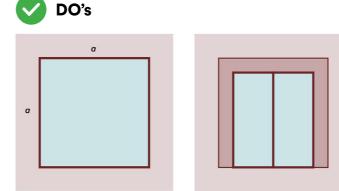




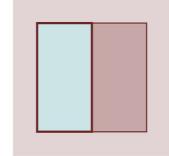
**Proportions** 

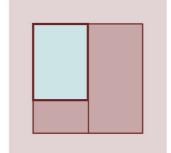
large openings due to lack of light

#### **WINDOW SIZES**



Big windows: square size





Smaller windows: inscribed in the initial square shape, highlighted by materiality or facade elements





**Big windows** 

Window enhancement

### **DONT's**



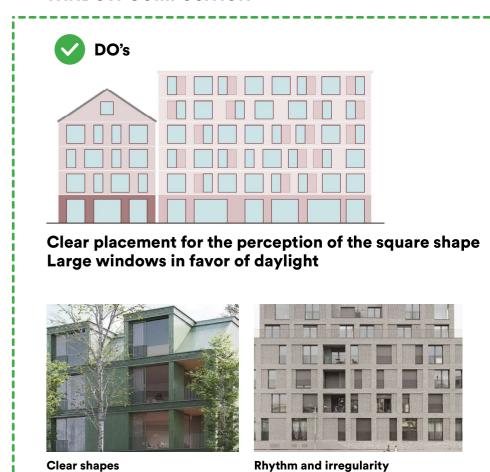
**Decorative elements** 



Too many sizes and shapes

Only vertical windows

#### **WINDOW COMPOSITION**







Random placement and sizes of windows



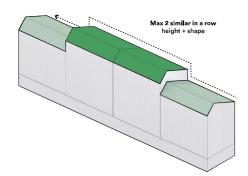
Verticality

Strictness

### Roofscape

The roofscape is an important characteristic element of the neighborhood, introduced in order to help create a distinct character of the new development. The roofscapes of The Core are more directly related to the shape of old Reykjavik, while the roofs in the perimeter are allowed a bit more freedom, while maintaining volume shift and set back on the top floors.

#### Whole neighbourhood

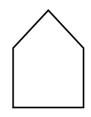


Max 2 of the same shape+height in a row

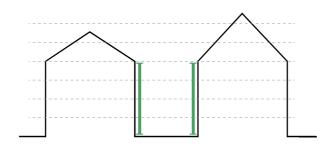


Roof angle cannot be less than 26 degrees \*Does not apply to the townhouses in block A

#### The core

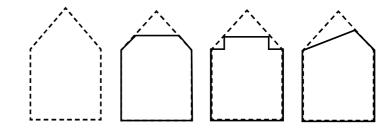


Pitched roofs required for all buildings.

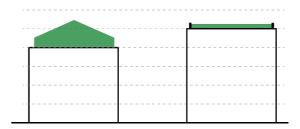


Max 4 floors in internal streets to eaves footing

#### The perimeter



The top 1-2 floors shall have a roof profiles that fits within a pitched roof profile. Variations between setbacks and angles are allowed.



Flat roofs require a green element. Either a green roof (e.g. sedum or turf) or a green house

# Top & base

The top and base of the buildings should be defined in order to break down the scale and relate to the human scale.

The top and base should be proportionate to the building volume, meaning that taller buildings need a taller top and base.

#### If the building is 5 floors or more:

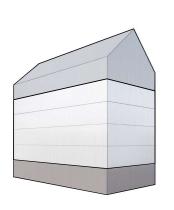
Base= Min 1 floor

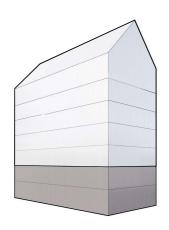
Roof profile/top: Min 1 1/2 floors

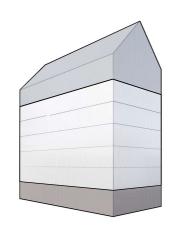
#### If the building is 5 floors or less:

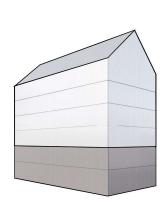
Base = min 1 floor Top = min 1 floor

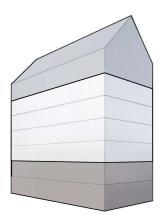
### Examples of top and base proportions in a building with 6-7 floors















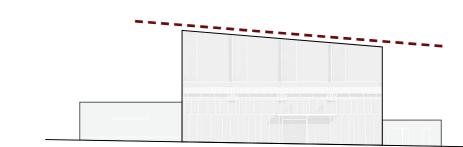
# **Printing House**

The other landmark is the existing printing house, proposed to be converted into a culture house.

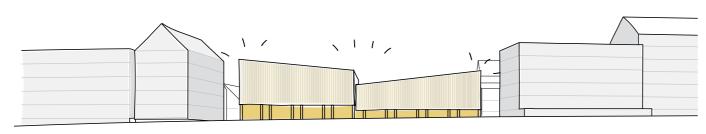
Since one the important reasons to keep the existing building in the plan is to keep a piece of memory from what the site has been, it asks for the same understanding in relation to what is introduced. The new addition needs to relate to the original part as well as

pointing forward and creating an interesting new lanternlike frontage towards Kringlamyrabraut. Therefore it is recommended to treat the future volume with a similar angular roof shape. It cannot be flat roofed or a simple uniform box.

