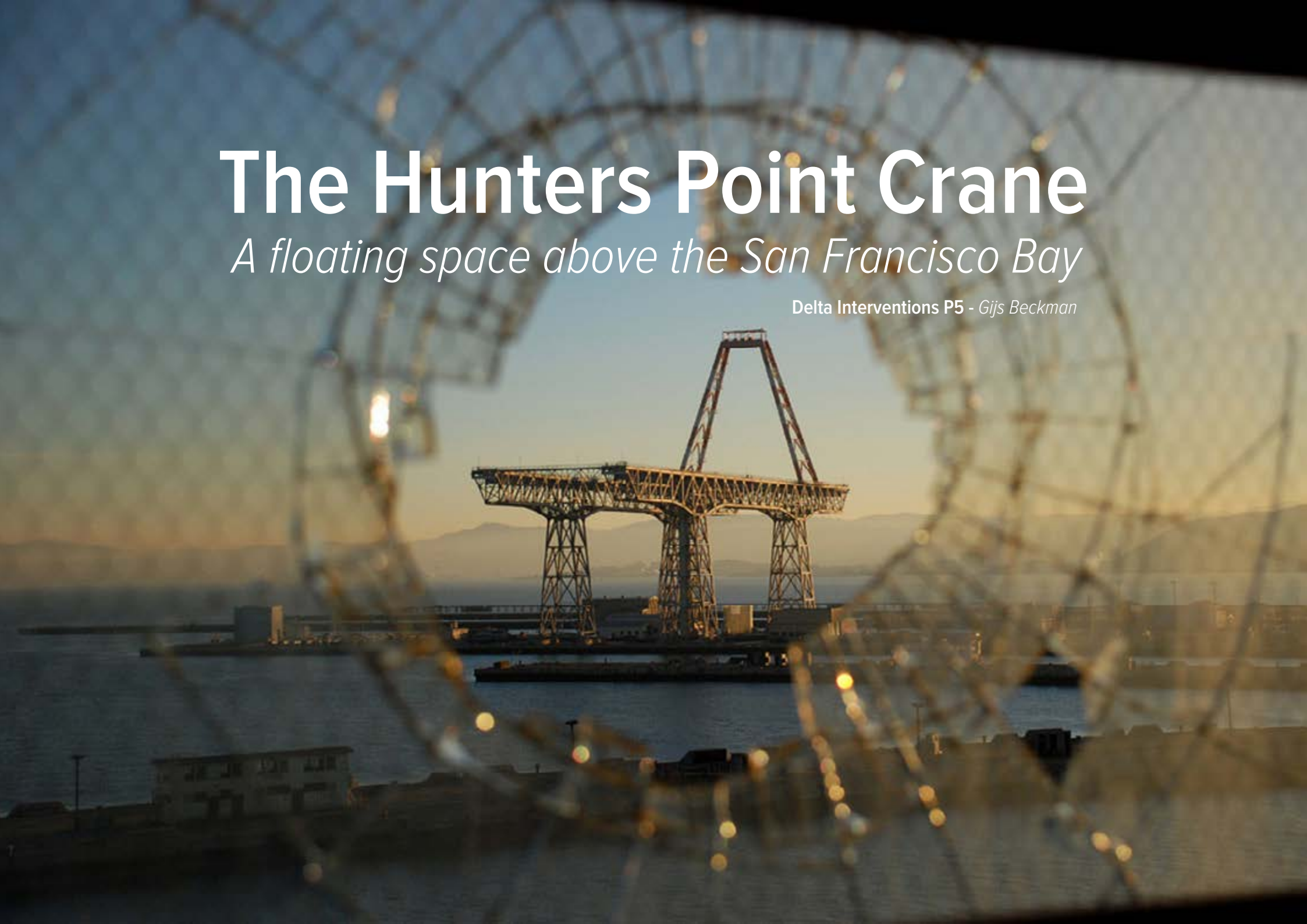
The Hunters Point Crane

A floating space above the San Francisco Bay

Delta Interventions P5 - *Gijs Beckman*



Where? *San Francisco Bay Area*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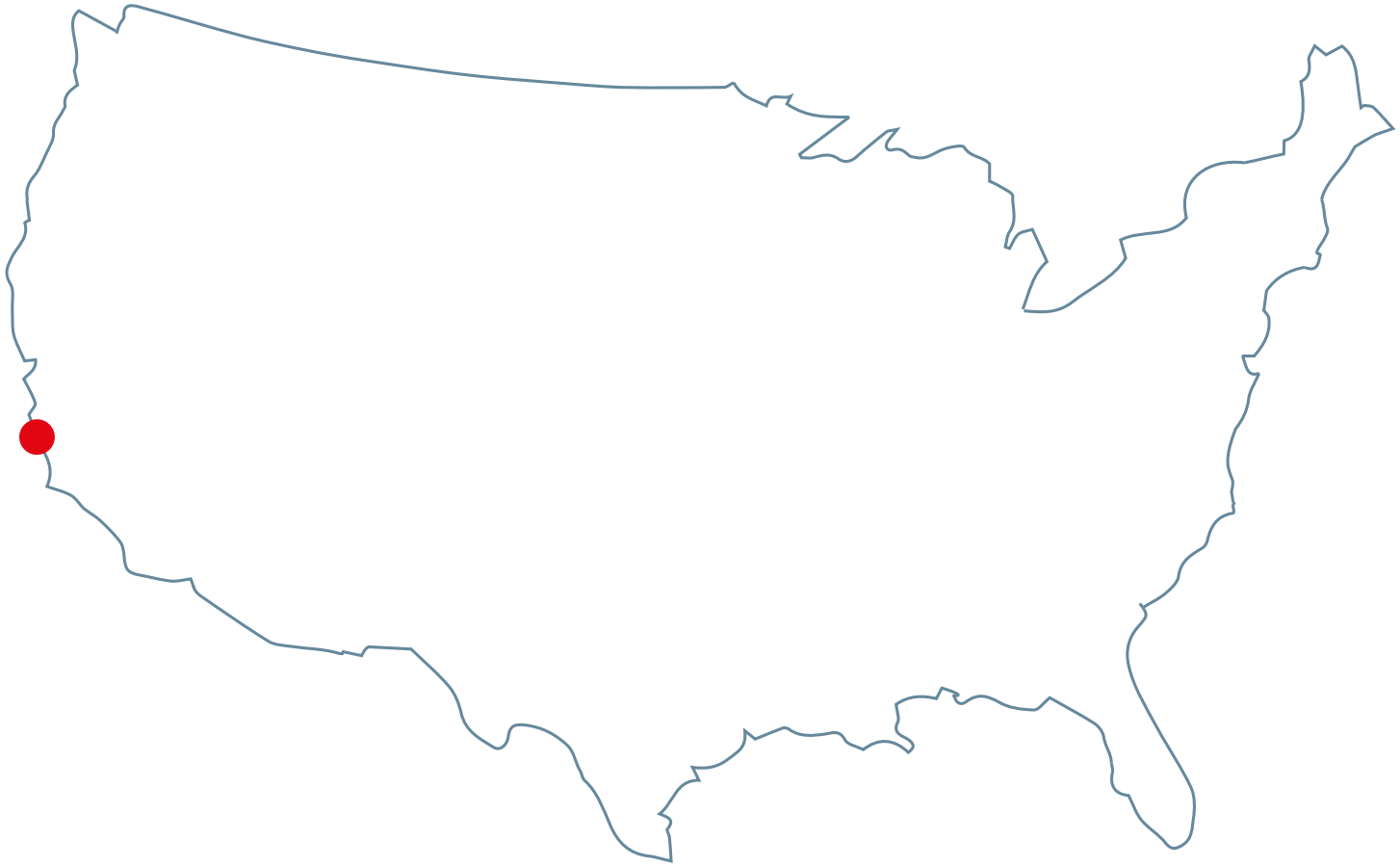
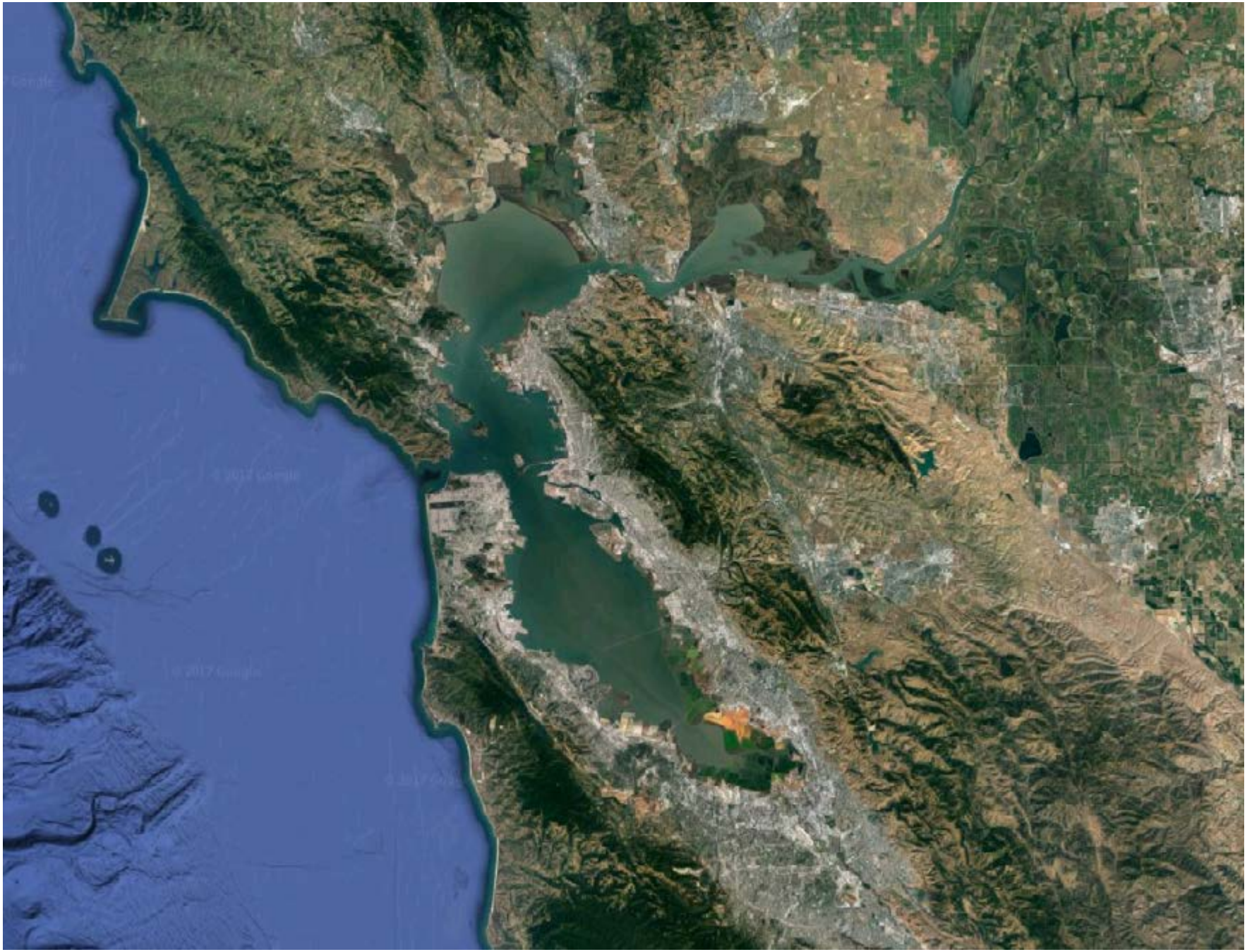
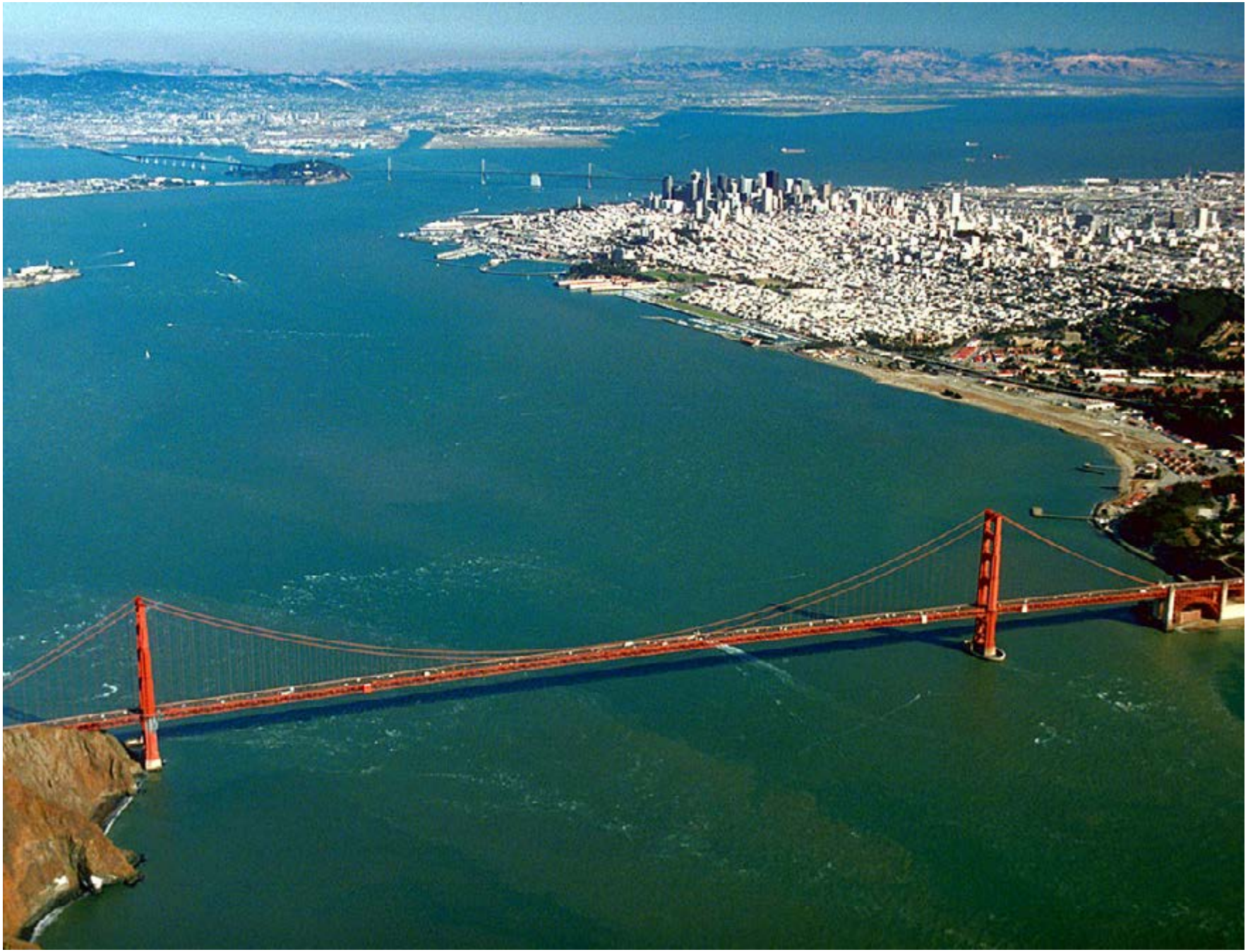

San Francisco

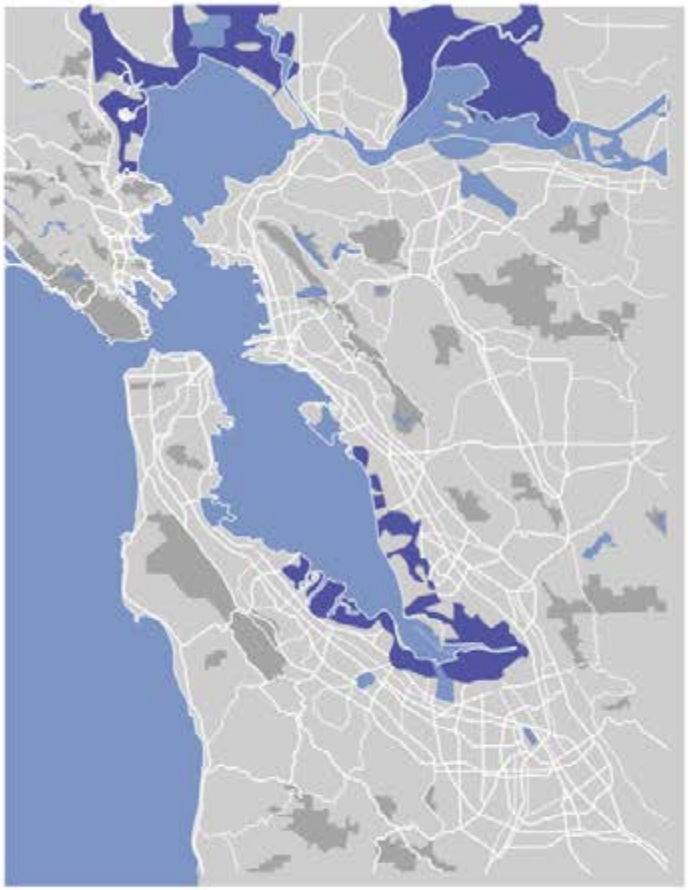




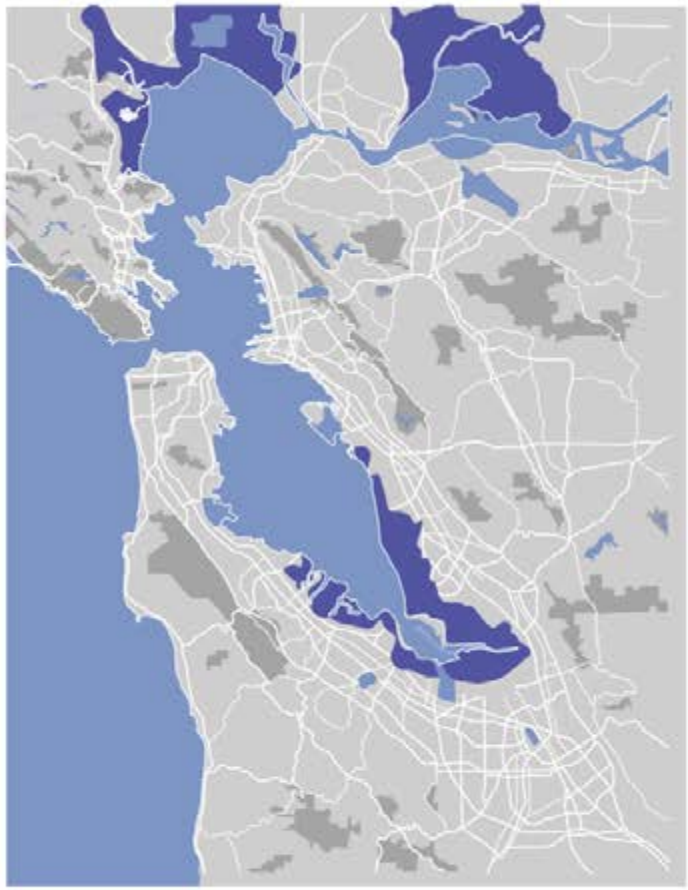
Marshlands around the bay

Sub-urban residential neighborhoods

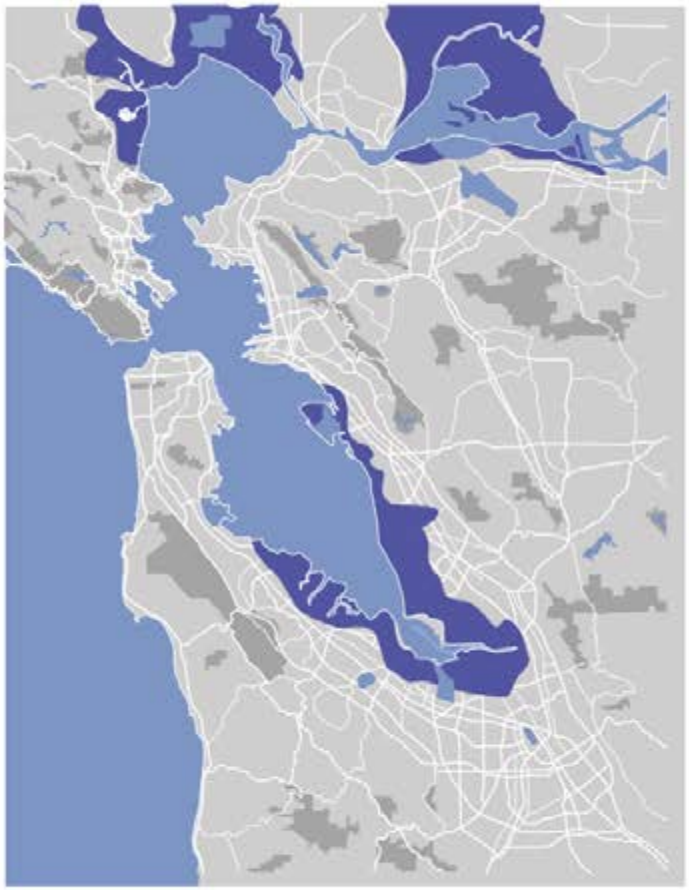
High-density urban areas



*Area that is likely to flood with a **2ft** sea-level rise*



*Area that is likely to flood with a **4ft** sea-level rise*



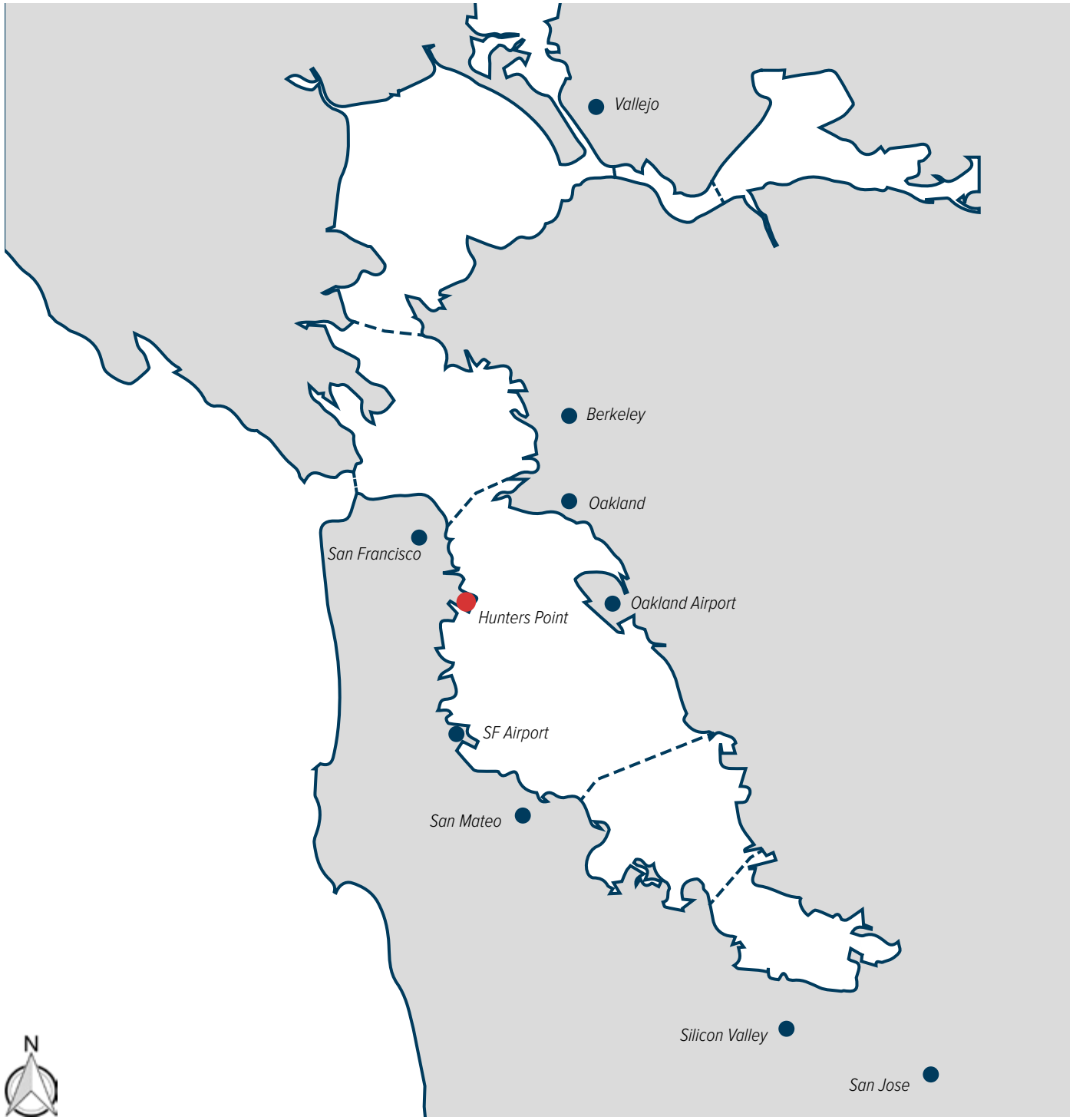
*Area that is likely to flood with a **6ft** sea-level rise*

BAY AREA: RESILIENT BY DESIGN CHALLENGE

As a region, it's time to act.

We know that climate change, sea level rise, increased flooding, and earthquakes pose a real threat to Bayshore communities. There's no time to wait — it's time to come together and begin imagining a new future for all of us.

Intervention *Hunters Point*


Vallejo
Berkeley
Oakland
San Francisco
Hunters Point
Oakland Airport
SF Airport
San Mateo
Silicon Valley
San Jose
N

START SHIPYARD

1860

Two entrepreneurs A.W. Von Schmidt and Thomas Hardy buy land under the condition that they build a drydock.

The first drydock is carved out of the hard-serpentine stone by the SF Drydock Company.

DRYDOCK

1866

COMMERCIAL

1870

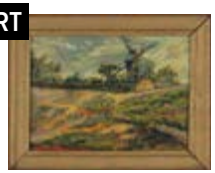
The SF Drydock Company opens the shipyard at Hunters Point for commercial service. A period full of commercial activity has started.

SF Drydock Company builds a second graving dock

2ND DRYDOCK

1903

ART



1938

Hunters Point houses its first artist, the painter and sculptor Adrien Voisin starts his studio in the old Albion Brewing Company castle.

The United States Navy takes ownership of the Shipyard. Together with the local community they form the Hunters Point Improvement Association and build 12.000 new houses for defense workers.

NAVY

1939

CRANE

1947

The iconic Shipyard crane is built by the American Bridge Company. It is the largest crane in the world at that time and it is capable of lifting objects up to one million pounds.

The crane is also used for the “Operation Skycatch” a launch study for testing missiles.

MISSILES

1959

DECOMISSION

1974

The navy base starts to partly decommission and leases facilities to private tenants.

TERZIAN

1976

The sculptor Jacques Terzian discovers the shipyard. The navy subleases a warehouse to Terzian where he starts his studio. Terzian is the founder of ‘The Point’, the artist colony that would later emerge.

REDEVELOPMENT

1980

The first conversations are held on what to do with the economic vacuum after the Navy’s departure. It takes a couple of decades for this redevelopment plan to come alive in the mid-2010s.

THE POINT

1983

A lot of artists follow the example of Jacques Terzin an in a couple of months more than 300 working artists have opened studios and workspaces in the former Navy facilities. The group of artists form The Point and become the largest artist colony of the US.

The Navy announces to reestablish the Shipyard and therefore wants to end the private leases. The artist colony start a protest and successfully stop the development. The Navy’s proposal is overturned in 1989.

PROTEST

1985

NAVY EXIT

1991

The Navy closes down the rest of the shipyard and a new era of transformation is started.

The City of San Francisco ratifies the Bayview-Hunters Point Area Plan. The plan, based on the Citizen Advisory Committee’s (CAC) guidelines, range from creating jobs for economic vitality to supporting an artist community to environmentally-responsible development.

NEW PLAN

1995

LENNAR

1999

Lennar becomes lead developer.

The City of San Francisco adopts the Bayview-Hunters Point Redevelopment Plan, which promises to invest in local education, transportation, public open spaces, hiking and biking trails, community facilities and energy efficiency.

2000

T-LINE

2007

A new light-rail route is build, the T Third Street line, the line improves the accessibility of Hunters Point area.

The City and the CAC agree on a mixed-use plan with 300+ acres of public park and open space improvements, up to 10,000 homes for sale or rent and over 2 million square feet of office space for green business, science, technology and research.

AGREEMENT

2008

CLEAN ENERGY

2013

The nonprofit Clean Coalition, in partnership with PG&E, launches a clean energy pilot program. The goal is to generate at least 25% of Bayview-Hunters Point’s energy needs by developing 50 megawatts of local solar cells.

A striking and immense wall painting is made by the artist team Haddad Drugan and becomes a Bayview landmark. It is a metaphor for the ongoing transformation of Bayview-Hunters Points area.

PAINTING

2014

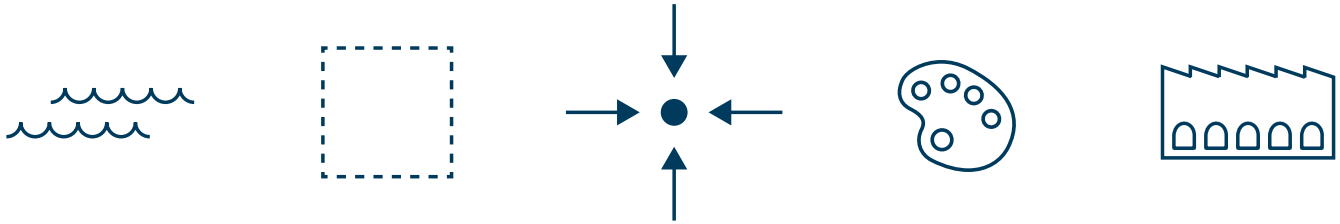
START DEVELOPMENT

2014

A collection of 88 new houses are built. It is the start of the new development plan of the Bayview-Hunters Points area.

Where? *Hunters Point*

Delta Interventions *Gijs Beckman*



Connection with water

A lot of space

Central location

Artist community

Available buildings

Masterplan *Hunters Point*

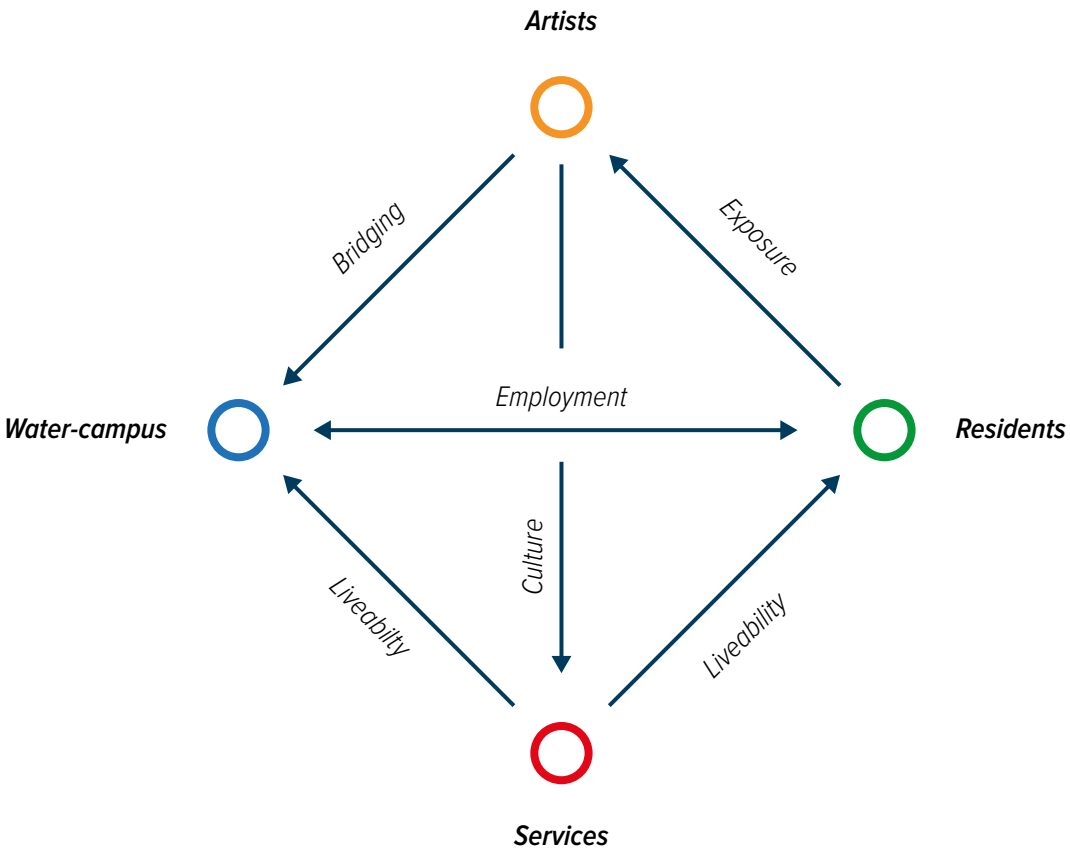
“A new neighborhood with a focus on living, culture research and the bay.”

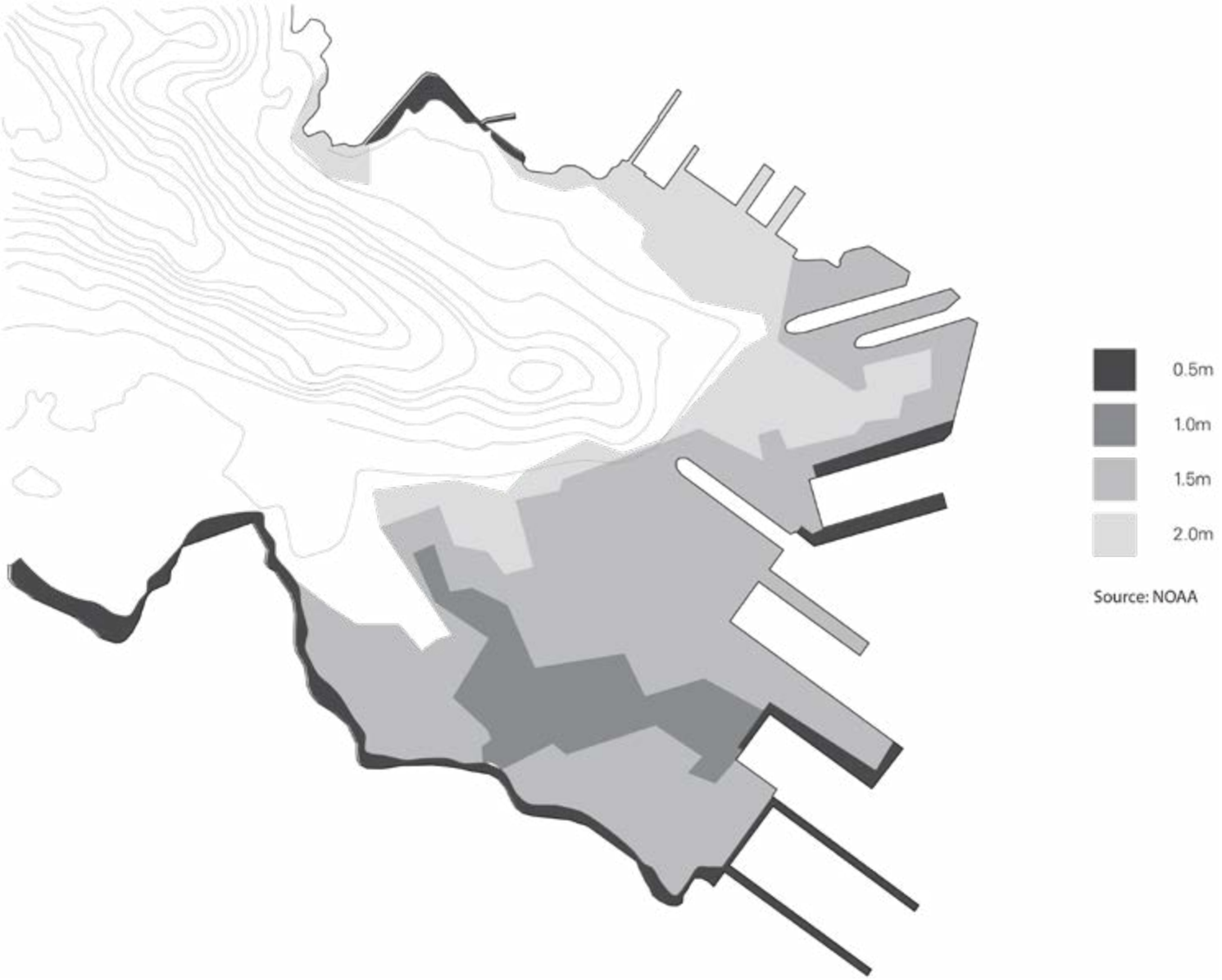
Living

Culture

Research

The bay


Artists
Bridging
Exposure
Employment
Water-campus
Residents
Culture
Liveability
Liveability
Services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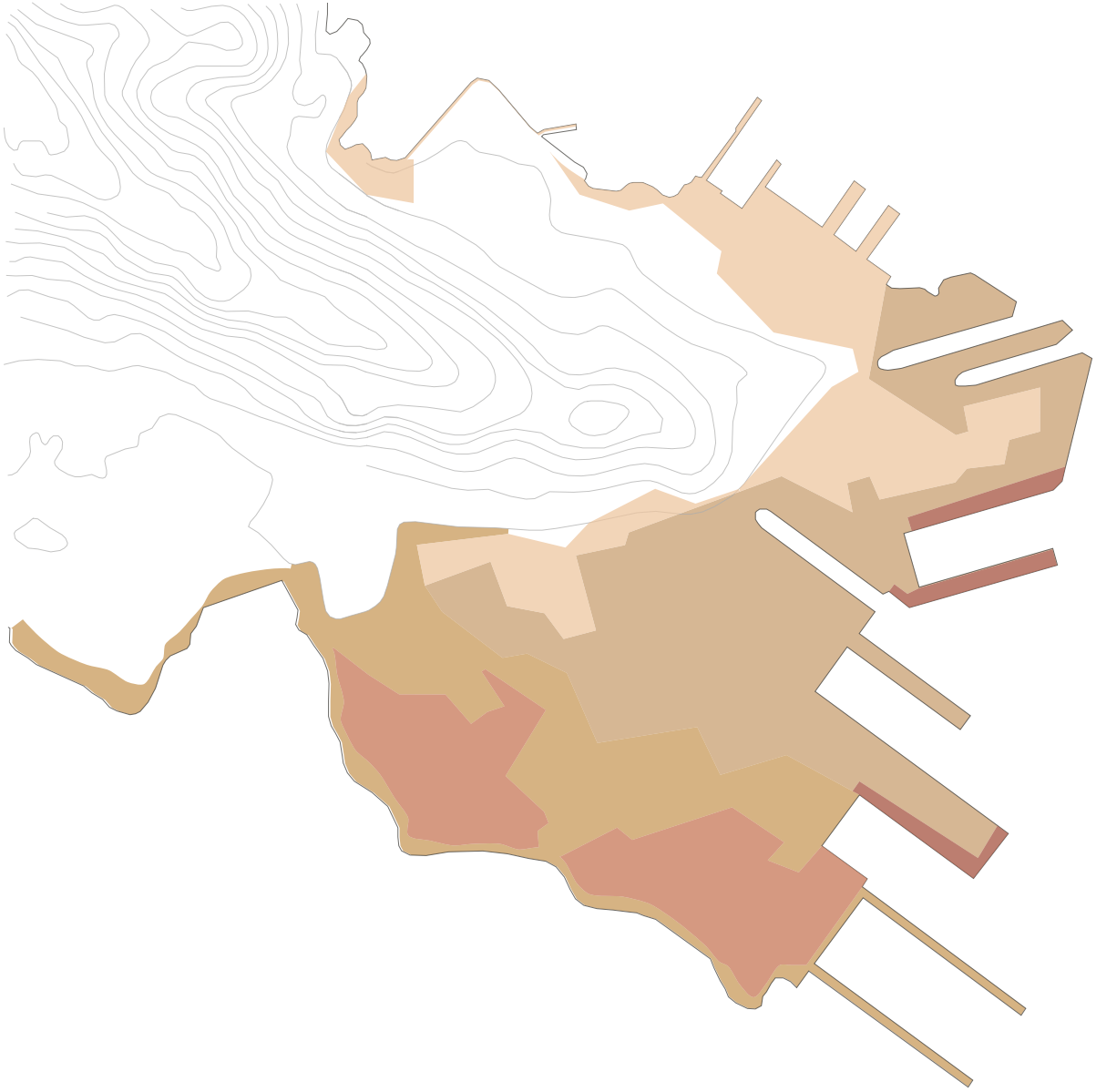


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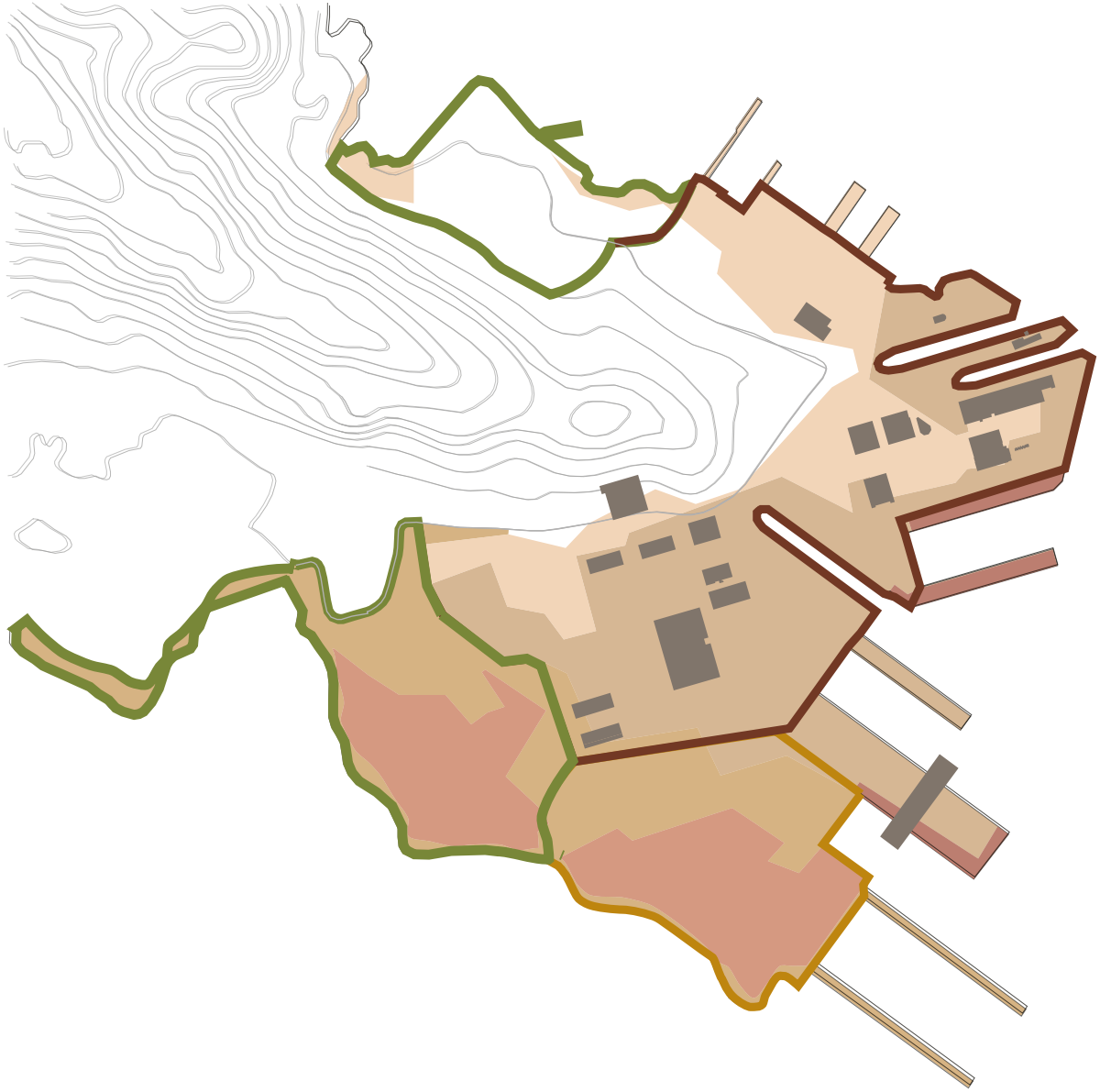


