P5 Presentation | Methods & Analysis

Urban Amplifiers

Alexander Petrounine

4 july 2019

Francis Alys, London Fences (2006)

Transforming a musical activity into a means of urban exploration

Through **music** and **rhythm**, the musical-percussive activity transformed into a means of **urban exploration**. The fences, the walls, the streets, the dogs, turned into a found **musical instrument**.

The Unapparent

/ʌnəˈpar(ə)nt/

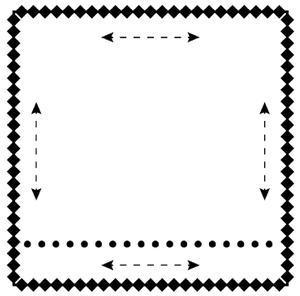
- Not readily perceptible; not apparent

- Not visible or in evidence

- Dormant,quiescent, inactive, untapped, unused

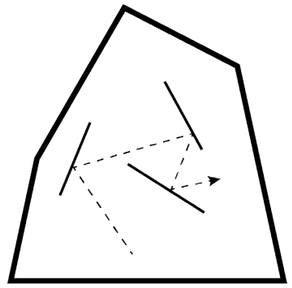
Soundscapes

How can surrounding sounds be made apparent?



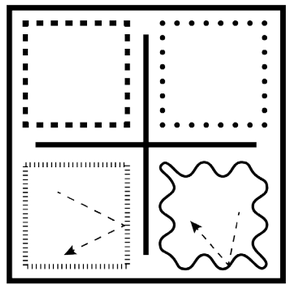
1. Anechoic

Acoustic class	Reduction
Shape	Square
Size	Medium
Reflection	Diffuse
Absorption	Soft + Thick
Variable	Wall Profile



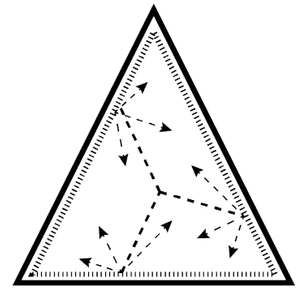
2. Reverberation

Acoustic class	Continuation
Shape	Various
Size	Large
Reflection	Specular
Absorption	Hard + thick
Variable	Materiality



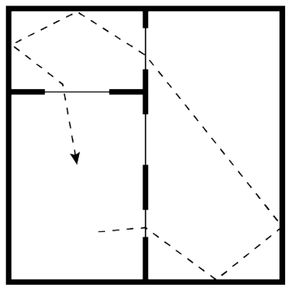
3. Absorption

Acoustic class	Reduction
Shape	Square
Size	Various
Reflection	Various
Absorption	Various
Variable	Room size



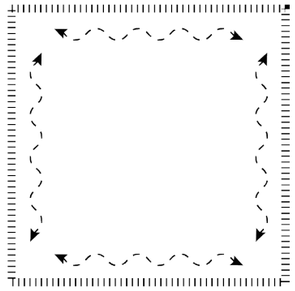
4. Diffusion

Acoustic class	Equalising
Shape	Large
Size	Medium
Reflection	Diffuse
Absorption	Hard + Thin
Variable	Position Diffusers



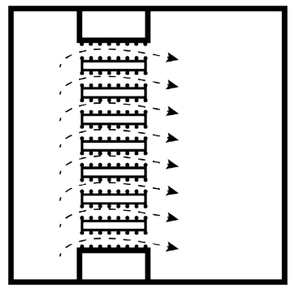
5. Transmission

Acoustic class	Conduction
Shape	Rectangle
Size	Various
Reflection	Specular
Absorption	Hard + thin
Variable	Infill Material



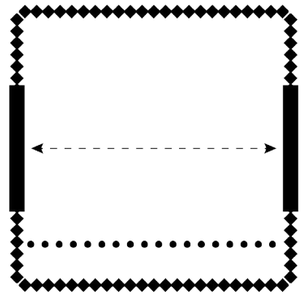
6. Resonance

Acoustic class	Conduction
Shape	Square
Size	Small
Reflection	Specular
Absorption	Hard + thin
Variable	Wall tension



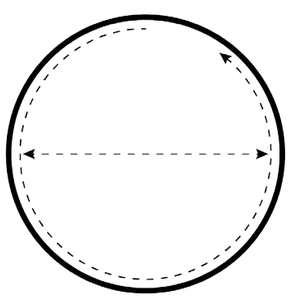
7. Frequency Filter

Acoustic class	Compression
Shape	Rectangle
Size	Various
Reflection	Specular
Absorption	Hard + thick
Variable	Position + Material



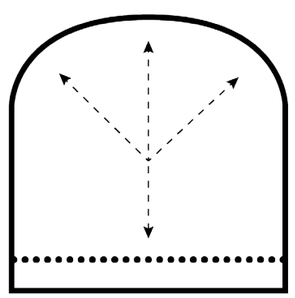
8. Flutter Echo

Acoustic class	Conduction
Shape	Square
Size	Small w. Large
Reflection	Specular
Absorption	Hard + thin
Variable	Size of opening



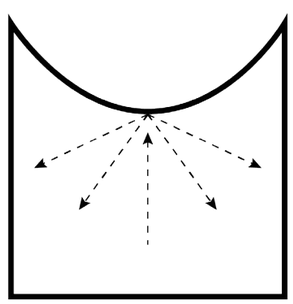
9. Echo

Acoustic class	Conduction
Shape	Rectangle
Size	Various
Reflection	Specular
Absorption	Hard + thin
Variable	Infill Material



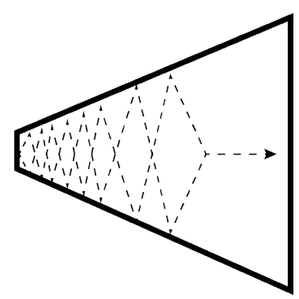
10. Focus

Acoustic class	Conduction
Shape	Square
Size	Small
Reflection	Specular
Absorption	Hard + thin
Variable	Wall tension



11. Anti-Focus

Acoustic class	Compression
Shape	Rectangle
Size	Various
Reflection	Specular
Absorption	Hard + thick
Variable	Position + Material



12. Amplify

Acoustic class	Conduction
Shape	Square
Size	Small w. Large
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Absorption	Hard + thin
Variable	Size of opening

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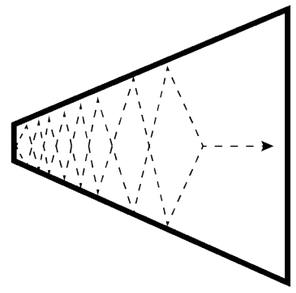

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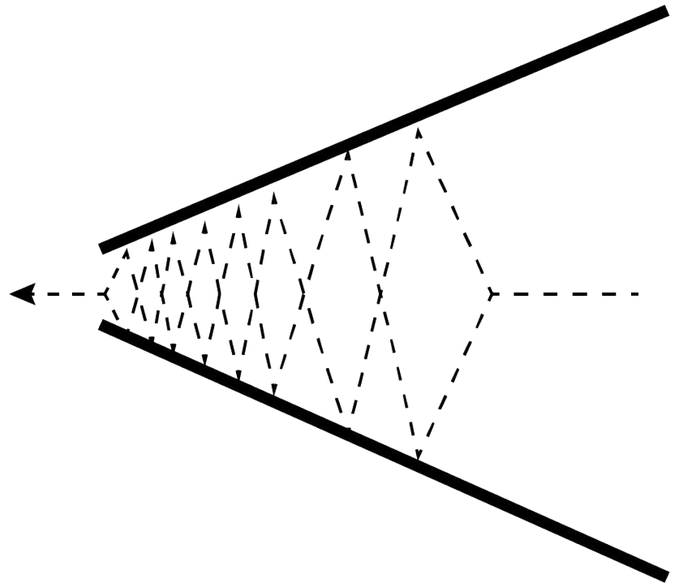
Amplify

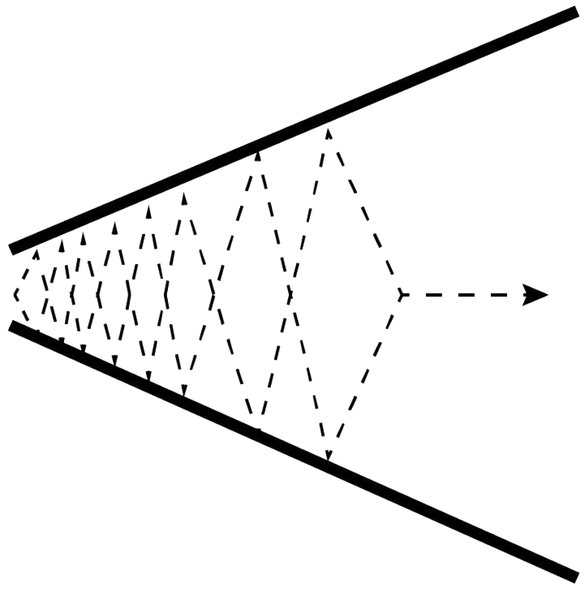
/ˈamplɪfʌɪ/

- Increase the volume of (sound), especially using an amplifier.

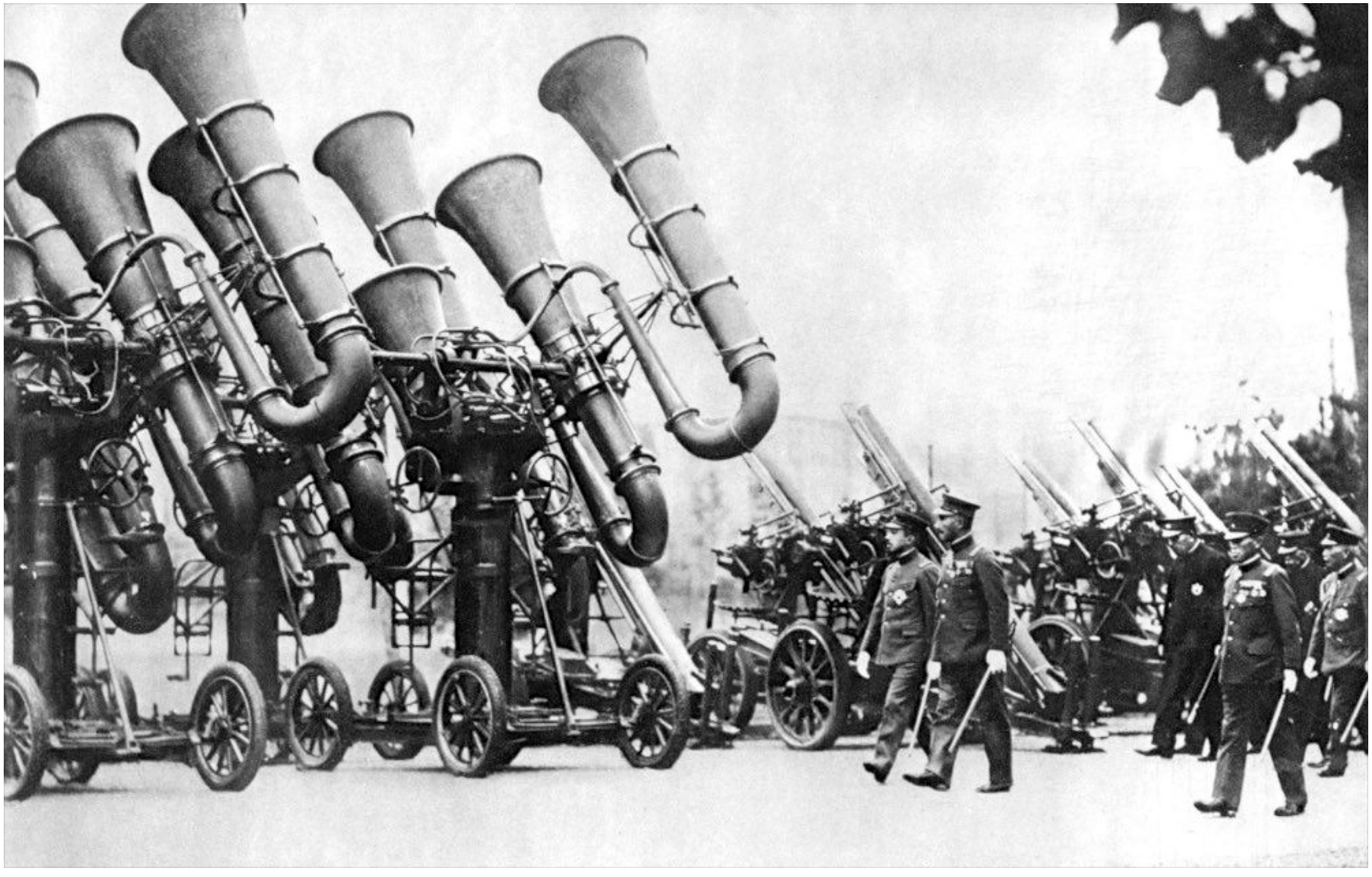
- Enlarge upon or add detail to (a story or statement).



Amplify surrounding sounds to the listener



Amplify sound to the suroundings



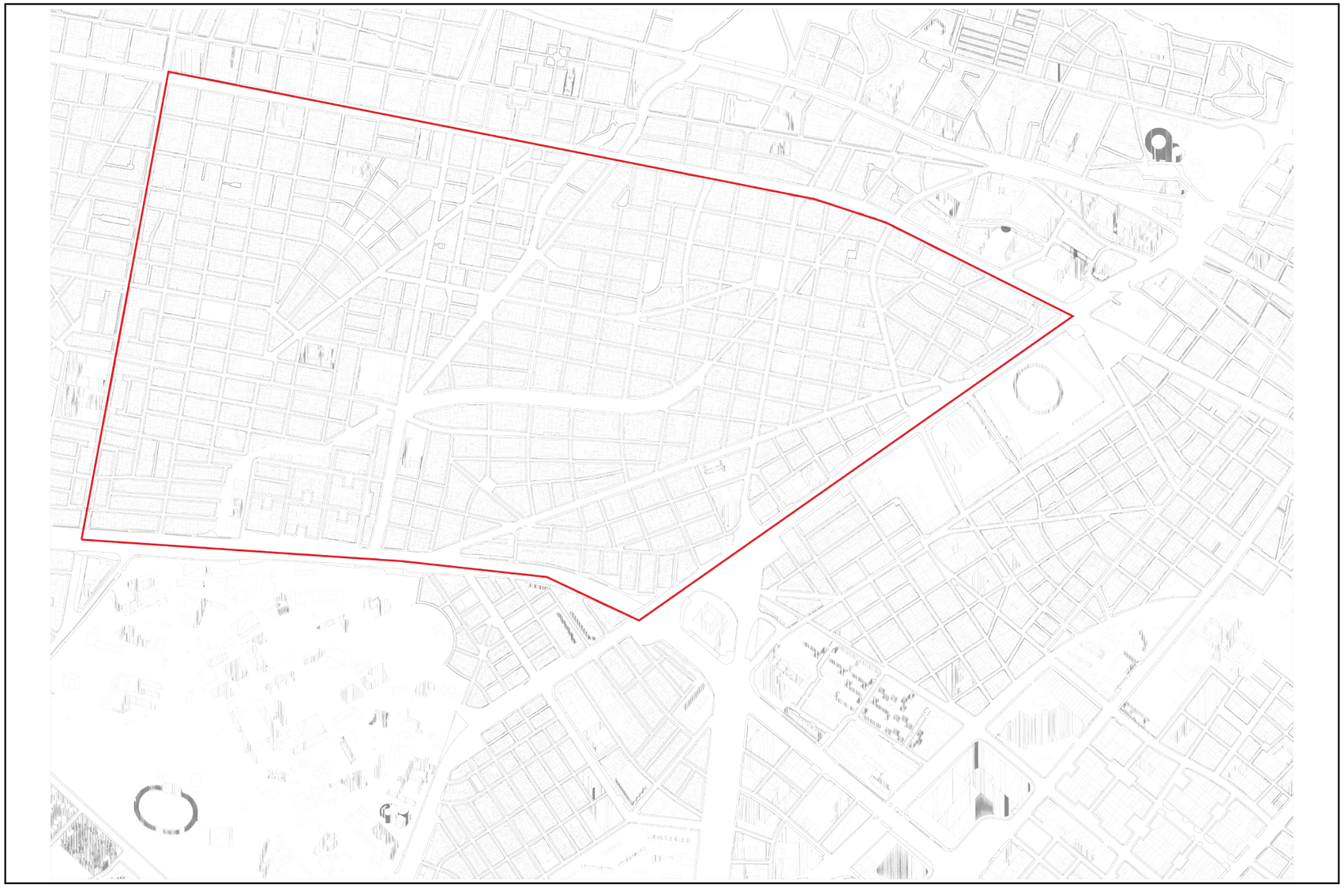
Military listening devices

Bogotá

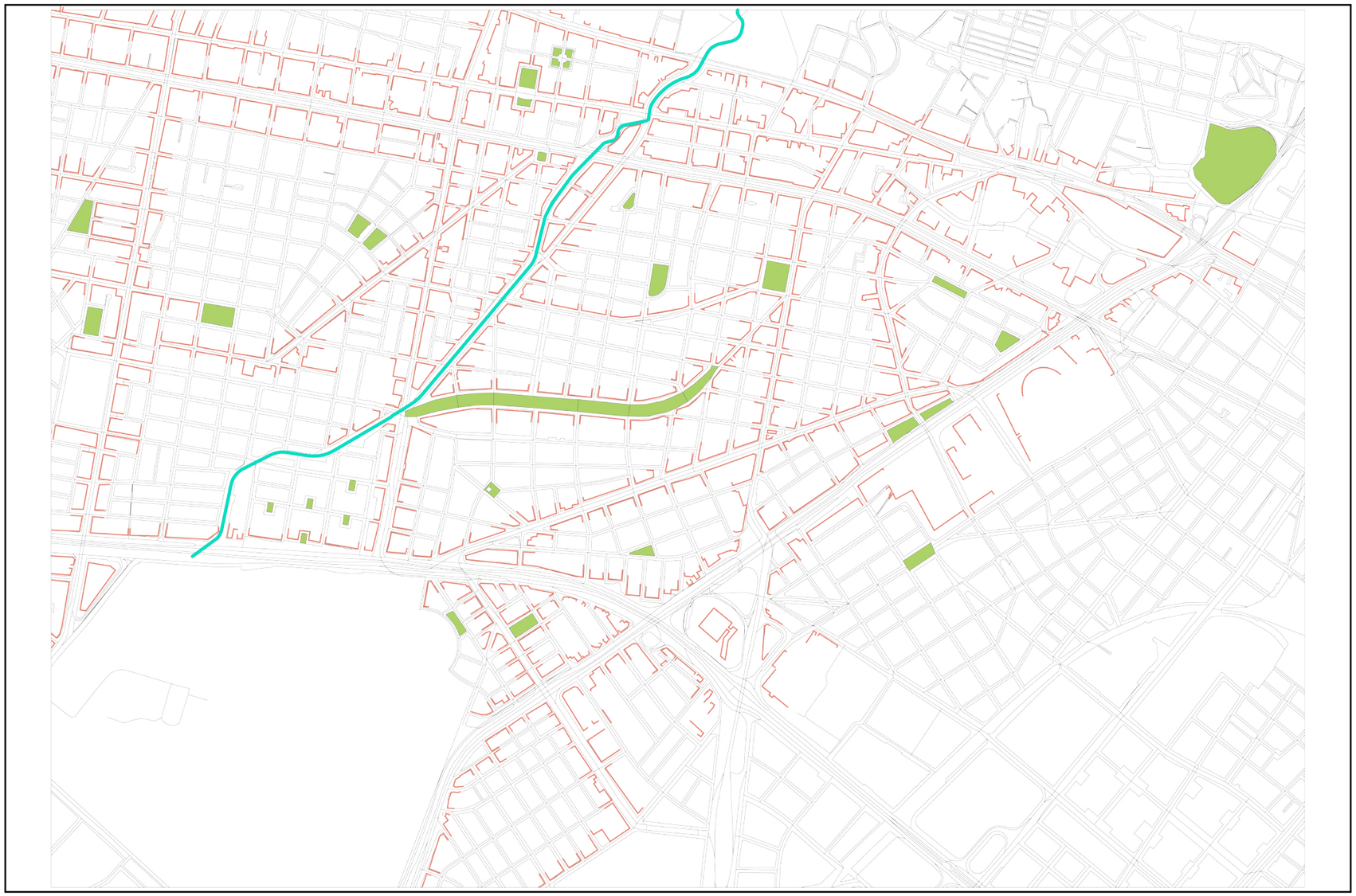
Expansion of the sonic urbanism

Urban densification

The Andes mountain range



Teusaquillo



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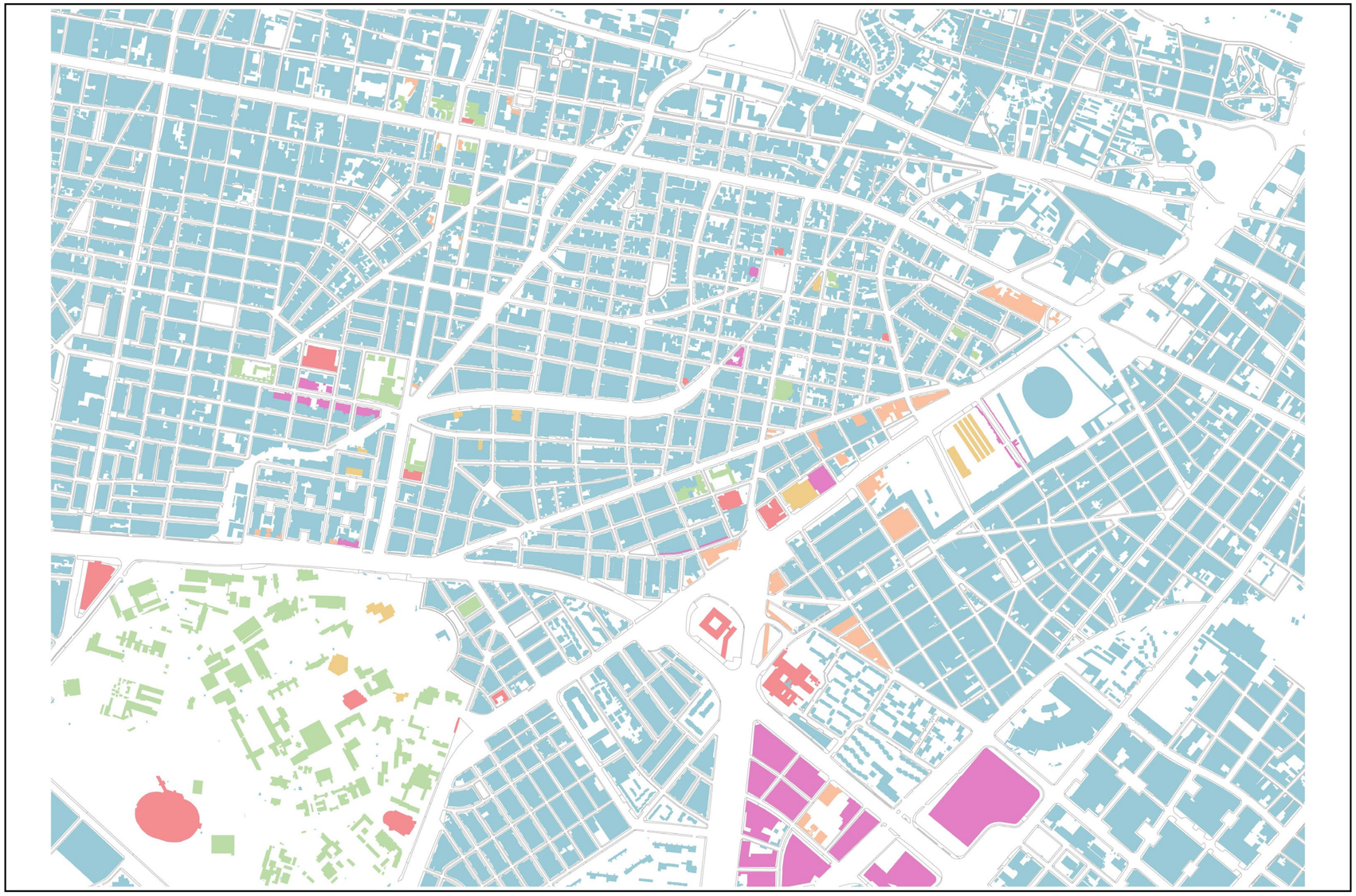
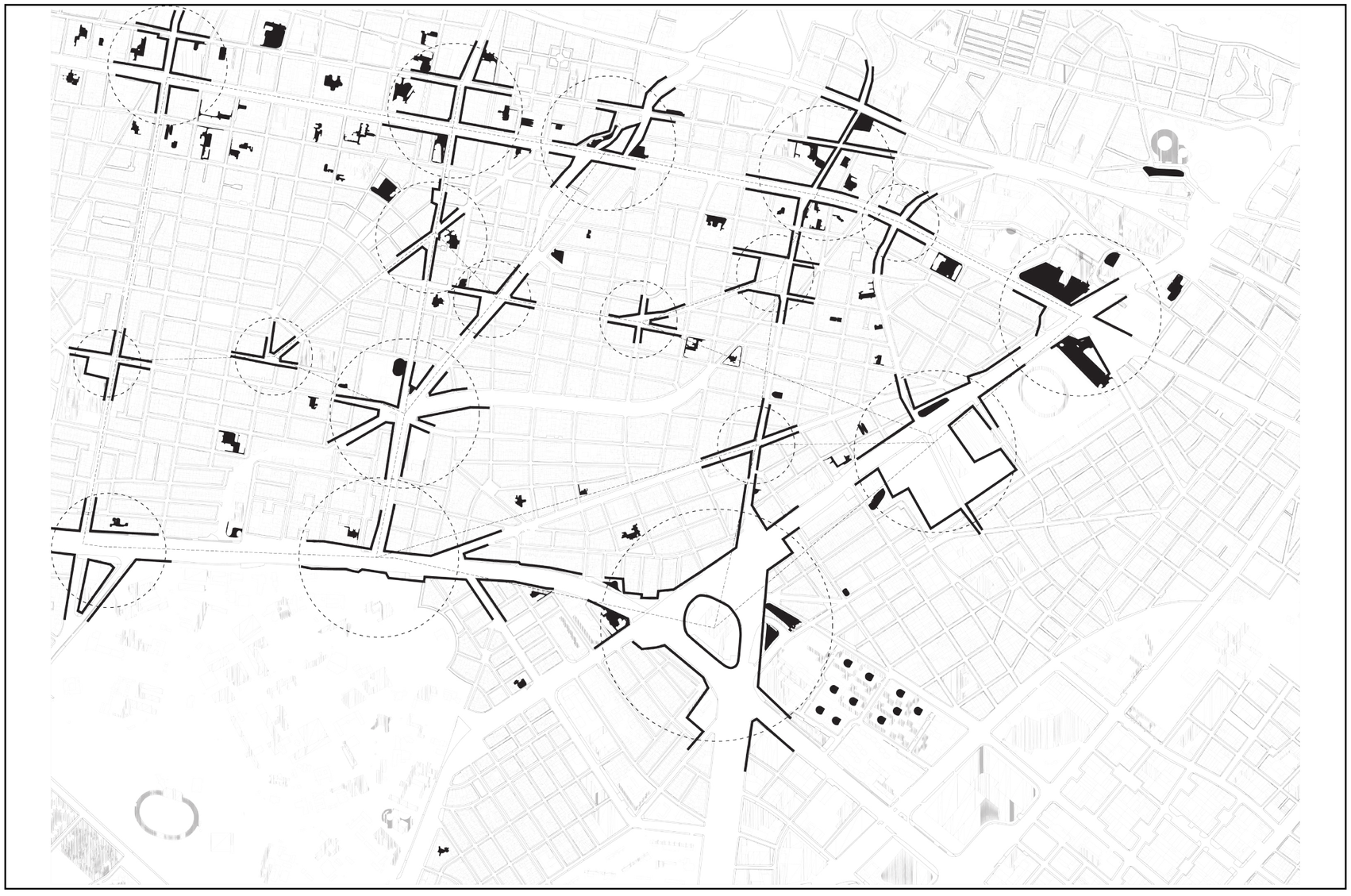
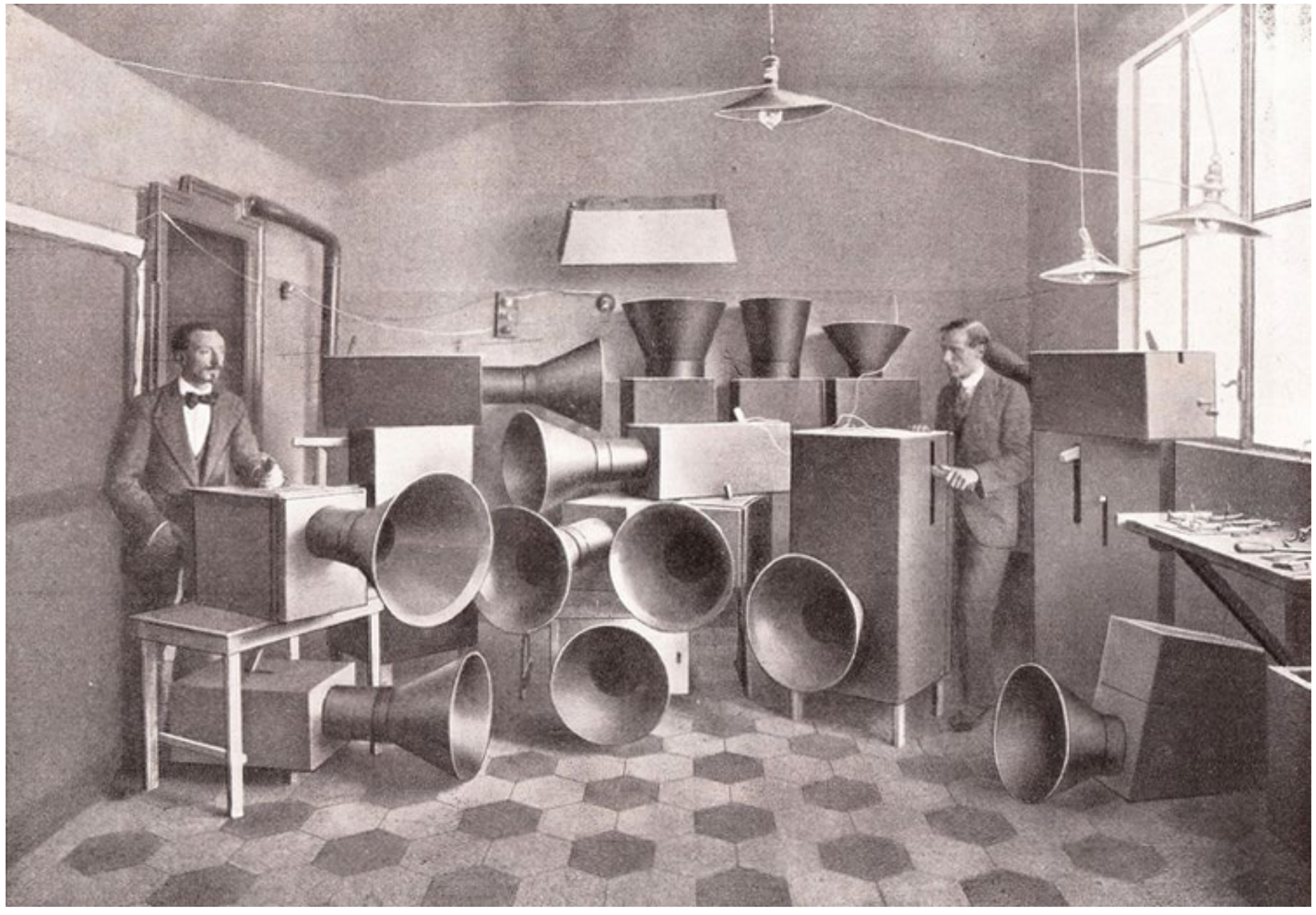


Program



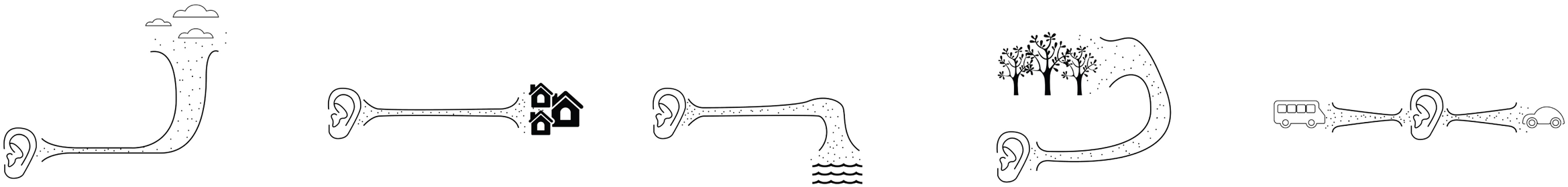
Urban sounding Boxes



“Noise accompanies every manifestation of life. Noise is familiar to us. Noise has the power to bring us back to life (...) Noise, gushing confusely and irregularly out of life, is never totally revealed to us and it keeps in store innumerable surprises for our benefit.“

Luigi Russolo, 1913

Excerpt from ‘The Art of Noise‘



Richness of Noise

A performative device

Precedent

Which variables are needed to intervene
within the public realm?