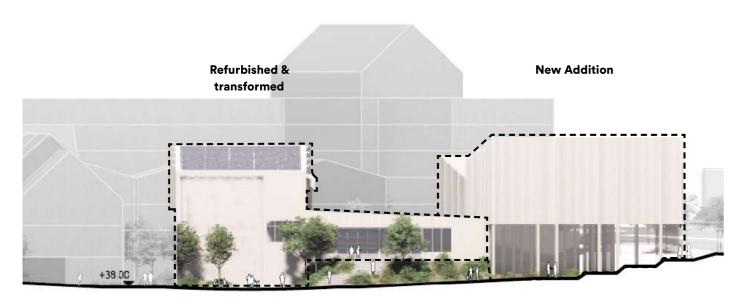
Since it is facing the busy traffical setting it needs a certain size, and can not be too low. This will also ensure flexibility of the program and floor distribution.



The existing Printing House has a characteristic angled roof. This has to be adressed in a pontential development of phase 2.



The culture house to be seen as a lantern from Kringlamyrabraut



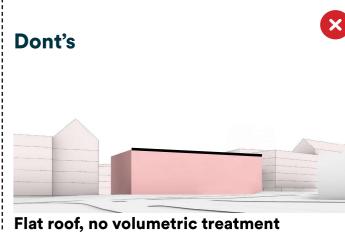
The 2nd phase and new addition to be a cohesive extension of the existing Printing House



massing relating to context while standing out.



Angled roof profile inspired by the existing, massing relating to context while standing out.



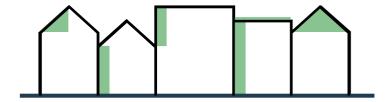


Flat roof, too low in relation to the context and road (3 floors + 1,5 / 2 floors)

"Greenhouses"

Inspired by the tradition of the use of greenhouses and in order to extend the comfortable season, it is recommended to integrate greenhouses throughout the development. To maximize the livablity it is recommended to introduce these in every block.

The greenhouses are seen as communal spaces, e.g. a covered roof garden, a shared social stairwell, a green house in the courtyards. The illustrated examples are to be seen as inspiration.

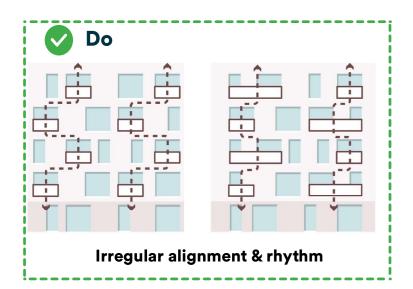




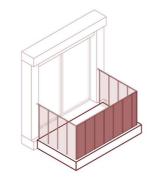
### **Balconies**

- Balconies should feel as light and well integrated in the building as possible
- Colour and material similar to the building so it is perceived as one entity
- The materials should be robust (e.g. metal railing) and not ones that require a lot of maintenance or could be dangerous (e.g.glass railing)
- The size of the balconies is relevant to the context, if it is a narrow street or a wide open space.

- The balconies are placed in a way to create an irregular rhythm on the facade rather than a strict one
- Balconies are allowed to be pushed into the building mass
- Glazed balconies are allowed in facades that are heavily exposed to noise, along the perimeter of the neighbourhood, when following guidelines in the section "Balconies - the perimeter"



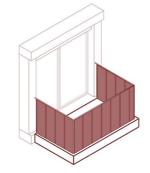
#### **TYPICAL BALCONY TYPES & CONFIGURATION**



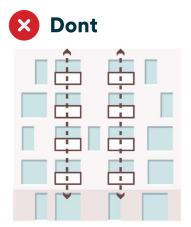
Railing type
Closed front, glazed sides
with vertical articulation



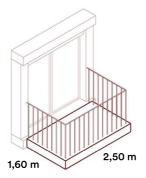
Railing type light and perforated



Railing type
Closed with vertical
articulation



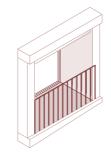
**Strict alignment** 



Full size balcony type



Small size balcony type

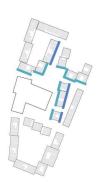


Pushed in balcony type





### **Balconies - In the core**





DO's



Max cantilevering 1 m. Light railing element



If closed
Subdivisions and articulation,
Either solid or glazed all-around,
or solid front and glazed sides









Cantilevering more than 1 m



Closed solid railing or glass railing with no articulation. Flat appearance



Fully glazed balcony







# Balconies - Along the perimeter





Valid for every plot

#### DO's



Maximum depth 1.60 m. Light railing element Irregular alignment



If closed
Subdivisions and articulation,
Either solid or glazed all-around, or
solid front and glazed sides



#### **DONT's**



Very long balconies



Fully glazed



Closed solid railing or glass railing with no articulation. Flat appearance



Valid for plots A, D

#### DO's



Maximum depth 1.60 m. Light railing element Irregular alignement



Longer balconies with glazed sections, placed in an irregular pattern



#### **DONT's**



Long balconies partially glazed in a regular pattern



Fully glazed balconies strictly aligned



Long, fully glazed balconies

# **Balcony access**

Balcony access means that the appartments are reached through a shared outdoor walkway instead of an indoor stairwell.

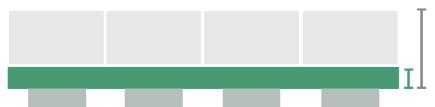
When treated right, balcony access can have a social value. Important factors are:

- Give space to balconies that protrude from the walkway, that can be personalizes and furnished
- Allow for good daylight and ventilation
- Create the feeling of a sidewalk rather than a corridor
- Reduce the lenght of the walkway, by splitting it up in several parts.

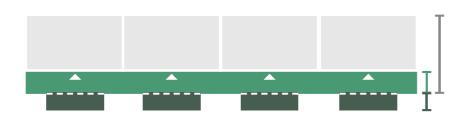
#### **Block C - Small rental units**



#### Plan examples



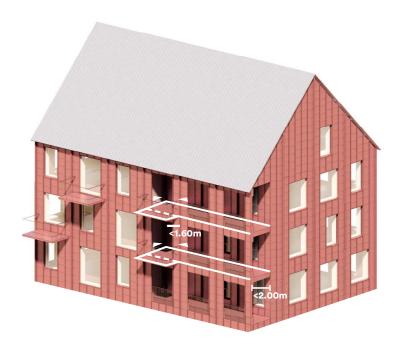
Walkways do not exceed the building line Maximum length: the length of the building



Protruding balconies create a semi-private space for each unit and allow for social interaction.

