

# Process

## 1. Solving the railway barrier

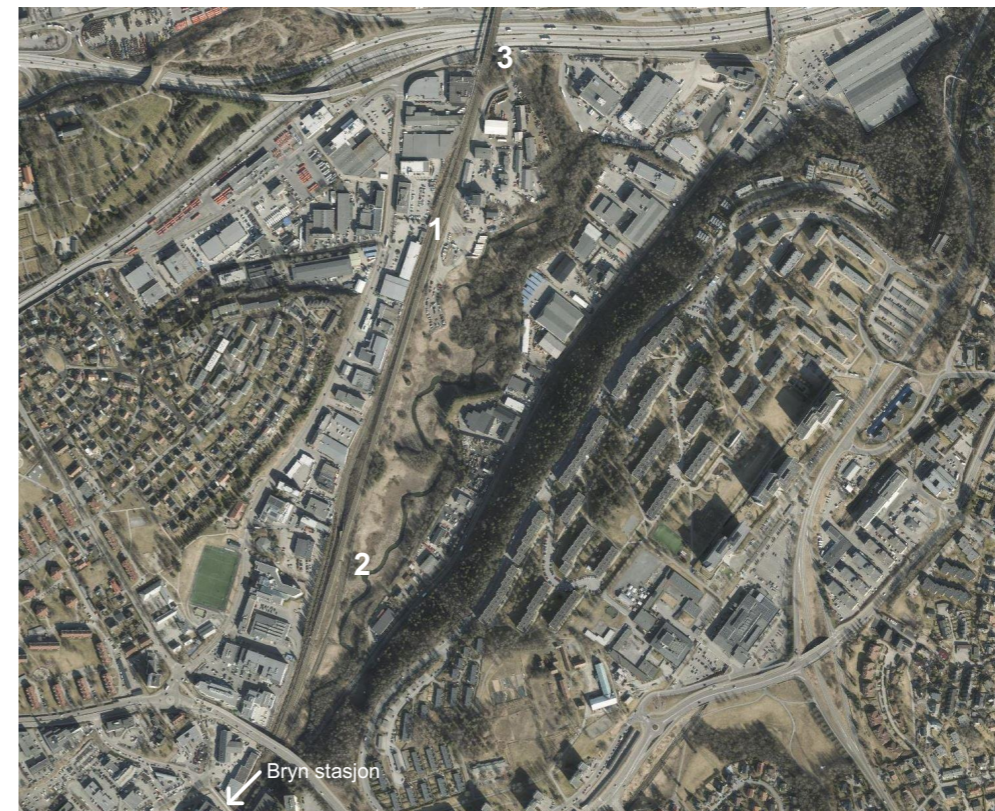
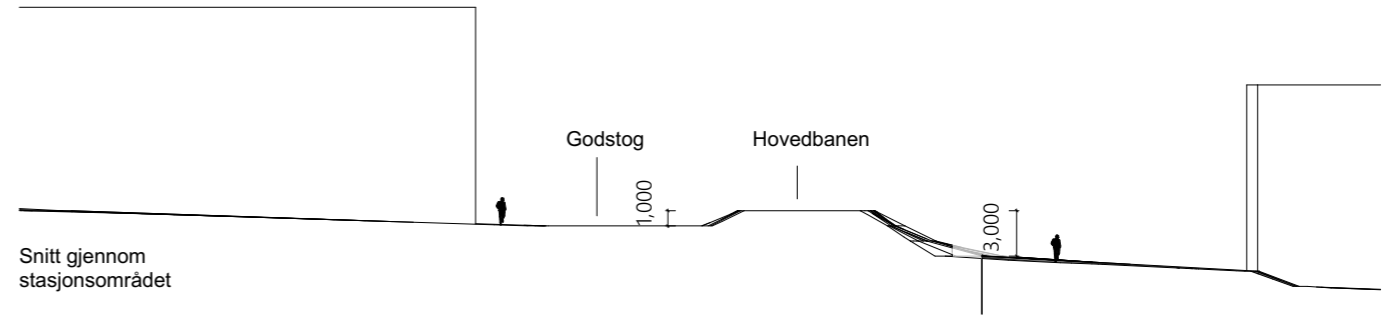
Studies showing the process of how to design the station with connectivity and accessibility in mind.