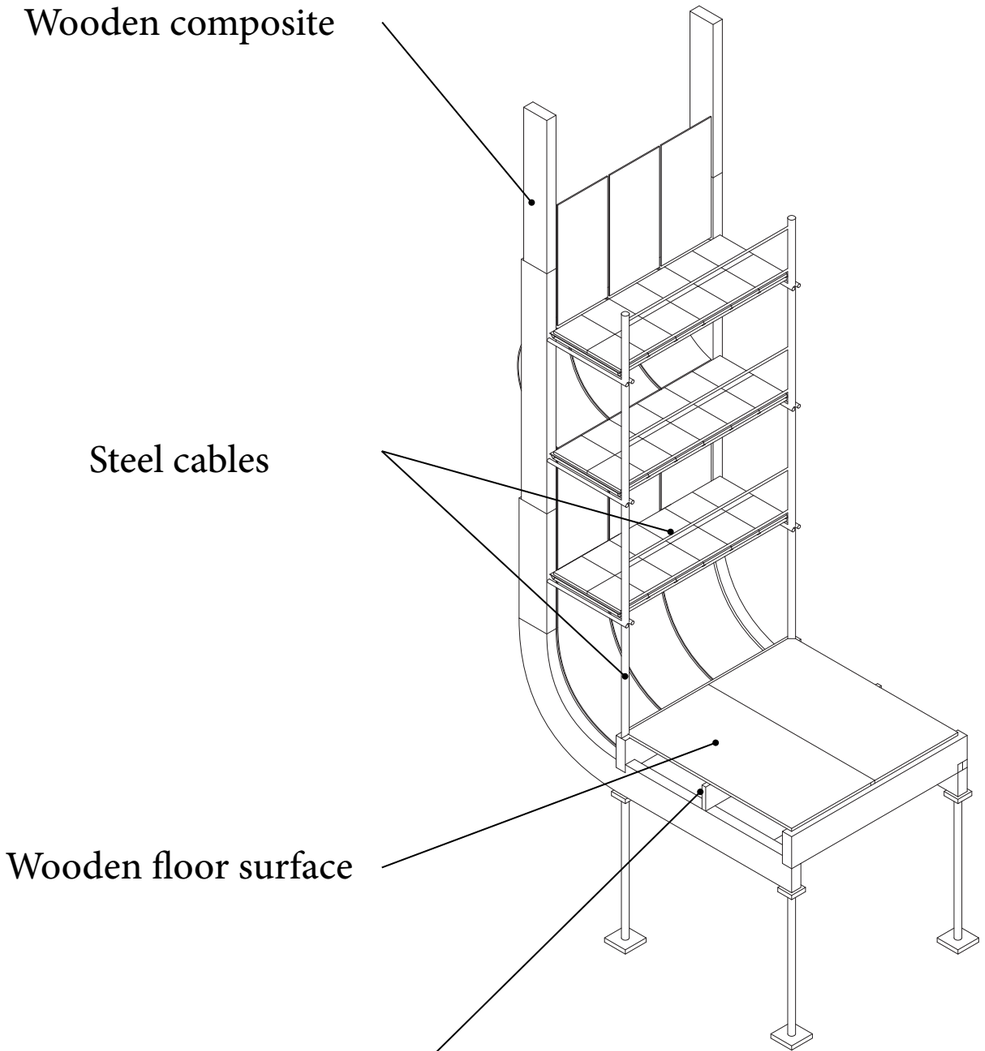
Prometeo, Renzo Piano, 1987

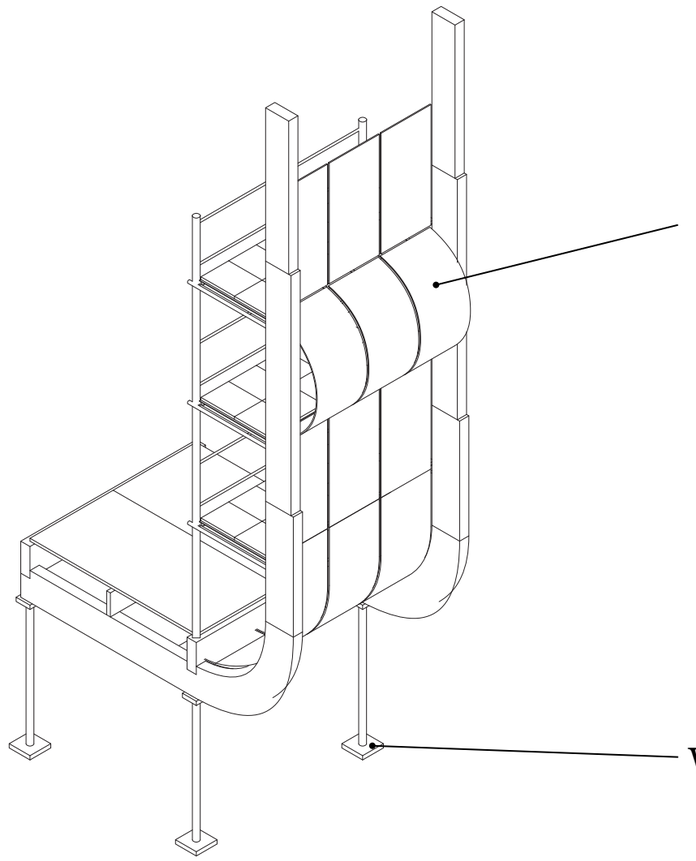
Wooden composite

Steel cables

Wooden floor surface

Wooden floor beams

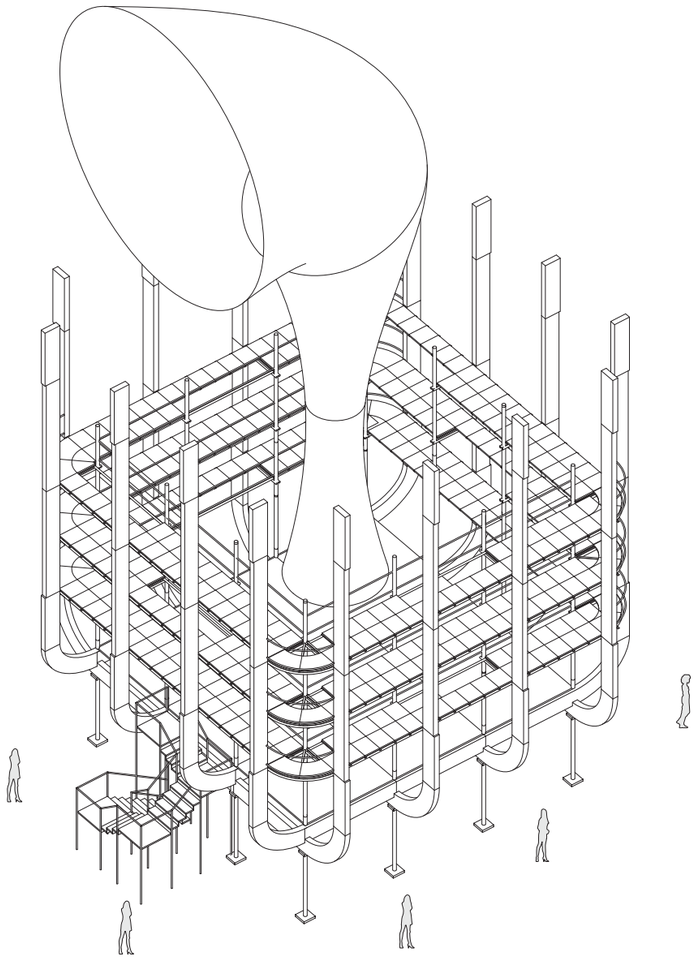


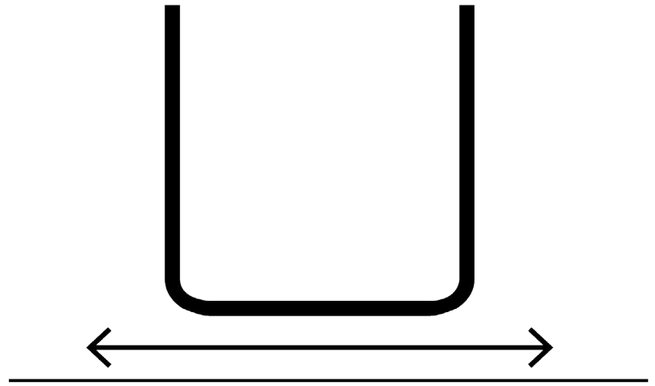


Acoustic panels

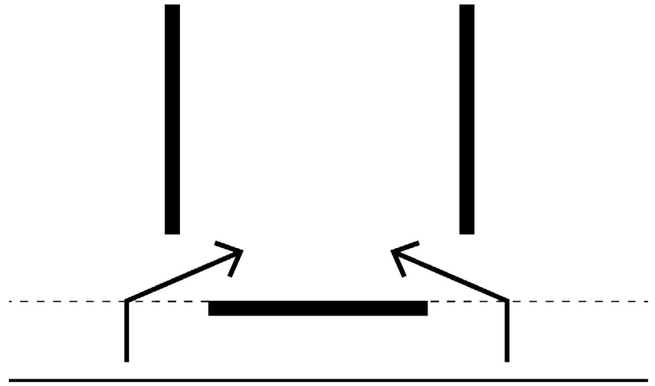
Wooden underlayments

Modularity





Grounding



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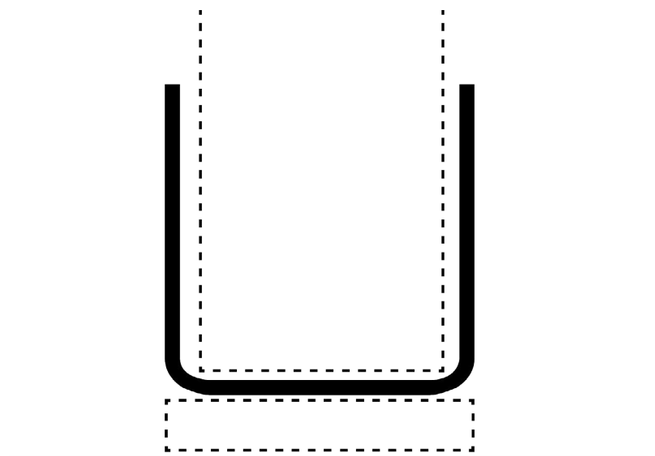
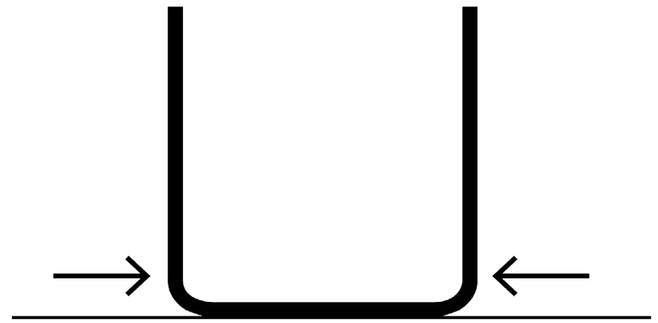


Spatial Distribution



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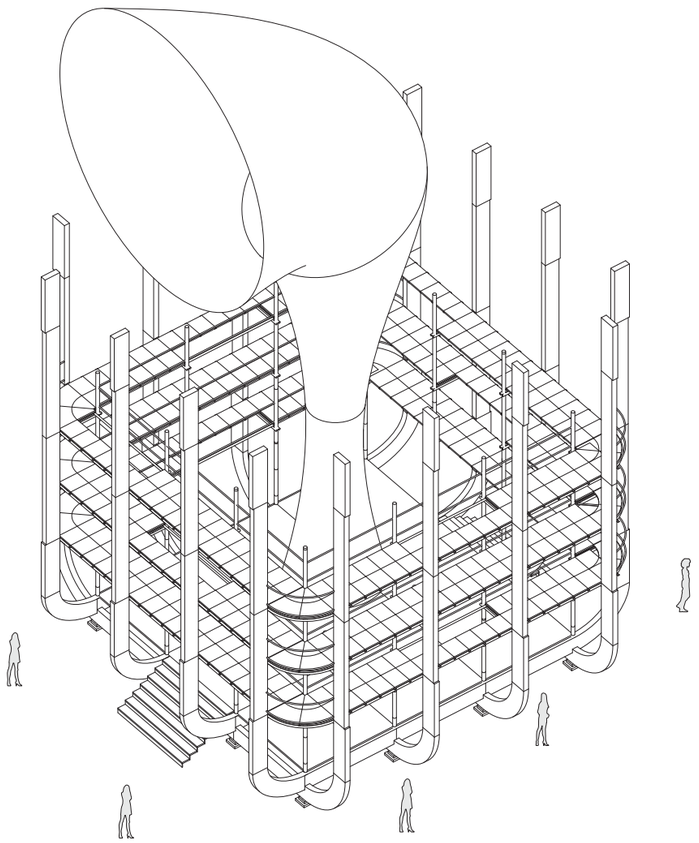

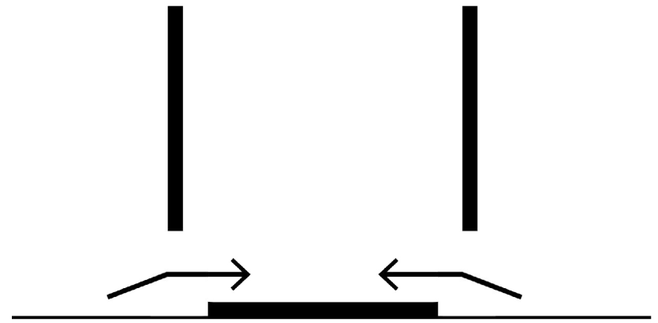

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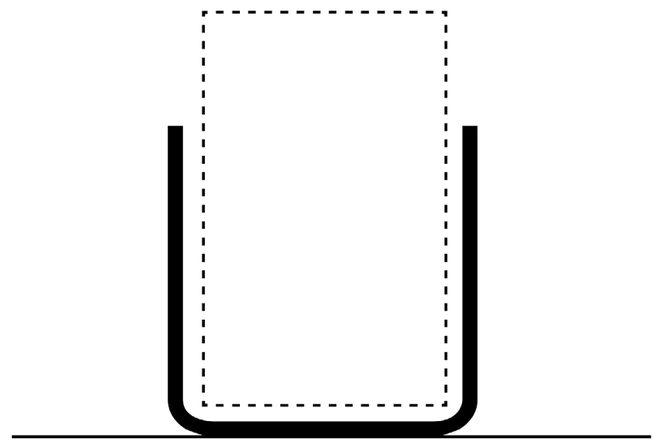

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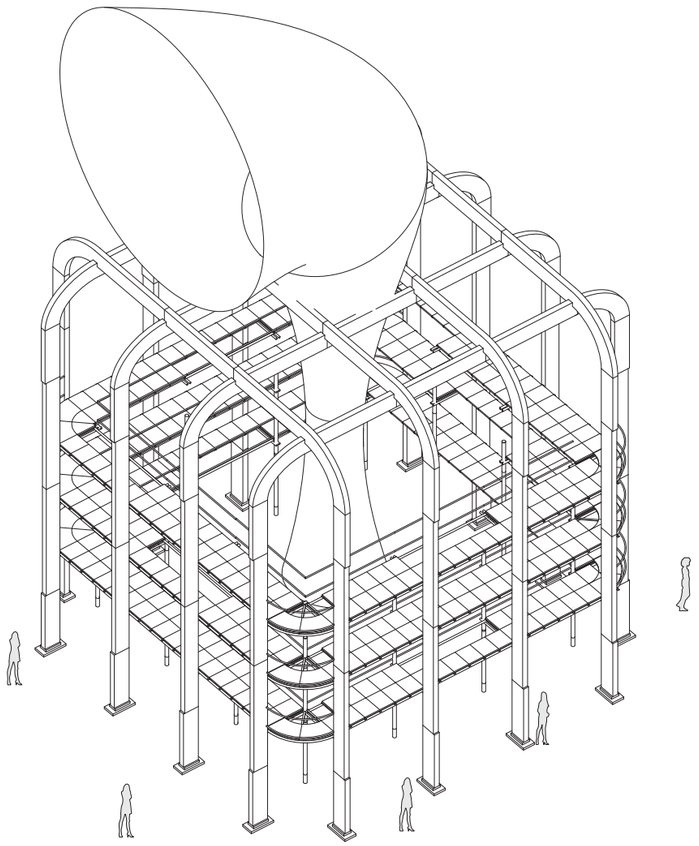

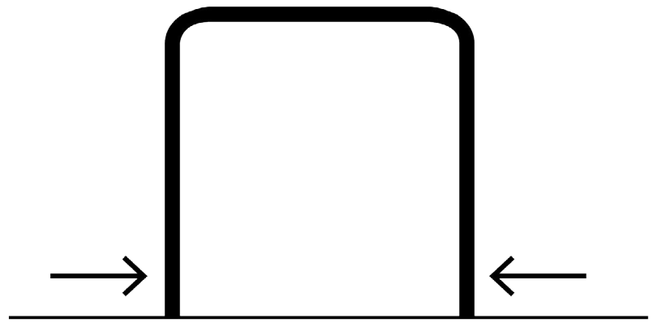

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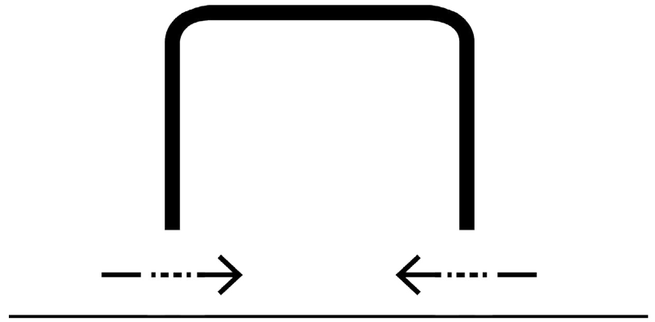

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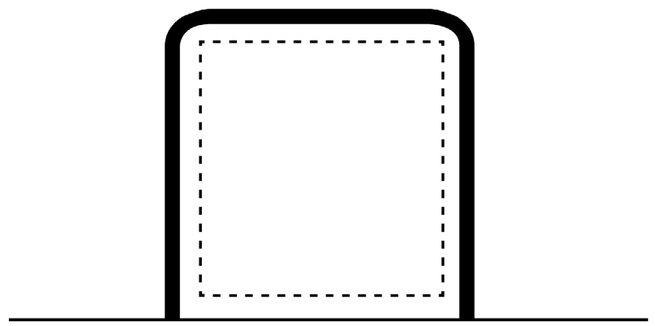

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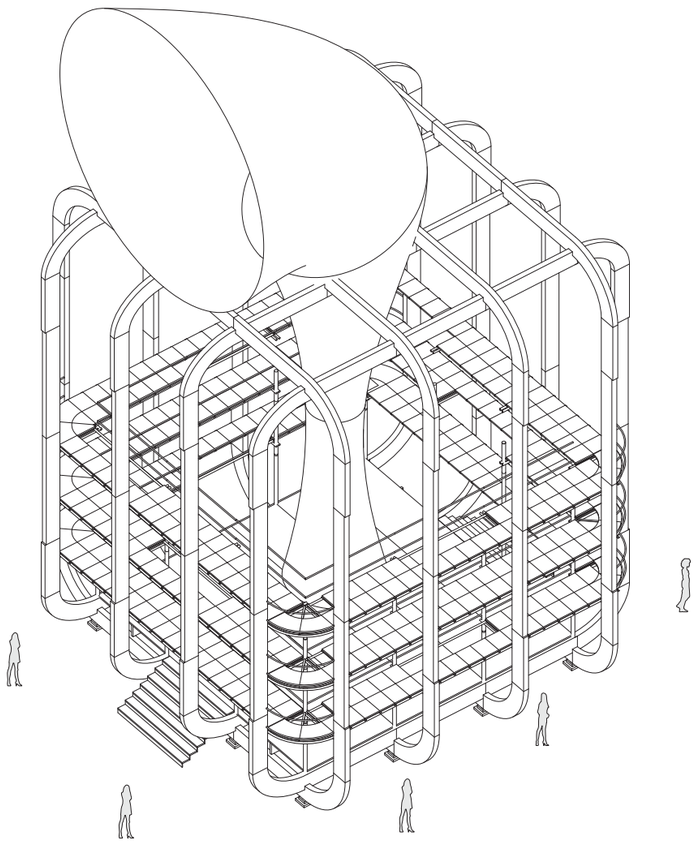

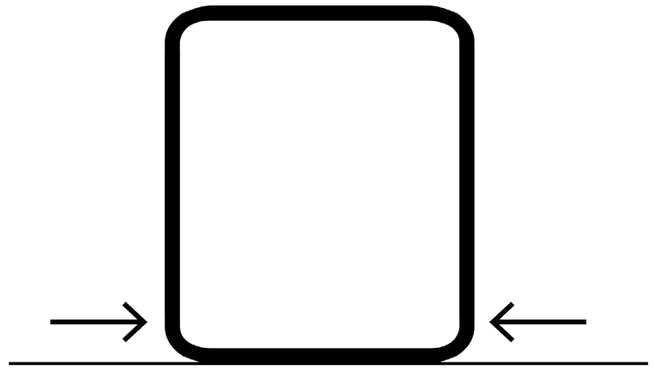

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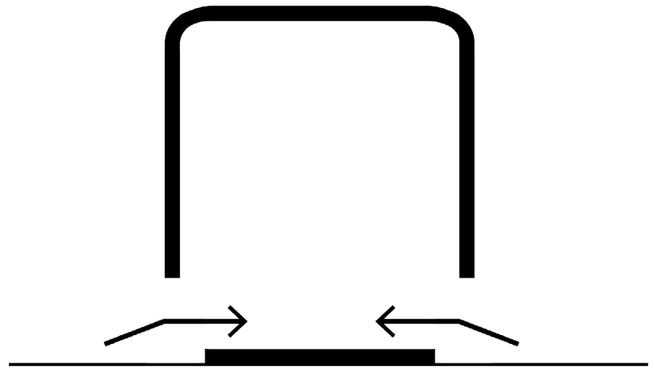

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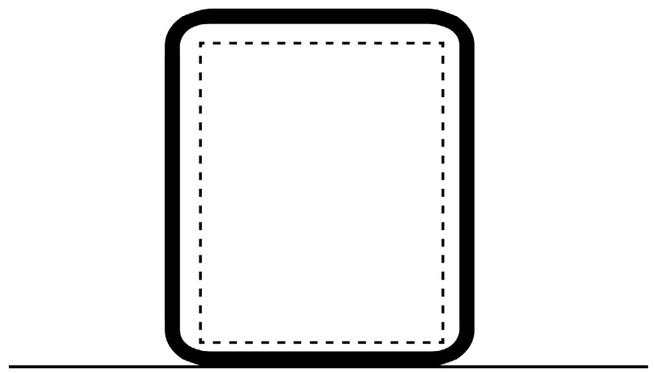

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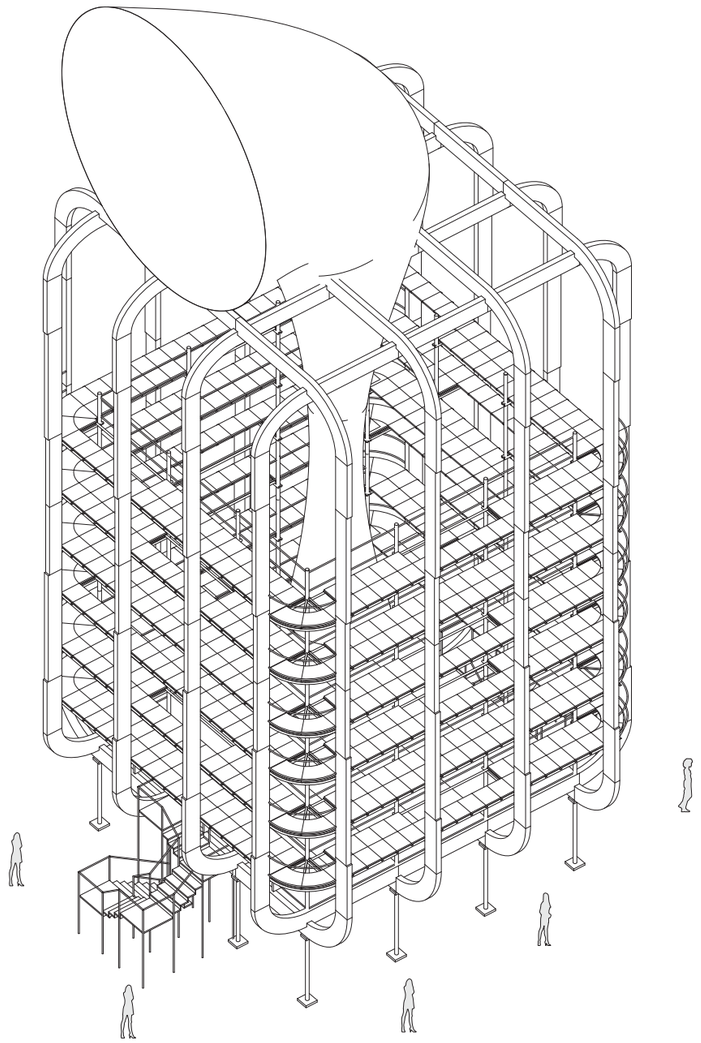

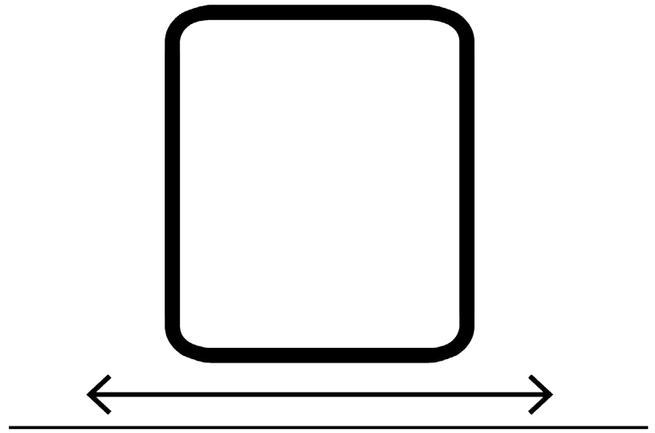

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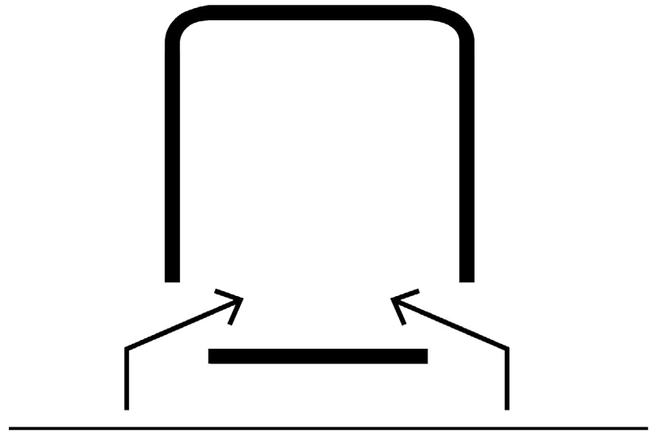

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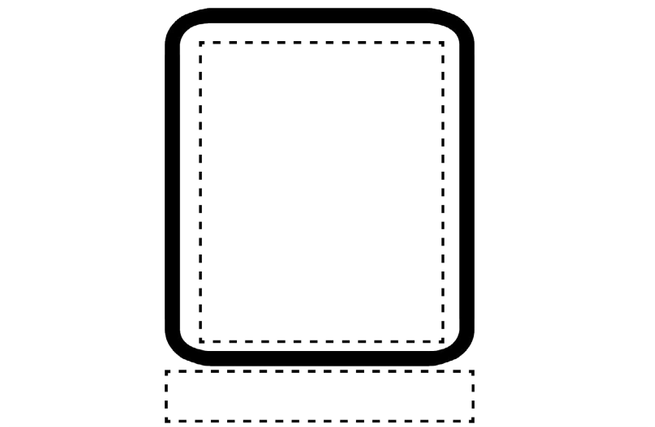