Maximum depth: 1.00 m. protruding

#### **Block A and D**

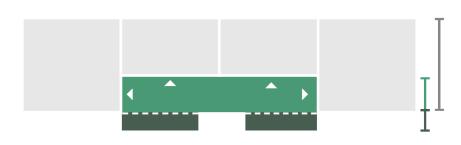


#### Plan examples



Walkways do not exceed the building line Maximum depth: 2.00 m.

Maximum length: 4 apartments per walkway



Protruding balconies create a semi-private space for each unit and allow for social interaction.

Maximum depth: 1.60 m. protruding

# Balcony access - Courtyards







The walkway is well integrated to the facade Same colour and material as the building Light railing element







DONT's



Too closed and heavy No balconies



Fully enclosed No balconies





**Henning Larsen** Kringlan Masterplan - Design Guidelines

# Balcony access - Block C







Light railing element Balconies create semi-private spaces for social interaction and break down the scale of the facade Personalized walkways and balconies with vegetation, furniture and other objects















Long walkways taking the full length Monotonous and not welcoming





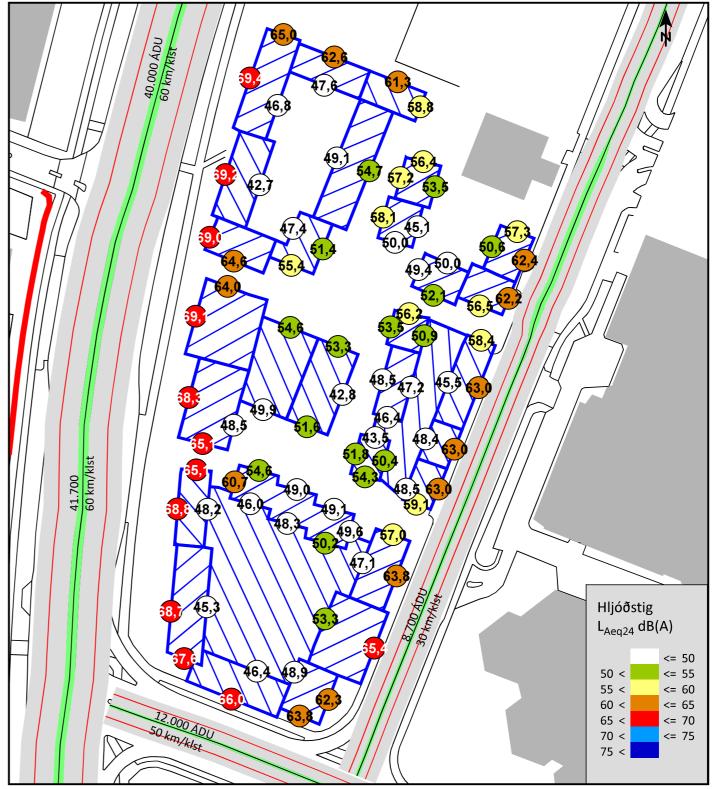


### **Noise Strategy**

The site is surrounded by large roads, causing all sides of the development area being exposed to noise above the allowed limit for residential facades. The layout of the masterplan has been designed to limit the amount of noise that enters the neighbourhood by working with courtyard typologies to secure a quiet side to all residential buildings, and by minimizing the width of the paths that connect the large roads to the interior public spaces.

In order to secure qualitative housing that live up to the regulatory limits of max 30dB(A) indoors, a few things need to be implemented:

- All apartments must have a quiet side, facing a courtyard.
- Acoustic glass on facades that are exposed to high amounts of noise
- Further noise studies need to be conducted during building design



Noise along facade, from acoustic report (VSÓ)

# Landscape Design Guidelines



# Overall landscape approach

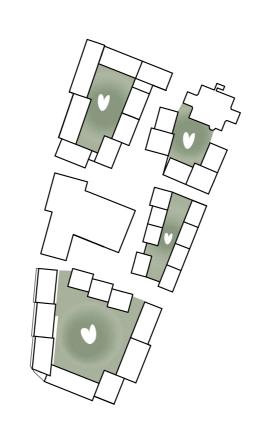
### **Streetscape**



One coherent landscape and paving strategy that binds the streetscape together



Courtyards



**Generous & intimate gardens for the inhabitants** 



**Plazas** 



Attract & activate with optimized public spaces



### Water and levels

### **Terrain & water strategy**

The key challenge was to take advantage of the terrain to create and increase a feeling of neighbourhood, therefore the strategy is to lower the main public spaces on site from the Kringlumýrarbraut road, and connect to the Kringlan new entrance level (approx. +39m). To increase the grading of privacy, the courtyards are elevated, which creates a comfortable and intimate space, free from wind and noise.

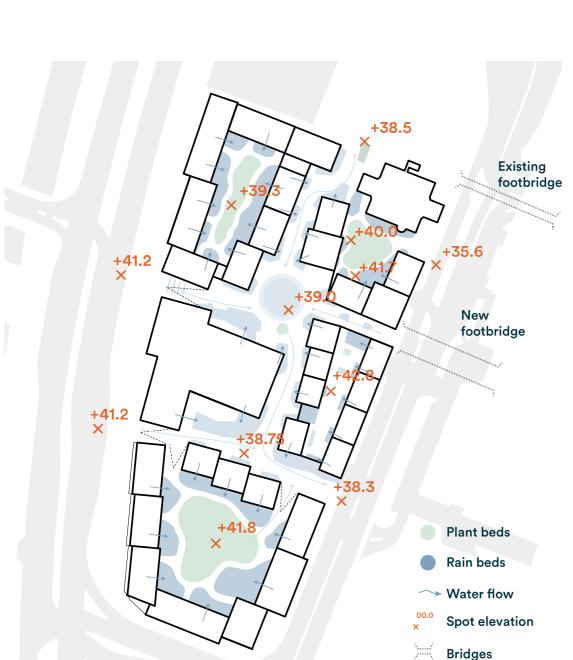
#### Roof water & surface water recommendations

Ramps or stairs

Each public space & courtyards is gathering water individually.