# Solving the railway barrier

## Current situation

### Dagens situasjon

Område: Breivoll (mellom Bryn og Alnabru i Oslo)



- 1 Breivoll stasjon
- 2 Godstog krysser under hovedbanen
- 3 Bro over E6

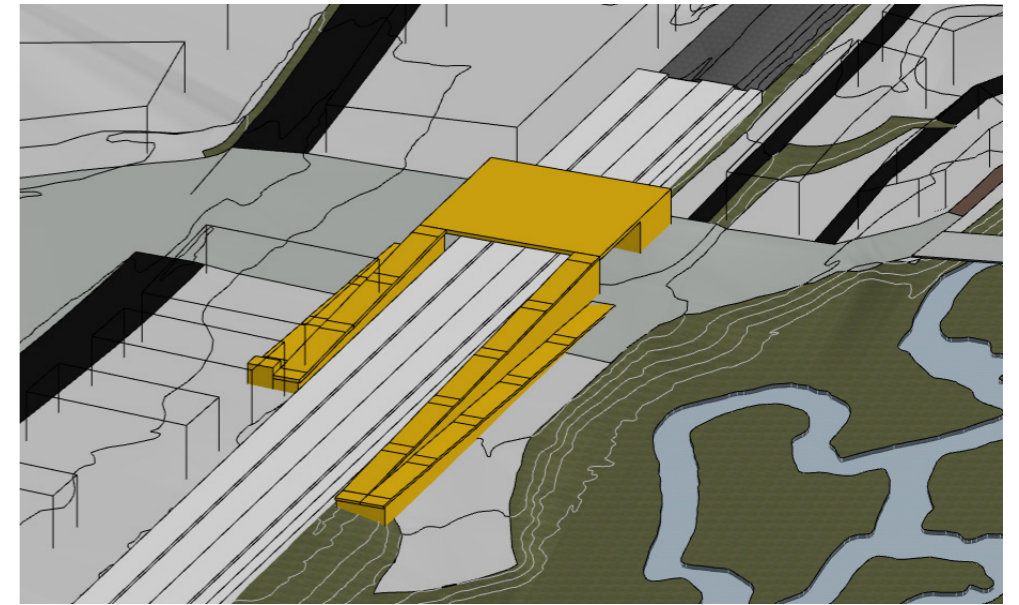
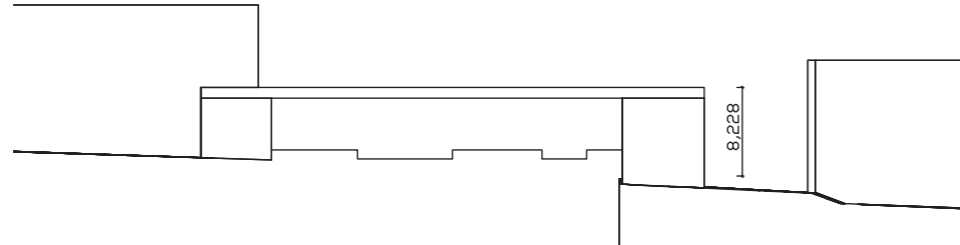
Diagram høydeforskjeller og avstander

	Bryn stasjon	Kryss under hovedbanen	Breivoll stasjon	Bro E6
Hovedbanen	77 moh	87 moh	89 moh	92 moh
Godstog	77 moh	81 moh	88 moh	92 moh
	1040 m	500 m	320 m	

The current railway is a barrier and hard to make accessible given the terrain differences on both sides.

I tested out the consequences of changing the inclination of the tracks, lowering or rising it from its current levels.

No change



The railway as it is today would require a lot of structure to make an overpass. An underpass would have to be deep underground. Neither alternatives makes for good urban solutions to a place that is supposed to connect separated urban structures together.

It would be incredibly challenging to ensure good connectivity of green spaces with the current levels of the railroad