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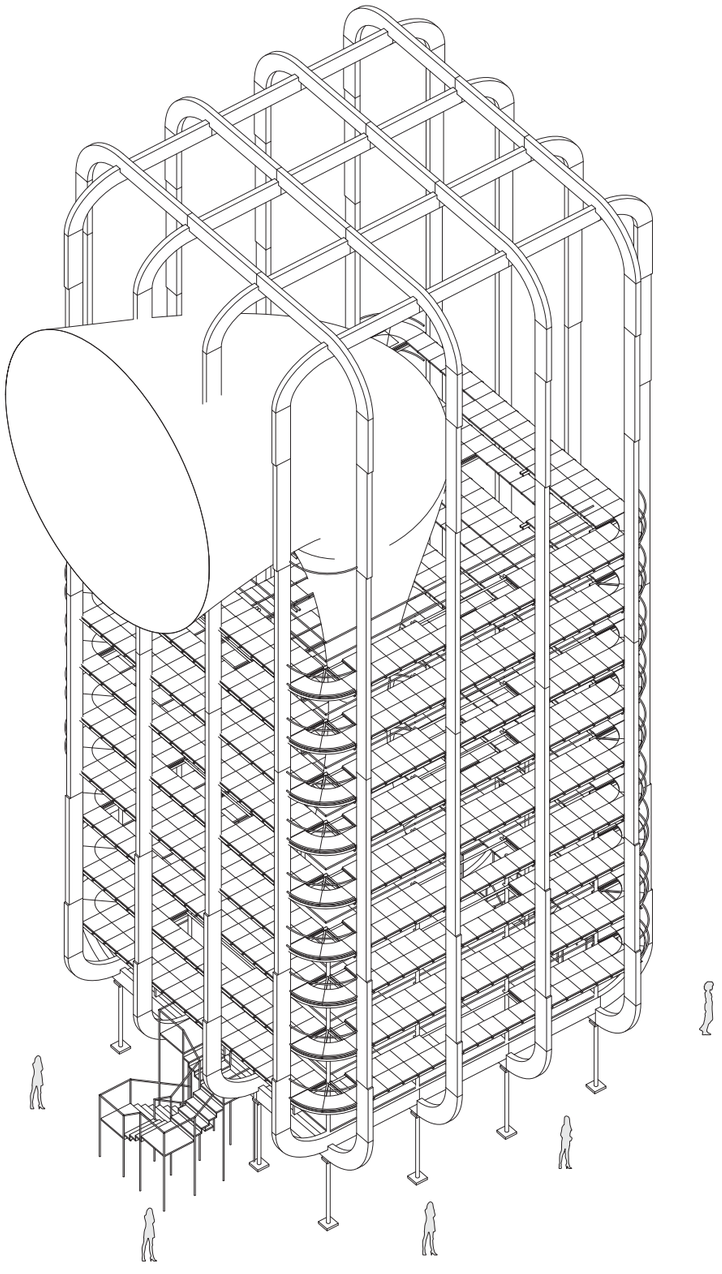
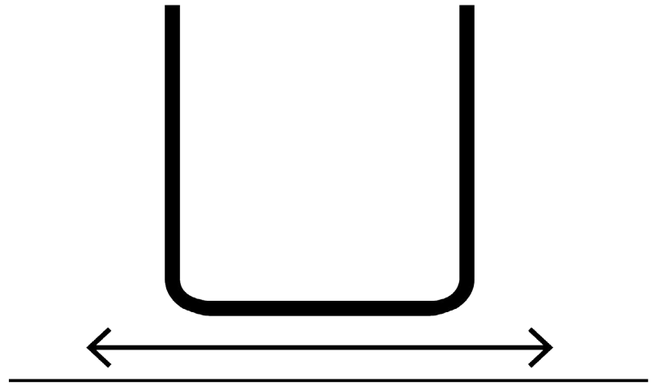
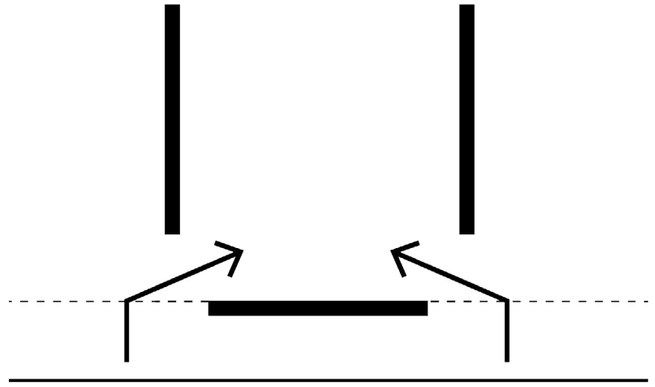
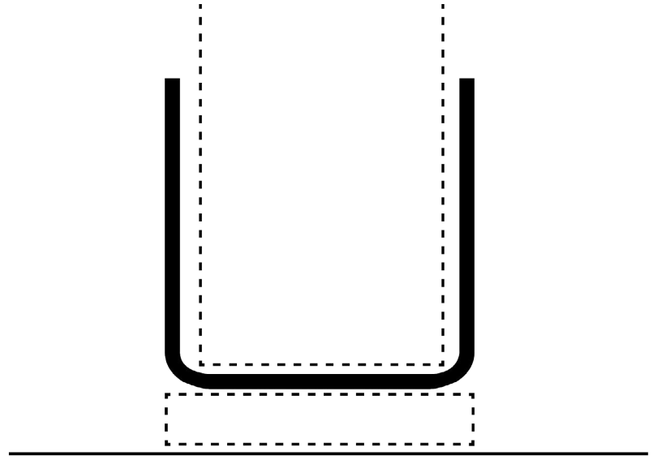




Grounding



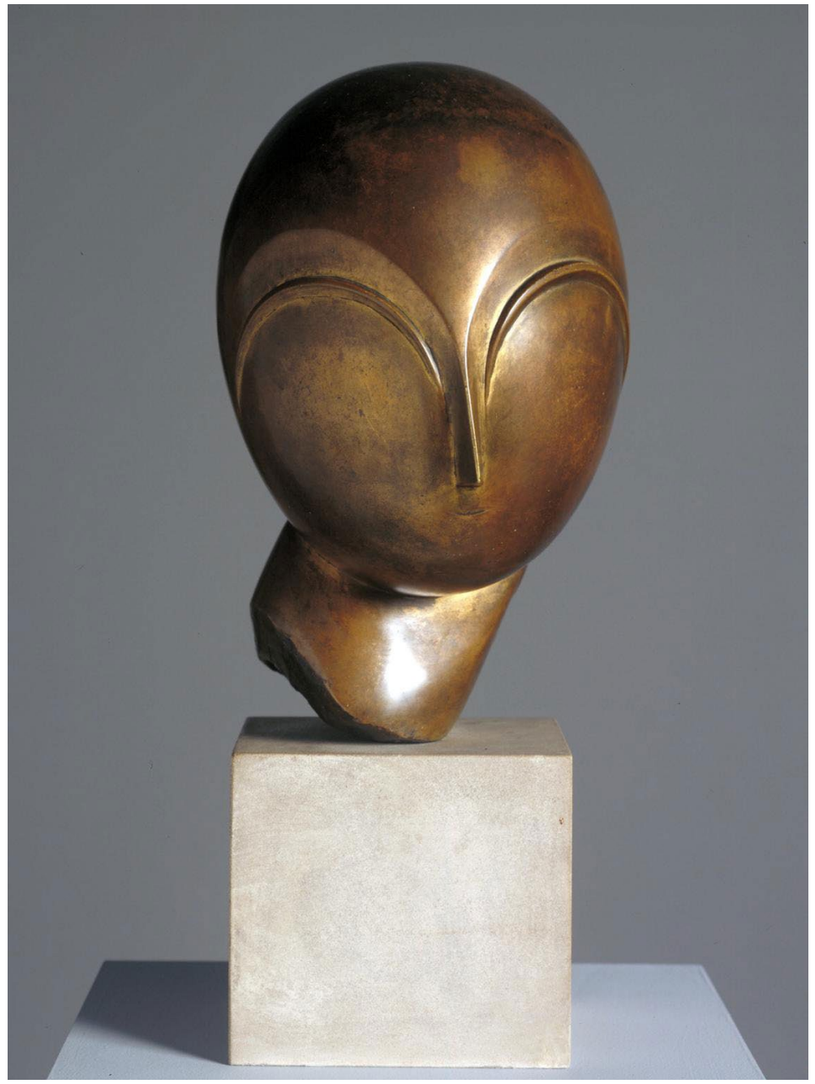
Threshold



Spatial Distribution

Two Contrasting Systems

Formal Oppositions

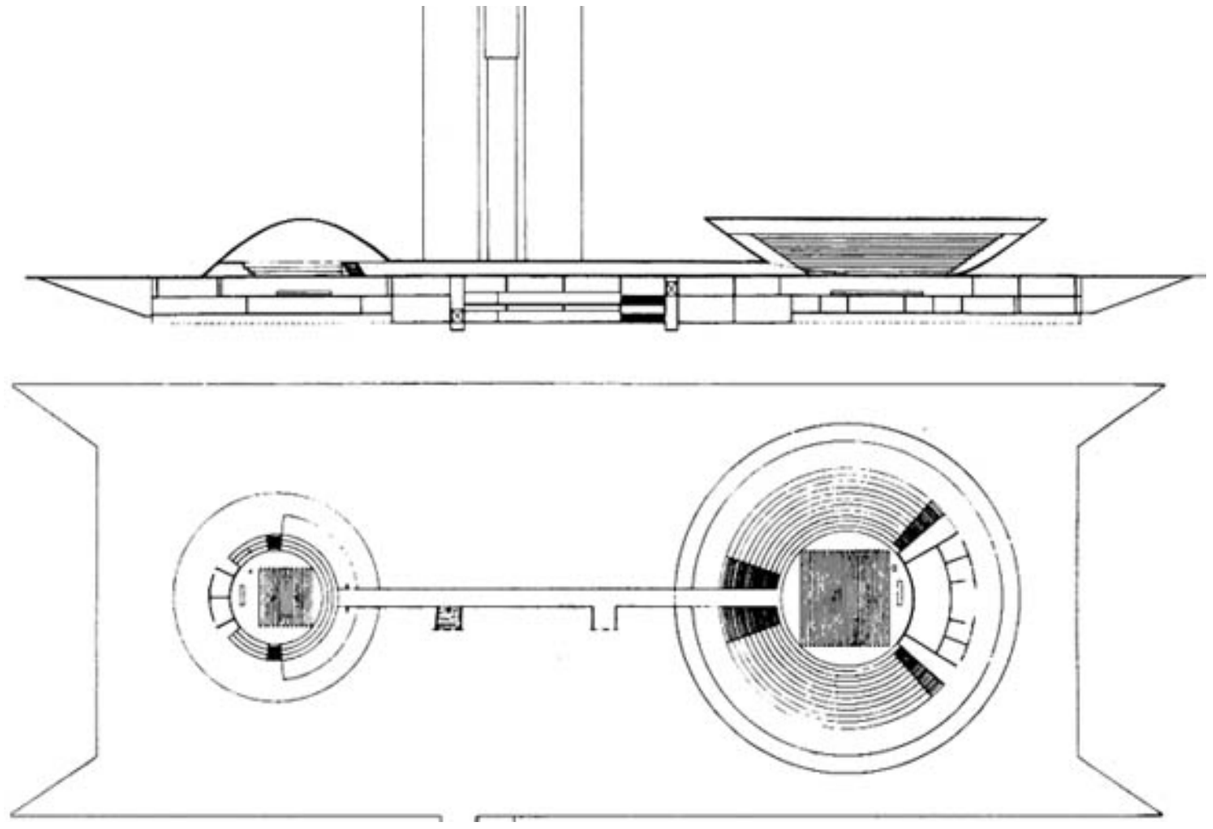


Mademoiselle Pogany, by Constantin Brancusi, 1920

The base is not undermined for its sole supporting function

National Congress Brasilia, by Oscar Niemeyer, 1960

A new Brazilian aesthetic identity in opposition to the hard straight (male) forms of the European architect



National Congress Brasilia, by Oscar Niemeyer, 1960

A new Brazilian aesthetic identity in opposition to the hard straight (male) forms of the European architect

Gramophone, -, 1900's

The wood grain texture contrasts with the smooth, reflective materiality of the horn

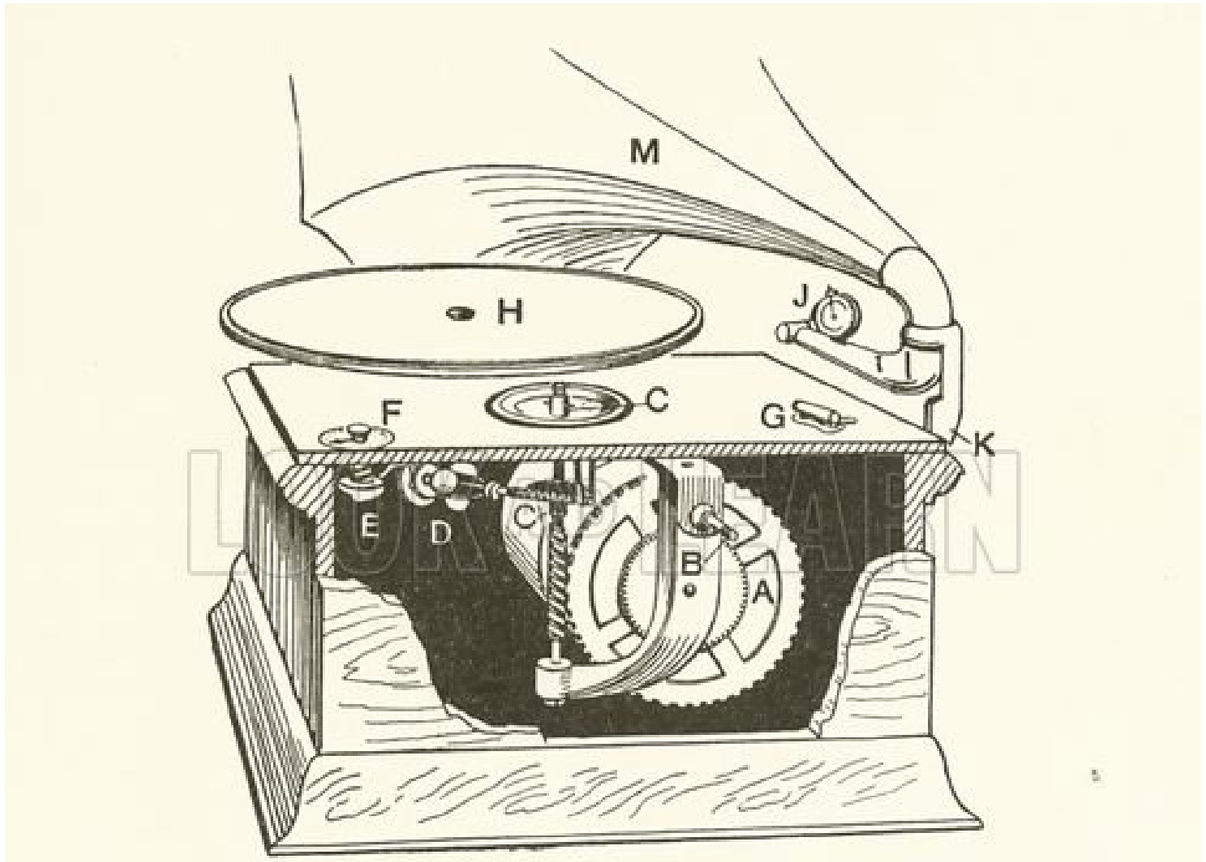


Fig. 620A.—Mechanism of the Gramophone

A, Triple Spring and Cage. B, Winding-shaft on which Handle is Screwed. C, C, Turntable Spindle. D, Governor. E, Speed Regulator. F, Speed Indicator. G, Bolt Brake. H, Turntable. I, Taper Tube. J, Sound-box with Needle resting on Tube. K, Cast Arm. M, Trumpet.

Gramophone Section

The finest point of contact between the needle and the record

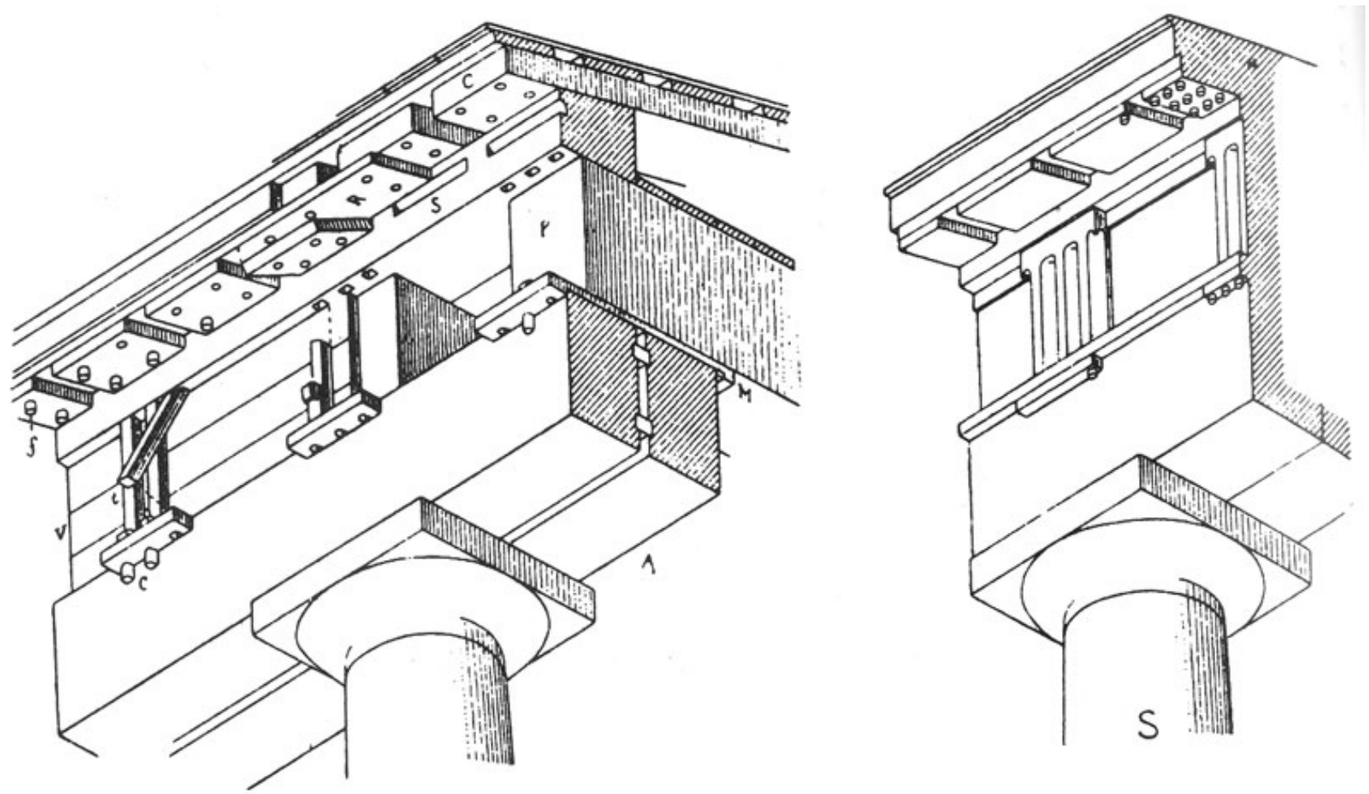
Intersection of a contemporary stair and Roman stone wall at Trajan's Market, Rome, Italy

Expression of the Joint

The Host

Tectonical

Sound is never **static**. It is dynamic, mobile, temporal. I would like my architecture to express the notion of time and sound through the **materiality** and the **technical** expression of the project.


C
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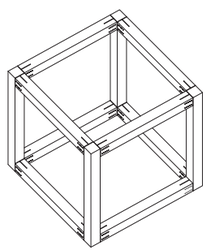
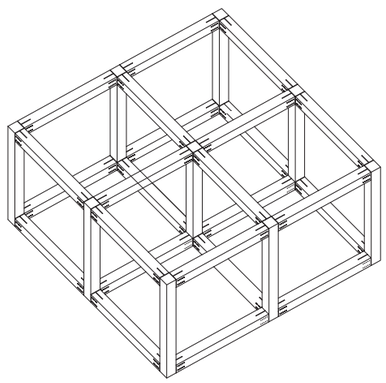
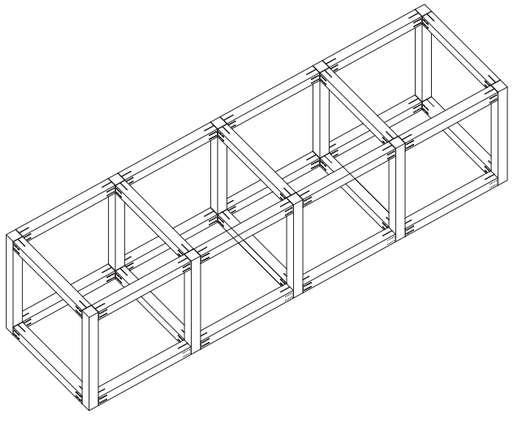


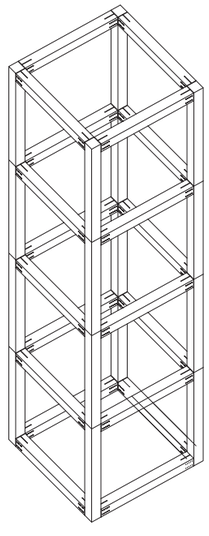
Single



Array

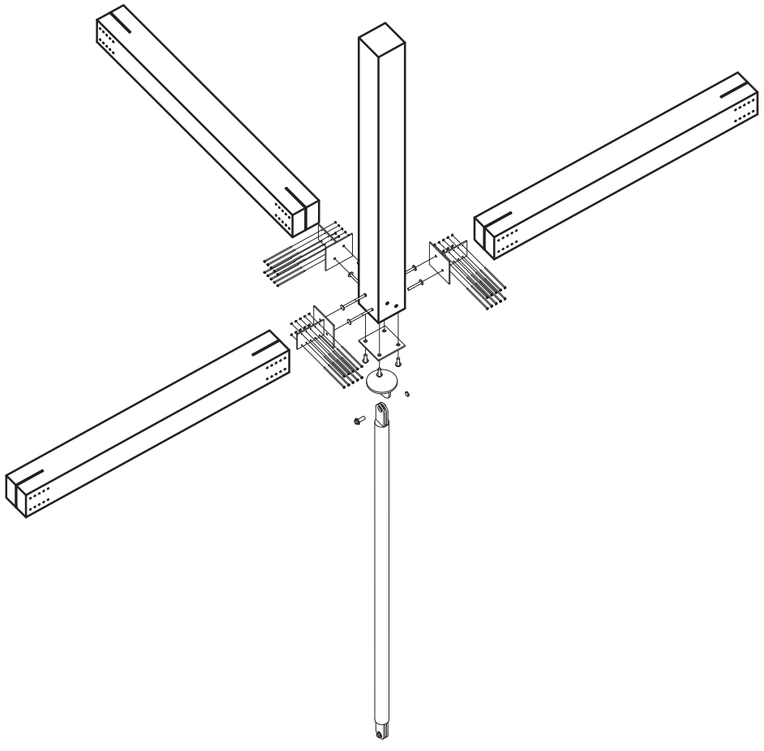


Stretch (horizontal)

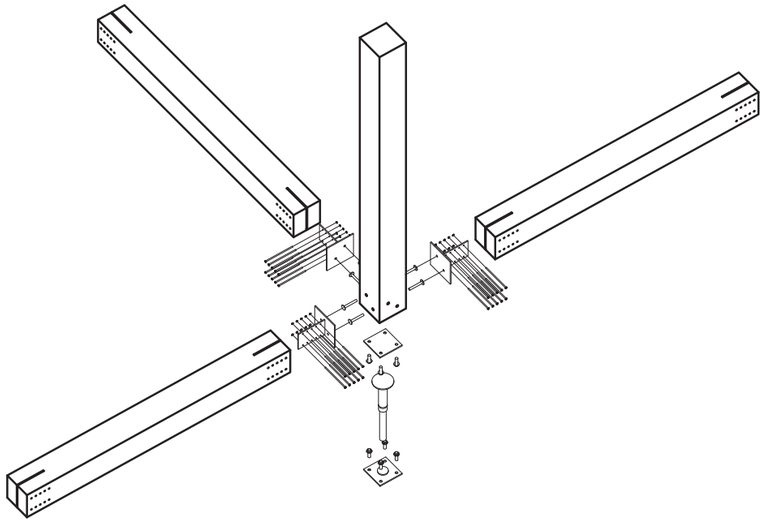


Stretch (vertical)

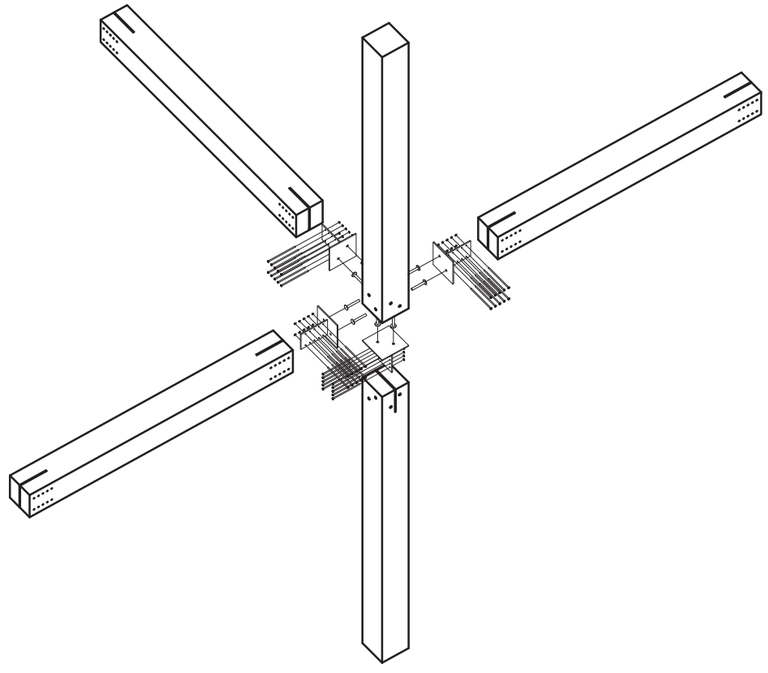
Expandable System



Point-Hinge (scharnier)

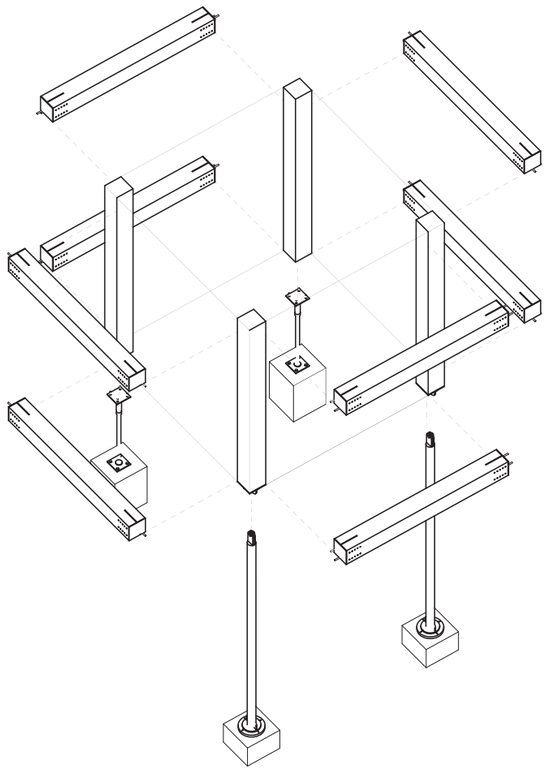


Steel post-base

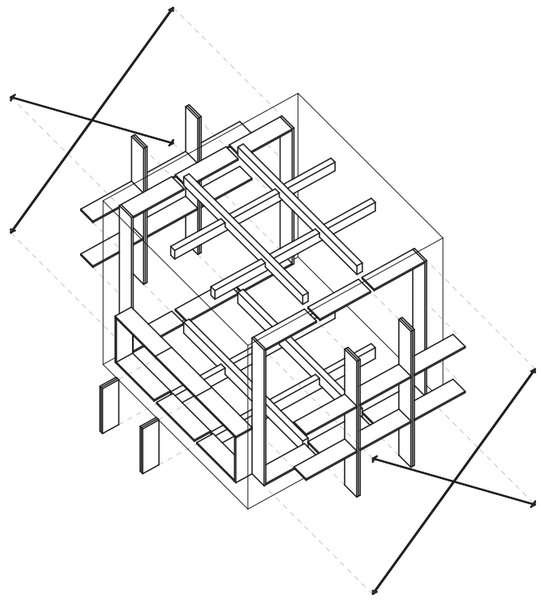


Wooden post

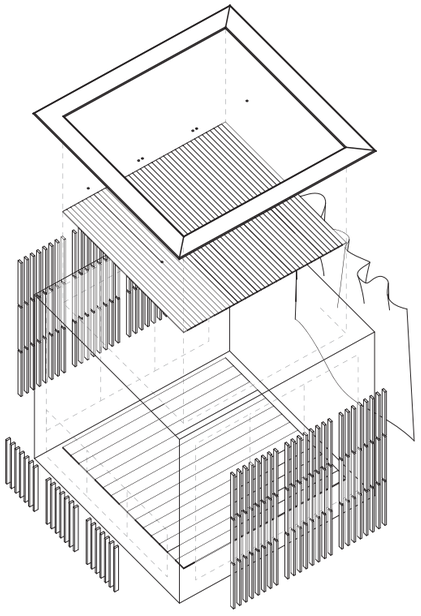
Structural Joint



Primary Elements

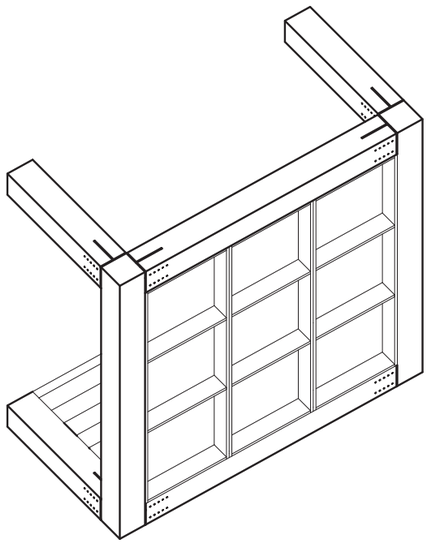


Secondary Elements

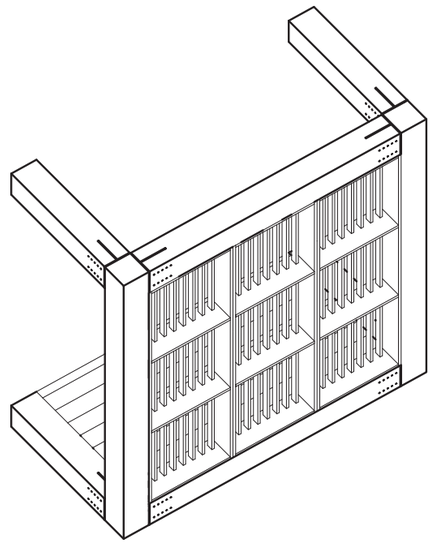


Tertiary Elements

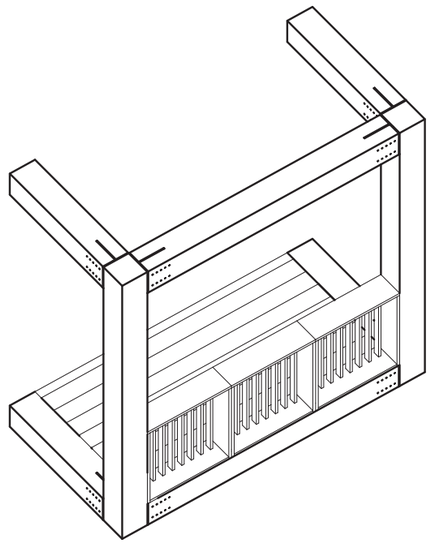
Assembly



Solid acoustic infill



Louvre infill



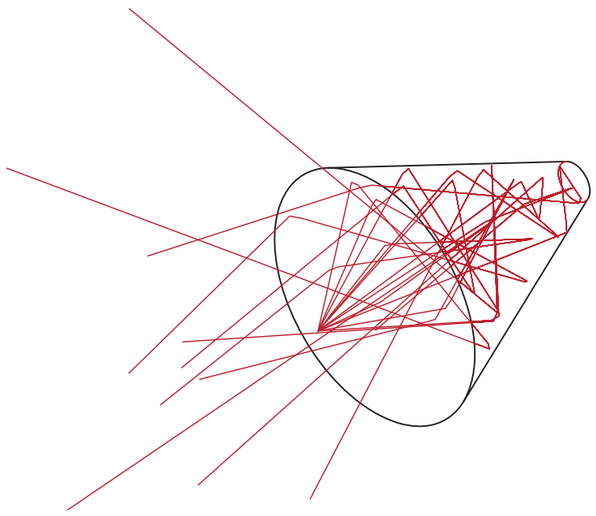
Balustrade infill

Exterior - Interior

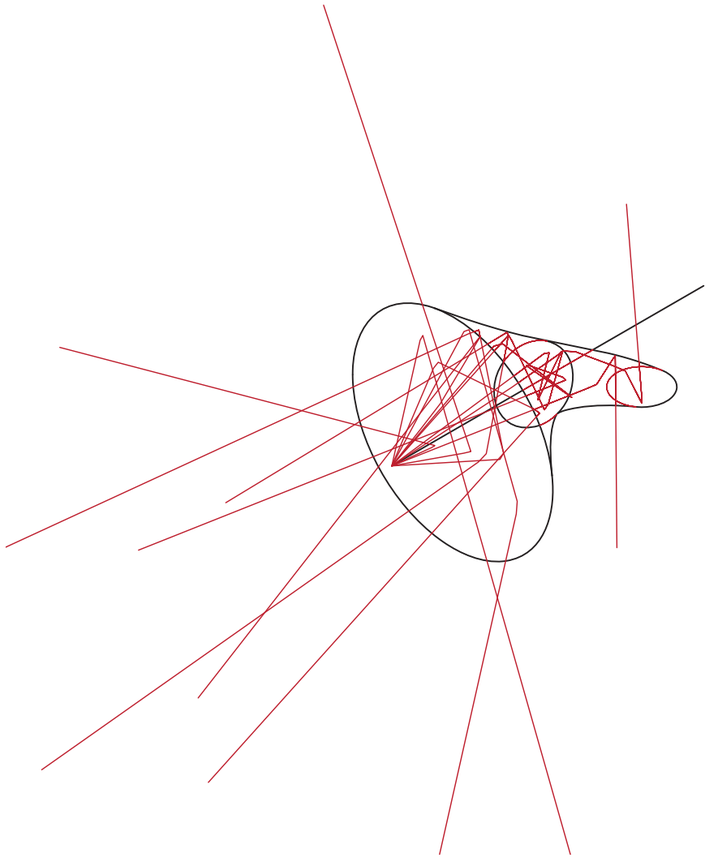
The Trumpet

Plastic

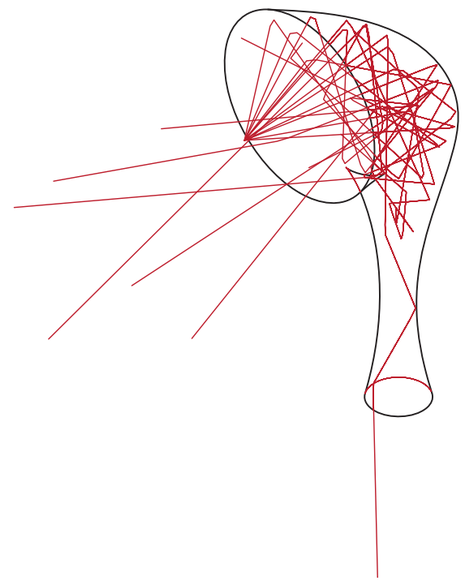
Ceramics (plasticity) - A unified purpose