- Planting beds in the Streetscape are also participating to the water strategy, therefor the permeability of those area should align with the overall strategy.

Approximative calculation to be considered as an overview that will have to be taken into account during later stages.

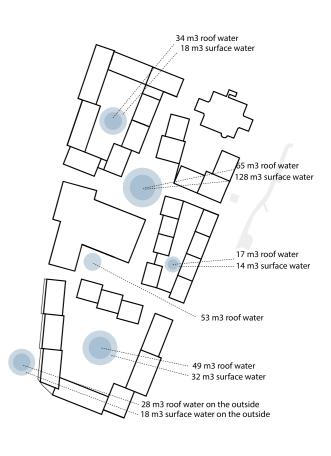




In the courtyards, roof water should be collected via downpipes in the planting beds along the facades and infiltrated to the underground drainage layer. Surface water should infiltrate through the permeable paving to the drainage layer. From the drainage layer trees in the central planting beds can soak up rainwater for irrigation and evaporation. Excess rainwater should drain via the drainage layer and drainage pipes to underground stormwater crates in the public space and streetscape.

In the public space, roof water and surface water should be collected in planting beds, and detained underground in stormwater crates for infiltration, if possible, and eventually be led to stormwater crates under The Square for throttled discharge to the drainage system in Kringlan road. Excess surface water should also be able to run on the surface to the bowl and drain to the underground crates through a well or similar, at the bottom of the bowl.

During larger rain events, and when the crates are full, water should be allowed to rise up into the shallow bowl at the square before flowing on the surface and down to the existing sewer system.



# Accessibility

There is a large height difference from Kringlumyrarbraut to Kringlan road that the landscape between the buildings need to accomodate for. All public spaces and courtyards should be accessible through ramp or elevator. The plans below demonstrate how accessibility could be accomodated in some of the most important entrance locations. It is also important to keep the main paths clear of snow and ice, in order to maintain accessibility in the wintertime.



# Mobility approach

### **Mobility strategy**

The Kringlan neighbourhood is designed to give priority to pedestrian and encourage the use of bikes, while still allowing few cars & trucks to move around on site, in some specific area (in dark blue & orange).

These parts of the Streetscape are shared spaces with low speed limitation for cars, the rest is only for pedestrian and bikes. Furnitures and planting beds are also participating to invite car and bikes to move slowly on site.











# Light strategy

The streetscape & the courtyards are embracing two distinct atmospheres, that lighting is highlighting. The streetscape is intented to create a clear and safe space for people to be able to move around, in the dark as well, while the courtyards are having a quiet & more intimate lighting atmosphere with low elements, showcasing the meandering path and the private accesses to the apartments. A few higher light elements could be placed in the courtyards, next to the building entrances.



#### Streetlight





Square & community garden light





Low lighting elements along path





# Recycling strategy

The garbage & recycling strategy on site is a mix of underground containers & regular containers. Exact placement of deep containers will be decided together with the municipality. The recycling points need to be accessible for all.



Truck stop location marking in the shared space





**Deep street containers** 





#### The Wild Garden

The streetscape is what binds the city together. Inspired by the wild flowers, bushes and trees of Iceland, this landscape is robust, has a low maintenance and can tackle the pressure from a vibrant citylife.

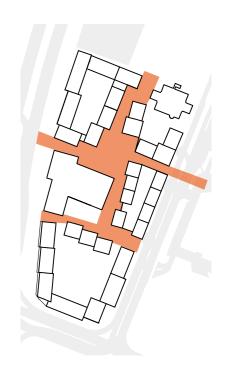
The streets are narrow, yet green, allowing for private edgezones, to populate the space and give a buffer towards the apartments.

The square is flexible and can give space for events like fleamarket, concerts and christmasmarkets and for everyday life it's a place hang out and meet with your neighbor for a cup of coffee.



#### DO's

- The plantings chosen for the streetscape should require mostly poor soil, mixed with sand or pumice. Some plantings might require some fertilizer but the preference should be for plants that accomodate to poor soils in this area.
- Plants in the Streetscape should also require little watering and low maintenance in general.
- The soil's thickness should be adapted to each planting and build up situation.

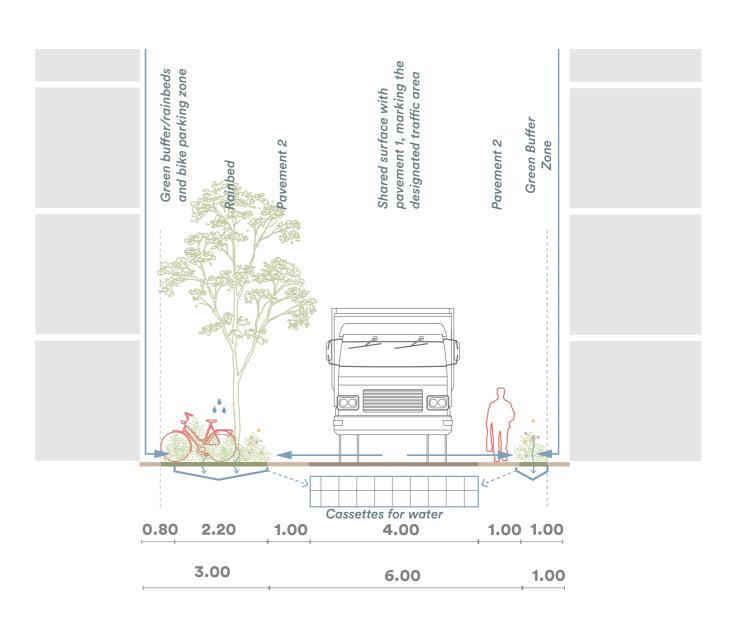












### **Planting**

The plantings of the streetscapes consist of robust and primarily native trees that tolerates the Icelandic climate as well as hardy bushes and perennials. Species should be native or naturalised in Iceland and low plants should be able to grow wild during some months of the year. Some evergreen trees should be integrated as well. Plants should be selected based on achieving a diverse flowering time and with all seasons in mind.



