

Music Marvel

TU Delft Graduation Studio 2021/22

Public Building



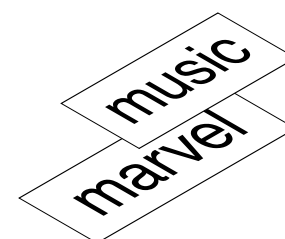
Do

Play

An architectural project for harvesting
intergenerational value on urban terrain

Graduation Report

Edgars Jane 4638514



Tue, 21 Jun 2022

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#Do Play is a Graduation Report of Public Building Graduation Studio of 2021/22
by Edgars Jane, student number 4638514

Course Code

AR3AP100 Music Marvel: Music & Popular Culture Re-Wired

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Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Edgars Jane
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Studio		
Name / Theme	AR3AP100 Public Building Graduation Studio 2021-22 <i>I Music Marvel: Music & Popular Culture Re-Wired</i>	
Main mentor	Paul Kuitenbrouwer	Architecture
Second mentor	Gilbert Koskamp	Building Technology
Research mentor	Sang Lee	Research
Argumentation of choice of the studio	Possibility to face and engage with the complexity of large scale public programming. To primarily work on an architectural scale—building design—while reflecting on the capacity of a city to host and tolerate public performance.	

Graduation Project	
Title of the graduation project	Do Play
Goal	
Location:	The Hague, Binckhorst—'Sporboogzone'
The posed problem,	Binckhorst is an underdeveloped area of contaminated potential. The municipality calls it 'the gates of the city.' The irregular decay of its own industrial heritage has generated an overall monotony of character and a vastness of vacant space in its 100 hectare area. For a visitor it is, mainly, an unremarkable environment with not many desirable destinations on offer. Its identity is ambiguous. Situated in direct proximity to the city centre and its three main train stations, Binckhorst provides a highly potent ground for speculative development. Now, as it is to become a more 'developed' and more desirable, as the newest 'upgrade' of the Hague, a substantial addition of inhabitant density is being planned, which will result in a full substitution of the current post-industrial vastness for a contemporary metropolitan residential density. Simply put, the gradually developed socio-historical narrative of the area is being marginally altered by the rebranding of Binckhorst. An expected problem of gentrification emerges: the voiding of the identity of the place. Is that bad in this case; and what that identity even is?

research questions and	<ul style="list-style-type: none"> → What are the limits of an urban music-venue being a productive public support-mechanism to a democratic society? → Can history, identity, performance and city branding all be sustainably combined in a music-venue? → What is the role of 'public-music' in the city? <p>To what extent respecting 'historical-identity' of a place is even responsible in a planning process? What and how much to protect? Absence of development is equally historical as presence of advancement, so why is preservation not equal to construction? To expand the discussion, I begin by lending attention to the domain of mass-culture and ask: what transposable insights can be discovered—about the nature of the relationship towards identity and history—through the format of music events? In such venues, the legibility of past and present is distorted, by the sheer gravity of a mass-cultural act. Melting into a paradoxical point, allowing contemporary artists, such as Ye (ex. Kanye West), to preemptively declare, in the midst of his own song, that "this is history, this is history ladies and gentlemen". Right there and right then historical validation occurs in an act of public performance. Following that, could a similar format of retrodictive preservation be developed for Binckhorst as a form of constructing new identity? Building as a didactic tool for generating an evolving understanding of history & identity of the place, all in the midst of performance; a sort of an apparatus for generating history 'on-the-go'</p>
design assignment in which these result.	<p>The music venue for the Binckhorst area will responsibly address the previously articulated complexities. On top of that, this design project is planned to become a serious contribution to expanding circular design language for music buildings. The fundamental maxim of circularity is interchangeability; the music-venue, on the other hand, is constructed in the exact opposite manner—integrated solutions, custom designs for specific requirements. This graduation project sets out to examine the prevailing methods of space-production and, seeing as it is fitting to the theme of the studio, will rigorously present alternatives of substituting architectural creation for compositional invention. Interested in the hybridity of music envelopes, the interrelation of musical archetypes, in order to enlarge the interaction between unexpected crowds, becomes the backbone of development. The area's proximity to the 'center' of the Hague and its various mobility knots, as well as the larger connection to the Randstad scale, reinforces the validity of the course taken towards intensification.</p> <p>Altogether, rooted in the realities of Binckhorst and the tangent larger context, the venue will be simultaneously both a reference and a 'generator' of identity: a large-scale device for amplifying democratic performance.</p>

Process	
Method description	
<p>First quarter of the studio consisted of group research, resulting in a showcase of the typological variety of music buildings. In the second quarter a more individual process began, with focus on distinguishing and collecting a selected set of operational tactics that are used for shaping mass-events on a variety of scales. Such systematic observation results in a deeper understanding of the inherent limitations and possibilities of determined programming of an envelope for gathering. This leads to a firm grasp on the spectrum of the 'music envelope': from an open air festival to an impromptu flash mob. This study extends all the way into the third quarter as well. During the third and fourth quarter experimenting with hybrid combinations of typological precedents from the history of music buildings and the technological possibilities of constructions today will be carried out. Following that, the final design proposal will be formulated in the shape of a music venue in the Spoorboogzone of Binckhorst.</p> <p>Next steps in the design development process will be seeking clarification and answers to the formulated questions and observed problems of the site. The following are the main developmental research directions for the second half of the graduation project:</p>	
→ Field Survey	learning from the existing landscape by travelling along the railway perimeter around the Randstad area. The immediate scenery will be recorded in two train rides, which then serves as a base for transcribing notations of select spatial aspects and typological occurrences within the recorded journey. Establishing the spatial identity of the larger context.
→ Case Studies (unbuilt)	Cedric Price: Potteries Thinkbelt, UK (1964) Cedric Price: Fun Palace, UK (1961)
→ Case Studies (built)	Groot Handelsgebouw, Rotterdam (1953) /car, bike, truck, office, commerce
Documentation, Re-Drawing and Co-Relation of findings. Buildings situated in the Netherlands where Infrastructure is an integrated co-existence with the users	Den Haag Centraal, the Hague (1973) /train, metro, tram, bus, office, commerce
	Kunsthal Rotterdam, Rotterdam (1992) /car, bike, truck, art, commerce
	Station Breda, Breda (2016) /car, bike, truck, office, commerce, residential
→ Typological Survey of mobile constructions	Stageco https://www.stageco.com /largest stage manufacturer in the world.
	Construction Cranes /an inventory of typologies and mechanical principles of construction cranes, by Liebherr, Demag, Hitachi, Potain etc.
	Airport mobility vehicles /including telescopic mobile stair trucks, fold-out air-bridges and inflatable emergency exits.]

Literature and general practical preference
<p>Beranek, Leo L. <i>Acoustics</i>. London: Mc Graw-Hill, 1954.</p> <p>Beranek, Leo L. <i>Concert Halls and Opera Houses: Music, Acoustics, and Architecture</i>. New York: Springer, 2011.</p> <p>Burke, Edmund. <i>A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful: The Second Edition. with an Introductory Discourse Concerning Taste, and Several Other Additions</i>. London: Printed for R. and J. Dodsley, 1759.</p> <p>Cameron, Samuel. <i>The Economics of Music</i>. 2018. Internet resource</p> <p>Cox, Christoph, and Daniel Warner. <i>Audio Culture: Readings in Modern Music</i>. 2017.</p> <p>Forsyth, Michael. <i>Buildings for Music</i>. MIT Press Ltd, 2004.</p> <p>Fukuyama, Francis. <i>The End of History and the Last Man</i>. New York, NY, Free Press, 1992.</p> <p>Fukuyama, Francis. <i>Political Order and Political Decay: From the Industrial Revolution to the Globalization of Democracy</i>. 2014.</p> <p>Gan, Aleksej. <i>Konstruktivizm</i>. Tver: Uden forlag, 1922. [https://searchthecollection.nga.gov.au/object?uniqueId=41262]</p> <p>Giedion, Sigfried, and Reto Geiser. <i>Sigfried Giedion: Befreites Wohnen (liberated Dwelling)</i>. 2018.</p> <p>Giedion, S. <i>Space, Time and Architecture: The Growth of a New Tradition</i>. Cambridge, Mass: Harvard University Press, 1947.</p> <p>Hammond, Michael. <i>Performing Architecture: Opera Houses, Theatres and Concert Halls for the Twenty-First Century</i>. London, UK: Merrell Publishers, 2007.</p> <p>Hanslick, Eduard, and Geoffrey Payzant. <i>On the Musically Beautiful: A Contribution Towards the Revision of the Aesthetics of Music</i>. Indianapolis: Hackett Publishing, 1986.</p> <p>Hays, K M. <i>Oppositions Reader: Selected Readings from a Journal for Ideas and Criticism in Architecture 1973-1984</i>. New York, NY: Princeton Architectural Press, 1999.</p> <p>Kerez, Christian. <i>Christian Kerez, Uncertain Certainty =: Kurisuchan Keretsu Futashika Na Hitsuzensei</i>. Tokyo: Toto Shuppan, 2013.</p> <p>Lopez-Perez, Daniel. <i>Pattern-thinking: R. Buckminster Fuller</i>. Lars-Muller Publishers, 2019.</p> <p>Meyer, Juergen, and Uwe Hansen. <i>Acoustics and the Performance of Music: Manual for Acousticians, Audio Engineers, Musicians, Architects and Musical Instruments Makers</i>. New York, N.Y: Springer science+Business media, 2010.</p> <p>Mumford, Eric P. <i>The Ciam Discourse on Urbanism, 1928-1960</i>. Cambridge, Mass: MIT Press, 2000.</p> <p>Nieuwenhuys, Constant, and Ludo . Halem. <i>Constant. Space + Colour: From Cobra to New Babylon</i>. Rotterdam: nai010 publishers, 2016.</p> <p>Otto, Frei, Georg Vrachliotis, Joachim Kleinmanns, Martin Kunz, and Philip Kurz. <i>Thinking by Modeling</i>. 2016.</p> <p>Pine, Il B. J., and James H. Gilmore. <i>The Experience Economy:updated Ed</i>. Boston: Harvard Business School Press, 2011.</p> <p>Price, Cedric, and Samantha Hardingham. <i>Cedric Price Works 1952-2003: A Forward-Minded Retrospective</i>. London: Architectural Association, 2016.</p> <p>Rattenbury, Kester, and Samantha Hardingham. <i>Cedric Price: Potteries Thinkbelt : Supercrit#1</i>. Abingdon: Routledge, 2007.</p> <p>Rossmann, James R, Mathew D. Duerden, and B J. Pine. <i>Designing Experiences</i>. New York: Columbia Business School Publishing, 2019.</p> <p>Zuckermandl, Victor. <i>The Sense of Music, by Victor Zuckermandl</i>. Princeton: Princeton University Press, 1959.</p> <p>Questlove. <i>Music Is History</i>. Harry N. Abrams, 2021.</p> <p>Wittig, Martin C, Fabian Sommerrock, Philip Beil, and Markus Albers. <i>Rethinking Luxury: How to Market Exclusive Products and Services in an Ever-Changing Environment</i>. 2017.</p> <p>https://ellenmacarthurfoundation.org/ CEAP (Circular economy action plan), EU, March 2020</p>

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

Focusing on the development of a conceptual and spatial proposal with the Music Marvel as main subject seems a highly suitable exercise to practice spatial negotiation between the needs of private stakeholders and public desires for 'public-ness'. In other words, to engage with the prevailing dynamics of the contemporary city – critically, academically and professionally. Through collaborating and coordinating with various specialists within the AUBS network, gives a possibility to test ideas on a highly inquisitive and technical level. Fields like acoustics, circularity, sustainability and building technology become an integrated part of the overall questioning and spatial development of the project, lessening the design discrepancy between the field of construction science and spatial practice.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

All three fields have one word on agenda: sustainability. It starts with recognition of the fundamental needs of people, the social aspect, and expands to a scale of free-market production, guided by evolving scientific research and development. Professionals across all fields are starting to take responsibility and facing the complexity of this word. I am a 'child of crisis', an actor of a generation who needs to seek fundamental new ways of constructing new experiences. Sustainability is not an exact science; sustainability is not right or wrong. It is about resource efficiency and finding meaningful ways to construct for deconstruction.

Designer is the 'bridging entity' between market demand and market supply, and we have the responsibility to keep inventing a relevant design language that creates value for the materials within the business model of the circular economy. To find ways to re-contextualise materials at the end of their expected life-cycle into a non-linear, circular, cycle of usage. Seducing 'public audiences' with bold illustrations of design practice, so that gradually an aesthetic interest is transformed into an active way of life. In short, connect performance with business.

The graduation project is not posing as a universal solution, but rather acts as an early adopter of circularity in large scale mass-venue planning. The format of a music festival has a lot in common with the goals of circularity, such as the strive to democratize experience, aimed at the majority, not minority. If anything, the design proposal is presented as a transparent snapshot of the current conditions, shared with professional peers for review and examination. By approaching design development as a review of circularity maxims in the field of architectural construction, a contribution to the discussion and further expansion of the applicational potential of circularity in the domain of public space is made.



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'Problem'
Do Play: interference of sound

What are cities good for if not to Do and Play? People move here for economic prosperity; for the access to culture, entertainment, education and commerce. They come for the thrill of it all. When it comes to the presence of music in the city, a somewhat countryside mentality emerges. Any unwarranted sound is disturbing and annoying. It is almost always the wrong song and almost exclusively too loud. Ironically, countryside is where the loudest musical events—festivals—take place. So does the presence of music in the city simply bring to the surface the historical core of its inhabitants, or the residents have simply bonded the city into a submissive state of limited expression. The presence of a festival in the city is proof of cultural liberty and political solidarity.

Can the Hague take it? And if the city of 'Peace and Justice' cannot, then what does that tell us about the contemporary state of the city? Are cities for silence? Cities for comfort? What for?

"The reduction of the city to its minimum elements is the pre-condition of a critical reflection on its principle."
 (Prof. Nicola Marzot)

'Vision'

*The Impossible Festival: from existenzminimum to maximum
in three generations*

People move to cities for economic prosperity; for the access to culture, entertainment, education and commerce. They come for the thrill of it all.

Before the city, there was a grandparent who helped build it. Followed by a parent who trailed through. Cherished by grandchildren who seek their own way of protecting the freedom that was given to them indefinitely.

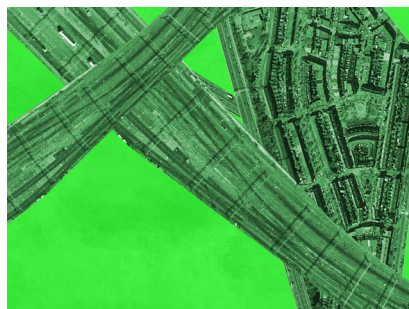
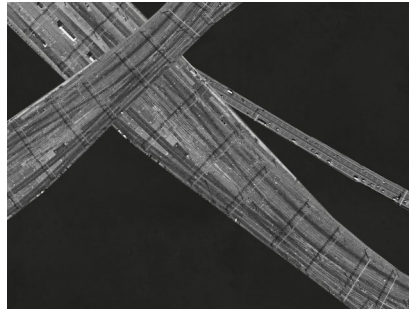
If you are new to the city, you start with an existenzminimum—bare biological minimum. You have space, you have air, light and water. One can get all of that in the rural life as well. More often than not in larger quantities and lower expenditures. So why come to the city? To do what?

To find who you are (war)

To find what you are (post-war)

To find what you do (us)

"tHe CiTY is YOur gr33n scrEEEn!"



The memory of a city-dweller is that of three generations: of one's own, their parents and of their grandparents. One generation had built, the following one one has used and the youngest one is abusing. All to contribute to the reaccuring cycle of the city.

Post 1945(t) labour generation building the existenzminimum layers for the next bodies of next generation, while not having ownership over their own-selves.

"Why are you helping me?
—because I can."

1945/46

t +1yr

"you don't own your own body"
& it is on full display

[Responsibility: freedom!]

1989

t +40yr

"you don't own your own expression"

& it needs to remain concealed

[Responsibility: freedom of movement!]

2011

t +65yr

"you do own anything"

& what do you do to respect that?

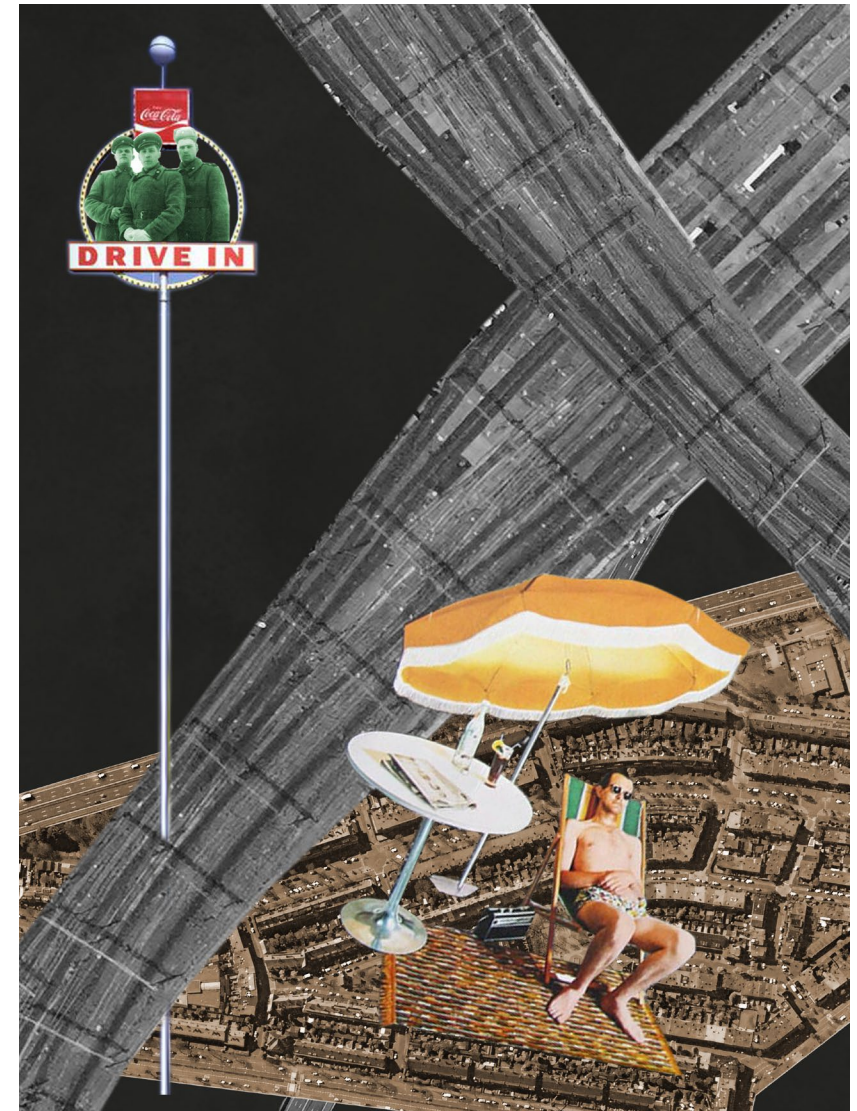
[Responsibility: freedom of expression!]





Tune-In

Build-Use-Abuse: the dynamic layers of Binckhorst are to be played with!



Tune-Out

The layers of Binckhorst are to be comfortably ignored, responsibility relinquished...no need to build; no need to abuse. come on, time to relax

It is our responsibility to play! as a mortgage payment for the freedom that we are consuming. Submission to comfortable stability is a voluntary surrender to bondage of the body. A violent act of self-censorship. An indefensible loss of freedom.

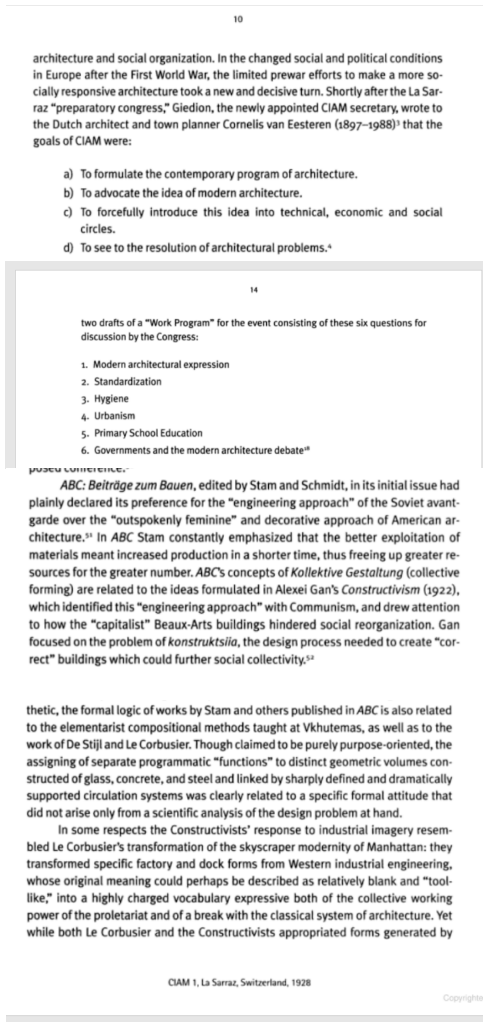
18 Submission: Monday 17 January 2022, 08:45 AM Jane, Edgars

Position statement as conclusion of the manifesto exercise

It is our responsibility to play! as a mortgage payment for the freedom that we are consuming. Submission to comfortable stability is a voluntary surrender to bondage of the body. A violent act of self-censorship. An indefensible loss of freedom.

19 Submission: Monday 17 January 2022, 08:45 AM Jane, Edgars

Research on the emergence of 'existenzminimum' from CIAM 1 & CIAM 2
Mumford, Eric P. *The Ciam Discourse on Urbanism, 1928-1960*. Cambridge, Mass:
MIT Press, 2000



capitalist modernity, there was a sharp class division between their sources. Le Corbusier's Manhattan towers housed and represented the administrative side of capitalism, oriented toward the abstract manipulation of numbers, ideas, and people, while the Constructivists' pieces of industrial equipment were what aided or replaced the manual labor of production itself. In their work the "inevitable" coming dictatorship of the proletariat prophesied by Marx was to be furthered by the "dictatorship of the machine,"¹¹ freeing the working class from manual drudgery by evoking the forms of that which would increase production in the new Communist state.

Parallel to these developments Stam was also active in the Rotterdam group Opbouw, which also included van Eesteren. In 1927 Opbouw published a manifesto in *iso*, which declared that traffic was the "foundation of town-planning design." This meant that the closed body of the classical city must be replaced by an open-ended one, and might also mean the "sacrifice" of historic buildings in the general interest. A few months later, ABC published a scheme for the Hofplein in Rotterdam by Opbouw, with Stam's collaboration. This scheme projected greatly enlarged traffic arteries, with edges of the surrounding blocks configured to follow the curves of the streets. In the perspective drawing an elevated transit line arcs over the traffic, slicing through the square in front of the train station.¹⁵

May's Frankfurt and CIAM 2 were not the first efforts to consider the design of minimum housing units. Similar efforts had been undertaken to provide minimal housing for the working class in France and England since the nineteenth century. A major part of such efforts involved the standardization and rationalization of the dwelling unit within the smallest possible cubage; in one such project, a cooperative apartment building on the Rue Jean-Robert in Paris by Alcide Vaillant (1884), the three-room apartments were forty-four square meters and the two-room apartments thirty-five square meters, units smaller than many of those displayed at CIAM 2.¹⁶ May's efforts to find the minimum dwelling "ration" based on "biological" and not economic requirements stemmed from this earlier history of philanthropic housing as well as from his own work with Parker and Unwin at Hampstead Garden Suburb in 1910.

The focus on what May termed the *Existenzminimum* was highlighted in Giedion's short illustrated book, *Befreites Wohnen* (Liberated living), which was issued a month before the Congress opened in the fall of 1929. Opposite the title page was a quotation from Henry Ford prophesizing a change in the form of housing away from the "solidly built" apartment houses of the present, since he asserted that they could not be remodeled. The illustrations, inspired to some extent by Le Corbusier's books, included works by Le Corbusier, Stam, Swiss CIAM members, Gropius, Oud, Neutra, Bijvoet and Duiker, and others, combining the theme of the minimum dwelling unit with the tectonic and visual strategies of the new architecture.

partnership with man."¹⁹ In Gropius's view, the organizational structure of such "master households" is "connected intimately with the problem of the minimum dwelling." Biological considerations will determine its design; an "elementary minimum of space, air, light and heat" will be provided so that the dweller can "fully develop his life functions." Every "adult shall have his own room, small though it may be!"²⁰

Gropius may have been aware of similar discussions about minimum dwellings in the Soviet Union. Marx's view that private economic units like the family should give way to a collective domestic economy provided the justification there for developing more radical urbanistic solutions based on the "communal house," or *dom-kommuna*.¹⁸ This direction was powerfully reinforced by Lenin's statement of 1919 that the "real emancipation of women, real communism, will begin only where and when an all-out struggle begins (led by the proletariat wielding state power) against this petty housekeeping, or rather when its wholesale transformation into a large-scale socialist economy begins."¹⁹ By 1921, 865 communal dwellings had been set up in converted existing buildings in Moscow, then a city with a population of nearly two million people, and the idea of the *dom-kommuna* remained important to avant-garde architects even after the return of partial private enterprise with Lenin's New Economic Policy of 1921. An early example was Konstantin Melnikov's 1922 Serpukhov Ulitsa workers' housing competition project for a site in central Moscow, where he projected minimal housing units in long five-story housing slabs arranged in a fan-like configuration, connected to a communal building with second-level passageways.²¹ The logic of Melnikov's unbuilt scheme seems related to El Lissitzky's contemporary efforts to infuse his Prouns (abstract paintings that suggested three-dimensional compositions) with Communist political significance, or in graphic compositions such as "What Have You Done for the

housing but on the design of the minimal units themselves. By perfecting the "scientific solution" to the minimum dwelling, CIAM members believed that the collective dwellings envisioned in the Soviet Union and Germany could become economically feasible for mass housing. Thus Gropius asserted in his talk that it was wrong to "look upon the very smallest dwelling as an auxiliary measure."

Gropius's talk in German was followed by one in French that continued this focus on the *Existenzminimum*. In "The Program of the Minimum Dwelling," Victor Bourgeois talked about the implications that the Taylorization of housework had for unit planning and advocated new mechanical ventilation and refuse removal systems.²² In the afternoon the delegates attended the opening of the *Existenzminimum* exhibition, followed by a discussion led by Gropius and Bourgeois.

On the next day, October 25, 1929, Hans Schmidt spoke on "Criticism and Improvement of the Existing Building Regulations in Reference to the Minimum Dwelling." He noted the inherent conflict between building legislation and the demands of maximum profitability, and called for regulations of a "more general character" that would "grant the greatest freedom possible to the . . . manner of fulfilling the hygienical and social requirements." He pointed out that in the present system, idealistic building regulations without simultaneous engagement in production only benefit the well-off, who can afford the dwellings built to the higher standard of the regulations. He argued that regulations governing building technique, static safety, hygiene, and fire safety should give the builder the greatest possible freedom "within precise rules based on the latest scientific methods."²³

On October 26, Karl Moser gave the official closing speech of CIAM 2, in which he explained how at La Sarraz the Congress had decided to create "a durable institution for the international exchange of ideas on the most-discussed problems of architecture." Its directives were based on "the intellectual progress and technique of the present hour," and rested on

1. general rules of public economy
2. the science of town-planning
3. the relationships between architecture and public opinion
4. the relationships between architecture and government²⁴

The exhibition "The Minimum Dwelling Unit" was then officially opened. Two hundred and seven floor plans of minimum units on 1.2 x 2 meter boards, organized in categories of one-, two-, or multifamily housing with indications of floor area, cubage, window area and the number of beds, were prepared under Stam's direction and presented in a uniform graphic format.²⁵ To emphasize that a new com-

wage levels, and the architects' names were not given. The majority of the plans came from German cities, with about half of these from Frankfurt projects; nearly all the others were from Brussels, Vienna, Paris, and other European cities.²⁶ Unit sizes ranged from 29.5 to 76.5 m² for one-family houses; 24.7 to 52.7 m² for individual units in two-family houses; and 23 to 91.2 m² for multifamily units.^{24a}

After the Congress the exhibition then traveled through Europe; the talks and most of the plans were published in 1930 as the first CIAM book, *Die Wohnung für das Existenzminimum*.²⁶ This volume also included a text by Ernst May, translated as "The Dwelling for the Living Income Earner." May stressed the importance of constructing minimal dwellings for the poorest wage-earners, and attacked those who felt that the housing needs of this class should be serviced by their taking over older dwellings (later known as the "trickle-down" theory). He pointed out that Weimar Germany's high mortgage interest rates (11.5 percent in 1929) were a major factor in high housing costs, and advocated the building of more "public utility" housing. He concluded with a warning that the many questions concerned with housing cannot be left to architects alone, who "may want to foist [their] personal living and dwelling requirements upon the mass . . . of families with a living income only."^{26b}

tendance were Stam, Schmidt, and Giedion. At this meeting Le Corbusier criticized the CIAM focus on the minimum dwelling without a corresponding examination of the overall provision of communal services, as was being done in the Soviet Union by Ginzburg and OSA. Le Corbusier had been making regular trips to Moscow for his Tsentshiloysyoz project since 1928, and he contrasted the "piecemeal" communal efforts of May in Frankfurt with more comprehensive Soviet strategies being debated after the inauguration of the first Five Year Plan. He also proposed that a future Congress be held in Moscow.²⁷

conception of urbanism. What mattered to Le Corbusier now was not so much the final project as the methodology of planning, as a means of bringing the world under rational control for the common good. "Plans are the rational and poetic monument set up in the midst of contingencies," he wrote as a motto on the title page of *La Ville Radieuse*: the impulse to monumentalize was shifted from the fixed artifact to the act of planning. And the obvious locus for such "monumentalization" of the planning activity was of course CIAM itself.

Selection of 'existenzminimum' arguments from CIAM 1 & CIAM 2

Mumford, Eric P. *The Ciám Discourse on Urbanism, 1928-1960*. Cambridge, Mass: MIT Press, 2000

architecture and social organization. In the changed social and political conditions in Europe after the First World War, the limited prewar efforts to make a **more socially responsive architecture** took a new and decisive turn. Shortly after the La Sarraz "preparatory congress," Giedion, the newly appointed CIAM secretary, wrote to the Dutch architect and town planner Cornelis van Eesteren (1897-1988) that the goals of CIAM were:

- To formulate the contemporary program of architecture.
- To advocate the idea of modern architecture.
- To **forcefully** introduce this idea into **technical, economic and social circles**.
- To see to the resolution of architectural problems.¹

ABC: *Beiträge zum Bauen*, edited by Stam and Schmidt, in its initial issue had plainly declared its preference for the "engineering approach" of the Soviet avant-garde over the "outspokenly feminine" and decorative approach of American architecture.²⁴ In ABC Stam constantly emphasized that the better exploitation of material's meant increased production in a shorter time, thus freeing up greater re-

sources to how the "capitalist" **Beaux-Arts buildings hindered social reorganization**. Gan focused on the problem of *konstruktivität*, the design process needed to create "correct" buildings which could further social collectivity.²⁵

thetic, the formal logic of works by Stam and others published in ABC is also related to the elementarist **compositional methods taught at Vkhutemas**, as well as to the work of De Stijl and Le Corbusier. Though claimed to be purely purpose-oriented, the **assigning of separate programmatic "functions" to distinct geometric volumes constructed of glass, concrete, and steel and linked by sharply defined and dramatically supported circulation systems** was clearly related to a specific formal attitude that did not arise only from a scientific analysis of the design problem at hand.

In some respects the Constructivists' response to industrial imagery resembled Le Corbusier's transformation of the skyscraper modernity of Manhattan: they transformed specific factory and dock forms from Western industrial engineering, whose original meaning could perhaps be described as relatively blank and "tool-like," into a **highly charged vocabulary expressive both of the collective working power of the proletariat and of a break with the classical system of architecture**. Yet while both Le Corbusier and the Constructivists appropriated forms generated by

capitalist modernity, there was a sharp **class division** between their sources. Le Corbusier's Manhattan towers housed and represented the administrative side of capitalism, oriented toward the abstract manipulation of numbers, ideas, and people, while the Constructivists' pieces of industrial equipment were **what aided or replaced the manual labor of production itself**, in their work the "inevitable" coming

in 1920, which declared that traffic was the "foundation of town-planning design." This meant that the **closed body of the classical city must be replaced by an open-ended one**, and might also mean the "sacrifice" of historic buildings in the general interest. A few months later, ABC published a scheme for the Hofplein in Rotterdam

May's Frankfurt and CIAM 2 were not the first efforts to consider the design of minimum housing units. **Similar efforts had been undertaken to provide minimal housing for the working class in France and England since the nineteenth century**. A major

stemmed from this earlier history of philanthropic housing as well as from his own meters, units smaller than many of those displayed at CIAM 2.²⁶ May's efforts to find the minimum dwelling "ration" **based on "biological" and not economic requirements**

The focus on what May termed the *Existenzminimum* was highlighted in Giedion's short illustrated book, *Befreites Wohnen* (Liberated living), which was issued a month before the Congress opened in the fall of 1929. Opposite the title page was a quotation from Henry Ford prophesizing a change in the form of housing away from the "solidly built" apartment houses of the present, since he asserted that they could not be remodeled. The illustrations, inspired to some extent by Le Corbusier's books, included works by Le Corbusier, Stam, Swiss CIAM members, Gropius, Oud, Neutra, Bijvoet and Duiker, and others, combining the theme of the minimum dwelling unit with the **tectonic and visual strategies of the new architecture**.

Biological considerations will determine its design; an "elementary minimum of space, air, light and heat" will be provided so that the dweller can "fully develop his life functions." Every "adult shall have his own room, small though it may be!"²⁷

building with second level passageways.²⁸ The logic of Melnikov's unbuilt scheme seems related to El Lissitzky's contemporary efforts to **infuse his Prouns (abstract paintings that suggested three-dimensional compositions) with Communist political significance, or in graphic compositions such as "What Have You Done for the**

housing but on the design of the minimal units themselves. By **perfecting the "scientific solution"** to the minimum dwelling, CIAM members believed that the collective dwellings envisioned in the Soviet Union and Germany could become

Dwelling." He noted the **inherent conflict between building legislation and the demands of maximum profitability**, and called for regulations of a "more general character" that would "grant the greatest freedom possible to the . . . manner of fulfilling the hygienical and social requirements." He pointed out that in the present system, idealistic building regulations without simultaneous engagement in production only benefit the well-off, who can afford the dwellings built to the highest standard of the regulations. He argued that regulations governing building technique, static safety, hygiene, and fire safety should give the builder the greatest possible freedom "within precise rules based on the latest scientific methods."²⁹

1. general rules of public economy
2. the science of town-planning
3. **the relationships between architecture and public opinion**
4. the relationships between architecture and government³⁰

most of the plans were published in 1930 as the first CIAM book, *Die Wohnung für das Existenzminimum*.³¹ This volume also included a text by Ernst May, translated

high housing costs, and **advocated the building of more "public utility" housing**. He concluded with a warning that the **many questions concerned with housing cannot be left to architects alone, who "may want to foist [their] personal living and dwelling requirements upon the mass . . . of families with a living income only."**³²

tendance were Stam, Schmidt, and Giedion. At this meeting **Le Corbusier criticized the CIAM focus on the minimum dwelling without a corresponding examination of the overall provision of communal services**, as was being done in the Soviet Union

ture Congress be held in Moscow.³³

conception of urbanism. What mattered to Le Corbusier now was **not so much the final project as the methodology of planning**, as a means of bringing the world under rational control for the common good. "Plans are the rational and poetic monument set up in the midst of contingencies," he wrote as a motto on the title page of *La Ville Radieuse*: **the impulse to monumentalize was shifted from the fixed artifact to the act of planning**. And the obvious locus for such "monumentalization" of the planning activity was of course CIAM itself.