Conical

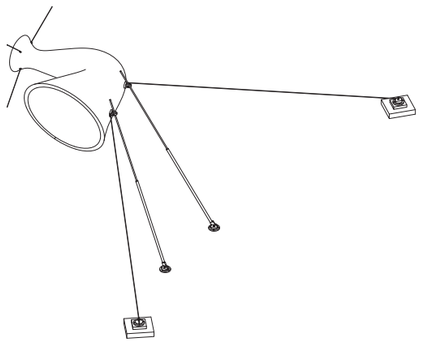


Extended Parabolic

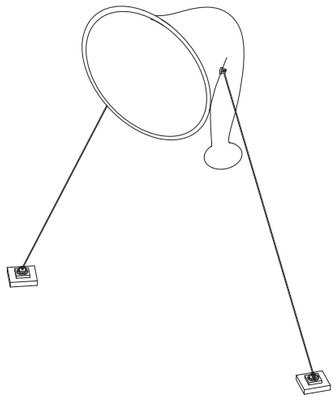


Extended Hyperbolic

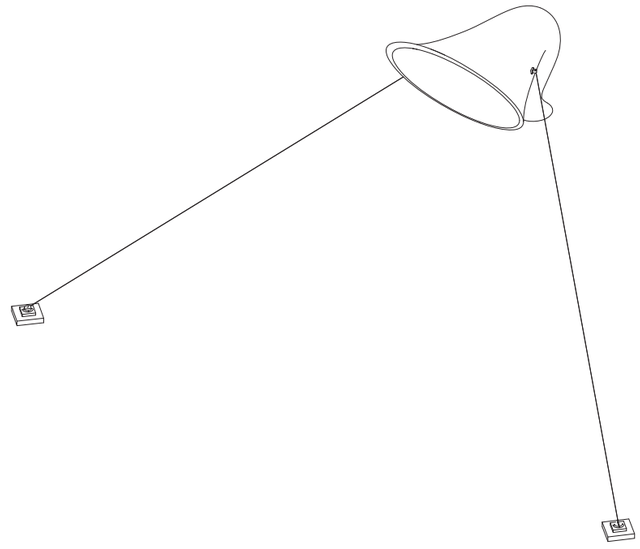
Acoustic Performance



Position sideways

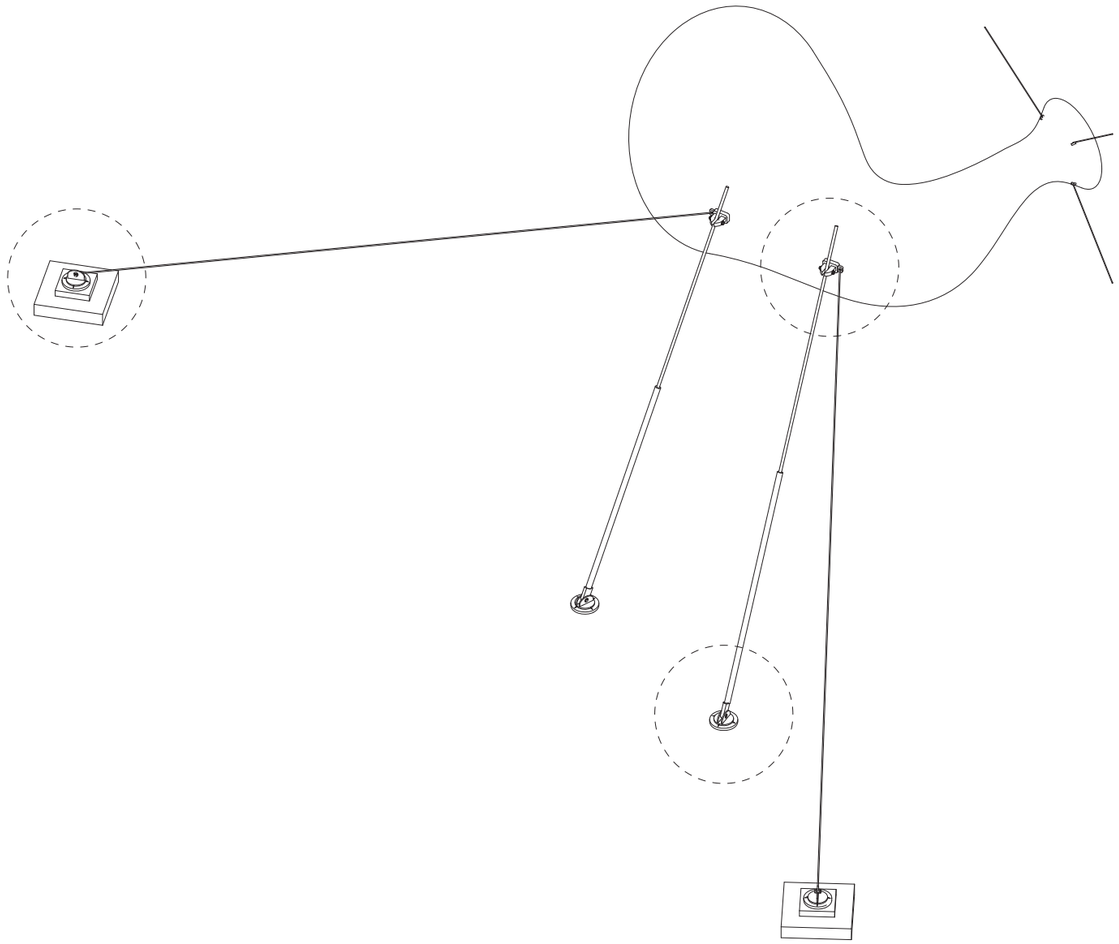


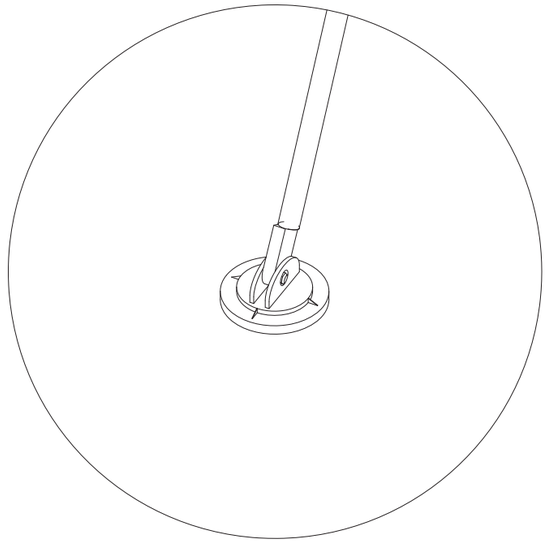
Direction

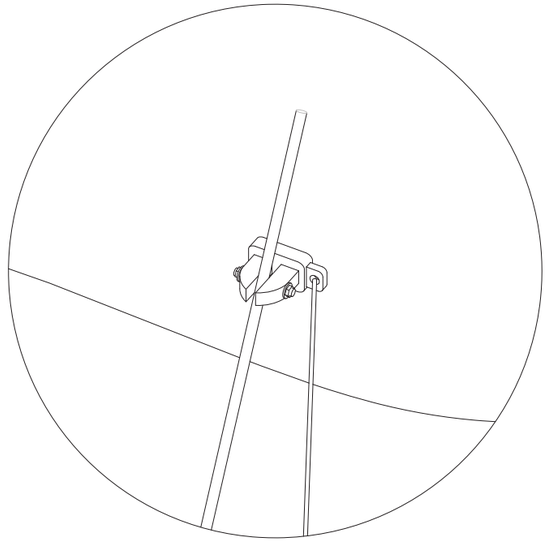


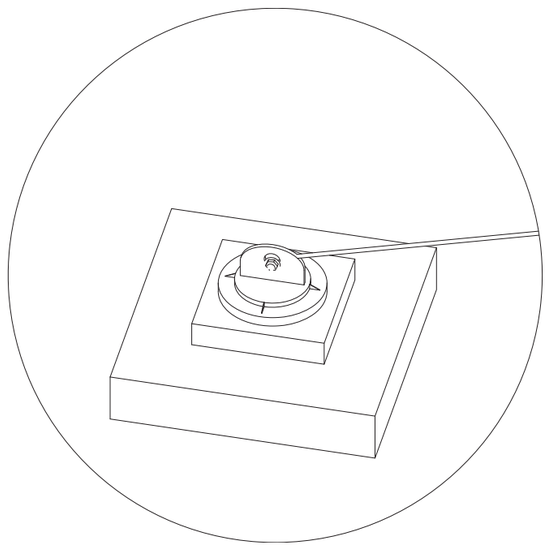
Scale

Formal performance









Detailling

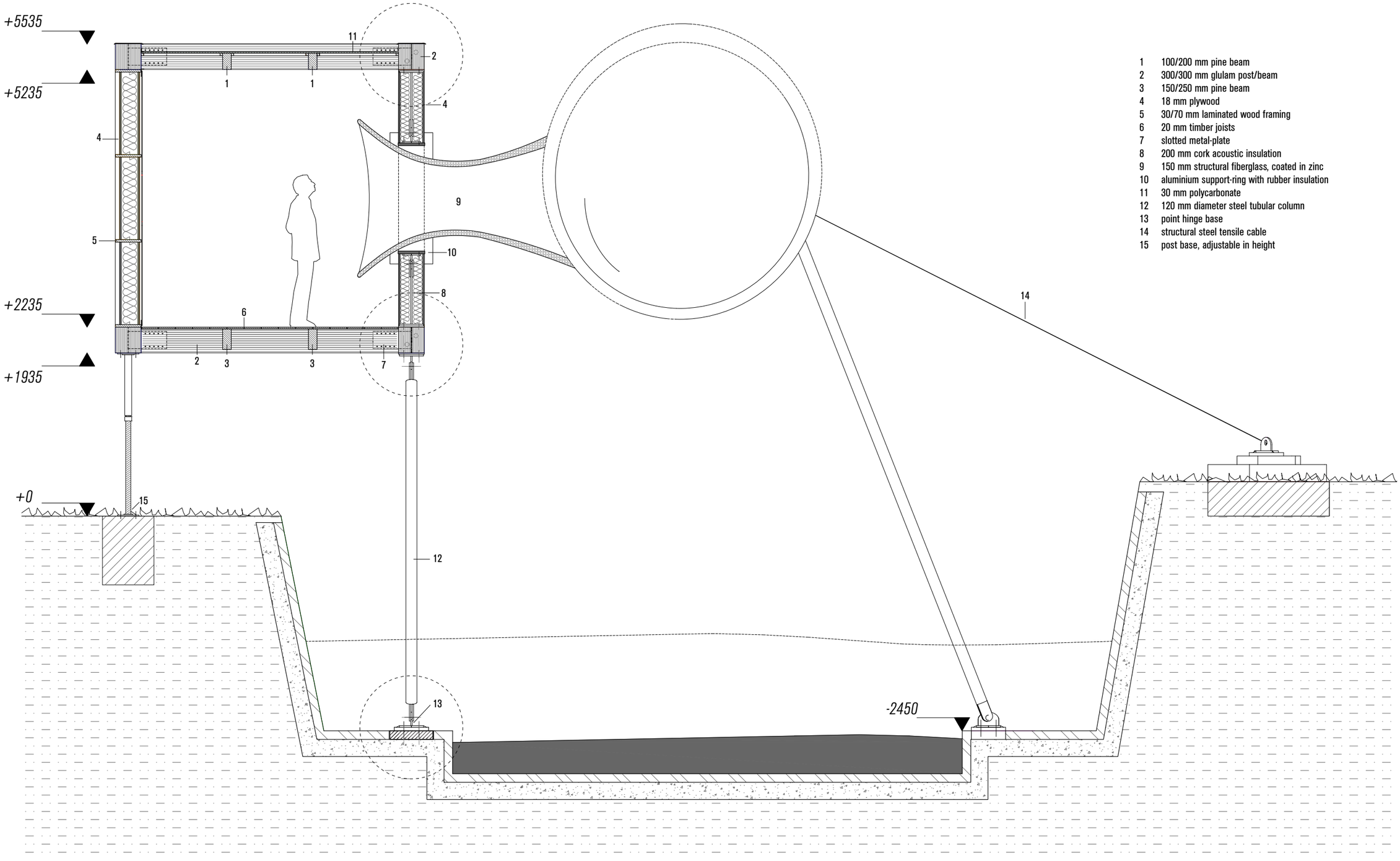
Fibreglass structure with integrated handles

Ceramics (plasticity) - A unified purpose

Contrasting Material Pallette

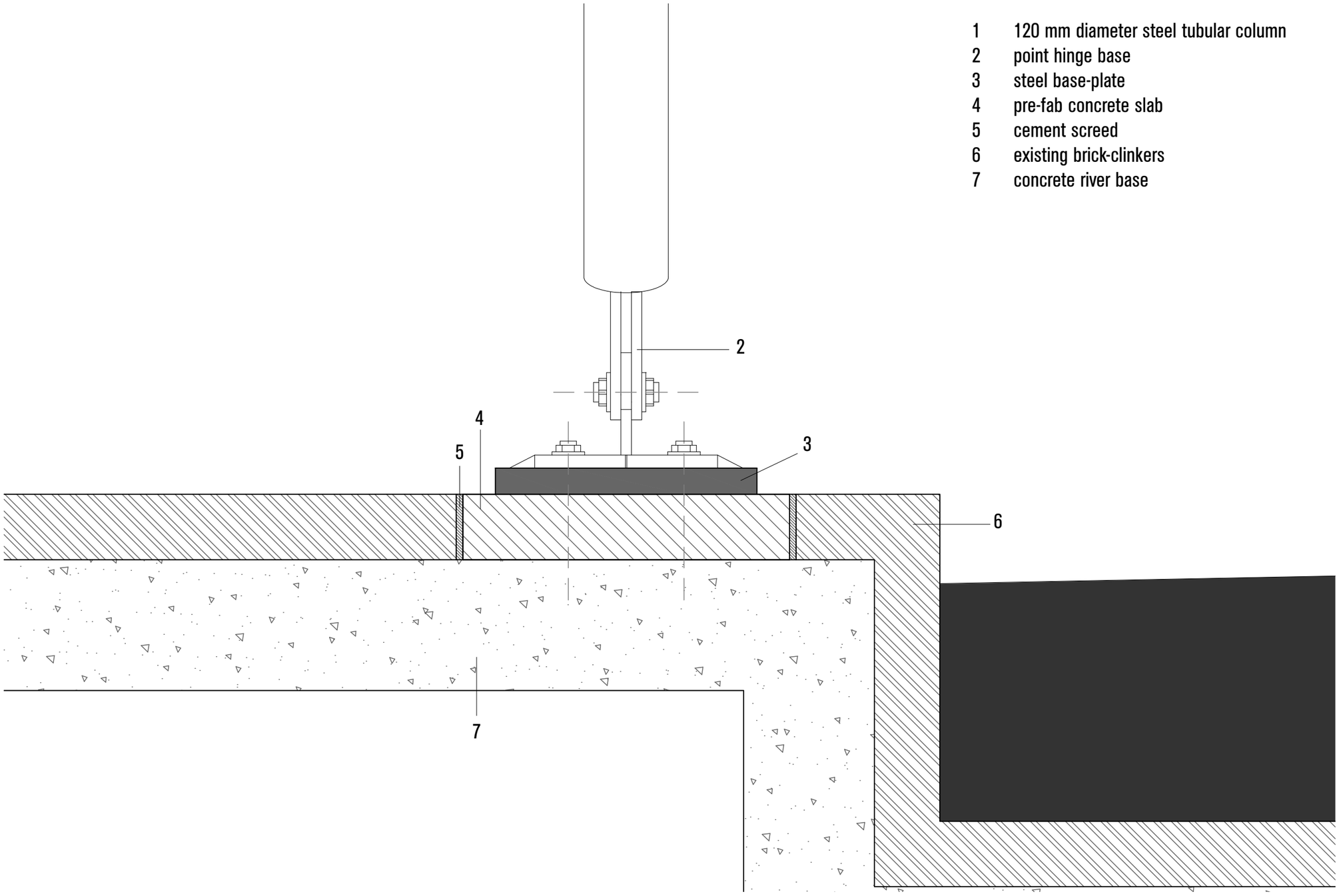
The Moment of Contact

How do the two formal oppositions
create meaning?



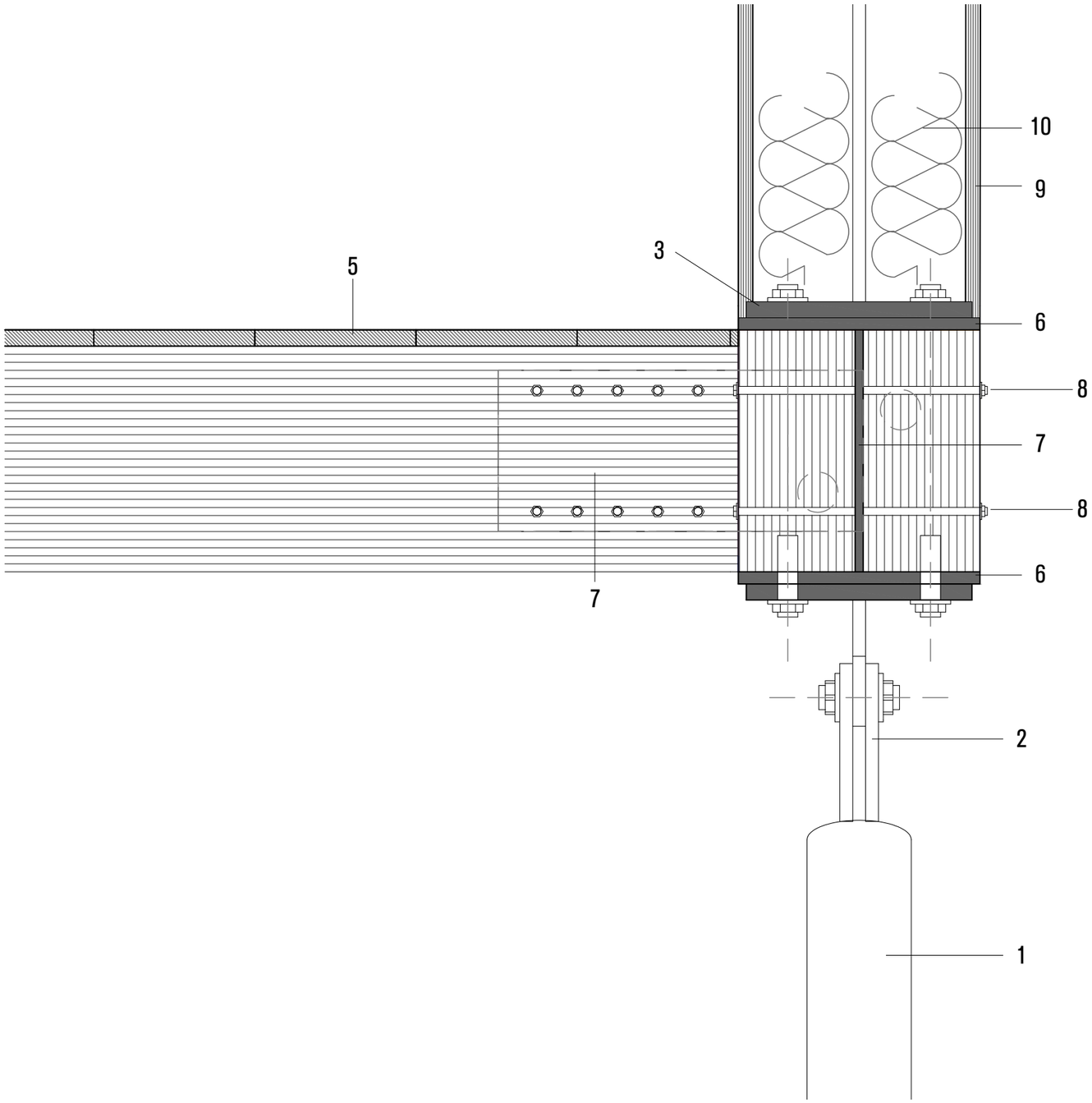
1 100/200 mm pine beam
2 300/300 mm glulam post/beam
3 150/250 mm pine beam
4 18 mm plywood
5 30/70 mm laminated wood framing
6 20 mm timber joists
7 slotted metal-plate
8 200 mm cork acoustic insulation
9 150 mm structural fiberglass, coated in zinc
10 aluminium support-ring with rubber insulation
11 30 mm polycarbonate
12 120 mm diameter steel tubular column
13 point hinge base
14 structural steel tensile cable
15 post base, adjustable in height

Building Technology



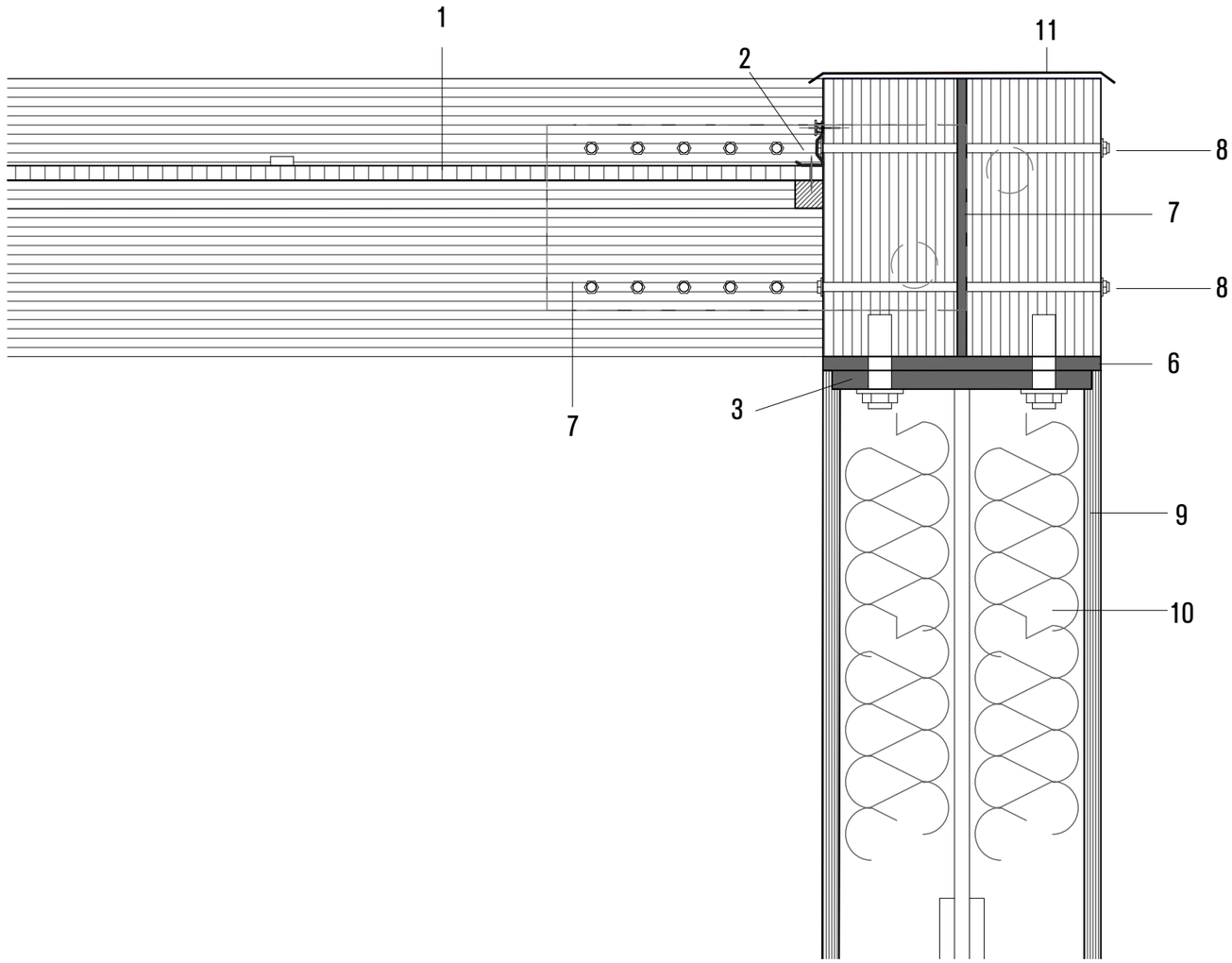
1 120 mm diameter steel tubular column
2 point hinge base
3 steel base-plate
4 pre-fab concrete slab
5 cement screed
6 existing brick-clinkers
7 concrete river base

Contact with the floor



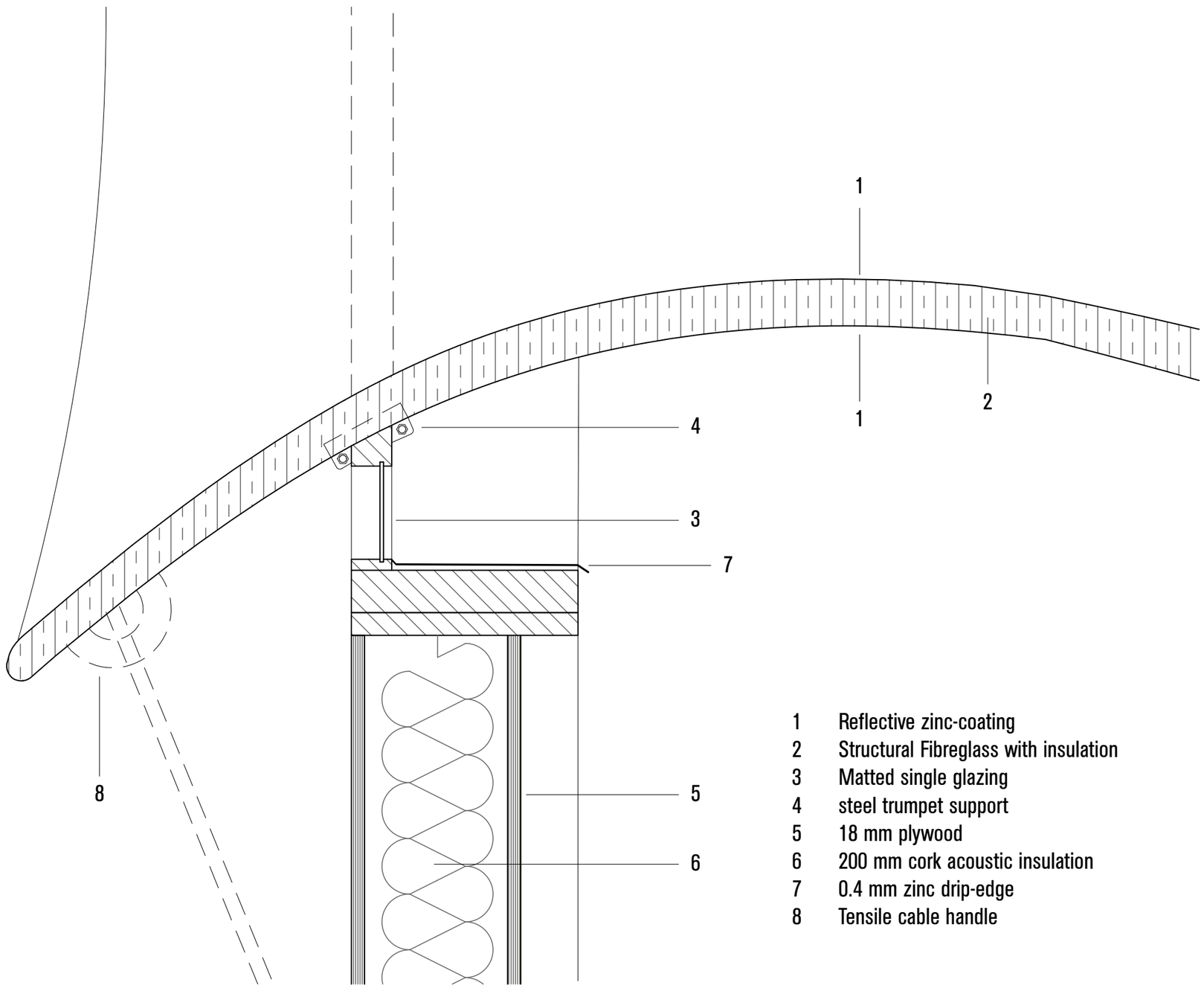
1 120 mm diameter steel tubular column
2 point hinge joint
3 trumpet support structure
4 300/300 mm glulam beam
5 20 mm timber joists
6 thick steel beam strap and seat
7 thick steel knife plate
8 bolt with washer and countersink
9 18 mm plywood
10 200 mm cork acoustic insulation