#### Planting recommendations



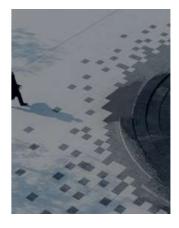
### **Paving strategy**

The streetscape binds with the city and the paving supports it across public spaces. The pavement should have an overall coherence, while allowing specific places to integrate effects of texture or pattern, like the Square or the connection to Kringlan. The pavement should represent this shared space for all kind of mobilities and contain a clear unobtrusive distinction of the marking of the passage of vehicles when required.



DO's

Stone pavement - Plaza





Mosaic pavement - The streets





Connecting to context pavement





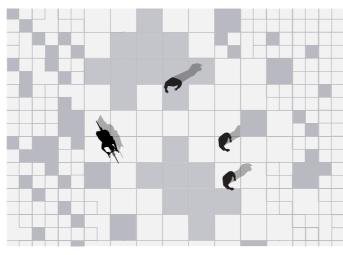
X DONT's

Paving should not have a color tone difference that is too strong in constrast, in order to avoid overconstrasting visibility.



Paving unifying the shared space for all on site

Extending & re-interpreting Kringlan's pavement



Kringlan urban spine pattern as a reference not an identical and direct integration

Subtle differenciating pedestrian & cars with tones & patterns



DO's

### The Street edge zones

Green spaces allow to create spaces for public uses or increase a filter of privacy with plantings and hard edges. Around commercial groundfloor, those edges are intended to allow people to sit. Around residential ground floors the green buffer is important to create a sense of privacy.



#### **Principle section**

#### References



















### The outer edge zones

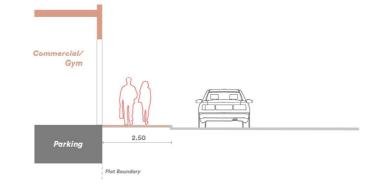
The edge zones facing the main roads around the site are playing with height differences & planted spaces to create a noise and privacy filter with the roads. Depending on the terrain, some appartments will have raised groundfloor. Pavement differences can also create a subtle visual buffer, to invite people to let space free along windows (cf. brown edges).



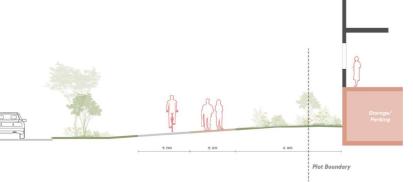
#### **Principle section**

# Residential Edge Zone with a Plinth - Elevated Garden Storage Plot Boundary

#### Commercial Edge - Kringlan Road



### Residential Edge Zone with a Plinth



#### **References**











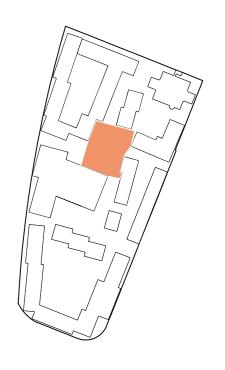


## The Square

### A place to gather

The Square is designed in order to create a comfortable plaza for people to meet, by providing active groundfloors and well located spill out spaces. The center is framed by the planted areas on the edges, which also gives a clear hierarchy to public spaces & private access to buildings. The Square also articulates with the Culture house and its height difference on the Northern side. The central space of the Square is lowered in order to manage water in a cassette.

Regarding mobility, the plaza is a shared space, but its marking in the pavements is discrete & subtle.