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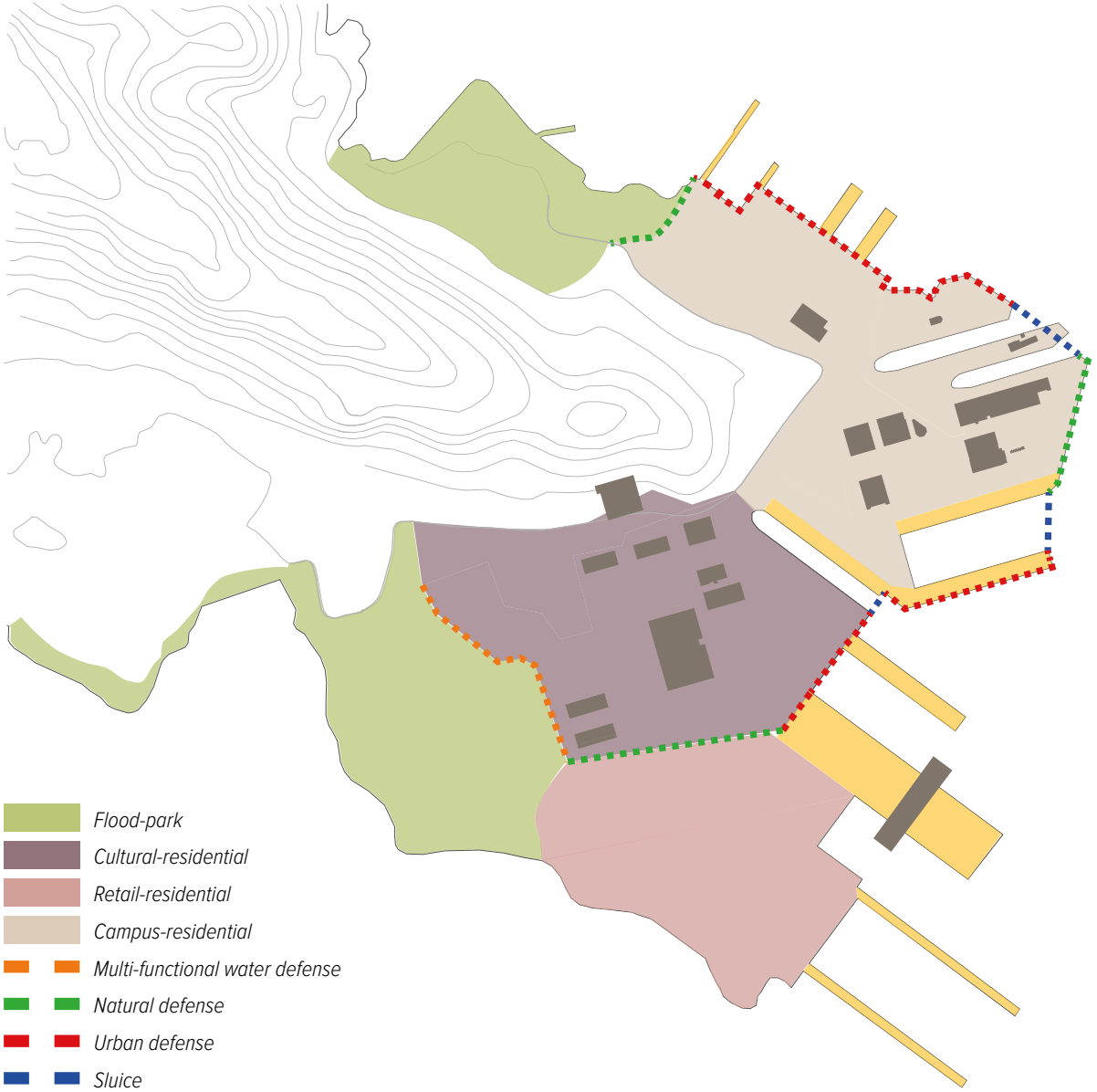
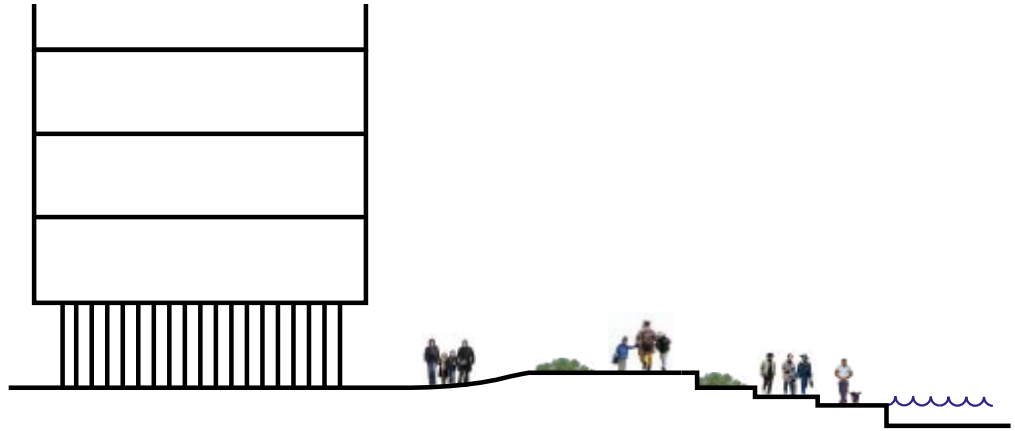
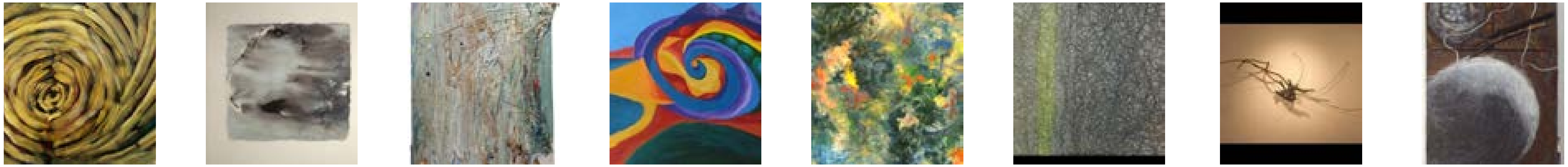
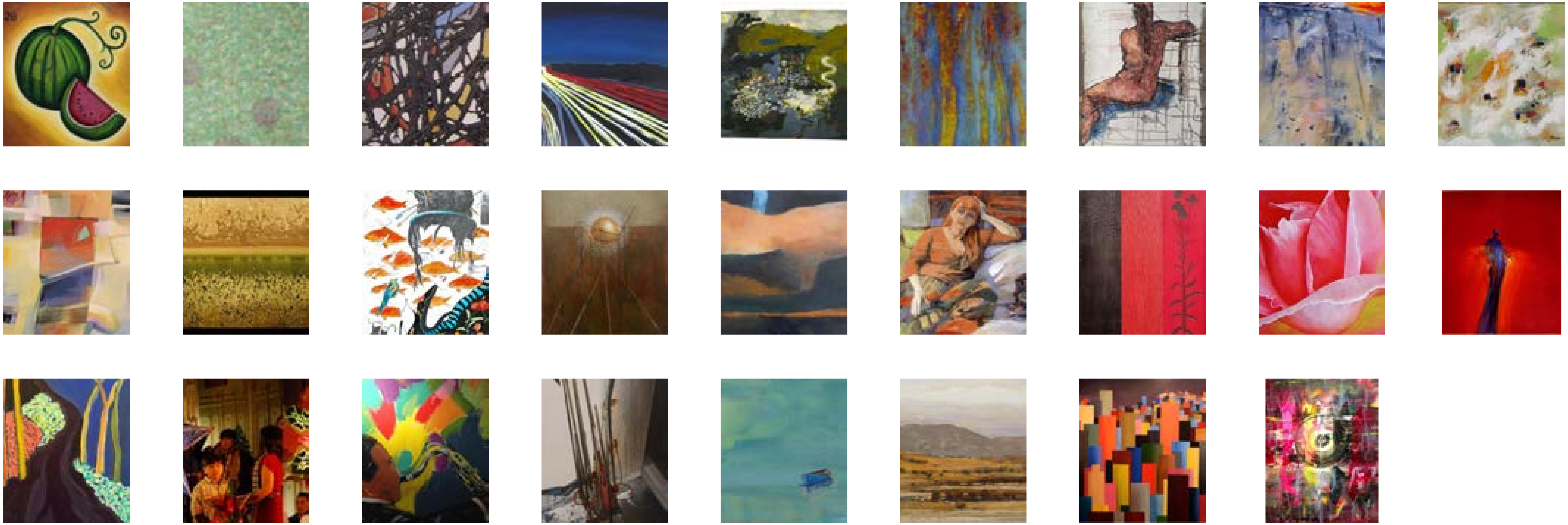

Flood-park
Cultural-residential
Retail-residential
Campus-residential
Multi-functional water defense
Natural defense
Urban defense
Sluice


N



Acrylic

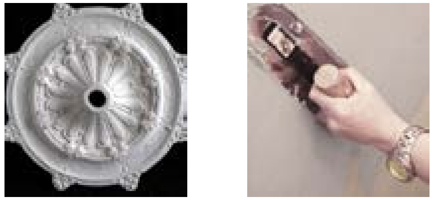




Ceramics

Collage

Plaster

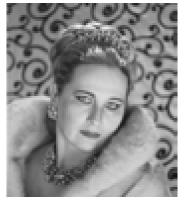


Jewelry

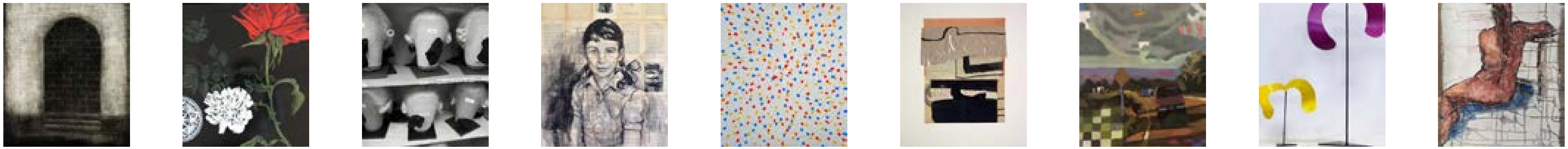
Costume

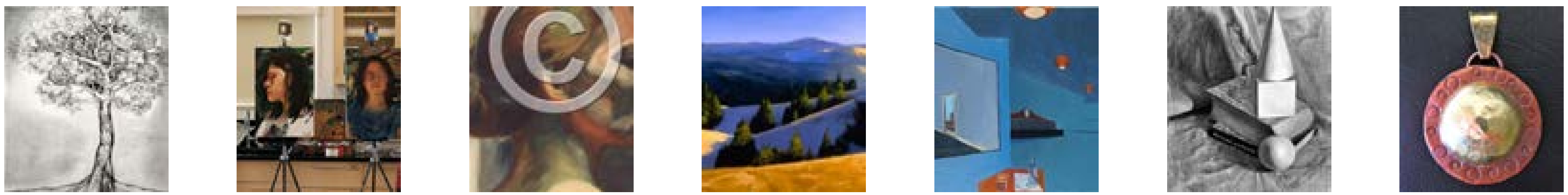
Mosaic

Opera



Drawing

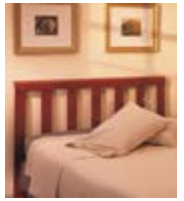




Etching


Film

Furniture




Installation





Landscape






Metal




Mixed media



Photography







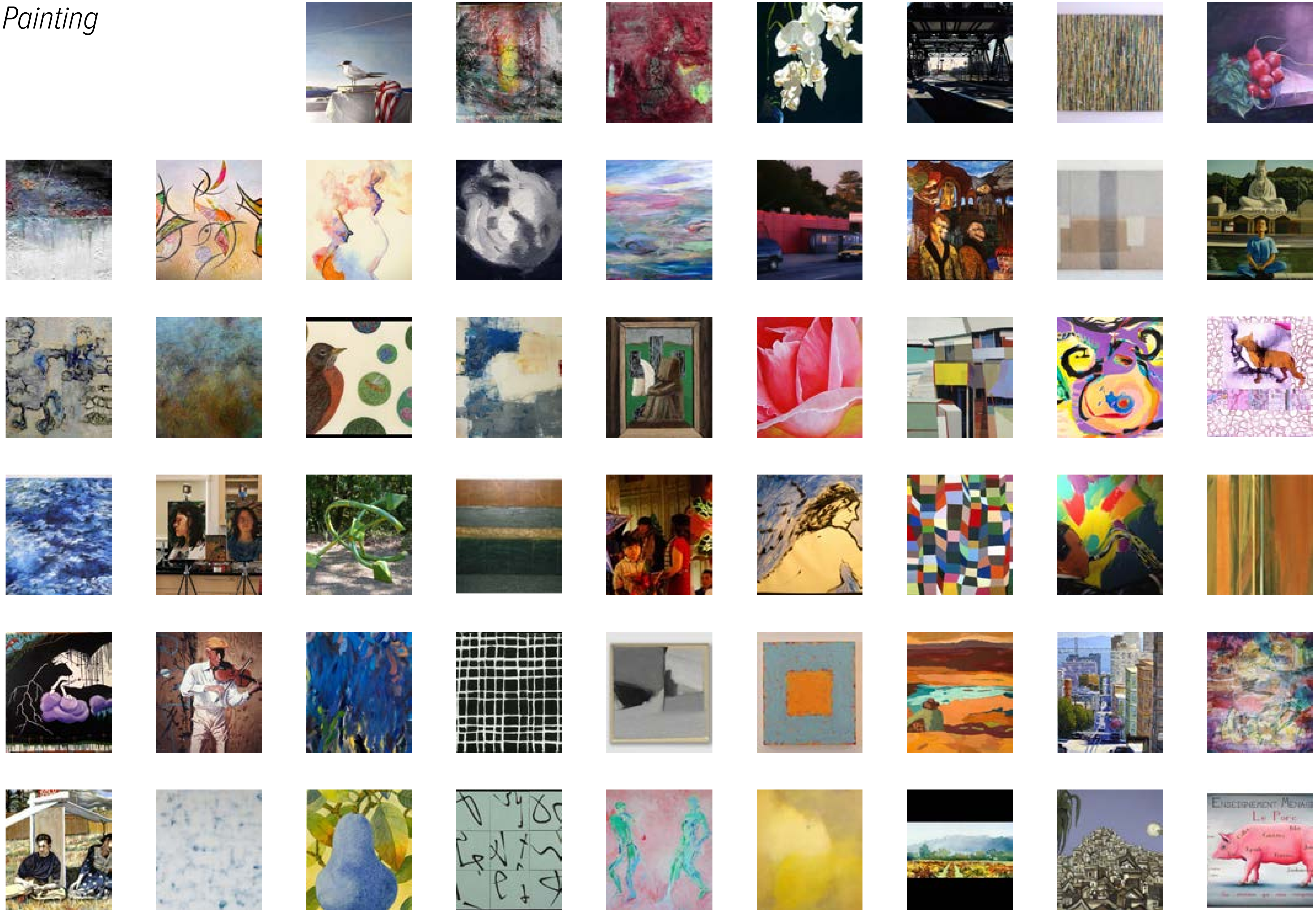




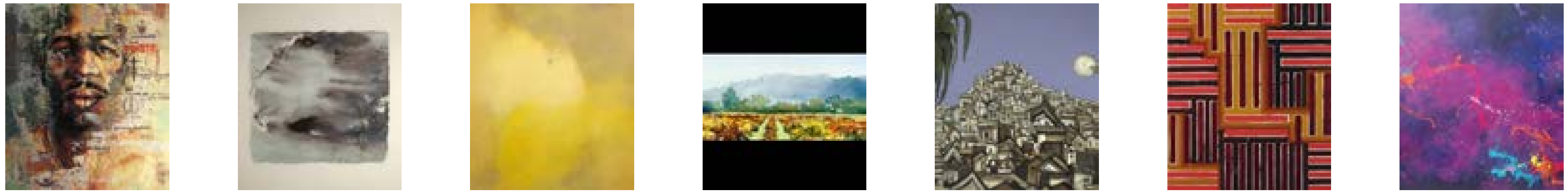


Delta Interventions *Gijs Beckman*

Painting

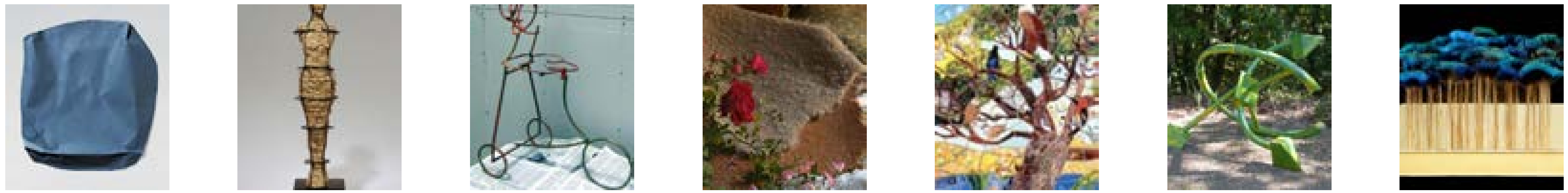


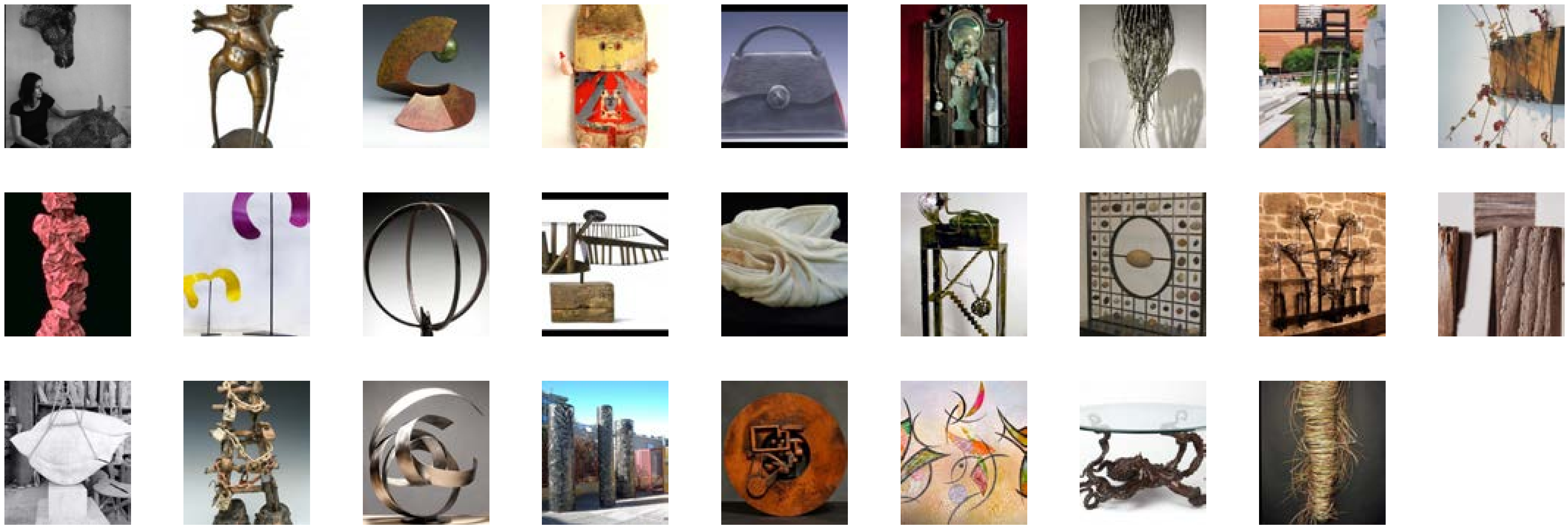
Painting

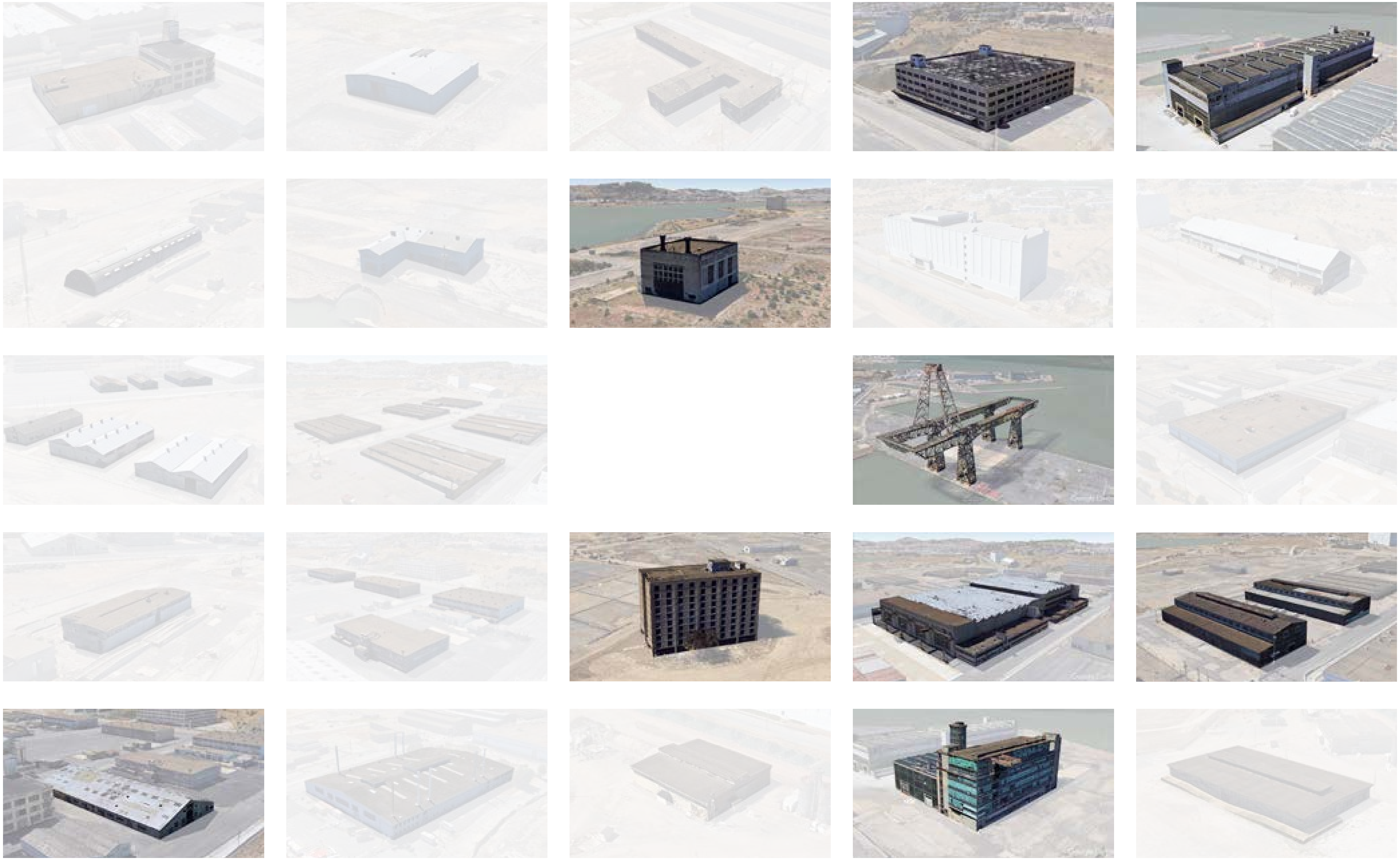


Printmaking

Sculpture

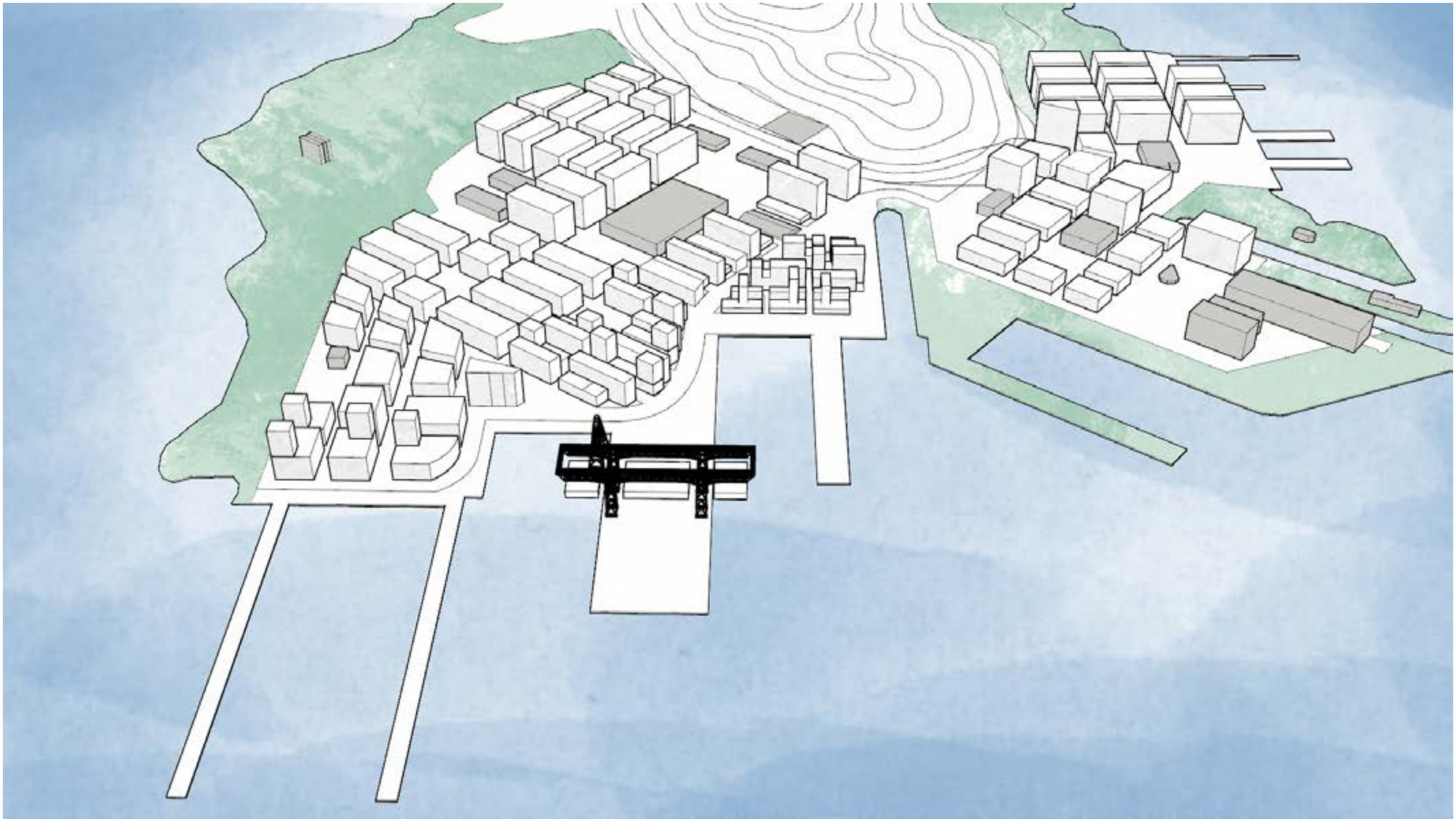




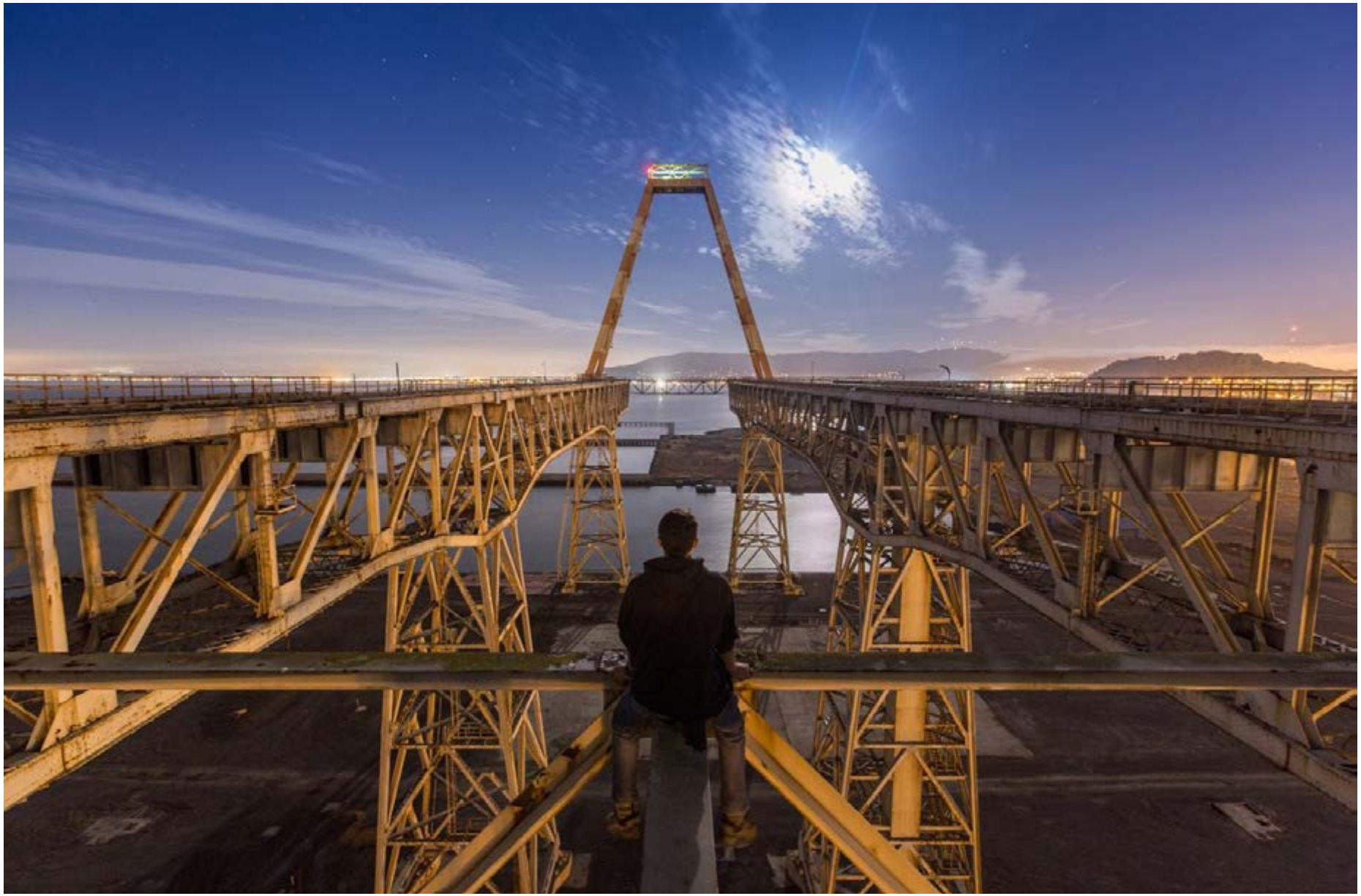



Public space around former buildings
Flood-park
Industrial buildings
Main road
Surrounding neighborhood
Urban piers
Main water defense line
Tram
N

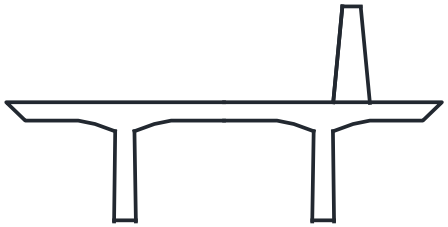

Culture
Food
Research
Markets
N



Project *The Crane*



Why is this crane a possible interesting intervention?

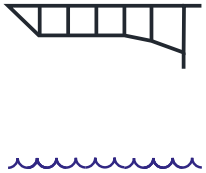


Landmark

Potential public attraction.

110m high

Viewpoint over the bay.

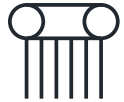


50m over water

Connection with the bay.

Extraordinary structure

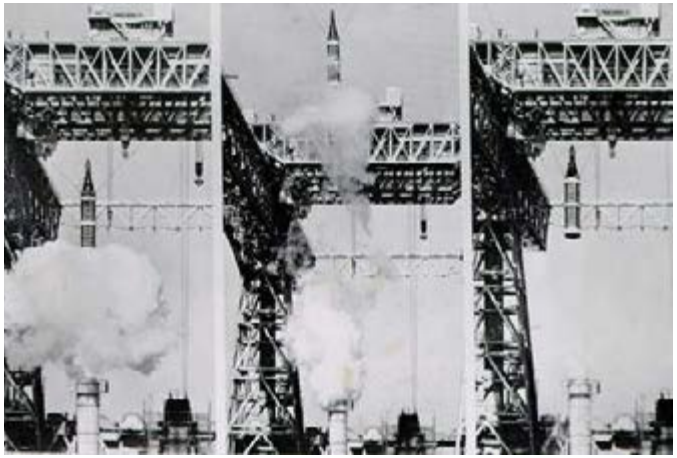
Potential unique building and spaces.



Historic value

Reinventing current real estate around the bay.

History
The Hunters Point gantry crane in San Francisco. It's the largest gantry crane in the world and was decommissioned in the early 70s. It's visible from most of the bay, but most people aren't aware of its size and don't notice the 8,400 ton behemoth looming over the water.



Operation Skycatch
The crane was built in 1947 to swap gun turrets on ships and can lift a million pounds. In 1959 the tower on top was added for Operation Skycatch, a program for testing missiles.

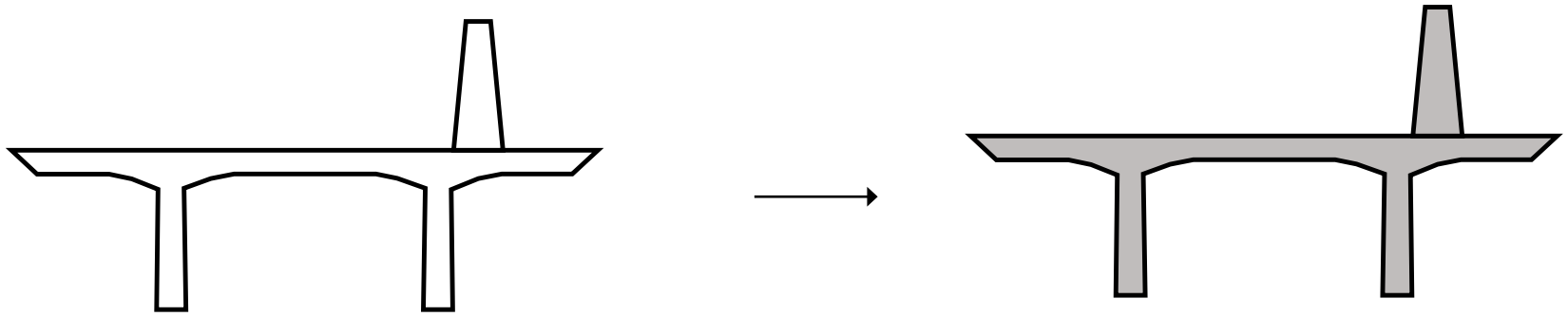
The Crane *Appearance*

How to create new space?

The former crane:
- *Complex steel structure*
- *Mostly symmetrical*
- *Powerful appearance*

Landmark:
- *A building or place that is easily recognized*
- *A prominent identifying feature of a landscape*
- *A building or site with historical significance*

The future crane should:
- *Emphasize the shape of the crane*
- *Complement the experience of the crane*
- *Be easily recognized*

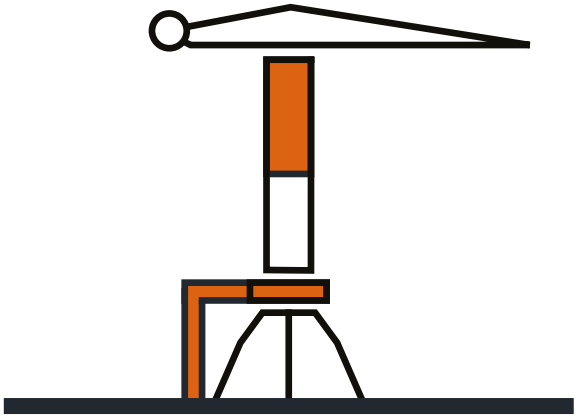


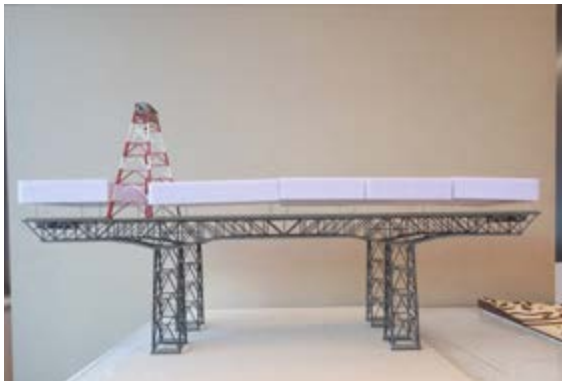
Kraanspoor
OTH Architects
Amsterdam

NDSM Kraan
IAA Architects
Amsterdam

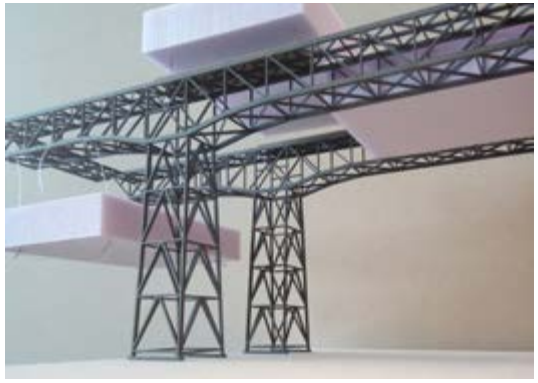
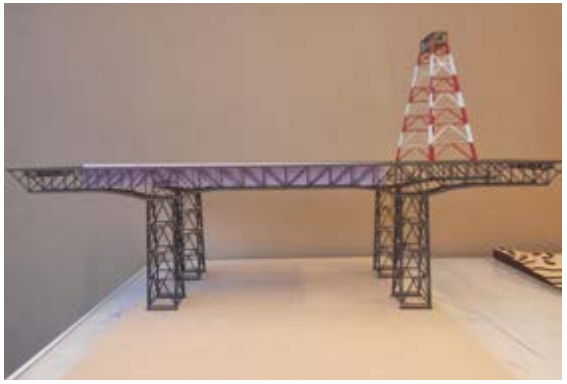
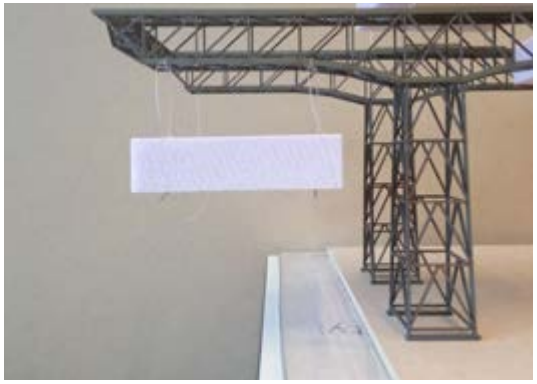
- Adding space
- Complement