# rising the railway

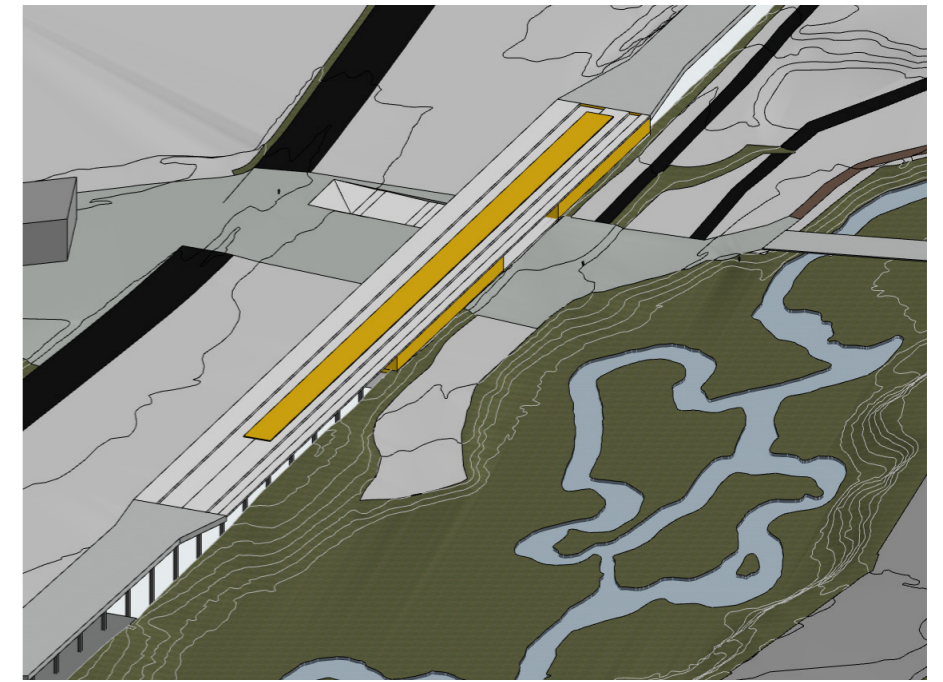
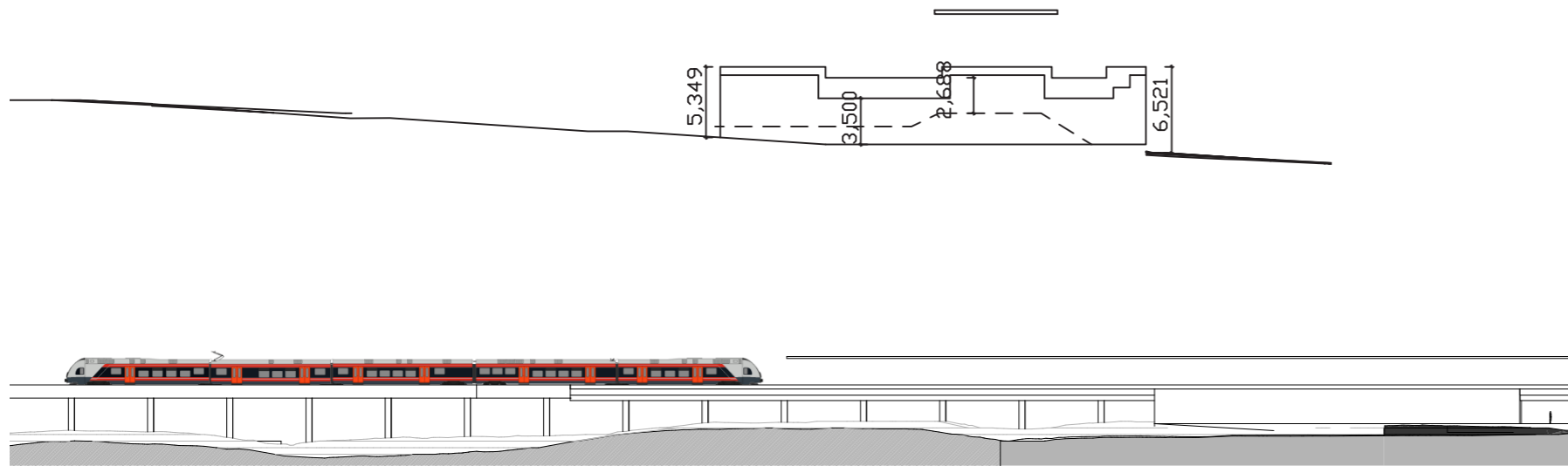
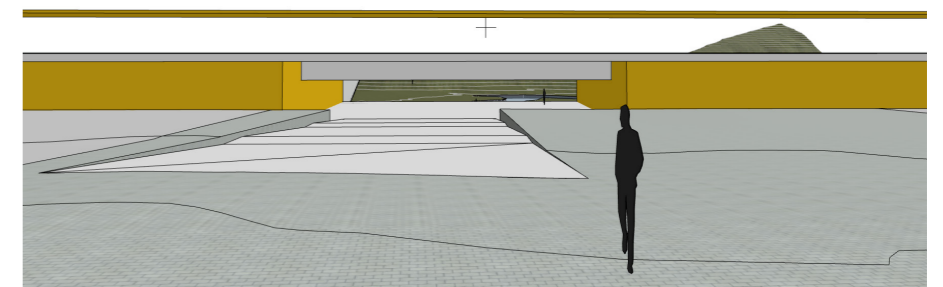


Diagram høydeforskjeller og avstander

	Bryn stasjon	Kryss under hovedbanen	Breivoll stasjon	Bro E6
Hovedbanen	77 moh	91,6 moh	91,6 moh	92 moh
Godstog	77 moh	84 moh	91,6 moh	92 moh
	1040 m	500 m	320 m	



Raising the railway on columns through the area have the potential of ensuring good connectivity of green spaces from the river landscape into the city. By making it possible to create an underpass that does not feel like underground tunnels

Raising the tracks will however require a large amount of building materials, likely concrete. The tracks would also cast shade on large parts of the landscape.