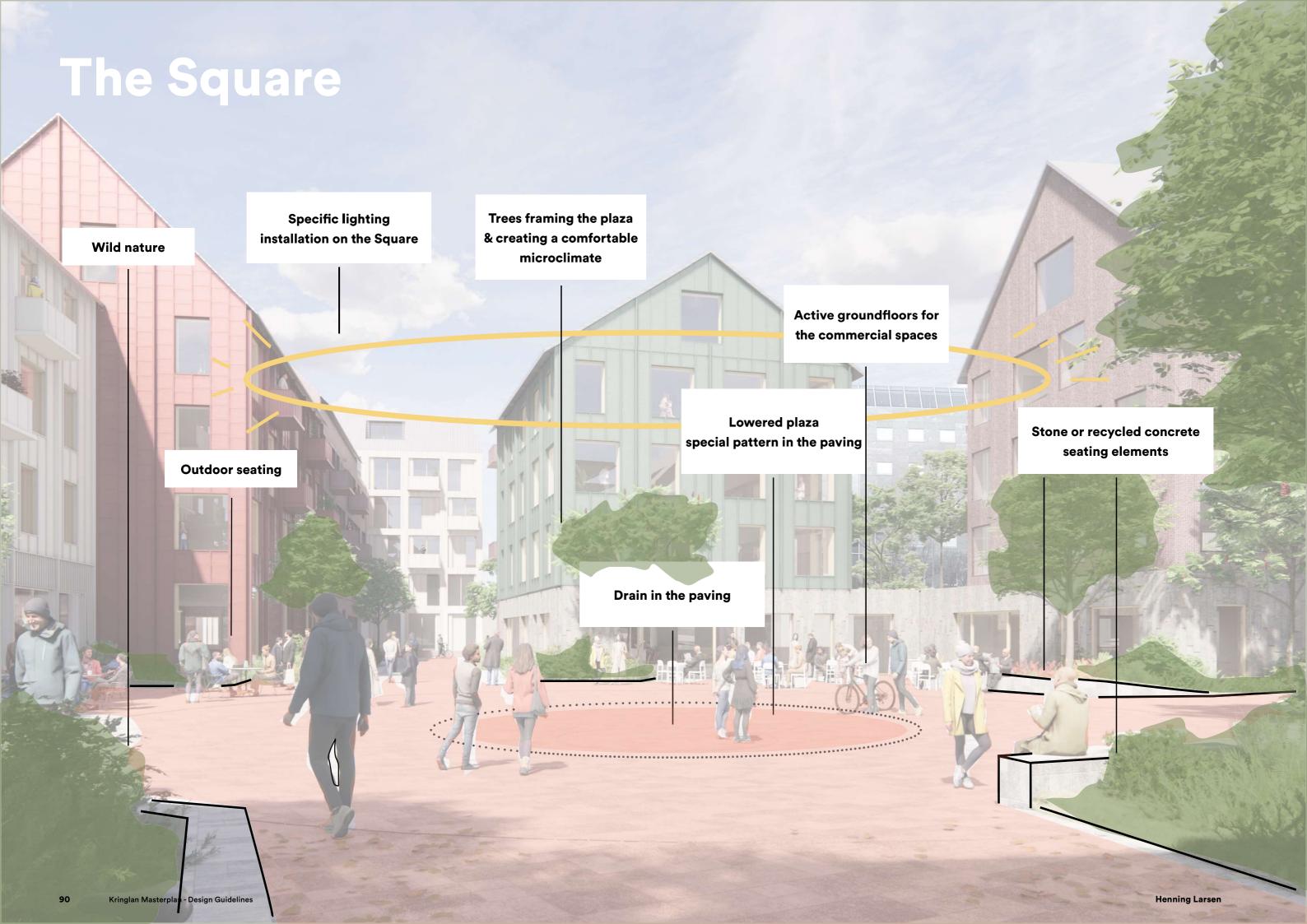










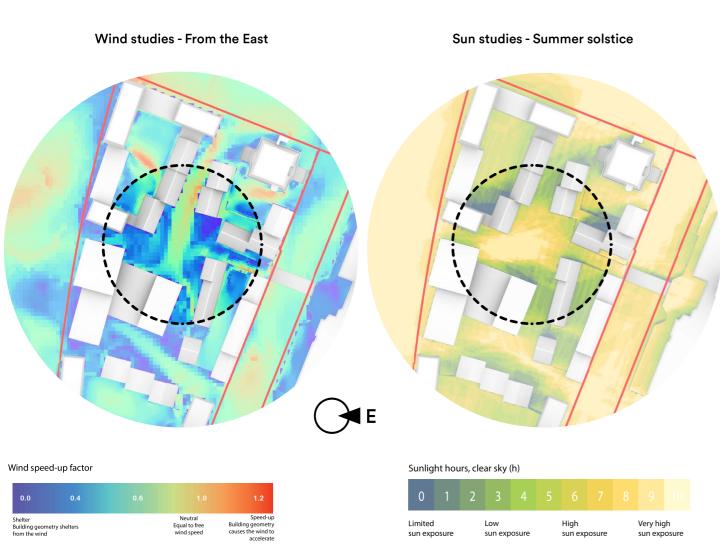


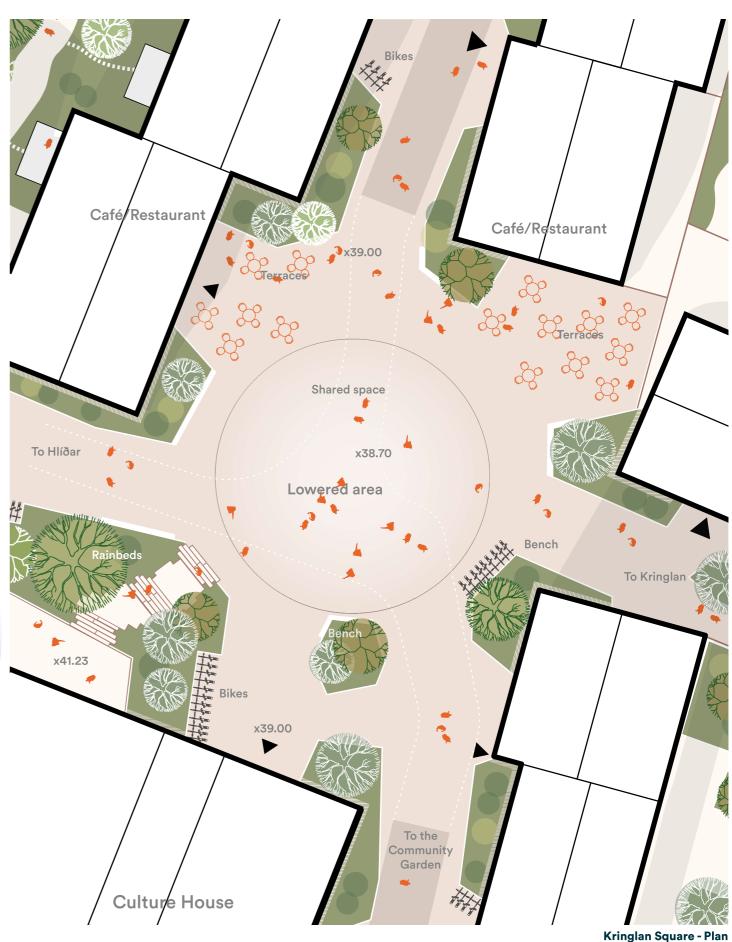
## The Square

### A place shaped by microclimate

The organisation of this plaza is also aligned with the microclimate requirements, in order to provide a comfortable outdoor space for the users, during winter & summer times. The building's position as well as the amount of planted spaces are placed in order to increase this comfort and help decreasing wind corridors on the plaza.