Selected groupwork Sep 2021 - Dec 2021

Group 3: Phat Ho, Zsa-Zsa Brouwers, Chris Huisman, Edgars Jane

Case Study #1, week 1.4

Jean Louis Théodore Géricault, *Le Radeau de la Méduse*



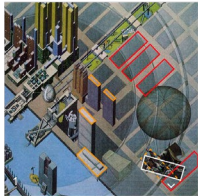
System



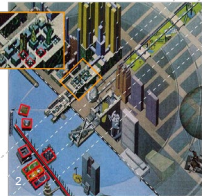
Dérive



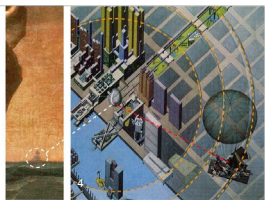
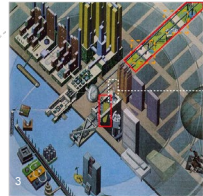
Dérive



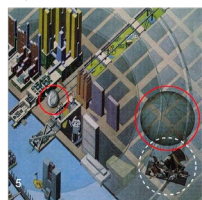
Atomization



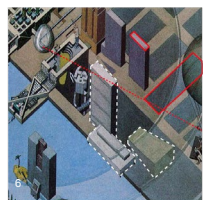
Disarticulation/Dismembering



(False) Hope



Cadavre Exquis



Dérive



Disarticulation



Contrast



Dérive
State of Exception

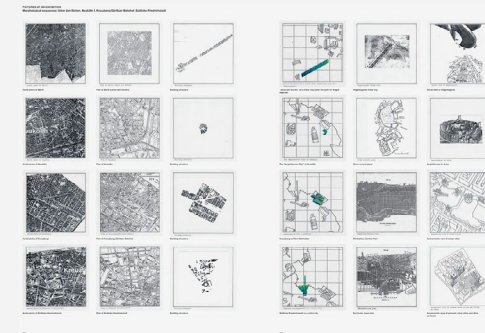


Cadavre Exquis



Case Study #2, week 1.6

THE CITY IN THE CITY. BERLIN: A GREEN ARCHIPELAGO Oswald Ungers & Rem Koolhaas



SESSION 2 Delineation Research

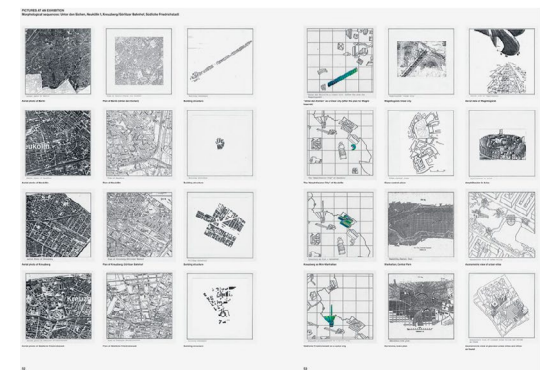


Photo → Map → Isolation

Transposition → Analogy → Articulation

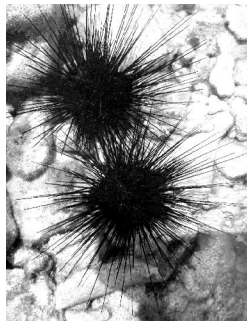
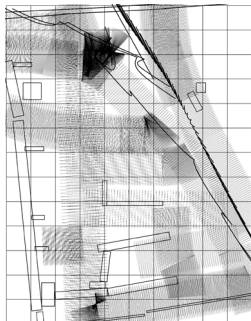
THE CITY IN THE CITY. BINCKHORST: → PHOTO



THE CITY IN THE CITY. BINCKHORST: → MAP

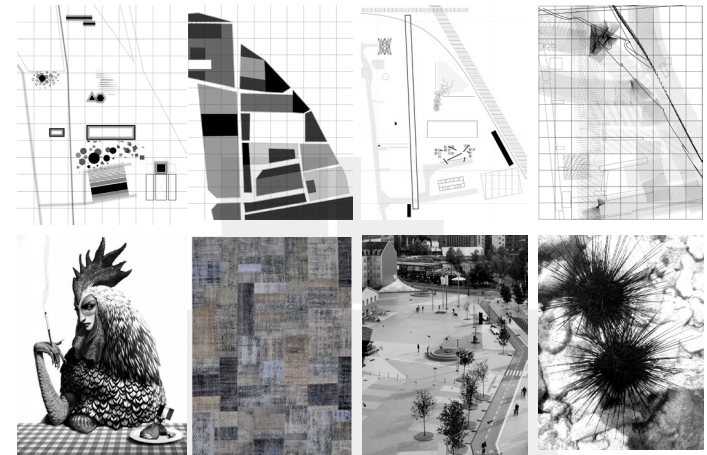


THE CITY IN THE CITY. BINCKHORST: → ISOLATION, TRANSPOSITION & ANALOGY



FRONTIERS

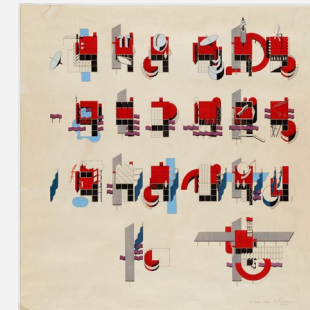
THE CITY IN THE CITY. BINCKHORST: → ARTICULATION



Case Study #3, week 1.8

PARC DE LA VILLETTE: Paris 1982 - 98

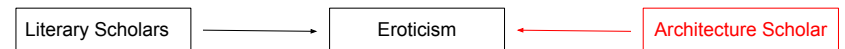
Bernard Tschumi



Group 3
Zsa-Zsa, Phat, Chris, Edgars

SESSION 3 Delineation Research

Plato: transcend manifestation
when the subject seeks to go *beyond itself* and form a communion with the object.



Bataille: dissolving boundaries
when transgression that *dissolves the rational* world comes between human
subjectivity and humanity. always temporary.



Georges Bataille (1897-1969)



Roland Barthes (1915-1980)



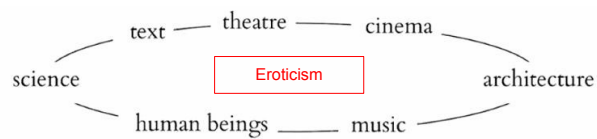
Jacques Derrida (1930-2004)

Eroticism



Bernard Tschumi (1944-)

Tschumi's Definition of Architecture: Network of Theoretical Links



+ Criticism of Post-Modernism



~~Knowledge of Form~~ Form of Knowledge

Form of Knowledge?



Georges Bataille (1897-1969)



Roland Barthes (1915-1980)

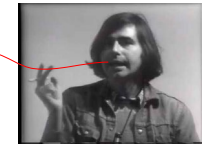


Jacques Derrida (1930-2004)

Theory of Eroticism

Pleasure of Text

Dislocate 'Sign' from Meaning



Bernard Tschumi (1944-)

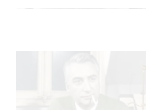


Derrida:
speech
writing

Tschumi:
writing
architecture



Derrida substituted importance of *speech* for *writing*.
Tschumi substitutes importance of *writing* for *architecture*.



Pleasure of Text



Dislocate 'Sign' from Meaning

= Pleasure of Architecture > Pleasure of Text.

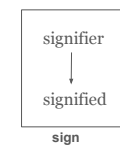
Pleasure of Architecture?



Semiology

Architecture Opposites

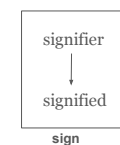
Binary Opposites



sign

conceived
?
perceived

objective
?
subjective



sign

conceived
experienced
perceived

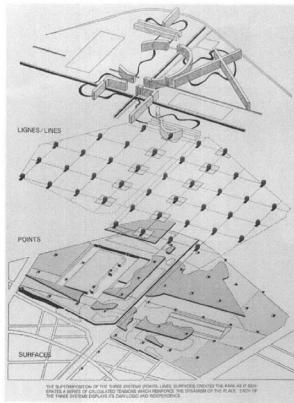
objective
eroticism
subjective

Plato: transcend manifestation
when the subject seeks to go *beyond* itself and form a communion with the object.

Bataille: dissolving boundaries
when transgression that *dissolves* the rational world comes between human subjectivity and humanity, always temporary.

conceived → space
experienced → event
perceived → movement

Tschumi's tripartite division of architecture: Form



space (points)
event (surfaces)
movement (lines)

Form? of Knowledge

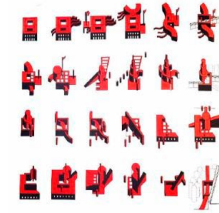
Framework

- A. Superimposition Eroticism: **correspondence** beyond own self
- B. Theory of Pleasure Substitute ~~text~~ for architecture:
medium **irreducible to ideology**
- C. Negation of Expectation Architecture must negate what **society expects** from it.
Ruin is the architectural embodiment of that.



Derrida *dislocates* the concept of 'sign'
[no definite, transcendental meaning]

Tschumi's follies illustrate that



Derrida names *folly* a piece of architecture that
openly has no fixed meaning
[de-centre architecture: free from metaphysical meaning]

'Instant Ruin' without function



Tschumi's tripartite division of architecture superimposed



- A. Superimposition
- B. Theory of Pleasure
- C. Negation of Expectation

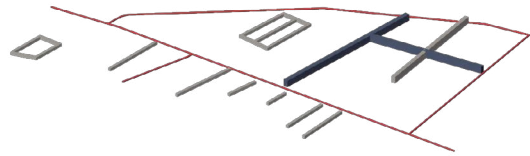
movement (lines)
space (points)
event (surfaces)

Binckhorst's tripartite division of architecture separated: How it is Made?

Motivation:	Elements:	Interpretation:
<i>Space</i>	Points	Centers for program. Points as cultural 'hotspots' in Binckhorst.
<i>Movement</i>	Lines	Intersections and connections of interest & surroundings. Pathways connecting points and flows within Binckhorst.
<i>Events</i>	Surfaces	Space to interact, play, relax, gather, green areas. Existing "Binckhorst Zones".

"Binckhorst as a place of culture where natural and artificial are forced together into a state of constant reconfiguration and discovery."

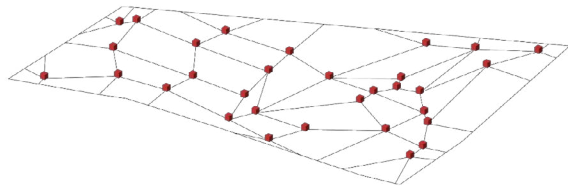
Binckhorst Space (Points)



movement
space
event

(lines)
(points)
(surfaces)

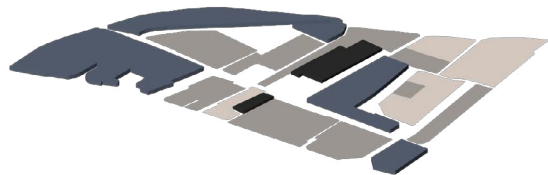
Binckhorst Movement (Lines)



movement
space
event

(lines)
(points)
(surfaces)

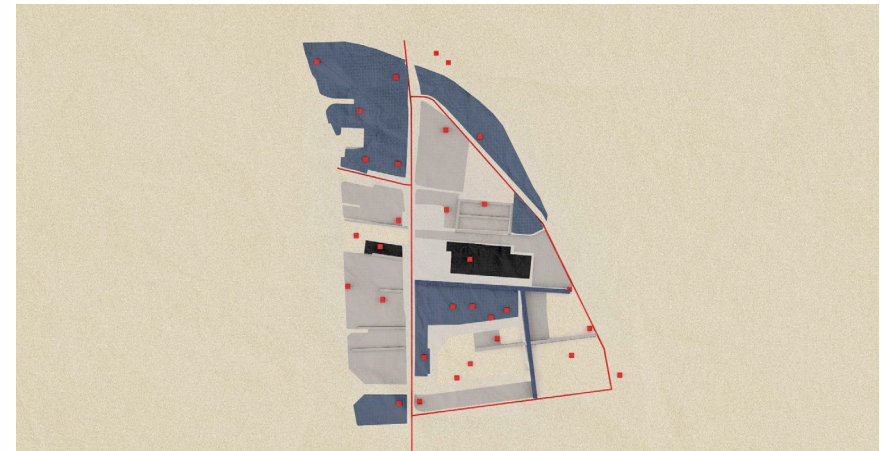
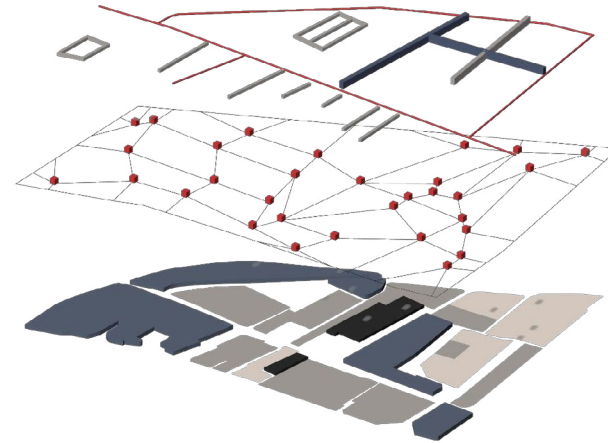
Binckhorst Event (Surfaces)



movement
space
event

(lines)
(points)
(surfaces)

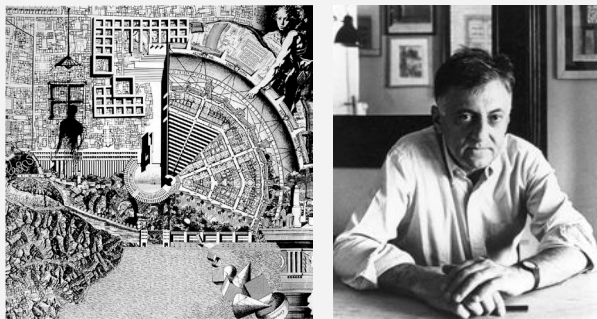
Binckhorst Superimposed



Superimposition of 3 systems generates a series of calculated tensions which reinforce the dynamism of the place.*

Possible to Retrospectively establish correspondence?

LA CITTÀ ANALOGA, 1976
Aldo Rossi



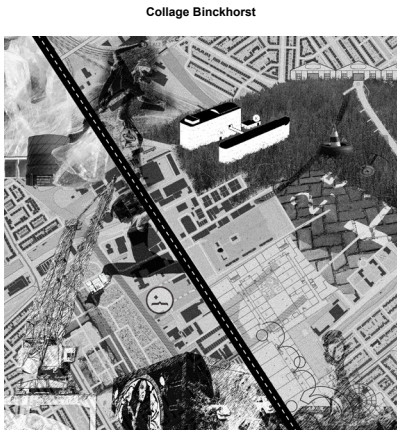
Group 3
Zsa-Zsa, Phat, Chris, Edgars

SESSION 4 Delineation Research

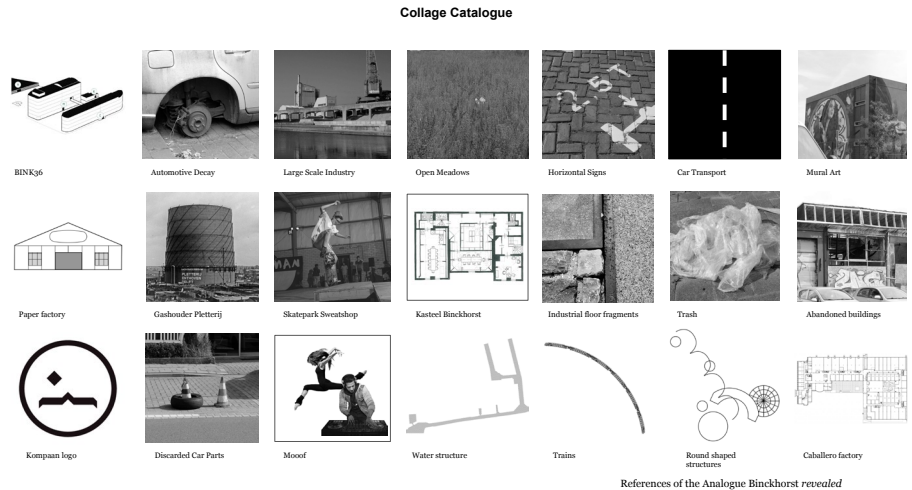
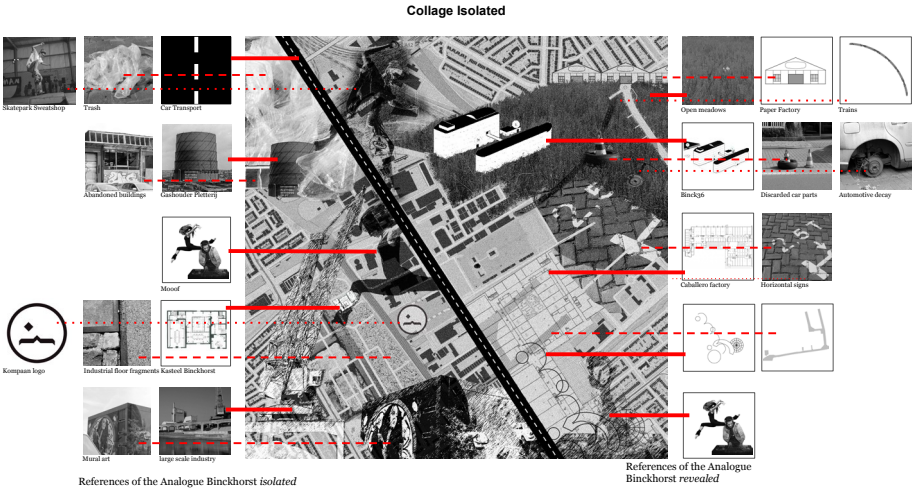
Aldo Rossi

‘The city remembers its past (our “collective memory”), and that we use that memory through monuments; that is, monuments give structure to the city.’

What monuments give structure to Binnchorst?



Composite Image of the monuments of Binnchorst



Capriccio

18th century paintings genre: intentionally dislocating elements that belong to a context → free them from previously existing constraints.



Giovanni Antonio Canal, Il Canale Grande a Rialto, 1730-50.



Canaletto, Capriccio con il ponte di Rialto, 1740.

Capriccio

18th century paintings genre: intentionally dislocating elements that belong to a context → free them from previously existing constraints.



Reference Binck photo



Capriccio Binck photo



Assemblage

putting together (composing) these dislocated elements



Aldo Rossi, building block in Schützenstrasse, Berlin, 1994-97

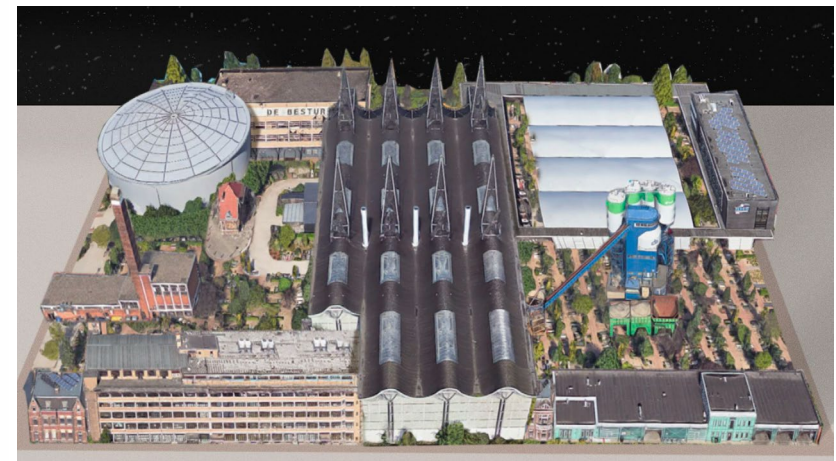
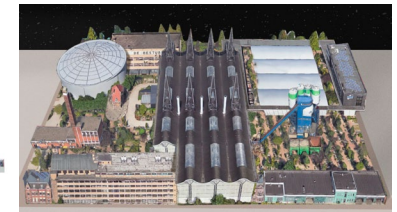


Binckhorst Assemblage

putting together (composing) these dislocated elements

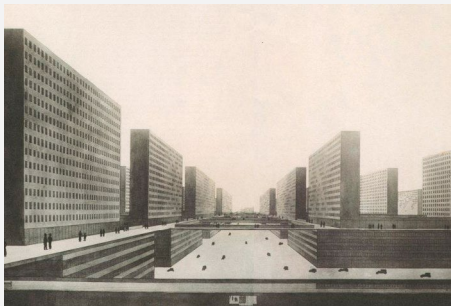


Group 3, urban block in Binckhorst, The Hague, 2021



'The city remembers its past ..'

HOCHHAUSSTADT, 1924
Ludwig Hilberseimer



Group 3
Zsa-Zsa, Phat, Chris, Edgars



SESSION 5 Delineation Research

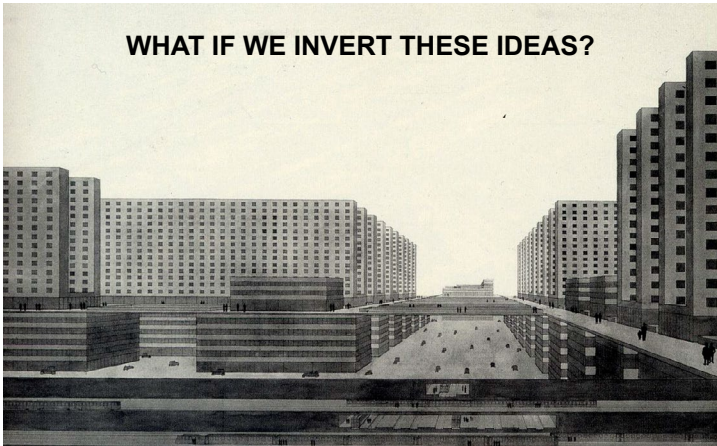
- Bauhaus, city planning, street hierarchy
- High-rise society, living and working in one unit
- No zoning, one typology, maximum efficiency

'Today it is no longer essential to simply paint paintings, sculpt sculptures, or create aesthetic arrangements. Rather it is crucial to design reality itself.'

In his Hochhausstadt of 1924 there is **no zoning, one typology, and a ruthless efficiency** in the superposition of circulation, production, consumption and reproduction. In fact, Hilberseimer hated Corb's projects, picking holes in his calculations, labelling them bourgeois and flawed. 'Le Corbusier', he said, 'did nothing other than shift horizontal congestion into a vertical congestion of high-rises.' In this respect, **Hilberseimer was ultra hardcore: the punk of Modernism**. At the same time, he was simply pursuing the logic of the metropolis to its most extreme conclusion.

- Theme: scaling (up and down) >>> *amplification*
- The network city - "ruthless efficiency"
- Ground plane reserved for transportation / logistics
- Elevated walkways to separate traffic flows (cars and pedestrians)
- Uniform building blocks with apartments (top) and factories (bottom)

SEPARATION



THE ANTI HOCHHAUSSTADT

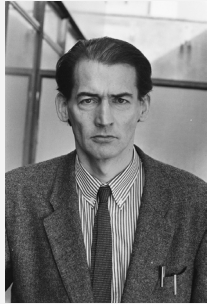
~~hierarchy: car > human~~ hierarchy: human > car
~~one typology (uniform)~~ all typologies (mix)
~~maximum efficiency~~ minimum efficiency



BINCKHORST?



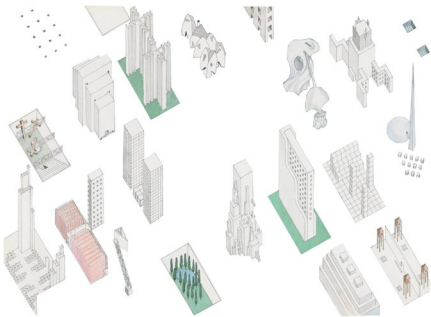
The City of the Captive Globe project, 1972
OMA, Rem Koolhaas



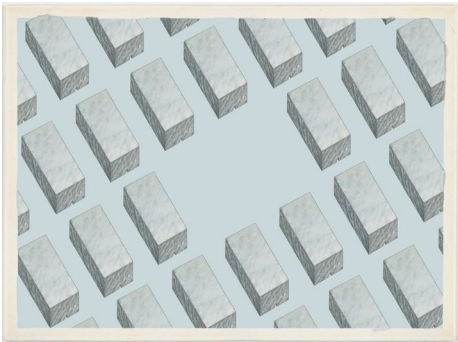
Group 3
Zsa-Zsa, Phat, Chris, Edgars

SESSION 6 Delineation Research

The City of the Captive Globe



The 'Capital of Ego', each discipline or institute has its own plot



Identical base of polished stone to provide an equal, unbiased starting point

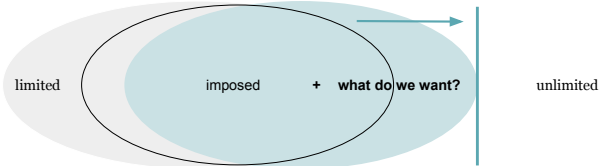
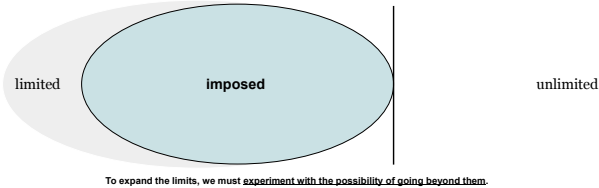
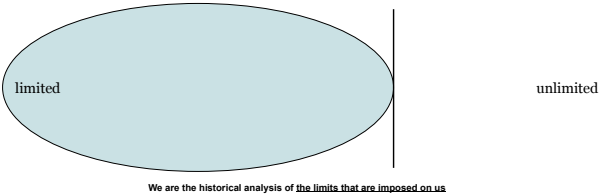
The City of the Captive Globe



From each base, the disciplines can freely expand towards the sky

- Manhattan as the 'urban playground' for all kinds of ideas and styles
- Controlled by the polished stone blocks and the grid (zoning laws)
- Freedom in a vertical way, camouflaged by the stone bases

We are the historical analysis of the limits...



"The critical ontology of ourselves [...] has to be conceived as an attitude, an ethos, a philosophical life in which the critique of what we are is at one and the same time the historical analysis of the limits that are imposed on us and an experiment with the possibility of going beyond them."

Michel Foucault

To expand the limits, we must experiment with the possibility of going beyond them. How?

Critique: what do we want?

What are the limits?

How do we go beyond them?

The answers as start of experiment

Critique: what do we want?

What are the limits?

How do we go beyond them?

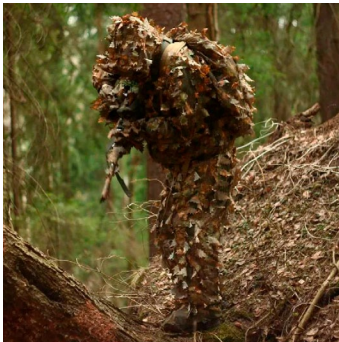
Music Marvel

Absence of Limits

Imagination

CAMOUFLAGE

Types of Camouflage



Camouflage as Survival



Camouflage as Fashion

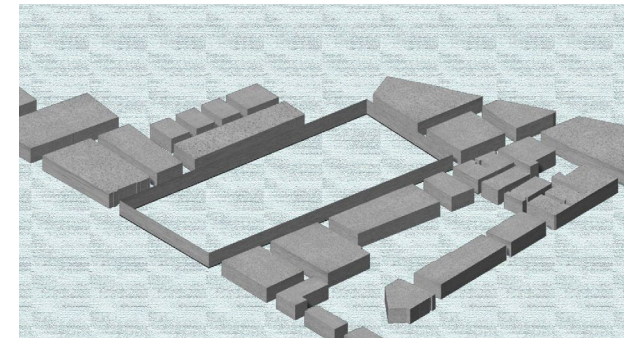


Individual development within Binckhorst



The 'Capital of Ego', each discipline or institute has ~~its own~~ a shared plot

Absence of Grid is also Control



Identical Different base of polished stone to provide an equally, unbiased biased starting point

The Binckhorst as urban playground


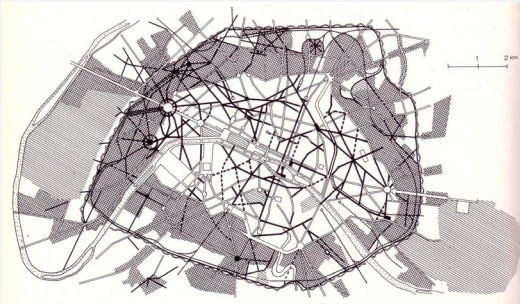


From each base, the disciplines can freely dialectically expand towards the sky

Our 'becoming' has to be conceived as an attitude, an ethos, a philosophical life in which the design of the Music Marvel is simultaneously the historical analysis of the limits of the Binckhorst and an imaginative experiment that goes beyond them.
Camouflage as survival. Camouflage as fashion. Camouflage as becoming?

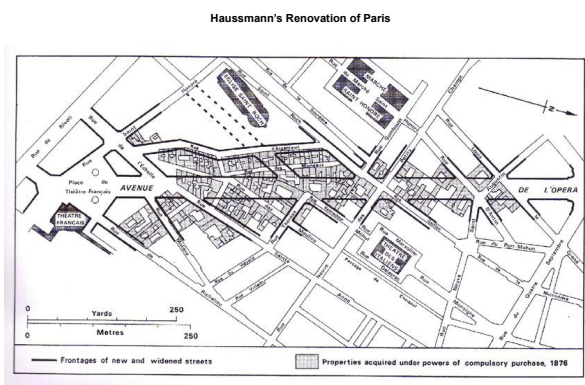
HAUSSMANN'S RENOVATION OF PARIS, 1853-1870

Georges-Eugène Haussmann



Group 3
Zsa-Zsa, Phat, Chris, Edgars

SESSION 7 Delineation Research



Imposing new avenues on the medieval neighbourhoods of Paris

- Excavation (demolition) of the overcrowded and unhealthy neighbourhoods
- Network of boulevards “to bring air and light to the centre of the city”
- Better circulation in what otherwise was a labyrinth

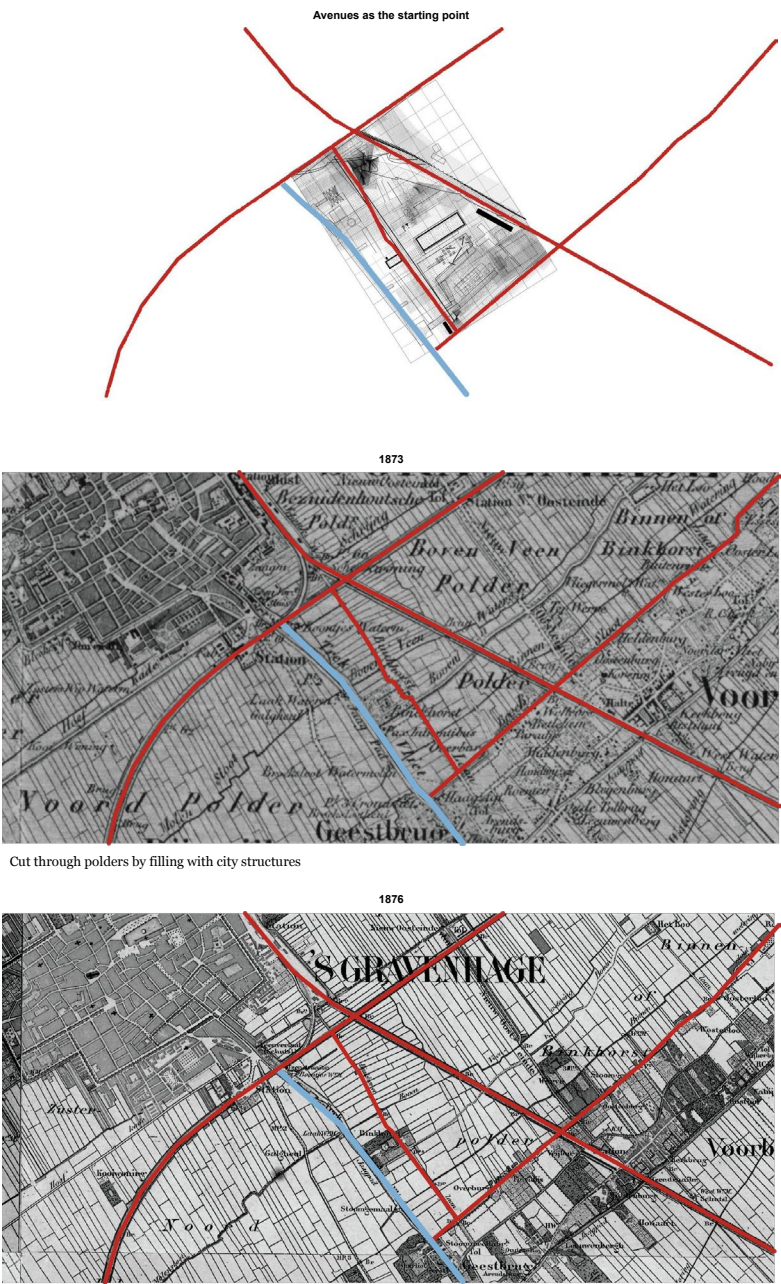
EXCAVATION

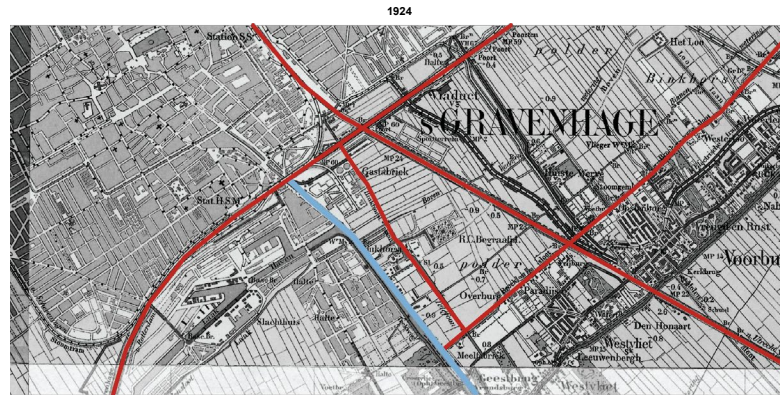
- Paris: overcrowded medieval labyrinth
- Binckhorst: under-populated industrial area

excavate the fabric to make the city more beautiful

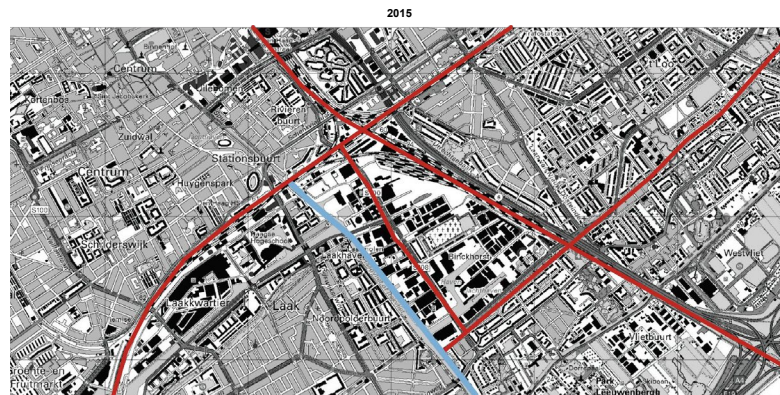
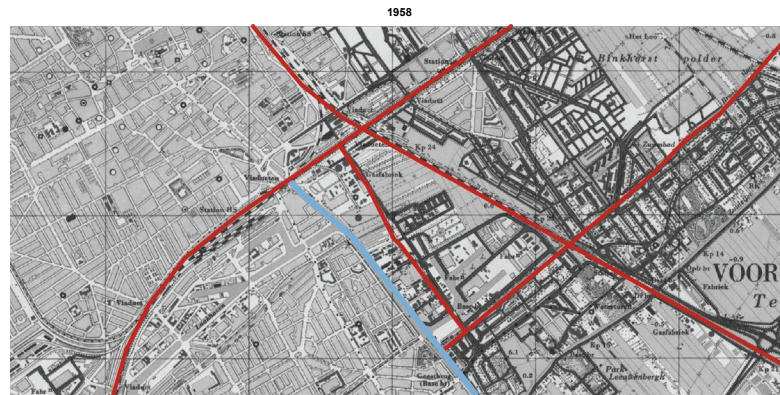
excavate fill the fabric to make the city more beautiful

Reverse EXCAVATION





Buildings added along cuts



Time for Haussmann to step in

Does it matter how they came to be?

Reminders of the past



Backside of Paris boulevards & plan for towers on top of industrial warehouses in the Binckhorst (by Mei Architects) >>> the end result is the same

Reminders of the present



P2.A	Graduation Plan
P2.B1	Individual Design Manifesto
P2.B2	Project Abstract, Diagrams, Notations & Maps
P2.C	Design Brief
P2.D1	Individual Research Book
P2.D2	Design Journal
P2.E	Schematic Design
P2.F	Parameters to Construct

A3 'Concept'

Amplified Tuning: Noise & Harmony Controls

"Music is the Soundtrack to our lives." Dick Clark. "Combine music and moving images and people fall in love." Andrei Tarkovksy. "Music is History." Questlove. We are a 'cinematographic generation' who sees life as a movie, and perceives experience as an abstract physical montage that moves and plays music.

Music in Binckhorst?

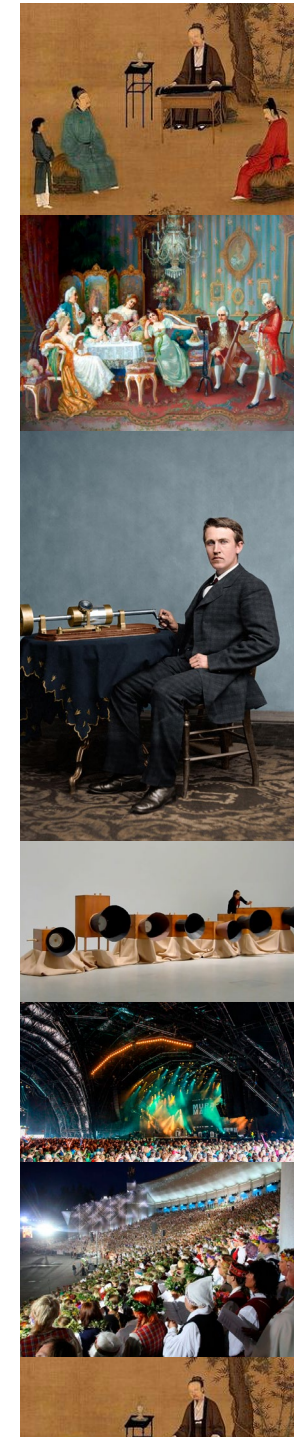
Freedom—to be declared a festival area. Forget disturbance of peace that will bring, it is already disturbed. Forget the mess it will cause, it is messy already. Forget the scale of the venue, that scale is already there. Remember why you moved to the city. Why?

At the turn of the 20th century music was detached from its body and became [free?]. The production

of Edison's phonograph (1887™) and the arrival of the first amplified concert hall in Boston (1900) had set the course of music on a new track of development: Recording and Reproduction. Scaling up. There is a reading; not even a signal, just a weak impact, which is registered and input into a device. That device strengthens the signal and routes it into an amplifier where the 'enlarged signal' is passed onto an executing device. Energy is needed for amplification. A source of energy is input into the amplifier with which control over the weak signal is achieved. Amplification is possible only with the presence of either an external source of energy, or accumulated internal one. The enlarged signal can be transformed in any preferred way. The process of amplification is inherently costly, as it always 'spends' part of

the energy of the source. In other words, loss is always present in the process of amplification. From individual outdoor acoustic happening to indoor performance of play and record. Scaling down to the atom of noise, later to be amplified into an electronic harmony. Today, the performance has reached a mega-scale. Performed outdoors by individuals electronically; or acoustically sung collectively. This is the dynamic scale of a music marvel. Tuning and amplification controls the production of noise and harmony. How can a building be used as a device: a tuner, an amp; a recorder? What its parameters should be?

- Outdoor acoustic performance
- Indoor acoustic performance
- Indoor amplified performance
- Amplified Noise performance
- Amplified Noise mass performance
- Acoustic outdoor performance



"Because we have not really had a major world war, or something like that, in a while; and obviously we would not want to have world wars—there has not been a 'cleansing' for rules and regulations. So, wars did have some silver lining in them. There would be a reset on rules and regulations after wars. So, WW1 and WW2 were a huge reset on rules and regulations. Now, the society does not have a war, and there is no cleansing function or 'garbage collection' for rules and regulations, then rules and regulations will accumulate every year because they are immortal. Humans die, but the laws don't. So we need a garbage collection function for rules and regulations. Because some will become counter-productive over time. Done with good intentions, and sometimes not with good intentions. So when too many are accumulated, you will not be able to do anything. You will be like Gulliver, tied down with millions of small strings. It should be easier to remove laws than to add, just to be able to overcome the inertia of laws."