Contact with the box



1 16 mm polycarbonate
2 flashing
3 trumpet support structure
4 300/300 mm glulam beam
5 20 mm timber joists
6 thick steel beam strap and seat
7 thick steel knife plate
8 bolt with washer and countersink
9 18 mm plywood
10 200 mm cork acoustic insulation
11 0.4 mm zinc drip-edge

Contact with the roof



1 Reflective zinc-coating
2 Structural Fibreglass with insulation
3 Matted single glazing
4 steel trumpet support
5 18 mm plywood
6 200 mm cork acoustic insulation
7 0.4 mm zinc drip-edge
8 Tensile cable handle

Contact with the trumpet

Three Interventions

Three modes of temporality

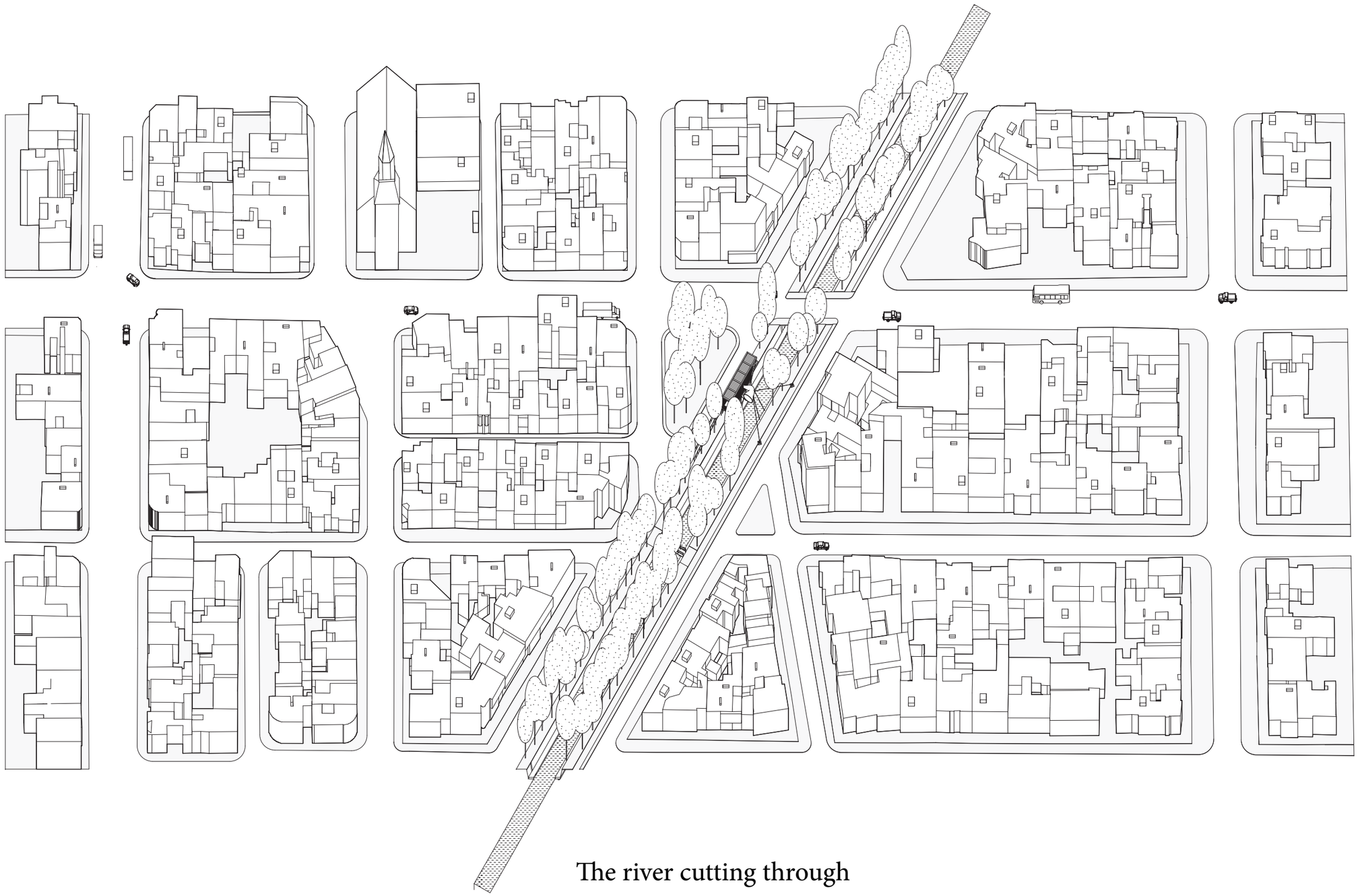
River Arzobispo

During Monsoon season

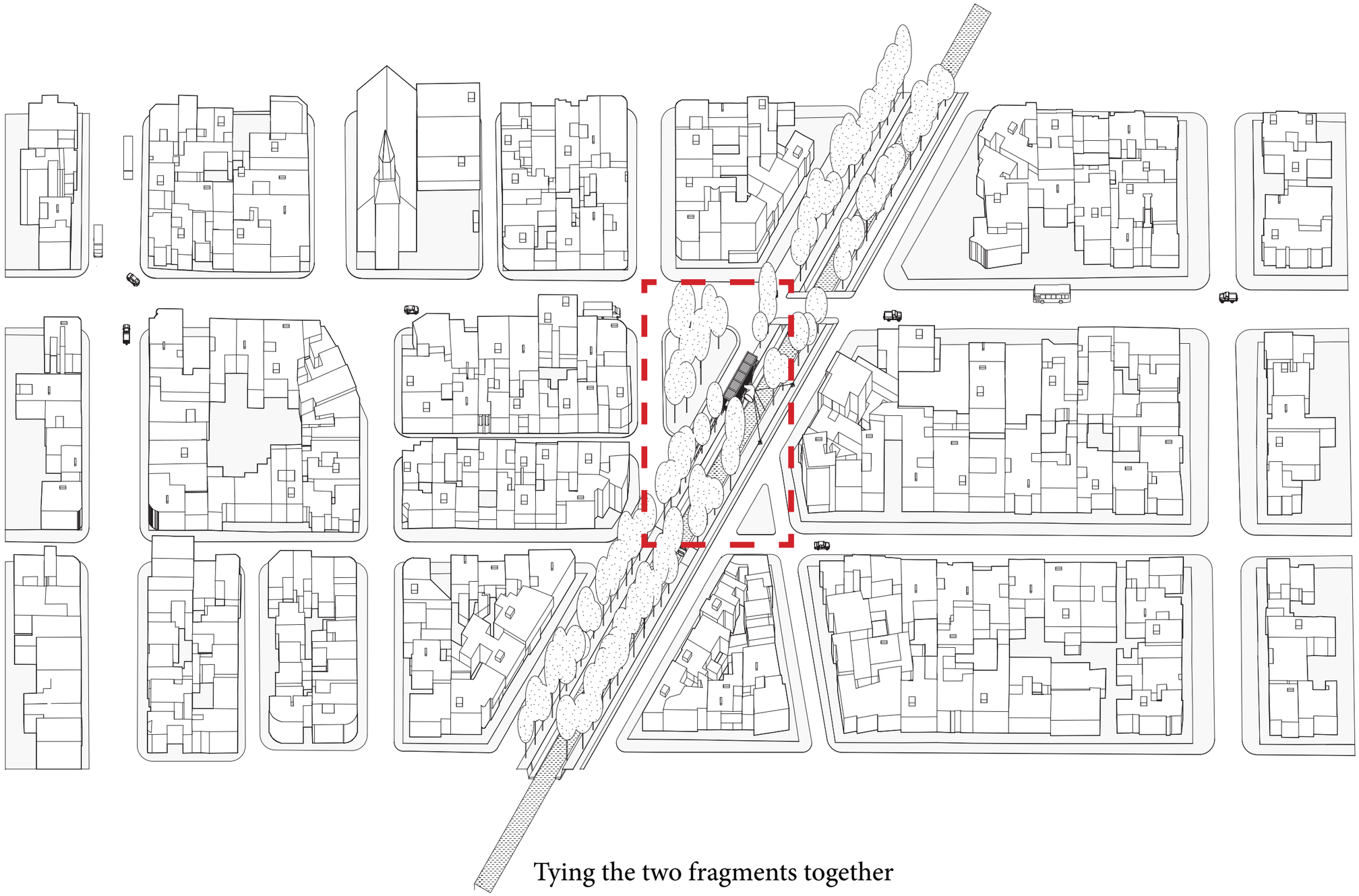
A waste disposal

A place in people’s hearts

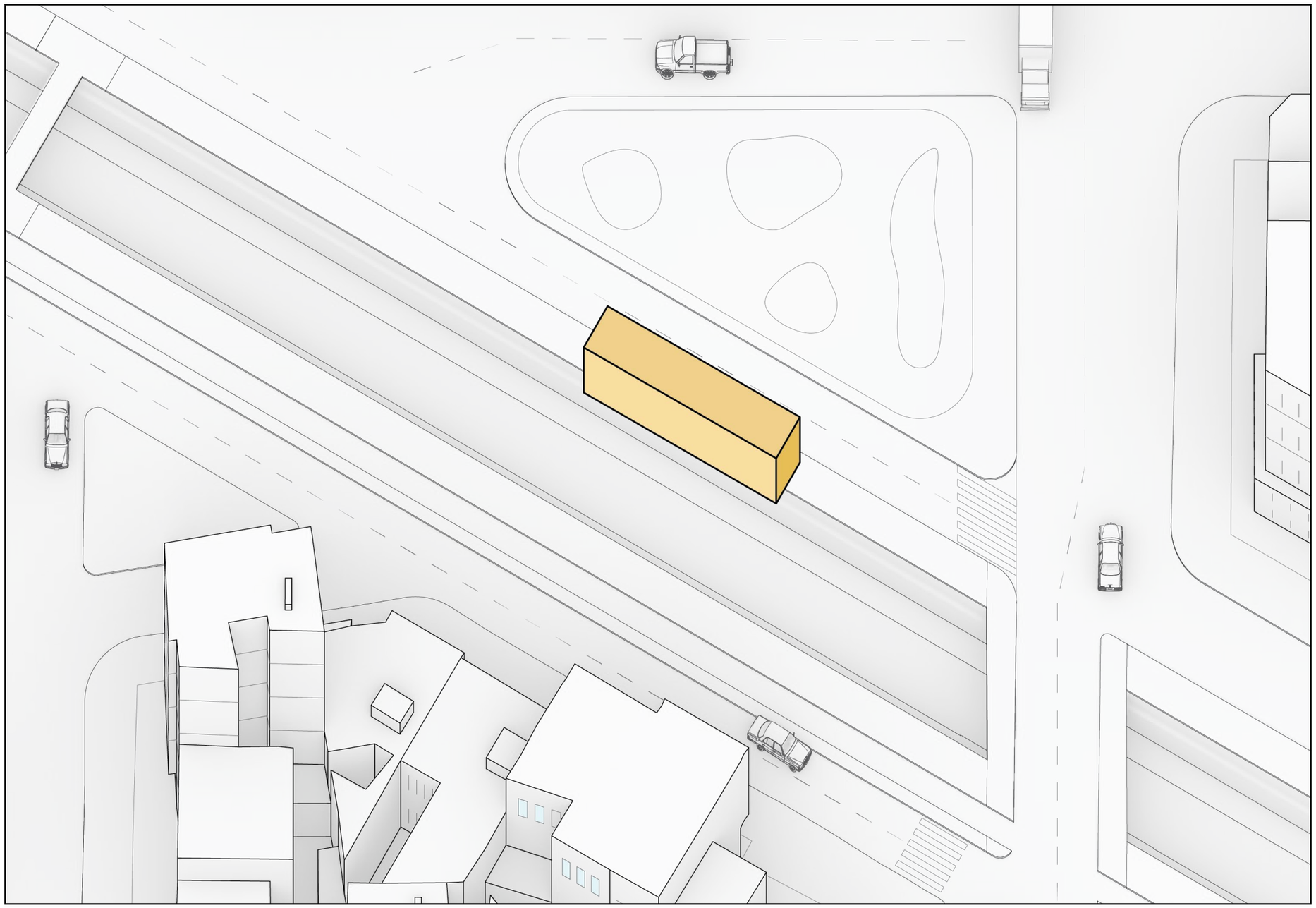
Mode: **Urban Regeneration**



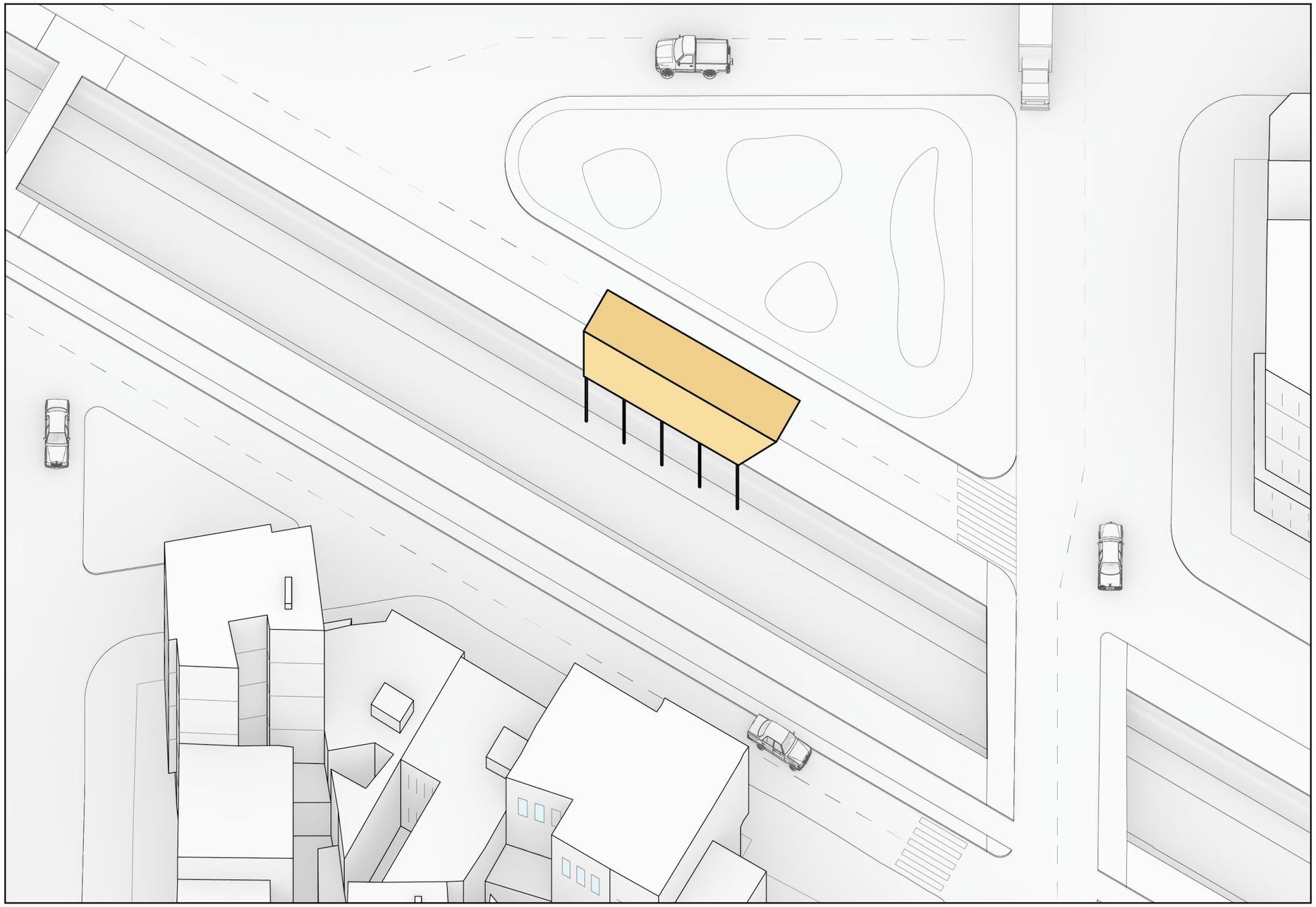
The river cutting through



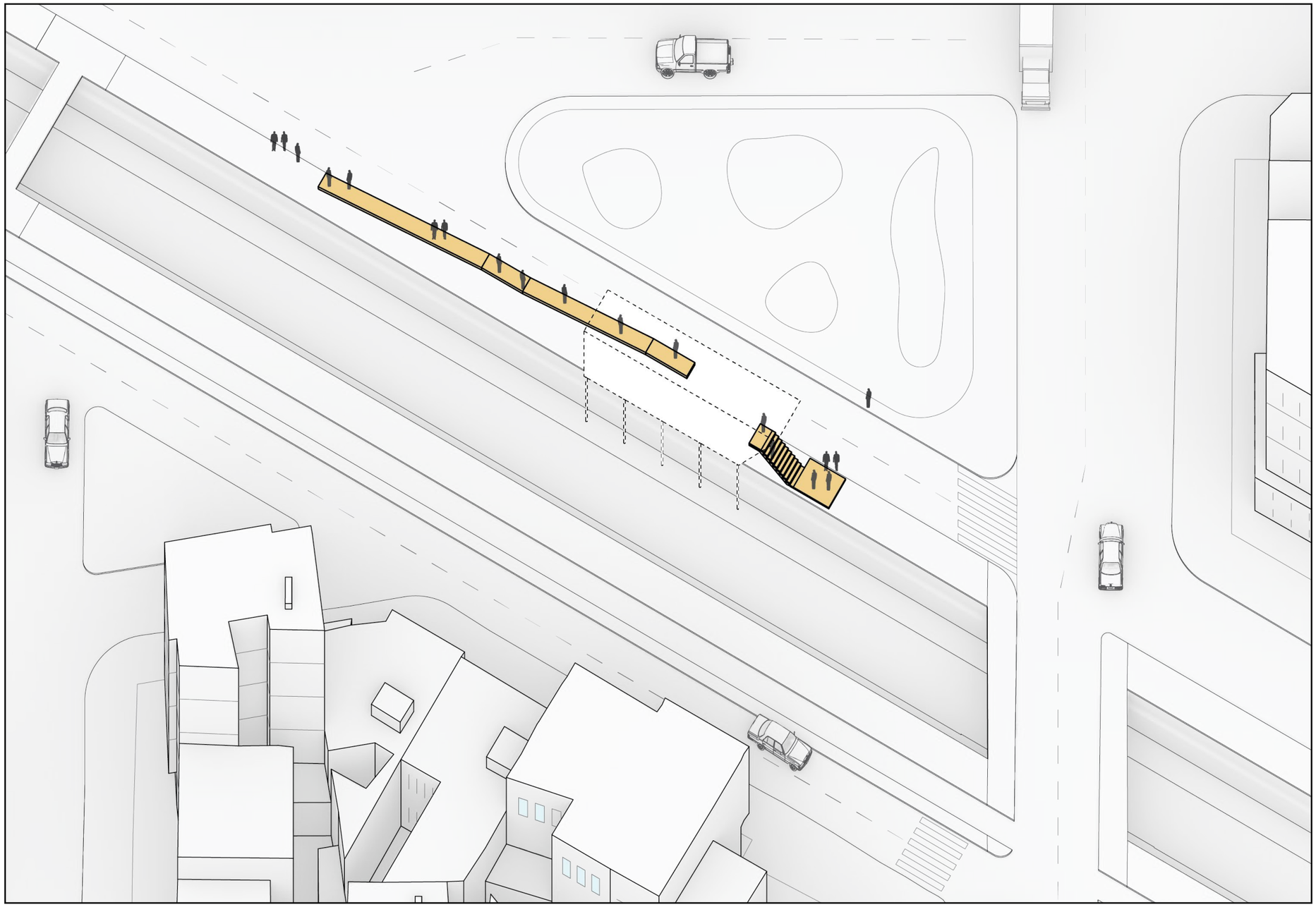
Tying the two fragments together



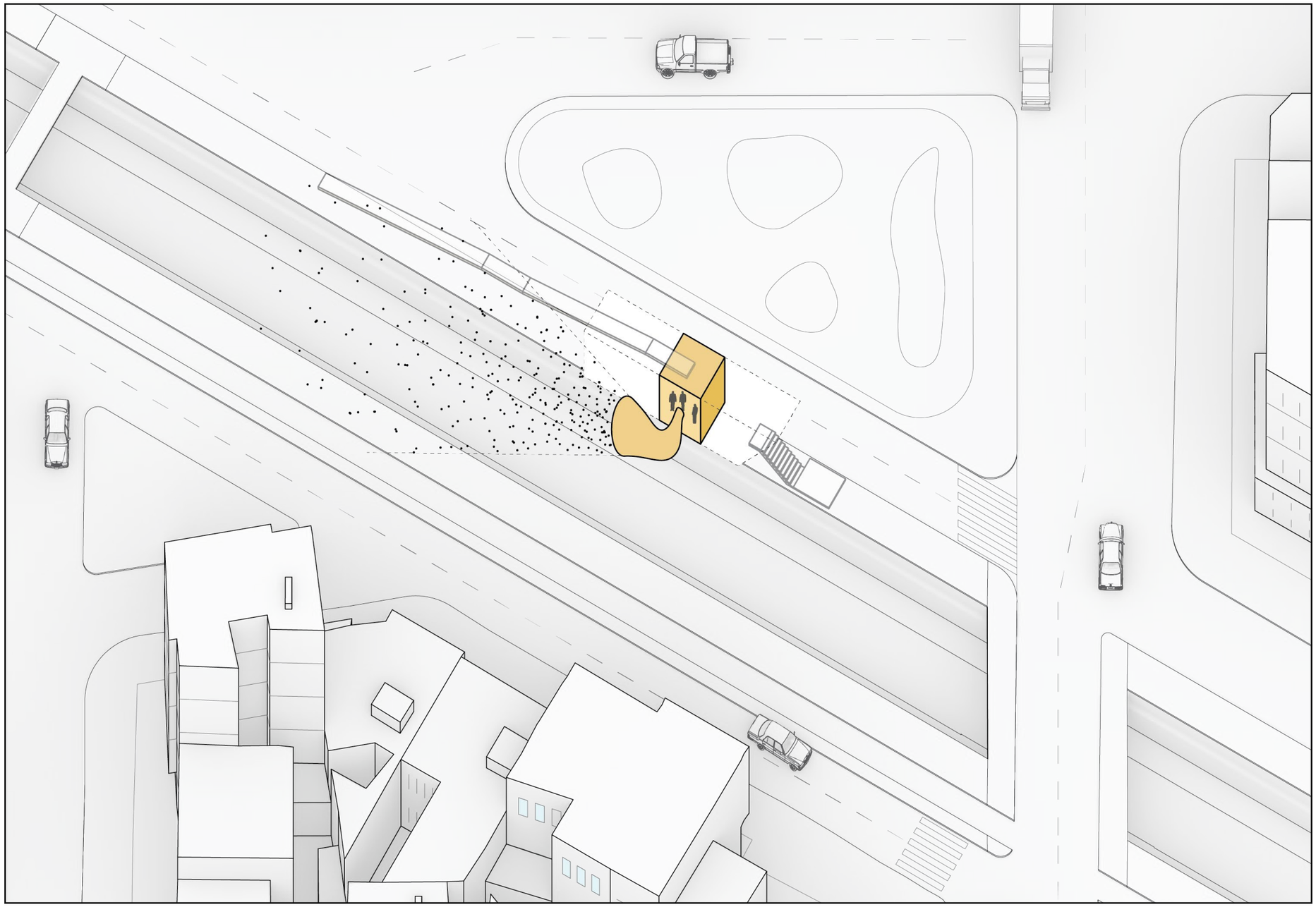
A rectilinear volume is placed along side the river