In an urbanistic perspective this would also create problematic dark spaces under the railway. The noise pollution from the trains would also be more prevalent. The train tracks would be a very dominating feature in the landscape



# lowering the railway

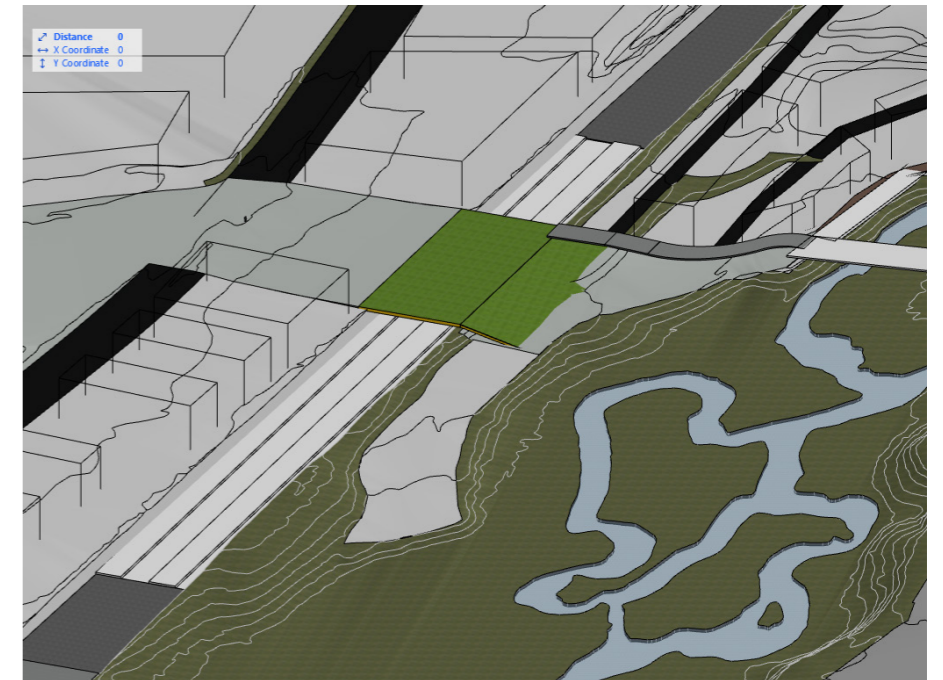
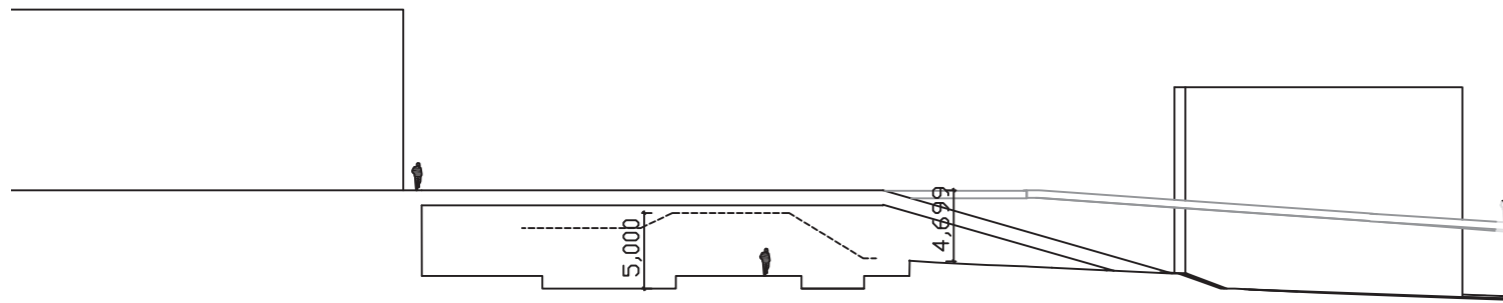
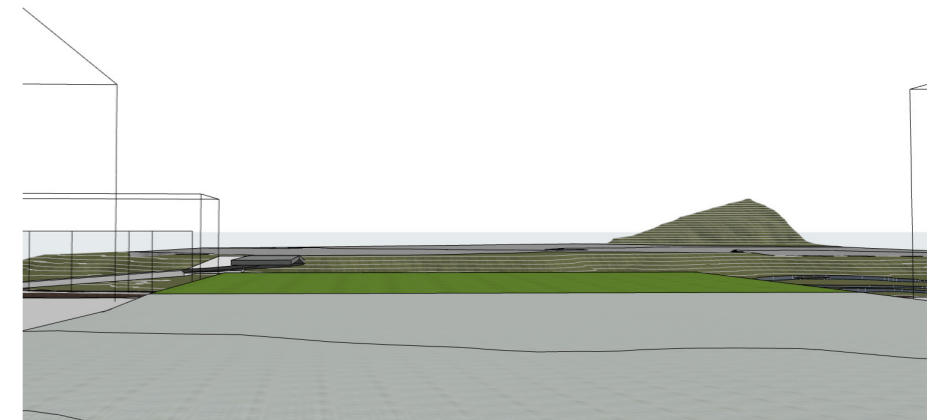