Elon Musk, transcribed

Elon Musk: *SpaceX, Mars, Tesla Autopilot, Self-Driving, Robotics, and AI* | Lex Fridman Podcast #252 [44:10]

Source: <https://www.youtube.com/watch?v=DxREm3s1scA>. Accessed 8 Jan 2022.

* Walter Benjamin coordinates [1935]
"Antithetical polarities of axes crossing each other, revealing a "dialectical image" at the null point."

—Susan Buck-Morris in *The Dialectics of Seeing*

"..this fetishized phantasmagoria is also the form in which the human, socialist potential of industrial nature lies frozen, awaiting the collective political action that could awaken it."

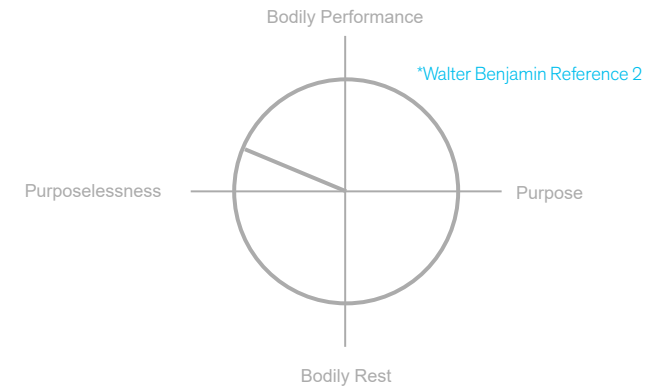
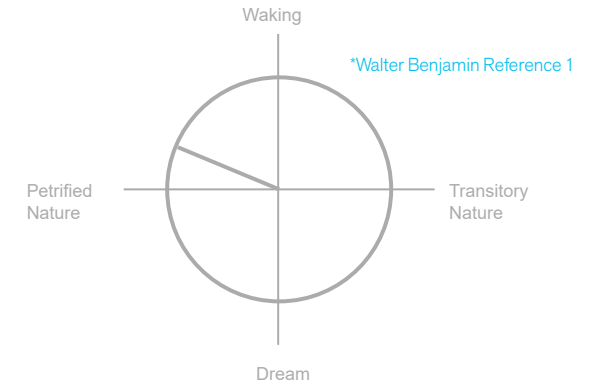
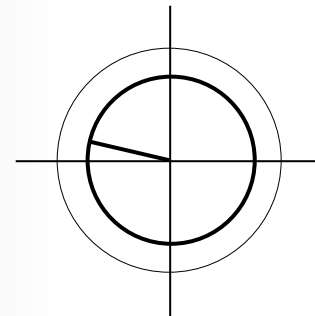
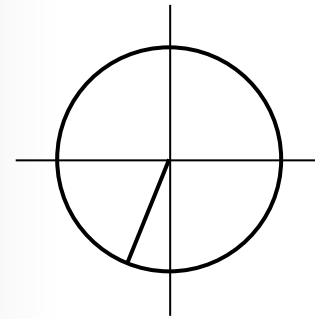
"The *wish image* is the transitory, dream form of that potential."

—Susan Buck-Morris in *The Dialectics of Seeing*

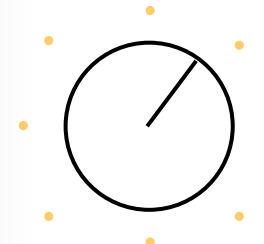
Do Play venue as an analogue 'slider' for readjusting the understanding of prevailing regulation in the city

Amplification Diagram: Scaling signals (initial reflection)

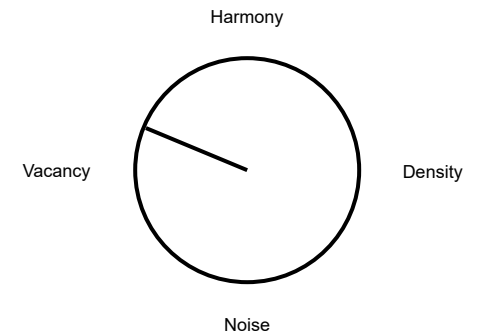
Step 1: Setting scale

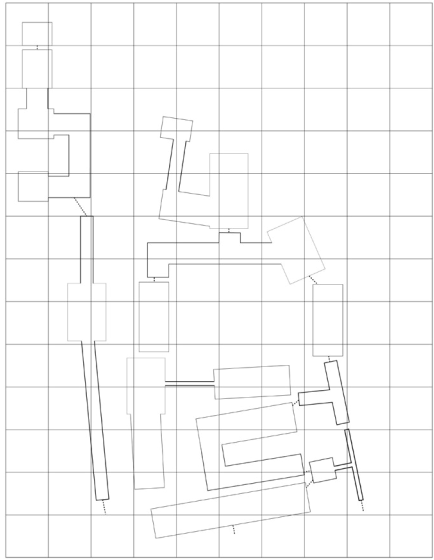


Step 2: Potential presets? [digital]

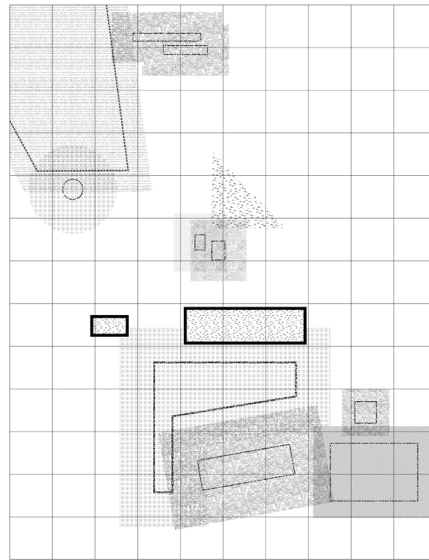


Step 3: Venue as analogue slider





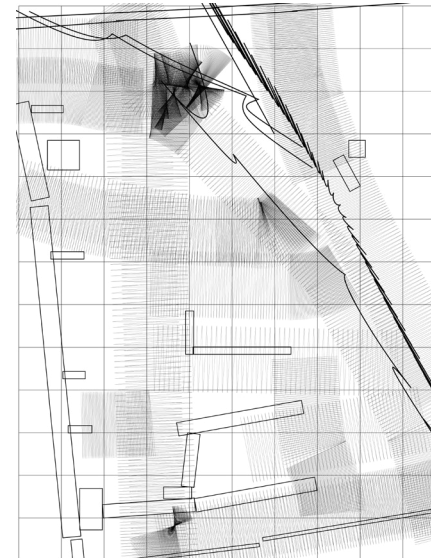
Layer: Flexibility (Zsa-Zsa)



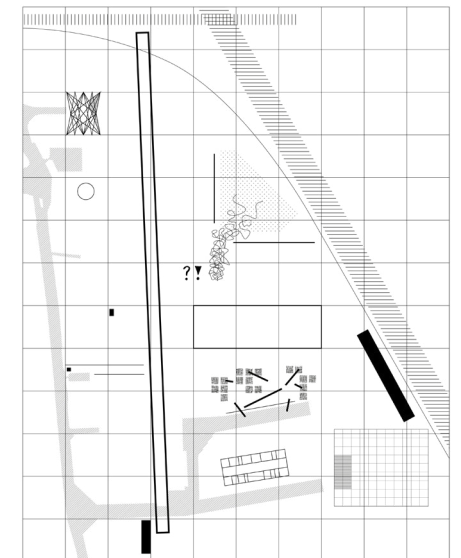
Layer: Flow (Phat)

Group 3 presents an amplified compilation of 'research signals', enlarged to be discovered as an alternative methodology of space production and a strengthening of a new framework for connecting a music to its context

Group 3: Phat Ho, Zsa-Zsa Brouwers, Chris Huisman, Edgars Jane

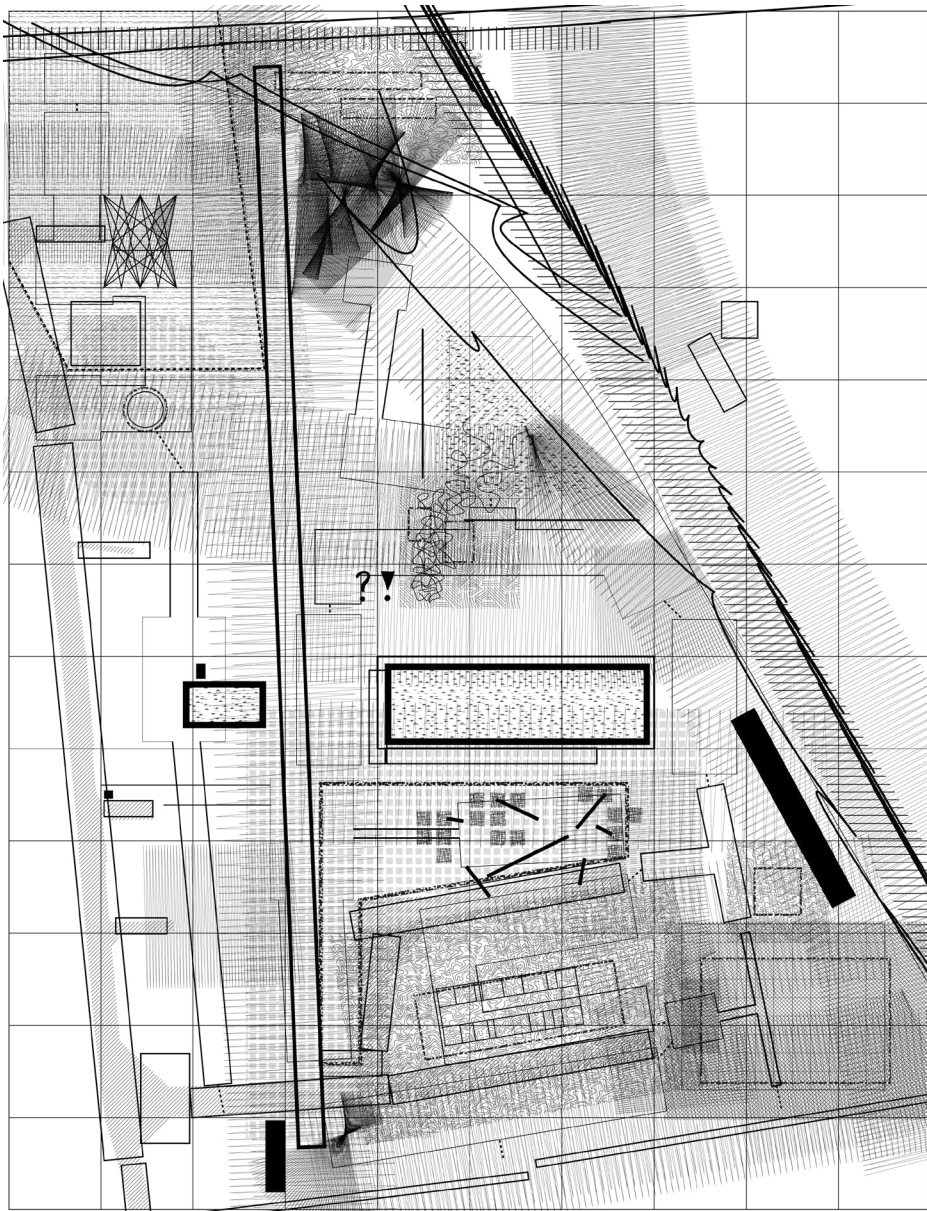


Layer: Frontiers (Edgars)



Layer: Form (Chris)

Composite Superimposed notational chart of the recorded readings of Binckhorst



Amplifier: Abstract

Zsa-Zsa Brouwers, Z.O.I.L.Brouwers@student.tudelft.nl
 Chris Huisman, L.C.Huisman@student.tudelft.nl
 Phat Ho, P.T.Ho@student.tudelft.nl
 Edgars Jane, E.Jane@student.tudelft.nl

1900 saw the first 'technological' amplified concert hall, enabling scaling of music.¹
How can amplification as a method inform and scale our approach to architecture?

The Binckhorst is an underdeveloped area of contaminated potential. The irregular decay of its own industrial heritage has generated an overall monotony of character. We approach this project as if it was a network of obscured signals that are in an acute need of amplification. It's not that there is a lack of them; it is more that their dimensions have limited correspondence with the human scale. When amplified, these signals begin to resonate with a broader spectrum of scales of experience. By enlarging and enriching the legible field of available specificities, an opportunity for a re-association of the character of Binckhorst emerges. Analogous to the field of modern music, the challenge lies in 'regulating' the found noise in order to produce emotional engagement. How to transform monotony into excitement in a meaningful way?

The Music Marvel is an operation of large-scale mass coordination. The truth of any mass event is that a great number of people are influenced by the decisions of a few. The knowledge about crafting a welcome space as an 'open envelope' therefore takes a central role. That is the responsibility. Visitors are as much of a guests of the event as of its surroundings: a *double engagement* with a place. That dictates the Music Marvel to recognize the necessities of a mass-venue from a qualitative viewpoint, beyond the programmatic complexities of the event.

The status of pop-culture as a dominant shaping force of mass behaviour is becoming more evident. In line with that, perhaps, the way to approach a Music Marvel is to take on the role of a *curious amplifier* by detecting the invisible. To imagine space from within and not from alongside: like a composer.² Mediating between 'collected noise' and 'processed compositions' we aim to distinguish and collect a set of operational tactics that are used for shaping mass-events on a variety of scales. Such systematic observation will result in a deeper understanding of the inherent limitations and possibilities of determined programming of an envelope for gathering. This will lead to a firm grasp on the spectrum of the 'music envelope': from an open air festival to an impromptu flash mob.

Interested in the hybridity of music envelopes, we pose a question to ourselves: "How can the Music Marvel, as an amplifier, blend the qualities of musical archetypes in order to enlarge interaction between unexpected crowds?" The area's proximity to the 'center' of the Hague supports our speculations on intensifying these relationships. In short, the objective is to substitute the blandness of monotony with a composition of exciting specificity.

This project will contribute to the understanding of the elasticity of a built music venue by experimenting with 'dialectic clashing' of both building and musical genres. In other words, an architectural mashup—used productively. Our project sets out to challenge the prevailing methods of space-production and will rigorously present the alternatives of substituting *architectural creation* for *compositional invention*. It is an exploration into the power dynamic between cultural expression and commercial adaptation.

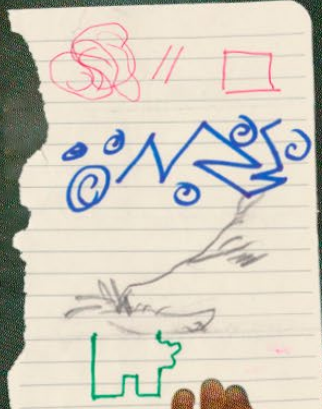
¹ "The 20th century started with the 1900 dedication of the first 'technological' concert hall, the Symphony Hall of Boston." Ignacio G. Pedrosa in 'Buildings for Music Since 1950'. *Arquitectura Viva*. 30.04.2017.

² The composer does not have in mind the representation of a specific content. Otherwise he has the wrong standpoint: *alongside* music instead of *within*. "His composition becomes the translation of a program into tones, which then are unintelligible without the program [...]. no amount of 'intention' can replace invention!" Eduard Hanslick, *On the Musically Beautiful*.

We like

CONTRAST within the
area (industry & nature)

and the contrast
between city -- area



We wish

there was a more
DYNAMIC range of
offered sensations,
coupled with pitstops
for appreciation



We wonder

what kind of an **ISLAND**
it is when connected
[is it still an island?]



What if

Binckhorst was proclaimed
FESTIVAL AREA?







Selected case study of a festival located within an urban condition. The map illustrates the potential scope of influence when similar event is to occur in the Hague.

JOURNAL TRIBUNE • Picked May 28, 2019 • Updated November 8, 2019

New Westbrook concert venue draws noise complaints

BY MATT RYBNE

Share   



Opening night Sunday of Maine's Rock Row at Rock Row brought downtown Westbrook to the stage. It also generated over 200 noise complaints from the area around it. (B. BRADY/Portland Press Herald)

Noise complaints about Westbrook concert venue keep coming

BY DENNIS HORY

The couple even joked that they remember their own parents complaining about "that damn rock 'n' roll" when it was Elvis and the Beatles two generations ago.

"I'd just like them to turn down the volume, because it's going to be a good thing for the city,"


Promoter and Westbrook officials pledge to tone down concert noise

The city said 237 people called to complain about the noise during Sunday night's concert by Anderson .Paak.

BY EDWARD D. MORPHY PORTLAND PRESS HERALD

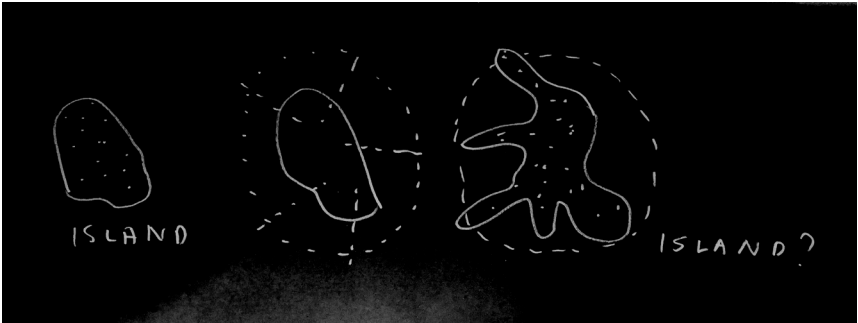
Too much noise

Noise complaints during the inaugural concert at Rock Row in Westbrook on Sunday came primarily from the four neighborhoods below. Although decibel levels were monitored near the venue, there were 237 noise complaints lodged in Portland and Westbrook.

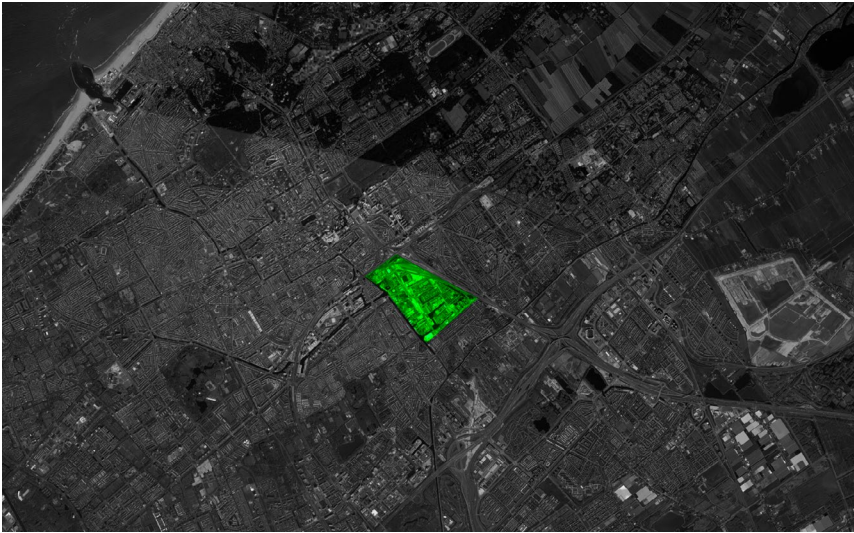


SOURCE: City of Westbrook
STAFF GRAPHIC: MICHAEL FISHER

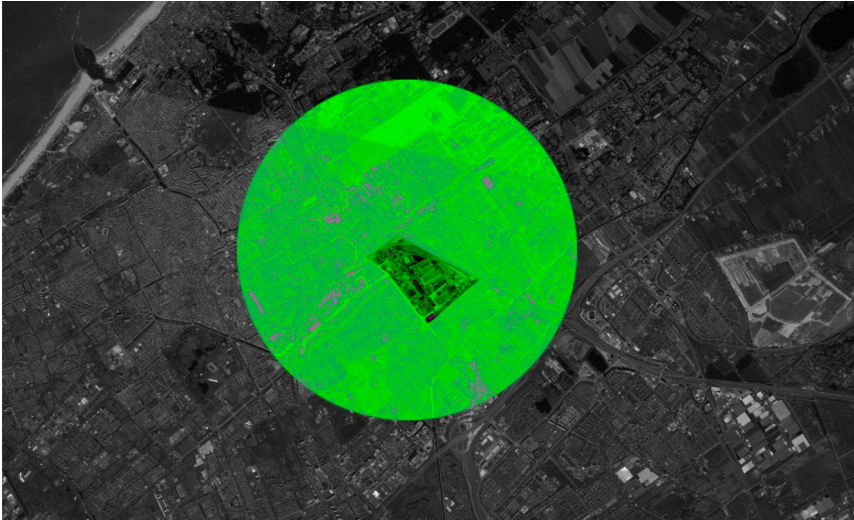
Illustration of empathy diagram: Is island still an island when connected?



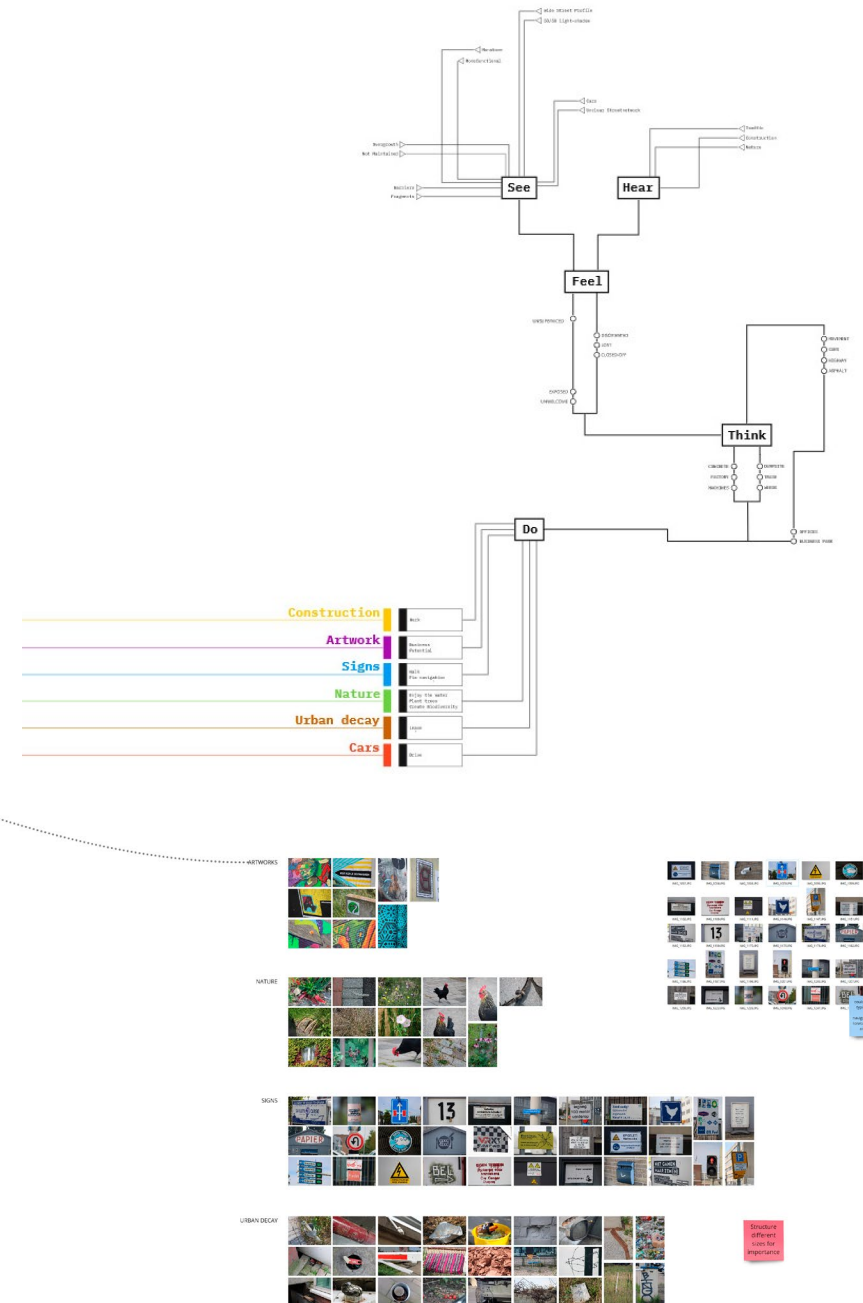
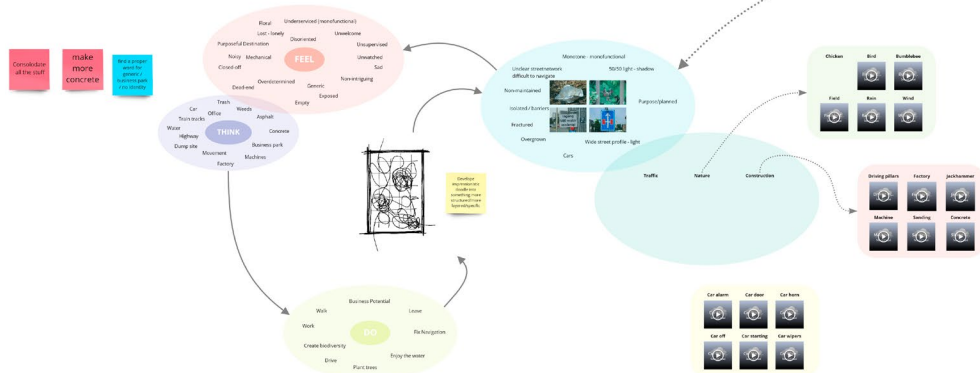
Binckhorst declared a festival area. Overwhelming majority of the building 'pool' is being removed by the municipality anyway. Why not give the space for festival? At least in the intermediate time between new buildings emerging.



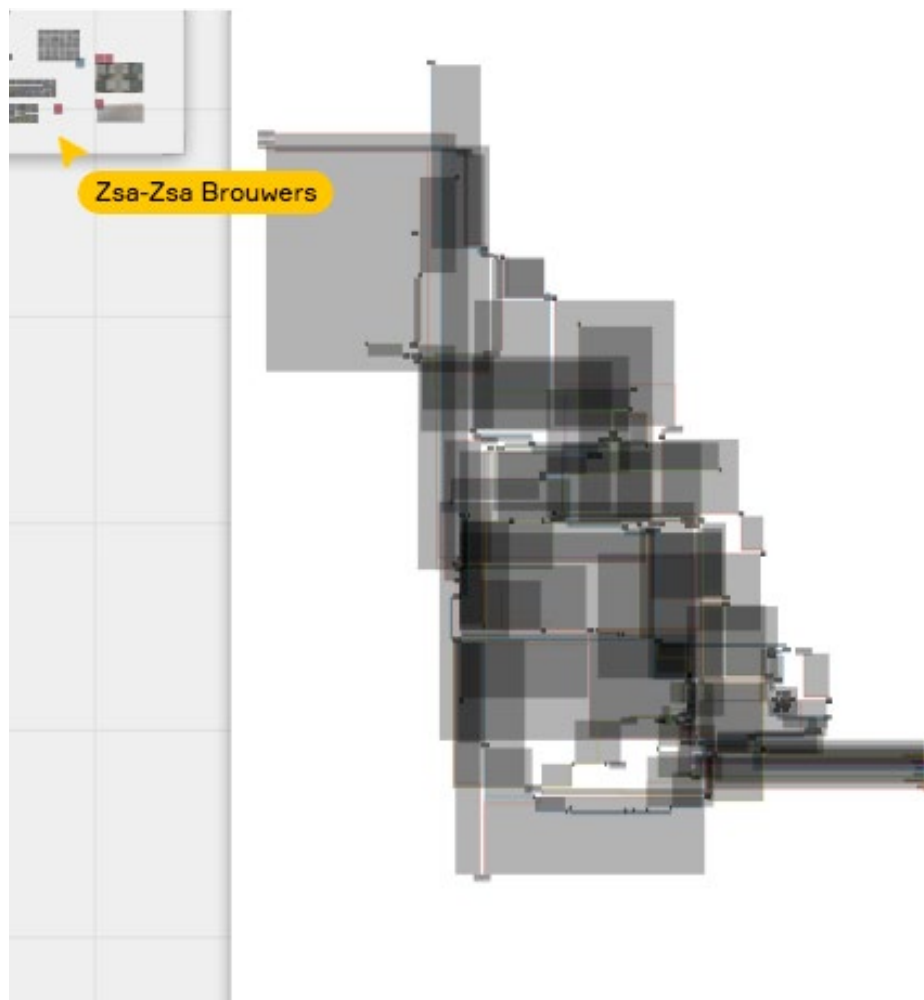
Learning from the case study of Westbrook, this could be the potential radius of influence. Scaling up the amount of complaints in Westbrook, the number in the Hague would be around 5000 people. That is 10% of the city in the venue and 1% complaining at home.



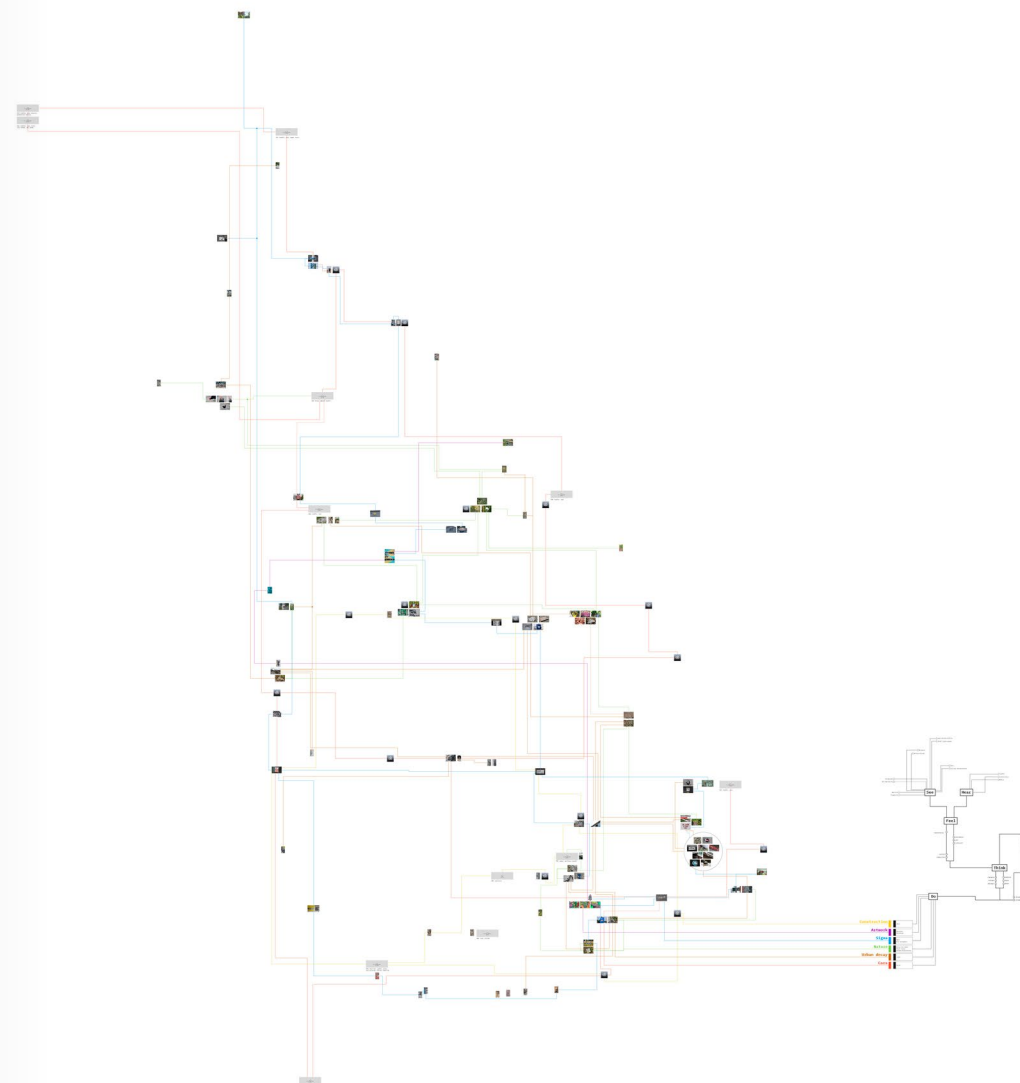
Screenshot of the group board, sorting collected information and cataloging to be presented in a more graphically rigid manner



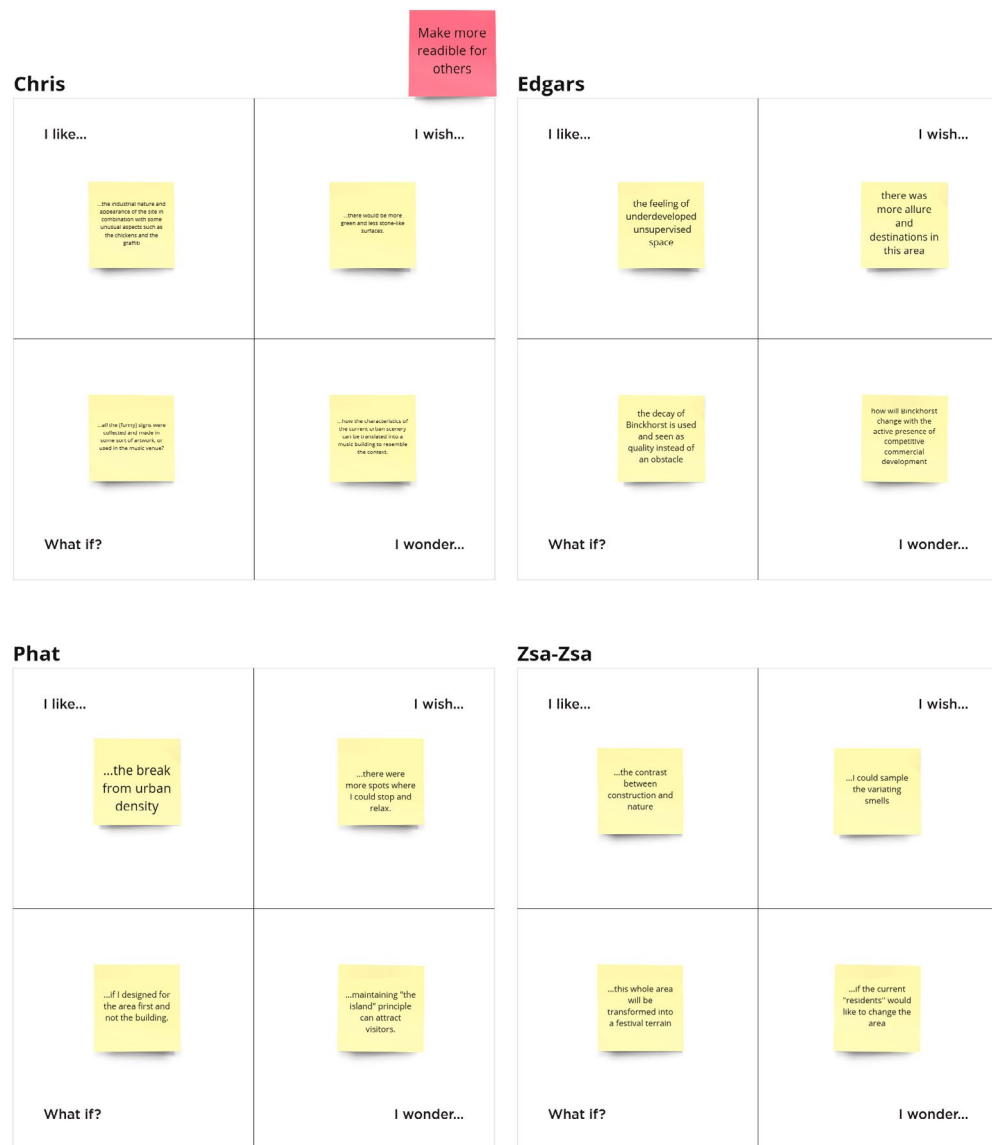
Screenshot of a glitch in miro while developing the scheme, showing the collected density of references



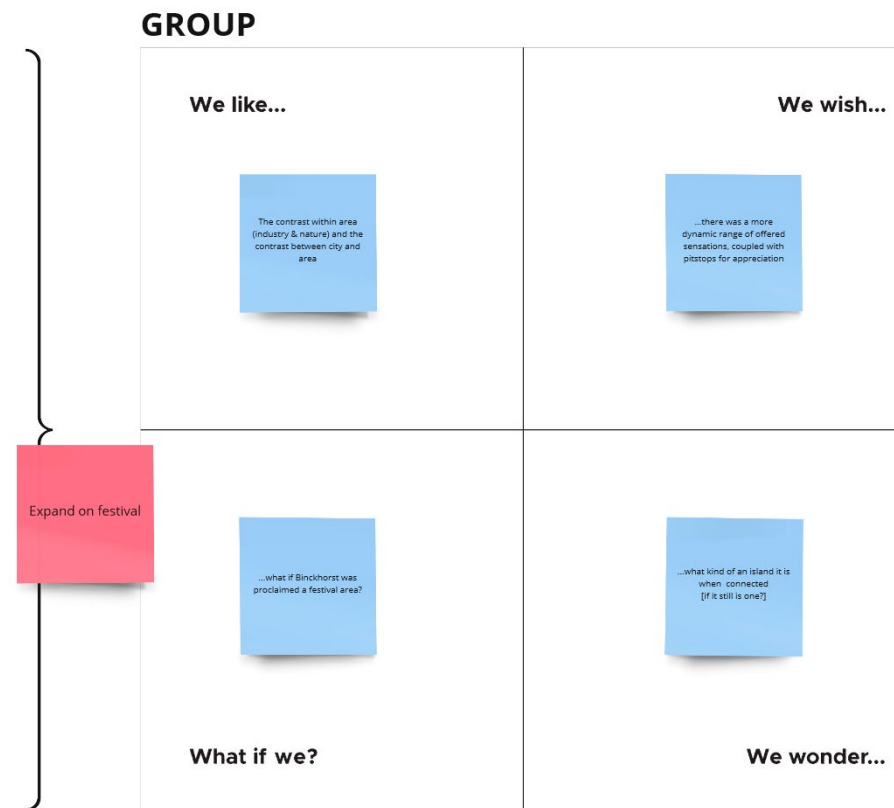
Binckhorst reading as a wiring scheme



Empathy diagrams, individual



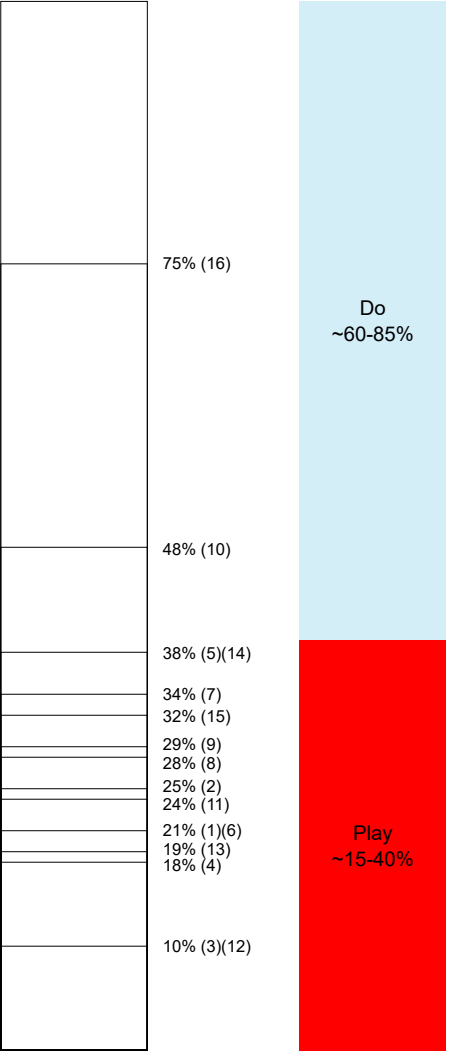
Empathy diagram, group conclusion



- P2.A Graduation Plan
- P2.B1 Individual Design Manifesto
- P2.B2 Project Abstract, Diagrams, Notations & Maps
- P2.C Design Brief
- P2.D1 Individual Research Book
- P2.D2 Design Journal
- P2.E Schematic Design
- P2.F Parameters to Construct