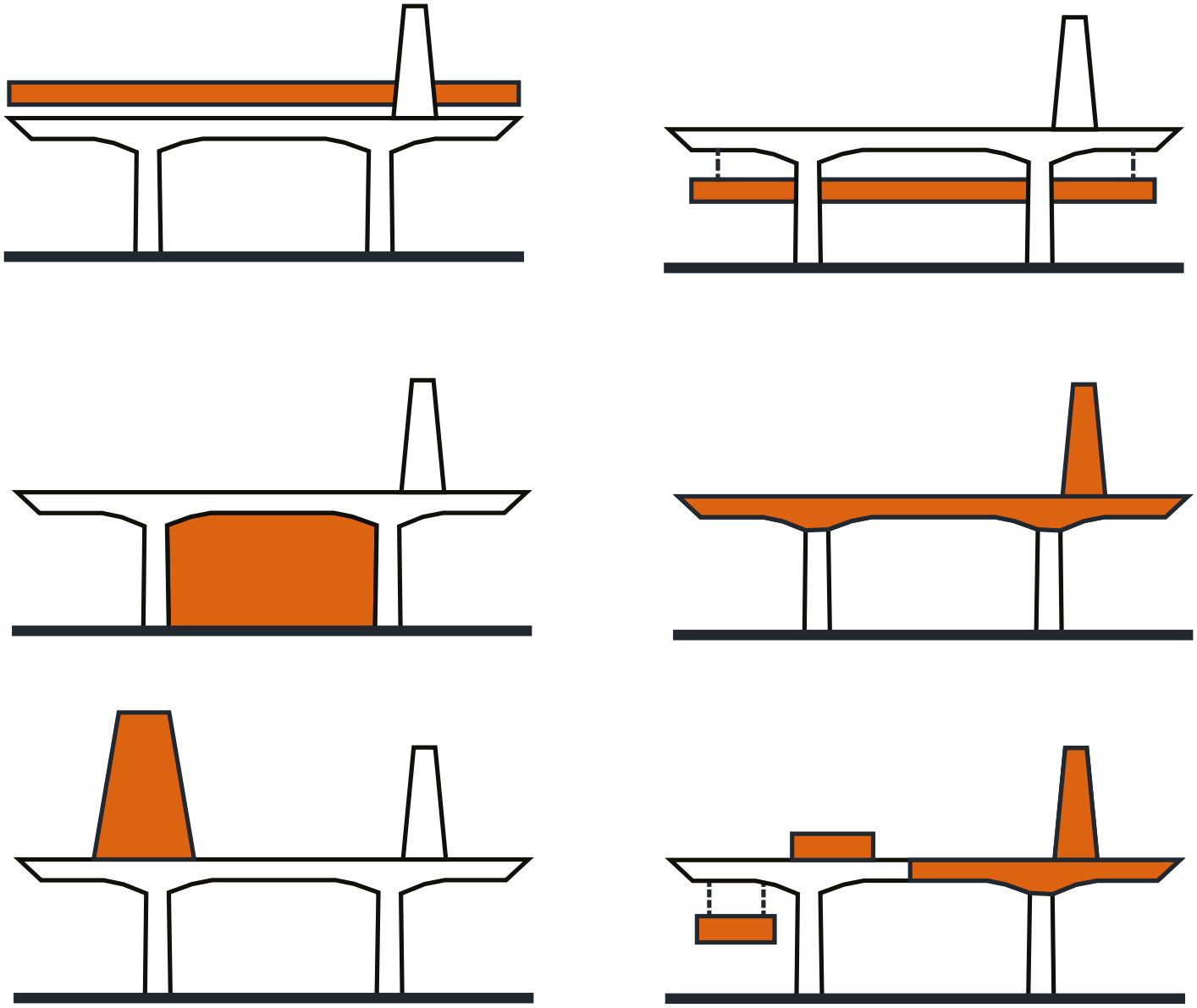
- Filling up space
- Contrast

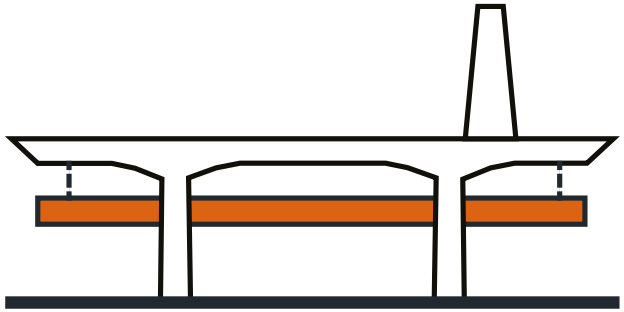


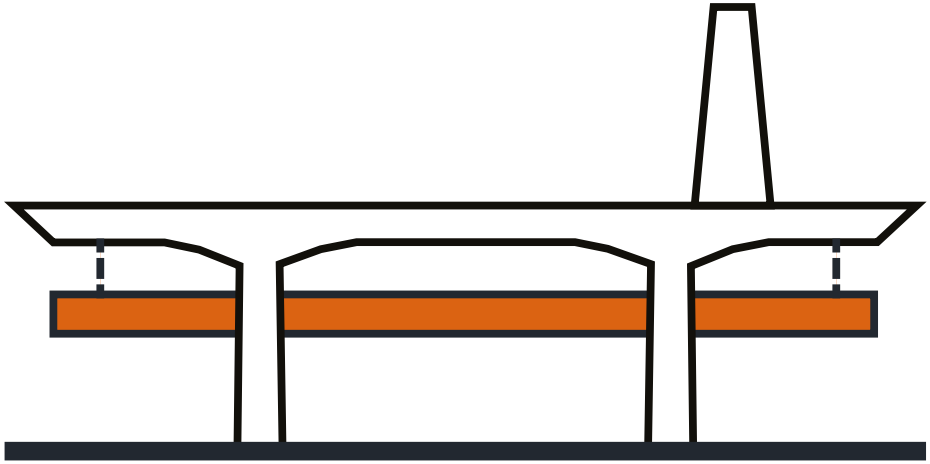


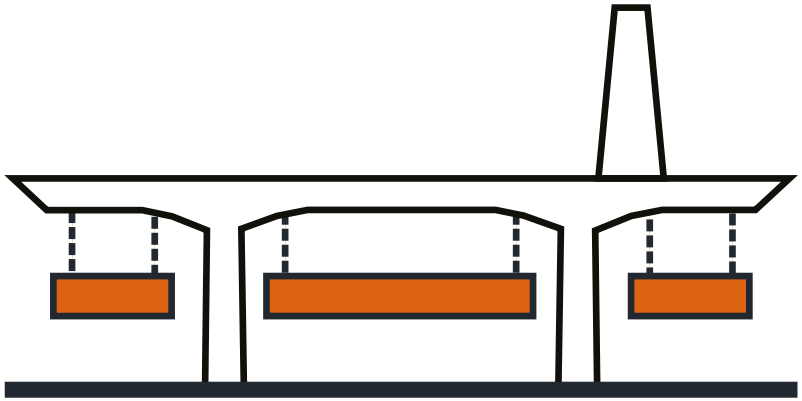


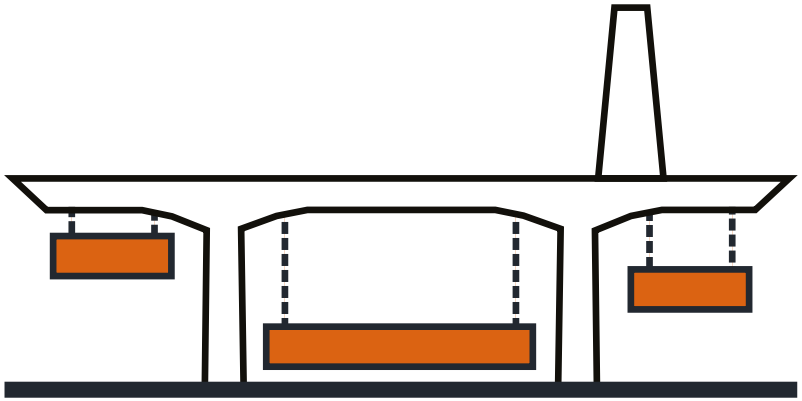












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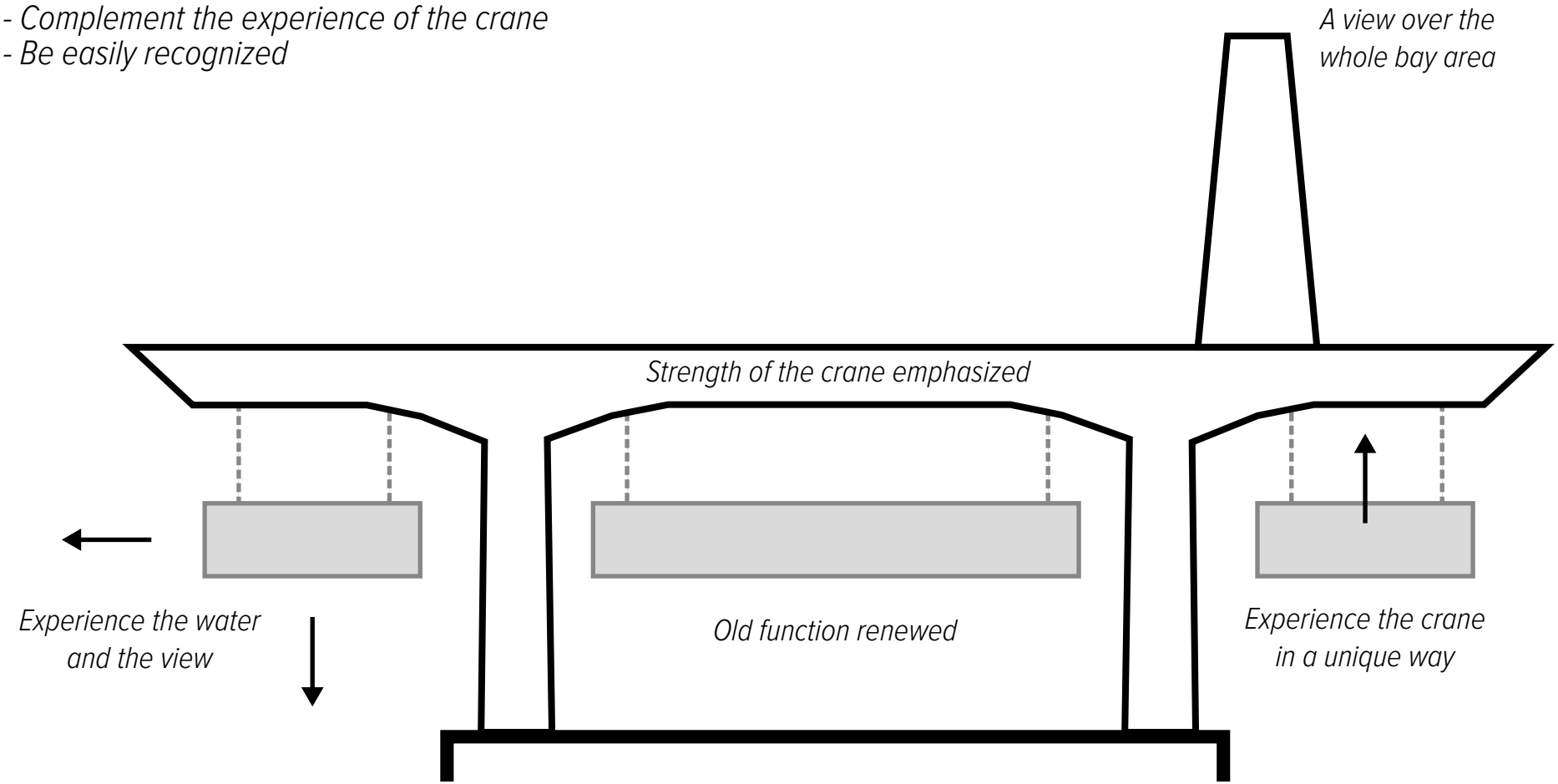
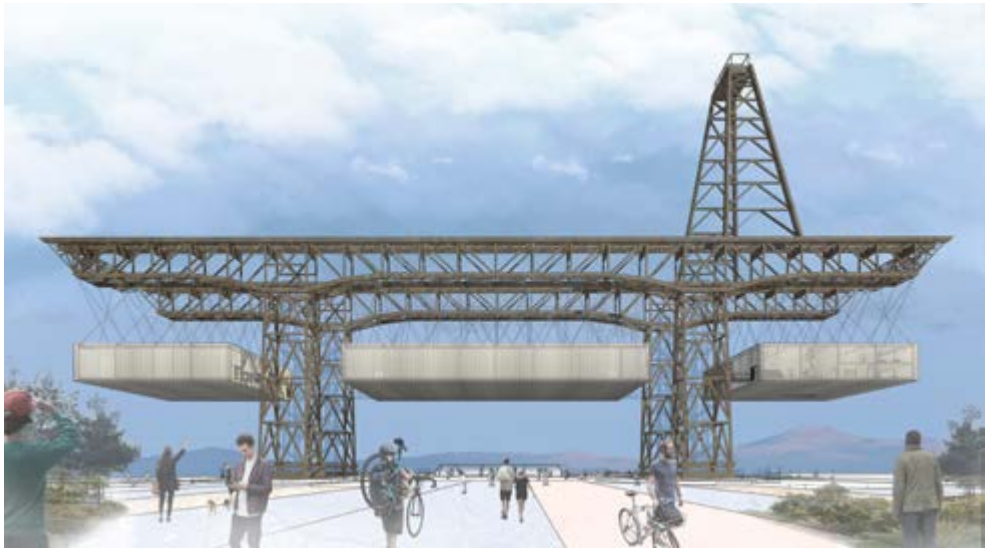
- Emphasize the shape of the crane
- Complement the experience of the crane
- Be easily recognized






“A floating space above the San Francisco Bay”

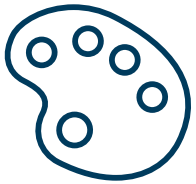
Use *Program*

Visitors

- Viewpoint
- Culture
- Education

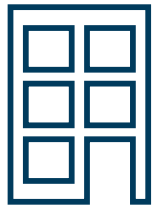
Residents

- Leisure
- Culture
- Liveliness



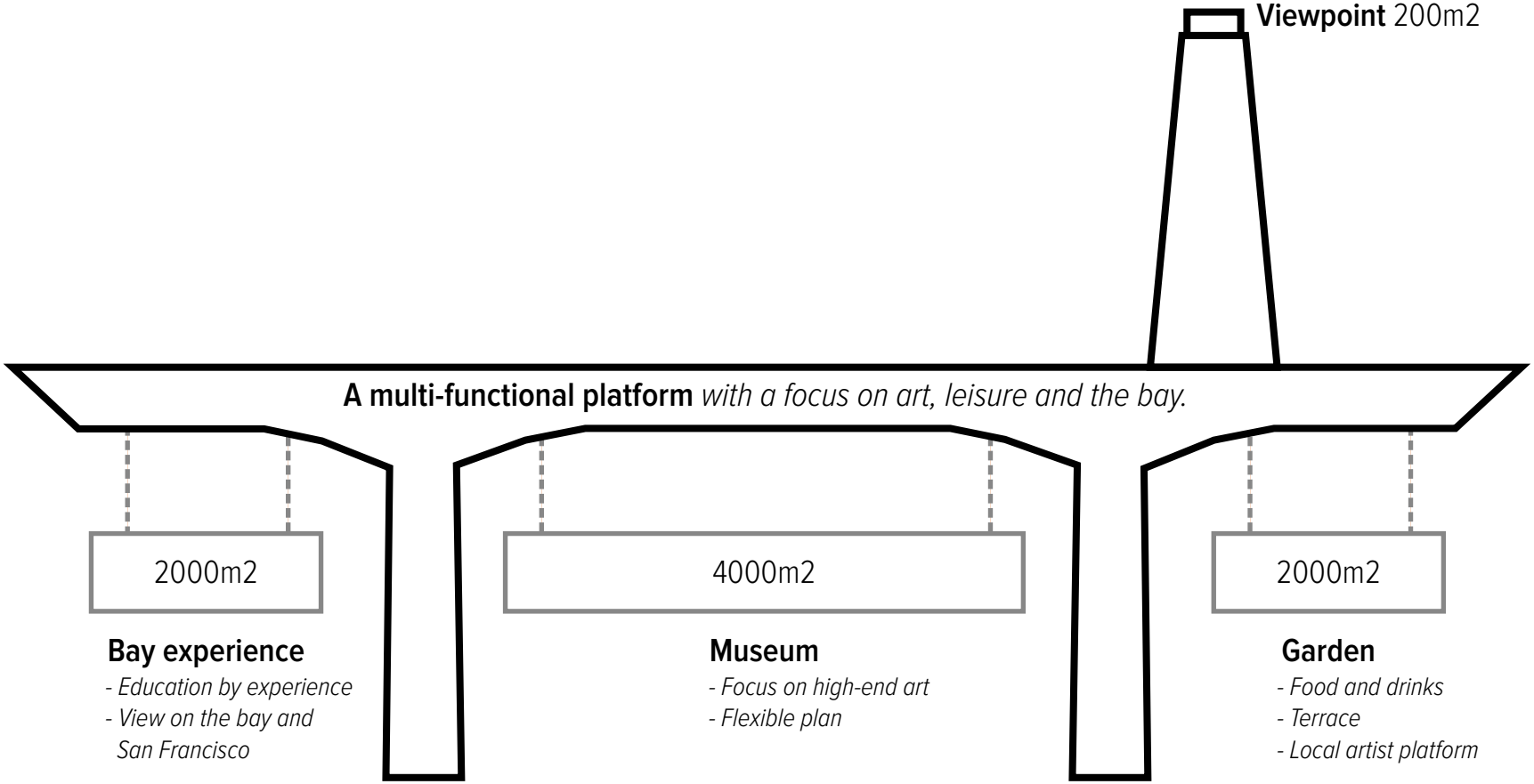
Local artists

- Icon
- Interaction platform
- Exhibition platform

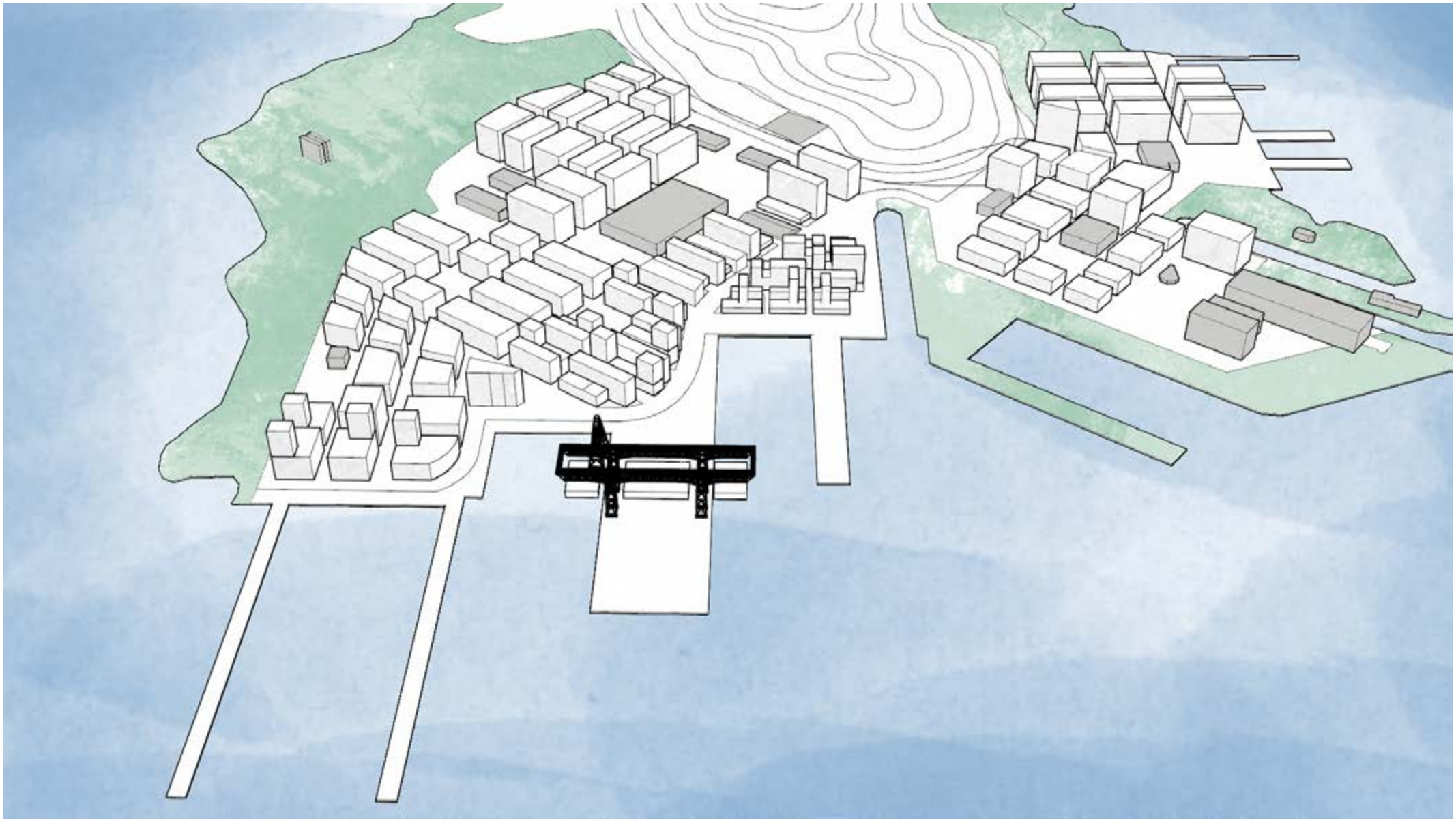


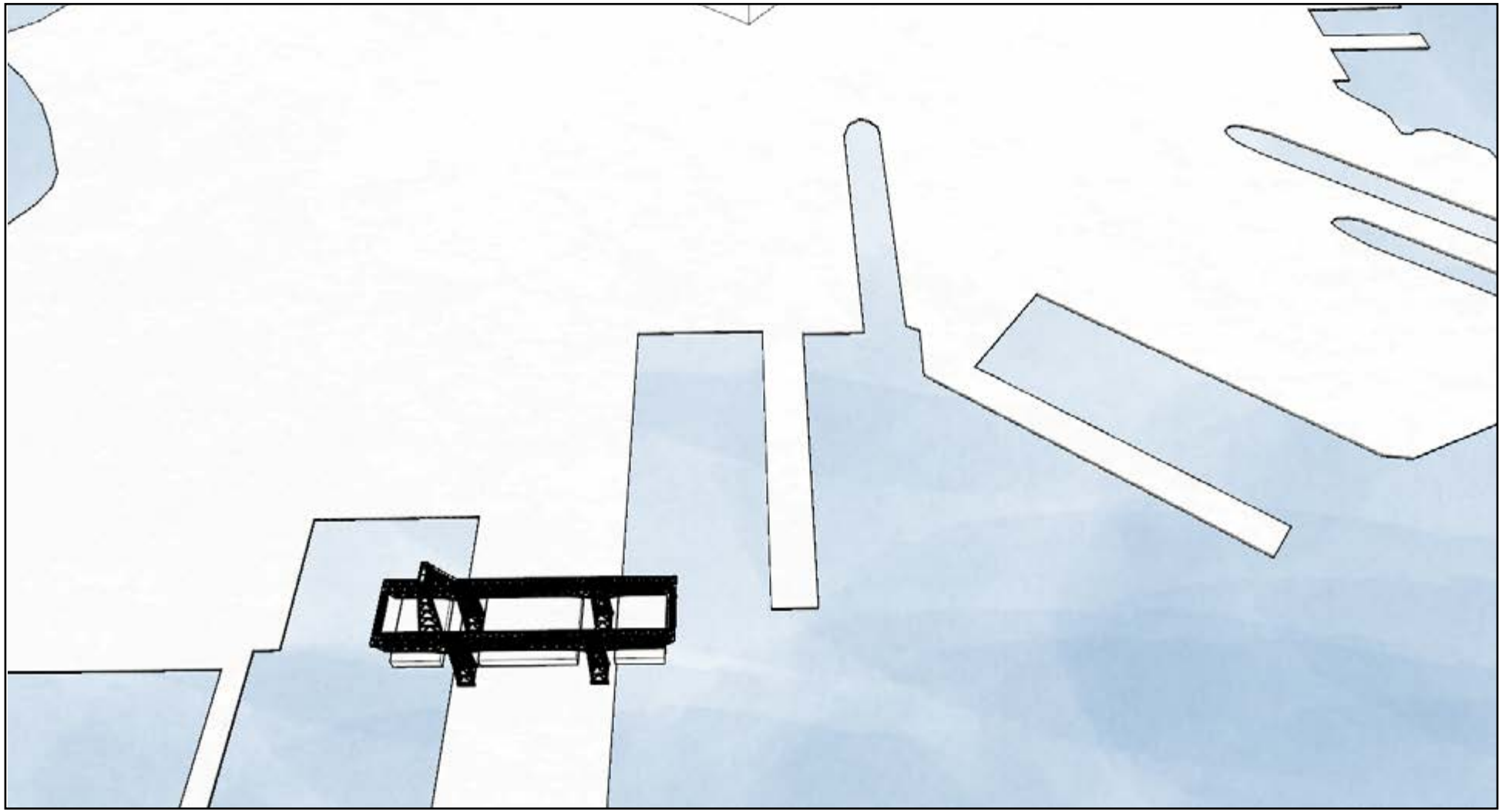
Business

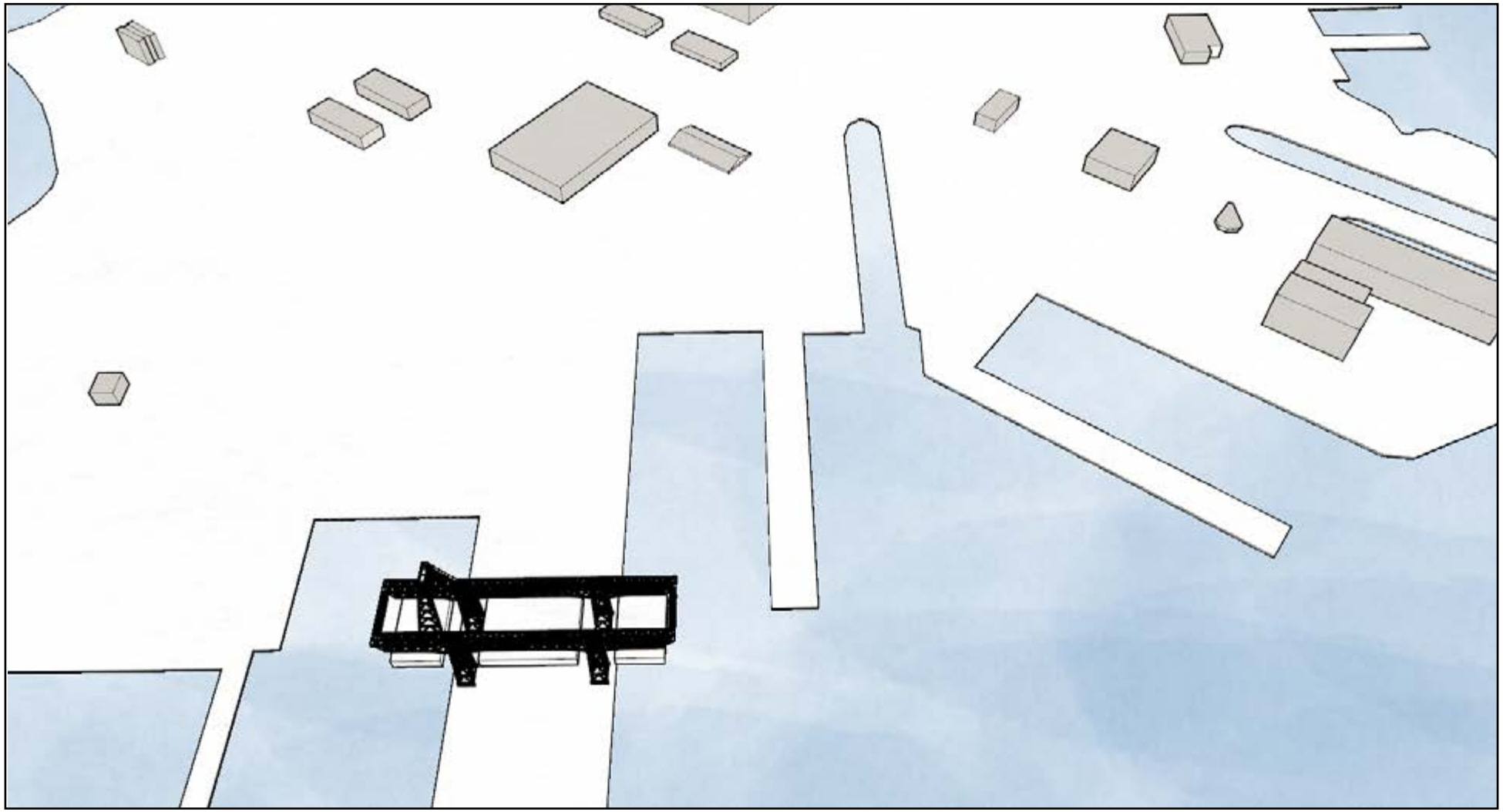
- Centre
- Accelerator
- Exposure


Viewpoint 200m2
A multi-functional platform *with a focus on art, leisure and the bay.*
2000m2
4000m2
2000m2
Bay experience
- Education by experience
- View on the bay and San Francisco
Museum
- Focus on high-end art
- Flexible plan
Garden
- Food and drinks
- Terrace
- Local artist platform

Masterplan *Integration*

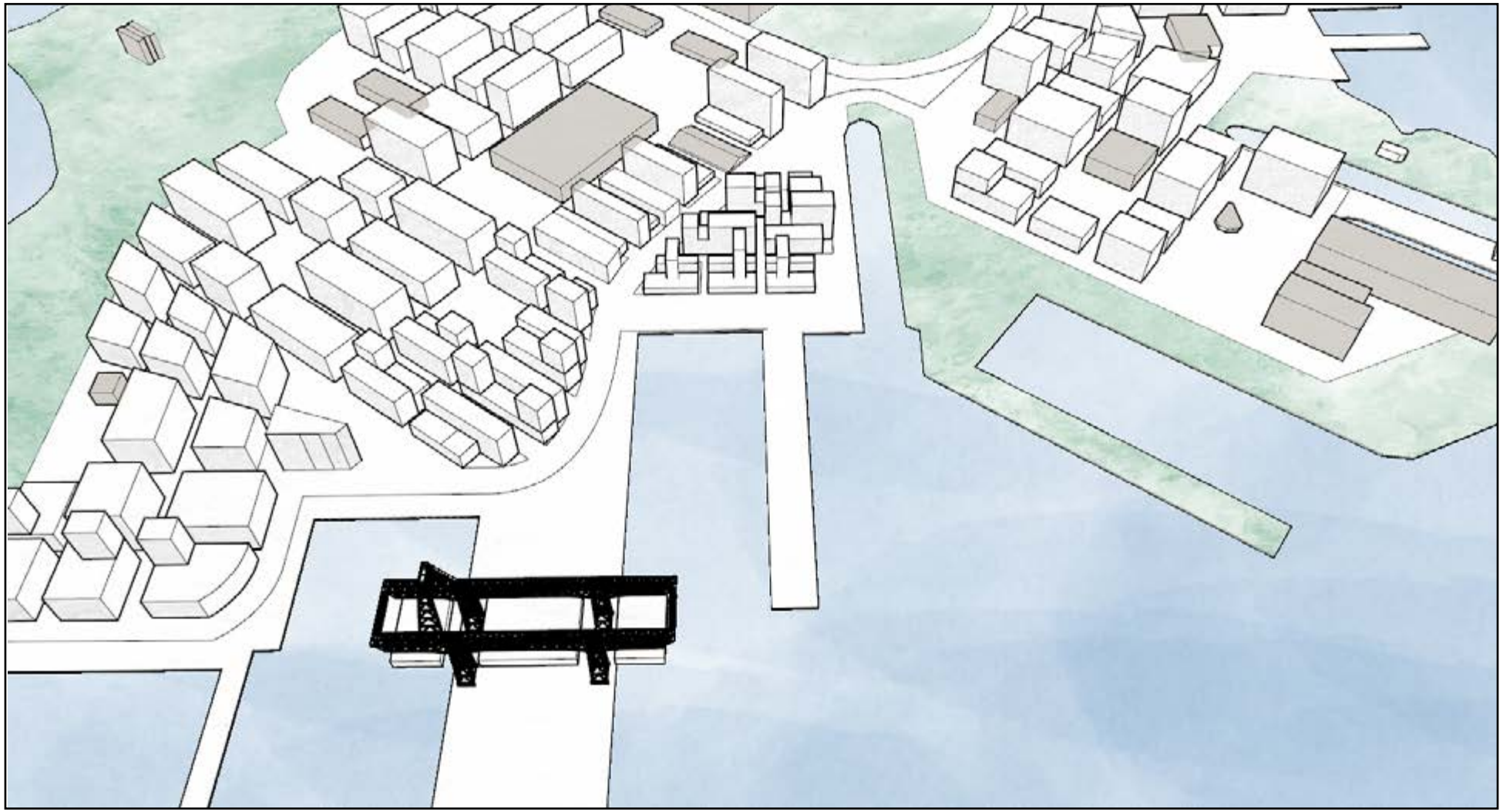




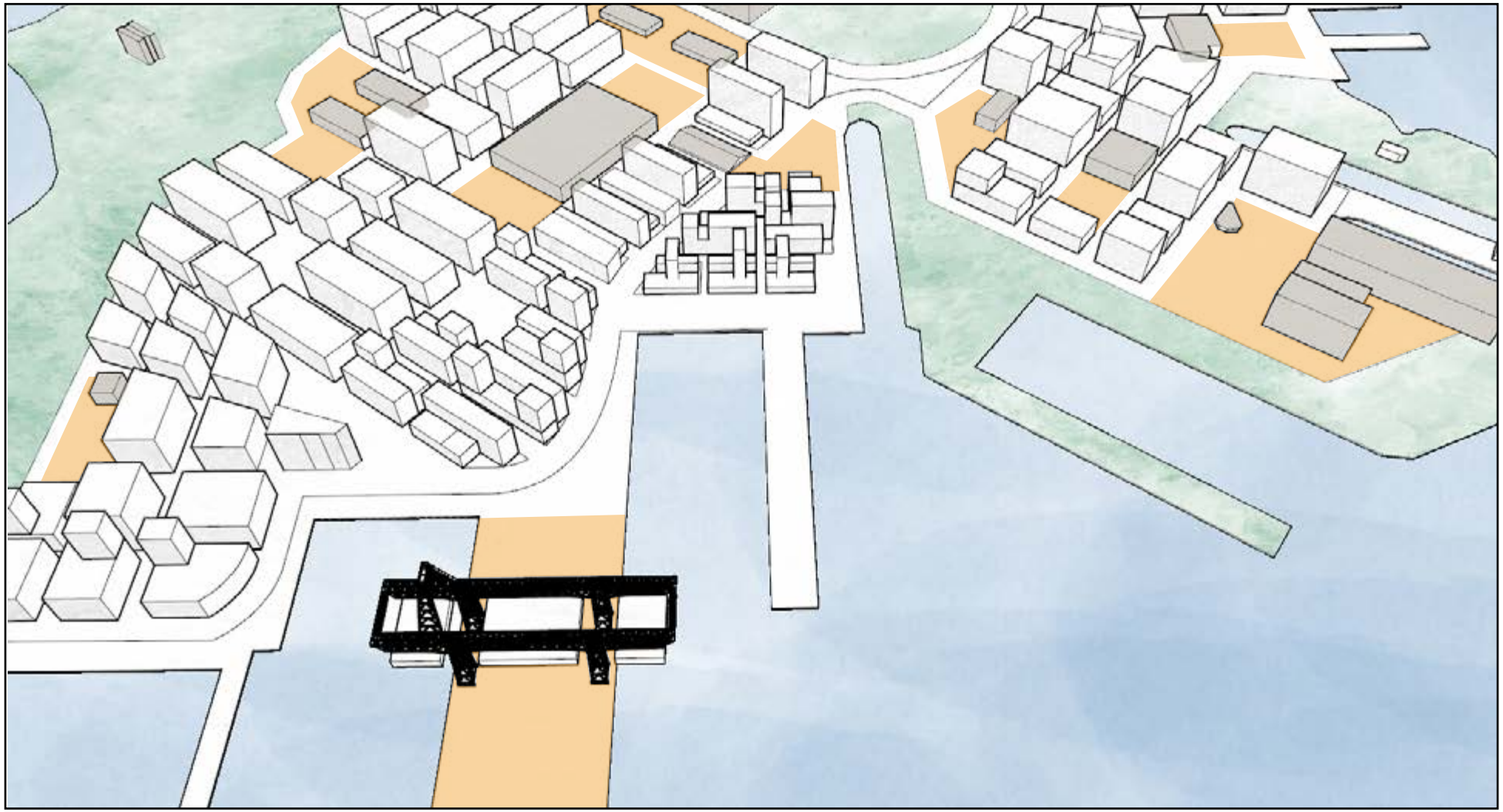


Industrial buildings

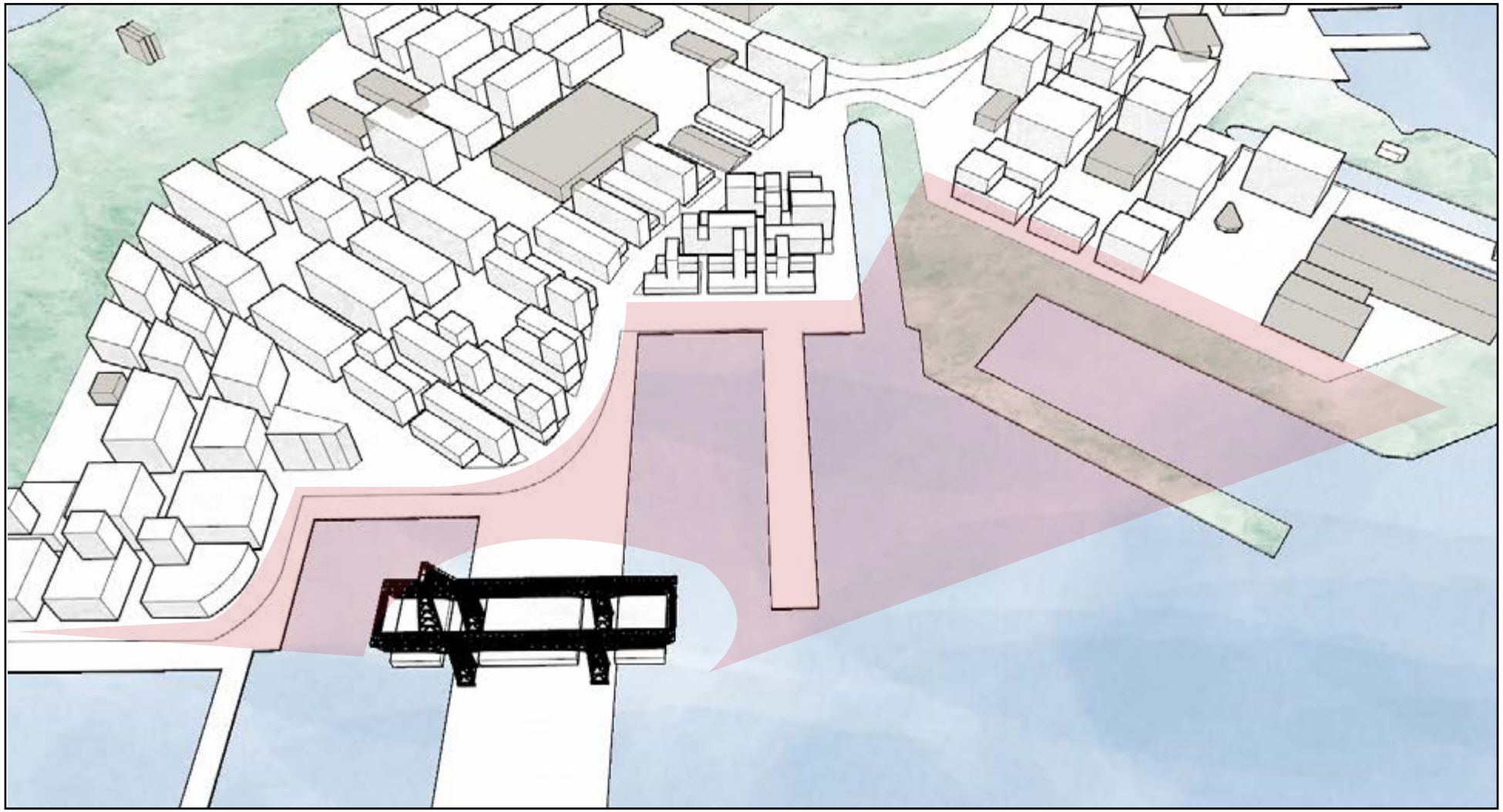
Water



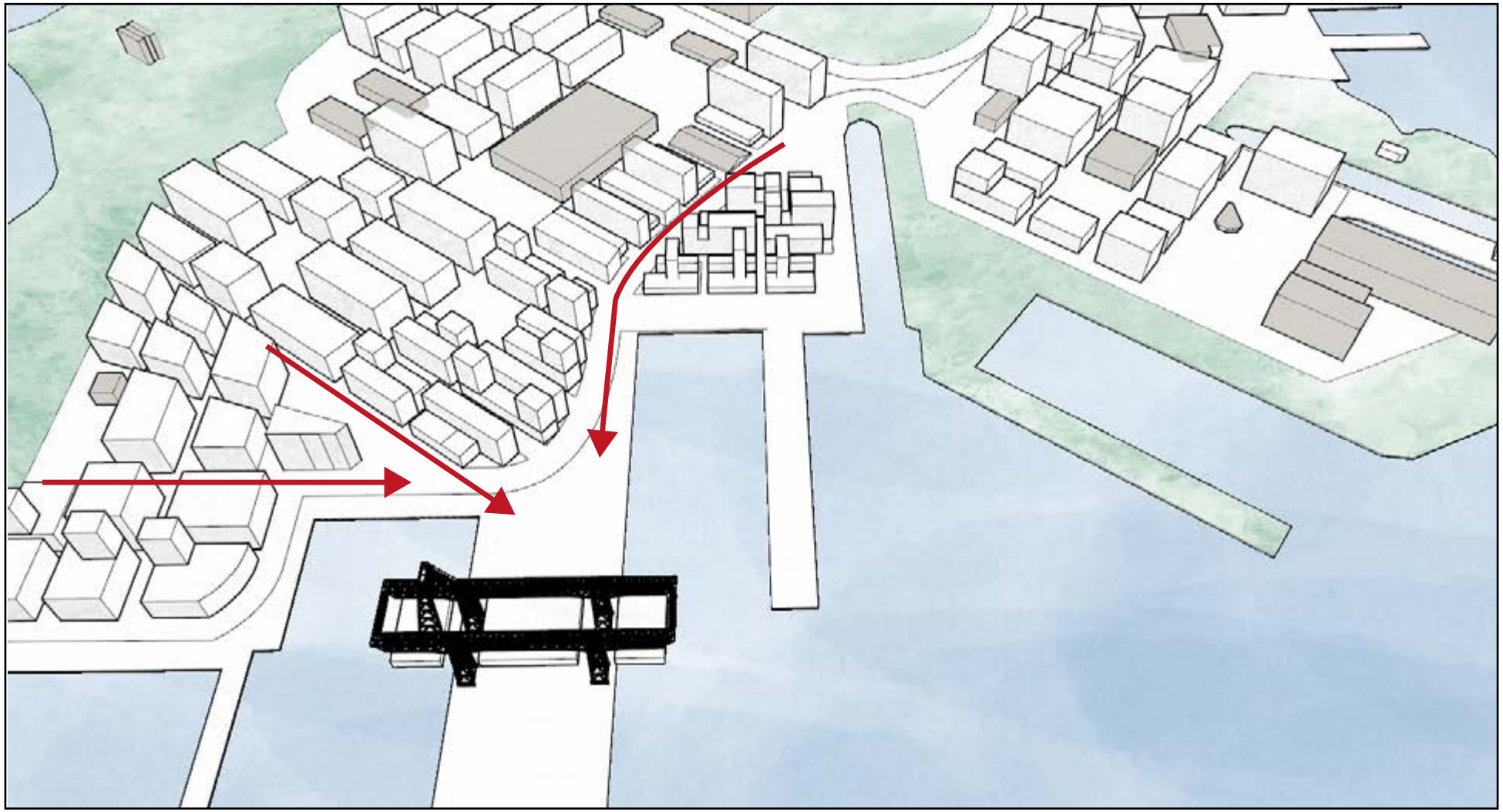
Industrial buildings
New buildings
Water
Park space



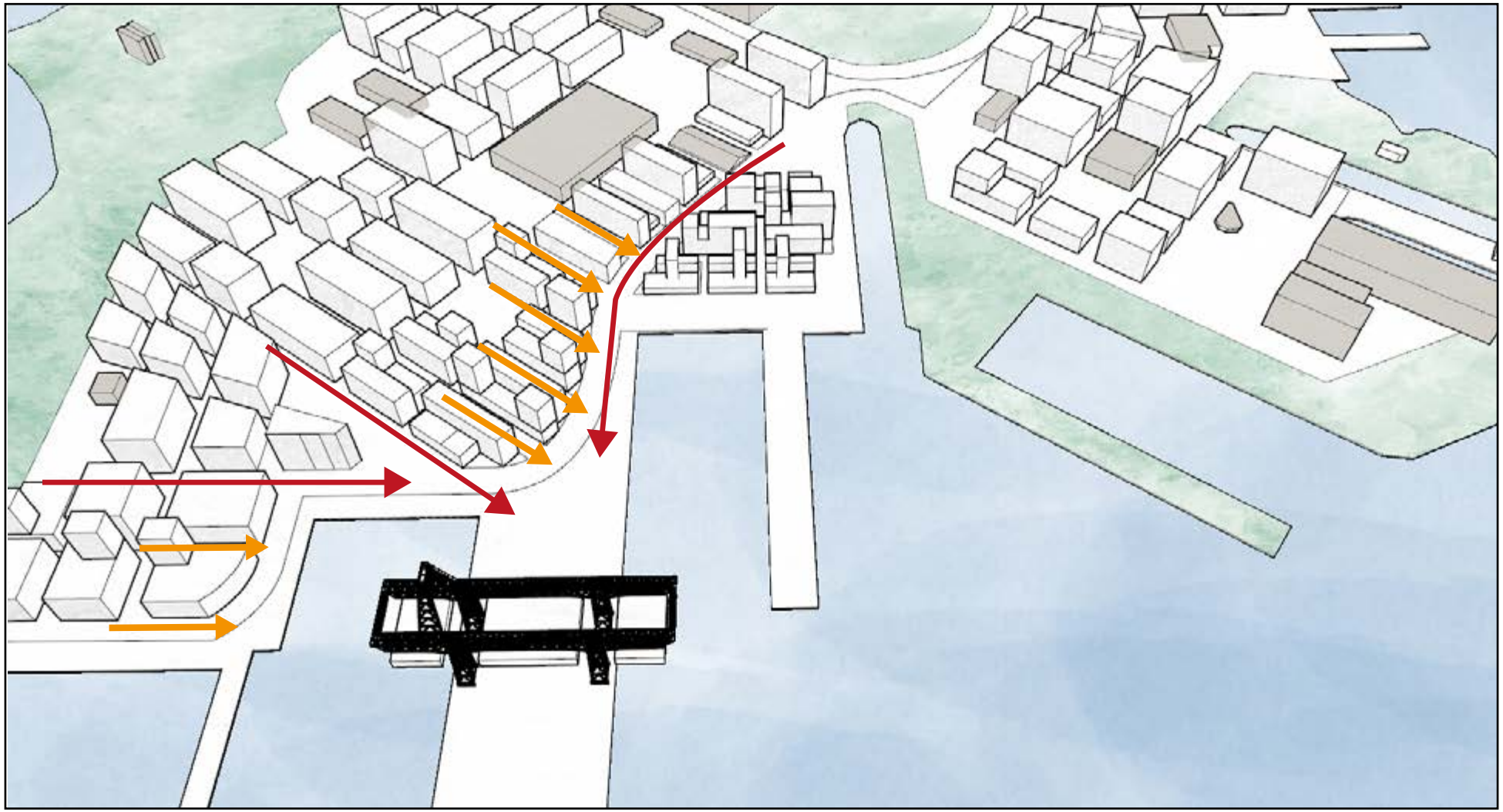
Industrial buildings
New buildings
Water
Park space
Public space