Diagram høydeforskjeller og avstander

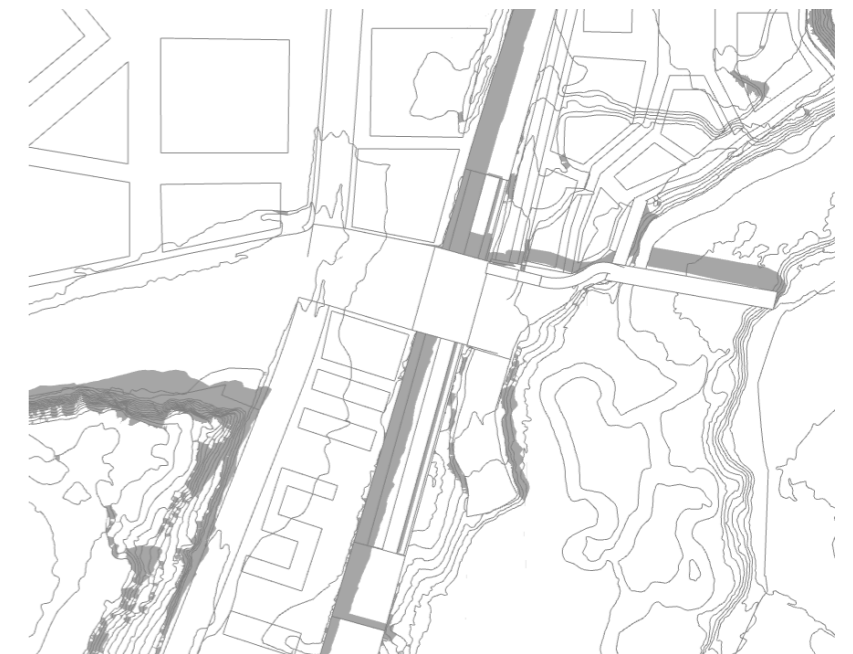
	Bryn stasjon	Kryss under hovedbanen	Brevoll stasjon	Bro E6
Hovedbanen	77 moh	82 moh	82 moh	92 moh
Godstog	77 moh	75 moh	82 moh	92 moh
			stigning: ca 30‰	
	750 m	790 m	320 m	