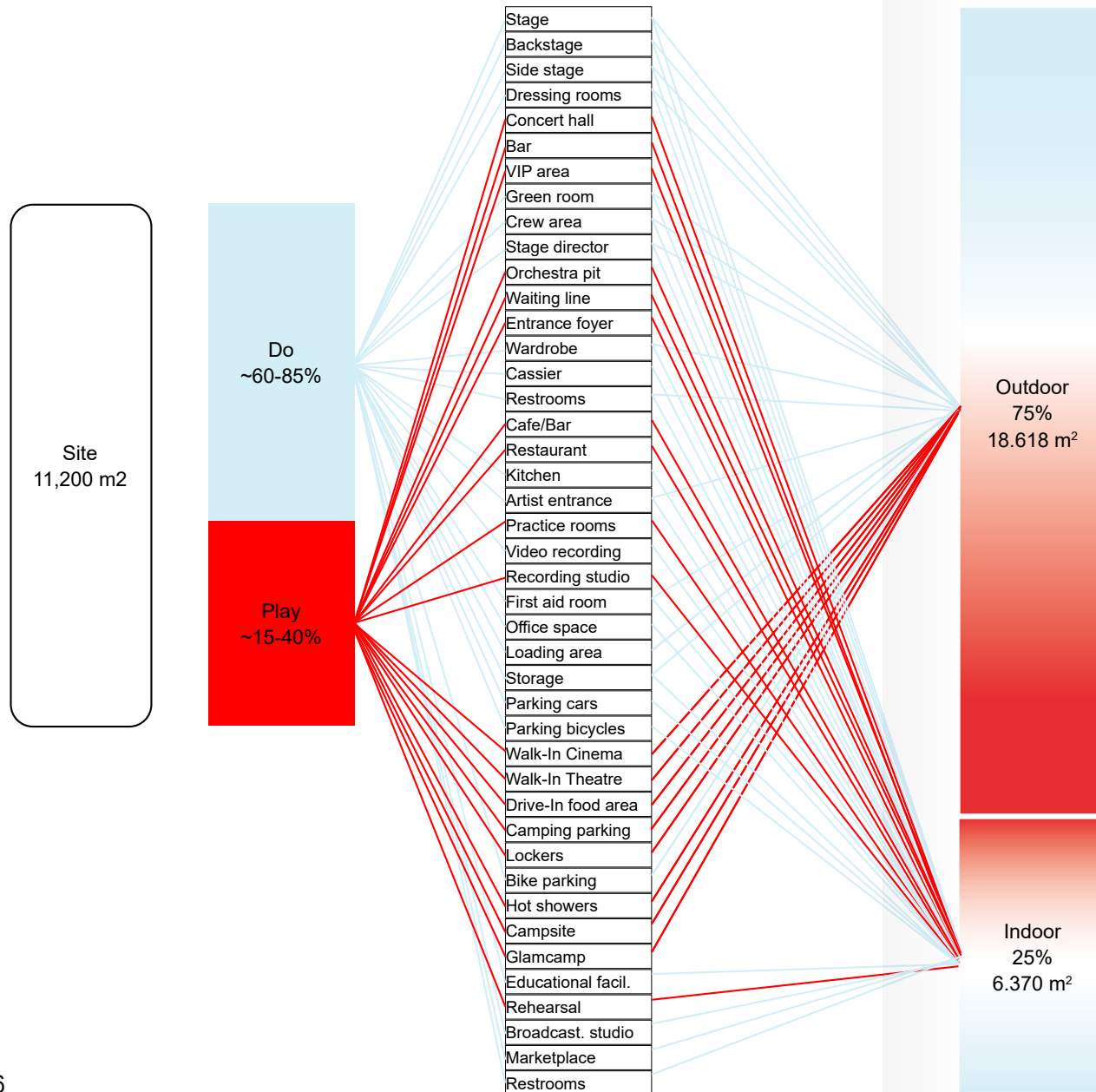
Consuming city: “Cultural life—Productive work”

1	Elbphilharmonie, Hamburg
2	Tivolivredenburg, Utrecht
3	Philharmonie, Paris
4	Cité de la Musique, Paris
5	Ziggo Dome, Amsterdam
6	Opera House, Oslo
7	Barbican Centre, London
8	Casa da Musica, Porto
9	Royal Festival Hall, London
10	Flagey Broadcasting House, Brussels
11	Philharmonie, Berlin
12	Muziekgebouw Aan 't IJ, Amsterdam
13	Muziekgieterij, Maastricht
14	Paradiso, Amsterdam
15	Melkweg, Amsterdam
16	Teatro Oficina, São Paulo



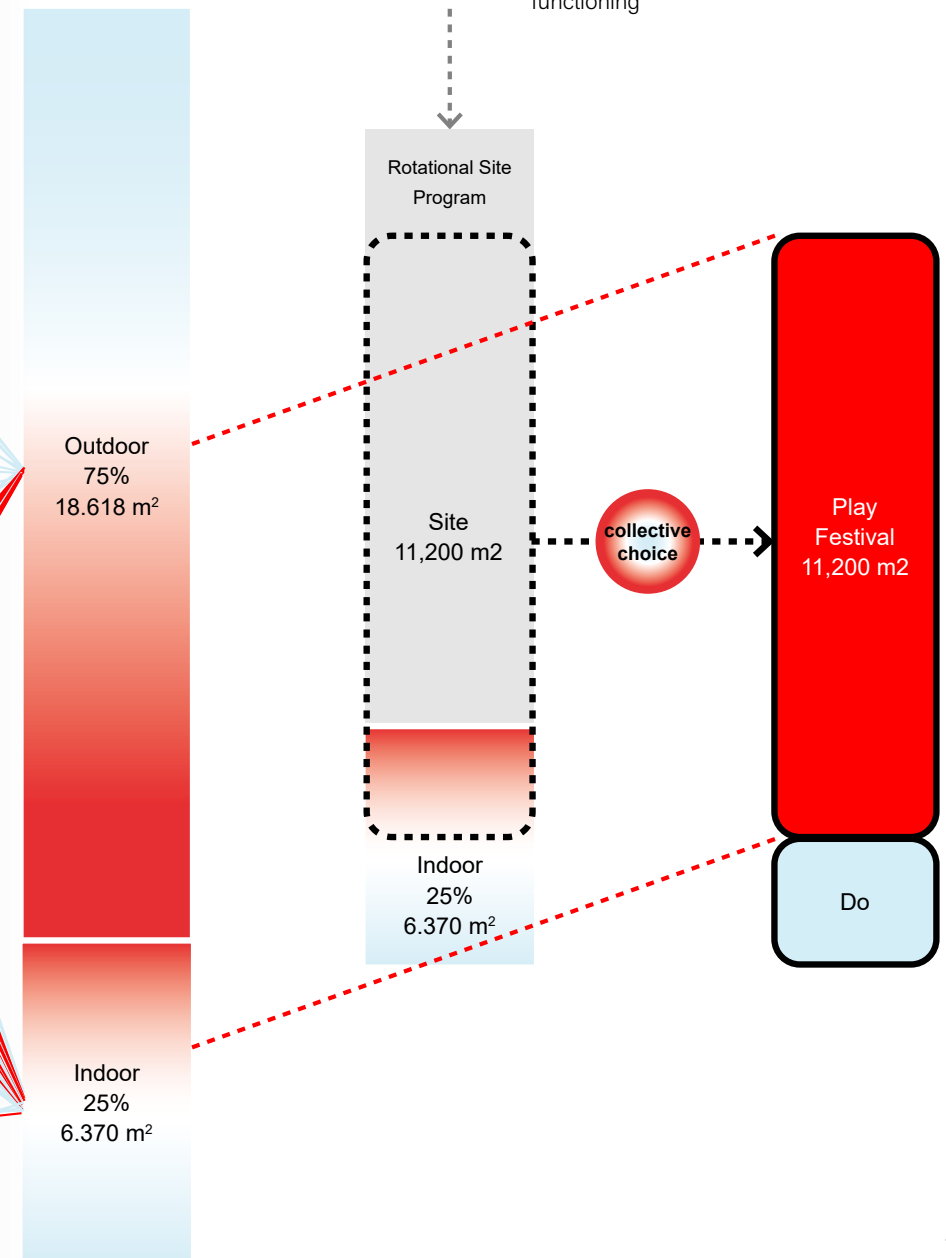
Program Relation diagram. Starting with applying the lessons from case studies on site. Will similar proportions work on a scale of a whole area?

Interchangeable program sorted according whether it is Do or Play related



The total program is 208% of site area, so parts of the outdoor program become rotational—like rotating crops in farming fields

In transition to becoming a 'festival campus' indoor PLAY program space is borrowed for the activation of site. The DO part remains unbothered, independently functioning



Program Breakdown by 'class'

Edgars Jane 4638514
P2 Detailed Brief

Page 1/1

Document compiled 10 Jan 2022

Design Brief for the P2 stage

	indoor		outdoor	total
1. Concert Spaces				
Stage (2:1 proportion)	150 m2	2-2.5k seats, 33m furthest	500 m2	12-20k standing
Backstage	75 m2		250 m2	
Side stage	30 m2		100 m2	
Dressing rooms private (1p) 15m2	60 m2		60 m2	
Dressing rooms medium (6-8p) 40m2	80 m2		160 m2	
Dressing rooms large (20-25p) 90m2	180 m2		360 m2	
Concert hall/space (prop. 1:2.5) h=18m	2,200 m2	Maximum 2,500 m2		
Bar	300 m2			Part indoor, part outdoor
VIP area	600 m2	lounge area, catering, bar		See 5. Festival
Green room	60 m2		60 m2	See 5. Festival
Crew area (incl. Showers and toilets)	60 m2		60 m2	
Stage director's room	20 m2		20 m2	
Orchestra pit (50 seats)	70 m2			
	3,885 m2		1,570 m2	5,455 m2
2. Audience Access				
Waiting line	1,500 m2			
Entrance/Foyer	1,000 m2			
Wardrobe	100 m2		200 m2	connected to 5. Festival too
Cassier	40 m2			shared with indoor
Restrooms	400 m2	16n, 16u	500 m2	20m, 20f + See 5. Festival
Cafe/Bar	800 m2			See 5. Festival
Restaurant	250 m2			See 5. Festival
Kitchen	150 m2			shared across catering
	4,240 m2		700 m2	4,940 m2
3. Dedicated Access				
Artist entrance	100 m2		100 m2	
Practice rooms (350m2) x5	1,750 m2			
Video recording room	20 m2			
Recording studio	50 m2			
First aid room	30 m2		50 m2	
Office space	300 m2			shared with indoor
	2,250 m2		150 m2	2,400 m2
4. Support				
Loading area		2 trucks min.	1,500	shared with indoors
Storage	150 m2	equal to stage size	600 m2	ziggo size
Parking Cars	1,500 m2	300 cars?		See 5. Festival
Parking Bicycles	750 m2	600 bikes		See 5. Festival
	2,400 m2		2,100 m2	4,500 m2
5. Festival				
Walk-In Cinema			2500 m2	<1000 people
Walk-In Theatre			1000 m2	
Dine-In / Drive-Thru (food area)			2000 m2	
Camping parking			3750 m2	5x7.5m
Lockers			600 m2	
Bike parking			750 m2	600 bikes (to be adjusted)
Hot Showers / Flushing toilets			500 m2	connected to 2. Audience?
Campsite				can cover all of the site
Glamcamp campsite				12m2 4p, 7.5m2 2p
	0 m2		1,850 m2	1,850 m2
6. Residency				
Educational facilities	2,500 m2			
Rehearsal	1,000 m2			
Broadcasting and rehearsing studios	300 m2			
Marketplace "Het Platform"	350 m2			
Restrooms	200 m2			
	4,150 m2		0 m2	4,150 m2

Resumé			
GFA Program Total			23,295 m2
Technical Spaces		10% of GFA indoor only	1,693 m2
Grand Total GFA			24,988 m2
Site Area			11,200 m2
Program on Site			208%
Indoor Standing Capacity	1,500	paradiso capacity	
Indoor Seating Capacity	1,500	fixed seating	
Outdoor Seating Capacity	1,000 – 2,000	byo seat	
Outdoor Festival Capacity	15,000 – 20,000	standing	
Total possible max. simultaneous visitors	25,000		

Program Comparison by Usage Capacity

Minimal Campus usage ← → Maximum Campus usage



Program Breakdown by 'class'

Edgars Jane 4638514
P2 Detailed Brief

Page 1/1

Document compiled 10 Jan 2022

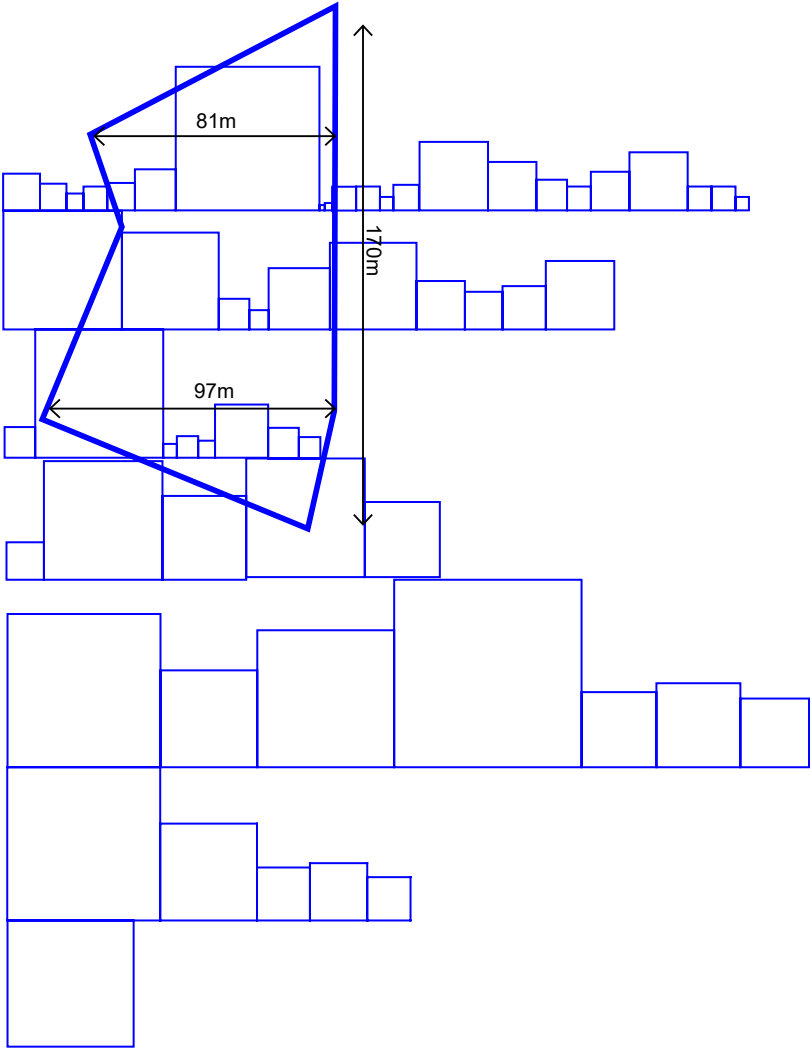
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Program Comparison to site area

Site 11.200 m²



'Festival Campus' Program examples

Pleinbioscoop Rotterdam, Museumpark. 1000 seats, byo chair or for 1eur you get one on the spot



2200 tractors gather to protest in Malieveld, the Hague

<https://nos.nl/liveblog/2304125-boerenprotest-den-haag-voorbij-2200-trekkers-terug-naar-huis>



"Paul McCartney continued his guerilla concert dates Thursday, turning up to play a terse set before a surprised lunch time crowd in Times Square"

<https://www.the-paulmccartney-project.com/concert/2013-10-10/>



Dutch design week public square, Strijp-S, Eindhoven

<https://www.dezeen.com/2019/11/06/biobasecamp-studio-marco-vermeulen-timber-pavilion/>



Brainstorm concert in a to-be-developed brown site in the centre of Riga, Latvia, 2015. 40,000 purchased tickets + 50,000 people listening from adjacent buildings and streets

<https://www.youtube.com/watch?v=zxf-gA3dNM4w>



Latvian Song and Dance Festival, UNESCO Cultural heritage. Riga, Latvia. 30,000 seats + 14,000 singers (2,900 main stage, 11,000 in stands). In 1988 up to 200,000 people attended the song festival.



Take a look yourself!

→ <https://www.youtube.com/watch?v=WeovGfNEesk>

→ <https://www.youtube.com/watch?v=IAYkndpGGIU>

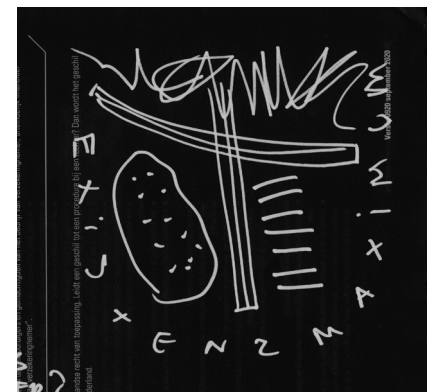
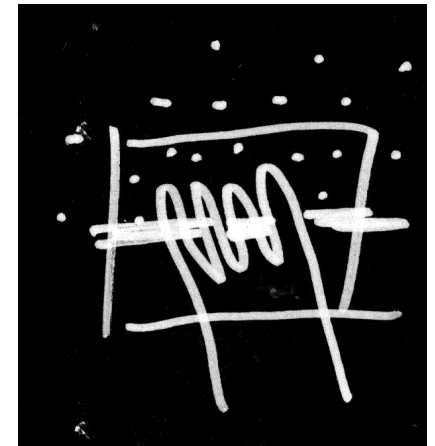
P2.A	Graduation Plan
P2.B1	Individual Design Manifesto
P2.B2	Project Abstract, Diagrams, Notations & Maps
P2.C	Design Brief
P2.D1	Individual Research Book
P2.D2	Design Journal
P2.E	Schematic Design
P2.F	Parameters to Construct

City: the main planning concern

Responsibility to protect the potential of freedom in the city.

1. Mess = potential
- 2 Order = potential
- 3 Clutter = Mess+Order = potential

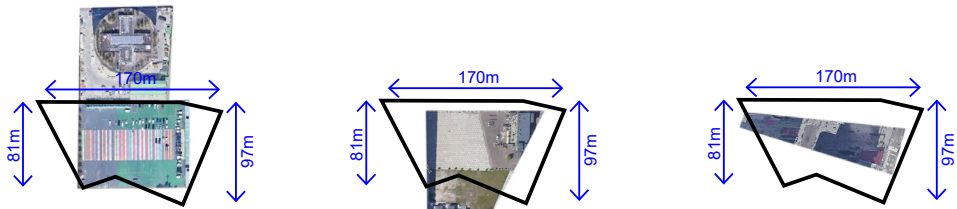
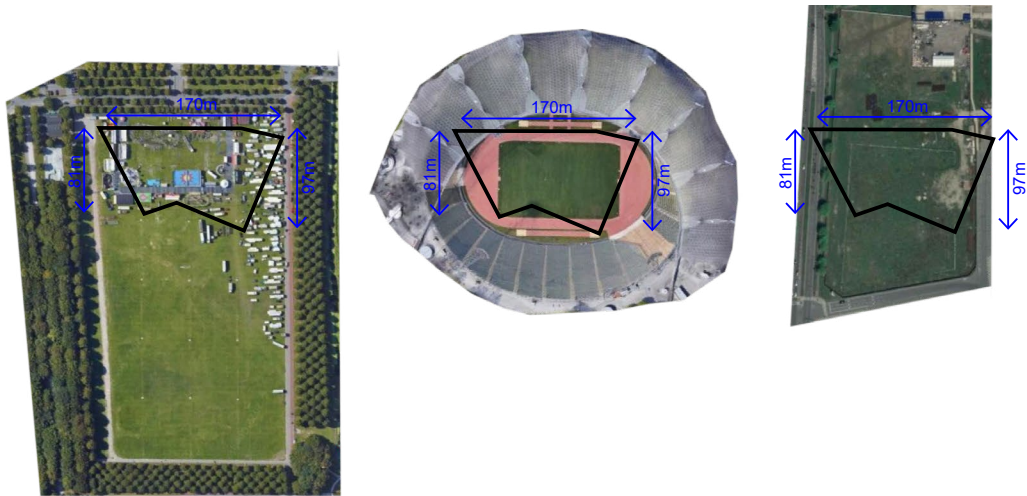
City: desired CLUTTER and SCALE for the Spoorboogzone site



Binckhorst is one of all of the necessary ingredients for an 'existenzmaximum' experience of a city. How not to squander this potential now? For us, for the next generations.

Scale comparison between various mass-venue locations. In search of control references for dealing with the scale of the site

0 100



Malieveld, the Hague



Munich 72' Olympic stadium by Frei Otto



New Hanza, Riga, Latvia



Museumpark, Rotterdam



Strijp-S, Eindhoven

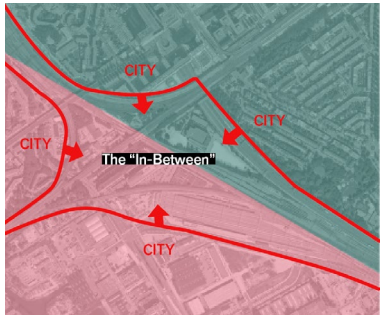


Times Square, NYC





Current perception about the Binckhorst development?



Situation after Binckhorst development is fully executed [hard boundaries of infrastructure will remain]

The unavoidable truth

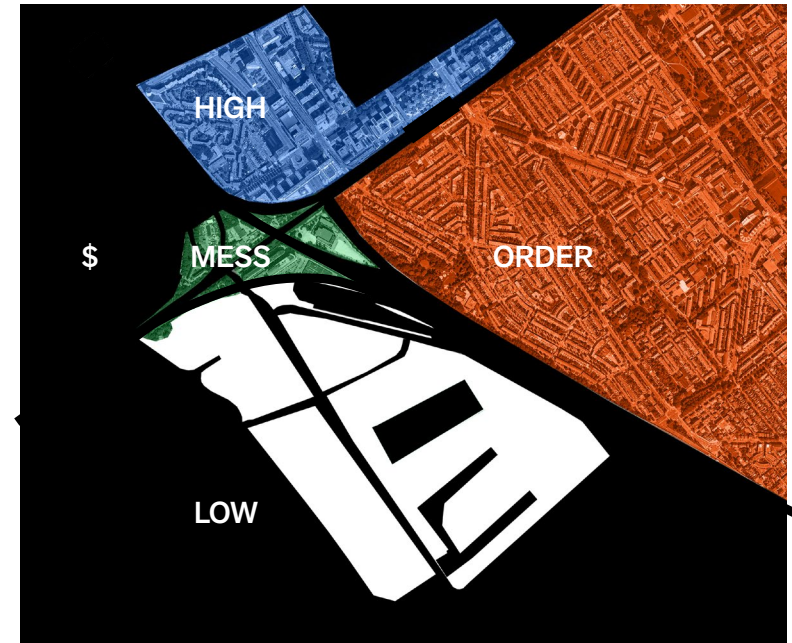


The choice?

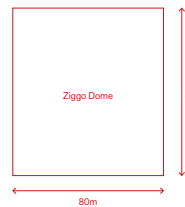
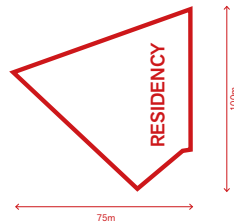
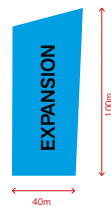
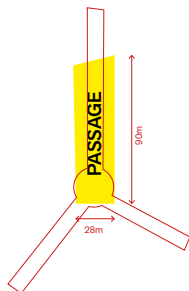
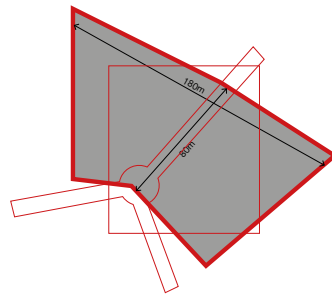
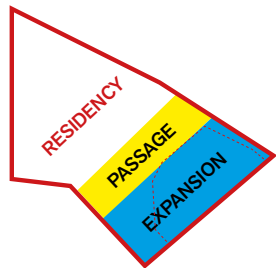
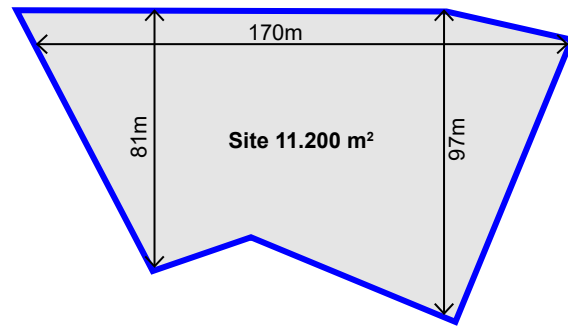


order? clutter?
become city? remain inbetween?

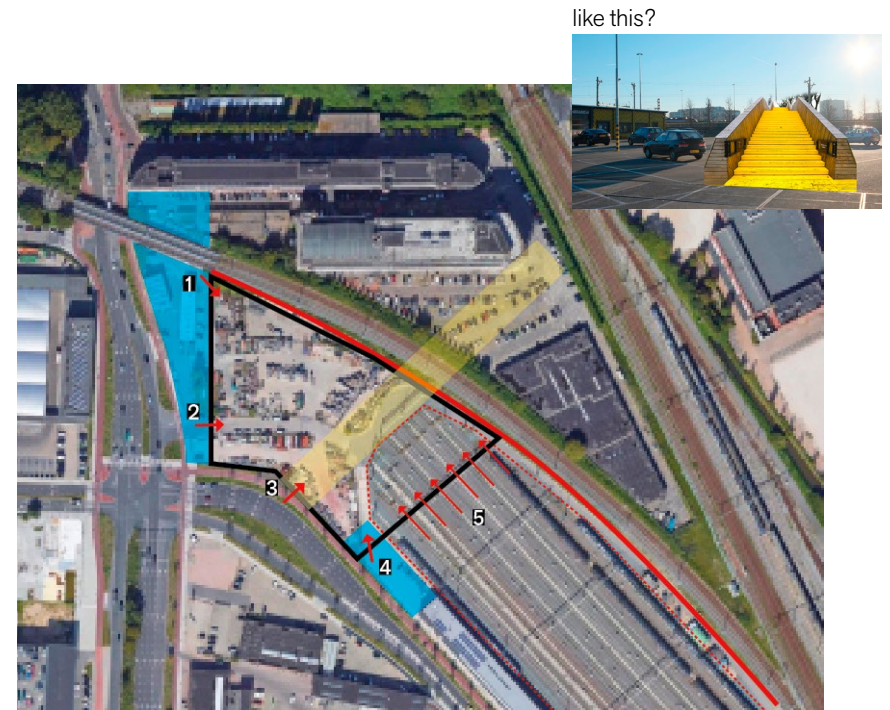
Question of the Site: Which 'urban sensibility' its should connect to?



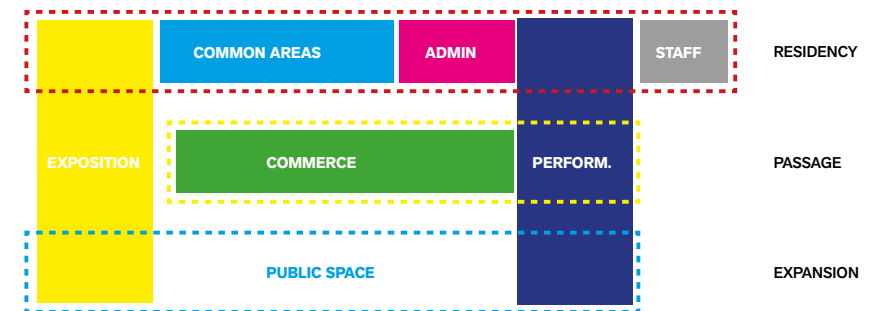
'City entering the site.' Superimposing familiar typologies to reflect what could be the 'face' of the proposed music venue. An initial response. Week 2.7.



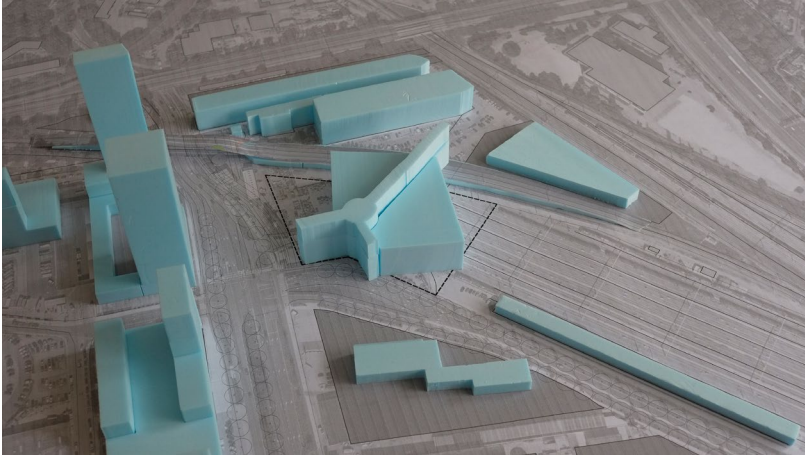
The yellow path (see map below) is redrawn from the municipal masterplan. The superimposition exercise is a questioning and testing of this plan.



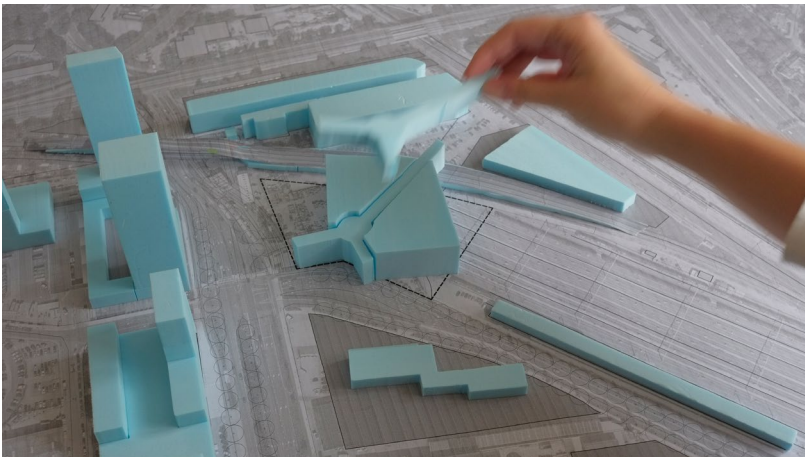
Three horizontal 'bars' of program bridged by two modes of activating the site: Exposition & Performance



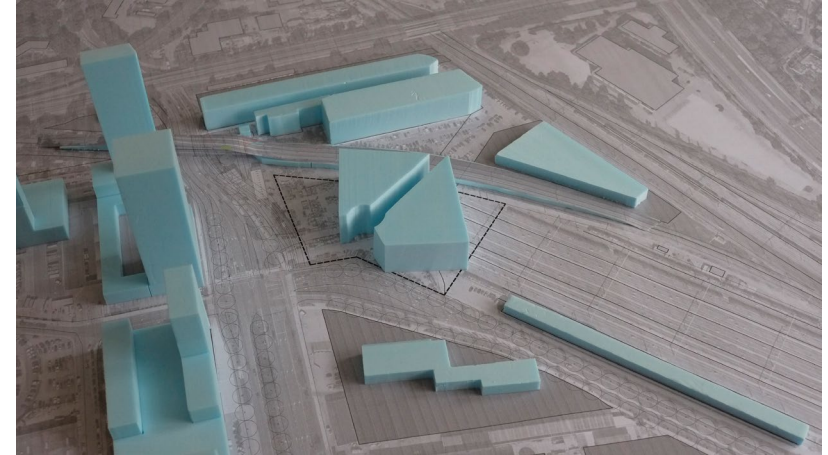
Volumetric testing on a 1:1000 site model
'chopped passage meets slanted ziggo' high culture and popular culture in a wedlock



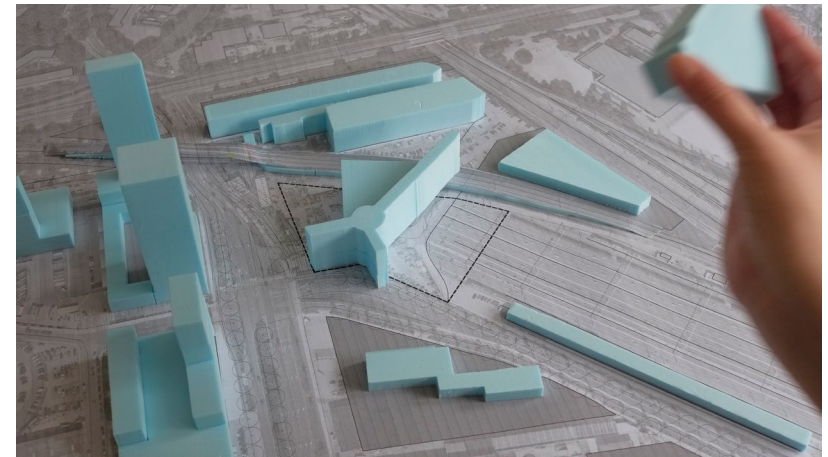
Passage sunken in the pop-mass, instead of protruding



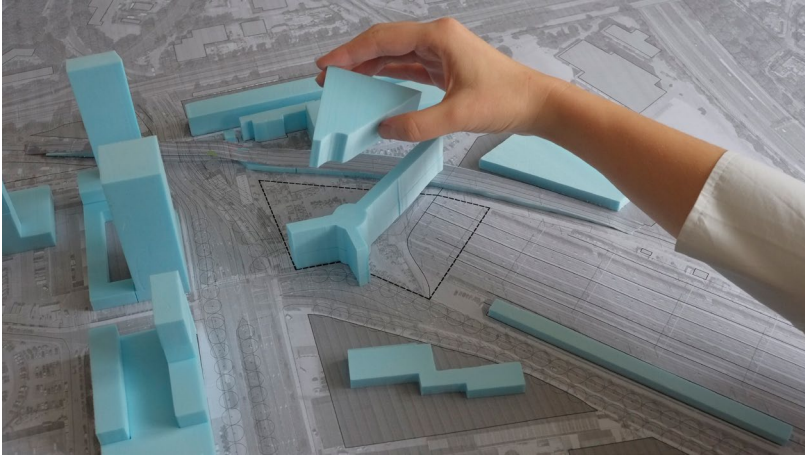
Only void of the passage is the productive public space



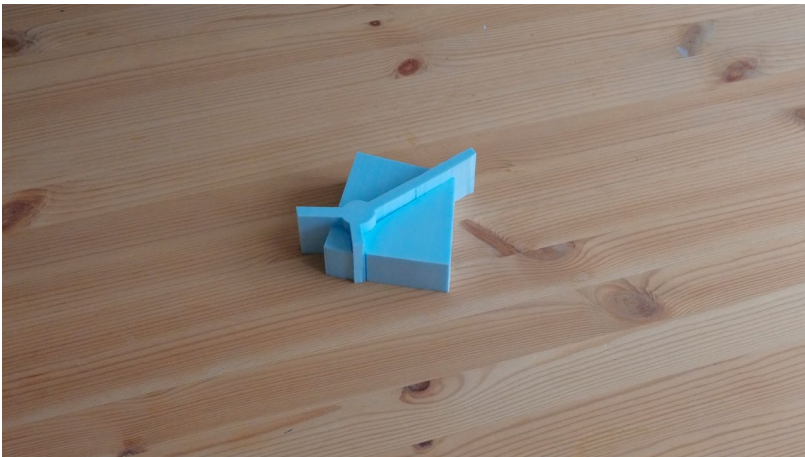
A hybrid between an open passage and a semi-enclosed ziggo?