The Northern part of the plaza also provides very sunny and well protected from the wind spaces along the groundfloors. Plantings should align with the overall approach of the Streetscape, regarding species, appearance, maintenance and soil's requirements.





**Henning Larsen** 

### The Square

#### **Materiality**

The overal materiality of the plaza's surface should feel mineral, using local stones elements, and also give a sense of continuity with the pavement of the Kringlan mall, without being a litteral copy of it. The central area of the plaza should be also highlighted, first by being lowered, and secondly, by having a different pattern in the paving.

#### **Activations**

The plaza is surrounded by some commercial spaces, that are invited to use the outdoor spaces as coffee or restaurant terraces. Some benches in between the planted areas can provide places for people to gather in little groups.

Some outdoor temporary events could happen from time to time, like flea market, community dinners or small art installations.

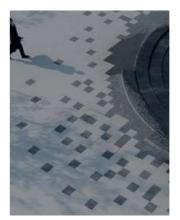
#### **Edges & furnitures**

The edges of the planted areas along the Square should mostly be hard edges, made of stone or, if considered being made in concrete, they should be done with recycled concrete.

#### **Planting**

The planting around the Square and the streetscape in general, is inspired by the wild planting surrounding Reykjavik, with high grass and bushes, and wild flowers. We recommend around 15 trees around the Square and species should be native or naturalised in Iceland. The low plantings should be allowed to grow wild for some months per year.





























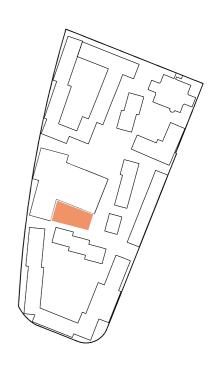




## The community garden

### A place to connect

The community garden provides an active and comfortable space with a stepping landscape that could welcome some community gardening and a terrace for the Culture house, well oriented in south. The planted steps are framing the upper public terrace, to increase the feeling of being close to both icelandic wild nature &, at the same time, a sense of local gardening.







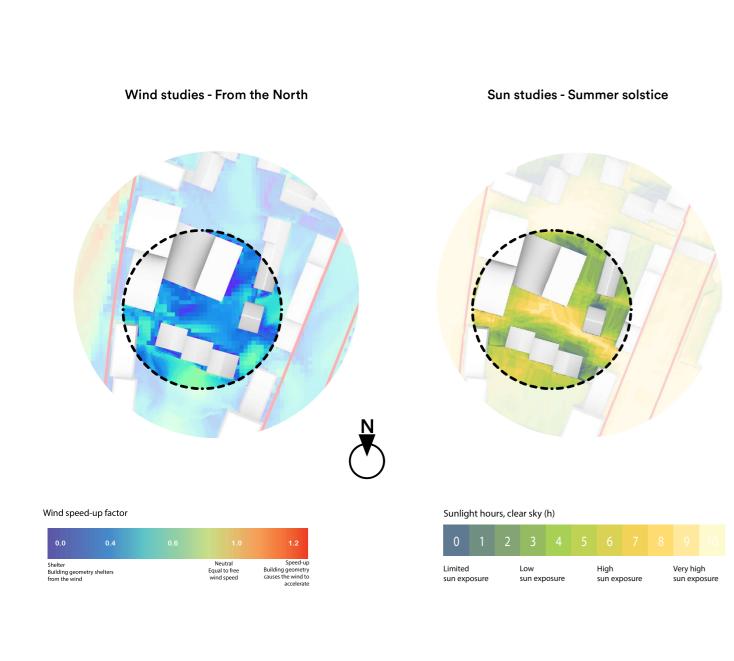


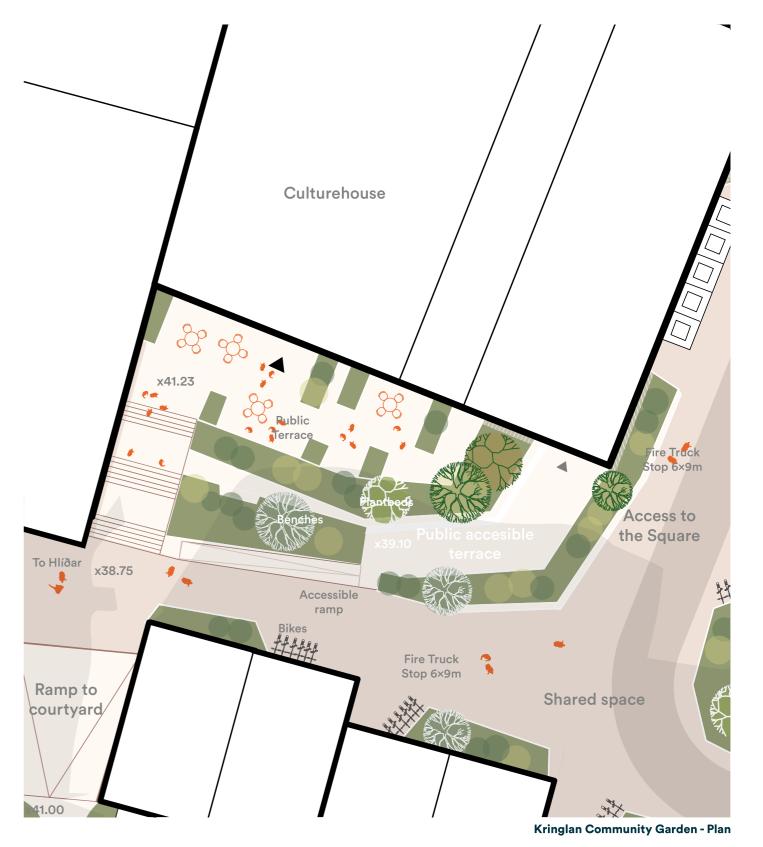




Kringlan Community Garden - Section

# The community garden





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## The community garden

#### **Materiality**

The terraces and seating areas can be made of wood elements or re-used stones elements. Stairs should be made in hard material (stones or recycled concrete). A few plantbeds spread out on the terraces and in the stepping landscape can be in wood. Some gravel paths could be spread in the different stepping planted areas.