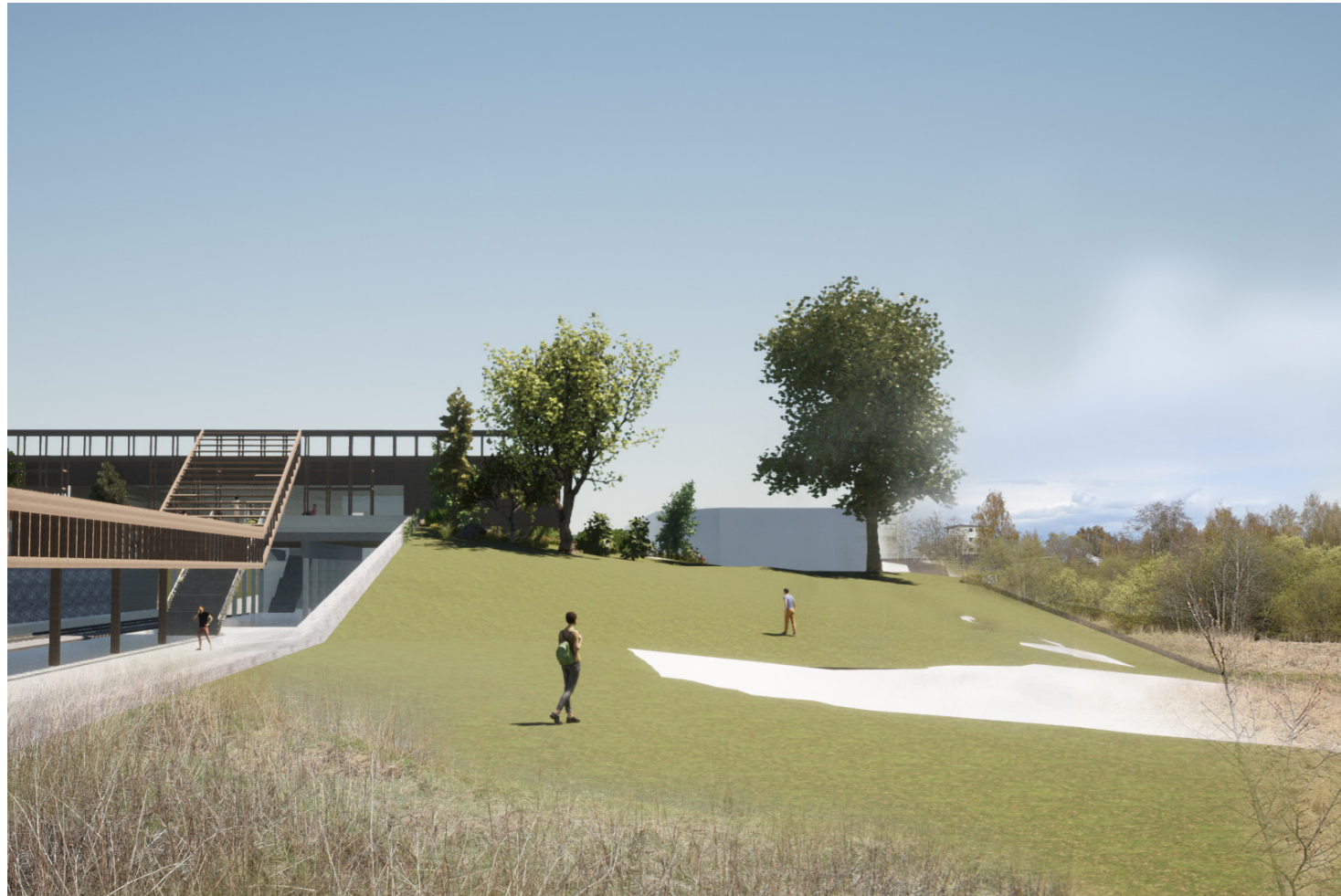


Lowering the railway made it possible to create a green bridge over the train tracks. This would ensure good connectivity and reduce the barrier effect of the tracks and reduce the barrier effect of the tracks. The river and its surrounding nature would be a more prevalent future in the cityscape, and the construction cast minimal shade on the river area.

The downside of this solution is the steep incline from the station to the bridge over the highway. In the final proposal, this ended up being approximately a 25 ‰ incline. This is a high ‰, but not unheard of in cases where railways must adjust to terrain and nature preservation matters.