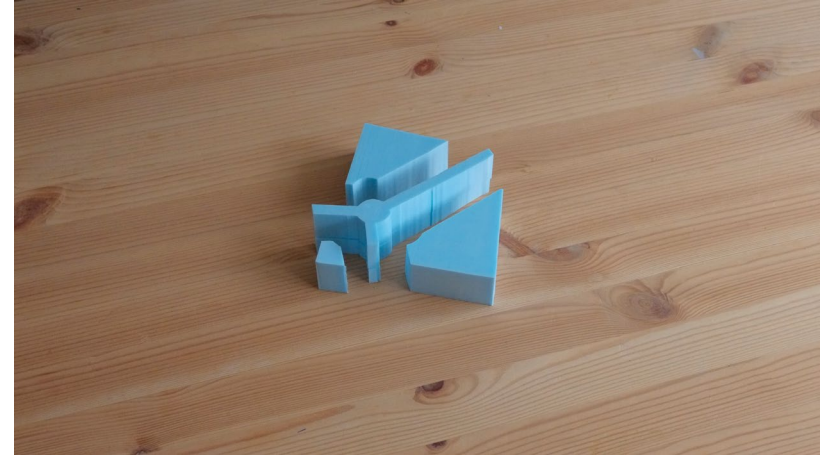
Leave only the passage as a publi-guarantee for a possible future usage. Rest of the program comes and goes - the city lives on



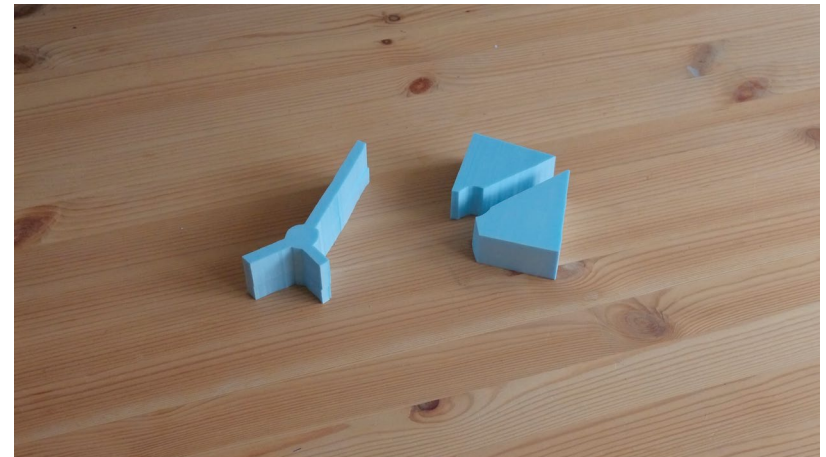
Scenario A: both typologies in a maximum wedlock, exploiting the potential to densify to the fullest



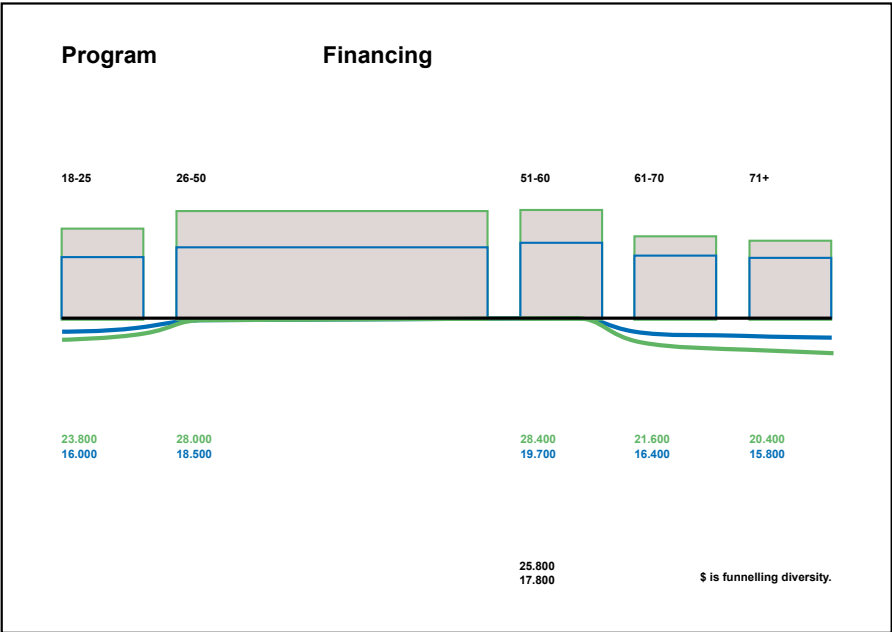
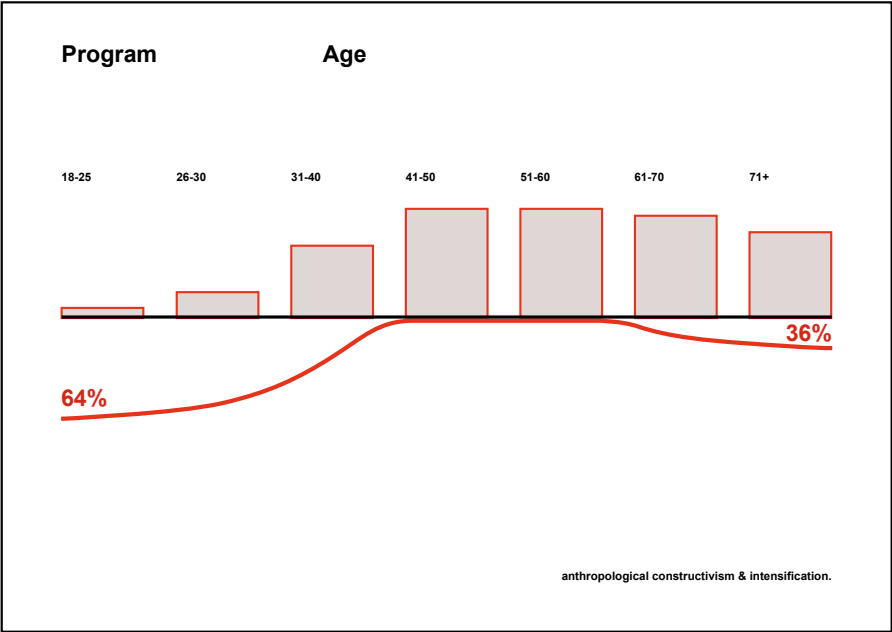
Scenario B: Separated yet related volumes that allow for programmatic 'sharing' and spatial autonomy at the same time



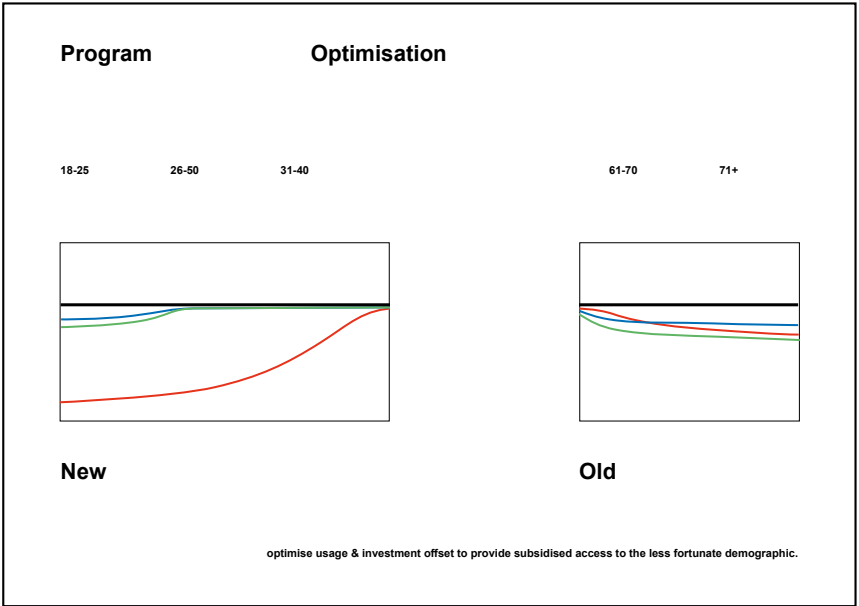
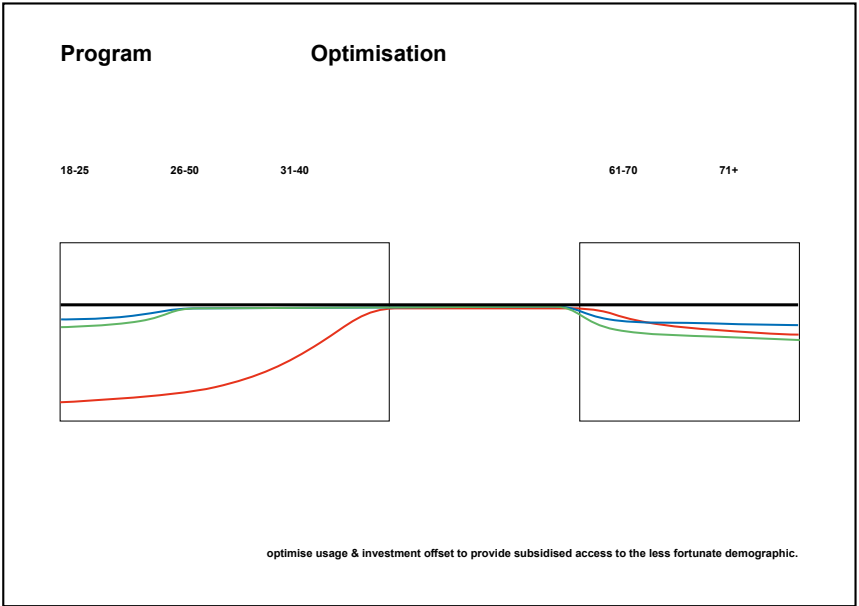
Scenario C: A choice between using the passage as a solid or a void

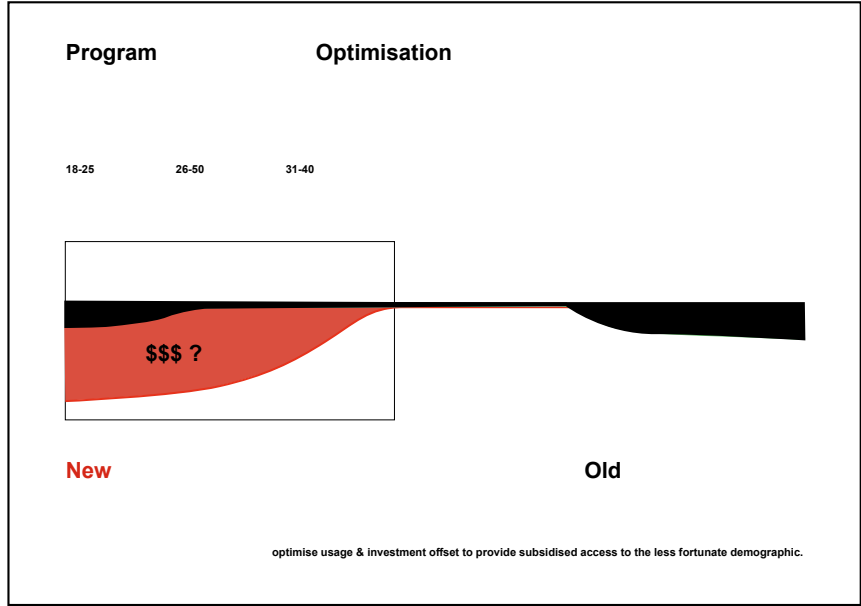


Culture: music as platform for the youth generation



Classical Music culture issue: older people can afford it, but are not interested. Younger people could be interested but most sure cannot afford it.





Program	Catalogue	
\$\$\$Non-Musical	\$\$\$Classical	\$\$\$Non-Classical
Restaurant Museum Library Meeting Conference Exposition Gallery Workshops Design Events	Recital Streaming Studio Amphitheater Dance	Movies Shows Talks Cybermusic

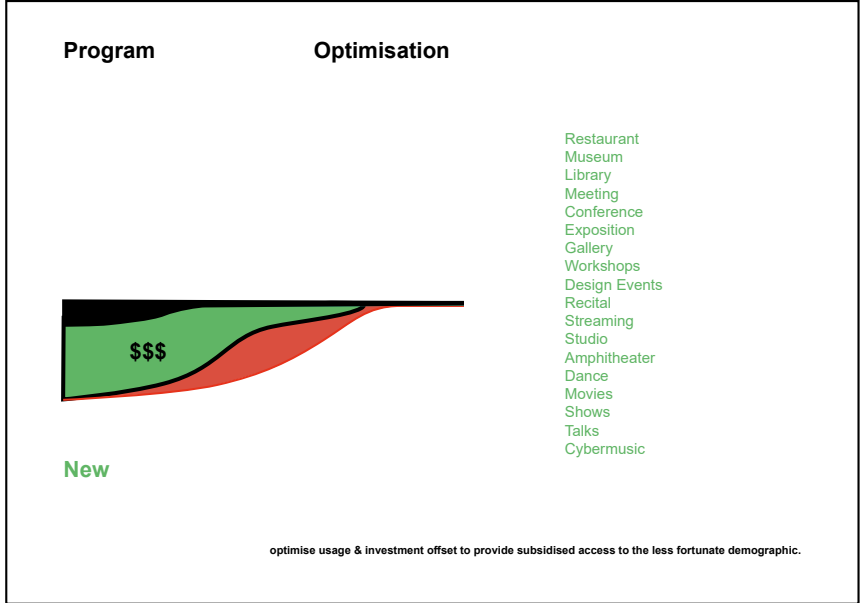
optimise usage & investment offset to provide subsidised access to the less fortunate demographic.

Program

Optimisation

18-40 year olds.
 Don't wait for it. Work for it.
 Spend money to make money.
 But where can the \$ come from?

optimise usage & investment offset to provide subsidised access to the less fortunate demographic.



Popular Culture: "Look at you!"



High Culture: "Look at me!"



how to achieve equivalence?



scale
temporality
contradiction
atmosphere
commentary

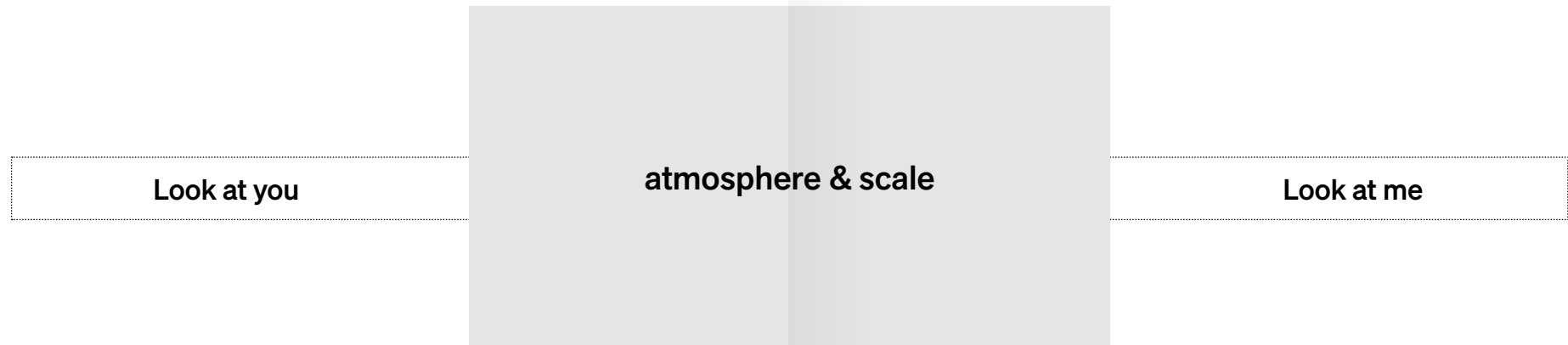
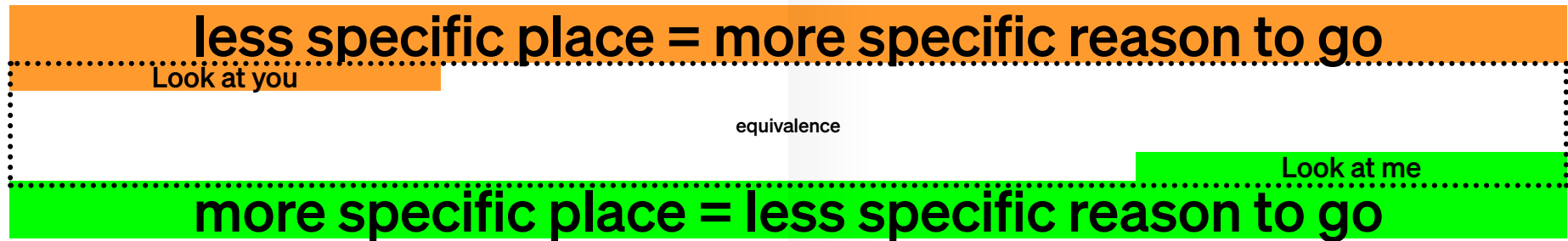


ornament
timelessness
sophistication
complexity & ambiguity

Popular Culture

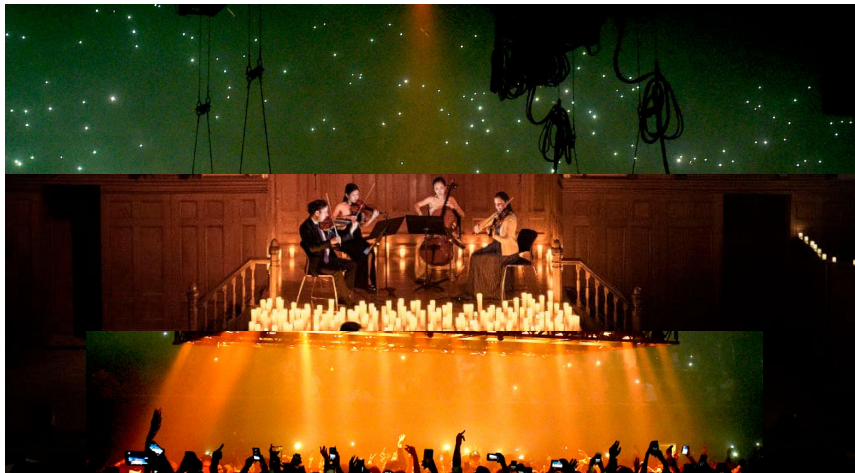
The 'ziggo philharmonic™' paradox: with arenas and mass concerts people go for specific reason, but the environment is anonymous; with concert halls people go specifically for the environment, yet the reason might be somewhat ambiguous—as unremarkable as just visiting the building 'to see it'.

High Culture



merging requires scale

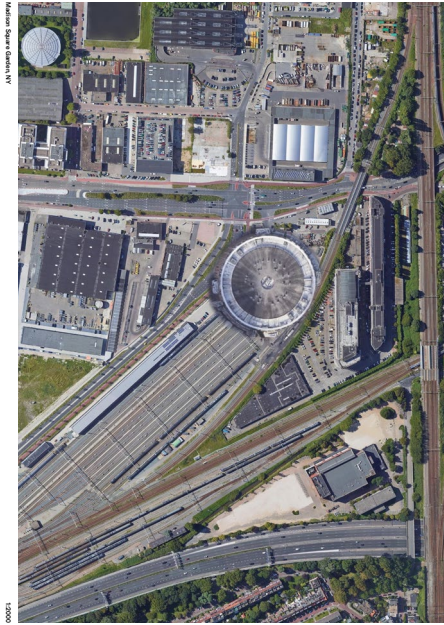
Interchangeable atmospheres within a large scale that can host the polar opposition of the music venues—specific reasons-generic spaces and vice versa.



Connection: merging culture and the scale of the site potential

The construction needs to at least have an option of hosting a world class event of classical venue. What is world class scale?

Sophistication of the performance space needs to mirror the patterns of listeners today? Or should the space be aspirational—so that not only the music performance, but also the aura of the place elevates? Arena or an ornamental 'grand hall'?



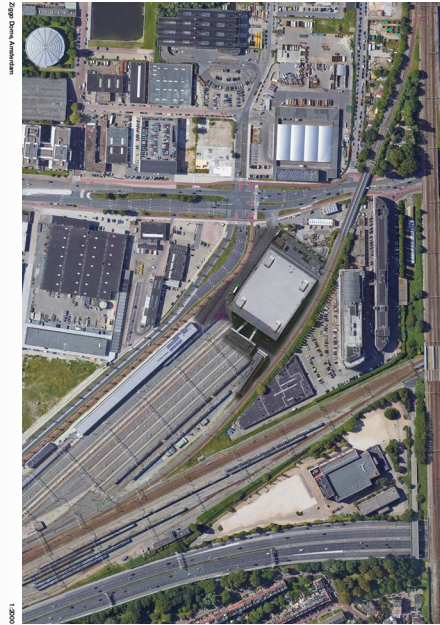
Madison Square Garden, NY

1:2000



Ziggo Dome, Amsterdam

1:2000



Paris Philharmonic, Paris

1:2000



Oslo Opera, Oslo

1:2000



Lowland festival area, Glasgow

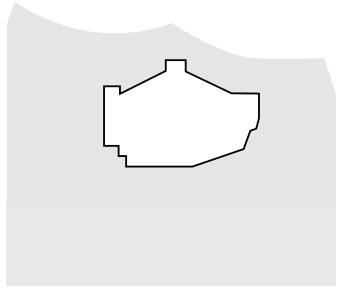
1:2000



Oslo Opera, Oslo

1:2000

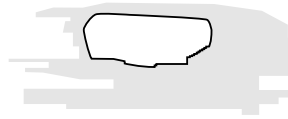
Top row: Madison Square, Hollywood Bowl, Ziggo Dome, Paris Philharmonic
Bottom: Oslo Opera, Lowland festival area ('parked')



1



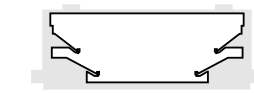
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3



4



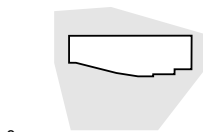
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6



7



8



9



10



11



12



13



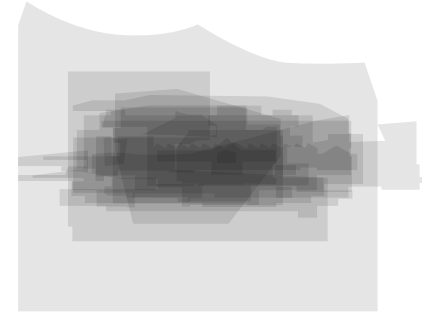
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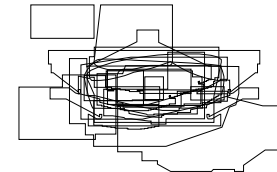
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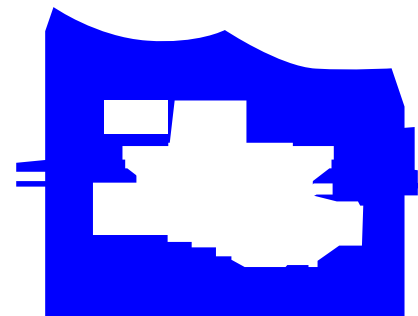
16



Overlay of building volumes

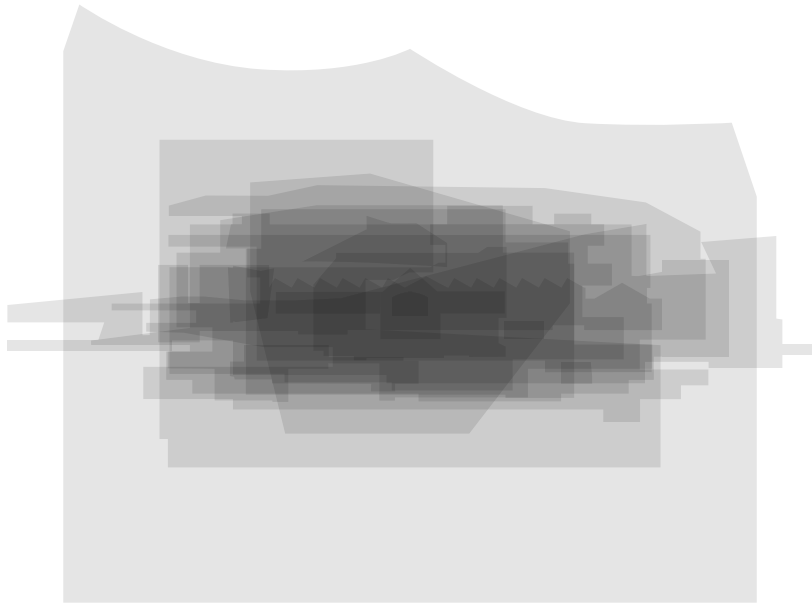


Overlay of performance space profiles

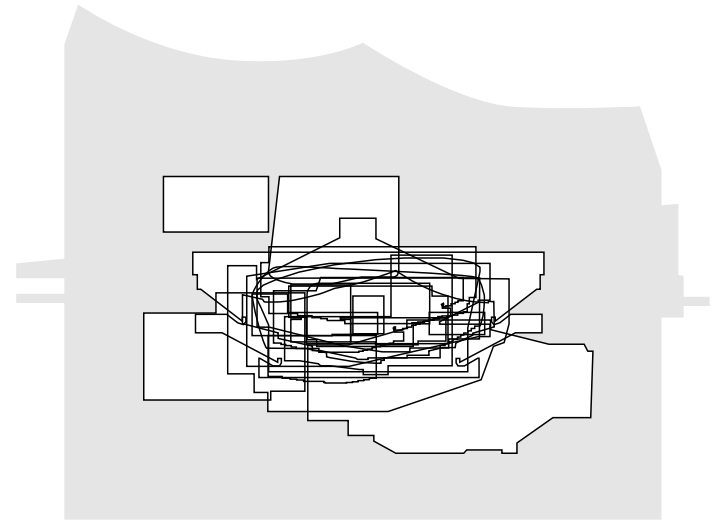


Supermusicmarvel 16

Overlay of building volumes



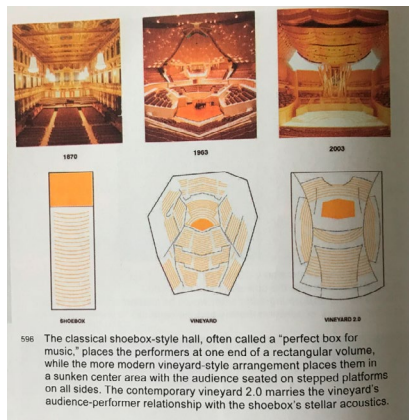
Overlay of performance space profiles: a 'Supermusicmarvel 16'



Question: What is left to innovate typological-ly? How can the Hague venue differentiate itself from the others, at the same time competing on the large scale?

Shoobox - Vineyard - Vineyard 2.0 (Vinebox?) ----- **Shoeyard?**
Image from *OMA NY: Search Term, 2021*

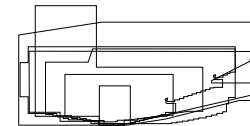
lame!



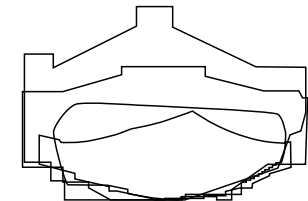
Answer: Innovate on first rule principle, instead of using analogy. Take an approach of 'het is niet normaal' as the starting point.

First rule that all agree on: It has to sound good. What sounds good?

Shoobox



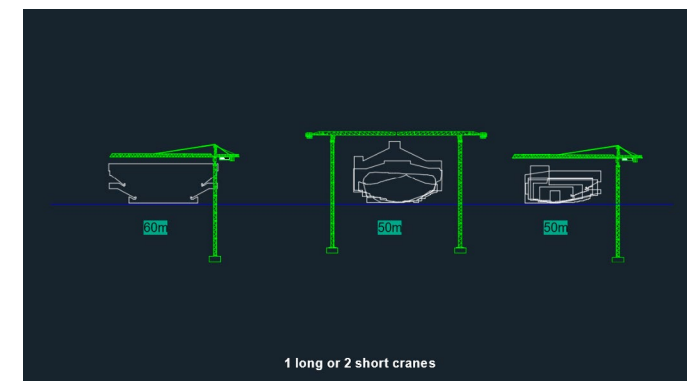
Vineyard



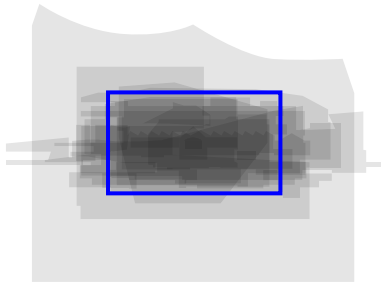
Ziggo mini-arena



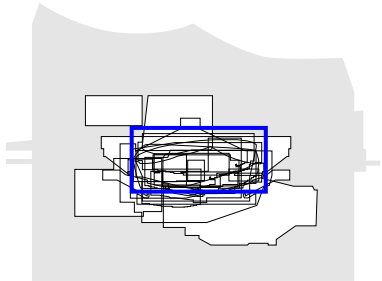
Can we use [recontextualise] directly the existing archetypical envelopes that we know sound good?



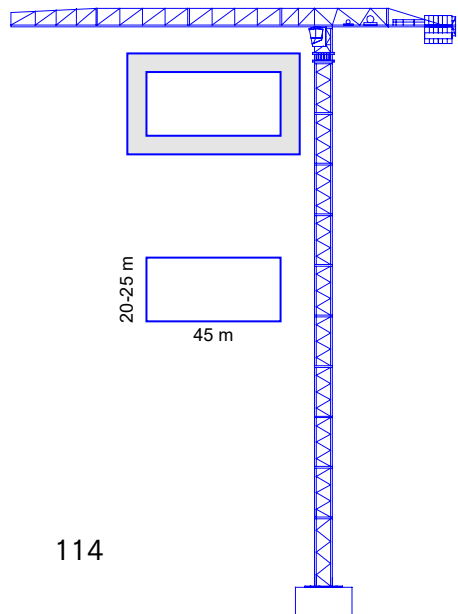
Deducing a 'normalised' outline that can be considered stable and acoustically potent



The densest area of overlays indicates an averaged area of optimal volume for enclosing musical performances



The densest area of overlays indicates an averaged area of optimal size for musical performances



Combination of the two 'normalised' reference sizes becomes a starting point for site inquiry and further testing of the music performance volume

Connection: monetizing on being in the mobility hotspot of Binckhorst

Initial reasoning for the choice of the site, Week 2.3



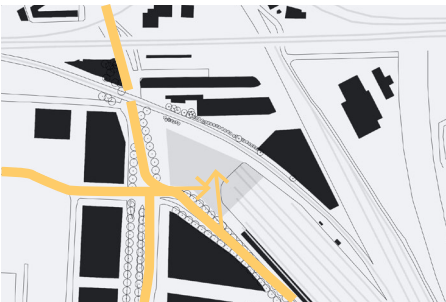
Framing of the site, scale 1:5000



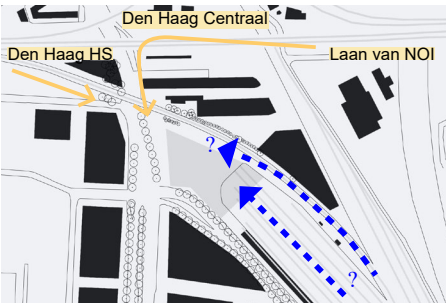
Getting there

As the site is planned to be used at times as festival field, on other occasions as a public plaza and an open courtyard—scales and layers of potential connections are explored

Arriving By Car



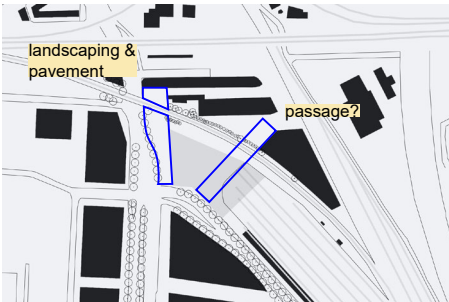
Arriving By Train



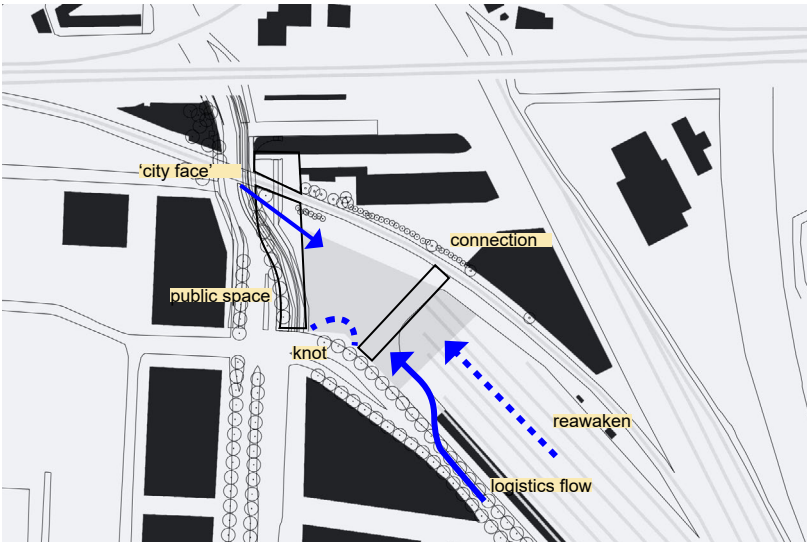
Arriving By Bike



Arriving On Foot

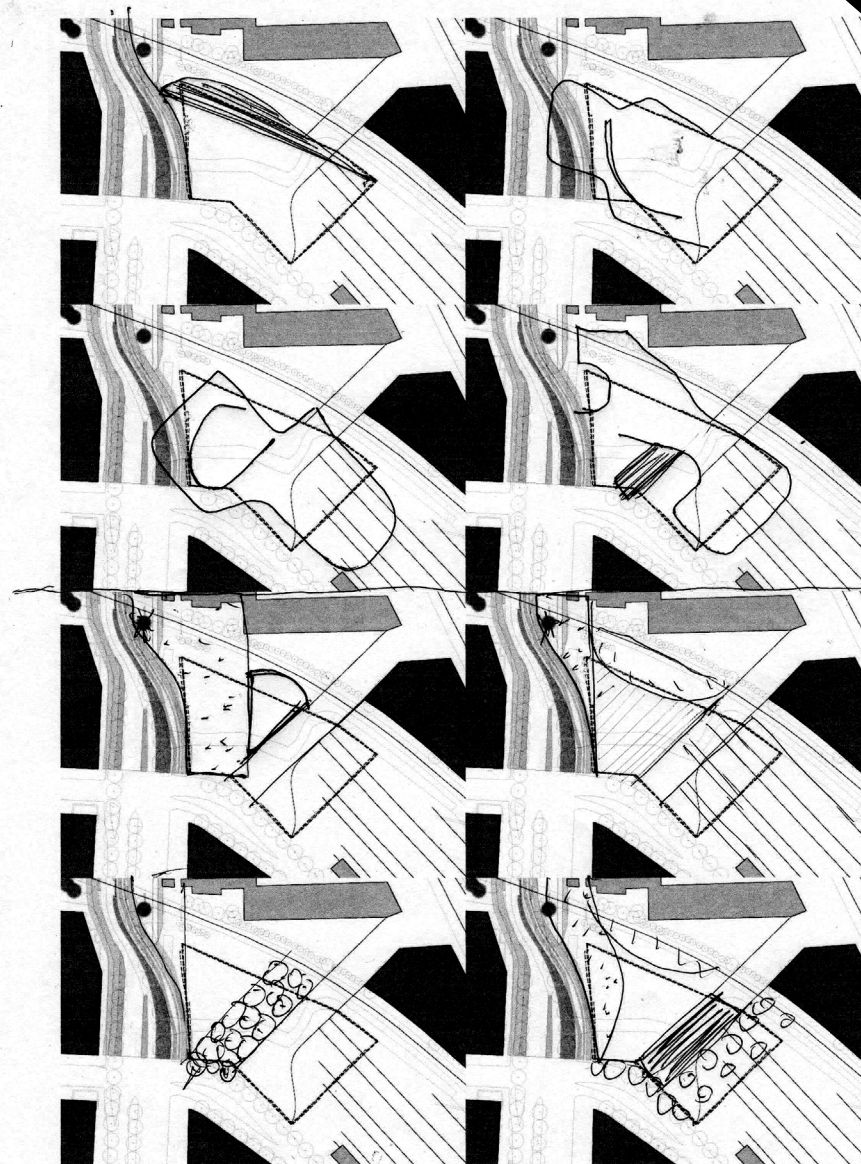
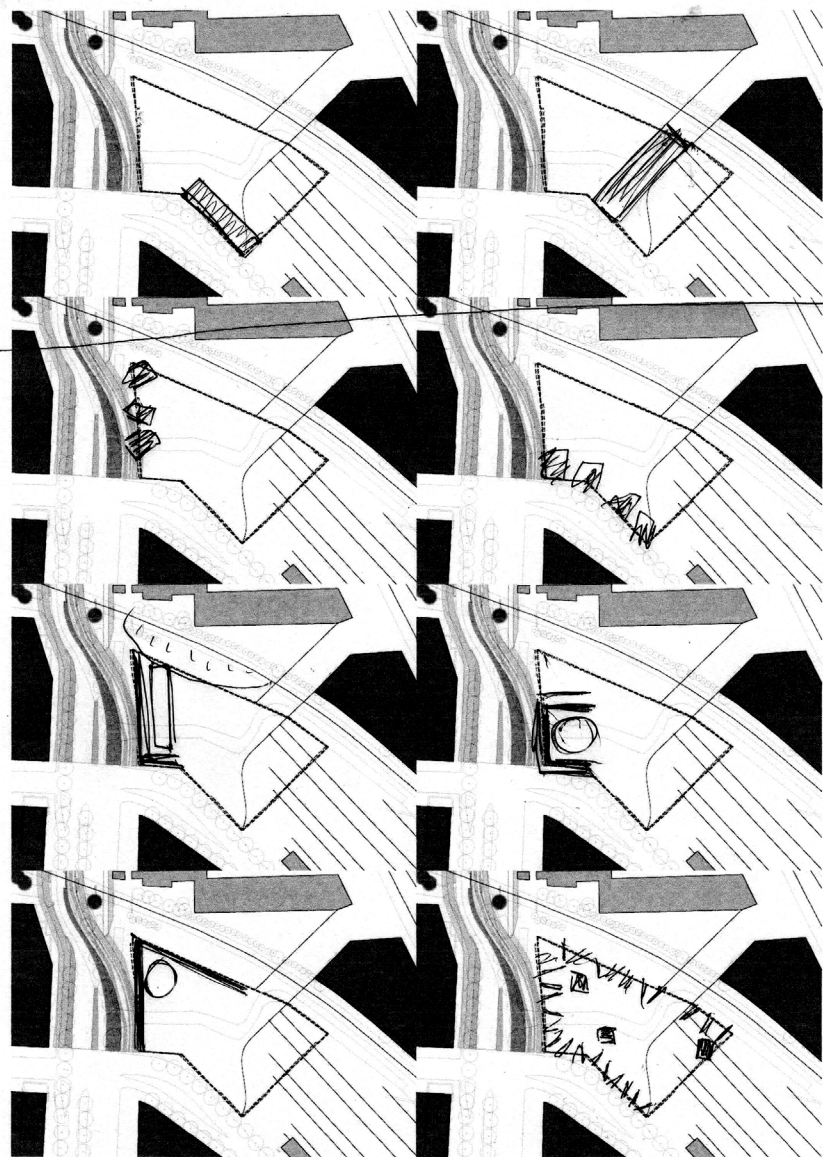
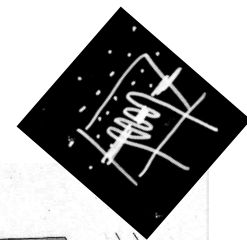