#### **Activations**

In order to connect with the culture house, the community garden should welcome diverse events linked to the building, like temporary terraces for food events, urban gardening. Some community dinner could be hosted during summer times.

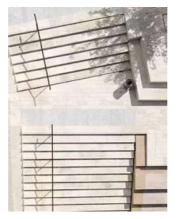
The steps should include some places to relax, lie down or seat in between the trees or plants.

#### **Edges & furnitures**

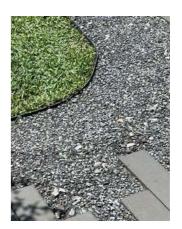
The edges of the stepping landscape can me made of diverse elements, recycled concrete, large stone leftovers, wood or corten. Furniture within the planted stepping area should be permanent. Furniture on the terrace connecting the the Culture house should be flexible or removable.

#### **Planting**

Planting should transition from the wild icelandic planting from the Streetscape towards more vegetables, herbs or plants that can be part of some community urban gardening or farming, during summer times. Species should be native or naturalised in Iceland.

































### **The Fruit Garden**

The Courtyards are like a big shared garden, with the same types of activities and plants, you would find in a regular Reykjavik garden. Here the kids can play on the playgrounds, while the parents meet in the greenhouses to cultivate or share a dinner.

It's possible to have a barbecue and the community greenhouses allows for bigger gatherings, when celebrating a birthday or meeting for a christmas event.

In the courtyard you can pick berries and fruits and vegetable. Gardens can become a community gathering.



#### DO's

- The type of planting in the courtyard might require more nutritious soil with fertilizer.
- The soil's thickness should be aligned with the types and size's of plantings.
- Chosen species should not be invasive.

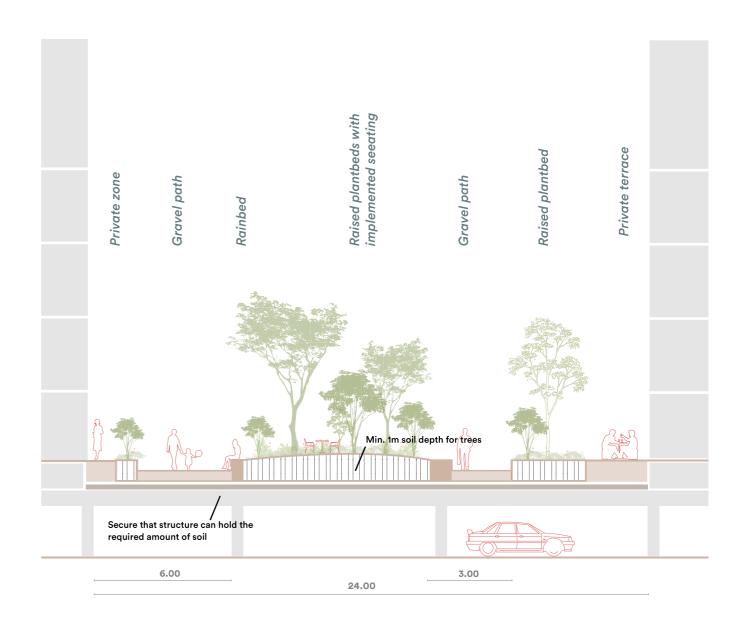












### **Planting**

The garden as a gathering, communial space is the theme for the court-yards. Here the plant species are focused on fruit trees and bushes with an addition of different flowering bushes and perrenials. Species should be native or naturalised in Iceland. Each courtyard should have a minimum of 50% planted surfaces, trees should have a minimum of 1m soil depth and in planted surface, 20m² if standing alone, and 10m² if grouped by 3 or more trees.





NB: Production of fruit may vary, depending on year and season, but its flowers can bloom.

### **The Stone Paths**

The Courtyards are using different geometries and patterns, with variation in the so called "crazy pavement" pattern. The pavement edges with the planting beds, could be with gravel or fading out. The smaller paths, to access private entrances, should be meandering and integrated within the planted areas, to create a smooth filter of privacy, and looking like stepping stones. The paths should be designed to provide accessibility for all.





#### DO's

- The stepping stones should not be with too large dimension ( max. 1.2m lengths or depths)
- The main paths should be min. 1.5m width & should be heated during winter times to make it accessible for all.







Secondary paths Stepping stones, sizes should be smaller than in the main paths





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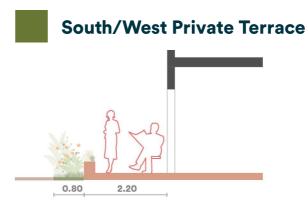
Henning Larsen

### The Edge zones

The groundfloors of the courtyards are a mix of entrance to the buildings and private terraces. Bushes and heigh plants allow to create this transition from a shared garden to the privacy of an apartment. Different edges, planting types and heights should help creating this filtering effect.



#### **Principle section**



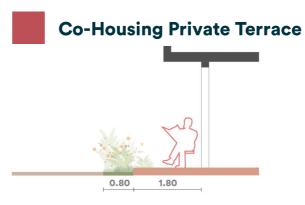
















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