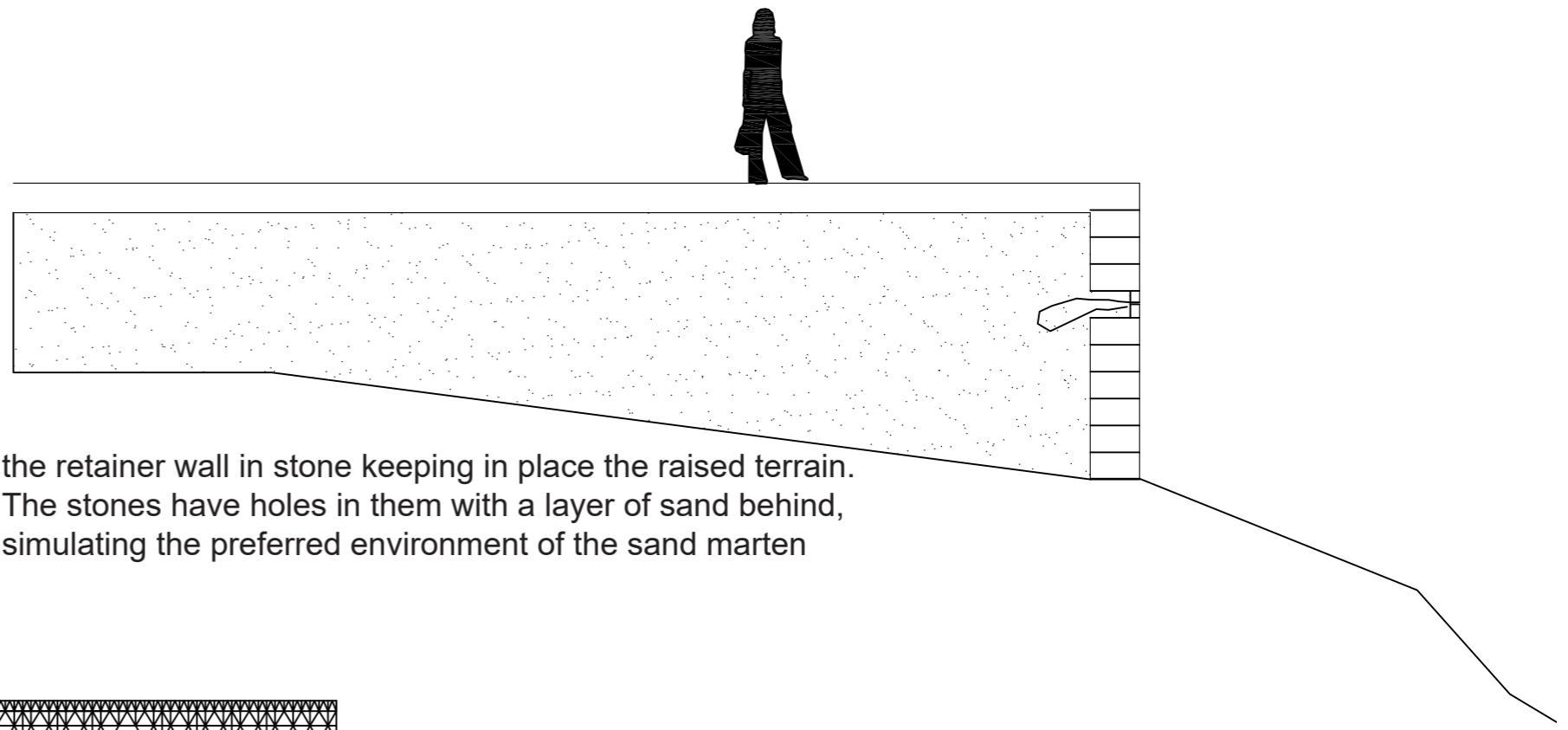
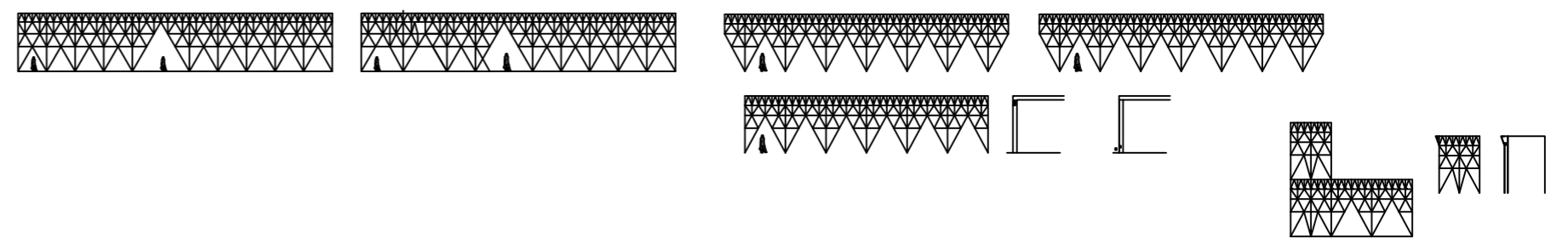
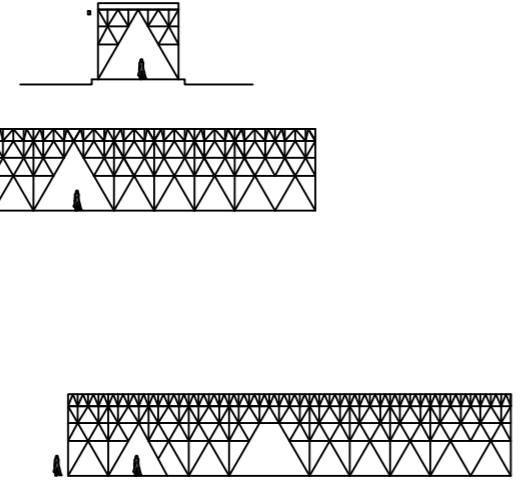
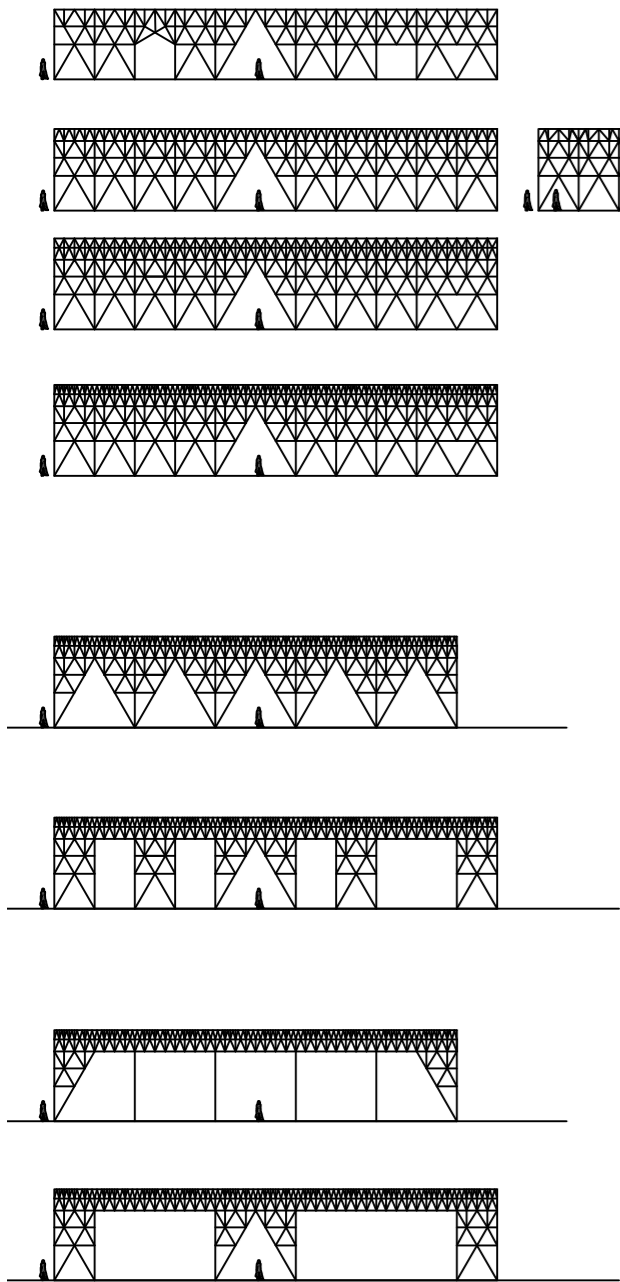
This main solution was the one I decided to develop further as it gave the best results for biodiversity and the urban design.