Light grounding

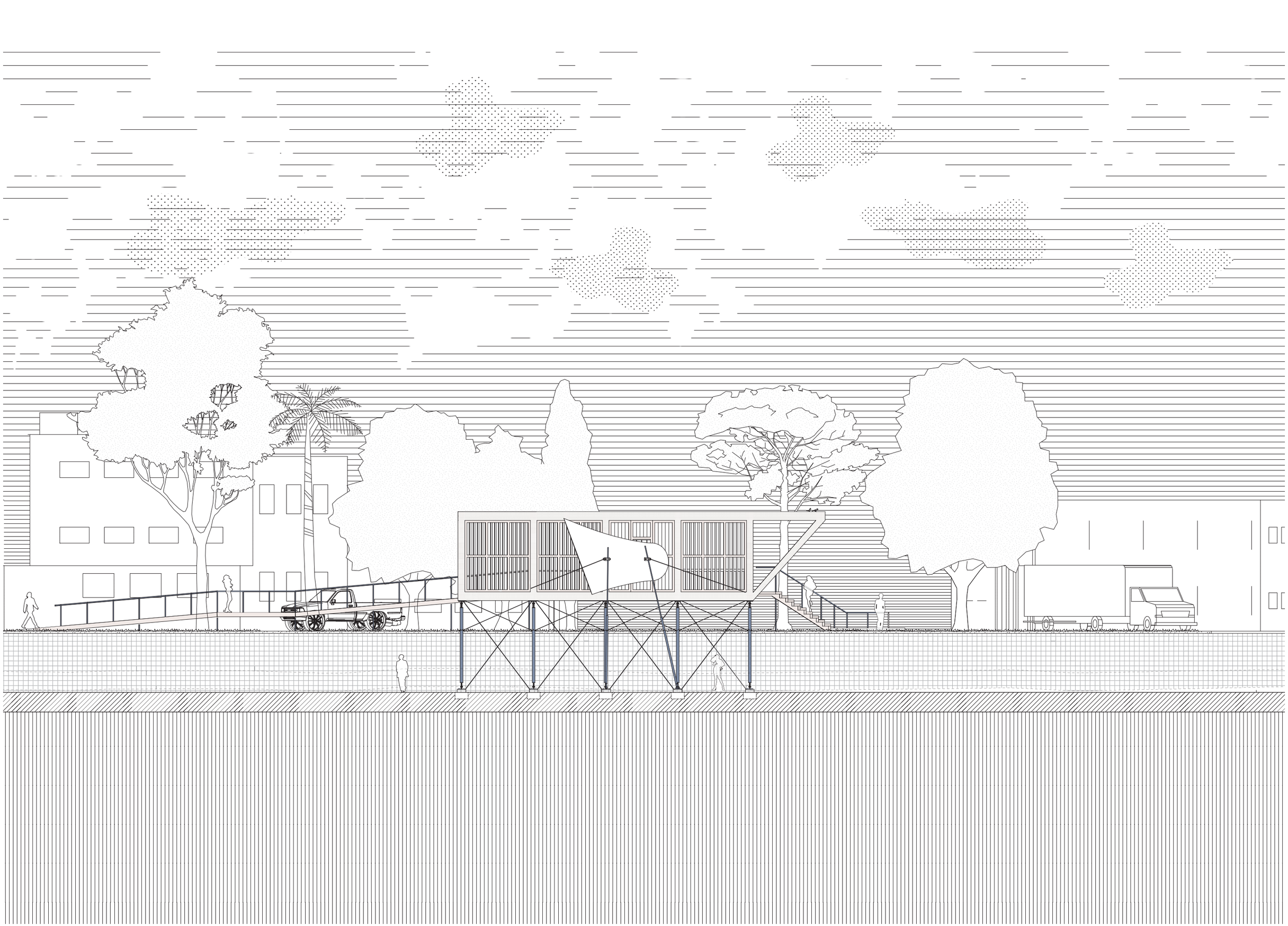


Connectivity - Accesiblity



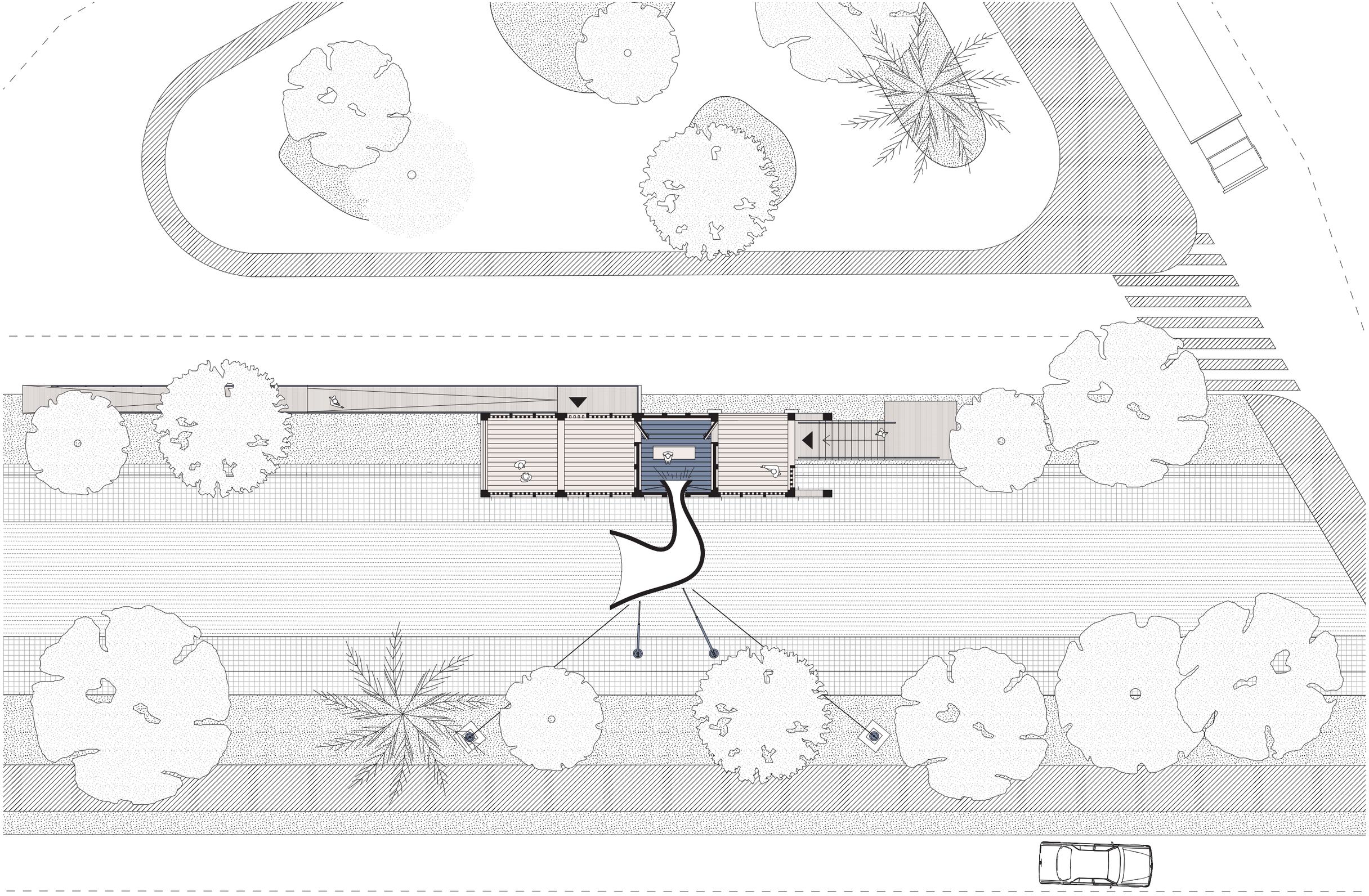
Amplify

Urban gesture

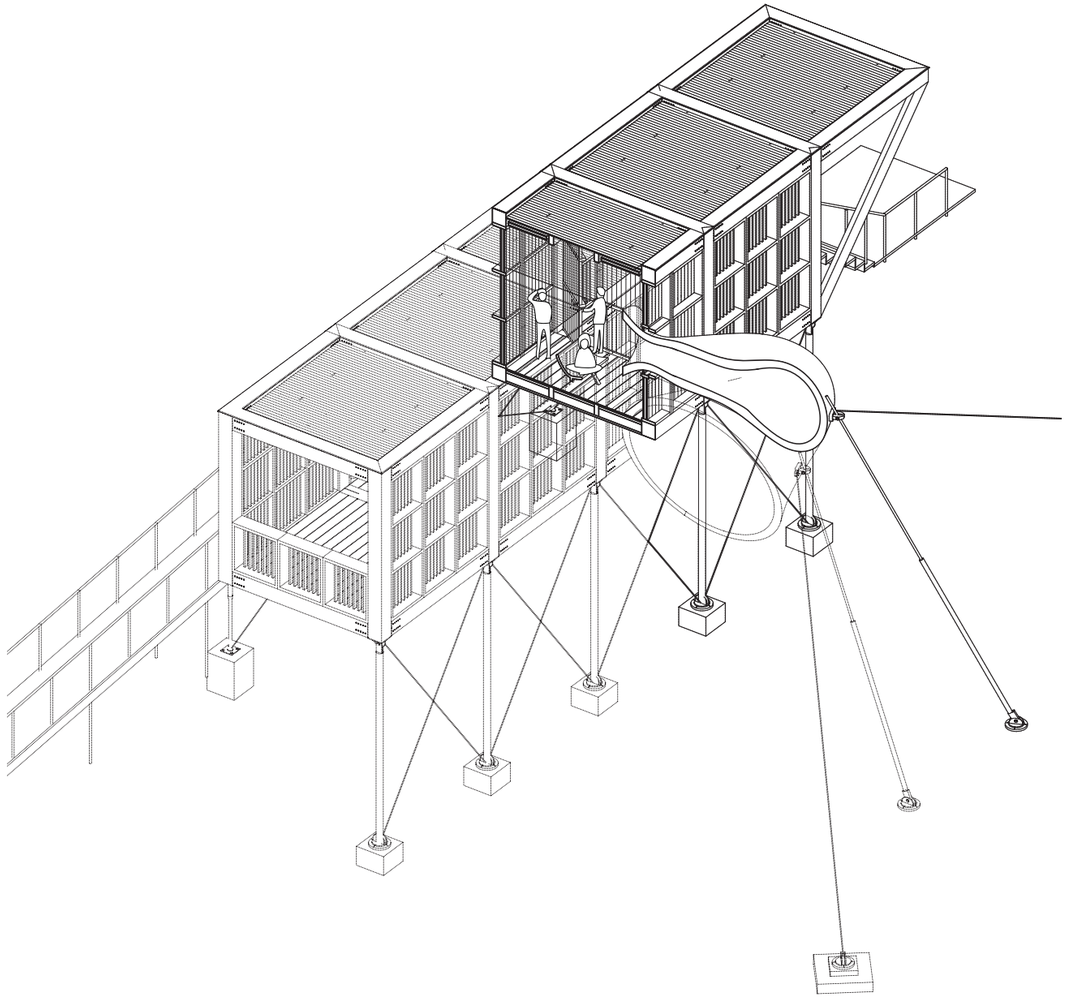


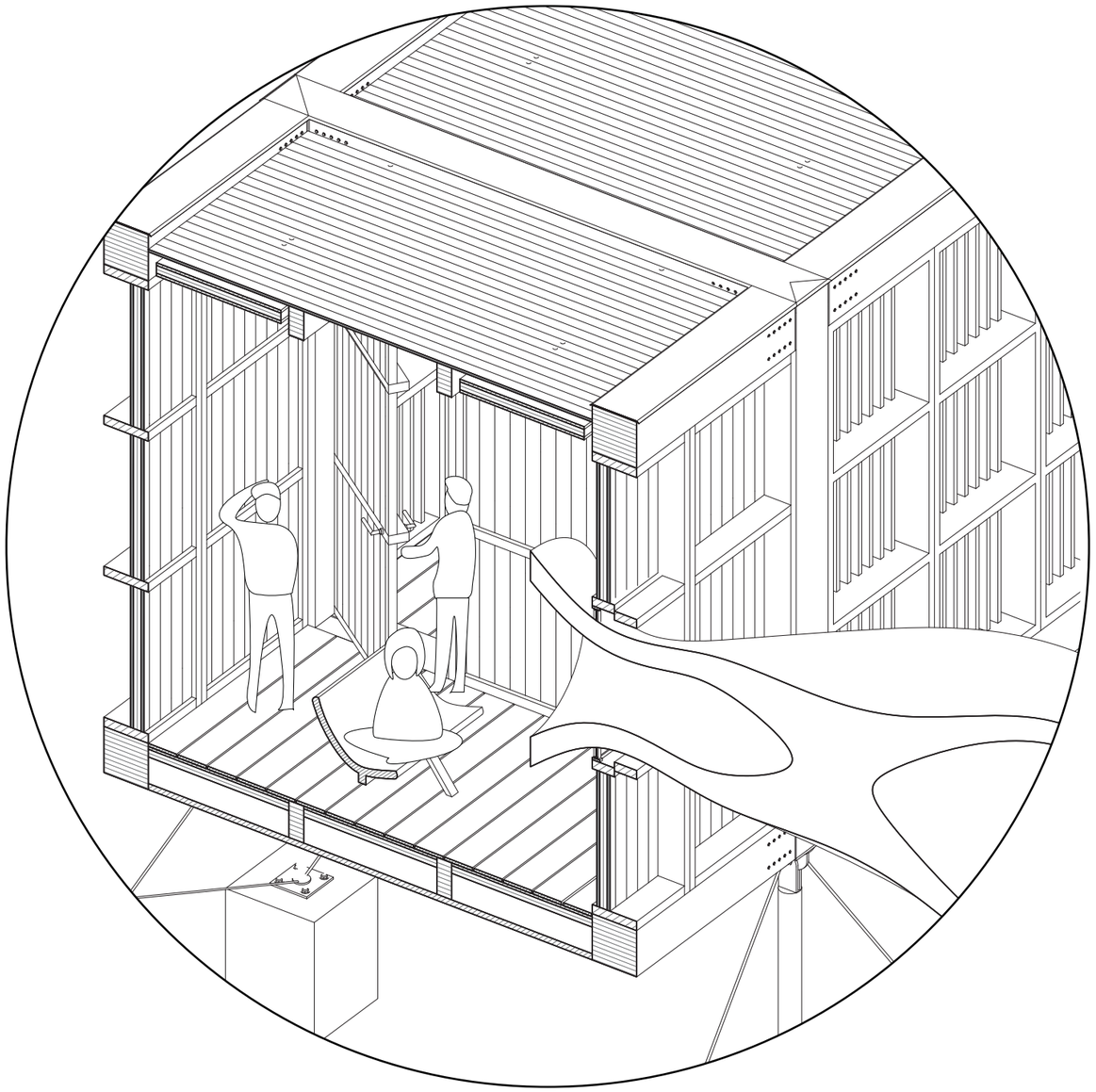
Sense of lightness

Intimacy

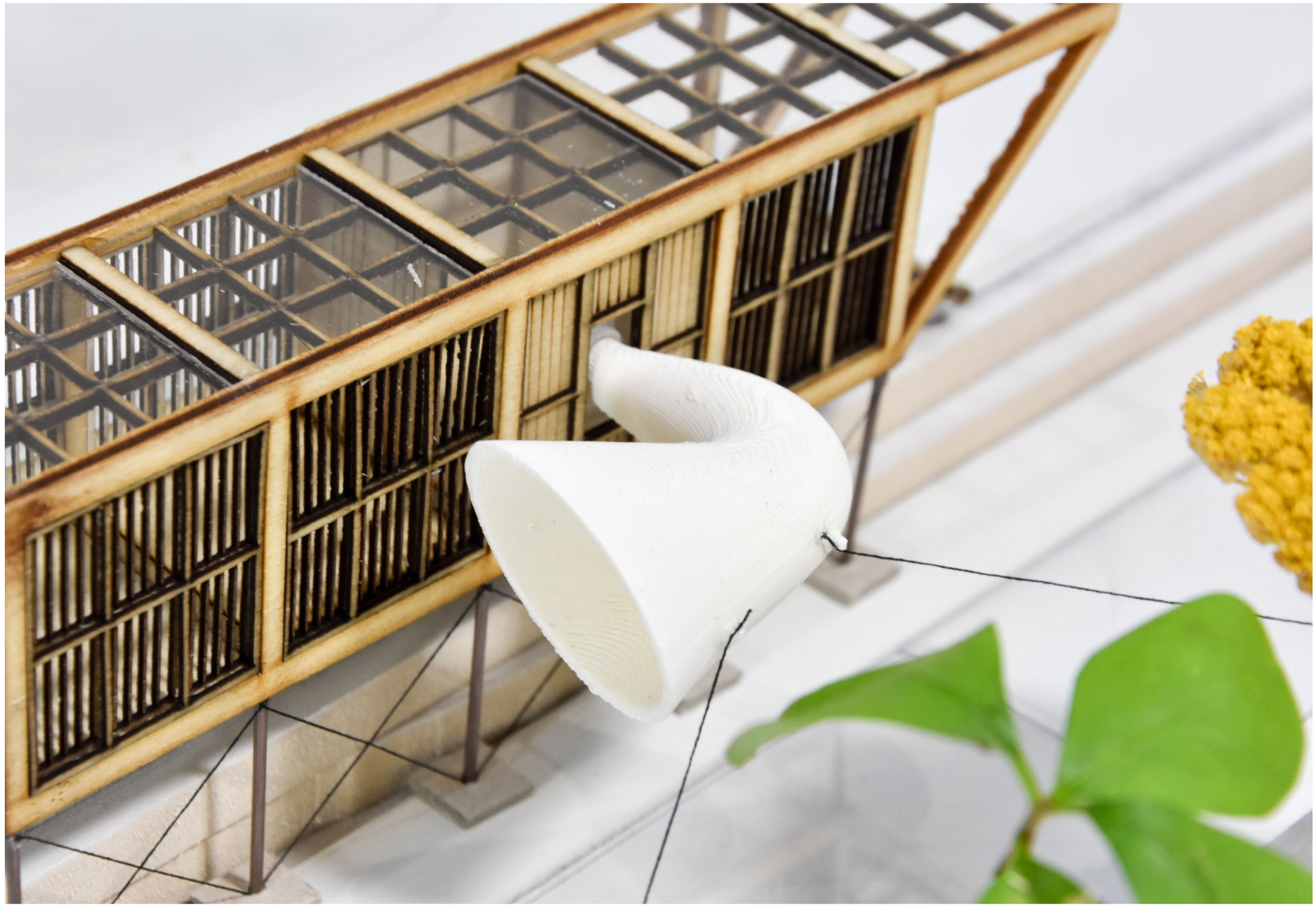


Views





X-Ray



Moment of Contact

Re-activating the River

Parkway

A green artery

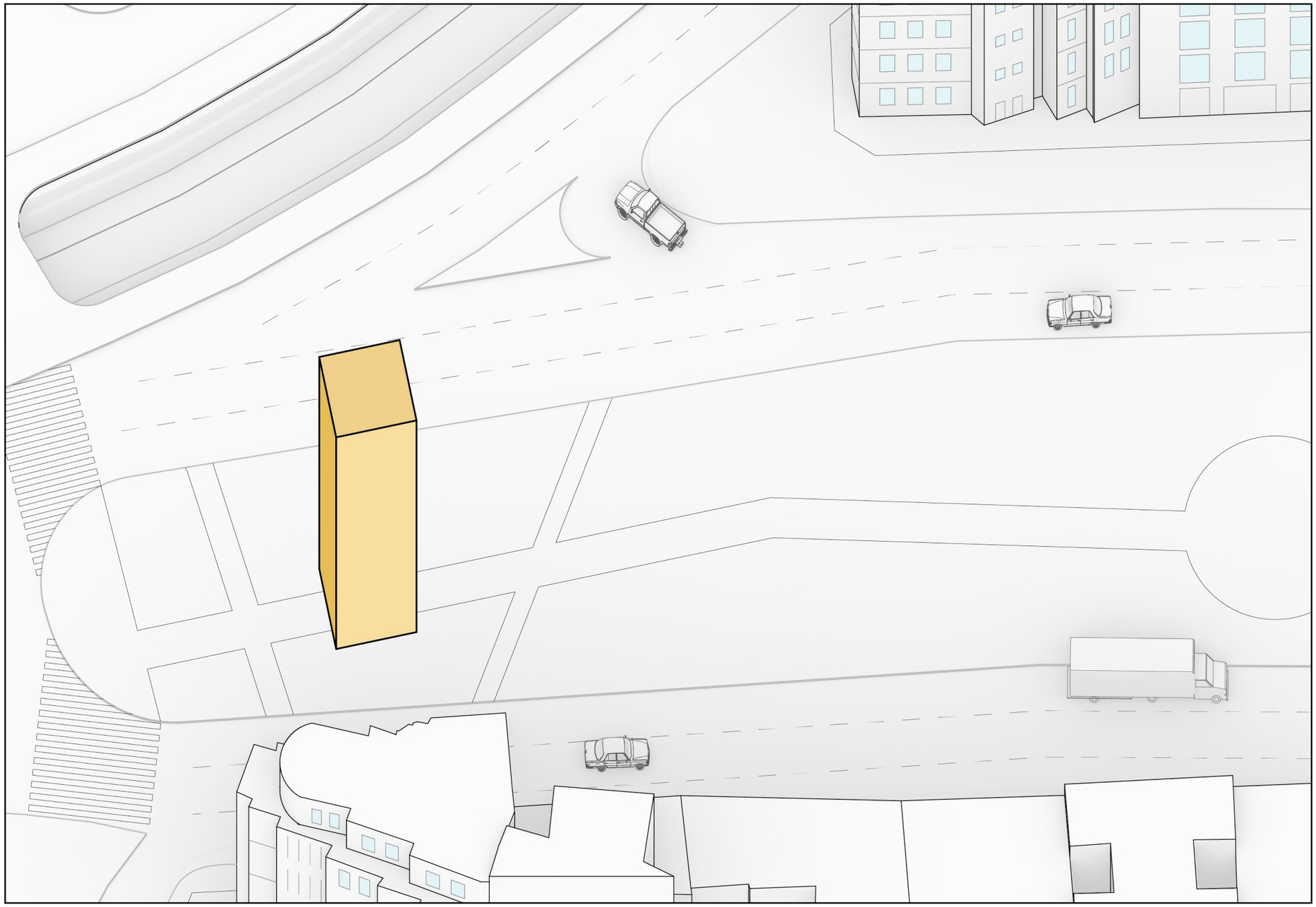
A linear park

Subdivided by the Collonial Grid

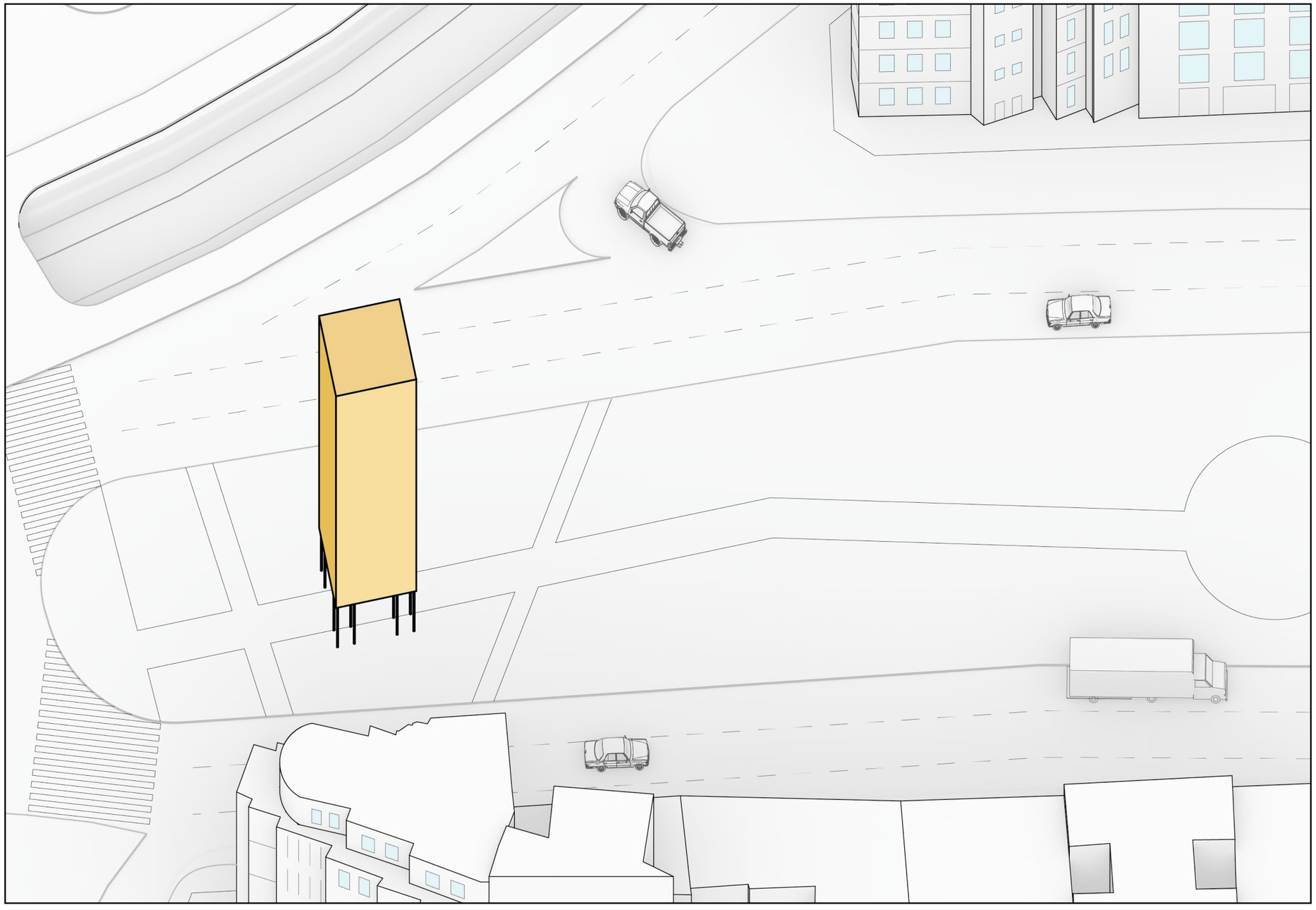
Mode: **Public Space Enhancement**

Three Interventions

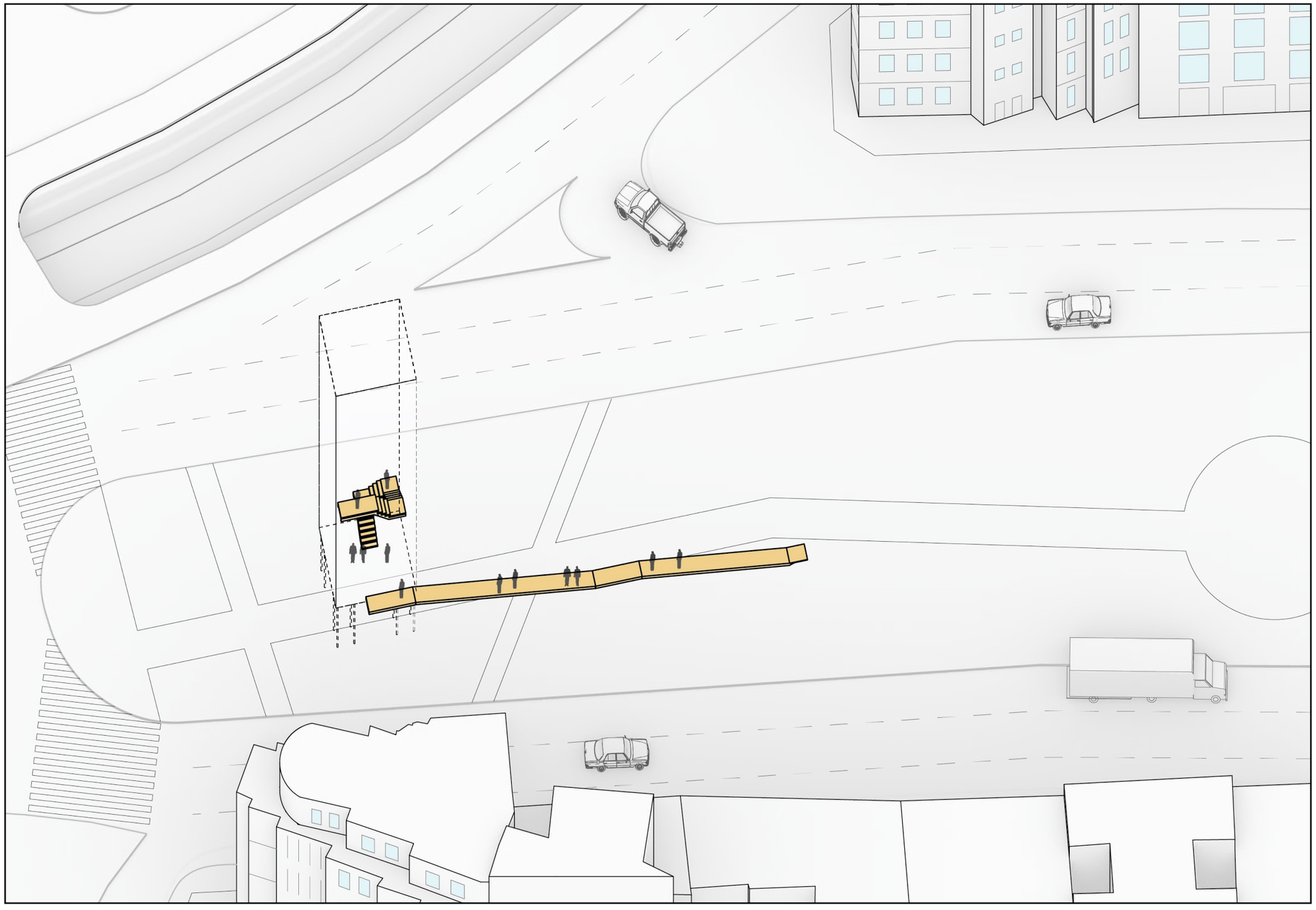
Junction between various urban elements



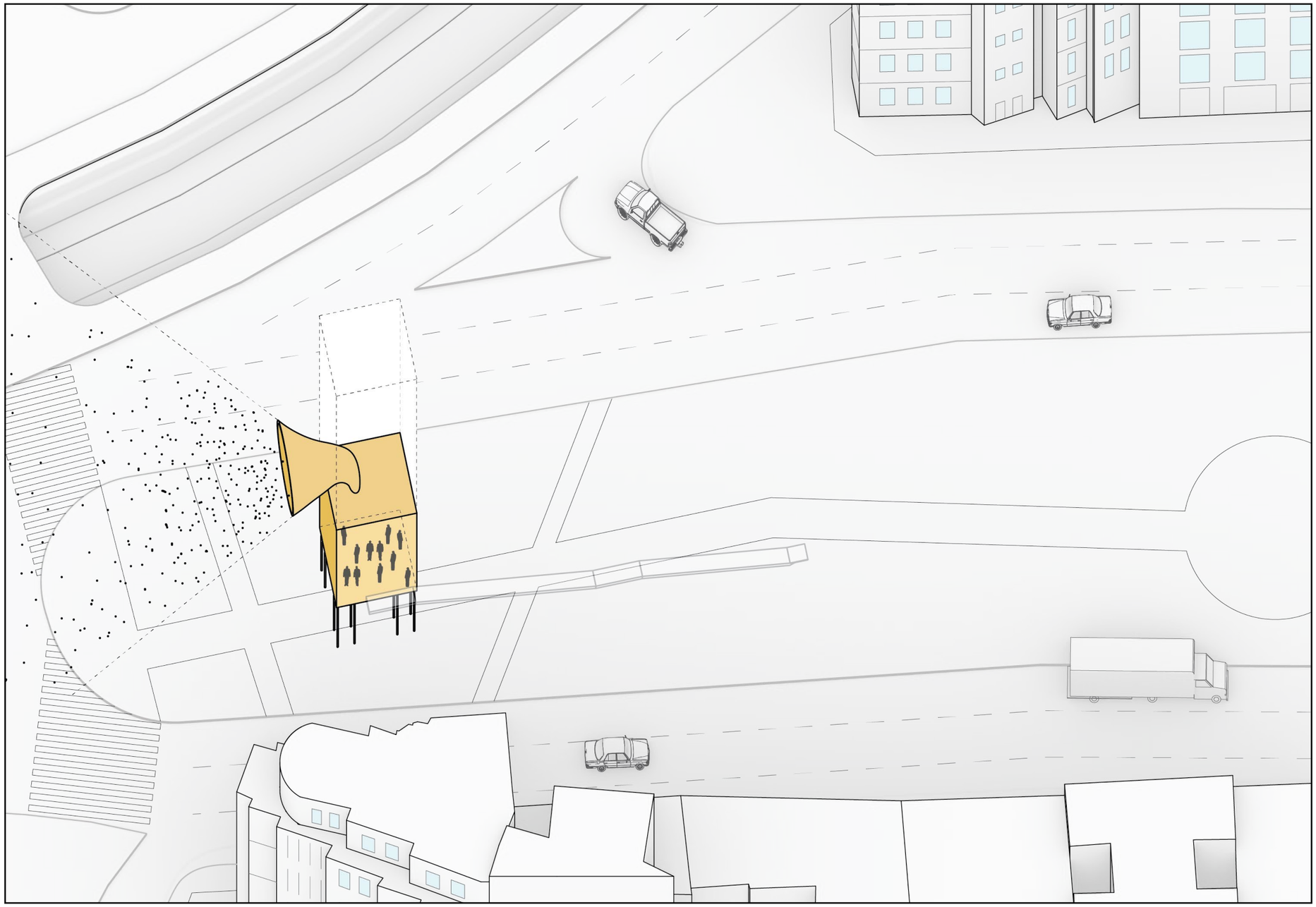
Defining beginning-end to Parkway



Public continuity



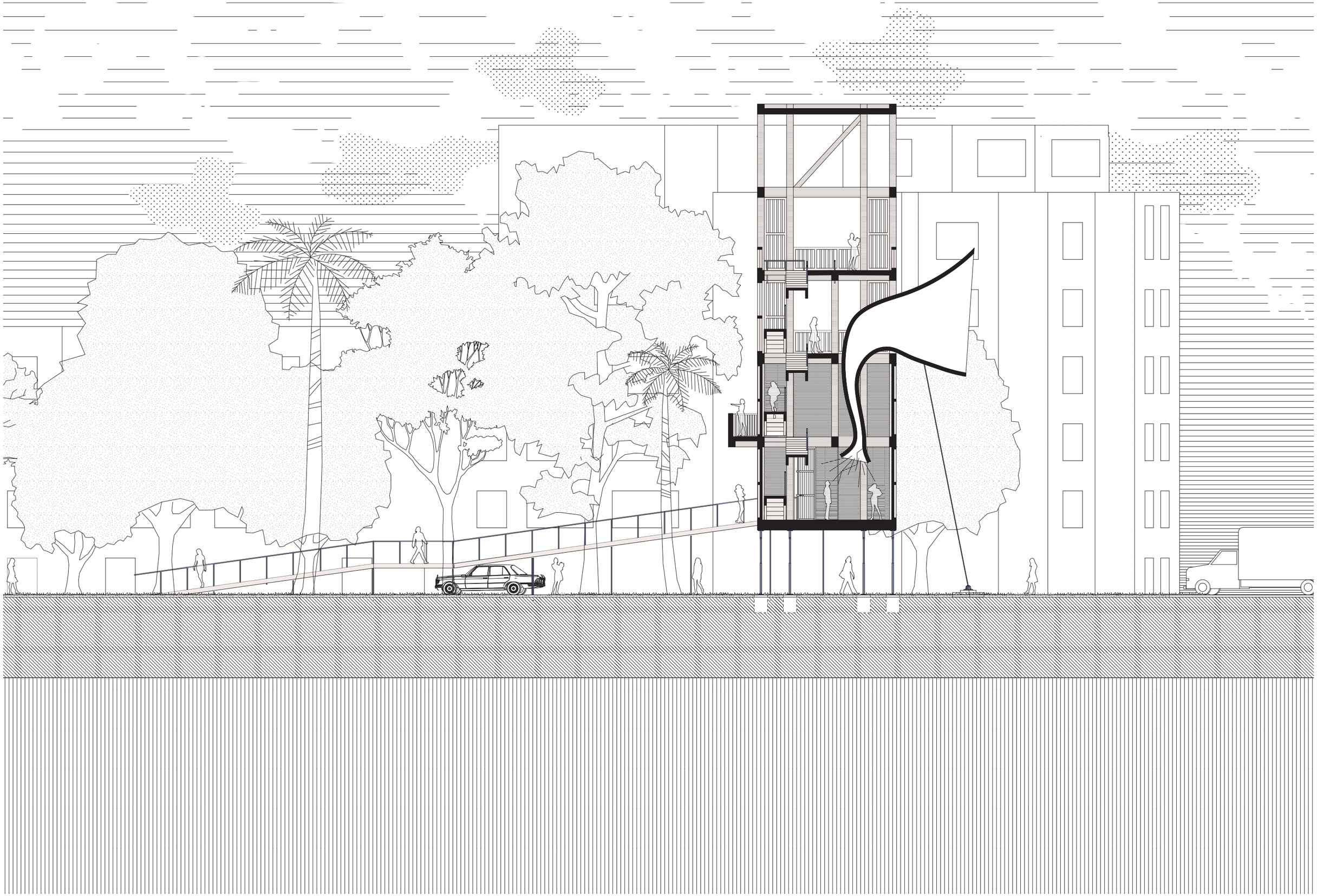