Municipal plans



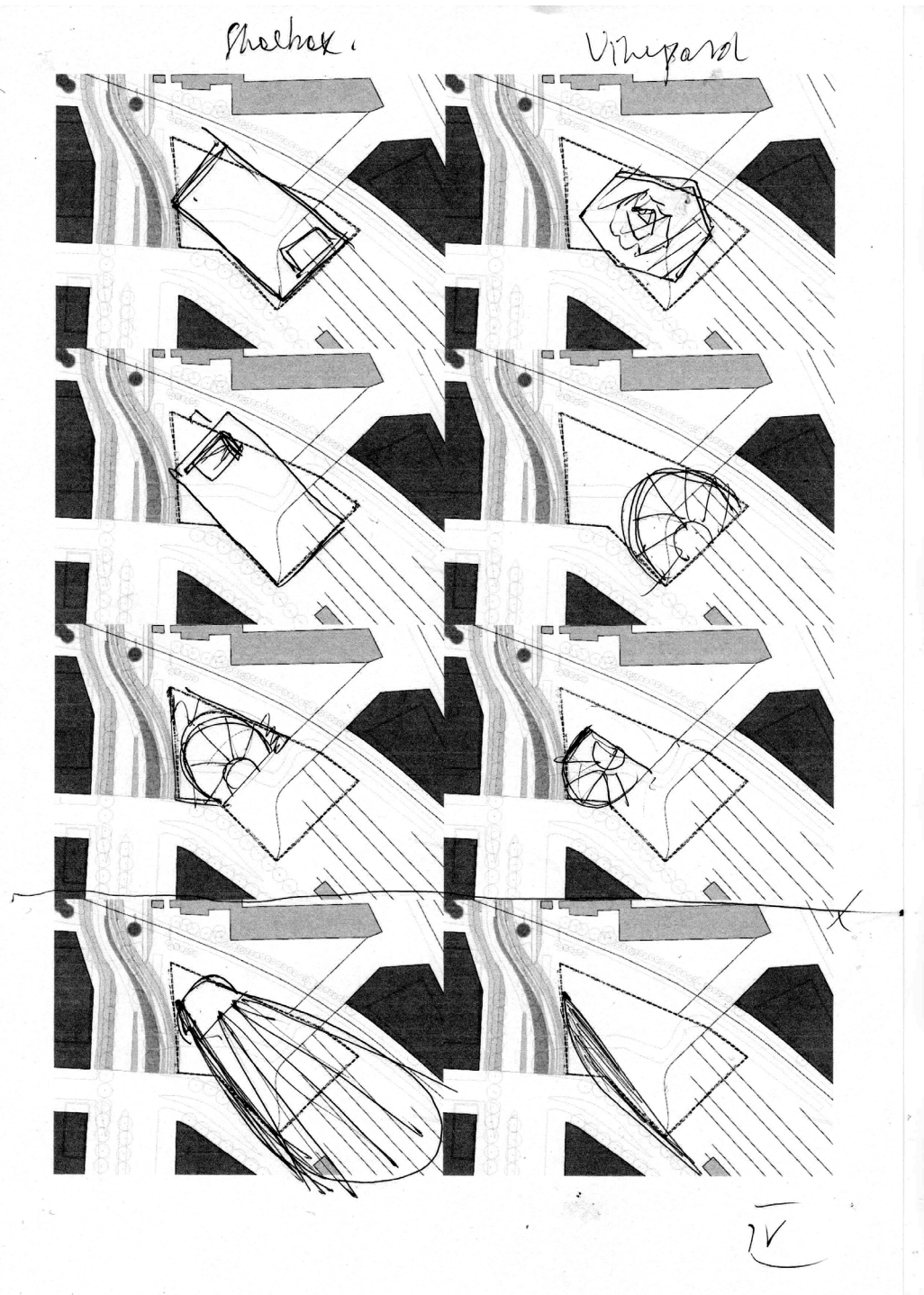
Key connections of the site

Connecting spaces: looking for a balance. Imagining various clusterings and positioning of volumes to match the capacity and the potential of the site

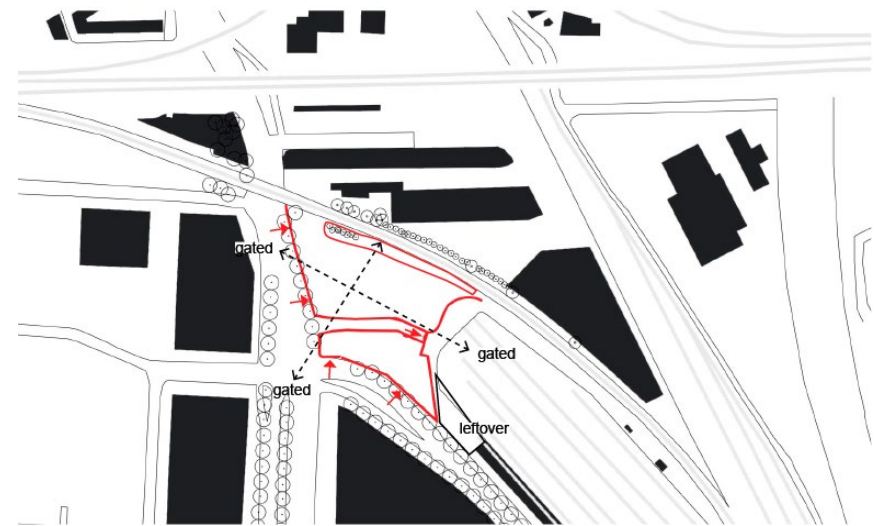


Shelton

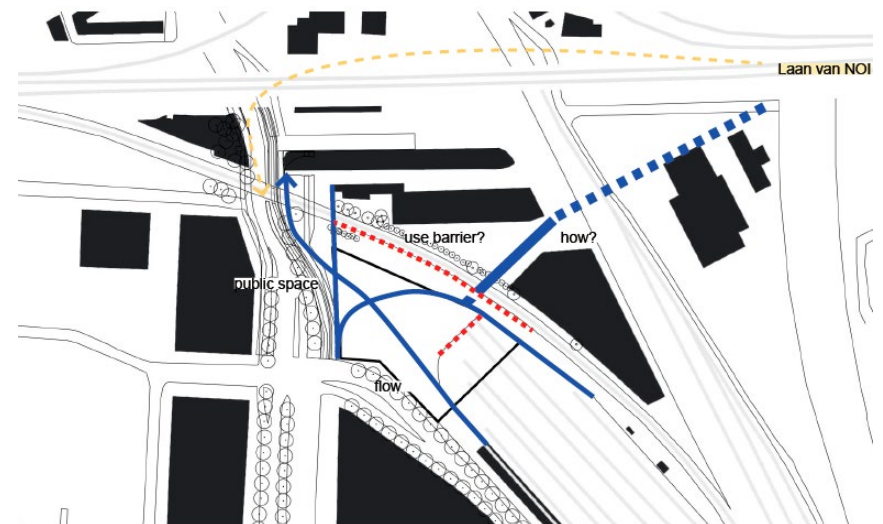
Vineyard

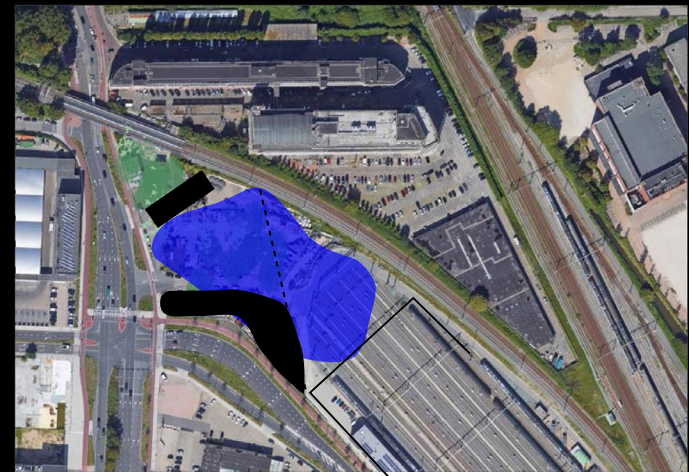
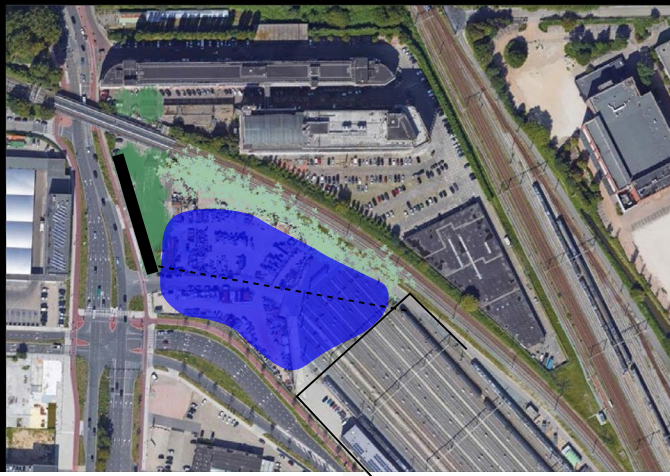
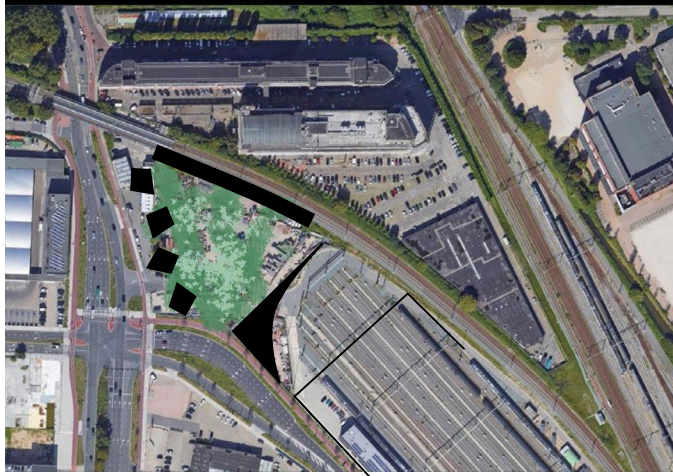
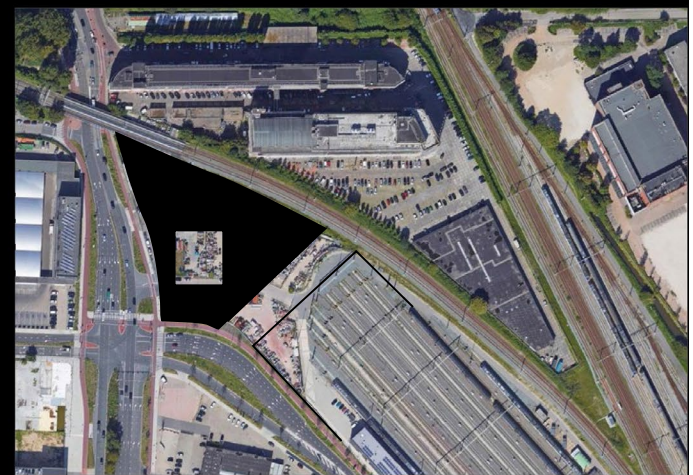
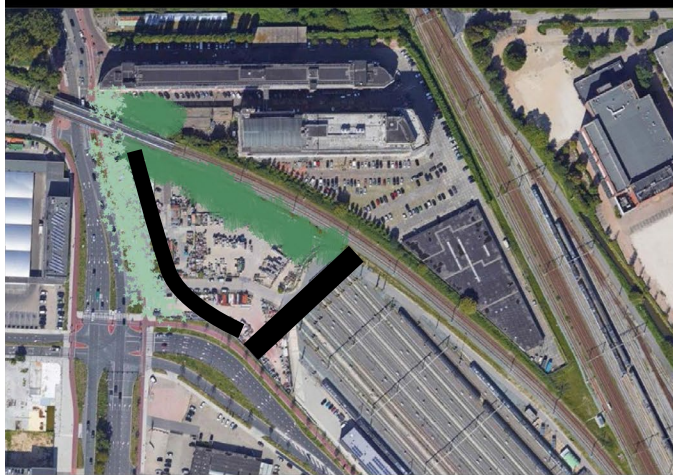


Existing site conditions



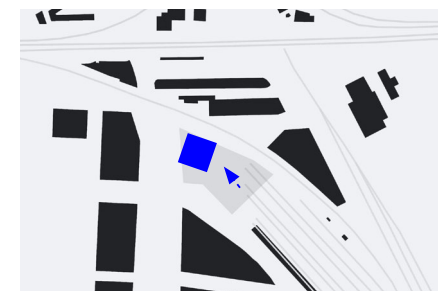
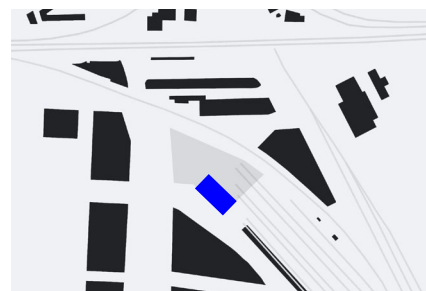
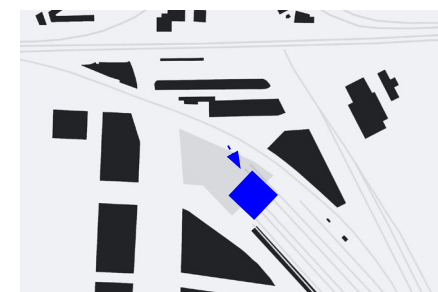
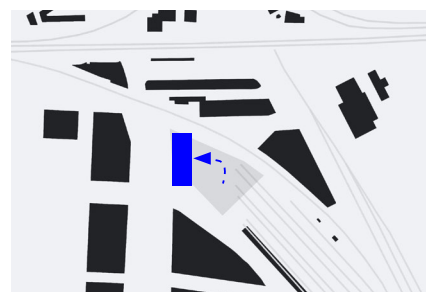
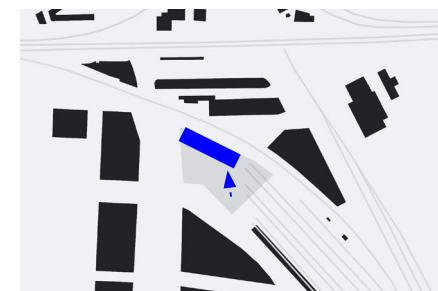
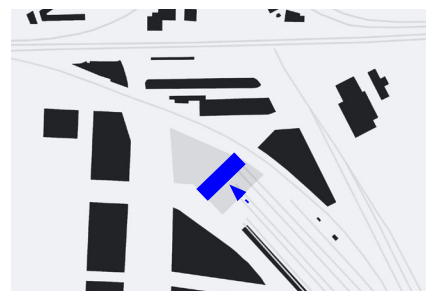
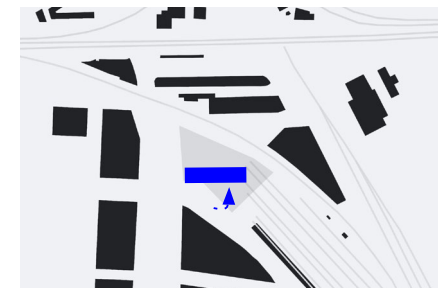
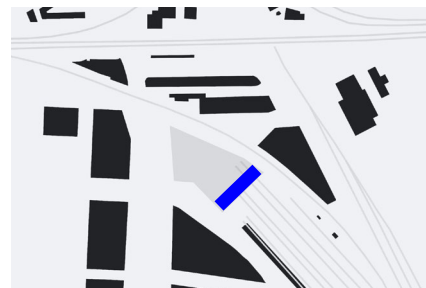
Possibilities and challenges

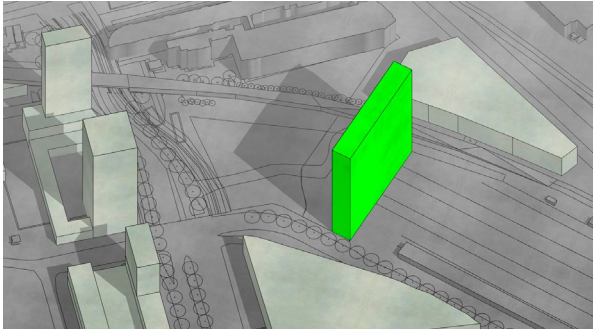




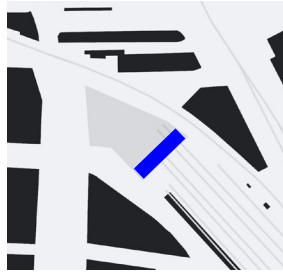
P2.A	Graduation Plan
P2.B1	Individual Design Manifesto
P2.B2	Project Abstract, Diagrams, Notations & Maps
P2.C	Design Brief
P2.D1	Individual Research Book
P2.D2	Design Journal
P2.E	Schematic Design
P2.F	Parameters to Construct

Noting down basic shape combinations for the site

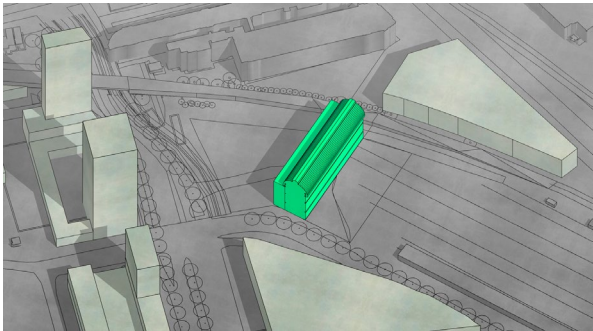
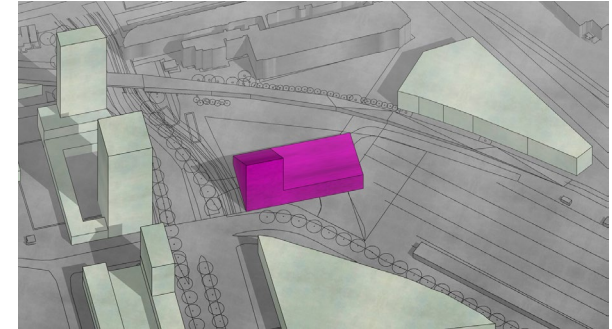
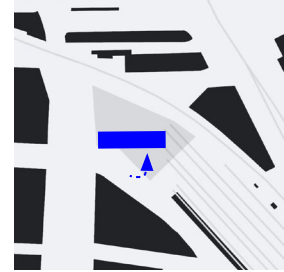




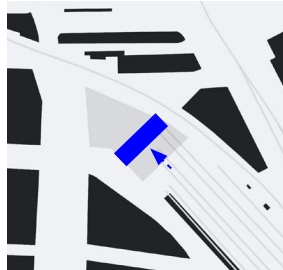
Railtower



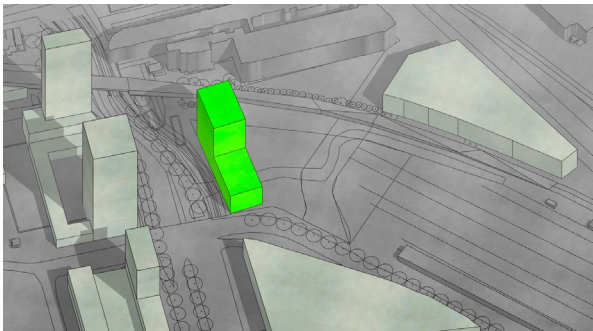
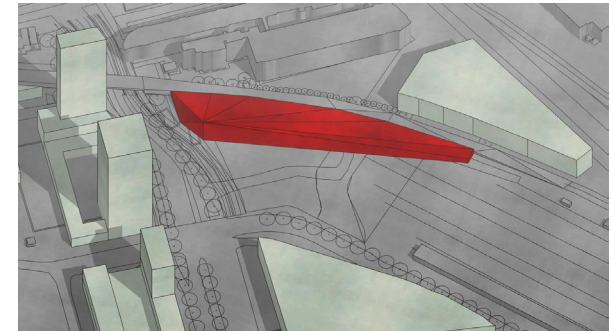
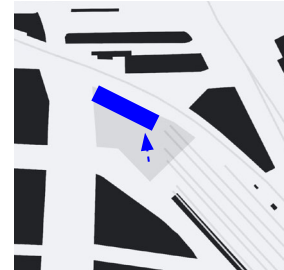
Ziggo Vernacular



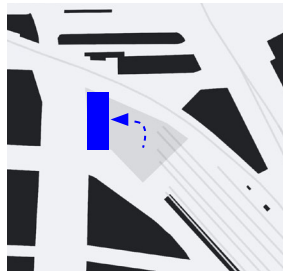
Passage



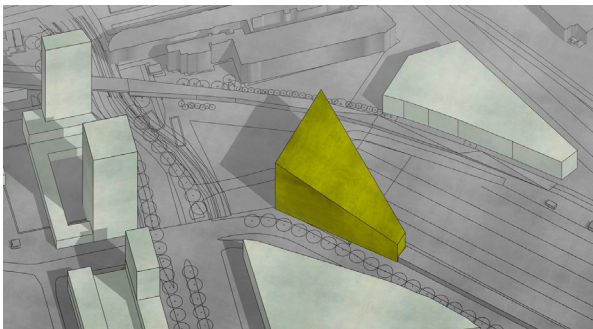
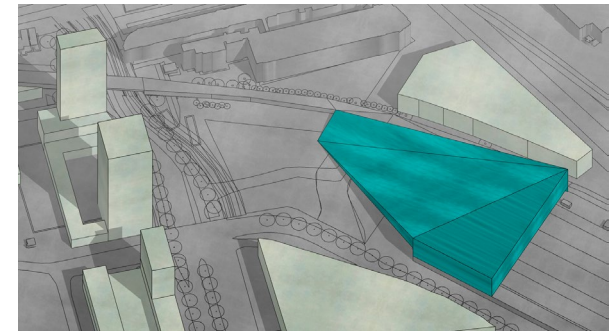
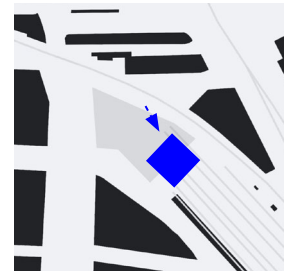
Banana



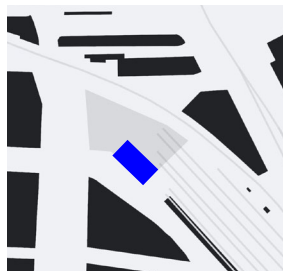
School



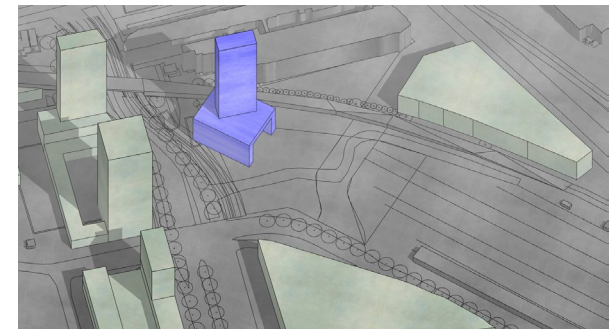
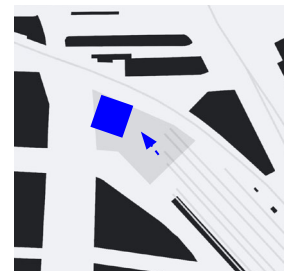
Falcon Tent



Shard



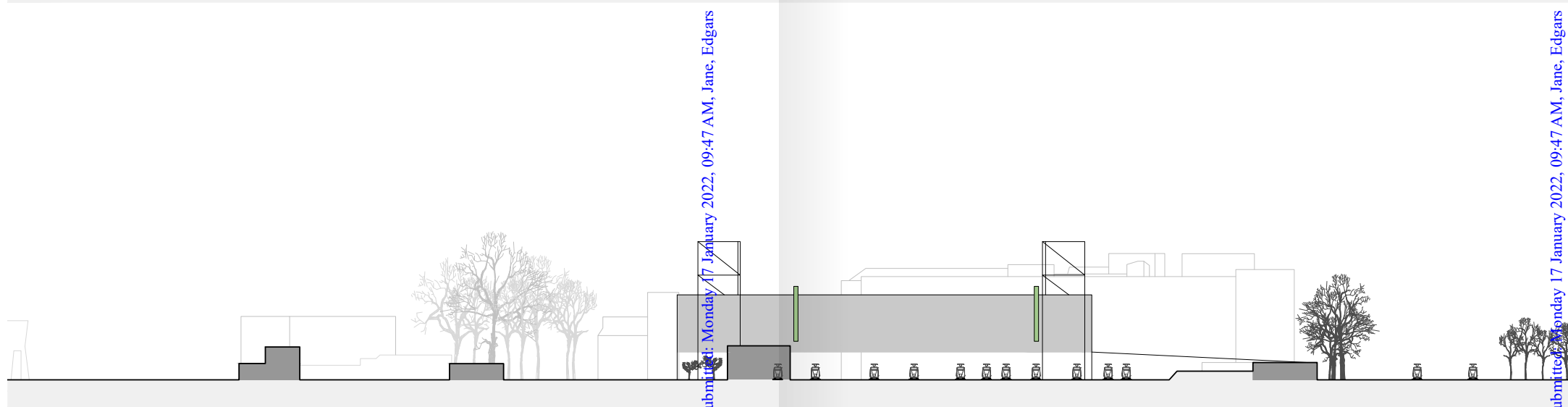
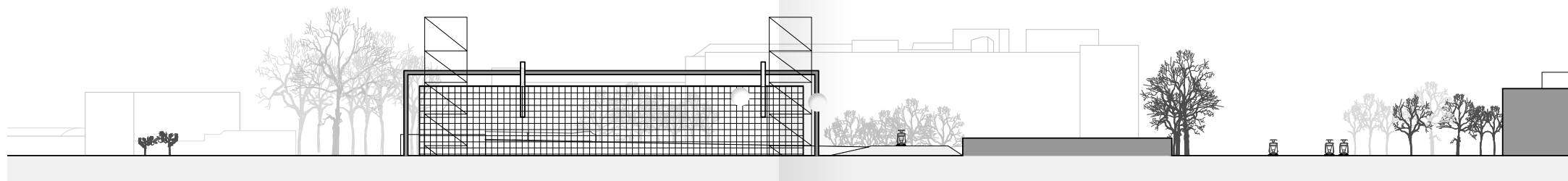
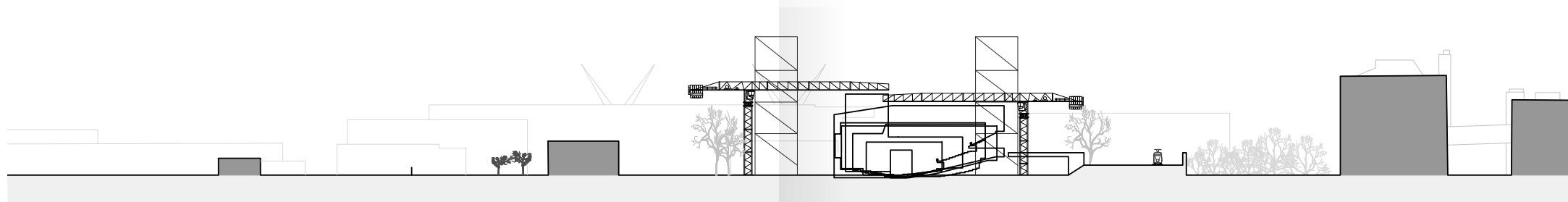
Stage Tower



Searching efficiency in the arrangment of the full program - to find as many overlaps as possible, so a sharing scenario is most feasible



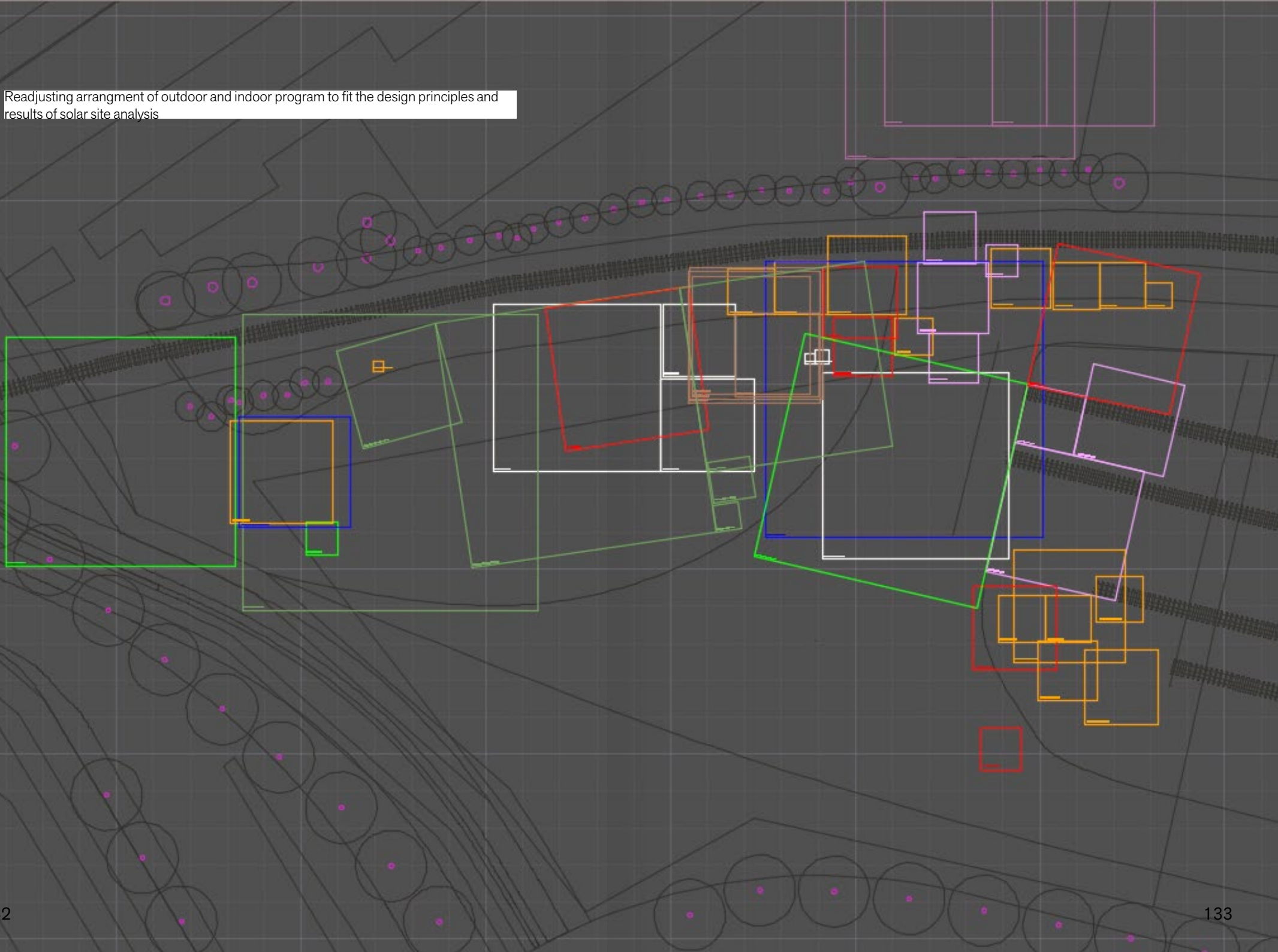
1:1000 study sections
Week 2.7 site design development



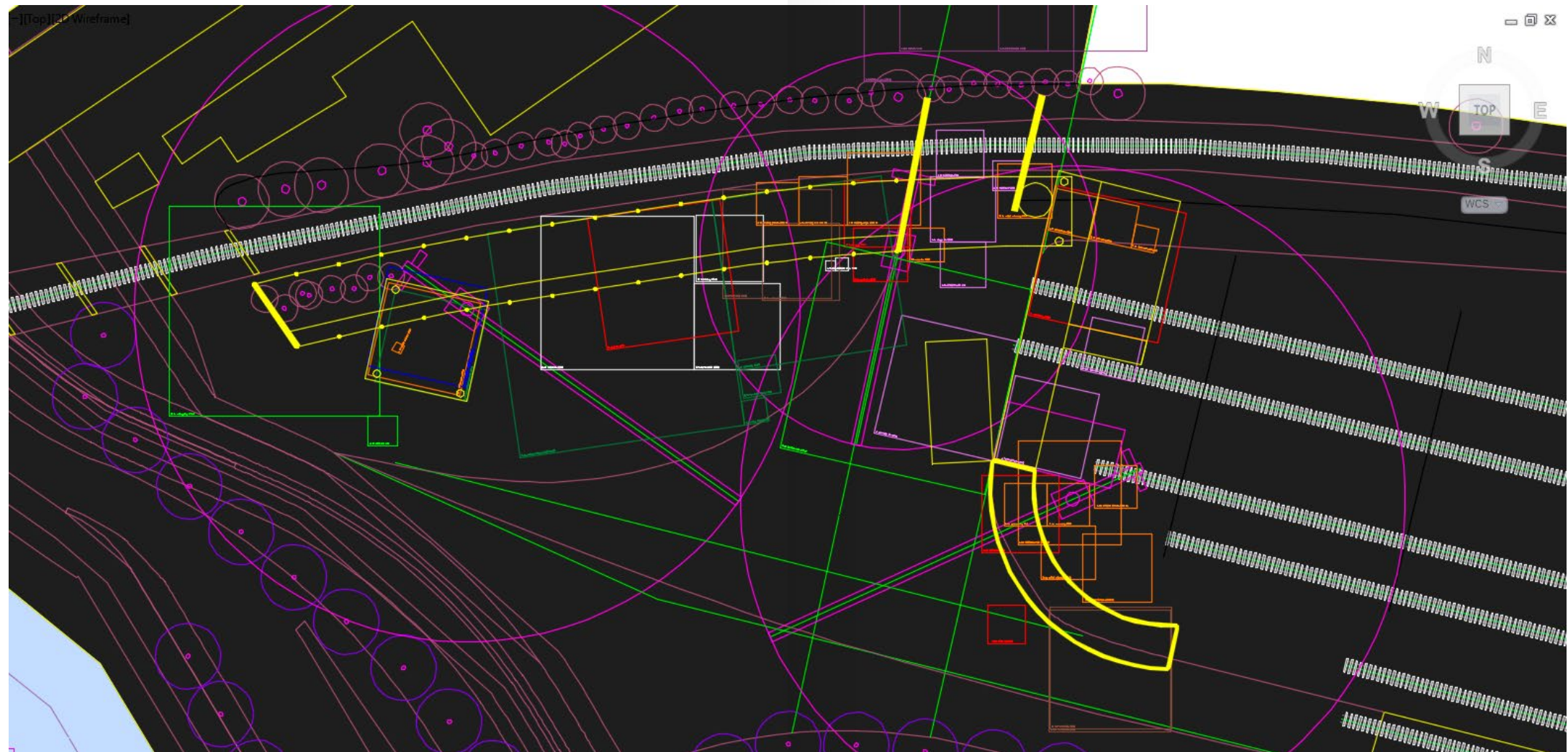
submitted: Monday 17 January 2022, 09:47 AM, Jane, Edgars

submitted: Monday 17 January 2022, 09:47 AM, Jane, Edgars

Readjusting arrangement of outdoor and indoor program to fit the design principles and results of solar site analysis



Balancing out final P2 arrangement

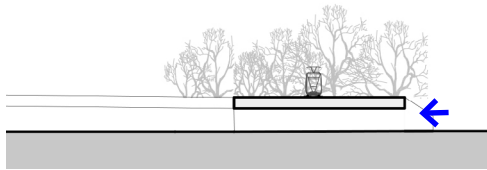


- P2.A Graduation Plan
- P2.B1 Individual Design Manifesto
- P2.B2 Project Abstract, Diagrams,
Notations & Maps
- P2.C Design Brief
- P2.D1 Individual Research Book
- P2.D2 Design Journal
- P2.E Schematic Design**
- P2.F Parameters to Construct

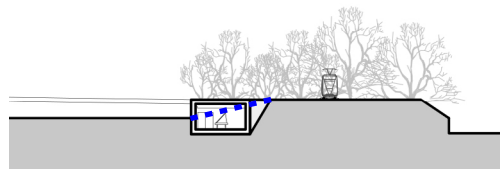


Sectional principles

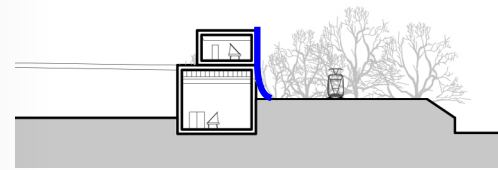
Open passage under rails



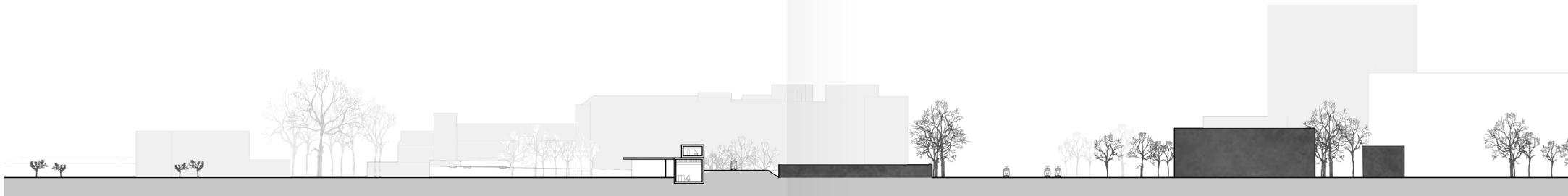
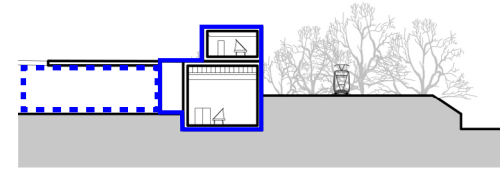
Giving new quality to leftover space