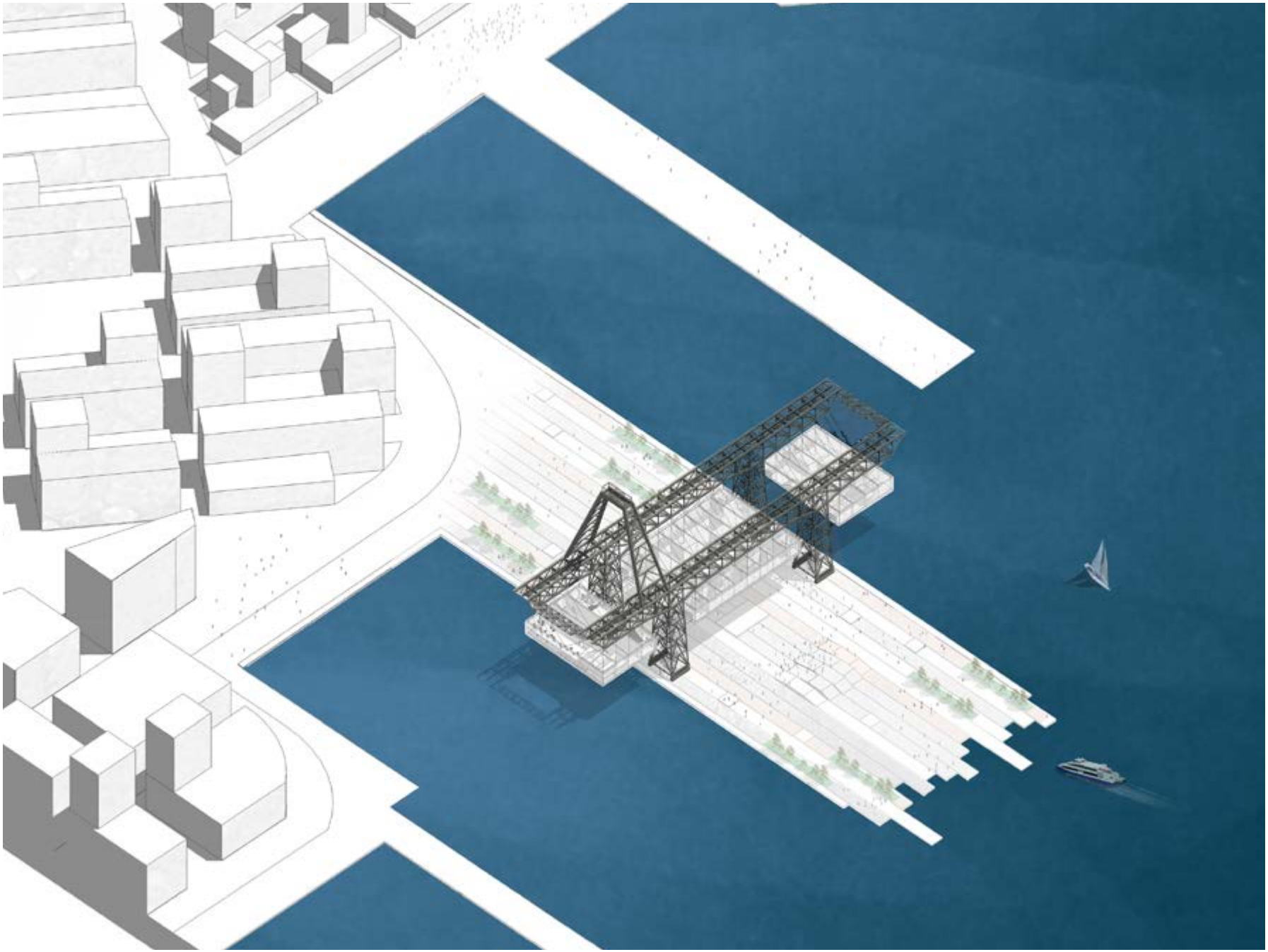
Industrial buildings
New buildings
Water
Park space
Visibility of the crane

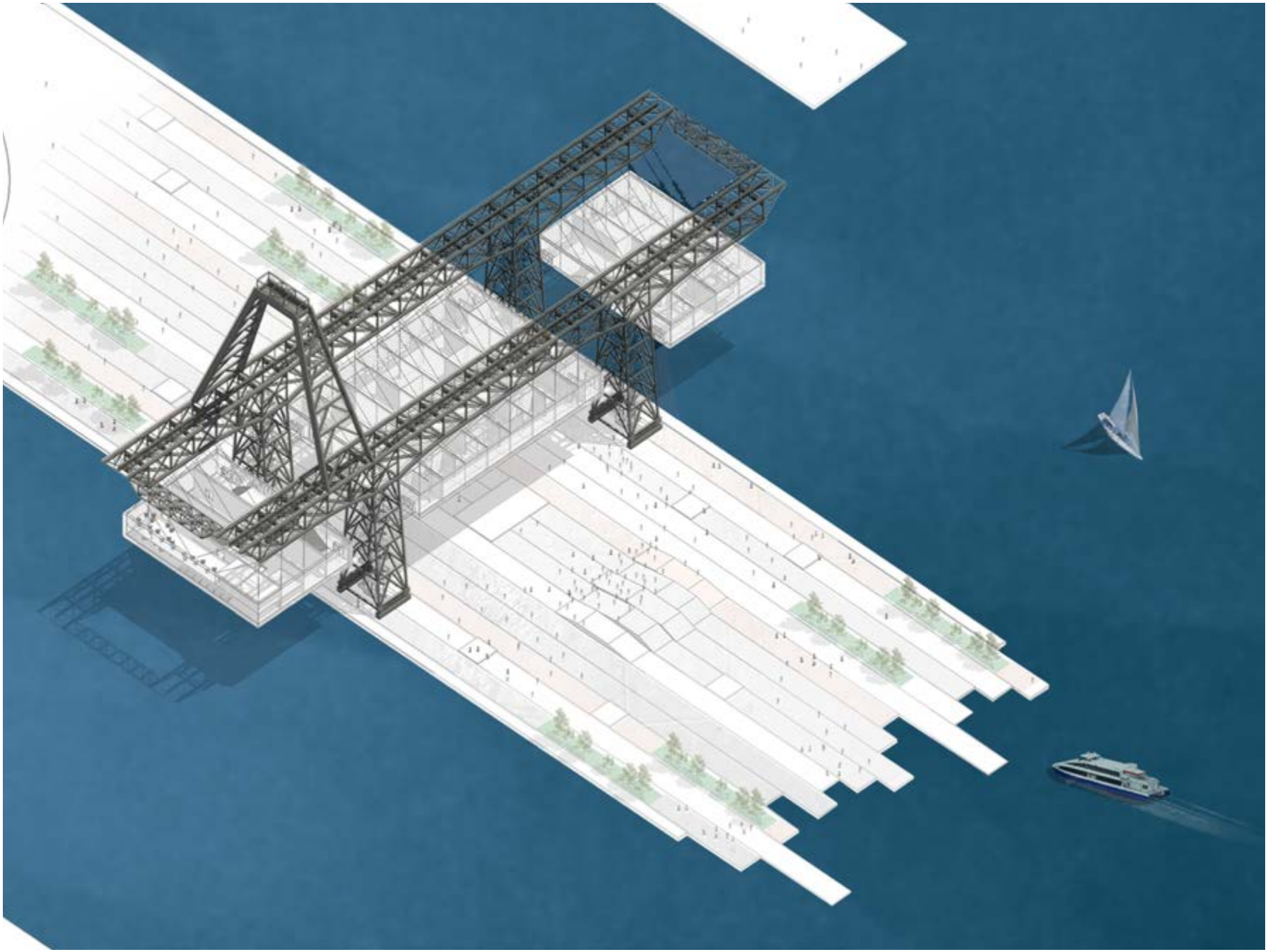


Industrial buildings
New buildings
Water
Park space
Main roads

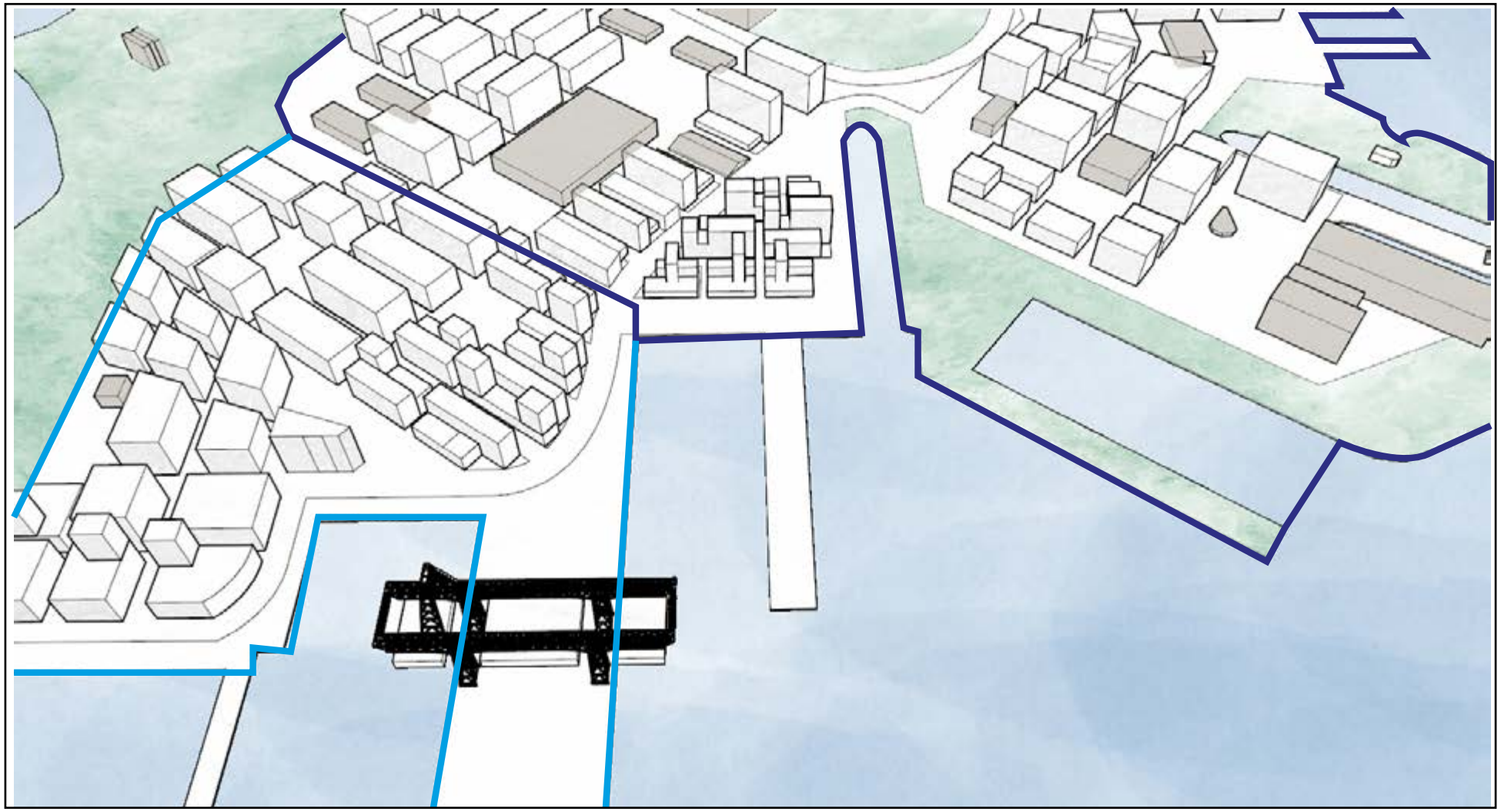


Industrial buildings
New buildings
Water
Park space
Main-roads
Sub-roads





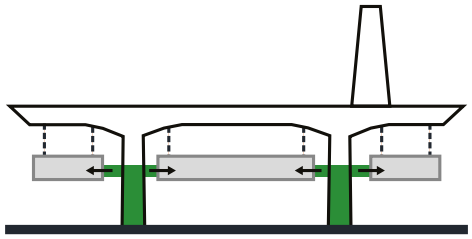
Project *Groundlevel*

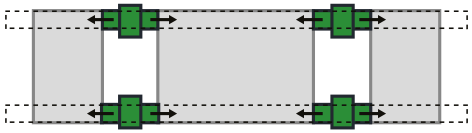


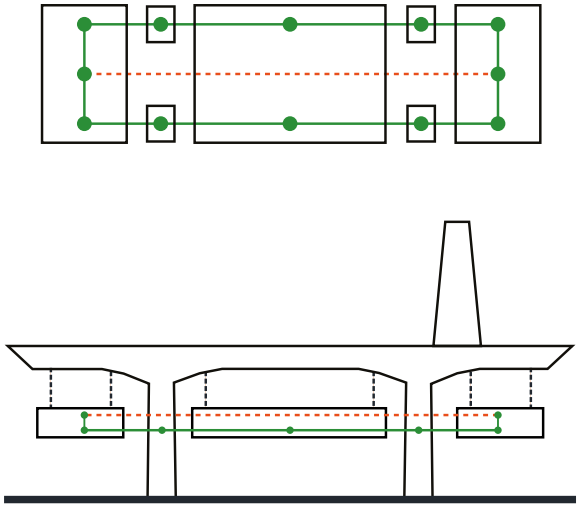
Industrial buildings
New buildings
Water
Park space
Water defense line
Water defense line

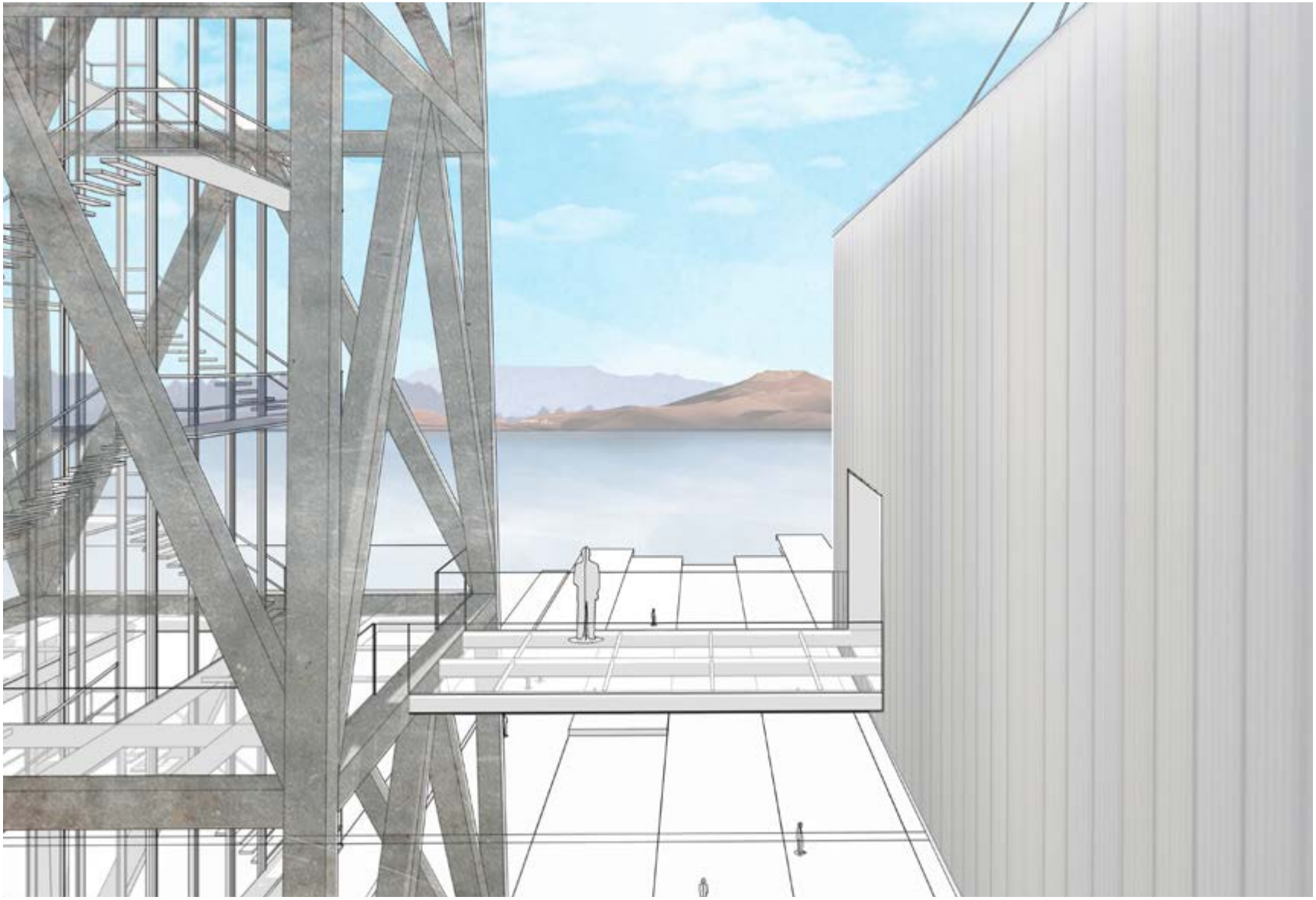
Project *Accessibility*


HUNTERS POINT CRANE





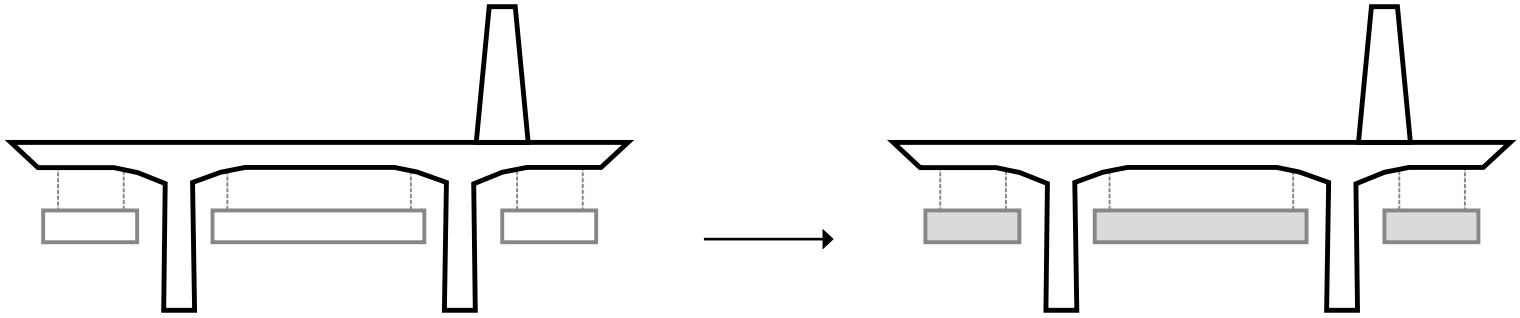


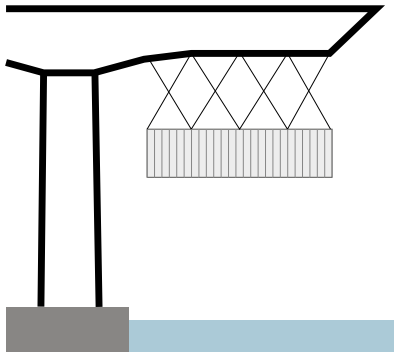


Volumes *Material*

What material is best to use?

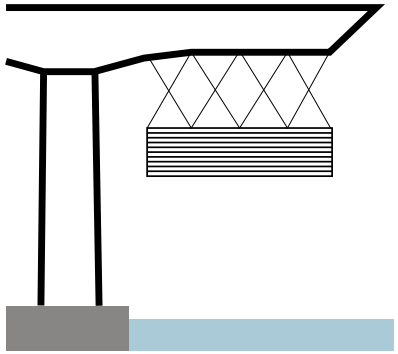
Characteristics of the shape		Consequences for the used material
Emphasizes the shape of the crane	→	*Clear form*
Complement the experience of the crane	→	*Surrealistic appearance*
Be easily recognized	→	*Contrast to steel*





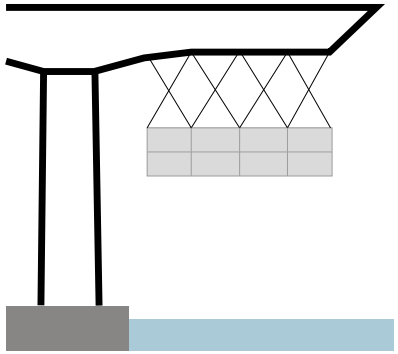
Polycarbonate
+ Contrast to crane and cables
+ Floating appearance
+ Lighting up at night
- Not a total clear volume (when using transparent views)

Sustainability
+ Recycle
+ Light
- More maintenance



Wooden slats
+ One clear volume
- Conflict with crane and cables
- Less magical appearance

Sustainability
+ Low maintenance
- Heavy



Glass with print
+ Contrast to crane and cables
+ Lighting up at night
- Not a total clear volume (when using transparent views)

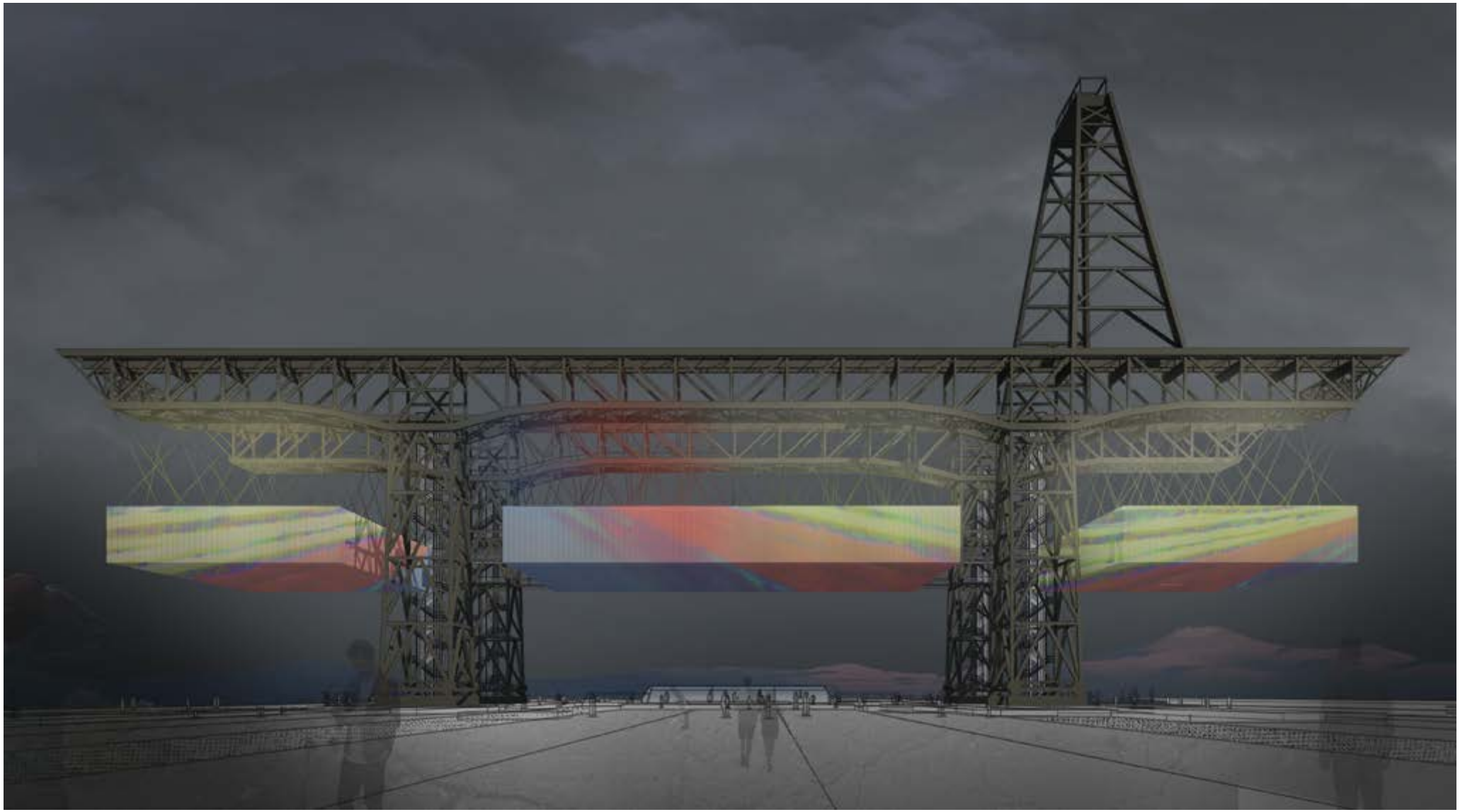
Sustainability
+ Low maintenance
- Heavy

Fondazione Prada, OMA

Inside

Outside

Inside

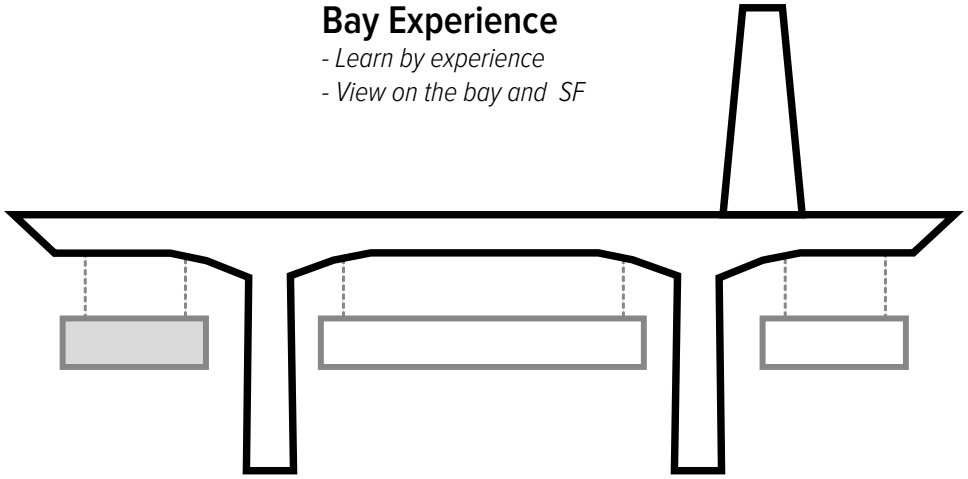


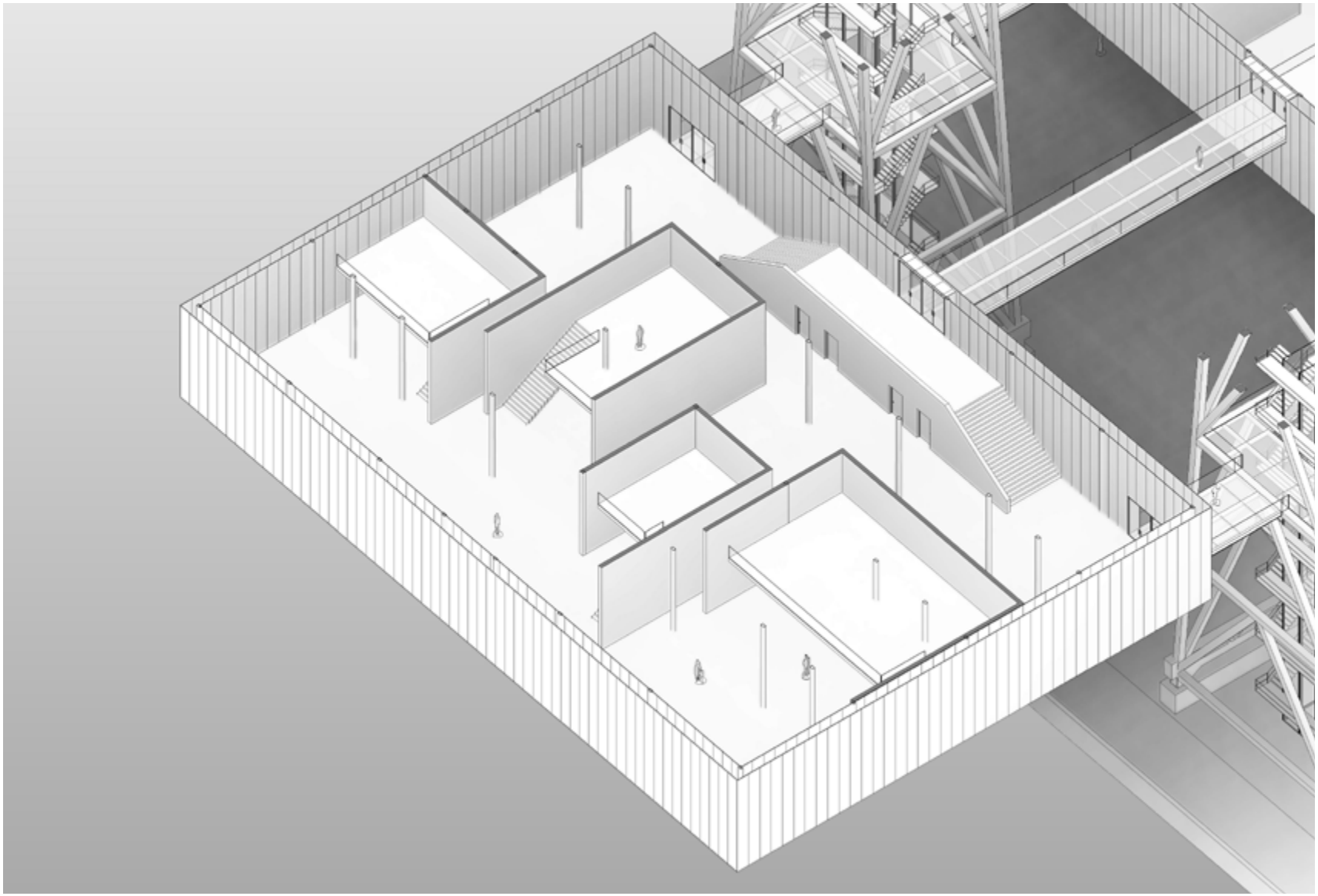
Volumes *Internal experience*

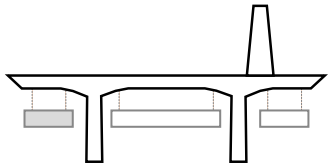
Bezoekers stromen

Bay Experience

- Learn by experience
- View on the bay and SF

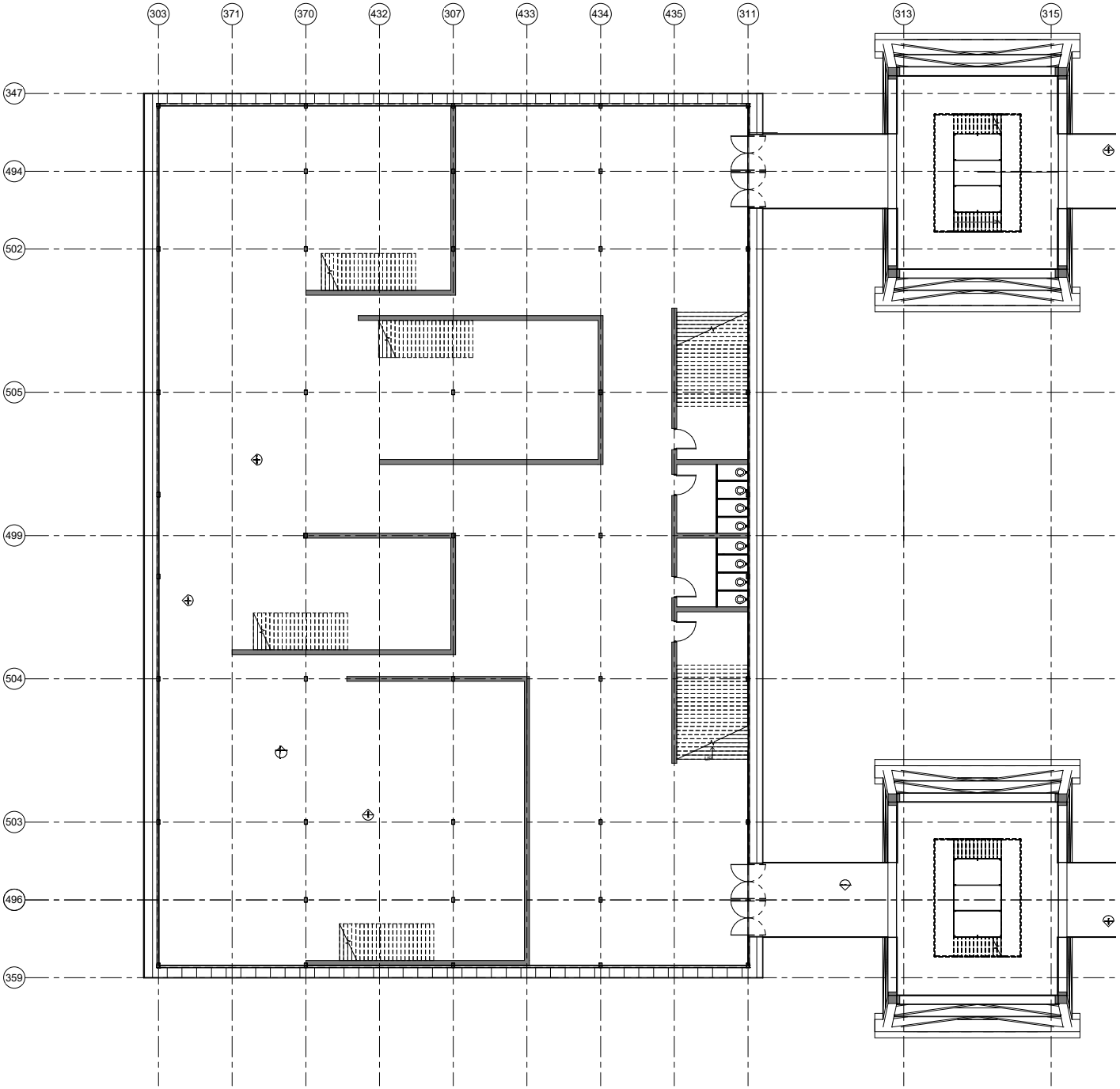


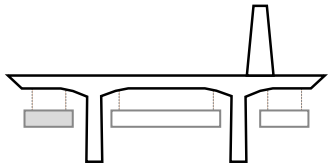




Bay Experience

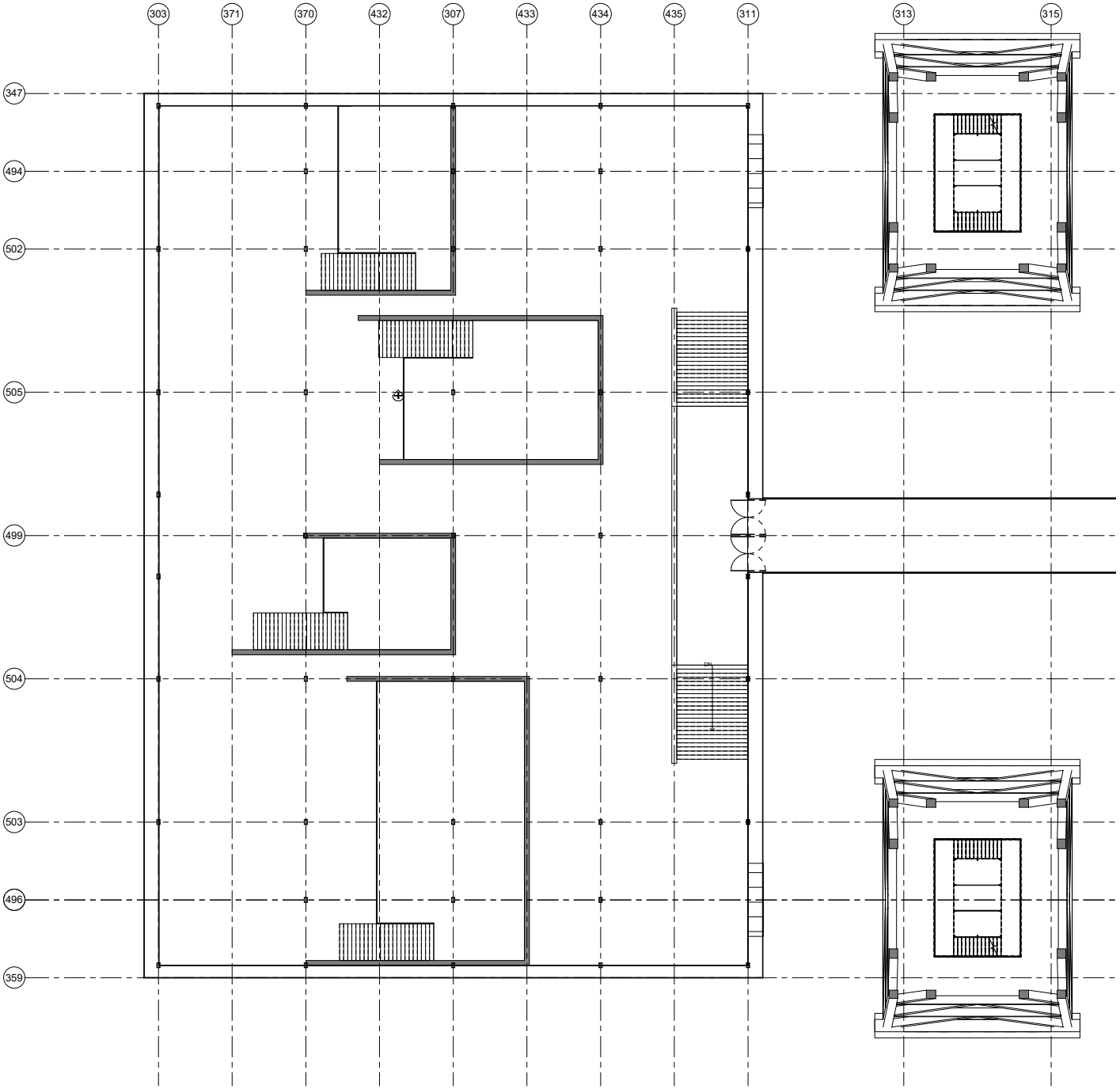
- Learn by experience
- View on the bay and SF

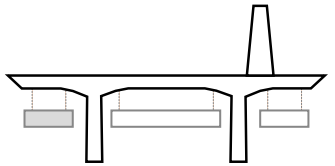




Bay Experience

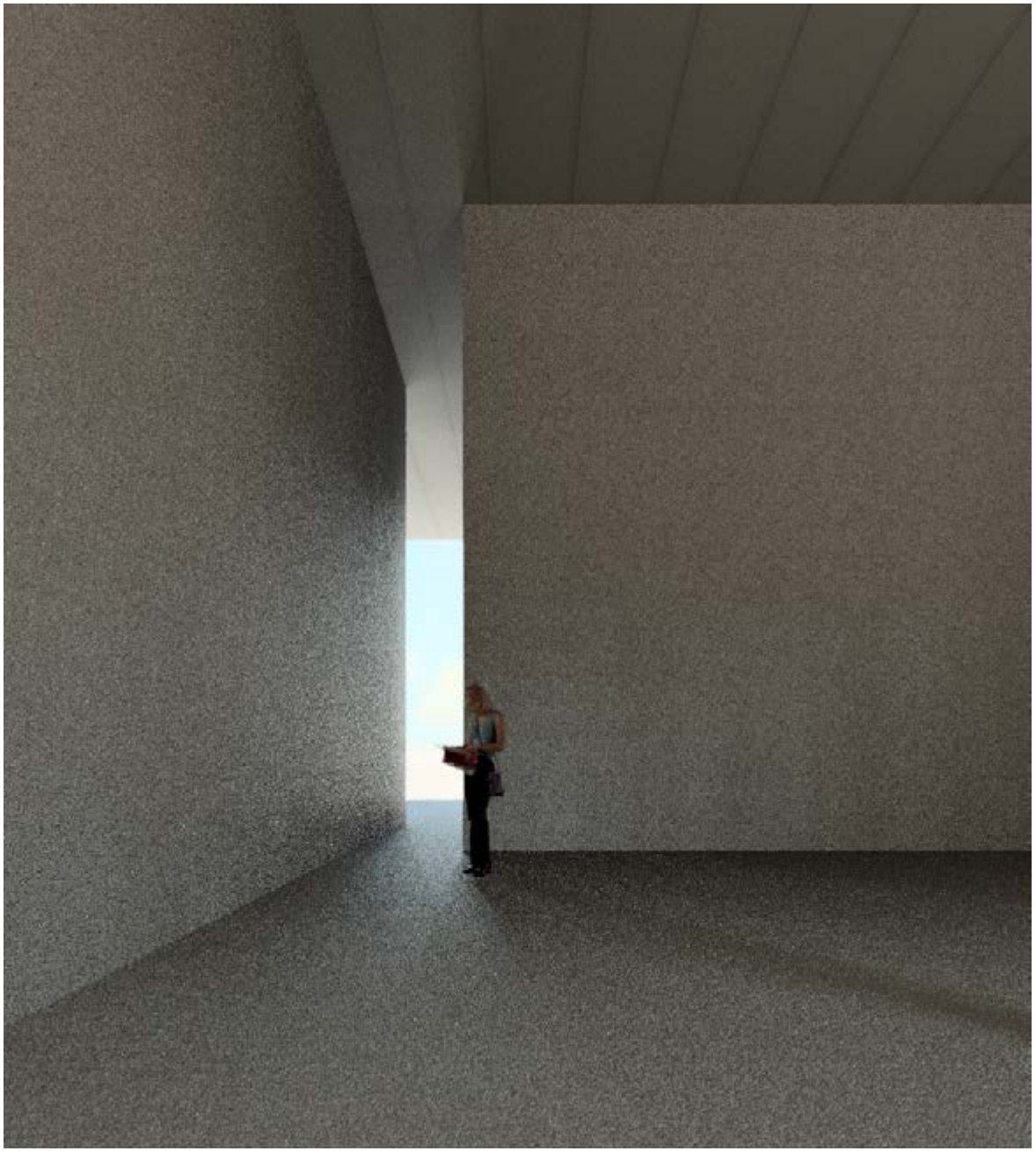
- Learn by experience
- View on the bay and SF