Connectivity - Accesiblity



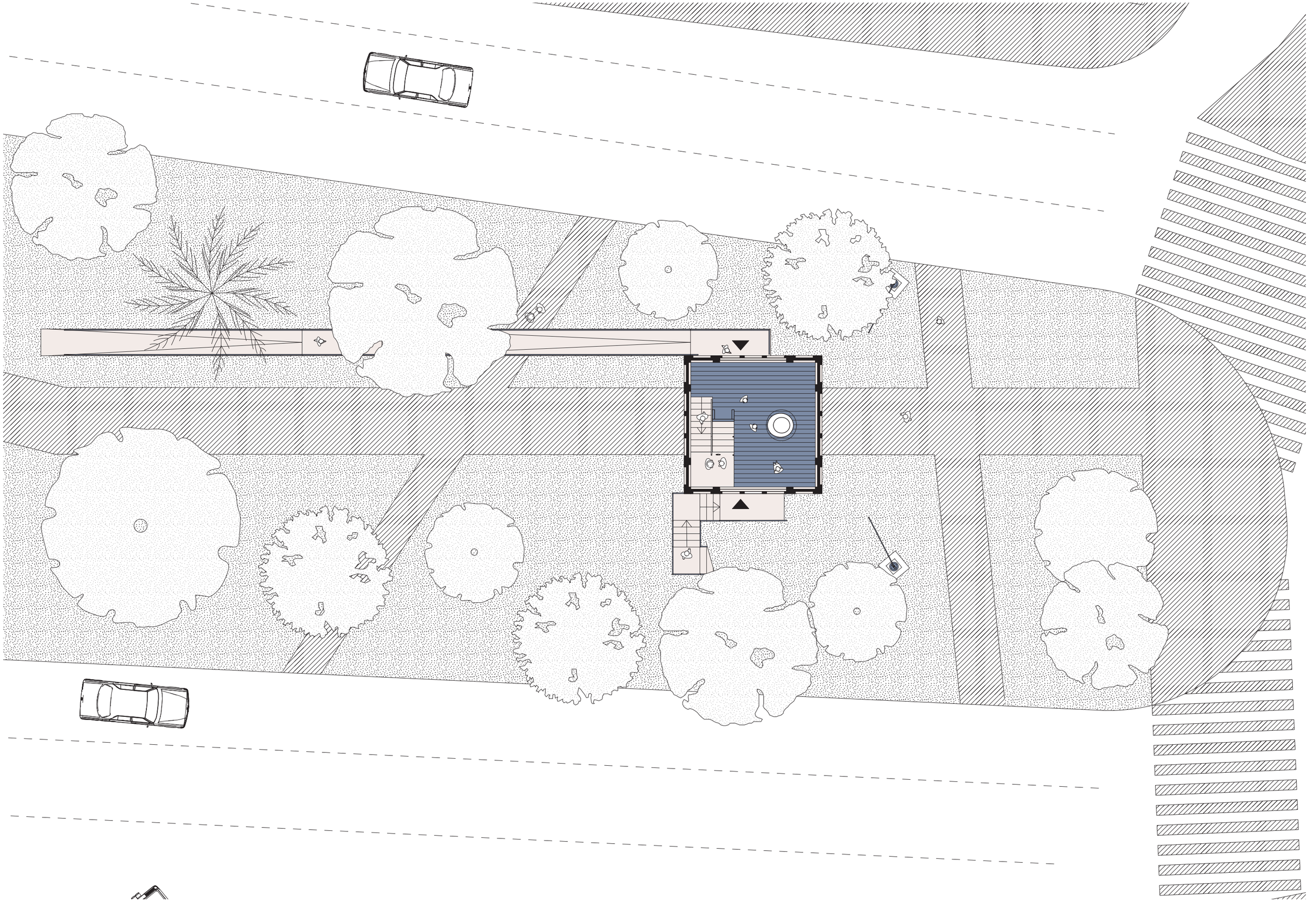
Amplify

Urban Gesture

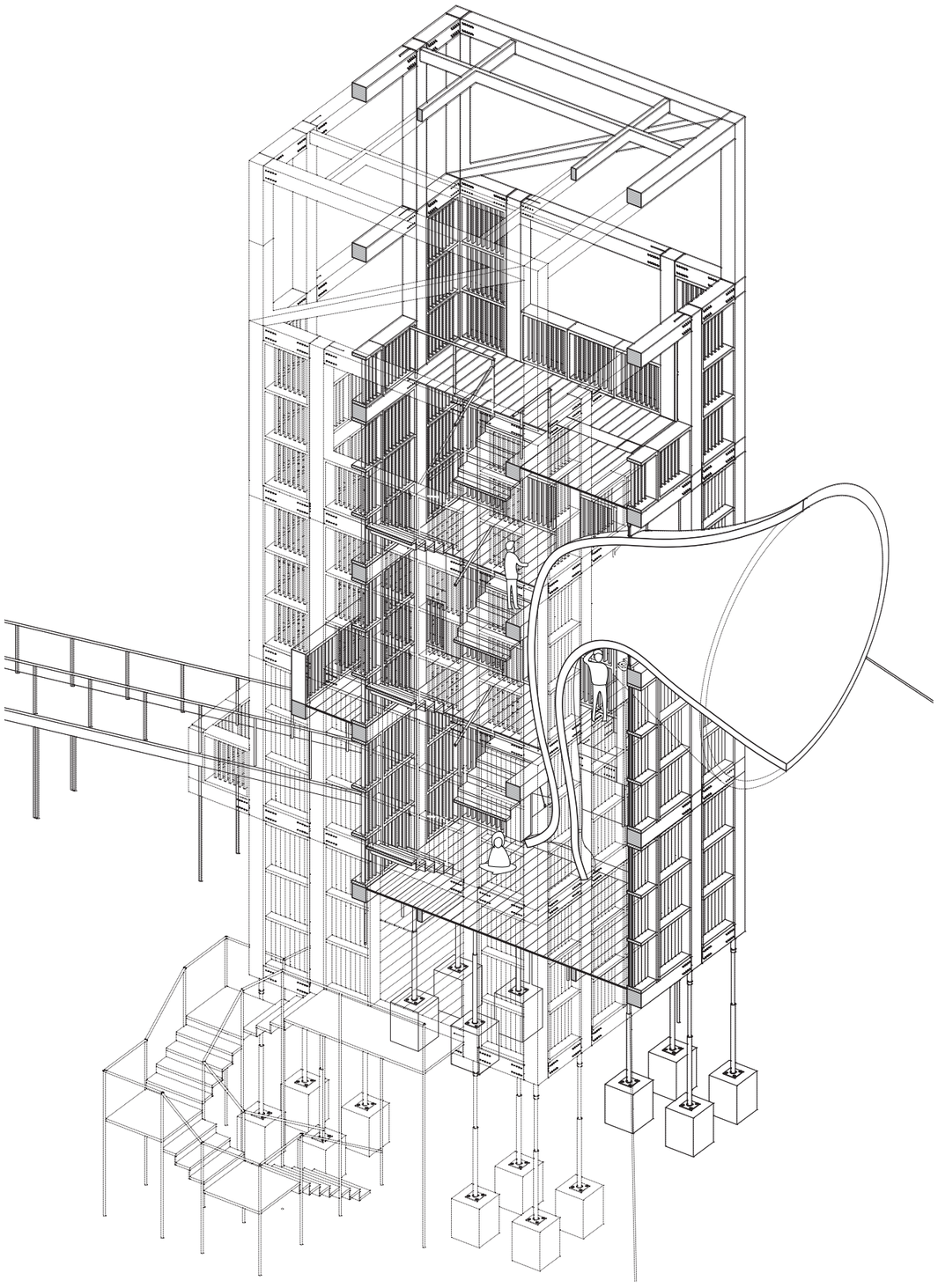
Two Sides

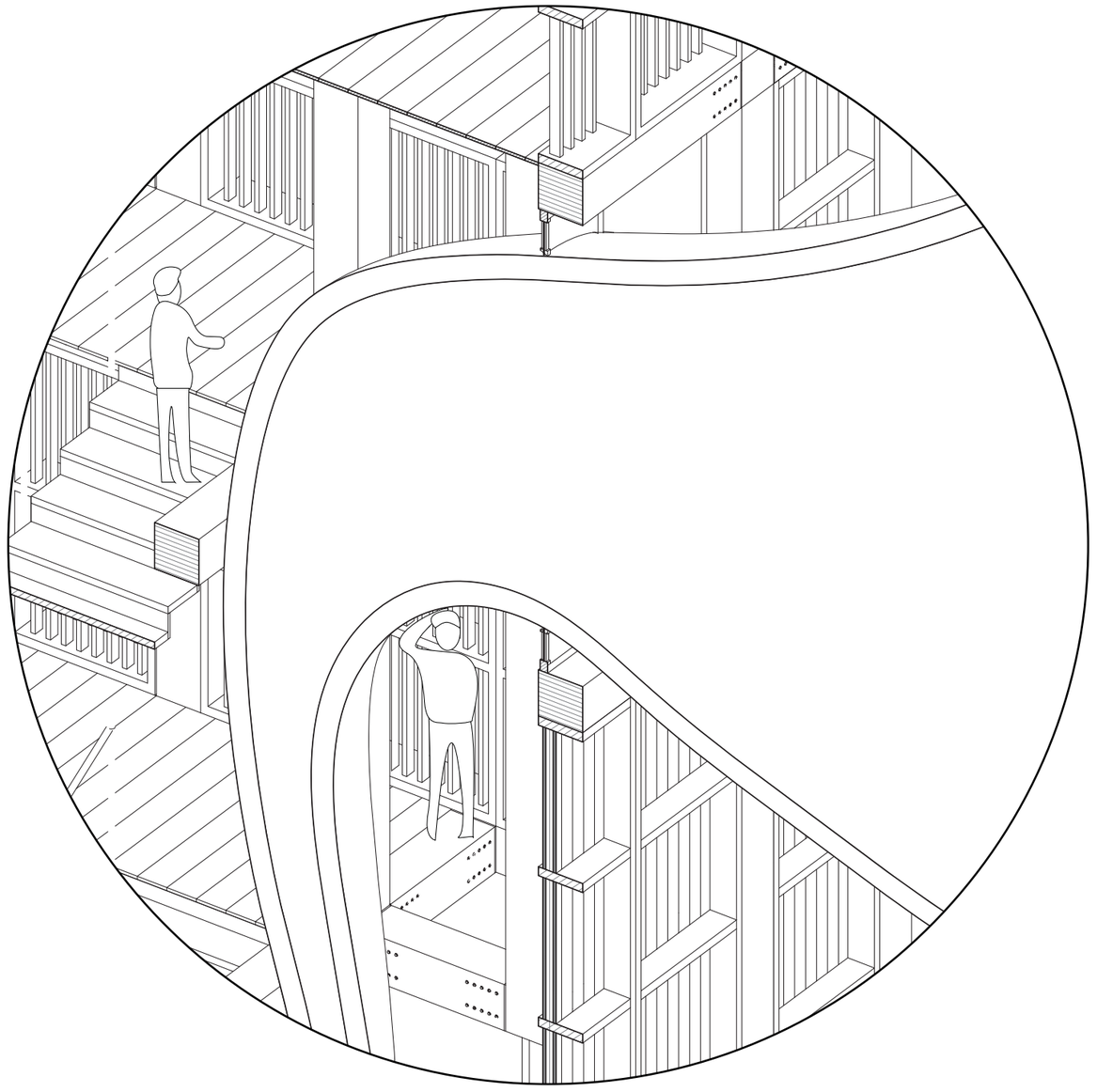


Acoustic transaction



Urban Gesture





X-Ray

Moment of Contact

Transaction

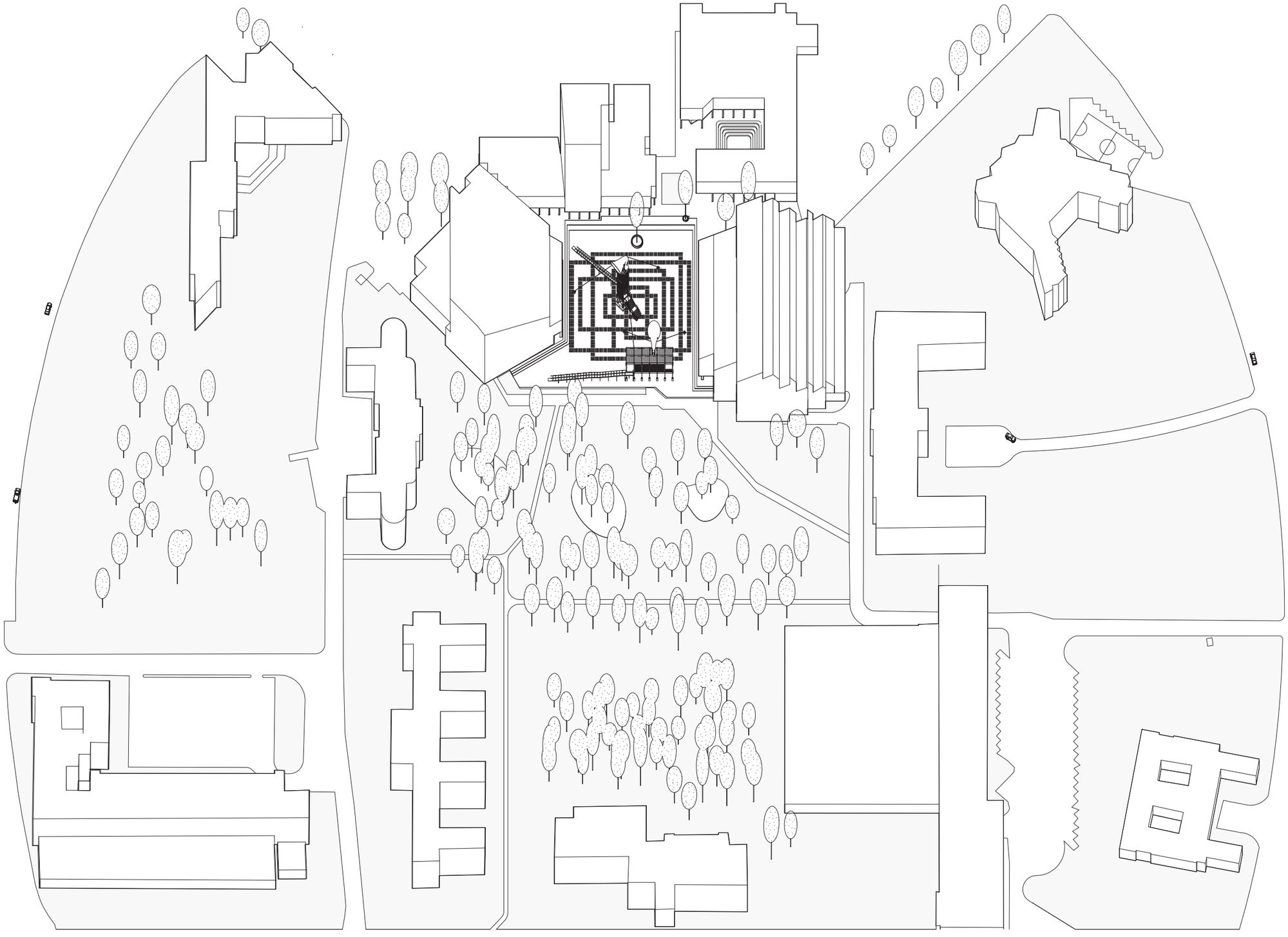
Plaza Ché

Unifying collonade marking its centrality

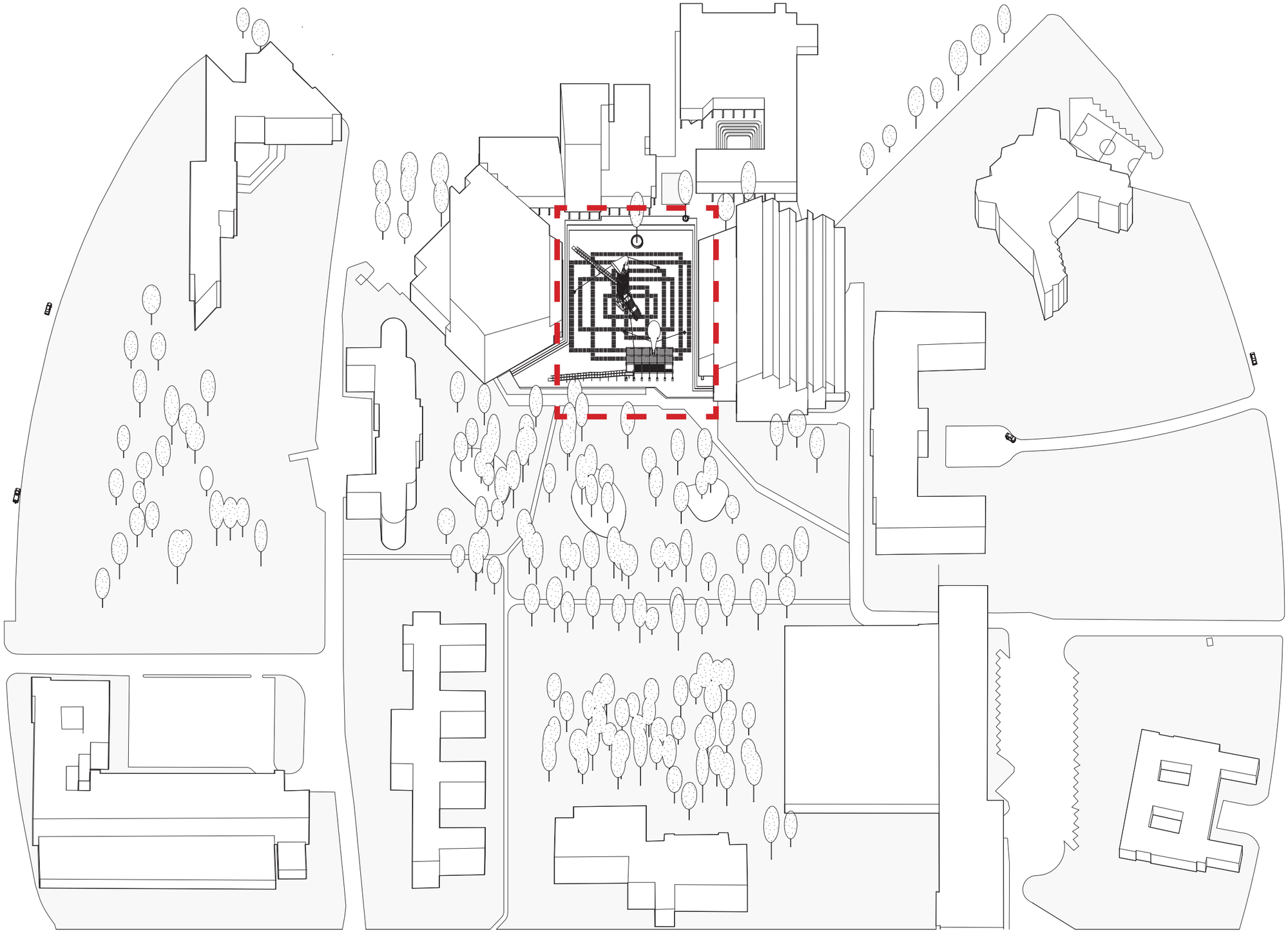
Bordered by a large green zone

A space for expression

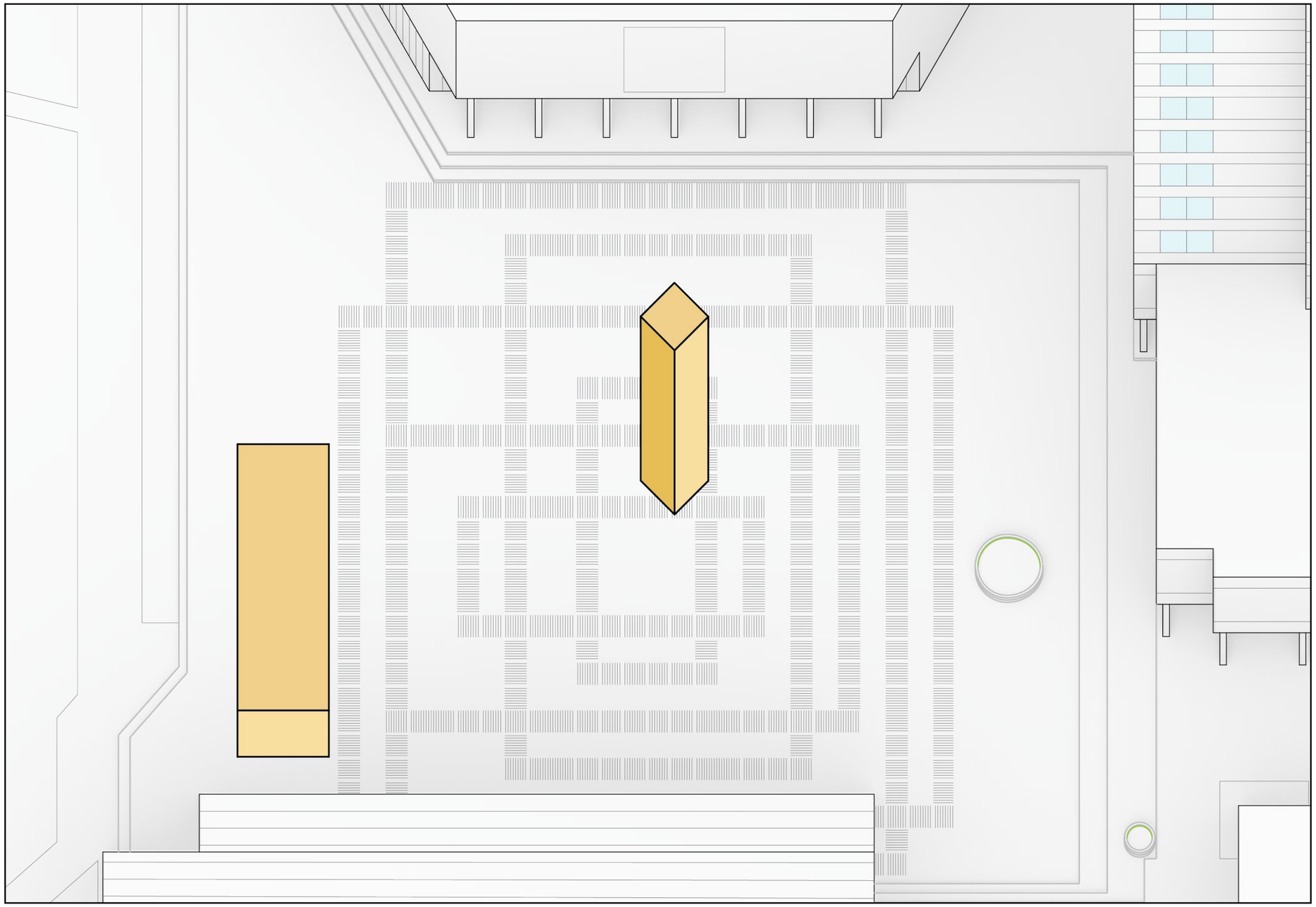
Mode: **A Temporary Event**



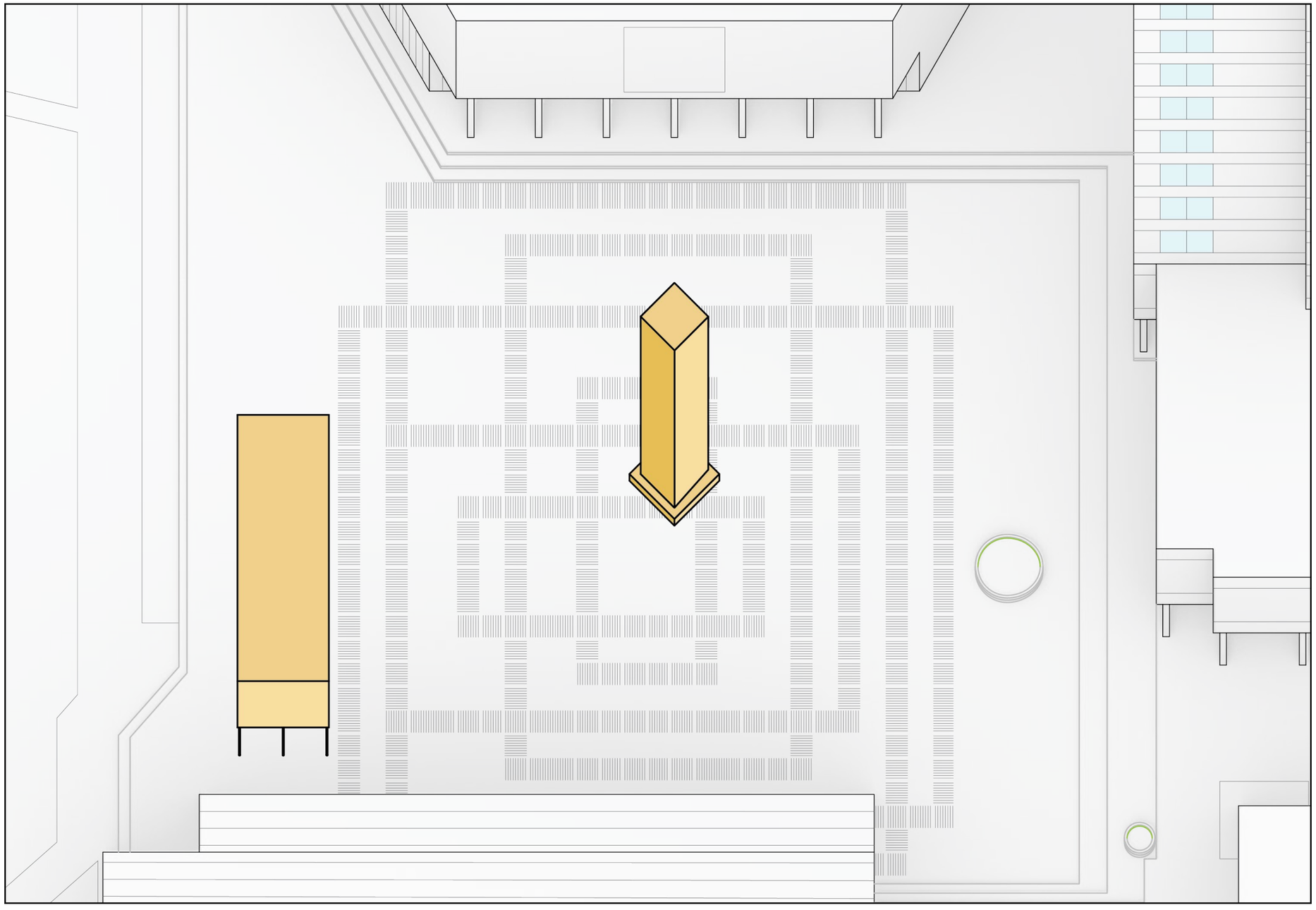
A green Modernist oasis



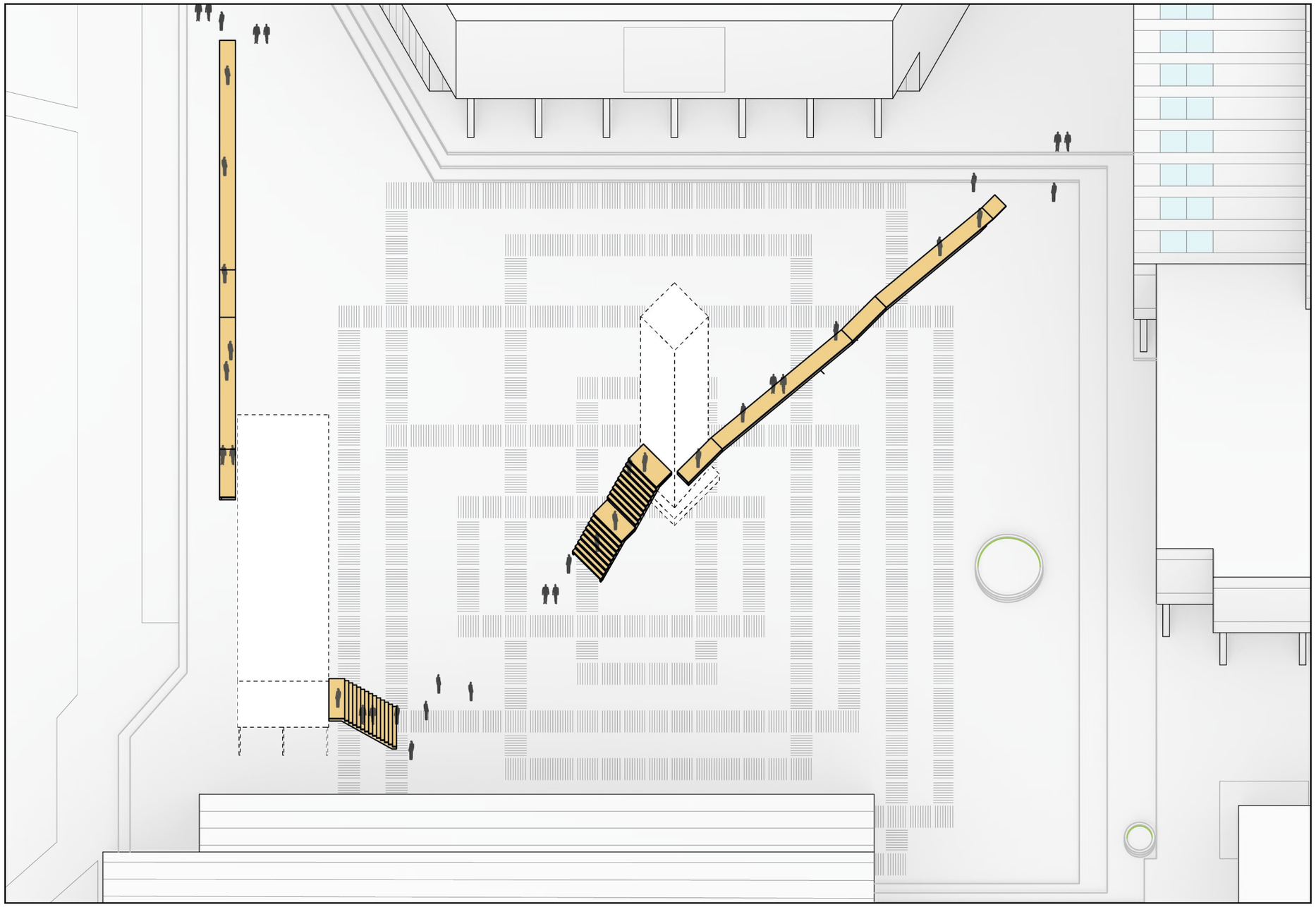
Expanding the acoustic boundary



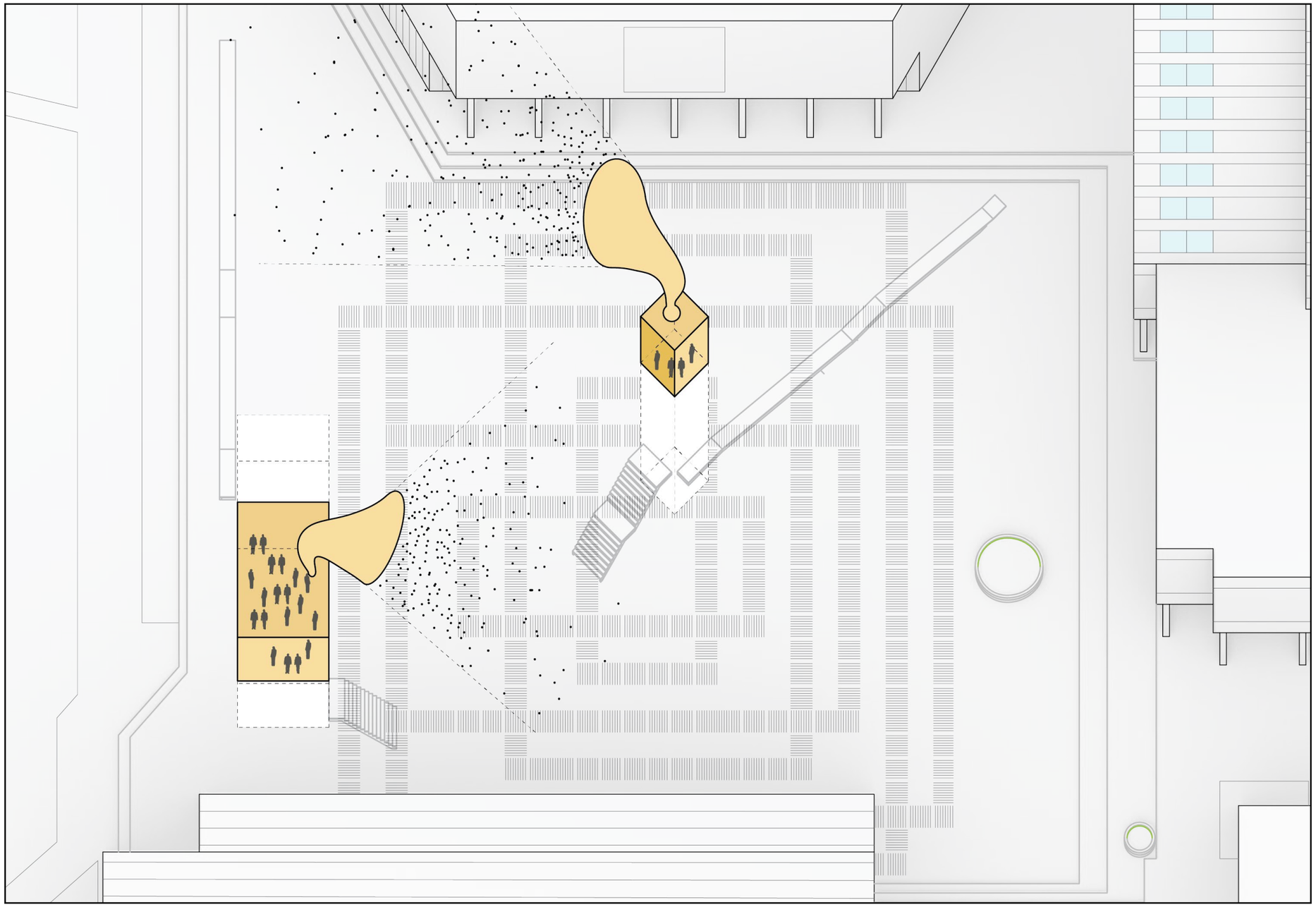
Defining the square through enclosure, and central-marking