These concept illustrations from an earlier stage in the development demonstrates the effect of lowering the tracks. The left image shows the terrain raised 3 meter in a shallow slope up from the original terrain level meeting the green bridge

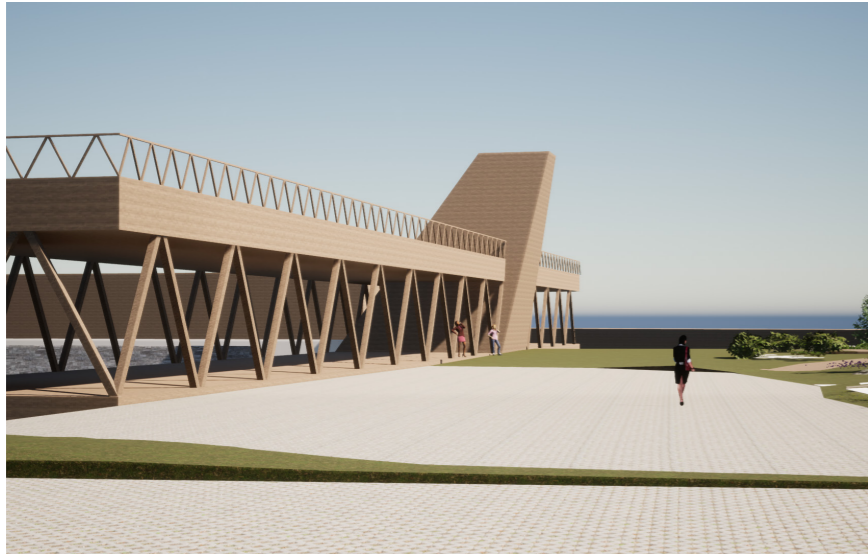
facade / structure development



the retainer wall in stone keeping in place the raised terrain. The stones have holes in them with a layer of sand behind, simulating the preferred environment of the sand marten

The timber structure had to function as a way to replace some of the necessary attributes birds and bats need in their environment. The facade needed to be faceted and layered to create in-between-flight landing spots, shade and protection from predatory eyes. Trees normally have this role, but since the soil on top of the bridge could not be deep enough to plant trees, the structure needed to take over that role.

I took inspiration from vernacular architecture such as barns. Not to mimic vernacular architecture, but take its important attributes and translate it into a modern building. The structure of a common barn is a favoured space for birds and bats to nest and get shelter because of its many ledges, nooks and crannies.



tests of the facade to both ensure light conditions inside, but at the same time avoiding light pollution and large glass surfaces for birds to crash in.

In the end the choice went for a thin lattice facade covering the glass facade (bottom right picture and bottom left picture)