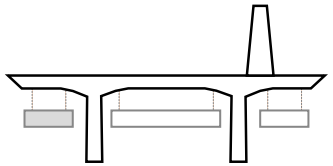
Bay Experience

- Learn by experience
- View on the bay and SF



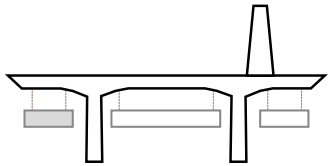
Bay Experience

- Learn by experience
- View on the bay and SF



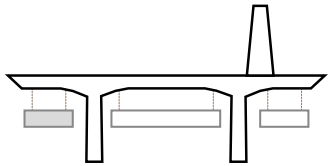
Bay Experience

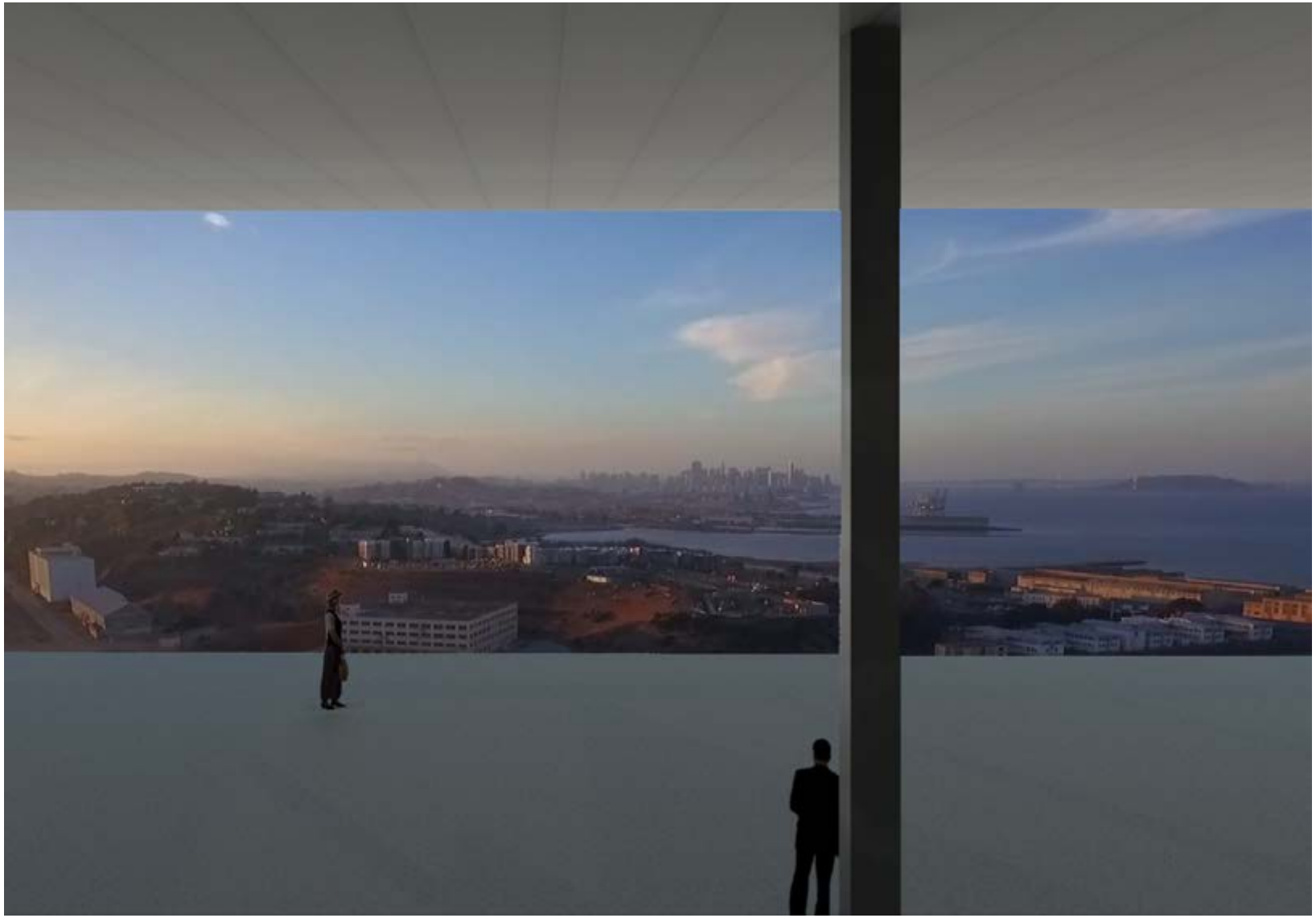
- Learn by experience
- View on the bay and SF



Bay Experience

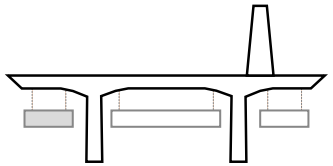
- Learn by experience
- View on the bay and SF

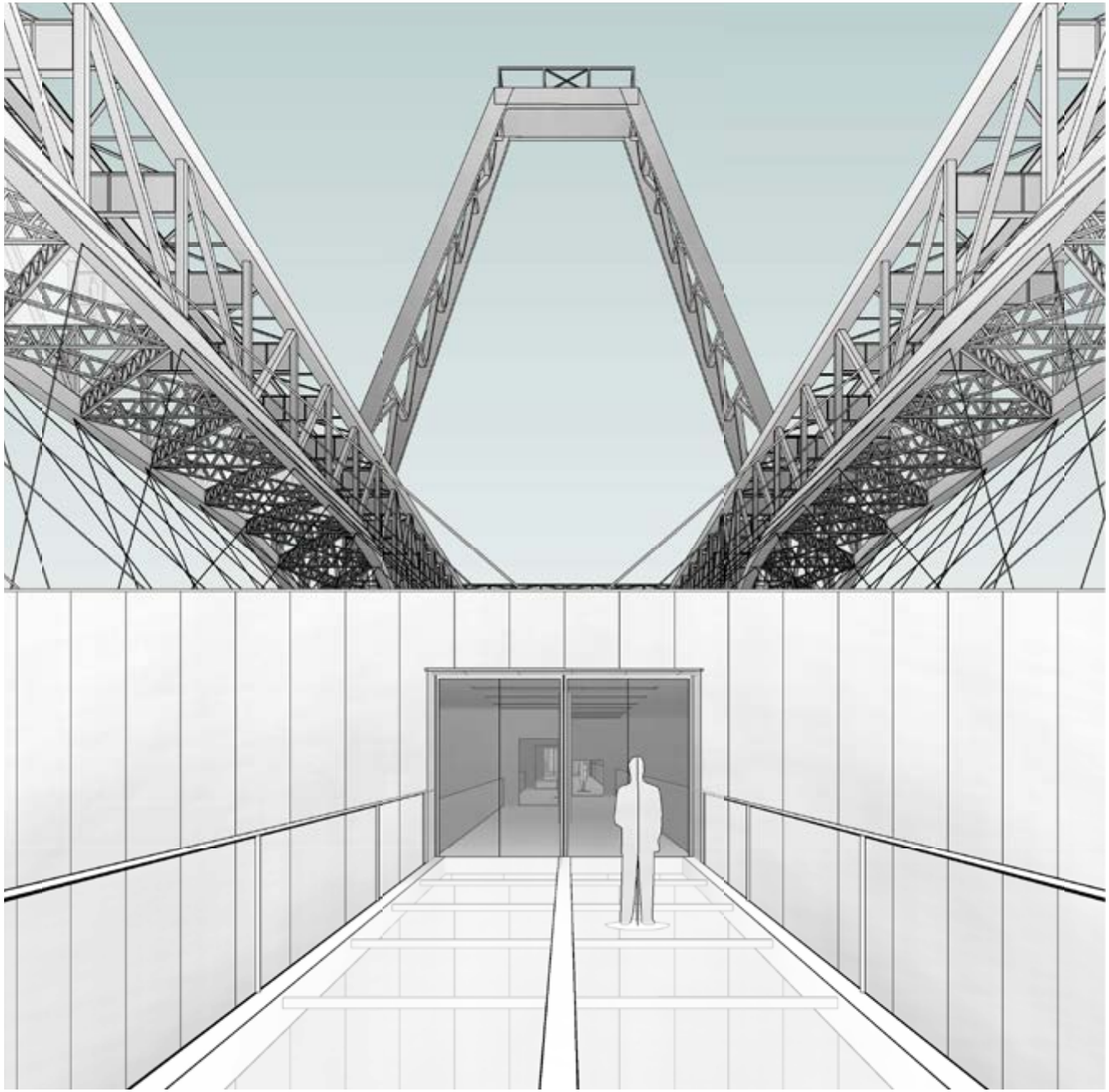


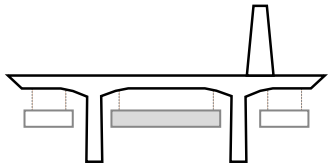


Bay Experience

- Learn by experience
- View on the bay and SF





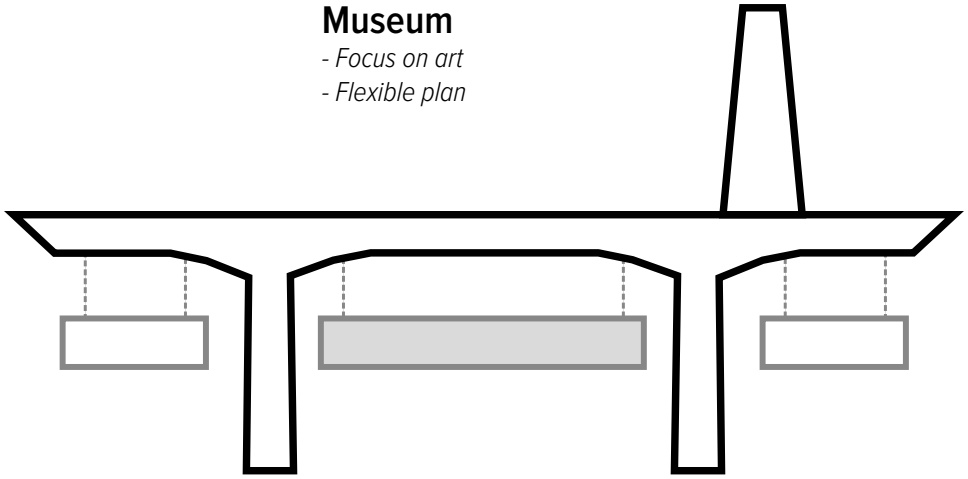


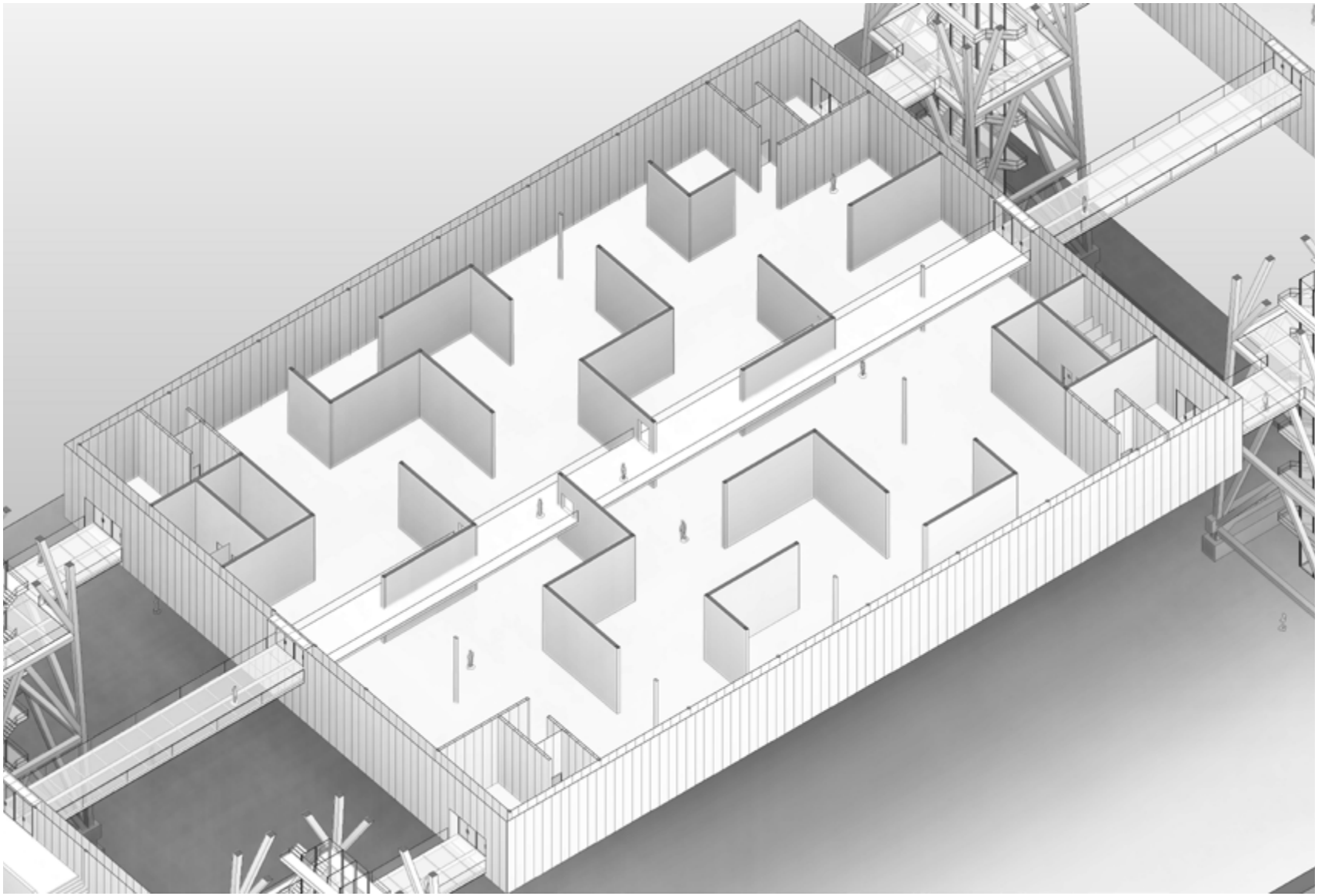
Museum

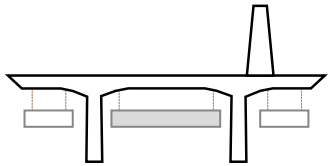
- Focus on art
- Flexible plan

Museum

- Focus on art
- Flexible plan







Museum

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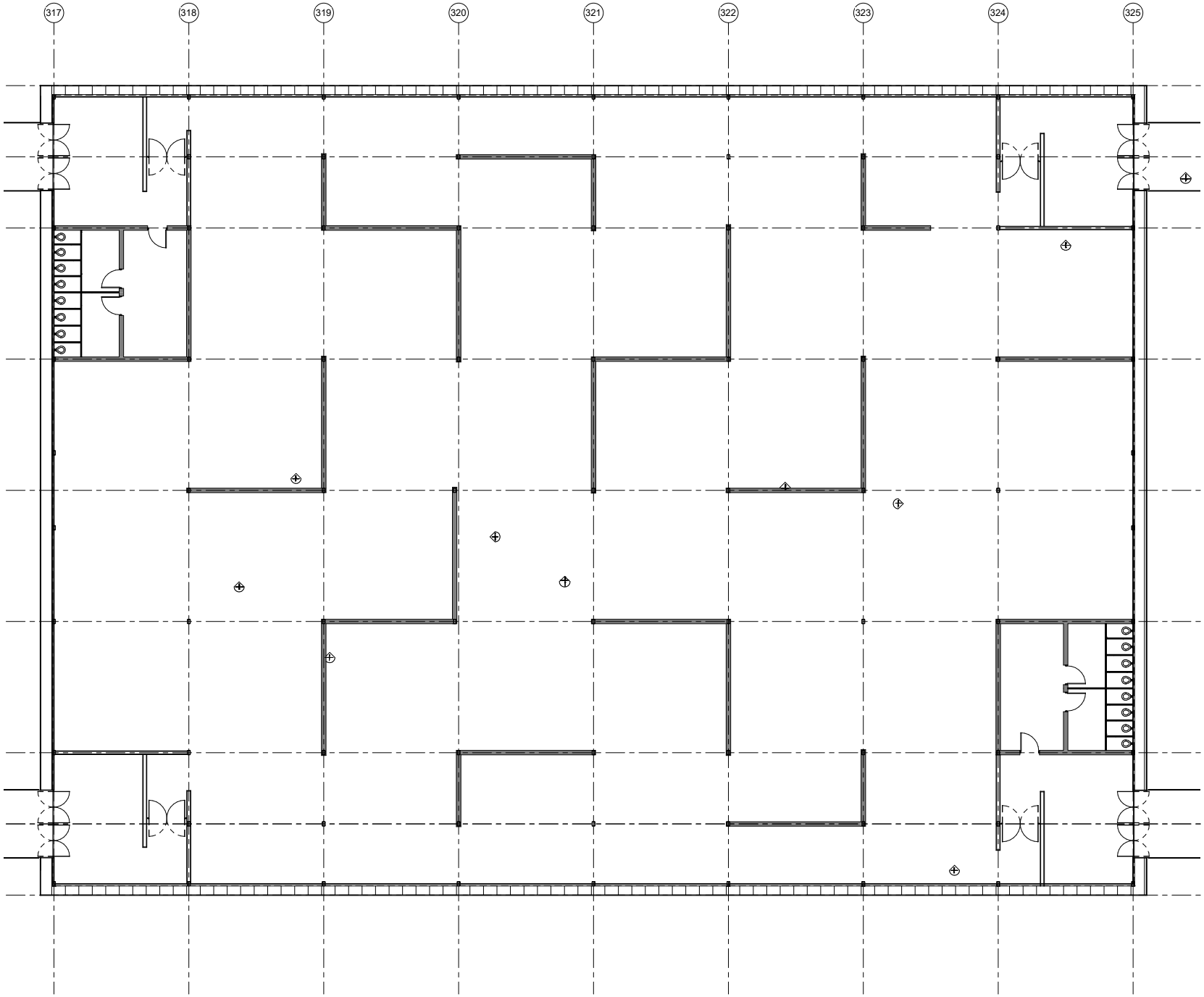
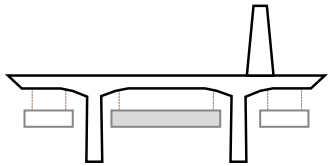
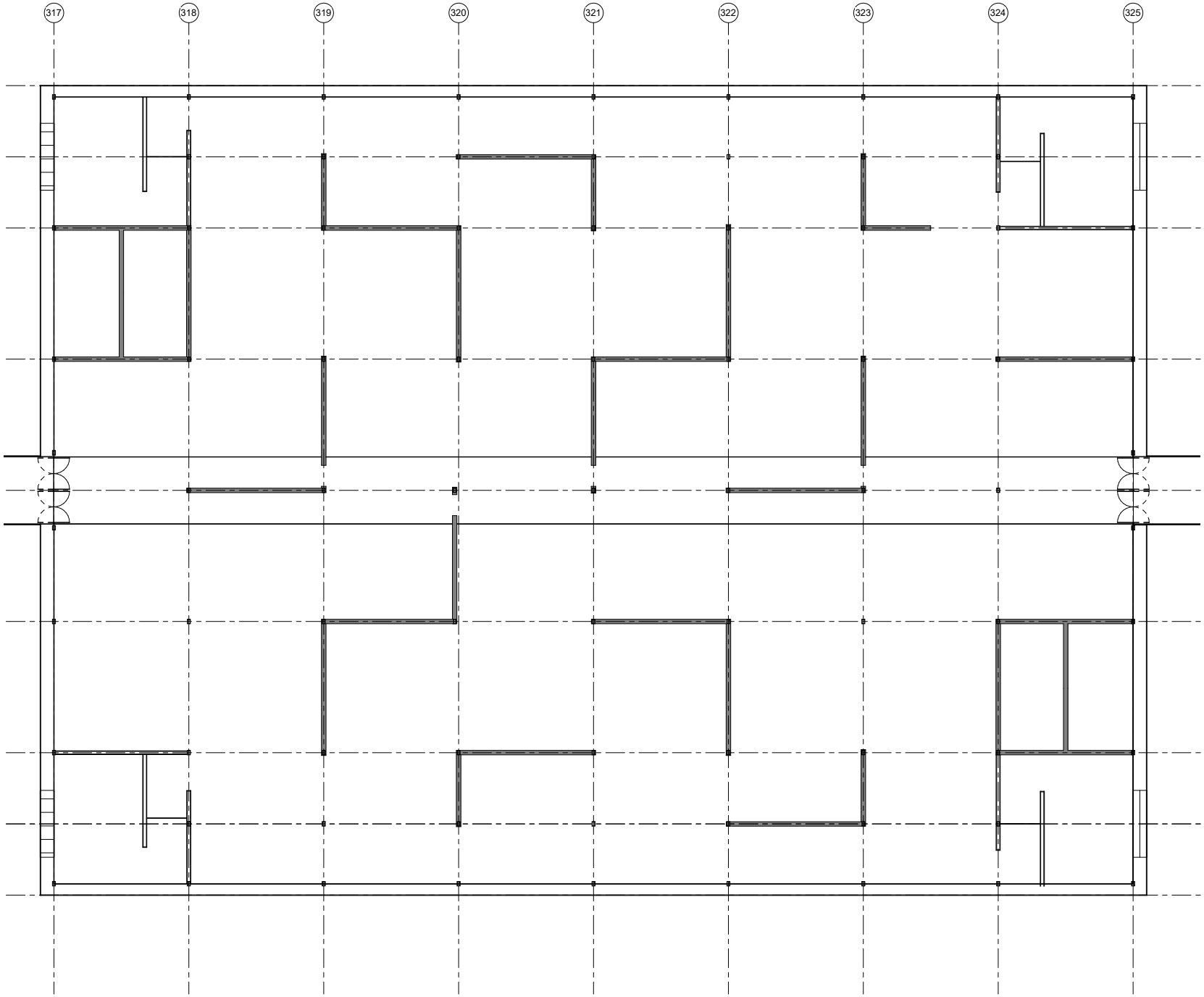
- Flexible plan

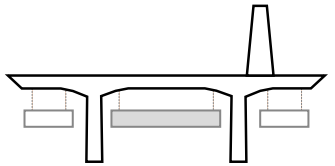




Museum

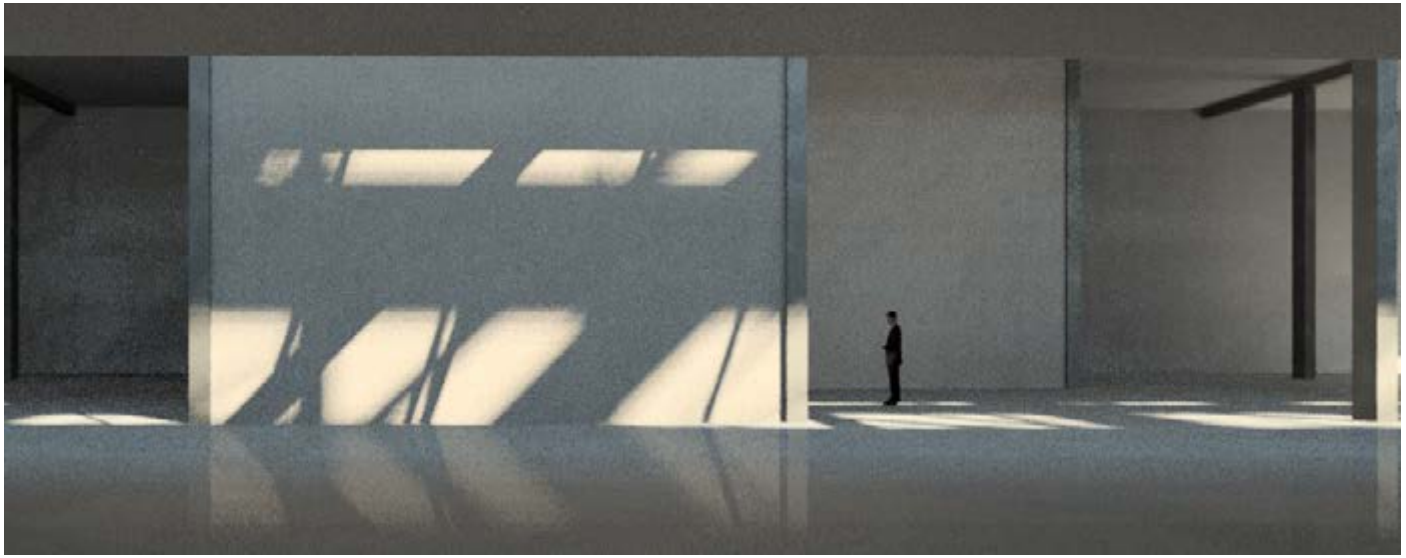
- Focus on art
- Flexible plan

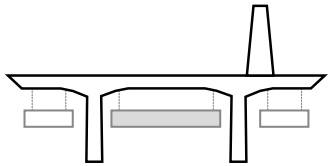




Museum

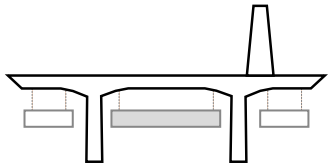
- Focus on art
- Flexible plan

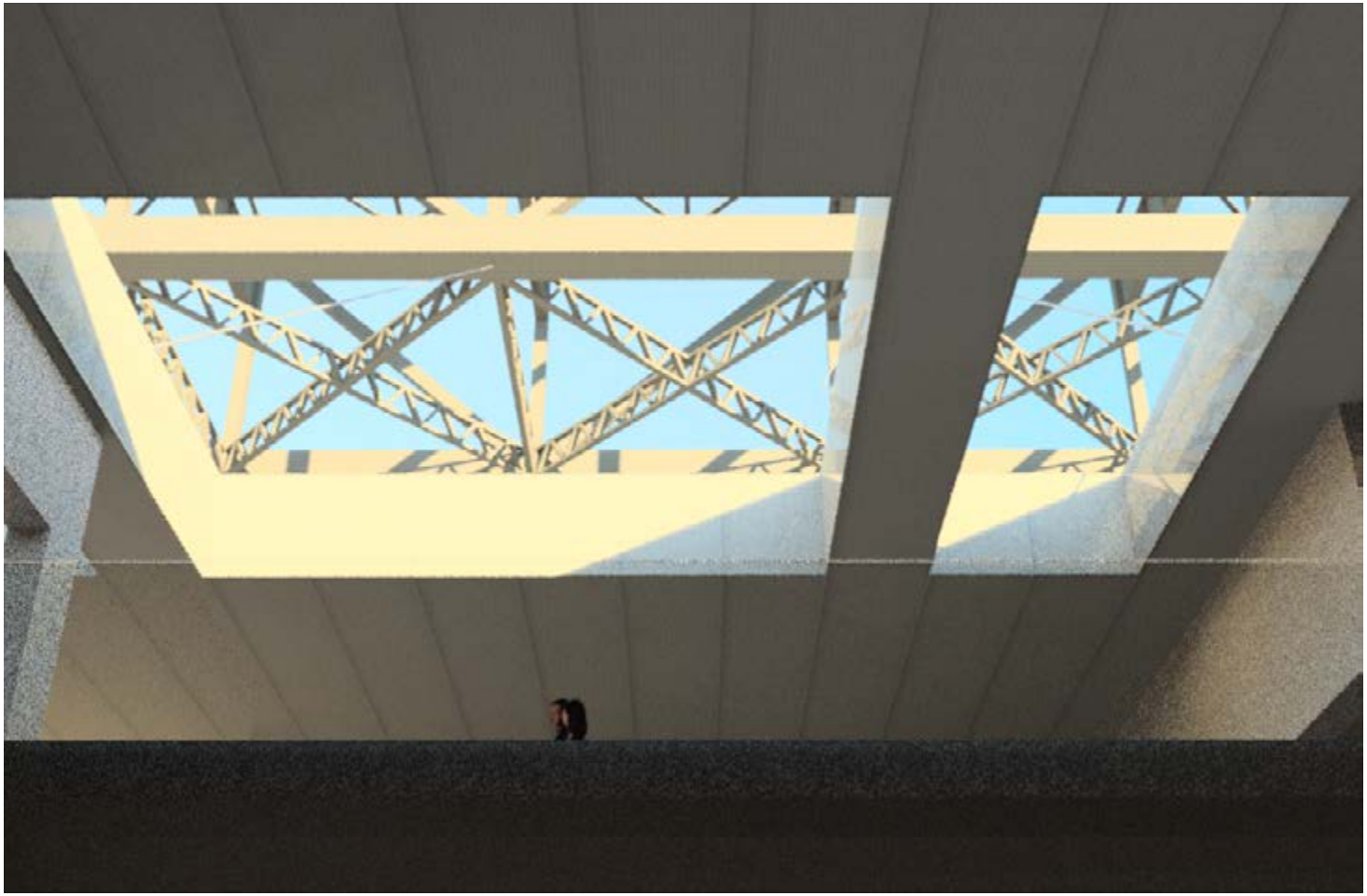




Museum

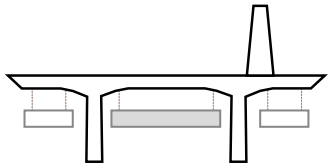
- Focus on art
- Flexible plan

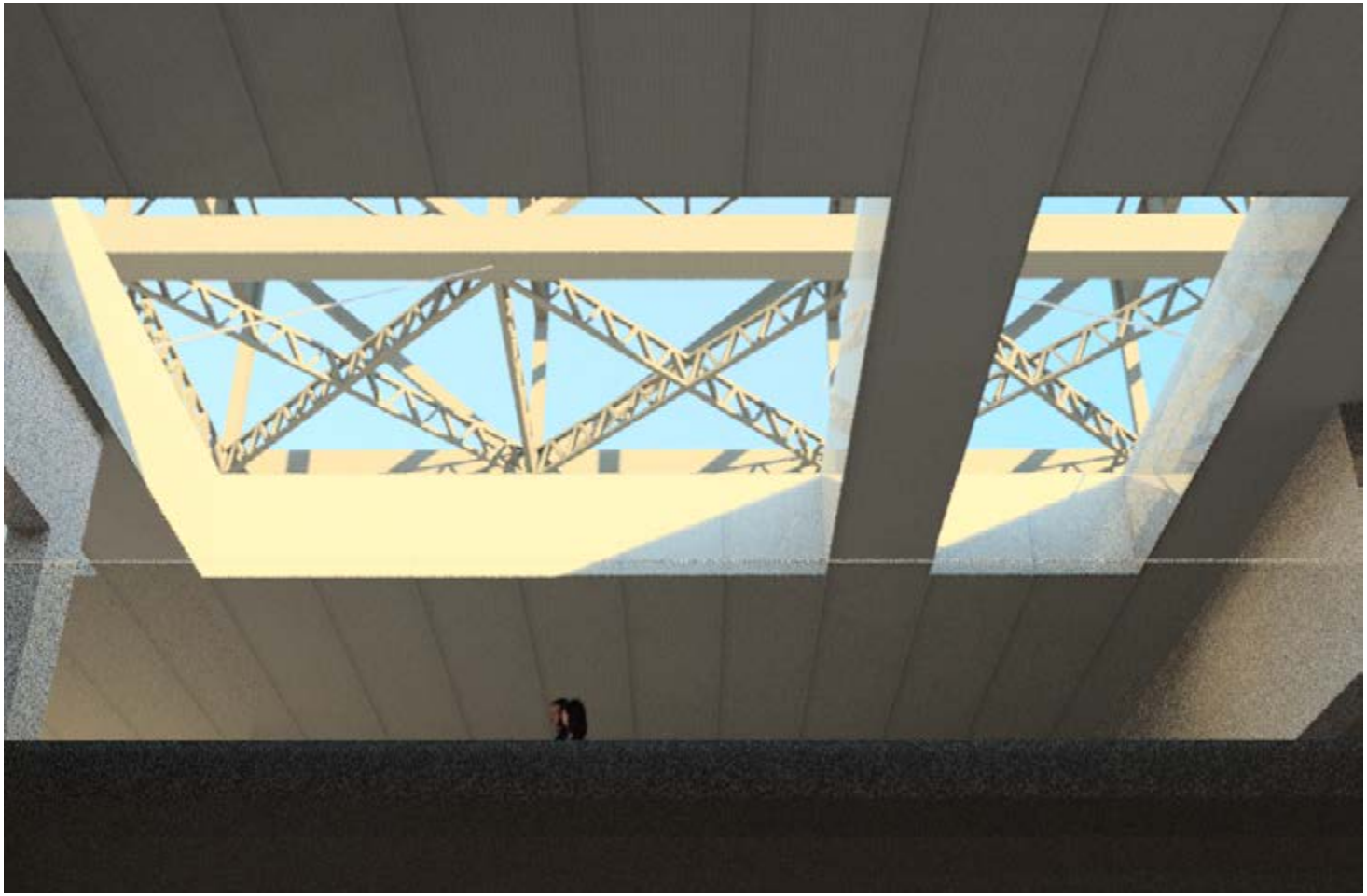




Museum

- Focus on art
- Flexible plan



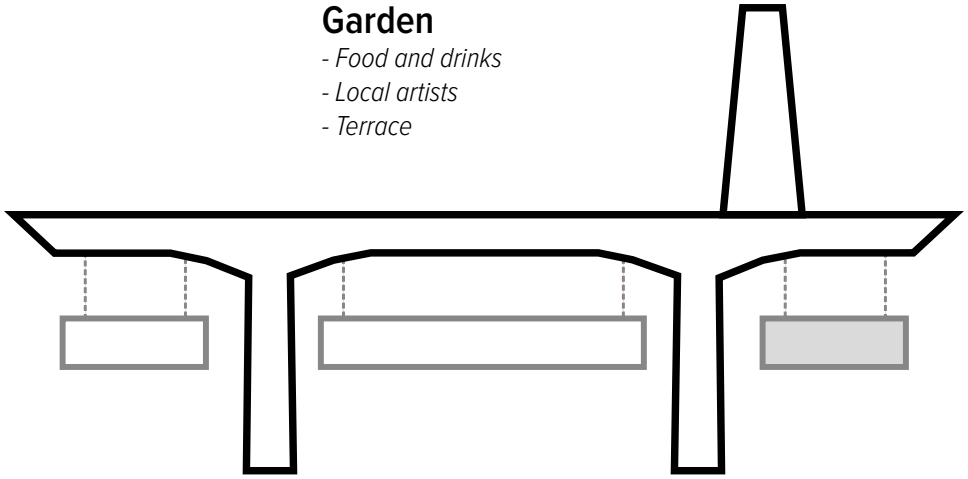


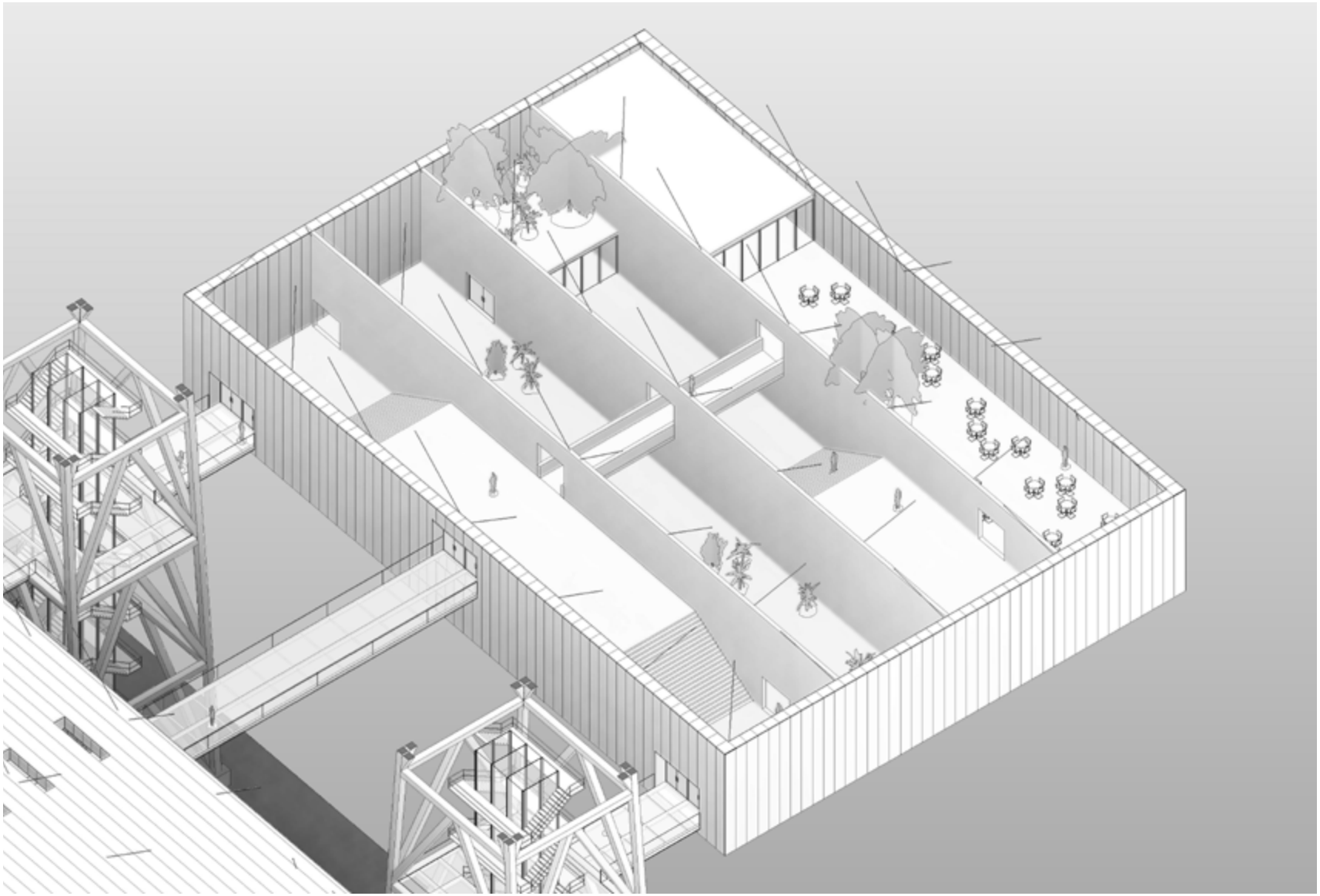
Museum

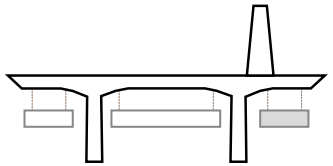
- Focus on art
- Flexible plan

Garden

- Food and drinks
- Local artists
- Terrace

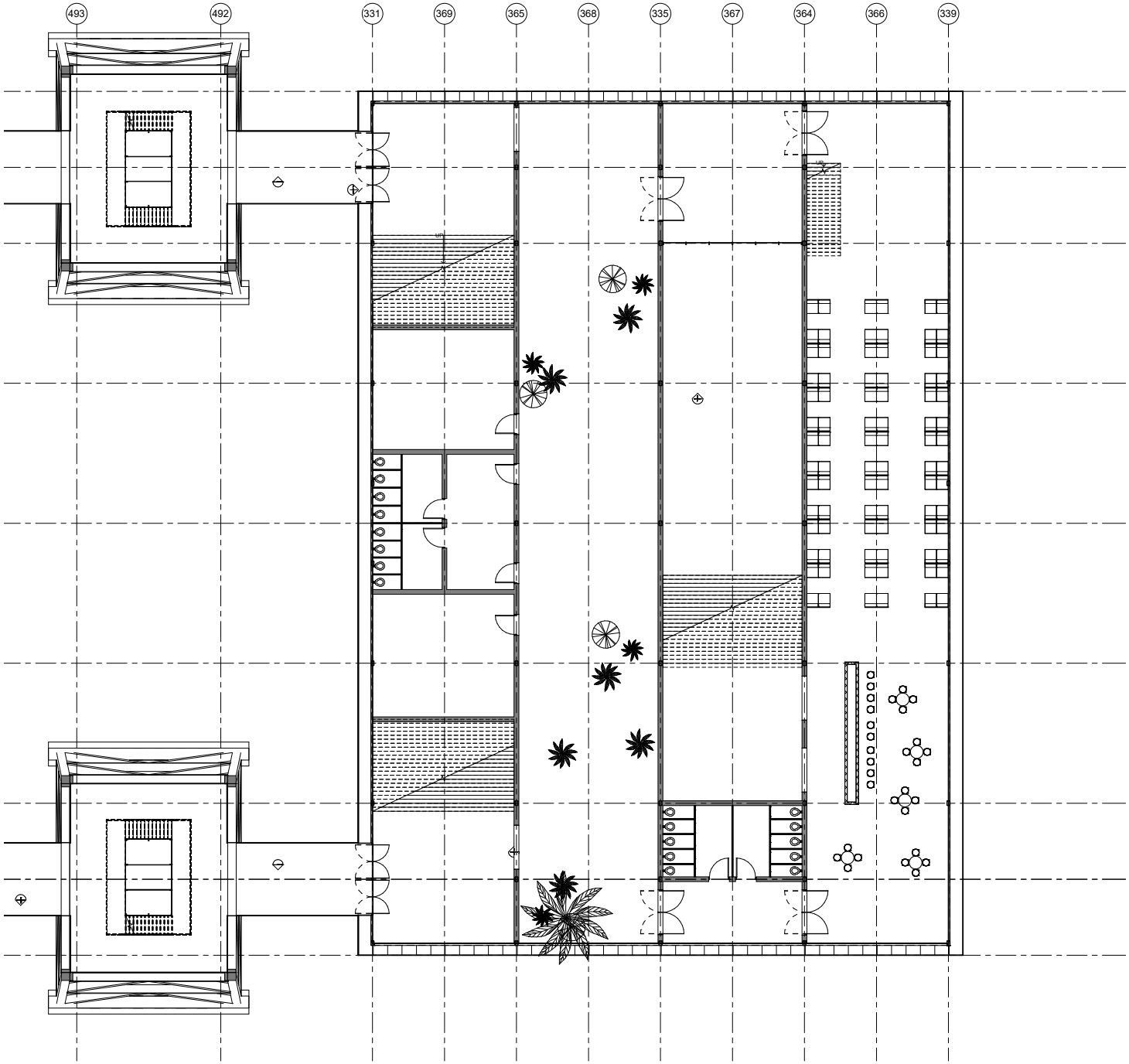


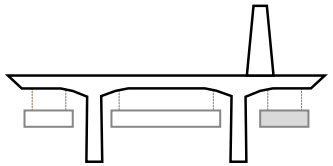




Garden

- Food and drinks
- Art garden
- Terrace





Garden

- Food and drinks
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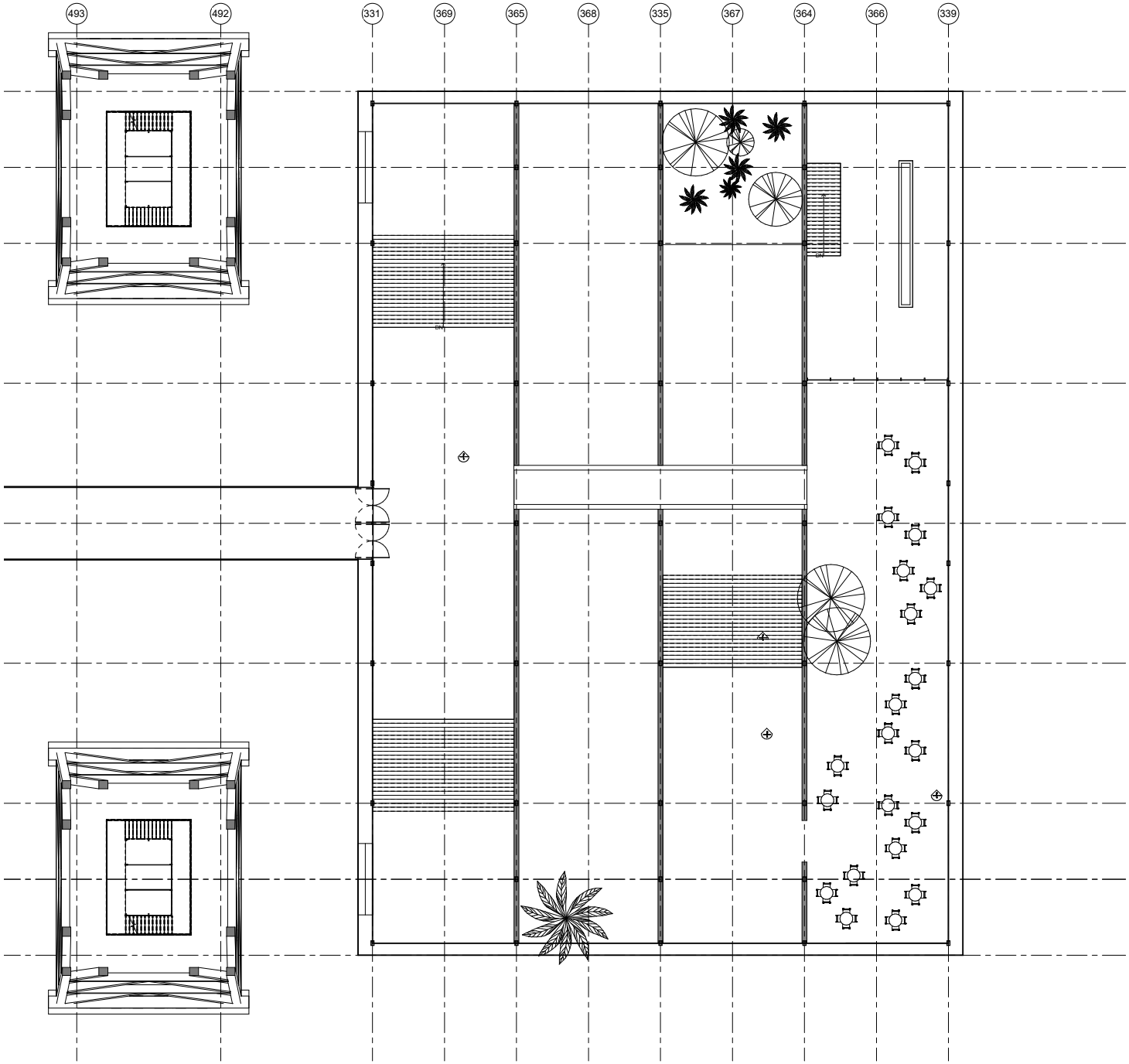