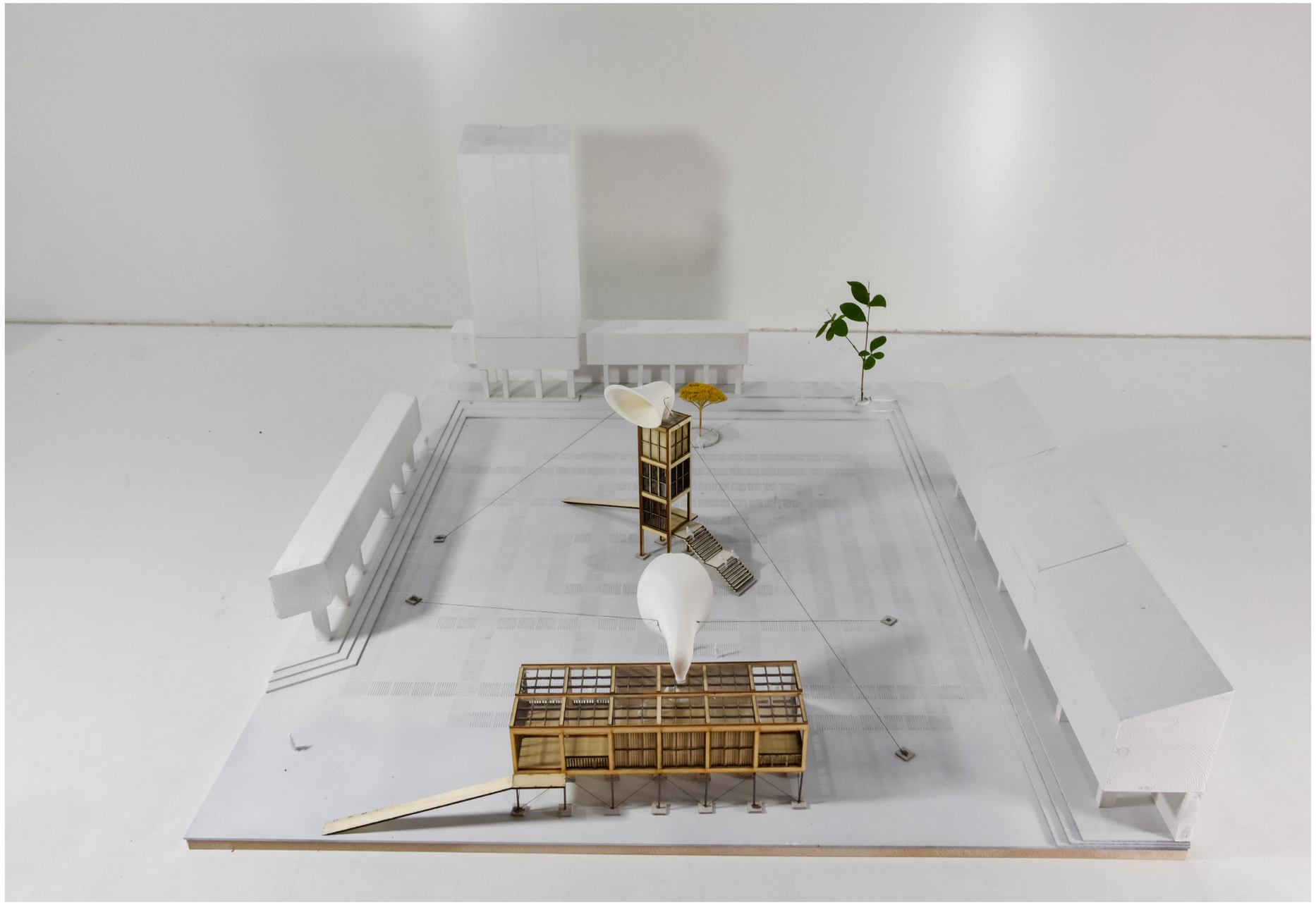
Unify the square through collonades +
Monumentalising the plaza



Connectivity - Accesiblity

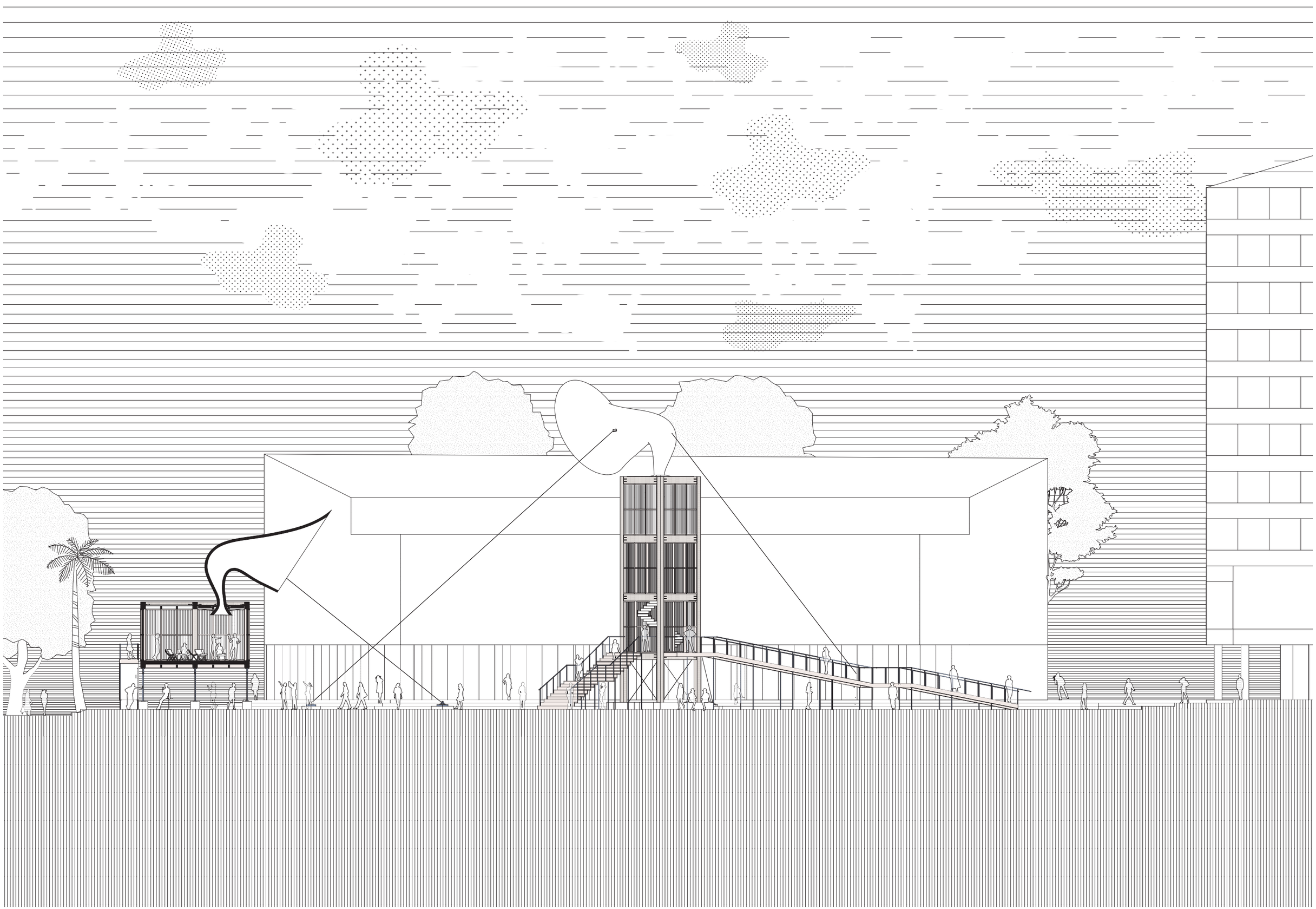


Amplify

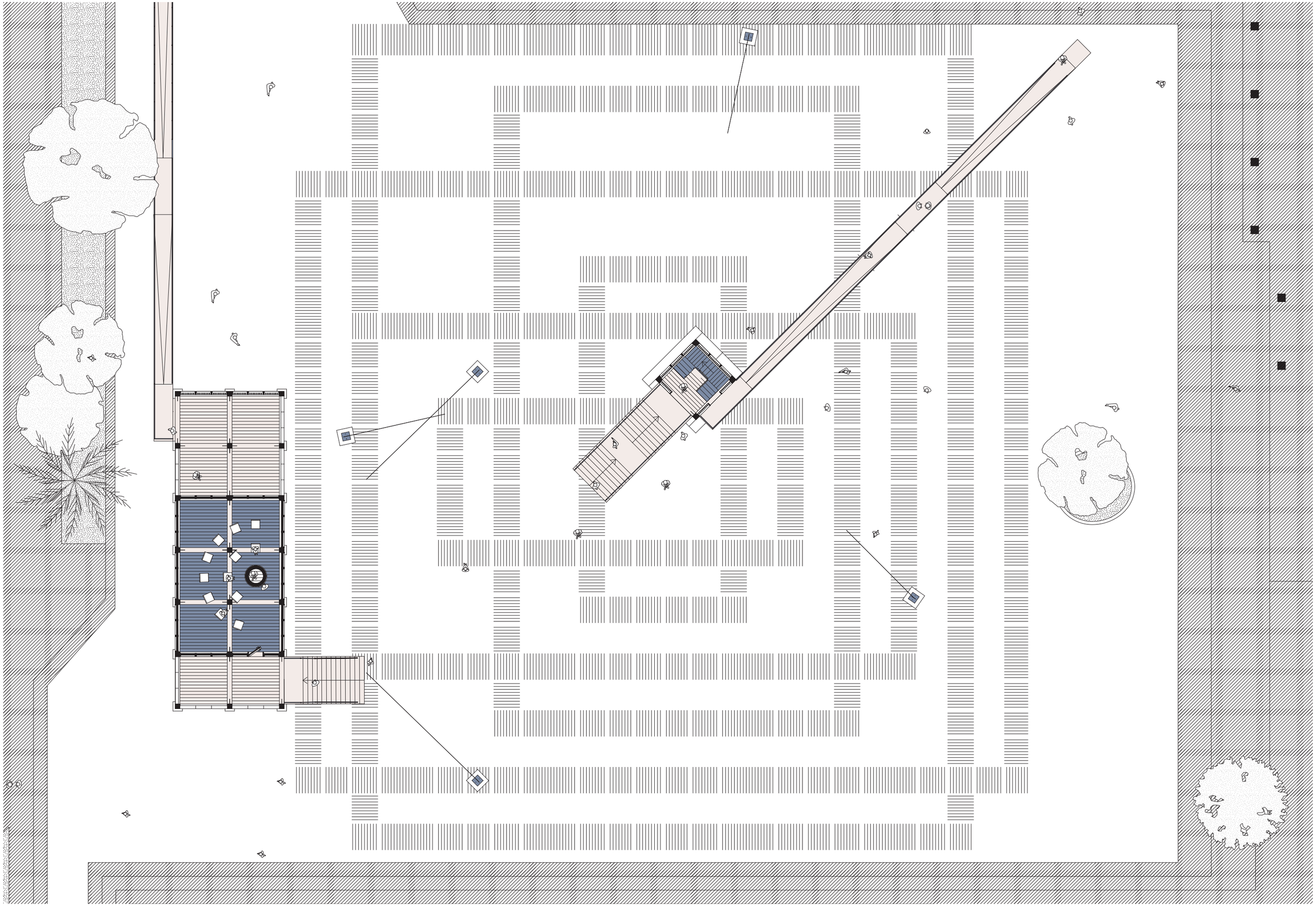


Urban Gesture

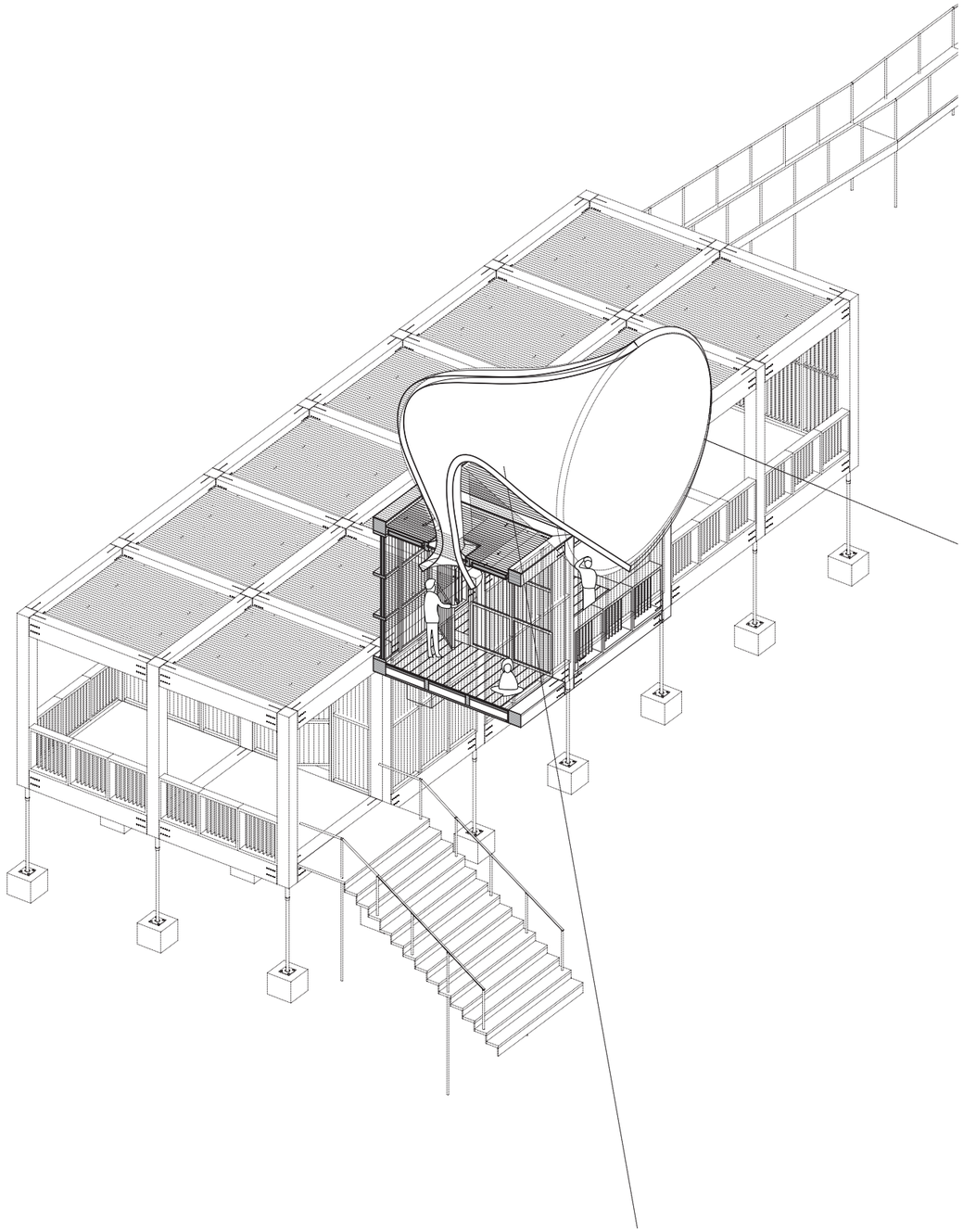
Permeability

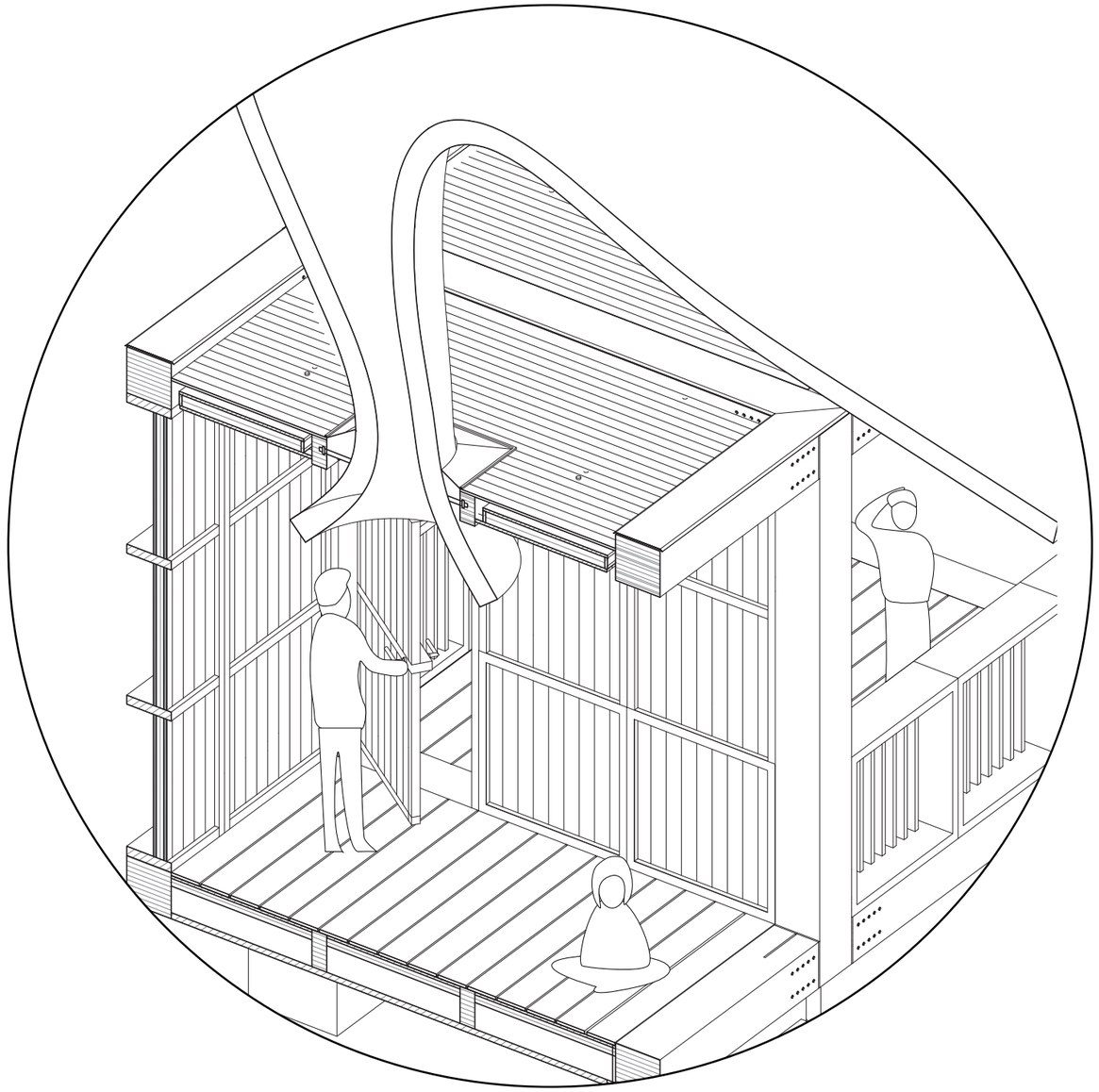


Surround sound



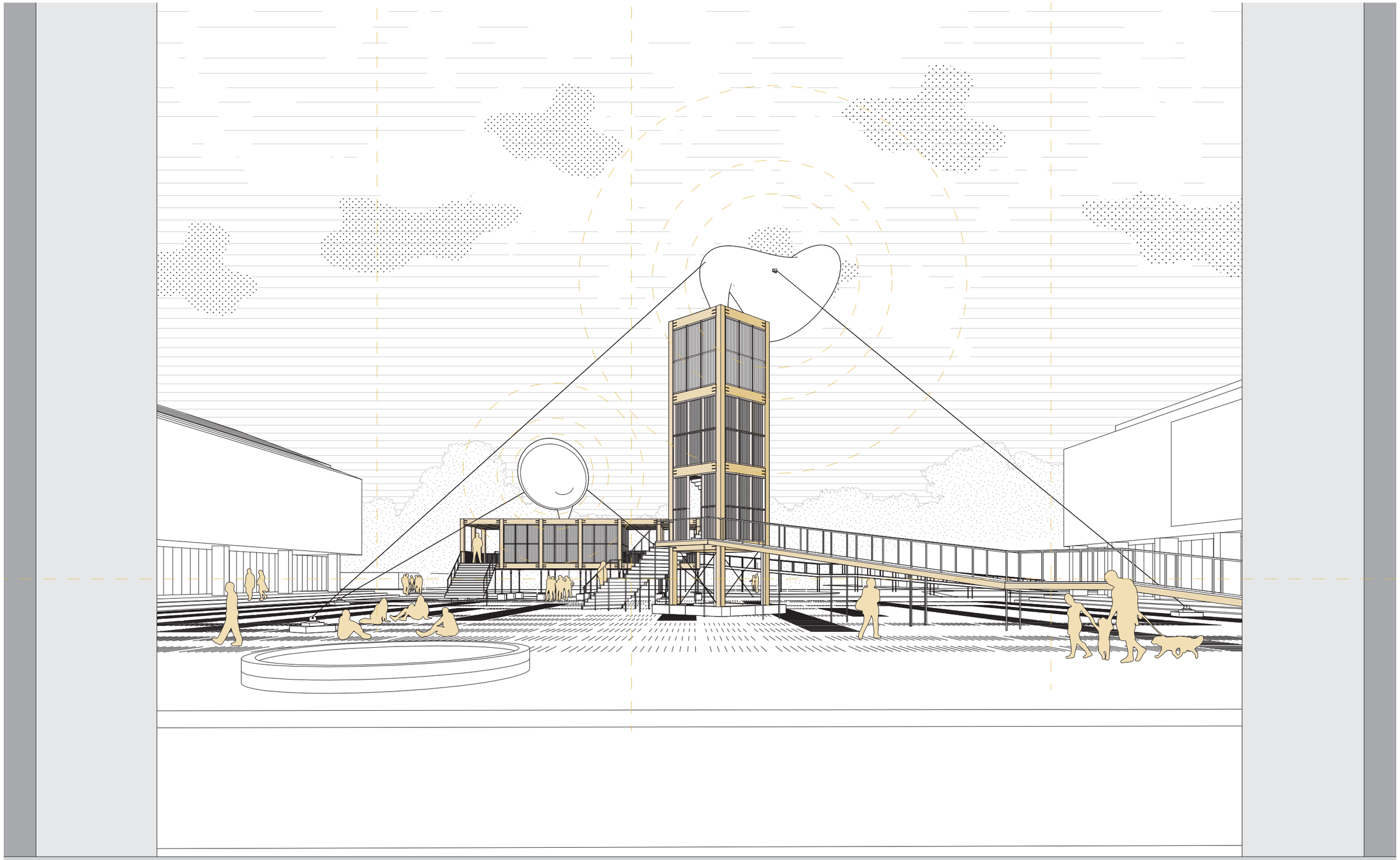
Ensemble





X-Ray

Moment of Contact



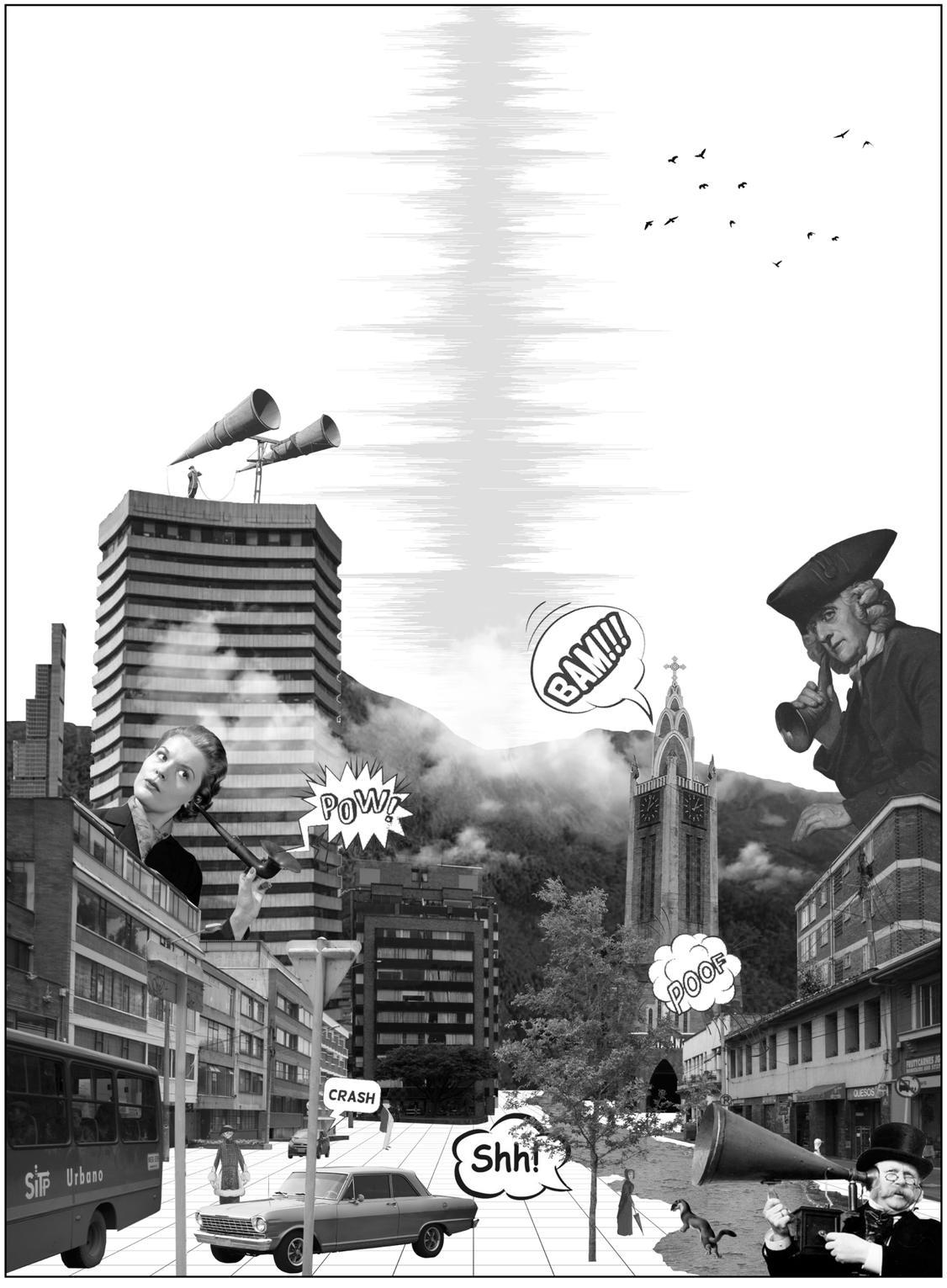
Broadcasting

Urban Amplifiers

Conclusion

"Wherever we are, what we hear is mostly **noise**. When we ignore it, it disturbs us.
When we listen to it, we find it **fascinating**".

John Cage. The Future of Music: Credo (1937)


BAM!!!
POW!
CRASH
Shh!
POOF
SITP Urbano
QUESOS