Using building as a sound barrier



Blank vs Permeable public



Offices, Broadcasting and Marketplace

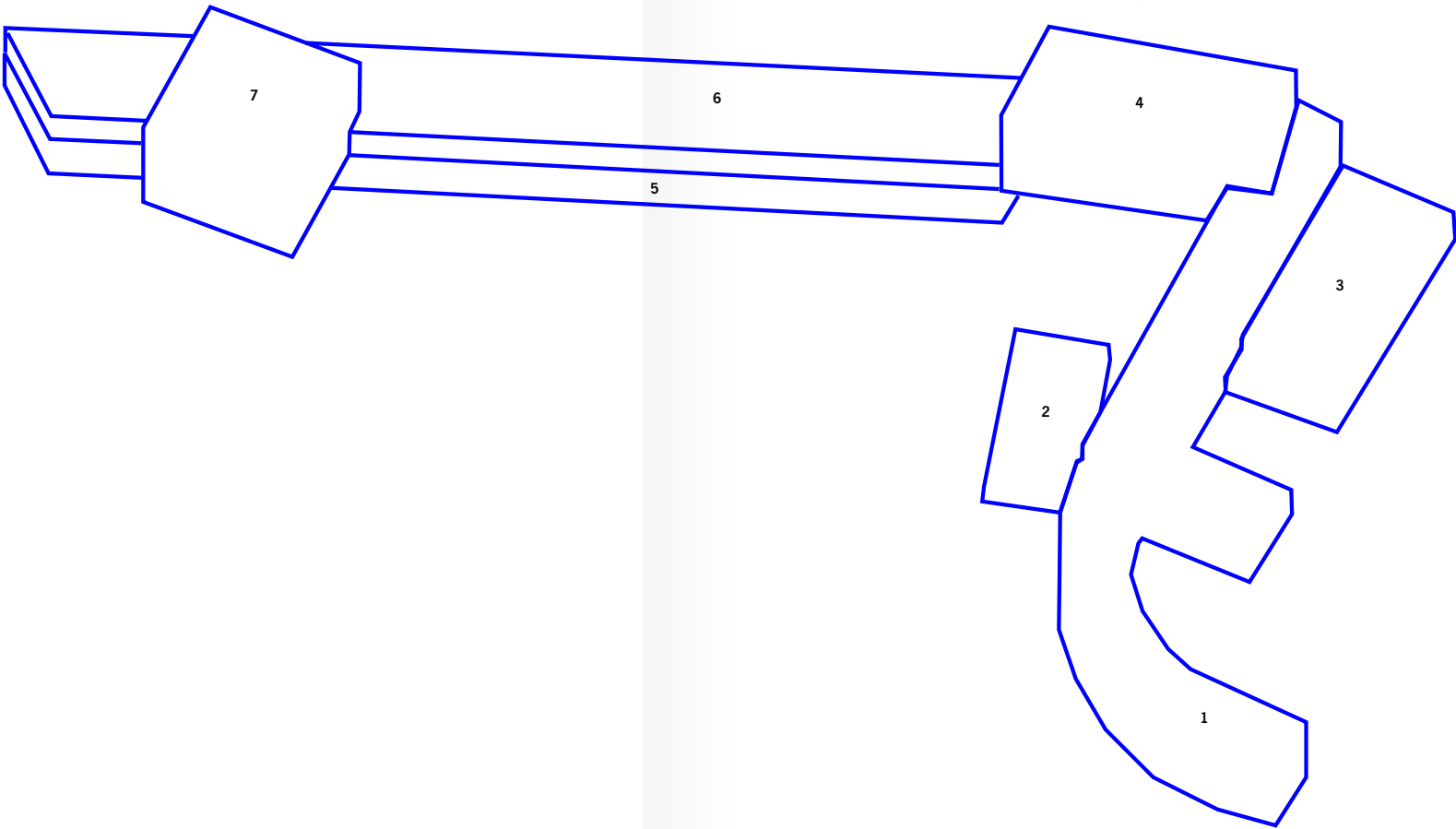
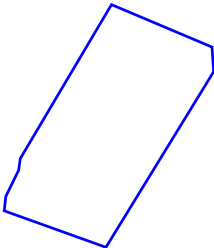
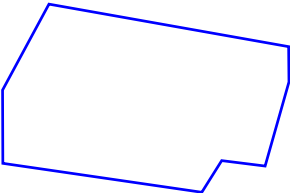
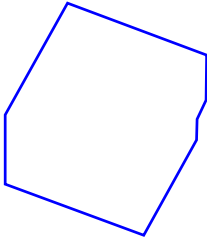
Top: Rehearsal and musical residency
Ground: Public plinth

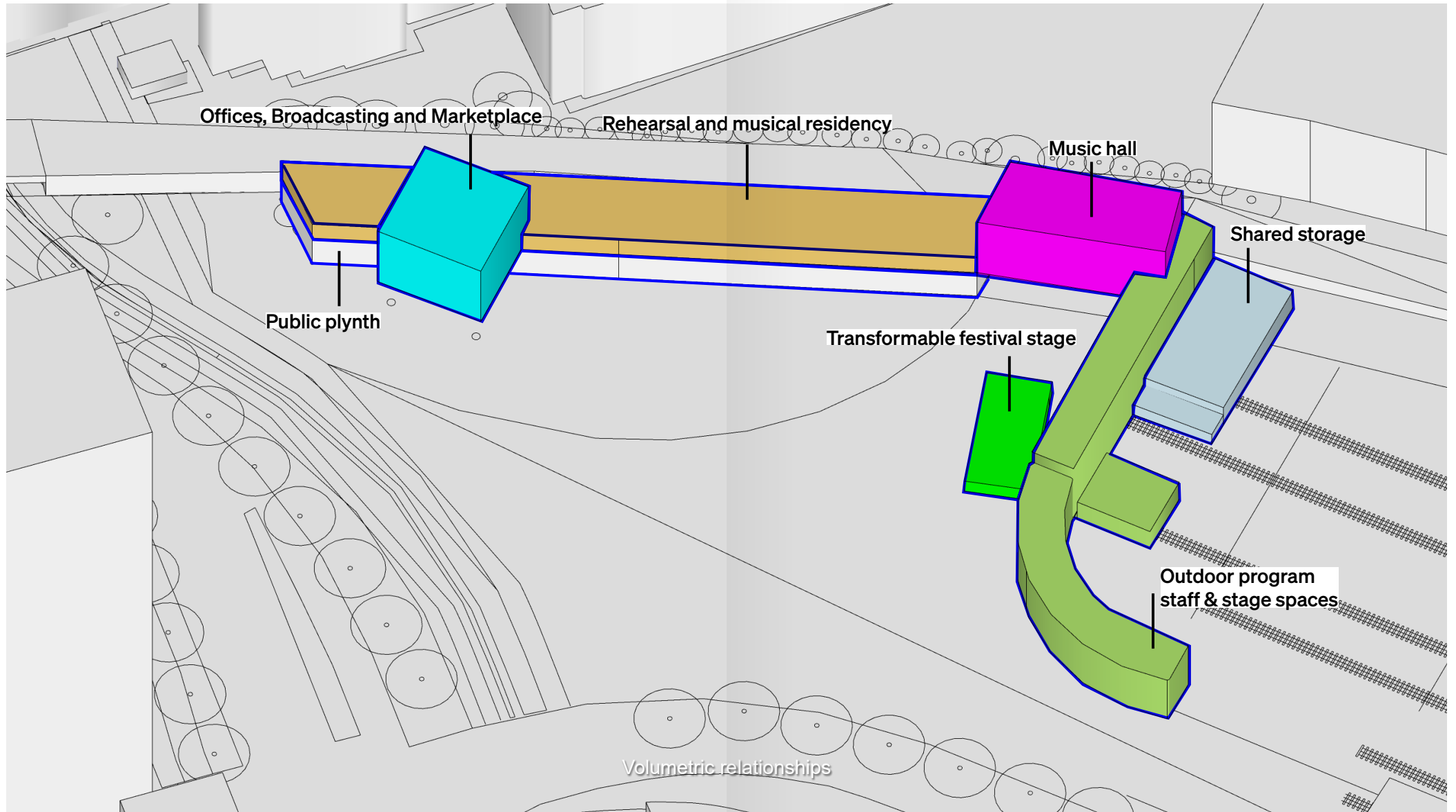
Music hall

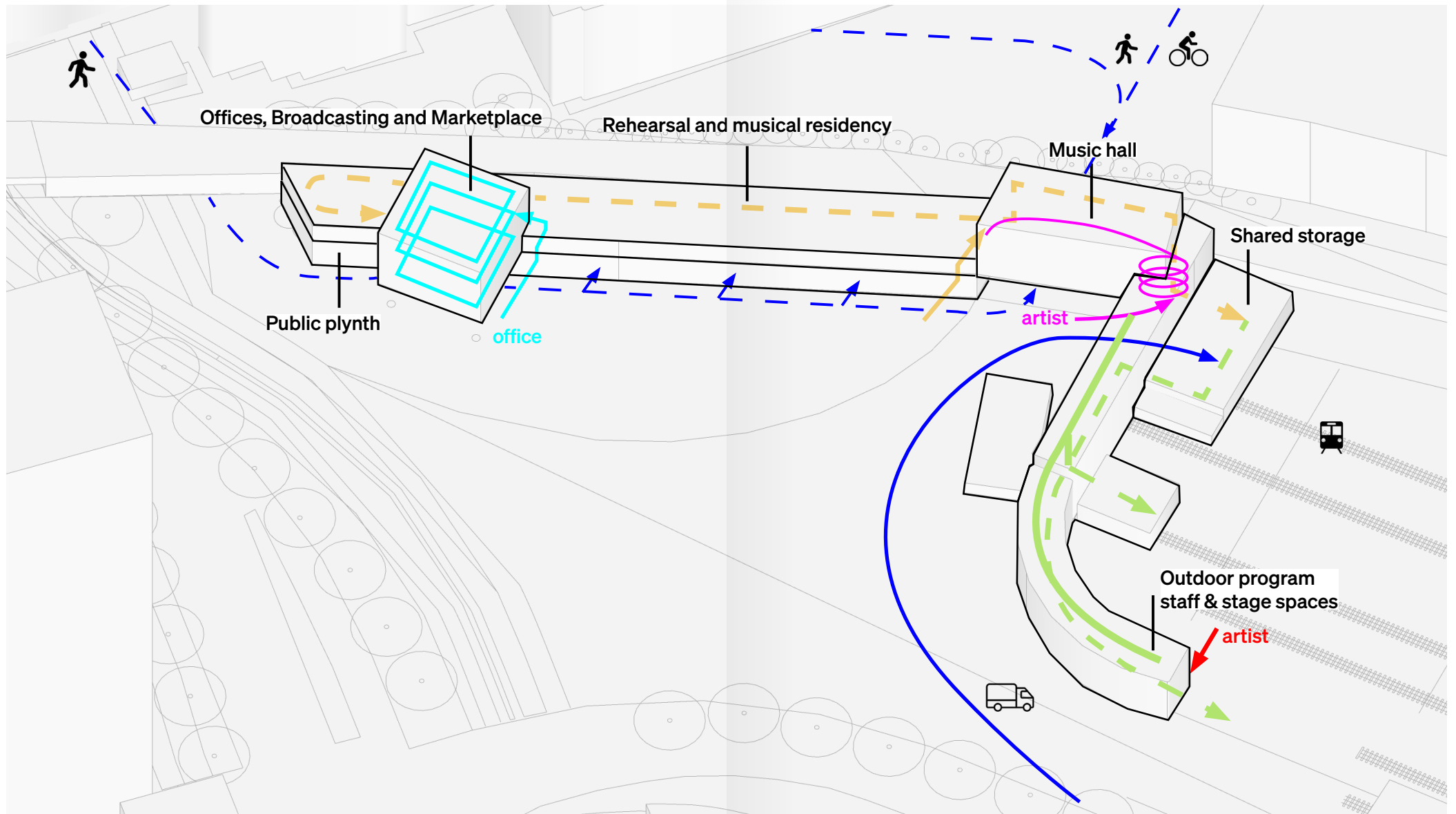
Transformable festival stage

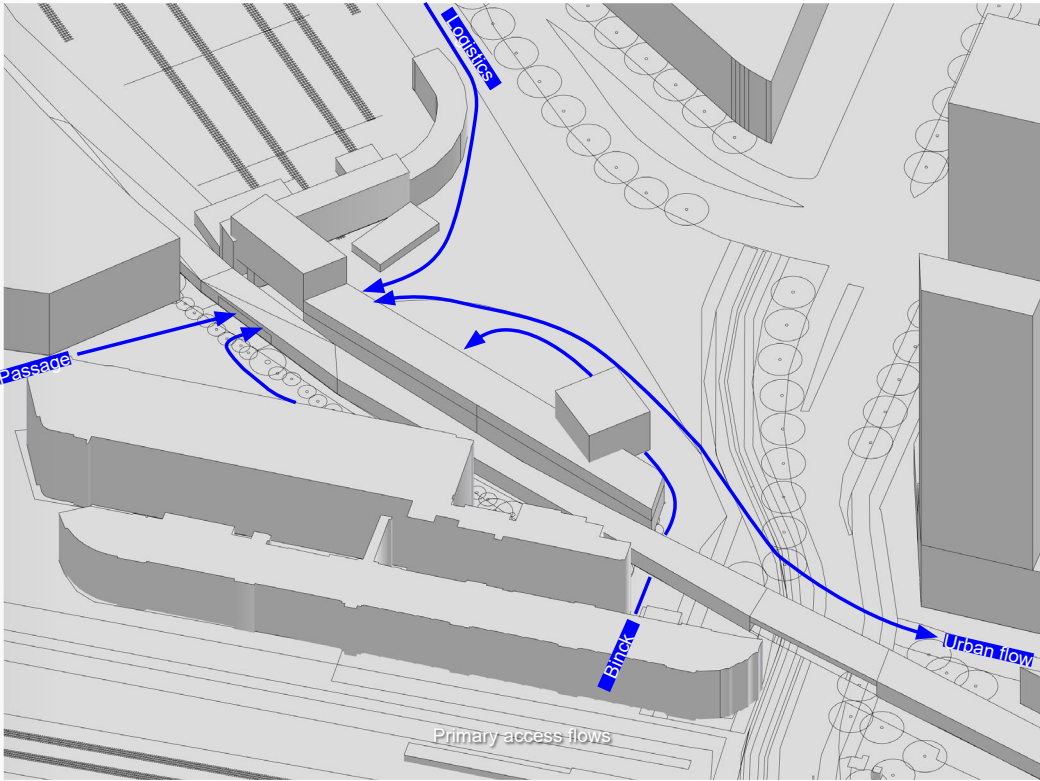
Outdoor program staff & stage spaces

Shared storage space





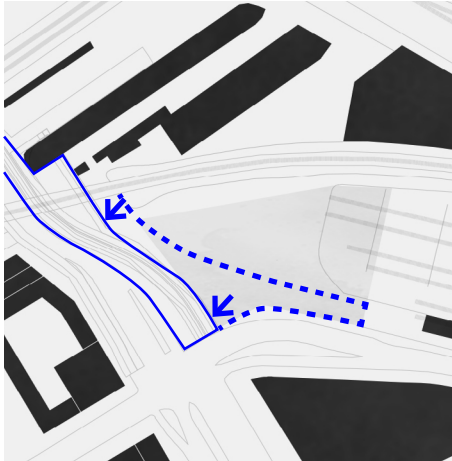






Main Site design principles

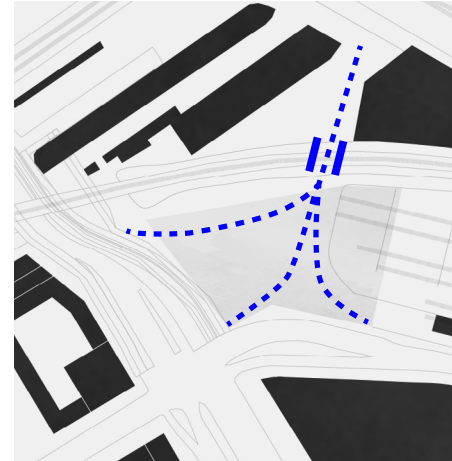
Connect to planned public surface



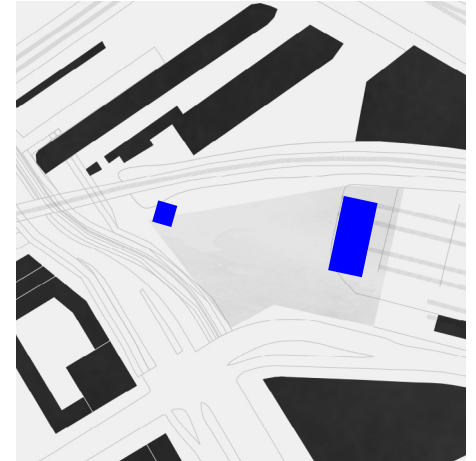
Publicly permeable ground level



Intensify Urban Connectivity

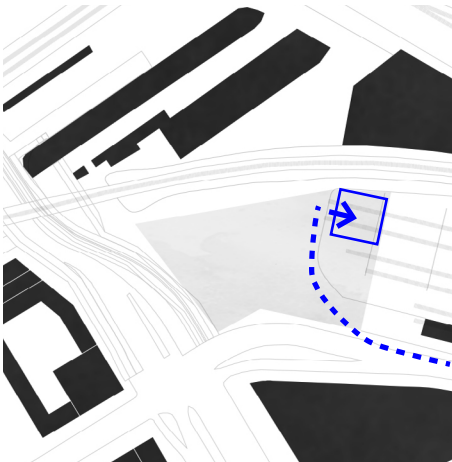


Festival Layout

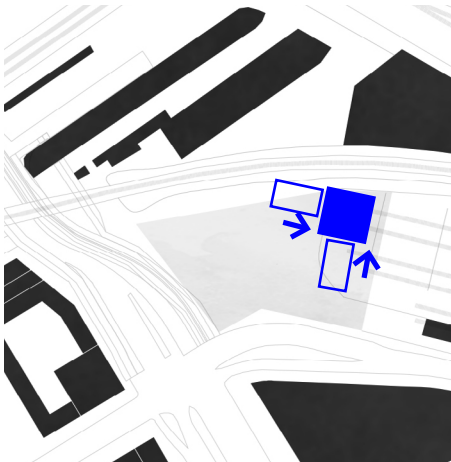


Circulation and Access principles

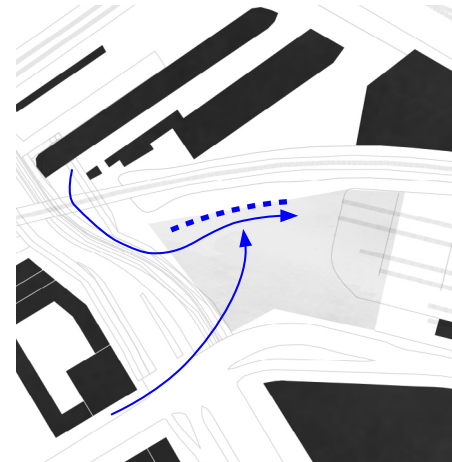
Ease of logistics



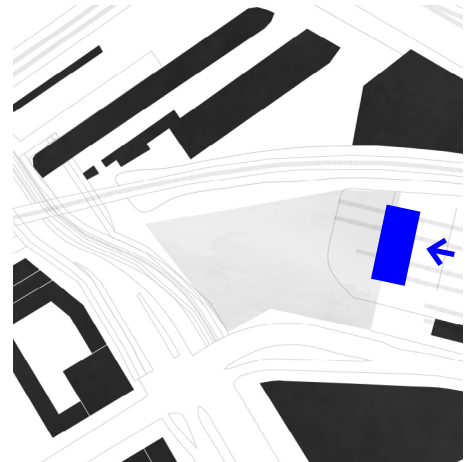
Shared storage

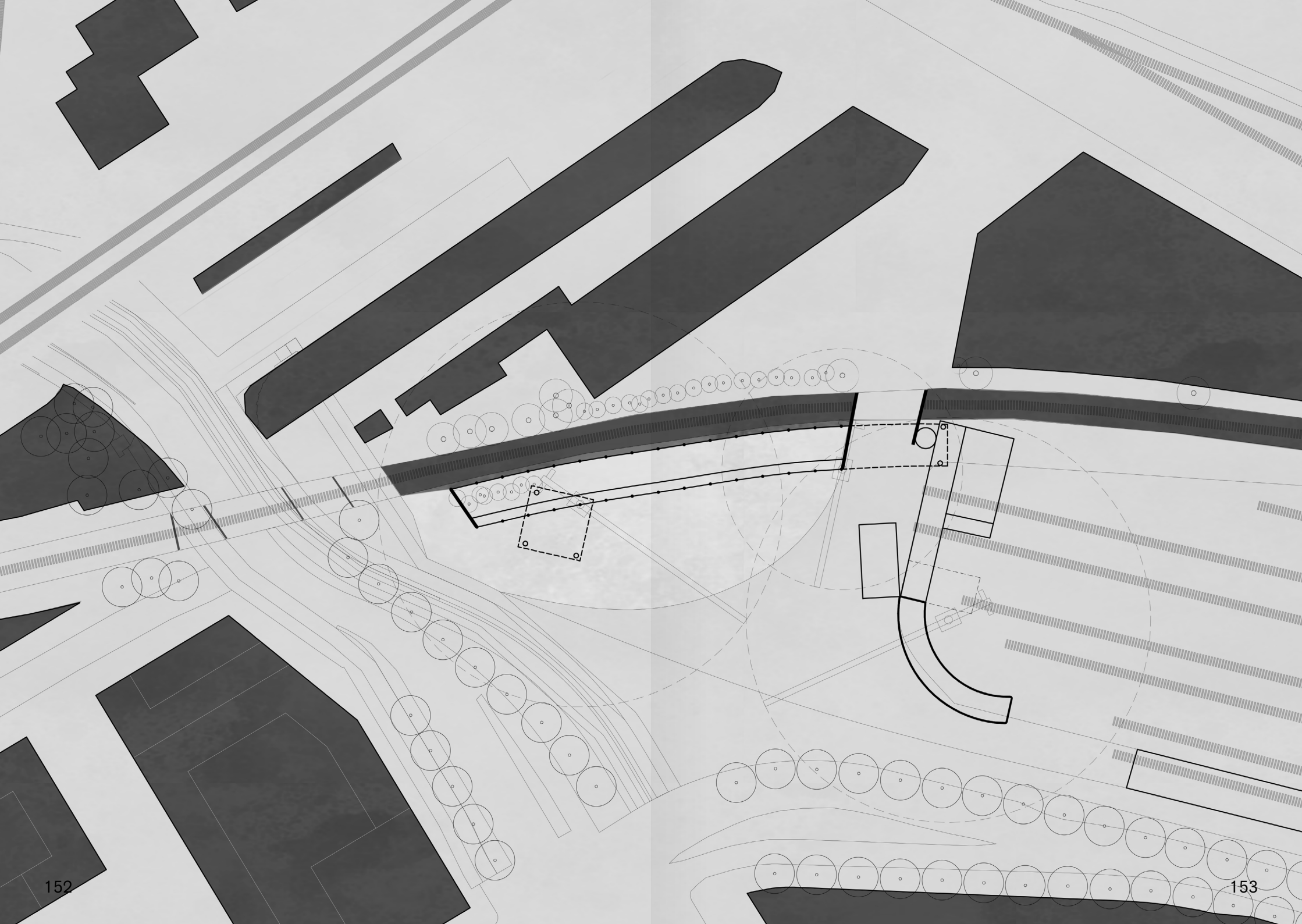


New destinations, cafe etc.



Concert delivery by train (green energy)



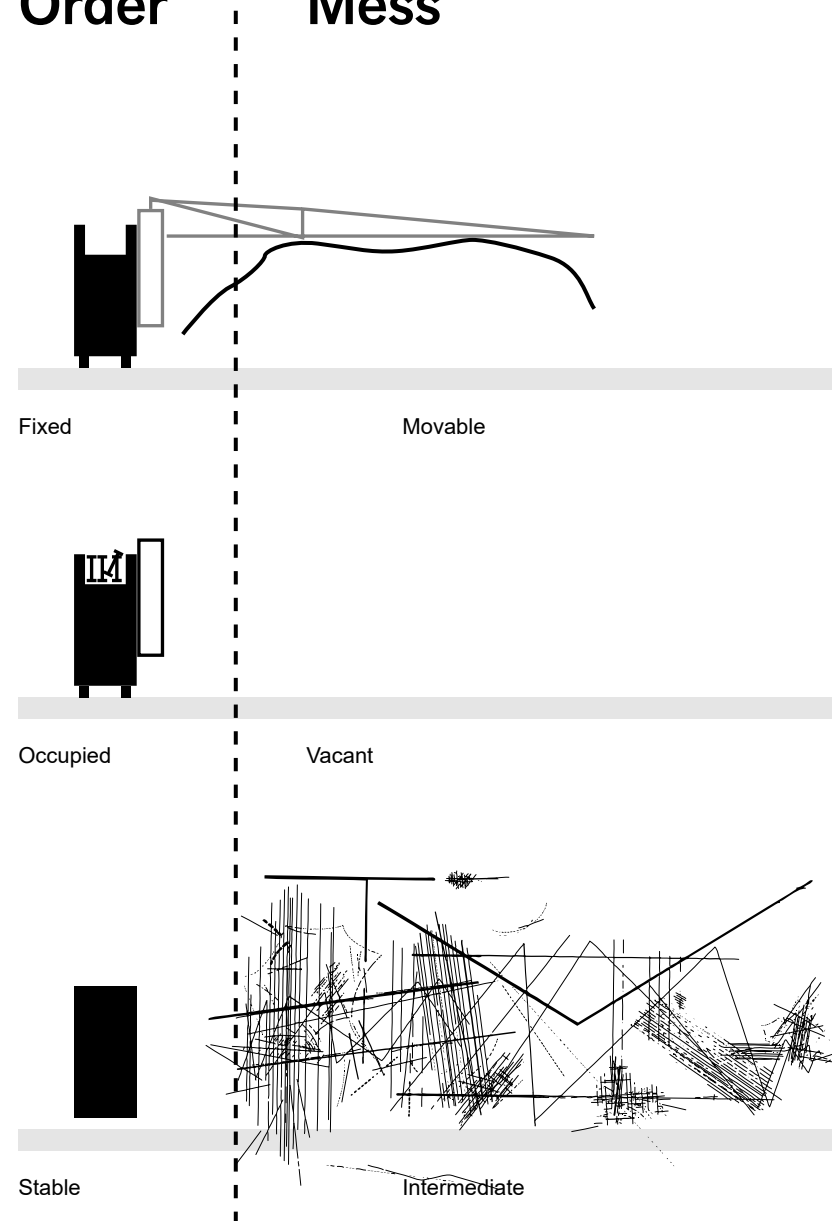






Festival campus at ease,
in expectation of the next venue

Scaling experience: dynamic construction between Order Mess



Gathered notes on circularity that inform the framework of investigation, as well as act as a personal reminder of the attitude to approach the project as a whole

- #Maintenance
- #Podium disassemble
- #Podium rent
- #Podium share
- #Detached economy from building: mechanical/electrified/digitized
- #Programming order
- #Efficiency of movable ingredients
- #Anatomy of space: integrated movable parts.
- #Stuff considered or added later?
- #Shorten transport routes
- #Program is main! Structure is secondary!
- #Site specific conditions exclude methods of building
- # Site specific conditions exclude scale of tools
- #Material changes at thresholds.
- #When you recycle, you destroy.
- #Reduce primary material
- #Redundant=Waste (Modernist)
- #Performance Economy
- #Circular: Waste=Food
- #Resilience through Diversity
- #Take position in programming.
- #80% of environmental impact is decided at design stage
- #Circular=Interchangeable.
- #CE not just building.
- #Coordinating large network of people and resources that will support the design decision made during design phase

Two reference evaluation systems for developing a more critical position in terms of sustainability and circularity

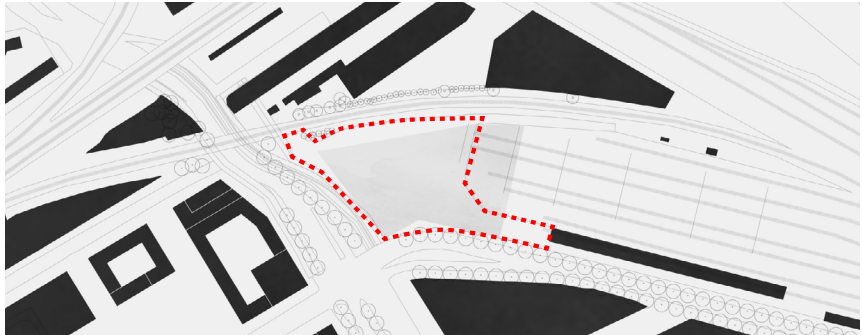
	Urban ecology	Energy	Climate	Structure	Daylight	Acoustics	Heat & Comfort
Networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Circularity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flexibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LCA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CO2 footprint	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Diagram made by author for the Music Marvel project

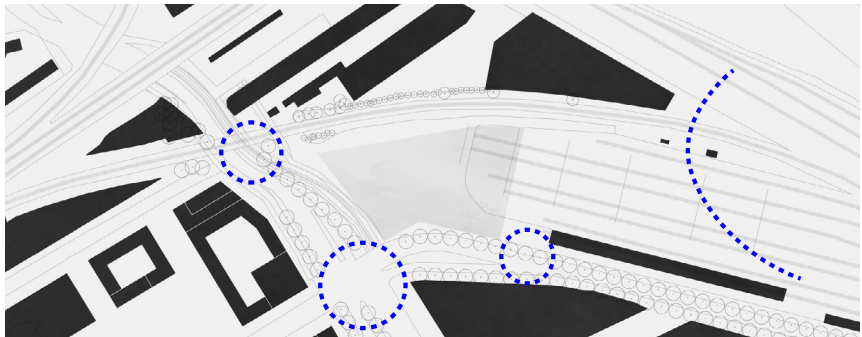
	Heat	Humidity	Wind	Light
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Comfort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Idea by Torben Dahl, redrawn

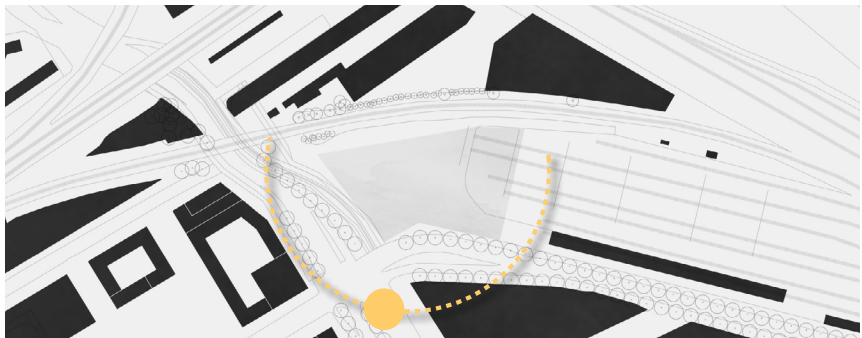
Site Conditions



↑ Large hard surfaces, heat island effect



↑ Acoustic interference



↑ Exposure to sun

↑ N

Harvesting energy

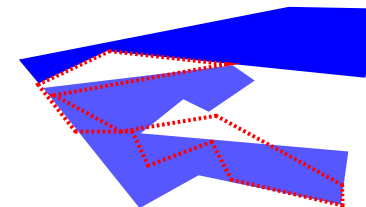
December 30 (winter)
Light: 12:00am - 16:00
Goal: Maximum sunlight

**In Winter we can get
4 hours of comfortable
exposure in the North-East part of the site**



June 30 (summer)
Light: 7:00am - 20:00
Goal: Sun in the morning, Shade during day and Sun in the evening for the public space

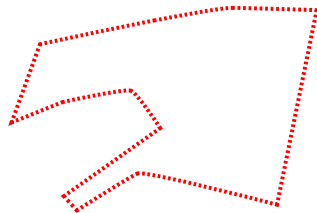
**In Summer the site offers 3 distinct zones where
comfort can be found throughout the length of
the day**



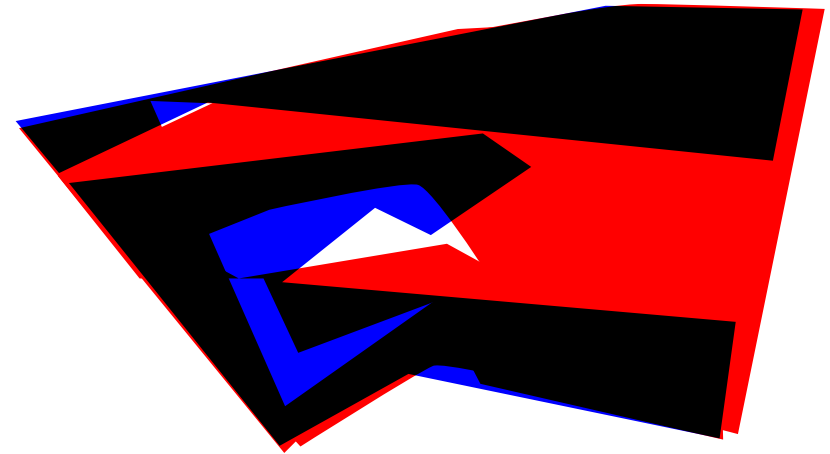
1. Cooling during day (opposite in winter for this area; ideal scenario)
2. Warmer zone with more exposure. Keep in mind for evening activity in open public spaces (in NW connects well to the municipal plan for wide pedestrian pathway)
3. Cooling during day (keep in mind for open public spaces with an active midday use)

March 20 (spring/autumn)
Light: 9:00am - 18:00
Goal: Maximum sunlight

In Spring/Autumn the NE part of the site offers more exposure to the sun

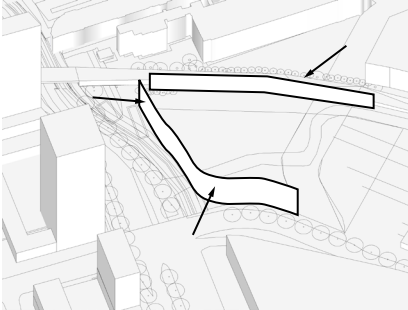


A composite image showing the stability and solar movement across all seasons



Goal: focus on areas in black, as they are an overlay of both sun and shade (maximum potential for passive strategies). Rest of the areas are more unstable - therefore to be revisited upon further stage of design detailing.

Site Conclusions



Screening is required to address the acoustic, as well as wind, interference to the site

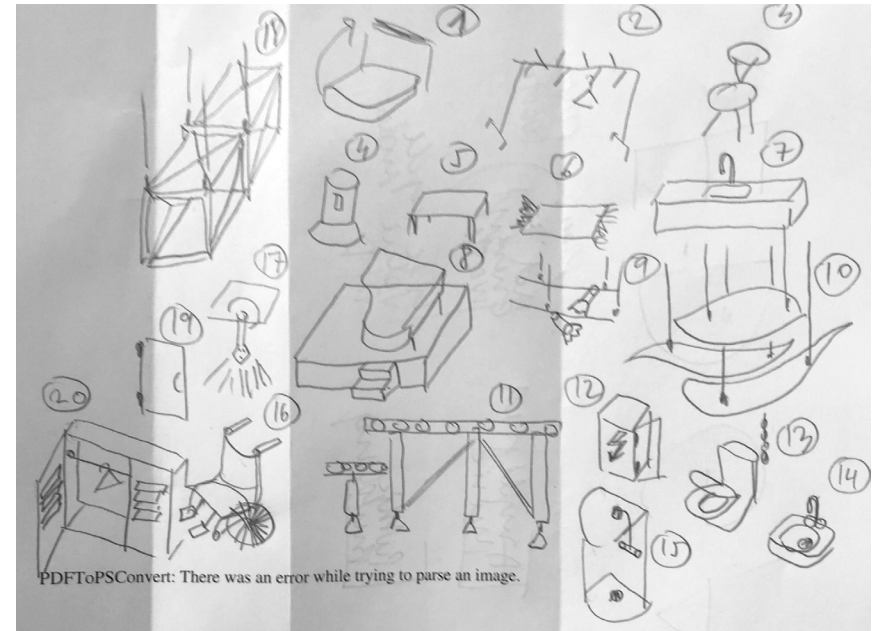


In context with the detailed solar analysis, a green belt along the street could achieve screening and reinforce the comfort of the public space + solar conditions



Utilise the mapped zones where the potential for passive strategies is the highest

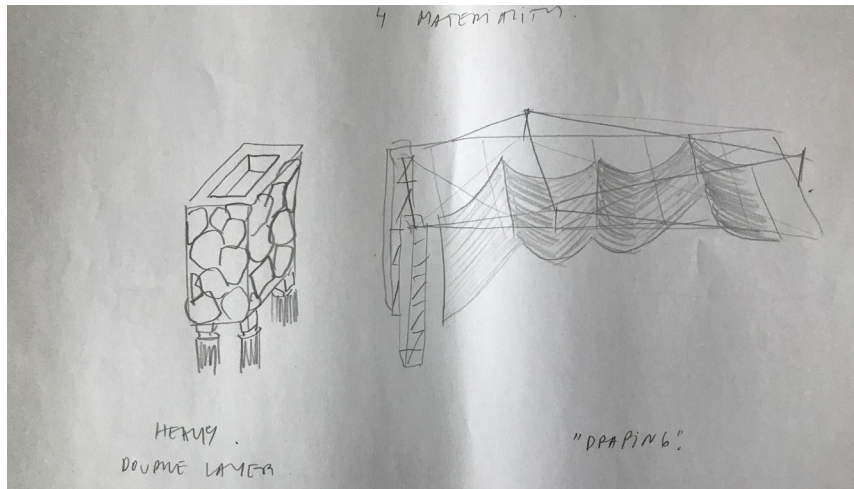
Have as much non-fixed elements for maximum capacity of resilience and adaptation to both site conditions and programmatic changes



"Stuff" analysis from 1st BT workshop, Autumn 2021

Materiality

As majority of building stock is being demolished in Binckhort, there is 0 real opportunity to exercise effective reusability tactics for solid-waste material into a new reassemblage



The planned venue has a dual construction language: one tectonic, the other stereometric. For the last one, reused concrete and rubble can be applied.