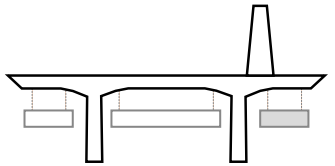

Garden

- Food and drinks
- Art garden
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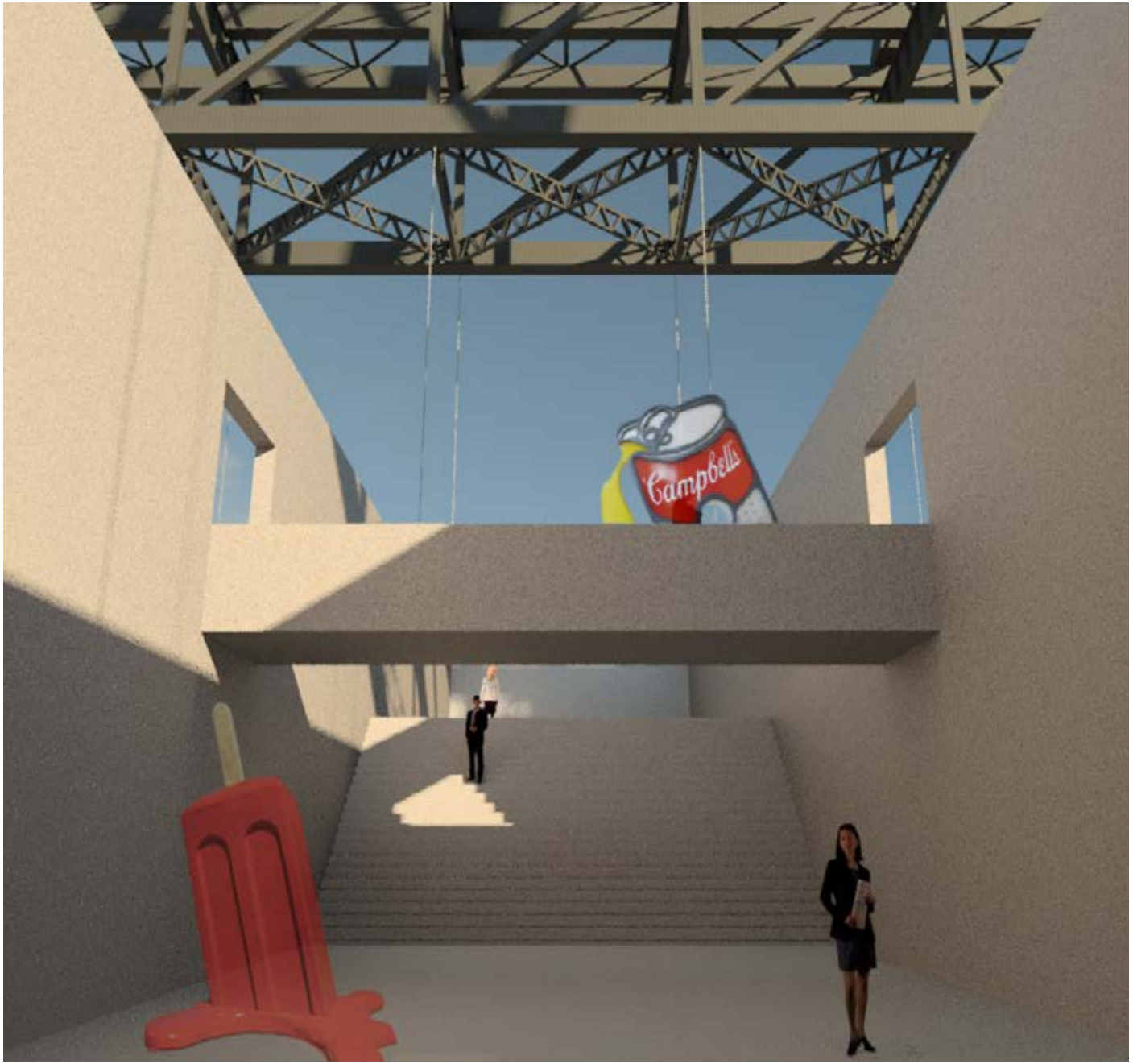
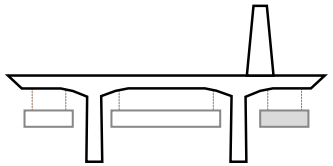
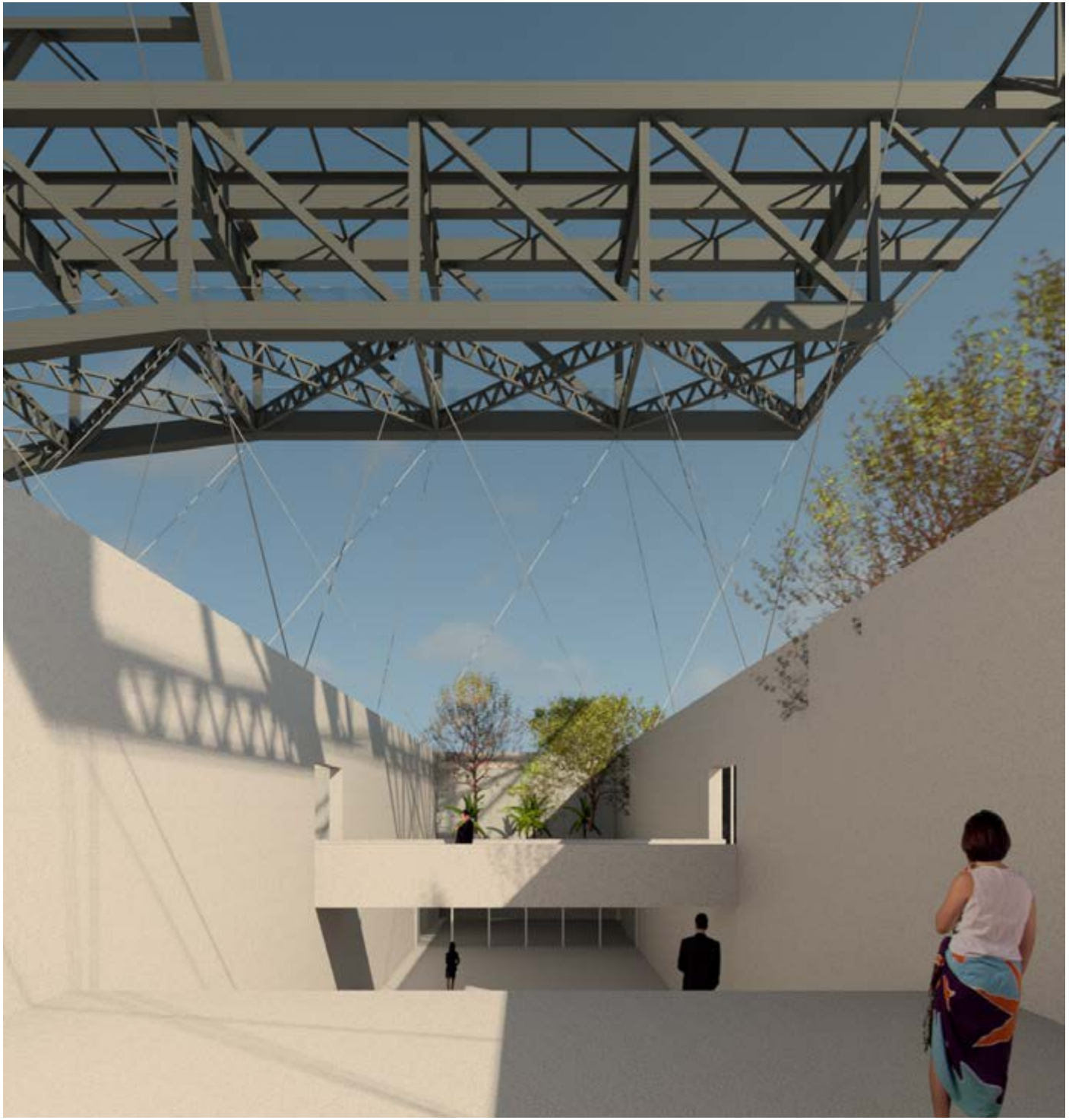
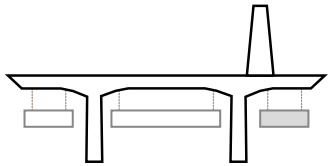




Garden

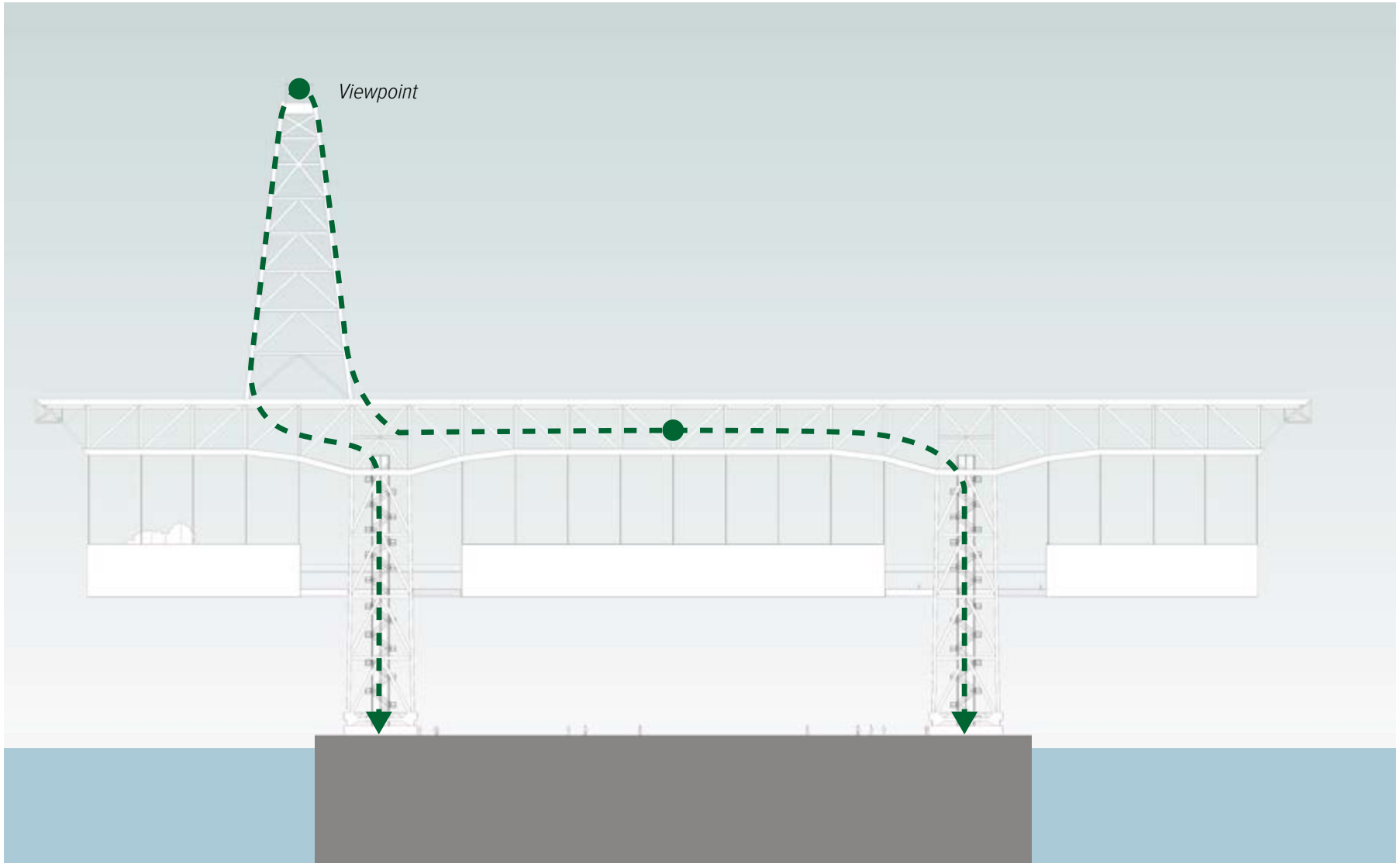
- Food and drinks
- Art garden
- Terrace

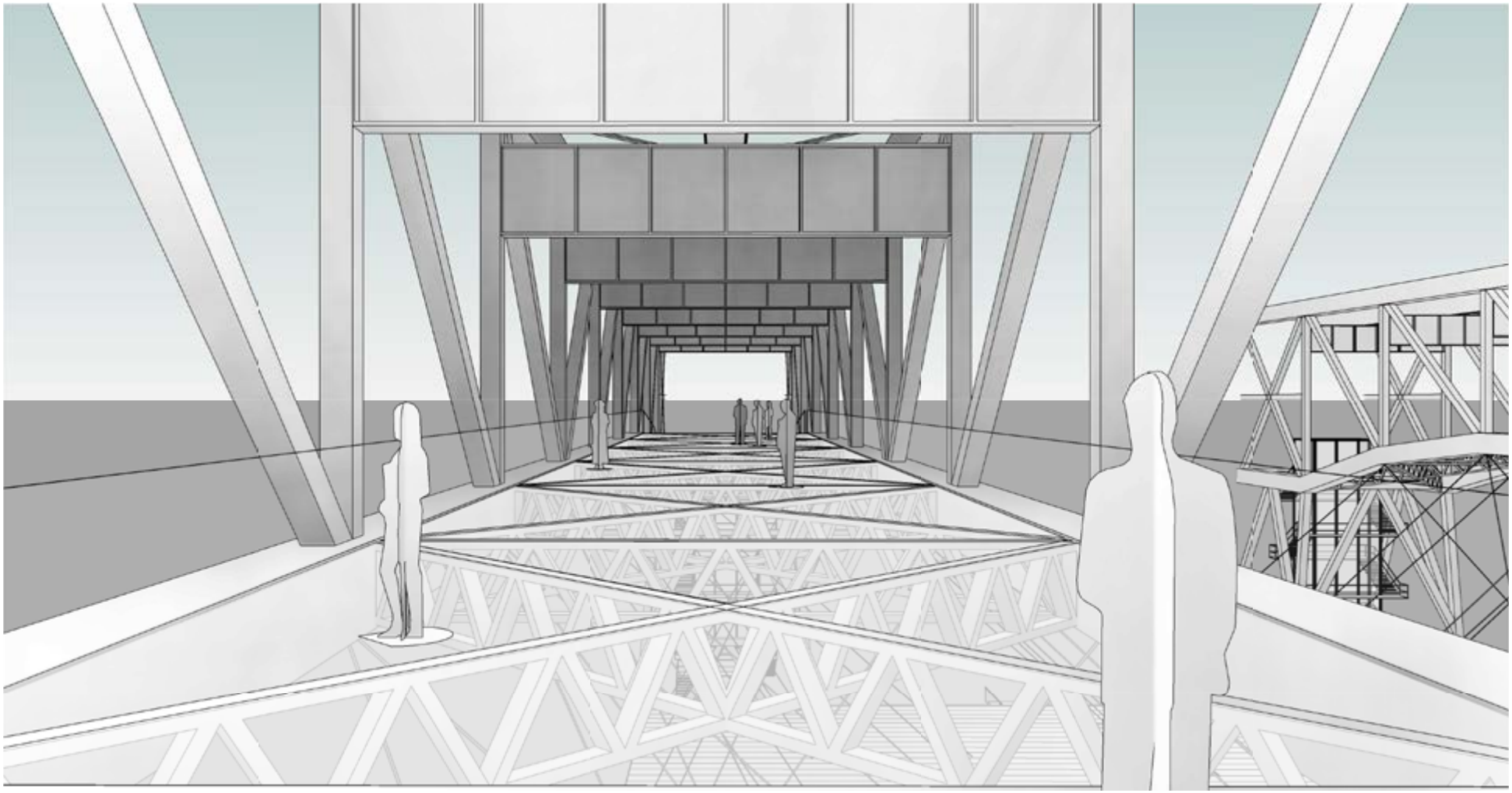


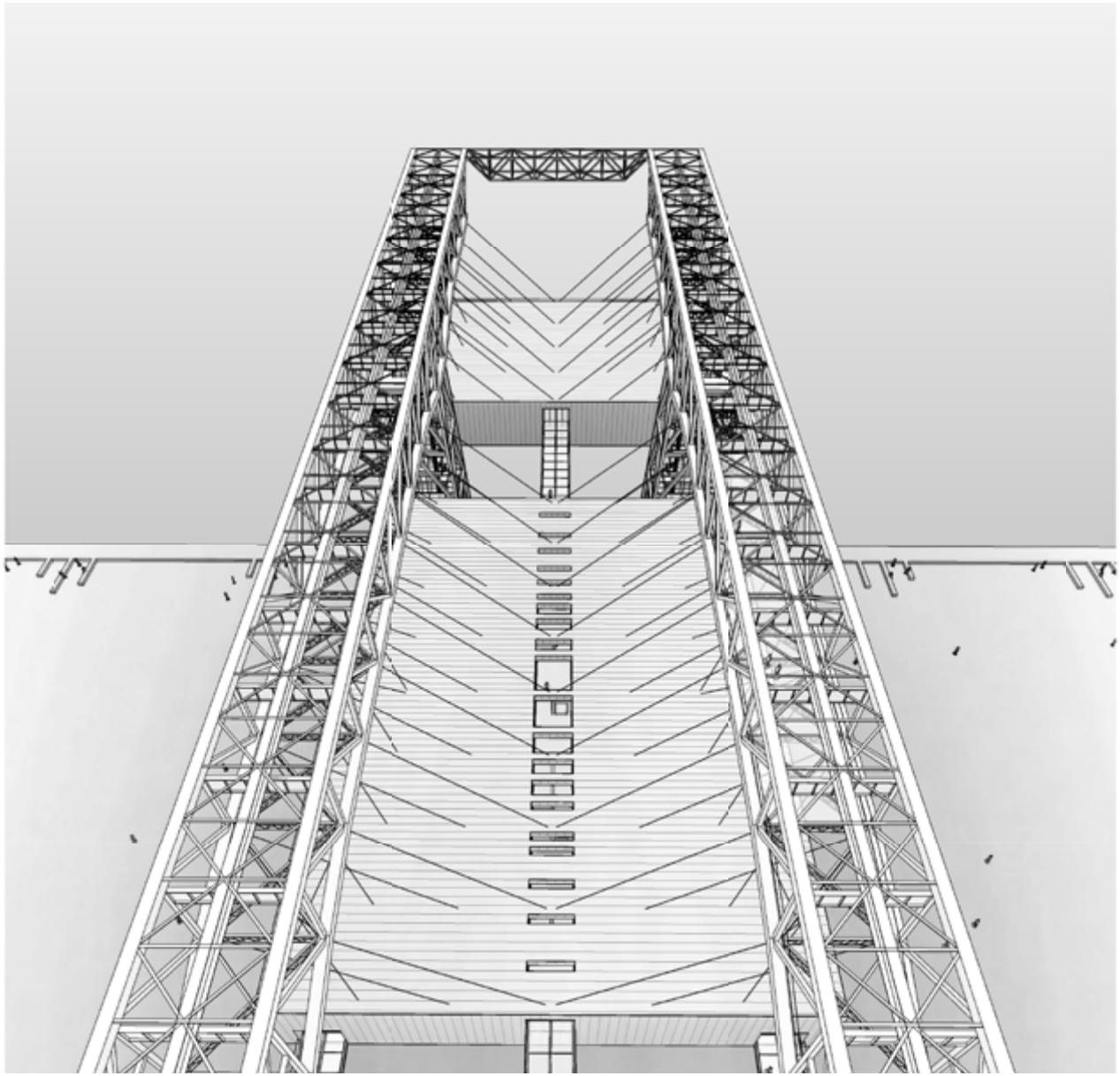


Garden

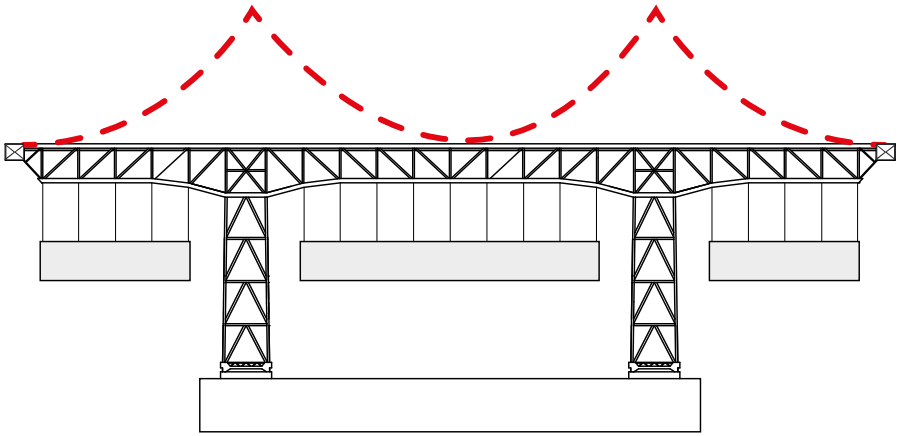
- Food and drinks
- Art garden
- Terrace

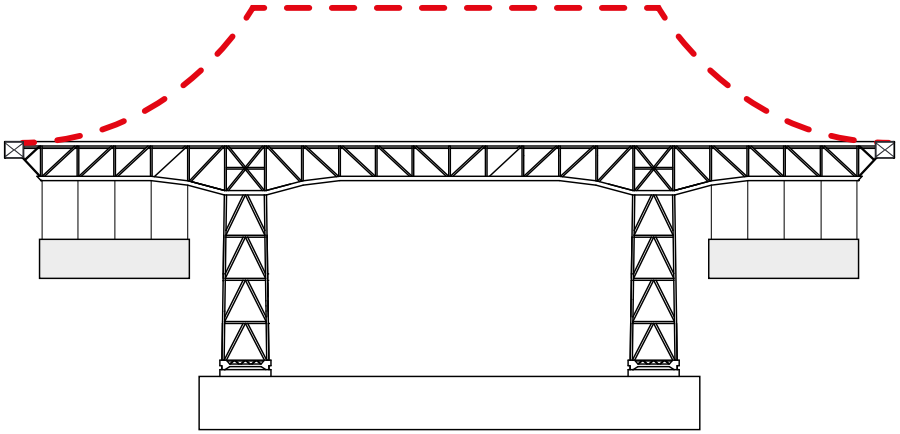

Viewpoint

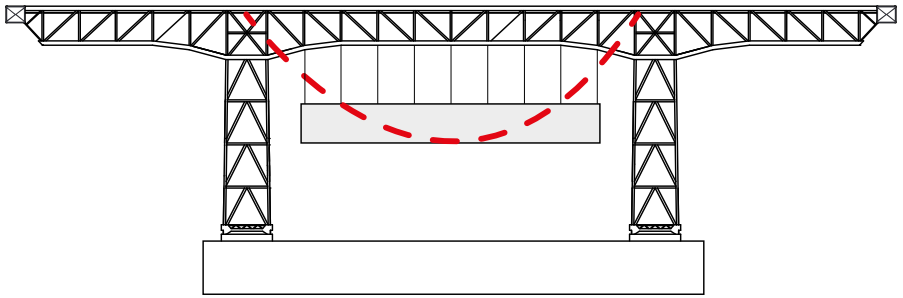


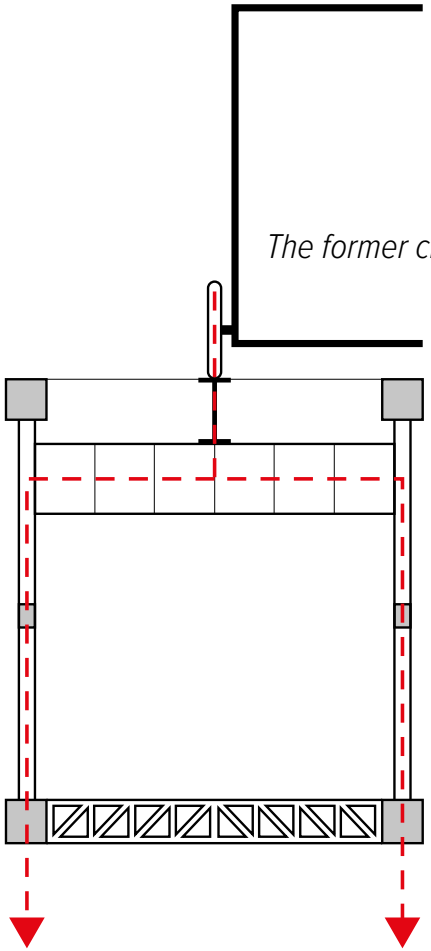


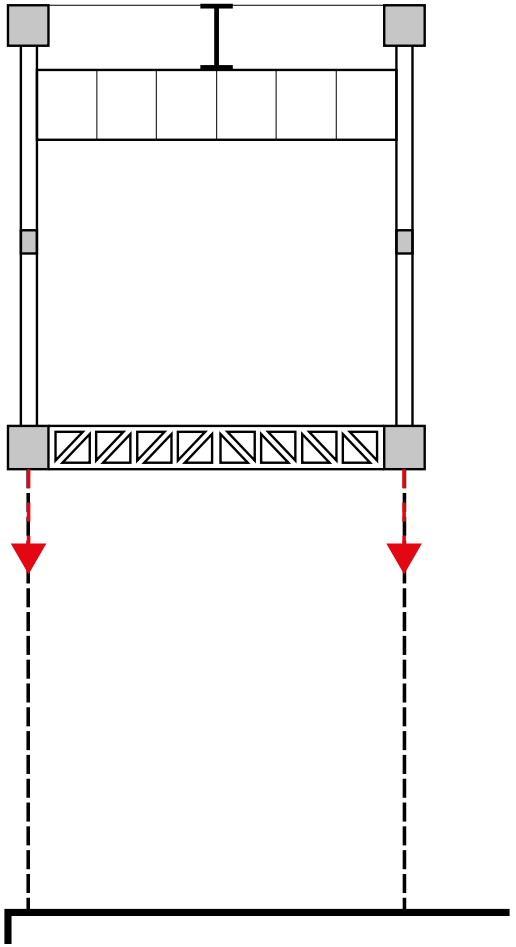
Technology *Construction*

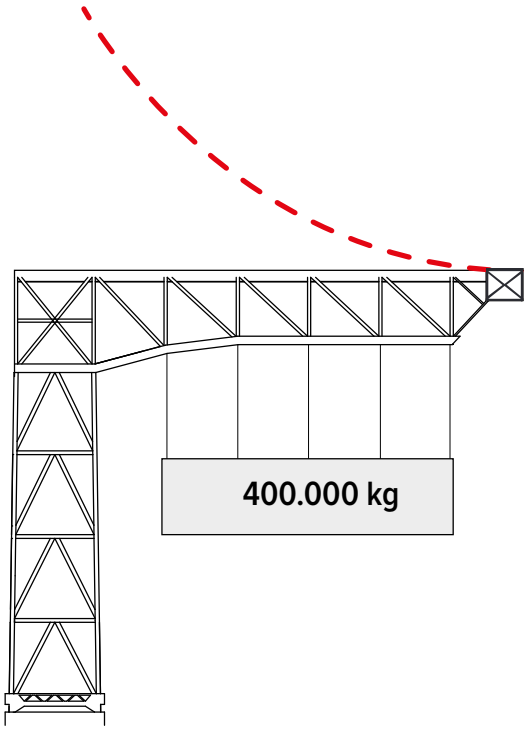


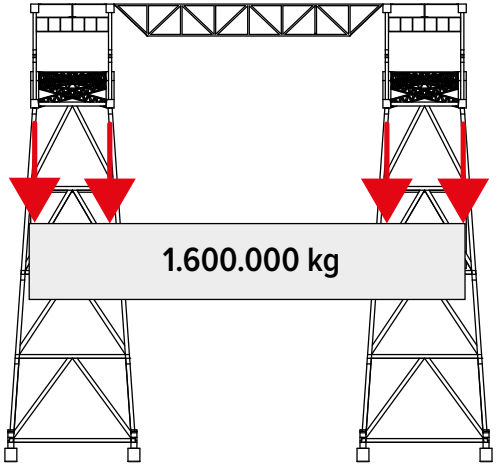


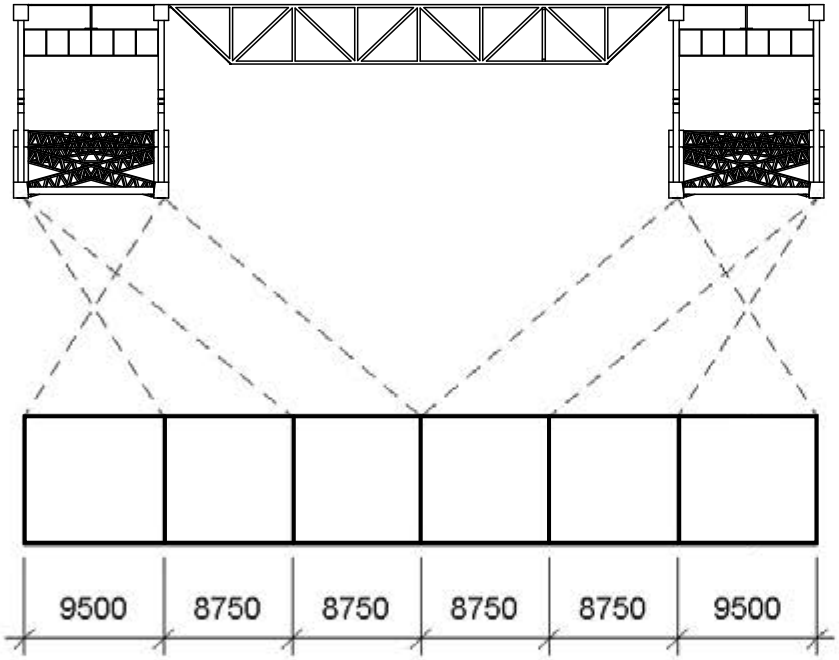


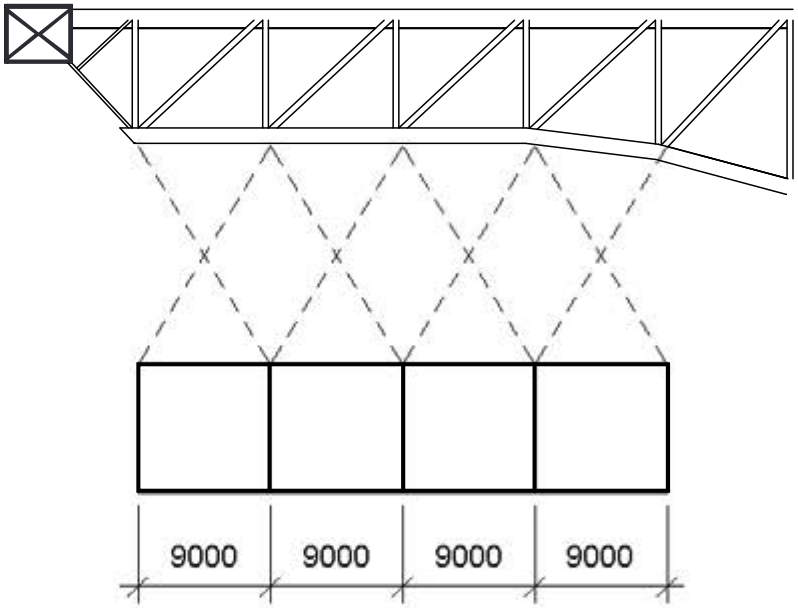

The former crane

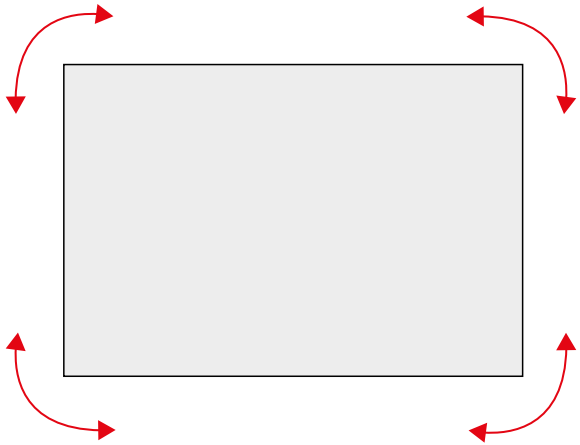

New situation


400.000 kg

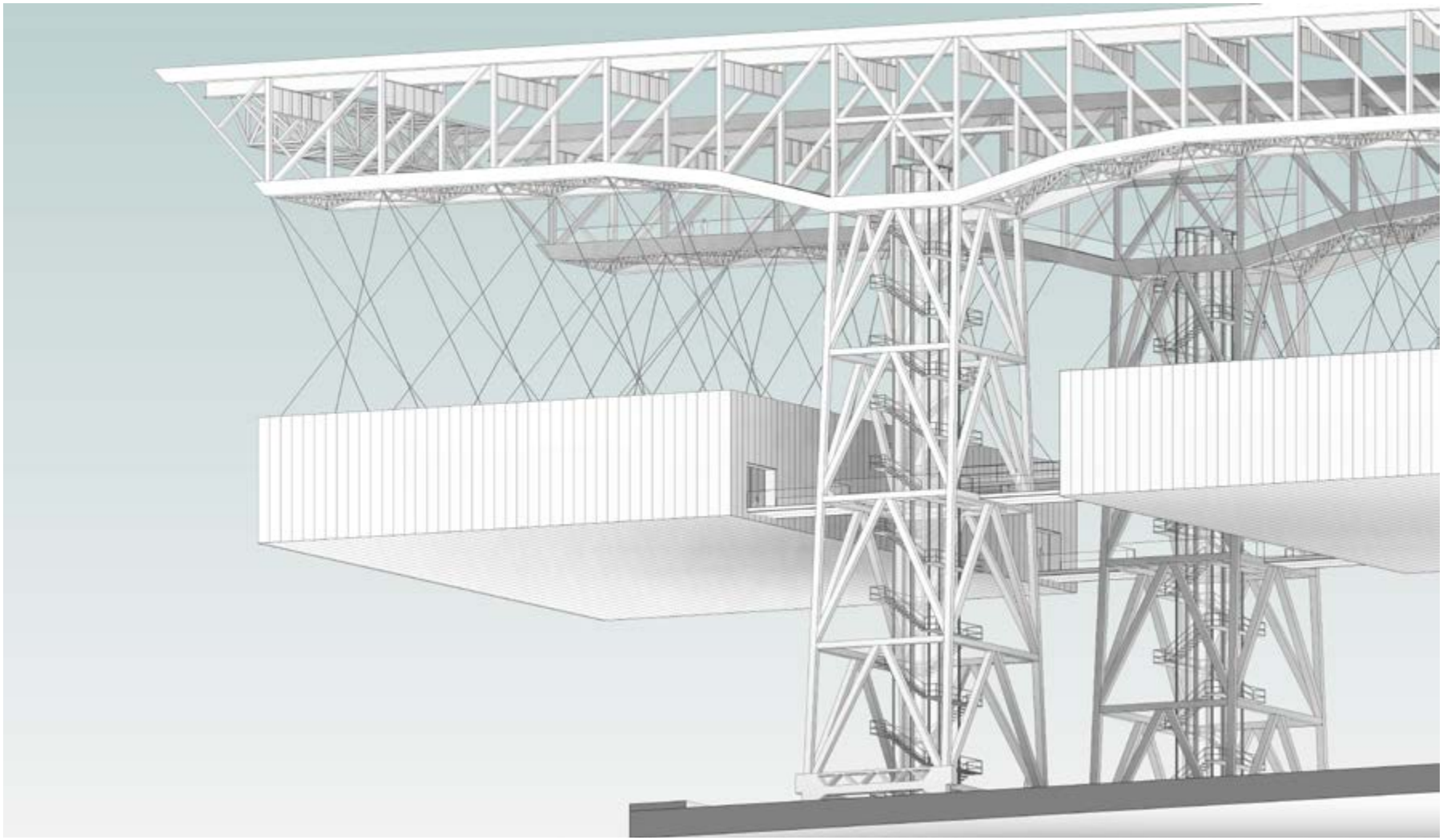

1.600.000 kg

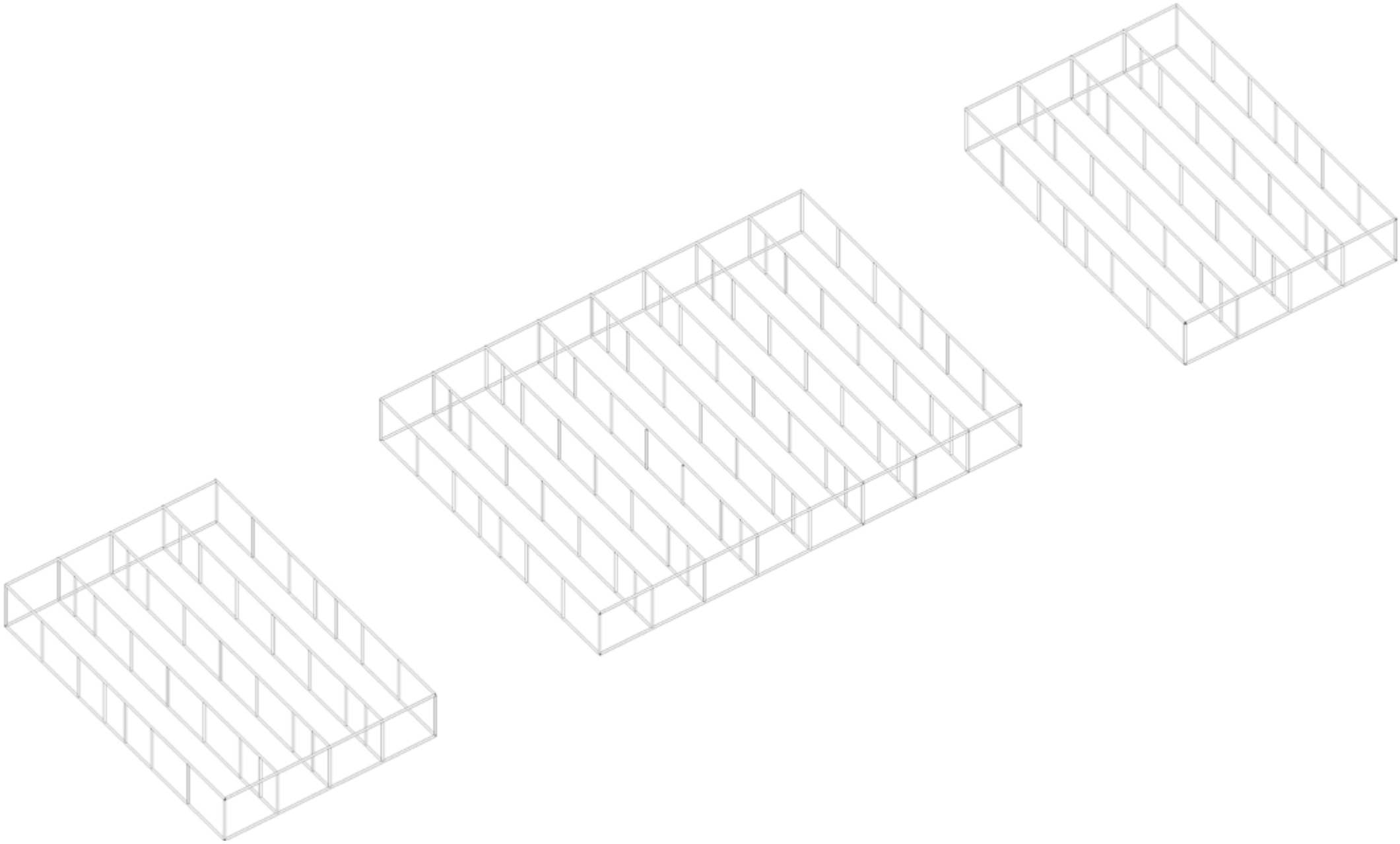


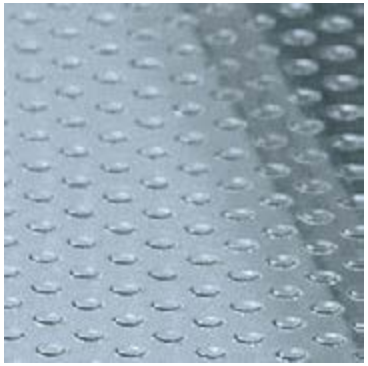


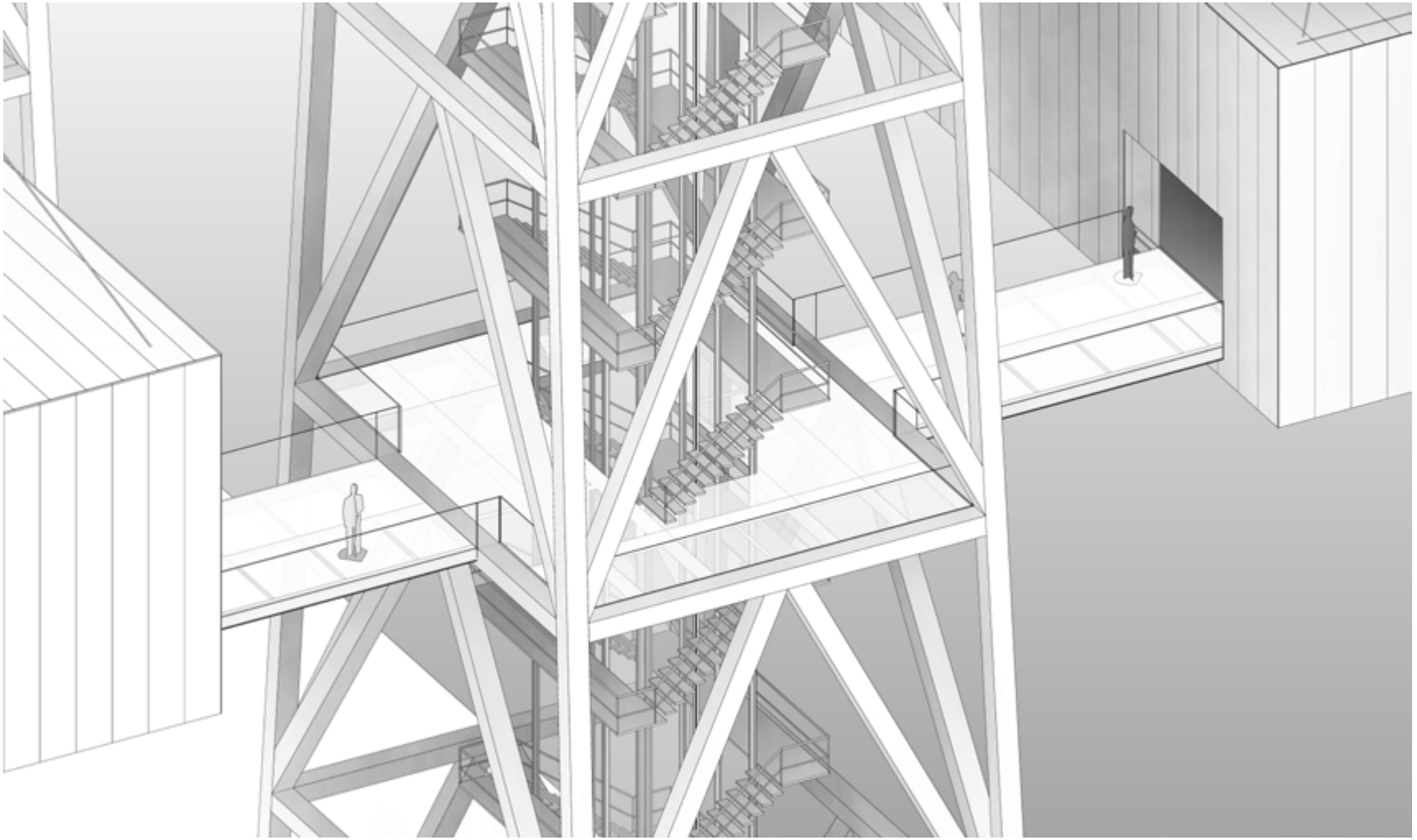


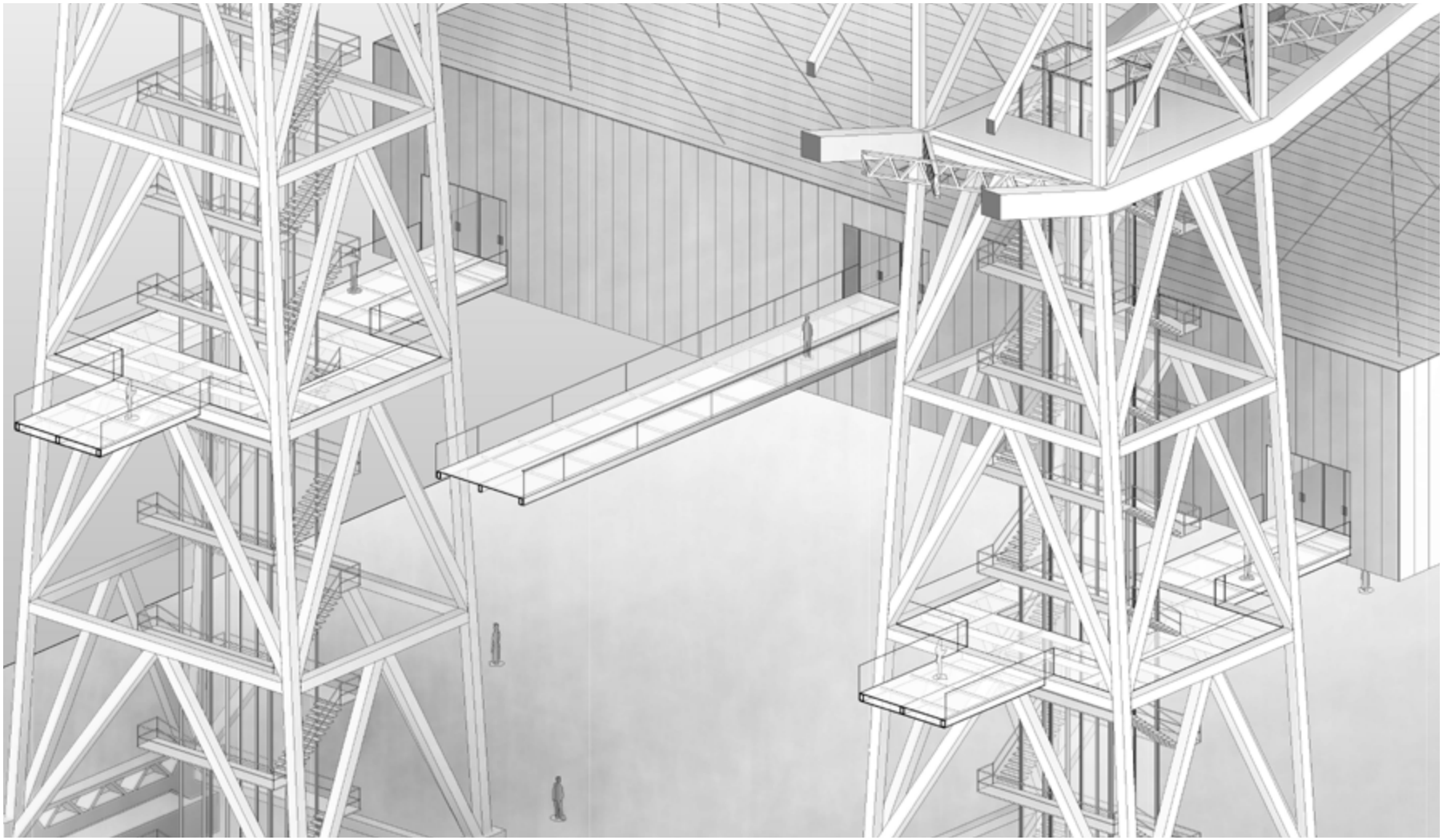
- Maximum span of 9500 meter
- Volume cannot move horizontally

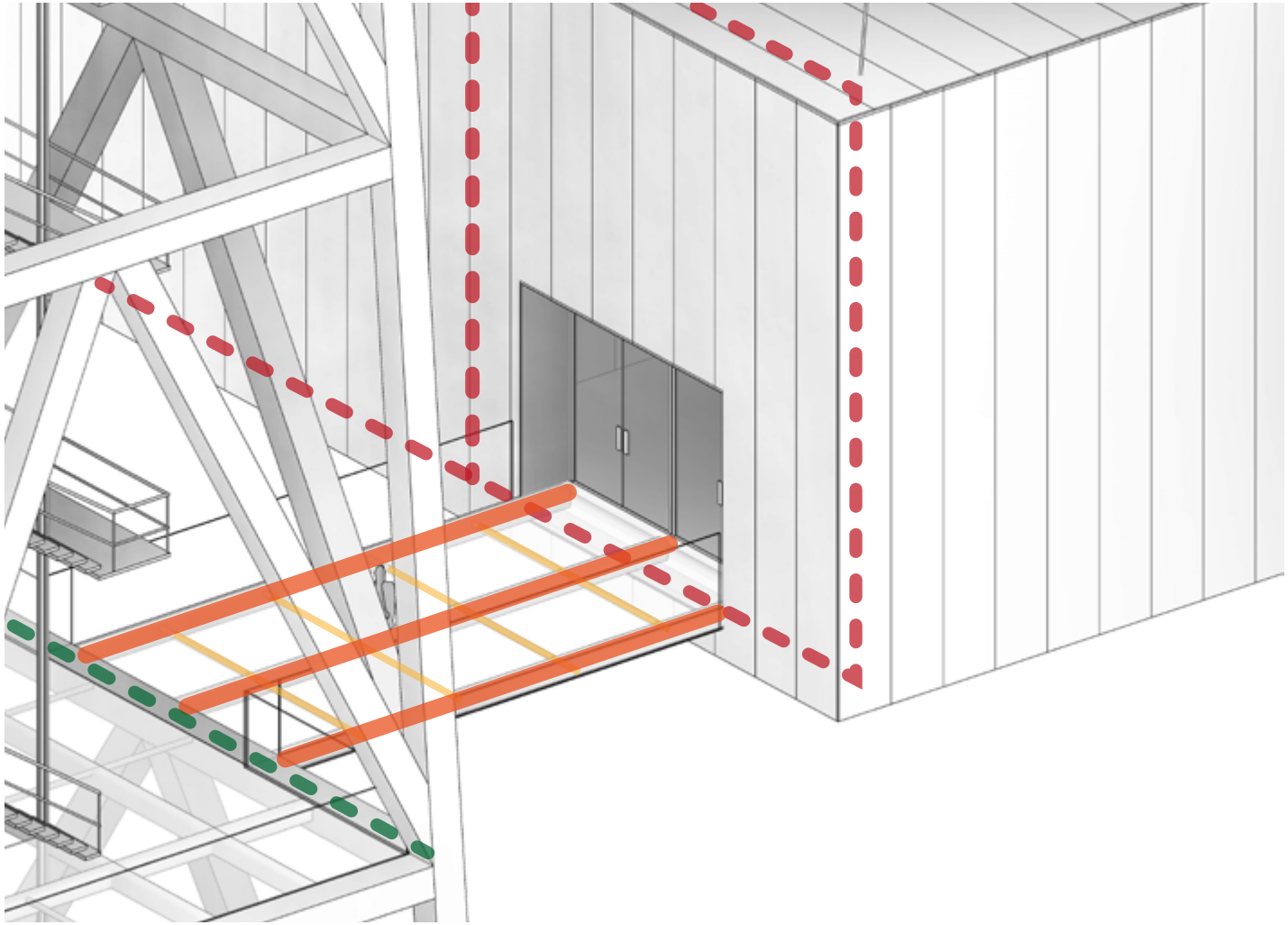












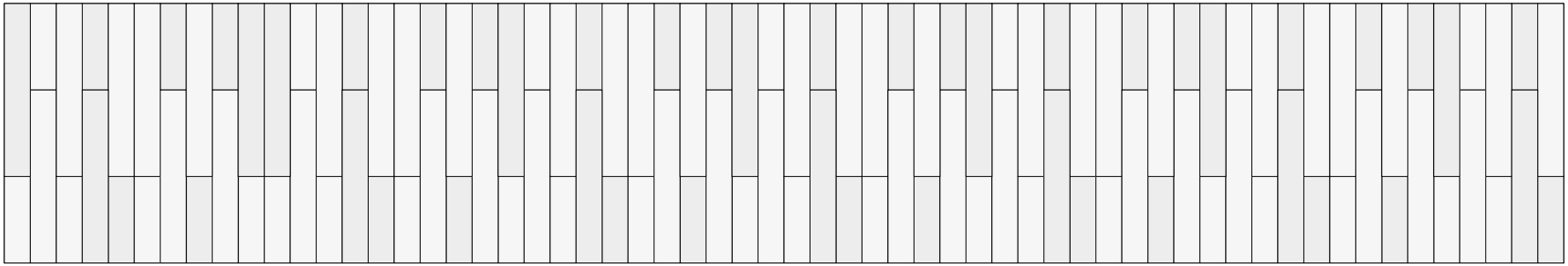
Vierendeel beam

Original crane

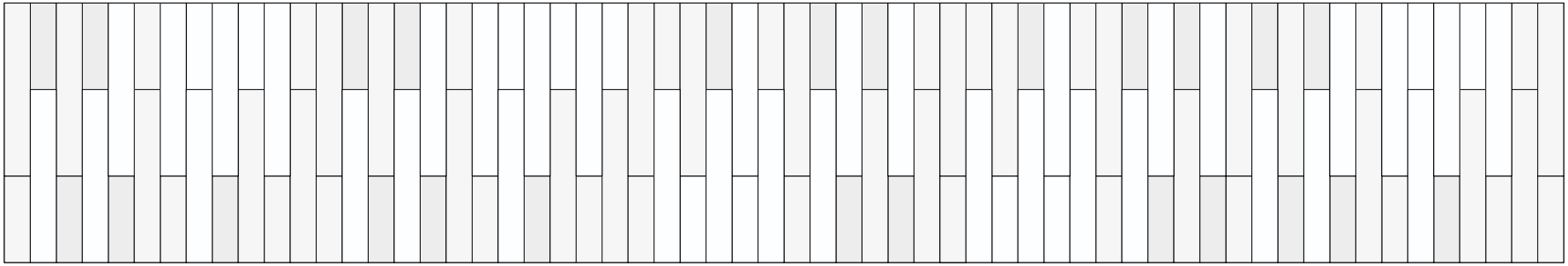
Main steel profile

Sub steel profile

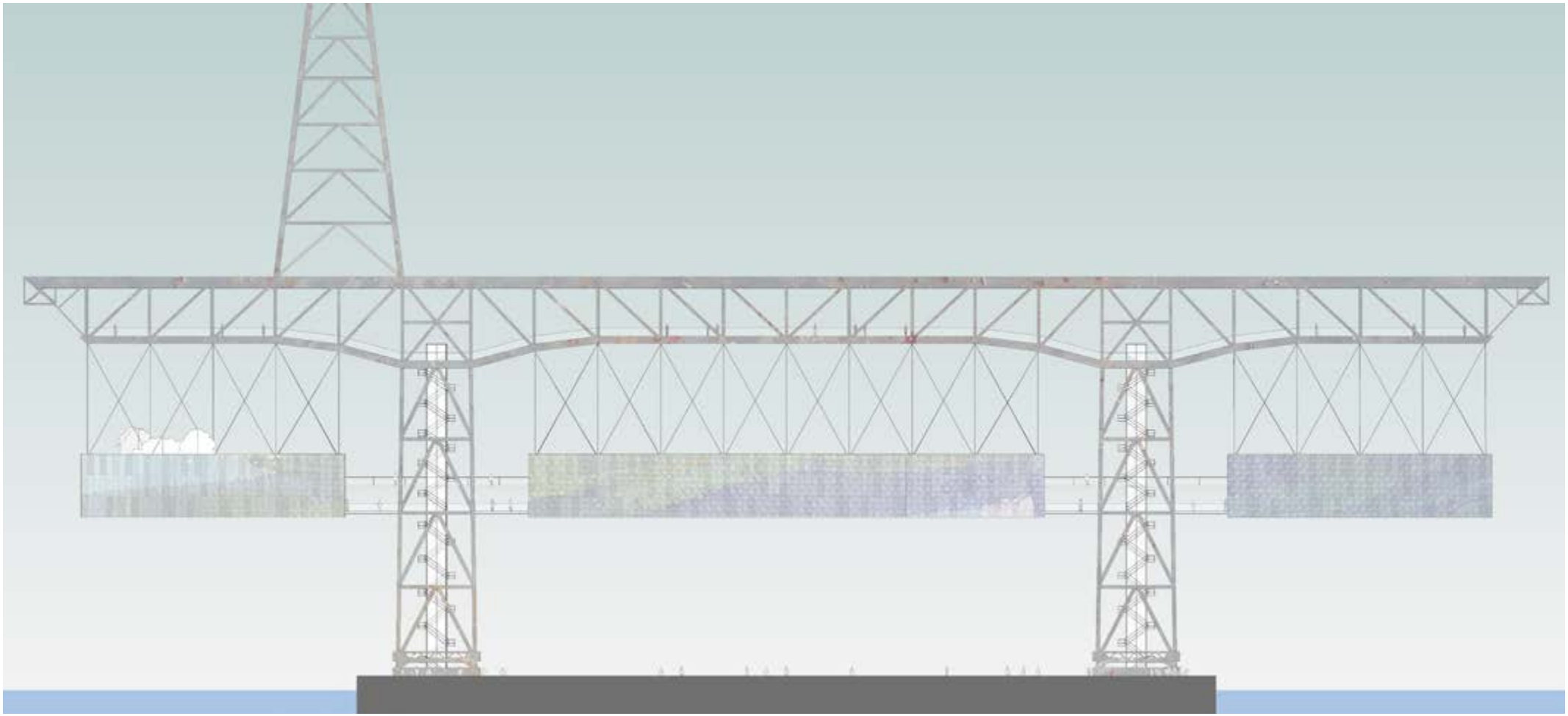
Technology *Facade*

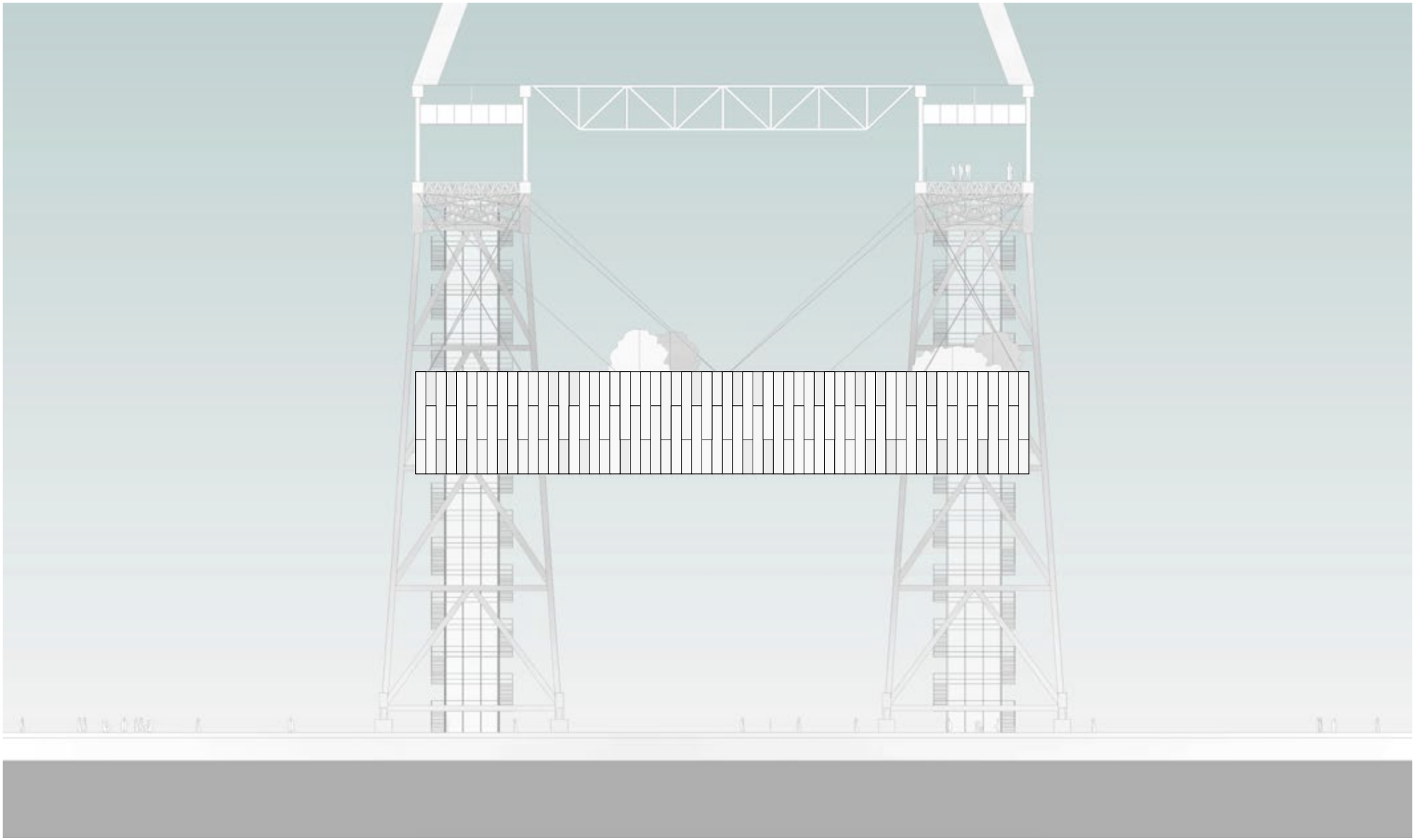


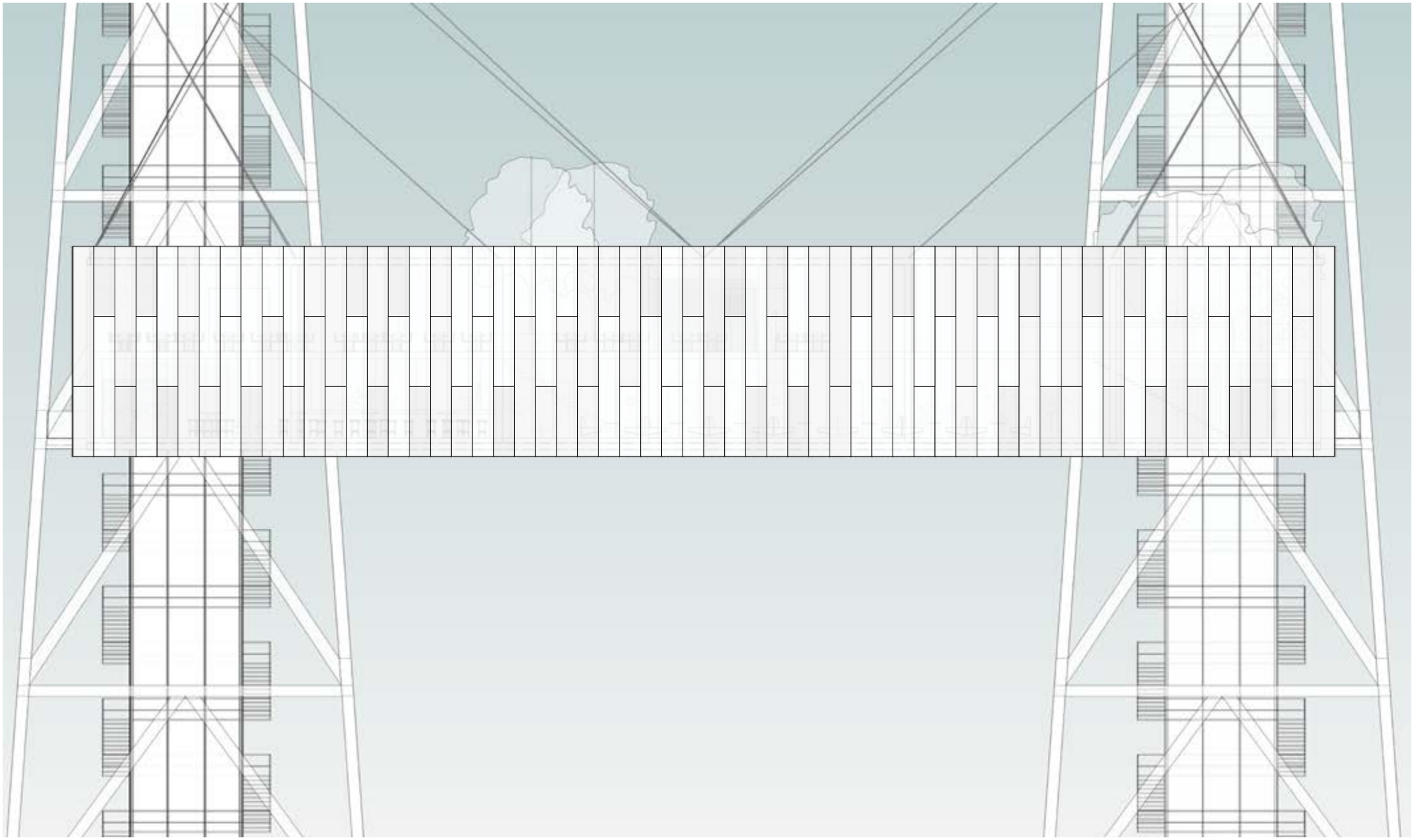
South-West facade with only polycarbonate

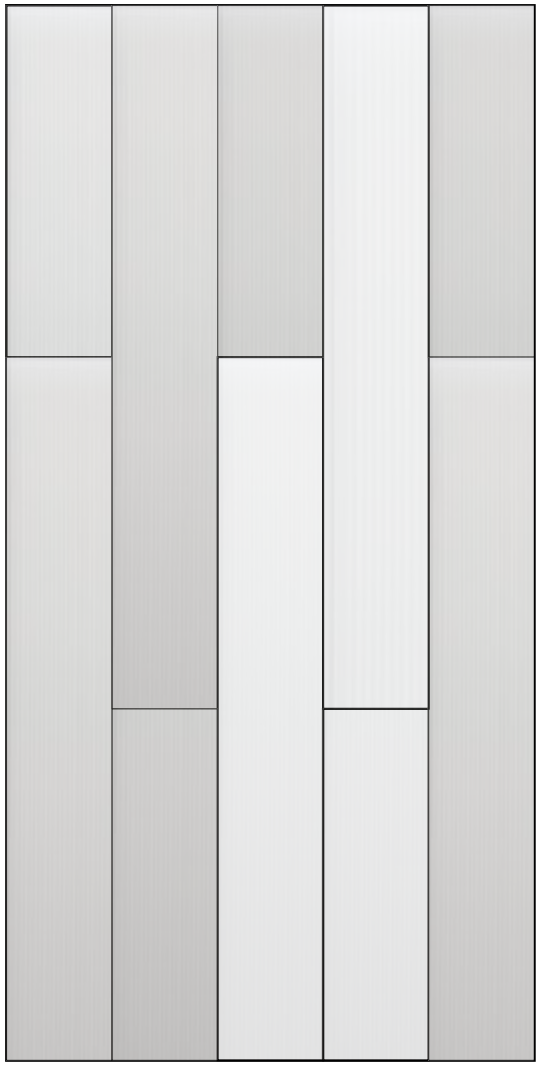


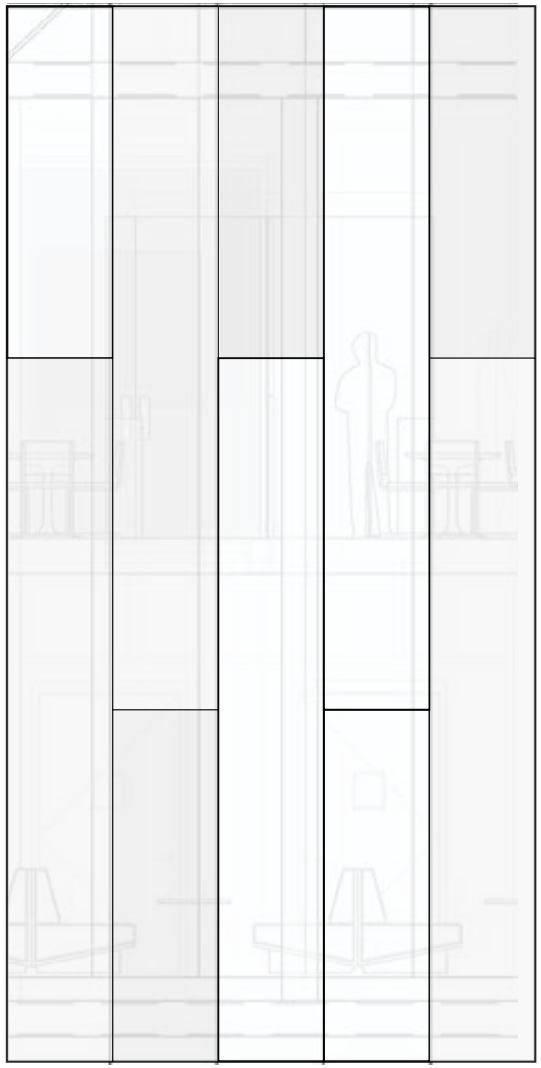
South-East facade with some whitened glass

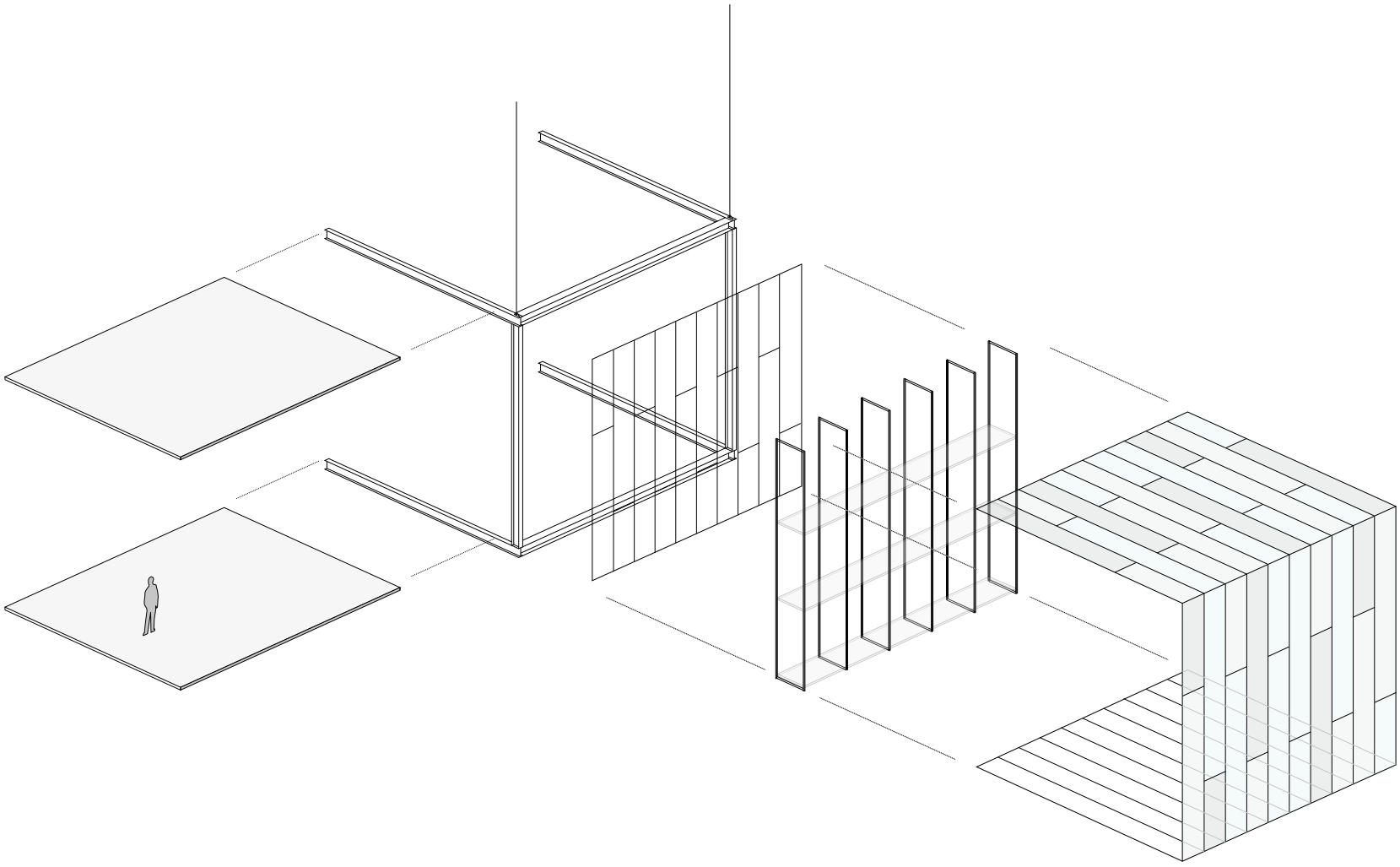


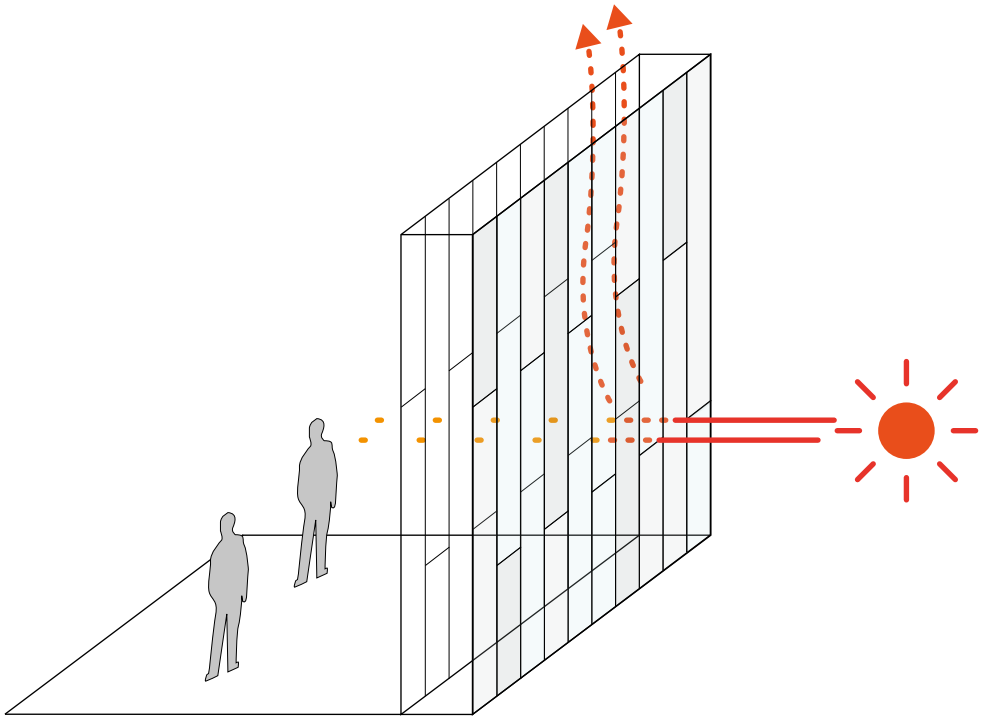


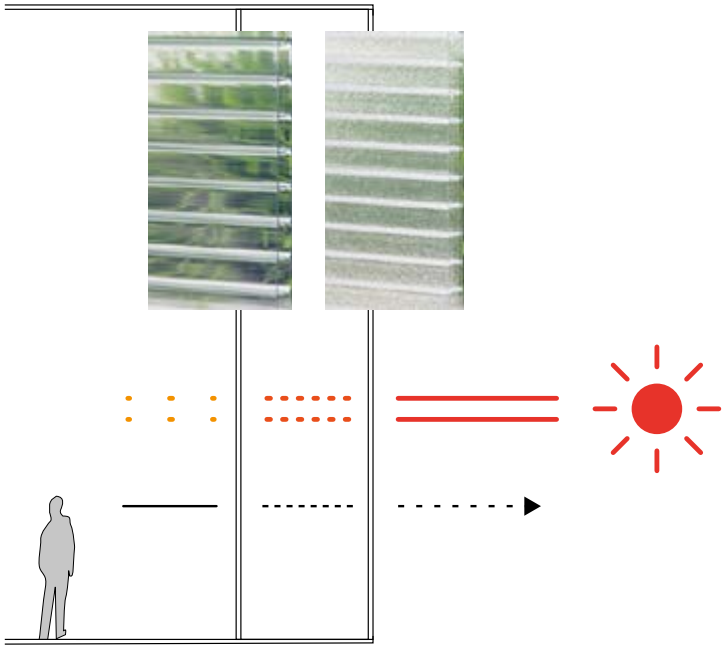


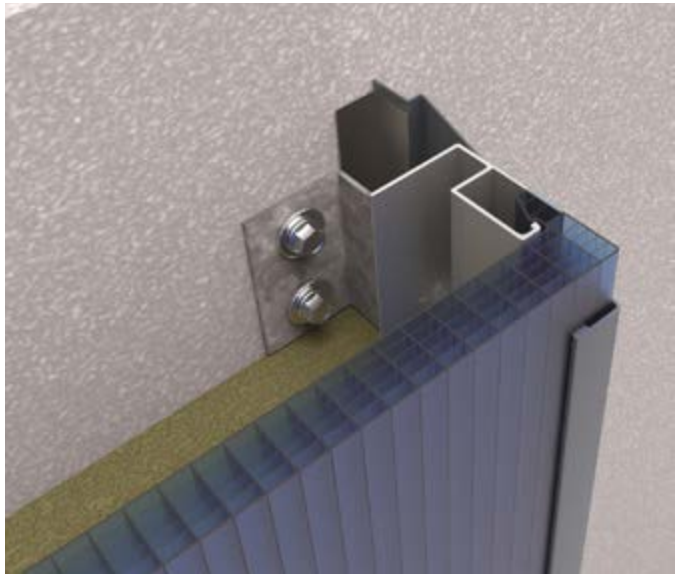


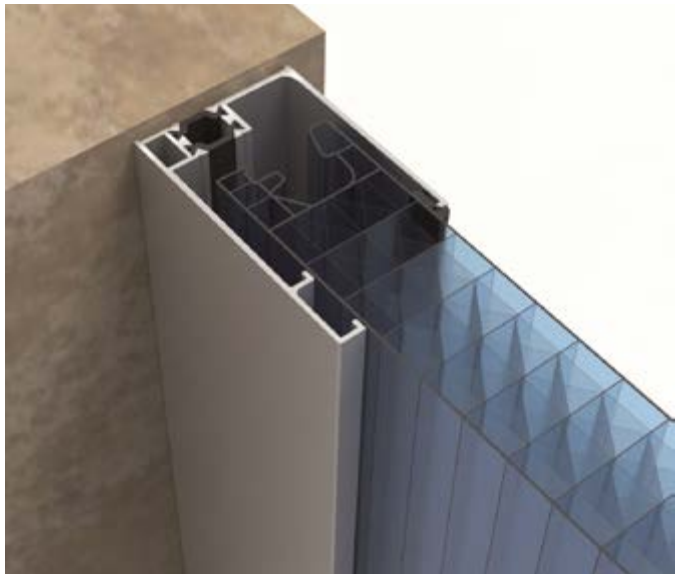


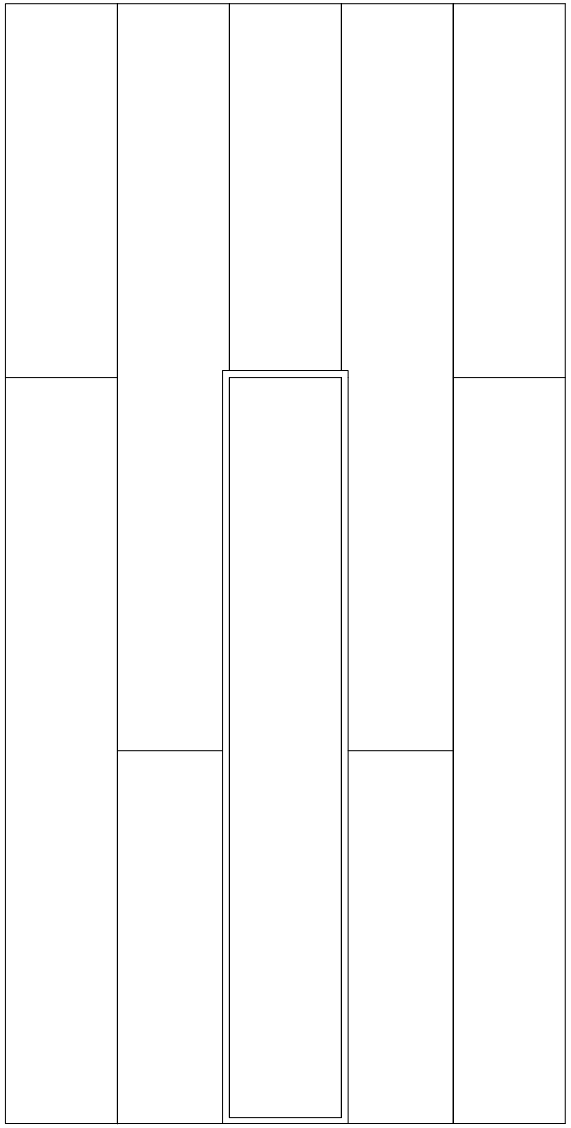


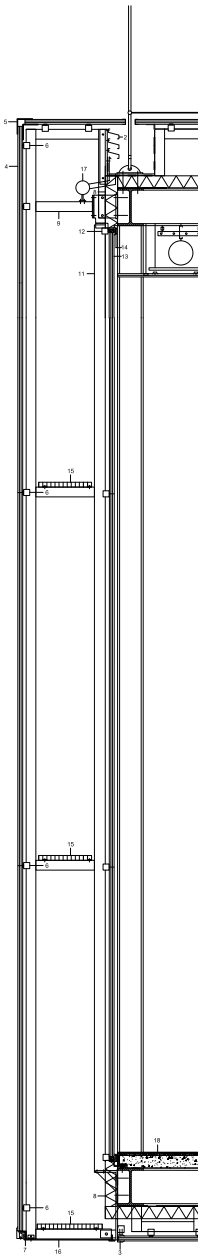


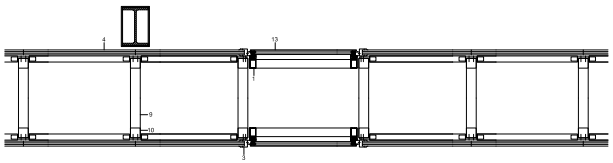






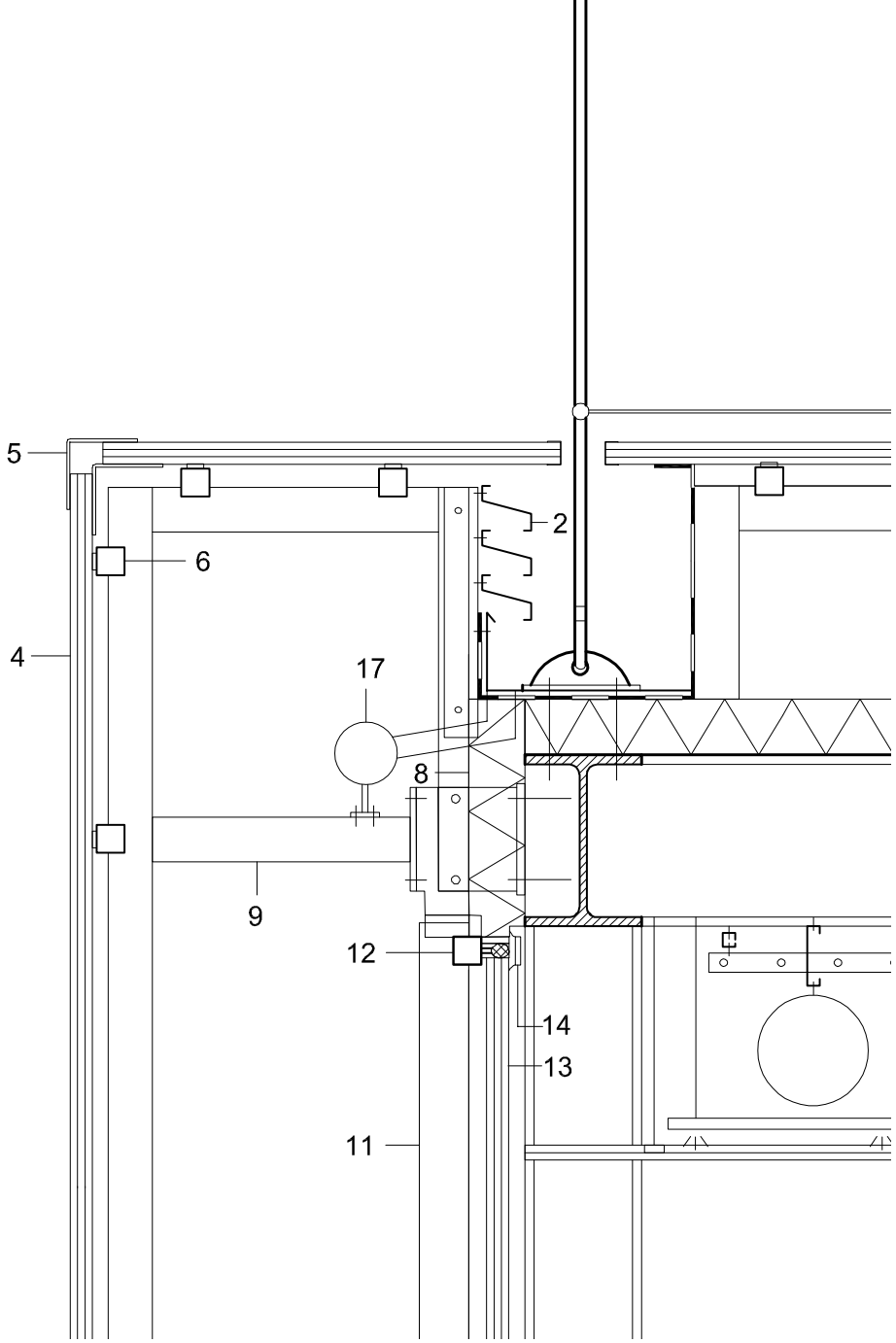






1 50/120 mm aluminium RHS post
2 anodised aluminium ventilation louvres
3 35/50 mm anodised aluminium frame for 4
4 triple-layer transparent polycarbonate hollow cellular slabs (40/300 mm)
5 5 mm transparent perspex sheet, bent to shape and adhesive fixed to 10
6 50/50/4 mm aluminium SHS saddle anchor
7 60/60/4 mm steel angle
8 waterproof barrier
100 mm rockwool thermal insulation, grey coated
vapor barrier
9 80/80/4 mm galvanised steel SHS rail
10 80/80/4 mm galvanised steel SHS post
11 50/120 mm aluminium RHS post
12 60/60 mm aluminium SHS
13 double glazing
10 mm toughened glass +
16 mm cavity + toro, safety glass
(2+6 mm) with matt film
14 Ø 60 mm alum., standing plate
15 40 mm galvanised steel grating
16 2 mm perforated aluminium sheeting
17 rainwater channel
18 5mm epoxy coating caporol dpbopox 453
30 mm creed,
100mm precast concrete panel floor
including floor heating system

AFWATERING
+ ONDERHOUD


5
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17
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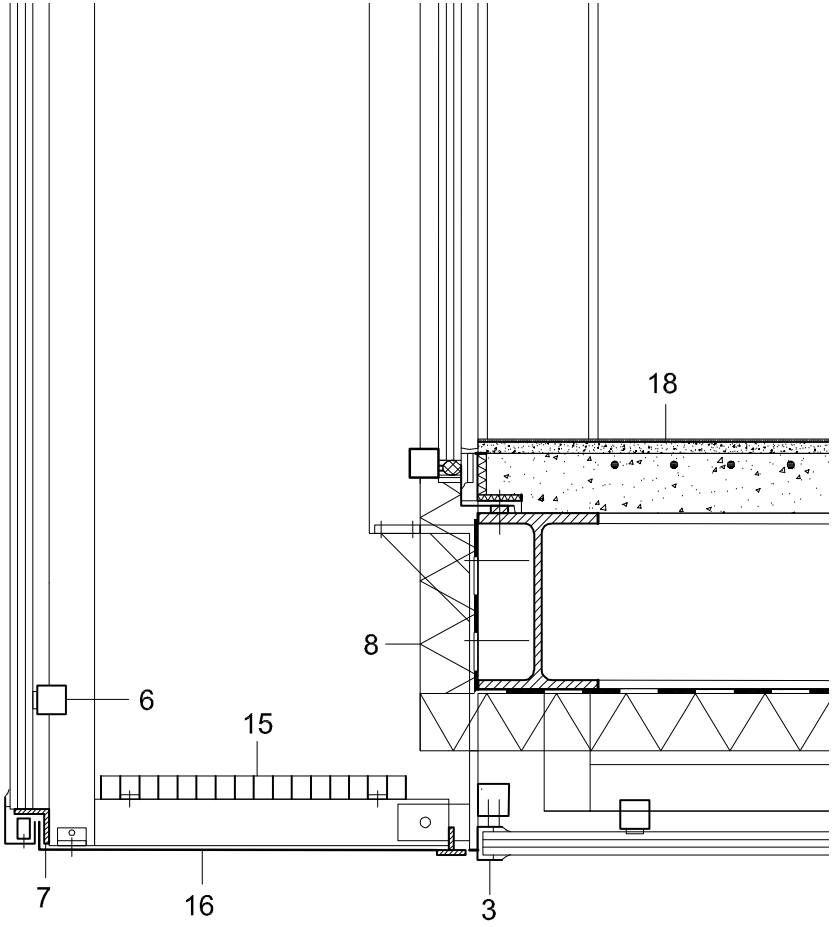
11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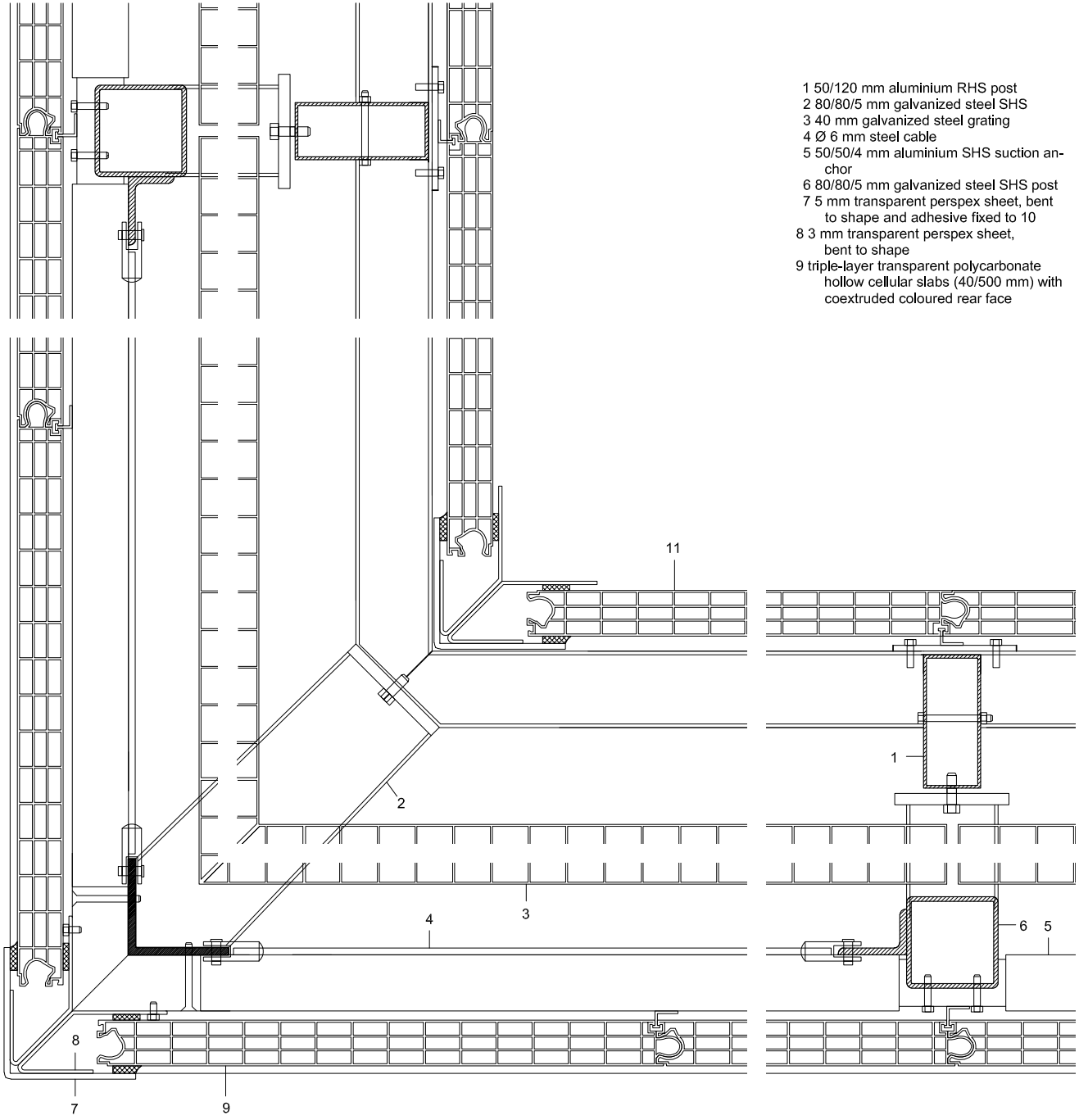
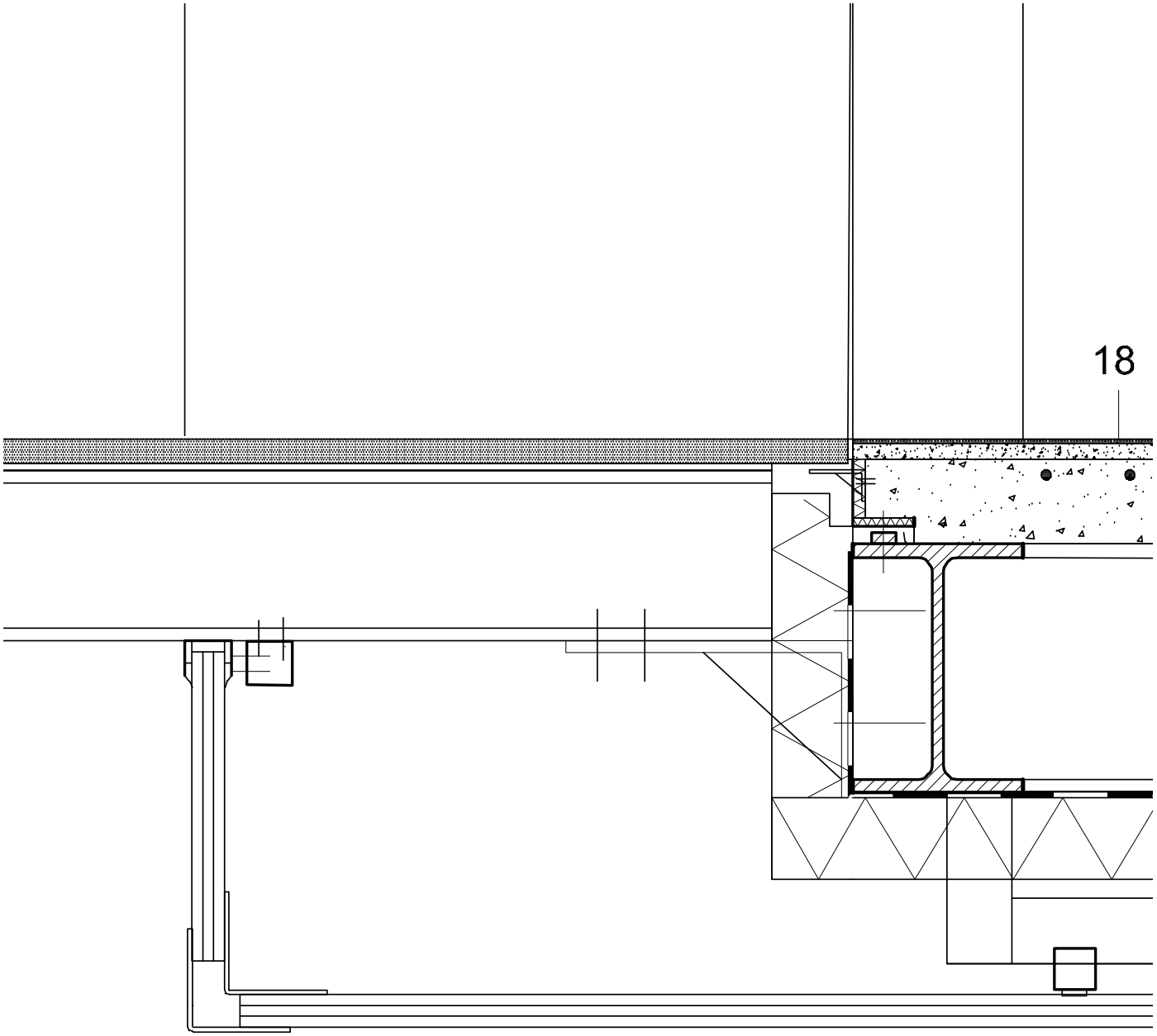
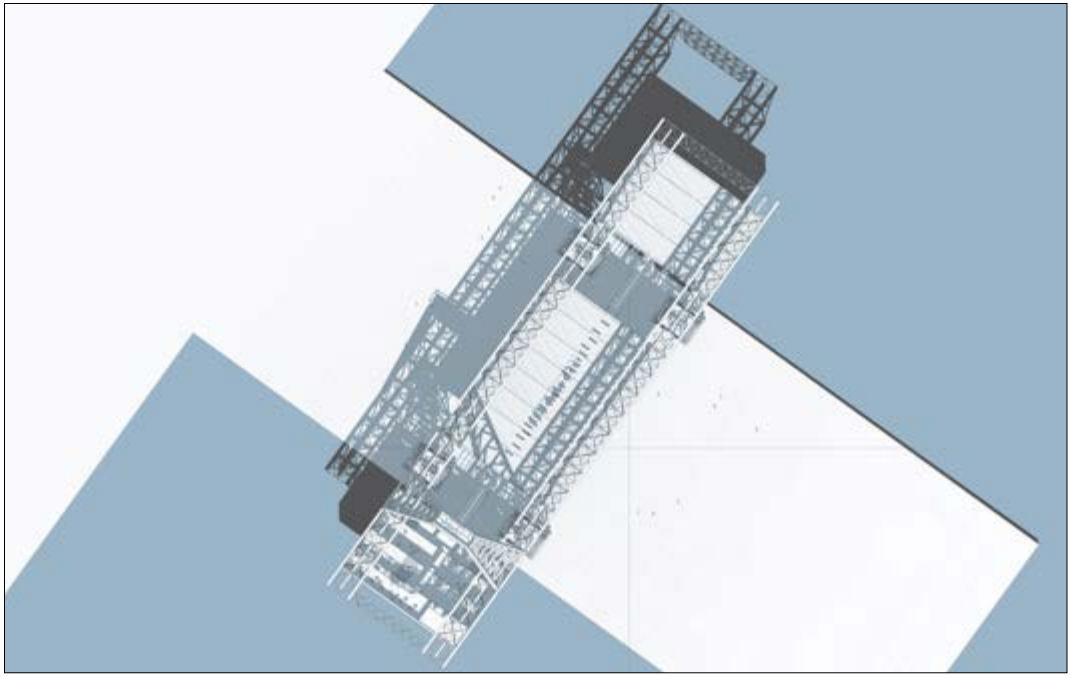
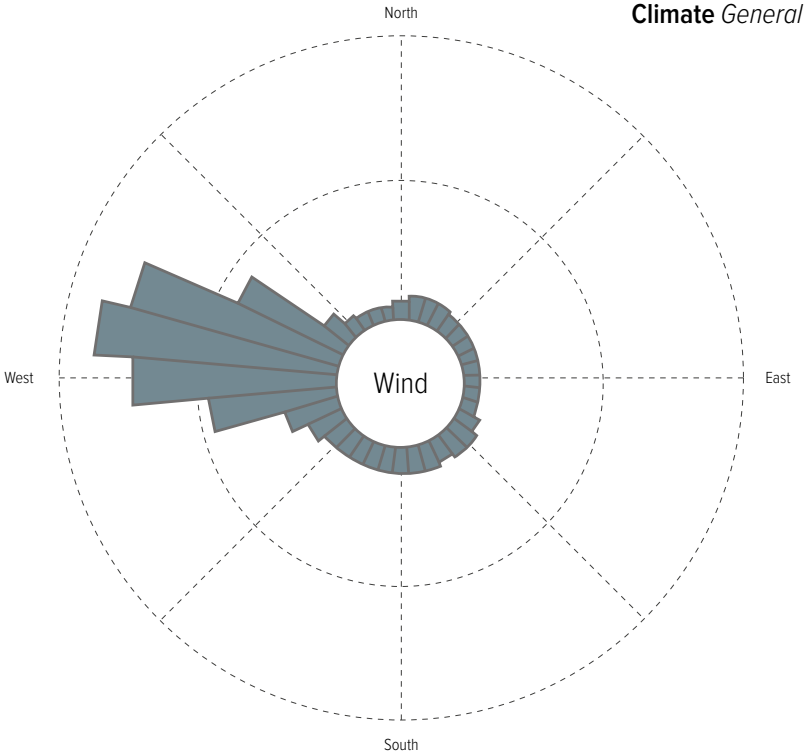


1 50/120 mm aluminium RHS post
2 80/80/5 mm galvanized steel SHS
3 40 mm galvanized steel grating
4 Ø 6 mm steel cable
5 50/50/4 mm aluminium SHS suction anchor
6 80/80/5 mm galvanized steel SHS post
7 5 mm transparent perspex sheet, bent to shape and adhesive fixed to 10
8 3 mm transparent perspex sheet, bent to shape
9 triple-layer transparent polycarbonate hollow cellular slabs (40/500 mm) with coextruded coloured rear face

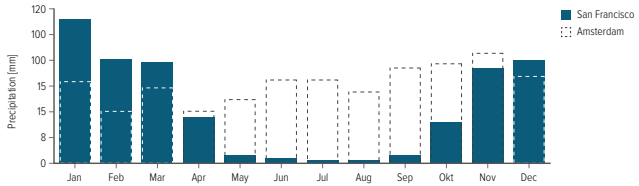

18

Technology *External climate*

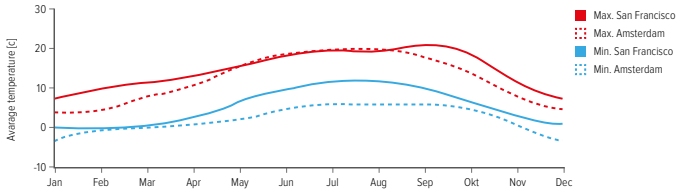




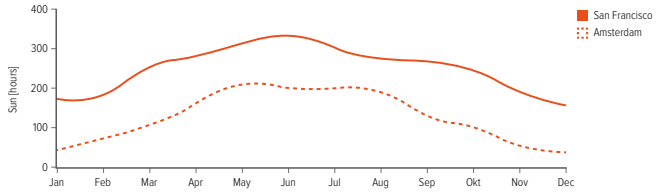
Precipitation



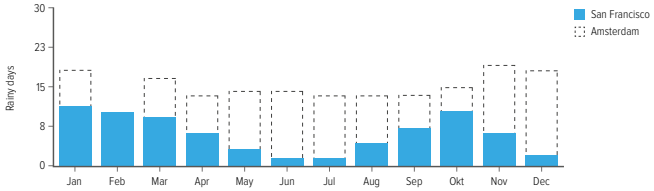
Minimum and maximum temperature



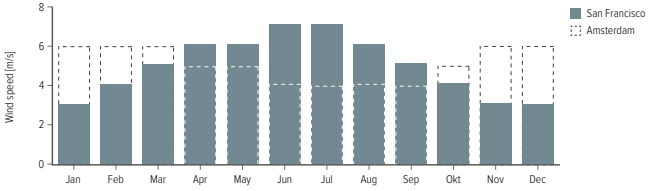
Hours of sun



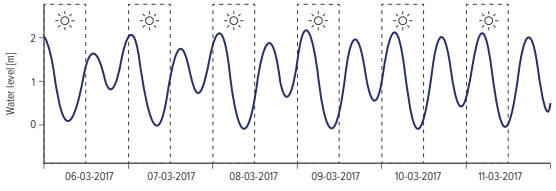
Rainy days



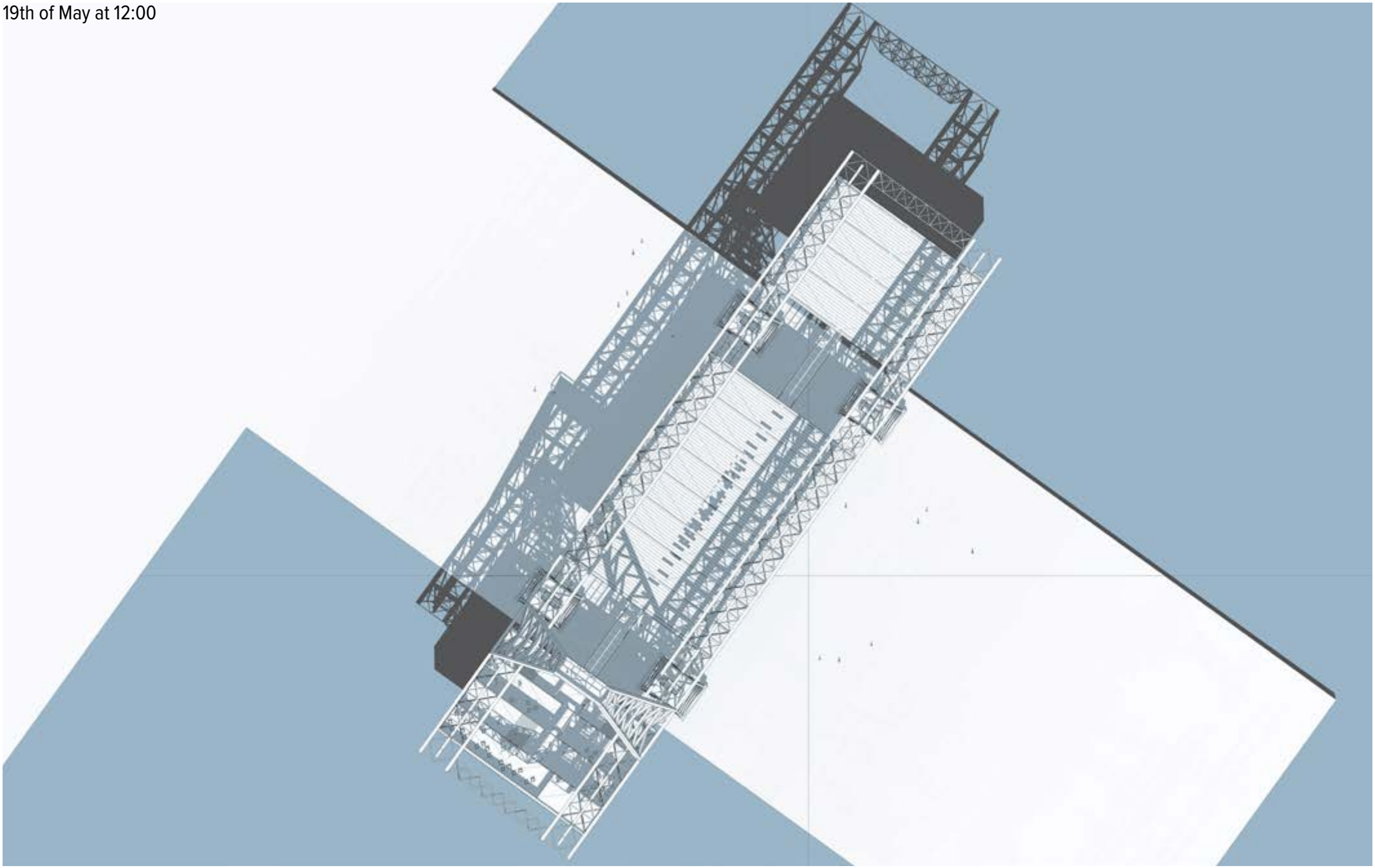
Avarage wind speed



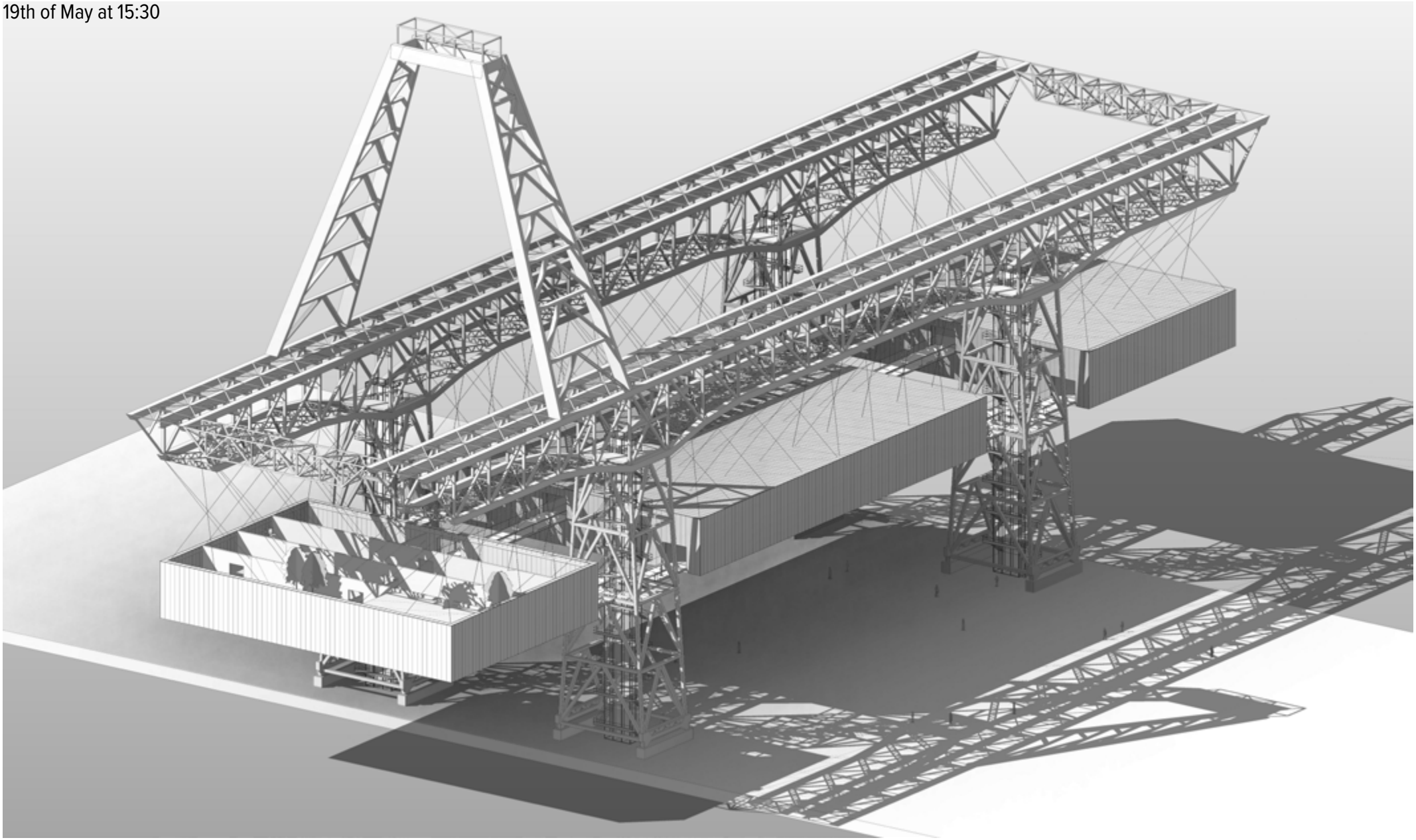
Tidal difference Hunters Point



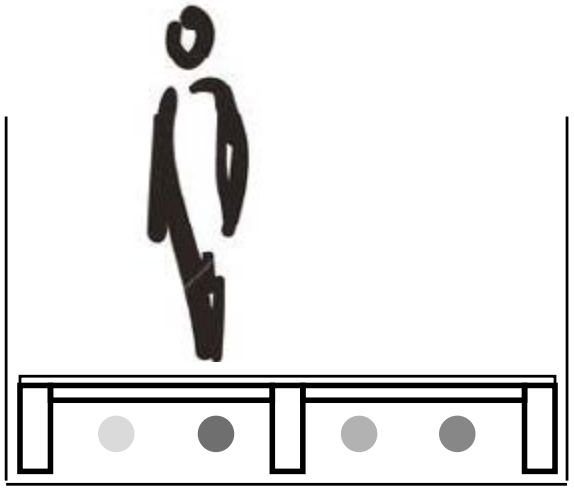
19th of May at 12:00



19th of May at 15:30

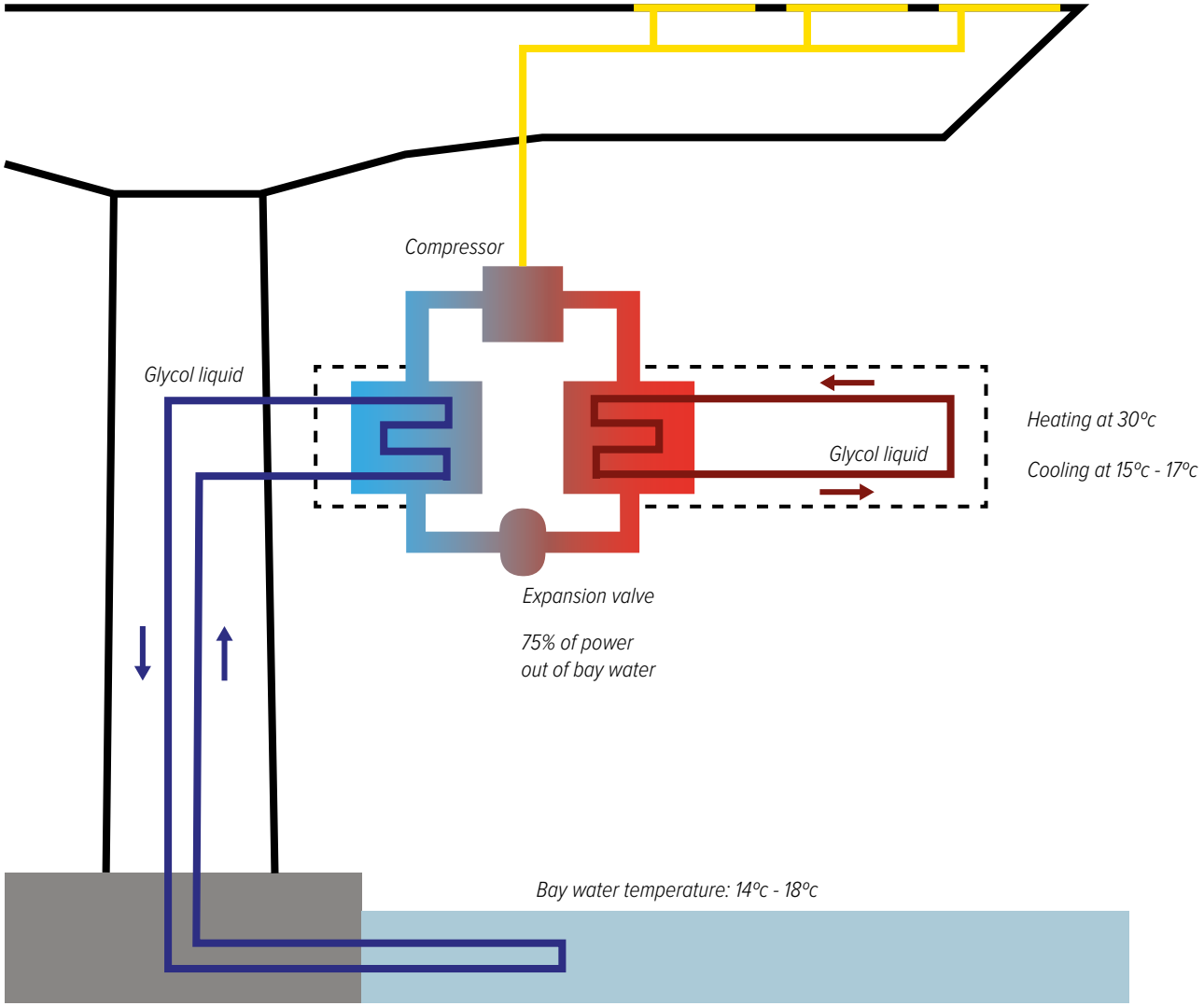


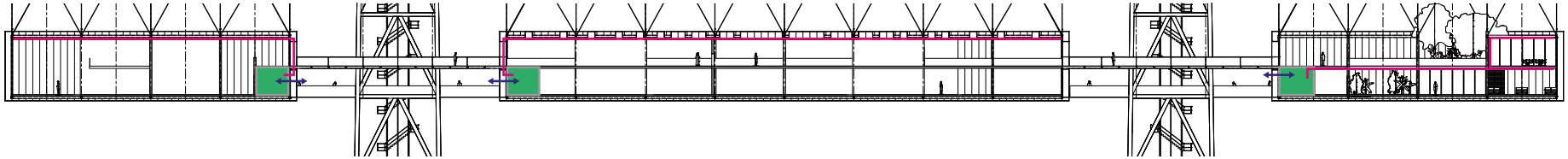
Technology *Internal climate*

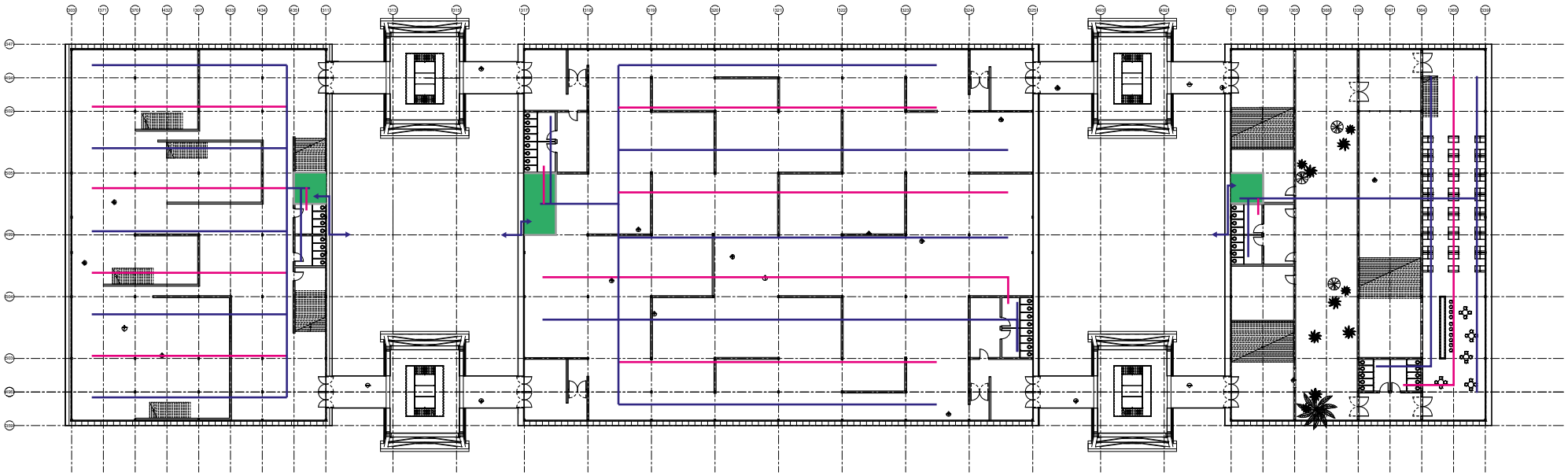


Ducts trough truss

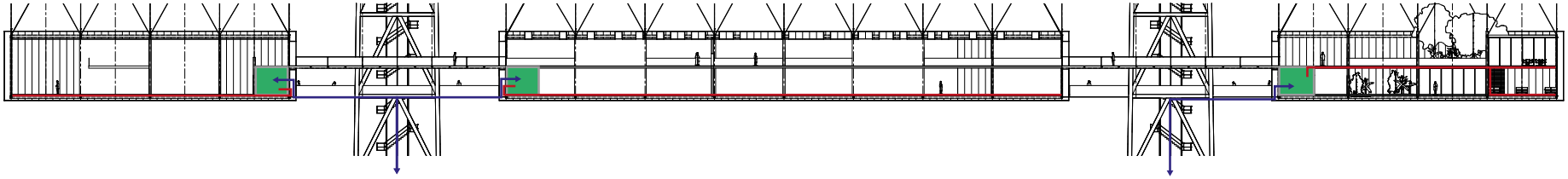
Heating / cooling system

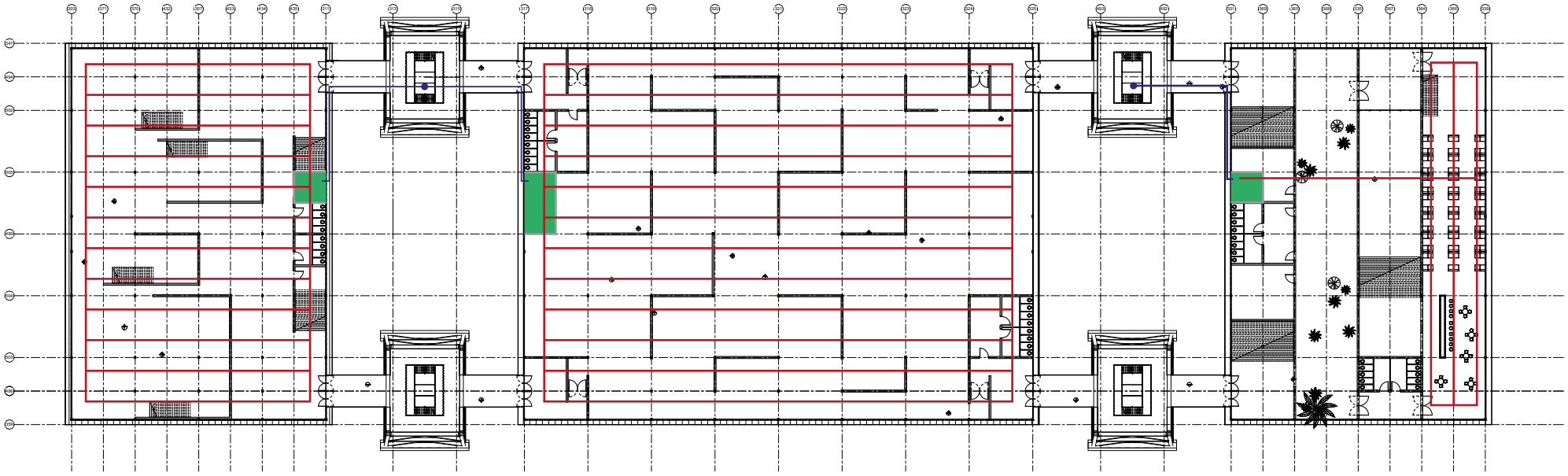




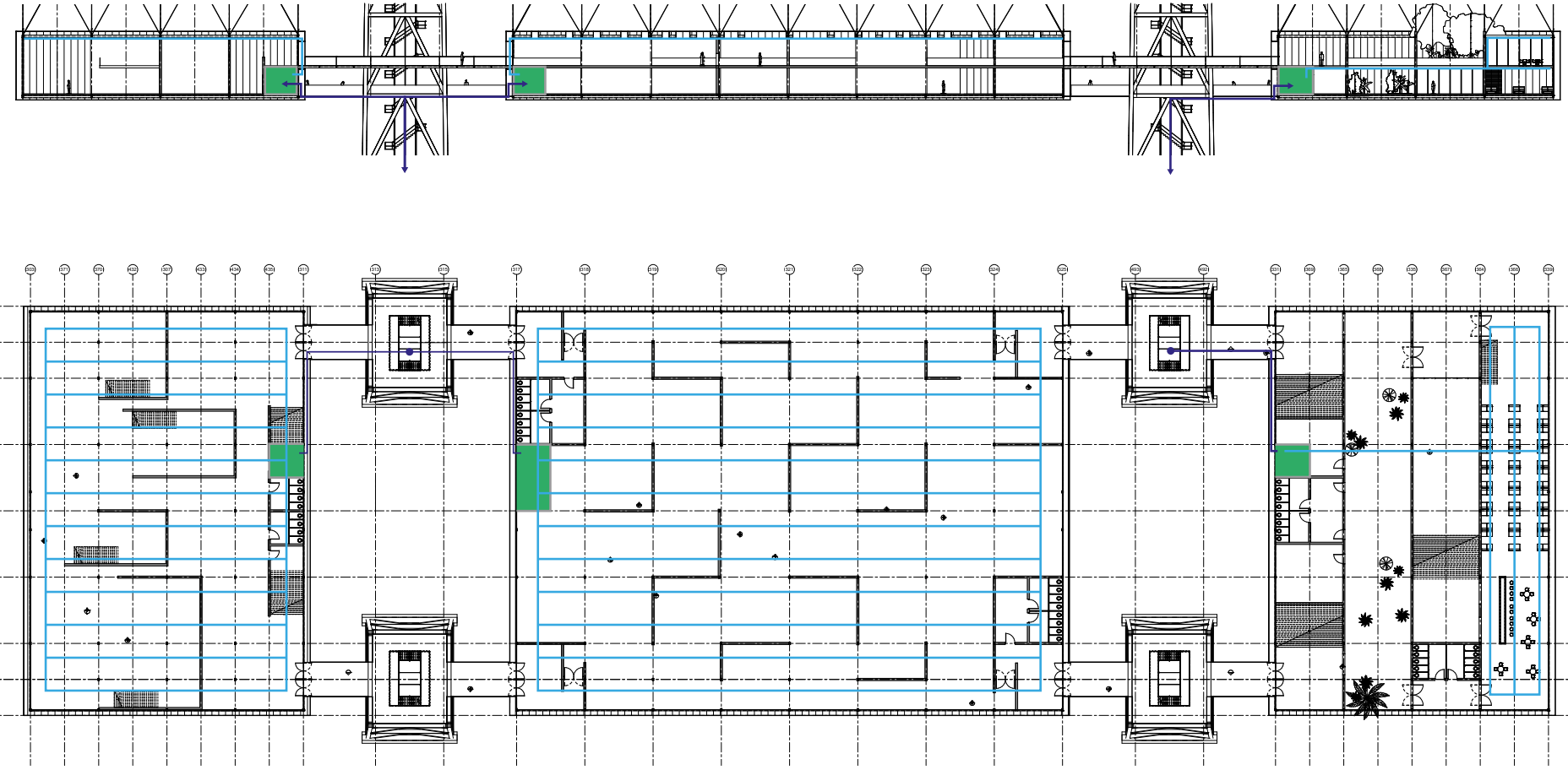


Suction
Inflow





Heating
Glycol input



Cooling
Glycol input