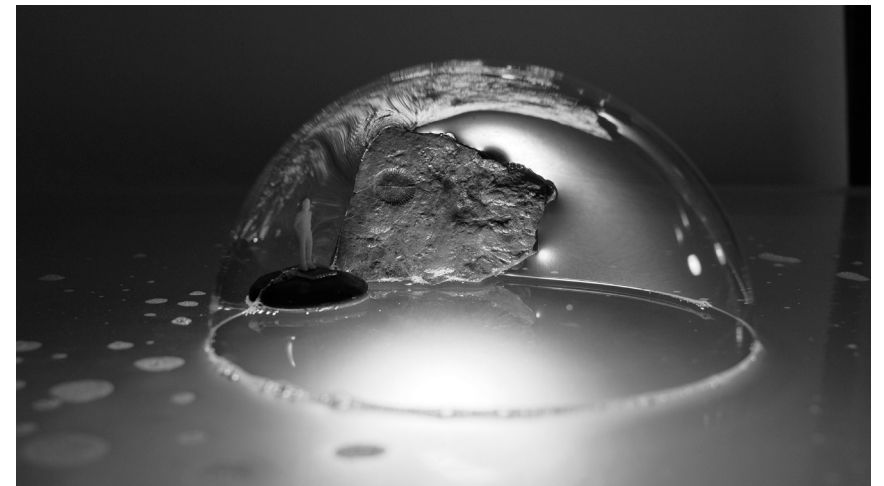
Classics in Paphos. Structure: *stageco*



House by Brandão Costa Arquitectos

Acoustics

The acoustic space is partially aligned with the permanent structure and partially temporal. Further investigation into dynamic acoustic space is in place



As majority of building stock is being demolished in Binckhort, there is an opportunity for a reusability exercise.

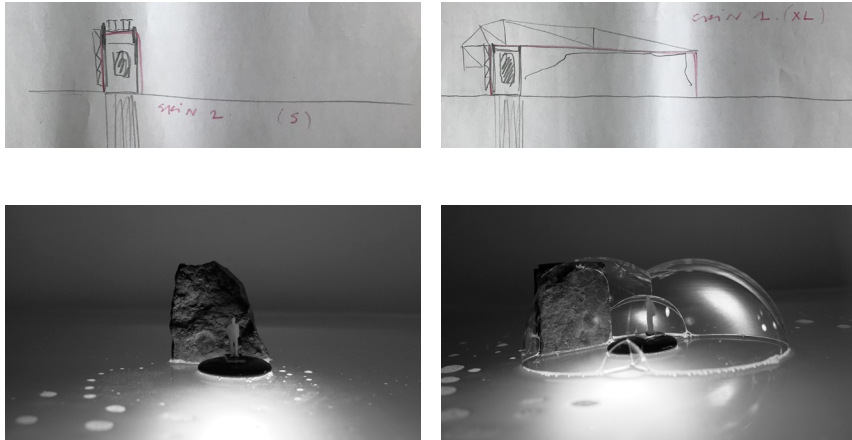


Horst Festival, Belgium. Temporal performance space



Classics in Paphos. Structure: *stageco*

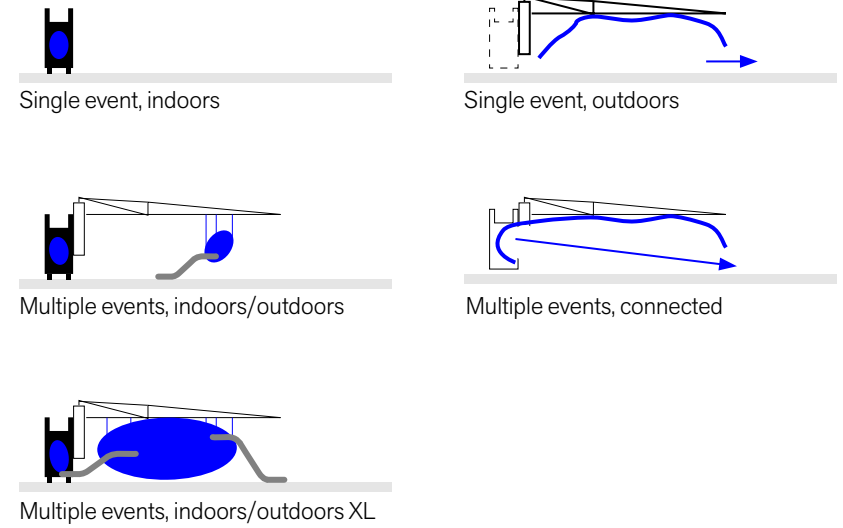
Initial Multiplicity position. Resilience through scaling up-own & using program: temporal-permanent



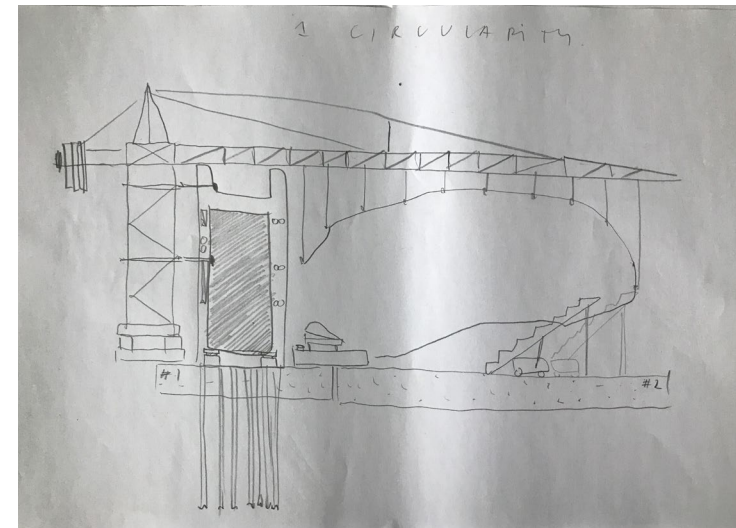
Design for disassembly: WHAT = HOW



Duality of construction



BT Workshop on circularity, initial concept sketch



— What is the role of the city in music? In reverse, what then is the music's contribution to the act of civic performance?

Do Play



Focusing on the development of a conceptual and spatial proposal with the Music Marvel as main subject seems a highly suitable exercise to practice spatial negotiation between the needs of private stakeholders and public desires for 'public-ness'. In other words, to engage with the prevailing dynamics of the contemporary city – critically, academically and professionally. There is one word on agenda: sustainability. It starts with recognition of the fundamental needs of people, the social aspect, and expands to a scale of free-market production, guided by evolving scientific research and development. Professionals across all fields are starting to take responsibility and facing the complexity of this word. I am a 'child of crisis', an actor of a generation who needs to seek fundamental new ways of constructing new experiences. Sustainability is not an

exact science; sustainability is not right or wrong. It is about resource efficiency and finding meaningful ways to construct for deconstruction.

Designer is the 'bridging entity' between market demand and market supply, and we have the responsibility to keep inventing a relevant design language that creates value for the materials within the business model of the circular economy. To find ways to recontextualise materials at the end of their expected life-cycle into a non-linear, circular, cycle of usage. Seducing 'public audiences' with bold illustrations of design practice, so that gradually an aesthetic interest is transformed into an active way of life. In short, connect performance with business.

The graduation project is not posing as a universal solution, but rather acts as an early adopter of circular-

ity in large scale mass-venue planning. The format of a music festival has a lot in common with the goals of circularity, such as the strive to democratize experience, aimed at the majority, not minority. If anything, the design proposal is presented as a transparent snapshot of the current conditions, shared with professional peers for review and examination. By approaching design development as a review of circularity maxims in the field of architectural construction, a contribution to the discussion and further expansion of the applicational potential of circularity in the domain of public space is made.

Half of the people can be part right all of the time,
Some of the people can be all right part of the time.
But all the people can't be all right all the time
I think Abraham Lincoln said that.
"I'll let you be in my dreams if I can be in yours,"
I said that.

—Bob Dylan "Talkin' World War III blues", 1963.

- P5.A Process Documentation
(Research Questions)
(Design Journal)
- P5.B Final Design
(Project Formulation)
(Project Design)
- P5.C Final Reflection

P3 - P5



P5.A Process Documentation
(Research Questions)
(Design Journal)

P5.B Final Design
(Project Formulation)
(Project Design)

P5.C Final Reflection

Research Questions

1. What Performance Typologies?
2. Amplification in music?
3. What aspects of Sustainability?
4. Pavillion as Music Marvel?
5. What are my Quality Goals?

1. What Performance Typologies?

- 1.1 Classical Typologies
- 1.2 Pavillion Typologies
- 1.3 Festival
- 1.4 Open Air Concert Hall
- 1.5 Party Courtyard
- 1.6 Tiny Broadcasts
- 1.7 'Guerrilla' pop-up events
- 1.8 Atmosphere Glossary

1.3 Festival

The following chapter is a full transcript of the complete mass-venue catalogue of the leading global staging company - *Stageco*.

What they have on offer is what has ever been done in the field of festival structures. As they say themselves: "if you can imagine it, we can make it."

Having made inventory of their whole back-catalogue it is unquestionable that their statement has been fully backed up by their action.

This research took a substantial time amount during the second half of the studio, which led to the development of the spatial proposition for the P3 presentation. In the following pages, a detailed technical transcription of each project is presented, coupled with visual references of the described events.

All of this research has been done by the author.

Year	#	Project	Comments	Width	Depth	Height	Type
2004	1	<i>Paralympics Athens</i>	27mH / 42mD round sloped floor built into surface				
2005	1	<i>Weltjugendttag 2005</i>	1200m2 inflatable cloud / 65T with light, sound, ventilation systems				
2005	2	<i>U2 Vertigo Tour</i>	<i>Tail Towers set</i> with two towers supporting the PA and high resolution video screens, plus a low density curved video wall. In all the stage measured an impressive 60 metres (frontage), 23 metres (high) and 20 metres deep. Each stage consisted of 13 trailers of steel structures, built in under two days and dismantled after the show within one day.	60	20	23	Tail Towers
2005	3	<i>The Rolling Stones - A Bigger Bang Tour</i>	Three stage sets were manufactured to fulfill the global tour schedule, based around Stageco's tower and trusses system, with a scaffolding and deck and floor system. The base structure, balconies (accommodating 400 VIP members of the audience within the stage), stairways, lift and task arm elements of the stage were all tailor made in Stageco's Belgian fabrication facility. This created a 62 meter wide by 27 meter deep by 26 meter high structure that required 34 articulated trailers to transport the steelwork of each of the three sets.	62	27	26	Tower & Trusses
2005	4	<i>Gesundheitsbox</i>	4000m2 scaffold box in 2 levels				Scaffold
2006	1	<i>Bon Jovi - Have A Nice Day Tour 2006</i>	54 metre wide, 18 metre deep, 20 metre high Stageco structure (Towers & Trusses) and floor system (scaffolding & decks) with tailor-made top structure trusses, facade panels and band "trofette". Stageco built three sets, each requiring 10 crew and with a total of 30 trailers of equipment on the road for the tour. Bon Jovi did a complete trial build at Stageco's Tildonk yard for 10 days, with a 24/7 schedule for programming the video and lights.	54	18	20	Tower & Trusses
2006	2	<i>Robbie Williams - Close Encounters Tour 2006</i>	There were specific constraints to the structure, it needed to be built within 24 working hours and dismantled and loaded onto its 14 trucks in 12 hours. Two identical staging systems were built to ensure the light touring schedule could be met, while one of the stages is in use, its twin stage would be either on the road or being built / dismantled. This allowed a swift installation of decoration, lights and videoscreens. Other specifications were an outrigger for the main PA cluster had to be integrated in the Scorpio, but it had to fit into the overall look of the main structure. We also had to find a way to get Robbie Williams up on the Scorpio, so a single person elevator and complementary staircase and catwalk were designed and integrated. The Scorpio structure was designed to carry a rigging load of 9 tons and to withstand a wind speed of 72 km/h in use and 130 km/h out of use. Then the complete package of calculations and drawings were sent to the German TÜV for final approval. The stage and equipment was designed to fit 40ft sea containers allowing it to be shipped to Australia.				Scorpio
2006	3	<i>Live Earth</i>	The concerts brought together more than 150 musical acts in eleven locations around the world. Stageco provided 1,500m² of deck, giving 1,000m² of covered stage, plus three delay masts, auxiliary ramps and stairs for both concerts.				
2007	1	<i>Genesis - Turn It On Again Tour 2007</i>	As one of the most visually spectacular bands of their era, they opted for a sculpturally ornate structure built from truss and bristling with lighting technology. Stageco was the clear choice when it came to manufacturing this construction. Genesis are one of the company's oldest clients and Stageco cut its teeth into international touring in the mid 1980s when the band used one of their stages for their Mama tour. In those days they just used scaffolding with a standard festival roof, but for this tour Stageco created a bespoke stage designed entirely around the lights and video production. About 60 percent of this stage is custom built as we had to translate the Studio Fisher drawings into a portable structure. It was a very special structure curved in two planes with the screens fitting into it seamlessly.				
2007	2	<i>The Police - Reunion Tour 2007</i>	For the Police tour, Stageco demonstrated the full extent of its international reach. Stageco Belgium and Stageco US worked together to send out seven identical systems simultaneously to complete the tour. The Police designed their video and rigging around the stage Stageco supplied as they required a system with identical sets which was equally reliable anywhere in the world. Stageco US sent systems to Mexico, Rio de Janeiro and Santiago as well as a partial system to Brisbane. Each system was 11-12 trailers of material (13 sea containers). The band used an adapted version of Stageco's Classic 4 Tower Roof, with an additional tower to take the weight of the extra video.				Classic 4 Tower Roof
2008	1	<i>Bon Jovi - Last Highway Tour 2008</i>	The Boogdak XL is a new variation on Stageco's existing range, combining the capacity of the company's classical 4-tower system with the elegance and convenience of the smaller Boogdak arch roof. In response to modern production specifications, Stageco created this new roof system which made its debut in Summer 2008 on several Bon Jovi dates. Bon Jovi were looking for a standard roof type for their tour but Stageco wanted to invest in a new roof type and offered them the new, original product. The roofs later had their first festival outing at July's T In The Park in Scotland.				Boogdak XL
2008	2	<i>NFL Kick-Off 2008</i>	Custom deck on Columbus Roundabout in Manhattan, NYC				Custom
2008	3	<i>André Rieu - One Night in Vienna Tour 2008</i>	Stageco created a prototype 130m stage which was designed by Pierre Rieu for the two opening nights of the tour, at the Rogers Centre in Toronto in December 2008. It became clear that, while the traditional scaffolding approach worked well indoors, the production would need a rapidly demountable staging system, better suited to touring for the international outdoor shows. Stageco's solution was to use its steel tower-based system, which forms the structure and shape of the "palace". They then developed a new tracking system which allowed the elaborate décor to be raised and lowered swiftly. This had the dual benefits of speeding up the build and the de-rig processes while improving safety, allowing the scenery to be lowered rapidly in the event of high winds. This ensured it complied with international windloading regulations. At 110m wide, 27m high and 30m deep, this is one of the largest stages that Stageco has ever built. The operation had two leapfrogging stage sets, shipped in 110 containers, with one single set of décor travelling from show to show.	110	30	27	Custom
2009	1	<i>Take That - The Circus Live Tour 2009</i>	Stageco supplied the custom designed and manufactured main stage, which was the essential skeleton of the production. The key elements of the stage were six 25m and two 12m conical towers, which represented the poles of a big top — except they were located on the outside of the tent on the stage that housed the support bands. The stage set went through numerous hydraulic moves during the performance and the structure was carefully conceived to carry extensive production elements. The structure went up really quickly, a three-day build, with a crew of 17 working 12-hour shifts, aided by a local crew of 30, erected the steel work before production could move in. The circus tent in the middle that is lifted off the back side of the structure had to be integrated within the whole structure. It wasn't easy to do that because it put different forces into the structure, but it gave us a challenge. This production took up to 20 trucks. Especially the cones took up a lot of volume. Seven trucks contained nothing but steel cones.				Custom
2009	2	<i>Johnny Hallyday 'Tour 66' - 2009</i>	France's leading rock and roll star Johnny Hallyday used a bespoke stage built by Stageco when he embarked on his tribute to American rock culture. Tour 66, Hallyday, who took the inspiration for this tour from symbols such as the Harley Davidson, the American eagle or the iconic Route 66 "shield" emblem, needed a stage which would look impressive on an international scale. The tour was scheduled to play stadia of all sizes in France, Belgium and Switzerland, so it required a flexible touring set that would create a dramatic visual impact in different capacity venues, from the 60,000 seat Stade de France in Paris to smaller venues like the Stade Jules Deschaseaux in Le Havre. Renowned stage designer Mark Fisher of Stufish designed a stage dominated by an enormous mythic bird, wings outstretched and spanning the entire width of the performance area. Beneath it were two pairs of giant cayatids, half human, half avian; in transit, these figures were protected by a structure which doubled as a video wall support during the show, demonstrating the ingenuity and economy of Stageco's engineering. In addition, four robots were built into the stage design to move video screens dramatically during the performance.				Custom
2009	3	<i>Myène Farmer - Stadium Tour 2009</i>					Superroof (extended)
2009	4	<i>U2 - 360° World Tour 2009-2011</i>	At the heart of U2's stunning show, viewed extensively by hundreds of thousands of fans at iconic venues across the world, is the giant in-the-round stage, built by Belgian staging specialists Stageco, supporting 170 tons of giant screens, audio and lighting. The U2 tour began in June 2009, and spanning three years, took the stage and our crew to locations in North America, South America, Africa, Europe, Australia and New Zealand. This is one of the largest stages ever toured in any field of entertainment. The structure's central grid is raised 28 metres high, with legs traversing the width of the famous pitches, while a central antenna reaches as high as 51 metres. The stage's four legs arch out gracefully to embrace the audience, giving unprecedented and extensive access to the superstars, while its gargantuan proportions echo those of the legendary stadia it sits in, carrying the band's performance to every seat in the house. The Stageco steel structure weighs 220 tons, excluding both the 90 tons of steel ballast that travels with each system and the rigging loads. Stageco has produced three identical systems for the band's world tour, each one taking a specialist Stageco team five days to erect (four days of Stageco building plus one day of production) and another two days to dismantle, before being packed onto 38 trucks for transportation to the next venue.			28	

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2015	14	Sziget Festival 2015	The 23rd edition of the Sziget Festival, taking place from 10 to 17 August on 'Obuda'-Sziget and attracting over 400,000 visitors from 95 countries, reinforced once again its reputation as one of Europe's largest and most successful summer music events. The staging made use of the 4-tower stage with ultra large PA wings, was delivered on 40 trucks. The 5,500 m2 VIP platform on its own was quite possibly unparalleled in Europe.	4-Tower	2016	14	Lollapalooza Berlin 2016	One of the challenges resulting from the stringent conditions imposed by the local authorities was the need for extensive barriers and security measures within the park, leading to very long driving and walking distances. Furthermore, the sensible ground decided that the construction work be carried out with absolute precision and care. Substantial ground protection measures were installed well in advance of operations and formed the base for all work involving heavy equipment.				
2015	15	German Unity Day 2015	In Frankfurt Stageco erected a 53m long, 13m wide and 14m high steel construction on Frankfurt's Untermain Bridge as a sub-structure for approximately 600 square metres of LED walls from Screen Visions. Emulating the Frankfurt skyline, this solution to relieve the chequered history of German partition and reunification. Given that festivities of this kind are not possible without a stage, Stageco built the Hit Radio FFH stage at the Alte Oper, along with an array of auxiliary structures. Here, Stageco used its Micro Arch system, the perfect solution for this location. German Unity Day was also celebrated to the full at the Brandenburg Gate in Berlin. The idea was to achieve the most transparent effect possible for the stage construction to allow good views of the Brandenburg Gate in the background. The Micro Arch system came into its own once again, this time in a transparent version, with two different Stage-co band roofs	53	13	14	Micro Arch	2016	15	Dour Festival 2016	In addition to the stages, Stageco also constructs a number of key site structures, such as the entrance, a bridge, camping towers, watch towers and signage towers. For 2016's edition (July 13th-17th), the Last Arena main stage was Stageco's standard Boogdak model with an upstage extension, video portals and large front of house tower, equating to nine trailer loads of equipment. The Red Bull Elektropedia Balzaal stage had a seven trailer black steel installation comprising a huge video and lighting portal with a DJ stage, a pair of videolight spiders and a FOH tower. A further 12 trailers of equipment were used for the indoor stages and across the site. Overall, the building time amounted to two weeks and five crane days.	Boogdak
2015	16	Lollapalooza Festival 2015	Stageco was commissioned with building two 4-tower stages with ultra-wide branding portals and an array of subsidiary constructions such as PA towers, entrance portals and deco structures. Three crews worked shifts with 19 staff and around 60 helpers to assemble and install 600 tonnes of staging material	4-Tower	2016	16	Global Citizen 2016	Global Citizen introduced its festival to India for the first time in the MMMDA Grounds in Mumbai on November 19th, with Stageco extending its support in the wake of the festival's successful 2016 New York edition. A 25m wide x 15m high 4-Tower festival stage with PA wings. A regular festival roof was the most appropriate and flexible solution to adapt to a design that was still being progressed when our materials were in transit. The brief also included four towers in the field to accommodate lighting, delays and video, and two mix risers. The MMMDA site was unusual in that it was an open space in the middle of the banking district.	25	15	4-Tower	
2015	17	100 Jahre Mercedes Werk						A major focal point of the event, the portal measured approximately 34m wide and 12.6m high, with a clearance height of around 11m. Two 6.2 x 2m housings for the projectors were made from Layher 'Allround' scaffolding and mounted on the portal. They were enclosed with sheeting on three sides, and faced with custom-made silver grey gauze. The structure weighed roughly 50 tons and was assembled by a five-man crew within three days.				
2015	18	Stars and Cars 2015	Stageco built a 3-Tower festival stage in the tiered seatings of the stadium. The stage set was specially designed and the required load distribution was very complex.	3-Tower	2016	17	Hannover Motor Show 2016	The Royal Munt opera house in Brussels is one of Belgium's most prestigious entertainment venues. When it was decided that the building had to undergo a long period of renovation, beginning in May 2015, a plan to provide a temporary structure for its rolling programme of event productions was put in place, using the tour & taxis site along the Avenue du Port as its location. Stageco was brought in to design a new technical grid and 1,100-seat grandstand, however, a number of issues had to be taken into account, as season tickets and individual event tickets had already been on sale for some time, the seating plan of the original grandstand had to be maintained. Not an easy task, as the new tent structure's dimensions were different to the old one. With the new tent structure (the Muntpaleis) being a last-minute solution, there were some problems relating to height clearance, yet the technical grid had to be as high as possible as the scenery for several productions were already manufactured. Stageco's solution was to build the grid using Stageco 750 towers and 1400 trusses with 1050 trussing positioned on top (not integrated) of the 1400. The grandstand was created using scaffolding providing sufficient amount of stairs, technical platforms and a general entrance underneath the highest part of the stand.			750 Tower 1400 Truss 1050 Truss	
2015	19	Canon 2015	Canon Expo 2015 across 15,000 square metres of space at the Grande Halle de la Villette in Paris. 3 trucks		2016	18	Muntpaleis					
2016	1	OPEL Air&Style 2016	The size of the jump was also larger this year: the ramp system – using 258 tons of Stageco steel and consisting of the InRun and Landing area – had an overall length of 100m and a width of about 23m. The highest point of the structure, the starting gate, was around 40m high. The project required seven sea containers of equipment to be shipped from Belgium, joining 12 trailer loads from Stageco's Colorado Springs base. The equipment included more than 320,000kg of scaf-folding which was assembled by a combination of American and German crew. Together, they built the ramp and two elevators, an 8m x 8m VIP platform at the top and a bi-level starting gate. Taking around 12 days to build, the 52.7m high structure was one of the tallest Stageco has built to date. Formation World Tour, relies heavily on customised equipment and R&D know-how from Stageco's international offices. Measuring 22m high x 16m wide x 9m deep, the crucial elements at its core have been custom-manufactured and supplied by Stageco in partnership with Belgian motion control systems provider Wiceorations. The Monolith is embedded in a 62m wide x 35m deep stage. Four steel systems leapfrog each other on the road, with each requiring 23 trucks and a dedicated crew. Meanwhile, three two-man teams travel with the Monolith structure between the four systems. The system provided by Stageco also include sliding grids on top of the video box and a circular track on which the structure travels 360° in around 4 minutes. 'At 22 metres high, this incredible video box is similar in size to a small apartment building but it also needs to completely revolve, and within it, the video screen has to split into two halves at certain moments during the show, leaving a gap of around seven metres. Throughout the tour, Stageco is also supplying towers for the main and side PA hangs, the rear lighting, spot and delay towers, and the front of house risers.	62	35	22		2016	19	Carcassonne's Seasonal Celebrations		
2016	2	Beyoncé - The Formation Tour 2016	This time around, Stageco is building the sub-structure for the 65m wide x 25m deep main stage, the 30m long B-stage runway and a C-stage on which the band play a short, intimate set amongst the audience at the rear of the stadium. Stageco is also responsible for the steel structures that support the central video wall and side screens, the rigging points, PA and spot towers, front of house risers and camera platforms.		2017	1	Air-Style 2017	The combination of sporting action with live music and parties became a trademark, and is still the model for many events worldwide. The festival successfully changed its location in the Tyrolean city of Innsbruck, Austria last year from the Bergisel Stadium to Olympiaworld, where the already high production values were raised even further for 2017 along with the introduction of female competitors for the first time. During the last 10 days of January, Stageco Deutschland's crew of 50 set up a range of structures for 2017's two-day event – the 34th edition, held on February 3-4 – such as the iconic, 100 metre long snowboard ramp. Standing 45 metres high and 25 metres wide, the ramp was marginally larger than last year's model and was created with 310 tonnes of Layher Allround scaffolding. The crew also built a Stageco 2014 system for the outdoor (main) concert stage adjacent to the ramp, while also constructing four lighting towers along with a number of other scaffold structures. Working to a very tight schedule, the team from Stageco built a triangular catwalk with all of its components including chambered decks prepared using CAD drawings. Further temporary structures were constructed by Stageco for the event, such as towers, additional platforms and an 80 metre long cable track for a 'flying camera'.				
2016	3	Coldplay - A Head Full of Dreams Tour 2016-17	Norway's capital city, Oslo, hosted the X Games for the first time, on February 24-28, and Stageco was proud to be involved at its site in Tøyen and the Oslo Winter Park in Wyllerfjella. For the Big Air ski events in Tøyen, a large, 108m x 21m scaffolding ramp was installed, rising to a height of 42m, with a starting gate at the top of the run. The 12-day set-up also included building a video screen structure, four sound and lighting towers, two elevators, light trusses, stairs, a hut for VIPs and judges, and an additional complement of smaller scaffold structures. Requiring 16 trailers, the equipment was loaded out within six days by a local crew of 30 managed by 10 supervisors. Twenty kilometres north-west of Tøyen, the Oslo WinterPark site in Wyllerfjella presented the Snowboard Superpipe competitions, for which Stageco, with its four-person team and 12 local crew, mounted 12 lighting poles by helicopter on the hills each side of the half pipe – access was impossible by cranes – and built four extra poles for sound and lighting at the arrival area over the course of six days. A starting gate and platforms for cameras and VIP tents were also part of the five trailers' worth of equipment deployed at the site.		2017	2	Mia's 2017	For the latest edition Stageco built all the necessary structures including two Micro-Arches, a Genesis or Band roof – a lightweight steel construction with transparent skins– and the 1,300 square metre stage itself, based on Layher Allround scaffolding. In addition, the Stageco team constructed the main PA towers, a pair of video/PA towers and a spot tower with an eagle's nest. Welcome 2017 extended for two kilometres with breathtaking fireworks ushering in the New Year.			Micro Arch Layher Scaffolding	
2016	4	X-Games 2016	Stageco built a Boogdak XL arch-roofed stage for the Main Stage and Stage 2, at opposite ends of the park. They both measured 51m wide (a 26m roof span plus the wings), 21m high and 20m deep, and another 20m of platform was built behind each stage to accommodate technical areas, load-in docks and artist preparation. Rammstein toured with a very heavy rigging load this summer, requiring the Main Stage roof to be reinforced to compensate for it. In addition, the VIP and camera platforms, front of house risers and delay towers were also supplied and Stage 3, built inside a marquee tent, was a 20m wide x 16m deep scaffold structure with truss towers and a platform.	26	20	21	Boogdak XL	2017	3	Berlin welcomes 2017 - New Year at Brandenburg Gate		
2016	5	Download Festival Paris	Together with IF Group, engineers for plane load-bearing structures, Stageco's team developed a suitable concept, and planned and built the special components all within the space of 10 weeks. The final venue was not accessible for assembly and disassembly. This meant that 10 days were spent mounting the circus stage on to the 50m x 30m pontoon on the Mittelland Canal next to the Volkswagen power plant, before moving it to the eventual venue by barge. The stage construction – 33m high with a performance area of 1000m² – was fixed to the pontoon by means of 190 connecting links welded to the pontoon itself. Structural analysis showed the need for 400mm diameter steel cable anchoring, which could only be installed by crane. These cables were attached to 13.5 tonne clevis fasteners. A polyester fabric coated on both sides proved ideal for the roof construction, given its size and geometry. The 3,500m membrane weighed four tonnes.		2017	4	X-Games 2017	Each layer of the globe consisted of Stageco substructure, the ARS circle truss and All Access' dressing. All of these elements came together to create a beautiful structure filled with exciting opportunities for one of a kind features.				
2016	6	Autostadt Summer Festival 2016	The team built a 25m x 10m festival stage with a 22m x 4m upstage covered backstage extension as well as access ramps, a front of house control tower and six delay towers. An eight-strong Belgian crew built the various structures from four trailer loads of equipment over a three-day period. Stageco Belgium also provided a multi-story open summer terrace built on different levels around a statue on the Hogeschoolplein to create an outdoor location for social evenings and workshops, as well as being a place for people to relax on sunny days.	25	10			2017	5	Wrestlemania 33		
2016	7	Het Groot Vlotief	The team built a 25m x 10m festival stage with a 22m x 4m upstage covered backstage extension as well as access ramps, a front of house control tower and six delay towers. An eight-strong Belgian crew built the various structures from four trailer loads of equipment over a three-day period. Stageco Belgium also provided a multi-story open summer terrace built on different levels around a statue on the Hogeschoolplein to create an outdoor location for social evenings and workshops, as well as being a place for people to relax on sunny days.					2017	6	Hard Bass 2017		
2016	8	Guns N'Roses - Not In This Lifetime... Tour 2016-17	Stageco's standard three-tower roof to be heavily modified in terms of its size, the position of the towers themselves and finishing, with additional scaffolding walls and structures included within the package. Two satellite sheds were also provided to house production as well as a backstage platform for the changeovers between 25 acts.	4-Tower	2017	7	Classics in Paphos	Stageco Nederland built two huge dance decks, calculated to cope with a full-capacity dancing crowd (see below). The stage was a scaffolding structure which featured an entrance for the DJ teams who battled against each other during the show. The load-in was managed by the Stageco team across five 12-hour shifts while loadout was completed in two equivalent shifts.			Micro Arch	
2016	9	Tous à Toulouse - Fête de la Musique 2016	Stageco's standard three-tower roof to be heavily modified in terms of its size, the position of the towers themselves and finishing, with additional scaffolding walls and structures included within the package. Two satellite sheds were also provided to house production as well as a backstage platform for the changeovers between 25 acts.	3-Tower	2017	8	U2 - The Joshua Tree tour 2017	Supplied and constructed by Stageco Deutschland, the Micro Arch roof system was used at the Berliner Philharmoniker Orchestra's annual Europakonzert on May 1st in the Cypriot city of Paphos, the birthplace of Aphrodite and a 2017 European Capital of Culture. Due to the provision of a variety of roof skins, the musicians were able to playing the shade when the sun was high at midday, and because the Micro Arch's construction is less material-intensive than others, transport costs were kept within very reasonable limits, requiring just three containers to ship the roof. The transparency of the system allowed the audience to not only enjoy the orchestra on stage but view also the unique scenic backdrop of Paphos Castle (originally built as a Byzantine fort to protect the harbour), however, because the stage was built directly on the seafloor, parts of the substructure had to be mounted underwater.				
2016	10	UEFA 2016 Fanzone	Largest EDM festival in northern Germany. Every year it runs under a different motto, which provides the visual frame-work for the event as a whole. The 2016 theme was 'A Trip to Asia'. The 40m wide x 13.5m deep supporting frame was 21m high at its highest point, and a real eye-catcher at the event. Additional structures came in the form of two double-storey food and VIP platforms measuring 60m x 7m. Originated with drawings from Stageco's Berlin office, it took five days for a team of 35 to assemble everything. Within three days of the four-day event ending, the 270 tonnes of steel had been dismantled and taken away on 14 trucks.		2017	9	Life Ball 2017	Willie Williams devised a 30.5m x 13m screen. "We had PA hanging in front of it," recalled Berry, "and then at Desert Trip there was this massive screen behind a bunch of black boxes, and it all looked a bit disjointed. So when Willie decided that he wanted to go 61m wide by 14m high with the screen for this tour, we needed to find another solution for the sound." The solution was to devise a cantilever system. The four 18m long cantilever devices above the screen are supported by a network of portal structures that are anchored with ballast to enable the long reach. Stageco provided some rigging points for Tail for the header but the biggest collaboration was with PRG because this screen requires a different approach. The Spaceframe makes the wind bracing quite simple, because although the overall load remains the same, the Spaceframe requires less in the way of rear supporting structure from Stageco. For previous screens, Stageco had to provide support everywhere and add a lot of horizontal bracing. Now the Spaceframe takes care of much of that and has fewer connections to the steel. A shadow of the tree also extends out 23m on a B-stage thrust from where the band start the show before moving to the main stage to perform The Joshua Tree album as a whole piece, against a backdrop of visuals mostly created by Anton Corbin. Five systems were built by Stageco, each requiring 11 trailer loads of black steel and rigging equipment while another five move the scaffolding.			Micro Arch	
2016	11	Airbeat One Festival 2016	Being an old venue (opened in 1928), the Olympic Stadium does not have its own modern broadcast facilities and this presented Stageco with the task of creating stable support structures for the TV cameras present in the field, the grand-stands and elsewhere around the stadium. A large amount of flooring was also provided in the stands for the broadcasters' control cabins. Also included was the construction of two large scale (22m x 8m) video screen support structures to aid the audience, as well as a 50 tonne cable bridge to enable the distribution of 80km of cable into the stadium. Working in conjunction with the broadcasters, Stageco assisted with the installation of three 20m high SuperTowers – built from three trailer loads of black steel – in order to accommodate a range of attractive shots from a pair of fly cams. Another big hit was the honouring of the medal winners outside the stadium at Metapalaza. For this, Stageco used 340 tonnes of Layher scaffolding to build a 75m x 8m wall, integrating 'finger' constructions previously seen on a Johnny Hallyday tour, while the floor borrowed the outline of the tournament's medal design.	Super Tower	2017	10	Matapaloz 2017	Stageco deployed a specially reinforced roof to bear the massive load of the technical equipment, and close collaboration at the planning stage with respect to all static calculations was vital in order to realise this exceptional stage design. The Stageco crew also built five single delay/spot towers within the event grounds. Around 260 tons of material were deployed in total. Around 40 crew members assembled the stage in just four days, with dismantling taking two and a half days.				
2016	12	2016 European Athletics Championships										
2016	13	David Gilmour - Rattle That Lock 2016	4-Tower model minus its wings, due to the square not being wide enough to accommodate them. There was one major consideration: the roof was raised by four metres to allow for Gilmour's circular video screen	4-Tower								

2017	11	Robbie Williams - The Heavy Entertainment Tour 2017	Extending the pugilistic theme, the stunning 61m wide x 20m high set designed by Es Devlin is built with a traditional Stageco SuperRoof that is framed by two giant Roy Lichtenstein Pop Art 'paw' cut outs and bookended left and right by Robbie Williams' signature 'box' figures. The set itself is built with a combination of steel and aluminium. Stageco has also supplied and built the main FOH and delay tower structures on the field throughout the tour.	61	20	Super Roof			
2017	12	Vasco Rossi	Stageco and PRG came together to develop six custom made portals for the video screens. Each tower required for the portals measured 7m x 7m x 18m. Four of these portals were automated via a Wirecations controller – they each connected to a 15m x 9m screen and were positioned either side of the main central screen. Along with the screens, power generators and light lifting fixtures, the portals – which were connected to two 52m long rails to cover the whole of the stage – weighed approximately 25 tonnes. A Stageco crew of eight, with local support, took five days to load in and set up for the show. This was boosted to 10 Stageco crew for the three-day load-out. Just days before the British Grand Prix at Silverstone, parts of central London shut down in order to host the Formula One Live event around Whitehall and Trafalgar Square. For the first time in motor racing history, all 10 F1 teams gathered outside a race weekend to race around the capital's streets, as thousands of excited sports fans looked on. The July 12th event was crowned by a special show at the foot of Nelson's Column that featured the work of Stageco.						
2017	14	Jeff Lynne's ELO	The big talking point of the night was the breathtaking, 16.5-tonne spaceship hovering above the band. Created by Total Fabrications, the spaceship was installed by Stageco's team halfway up a 27.5m high tower that was anchored to a concrete base and formed from a number of different Stageco tower formats, decreasing in width from the 5.6m section of XXL tower at the bottom, and linked by special adaptor brackets. The spaceship doesn't move or fly although with all the effects, it does give the impression that it'll take off at any moment! Behind the spaceship was the rear, curved wall of eight towers providing support for the main upstage video displays as well as lighting. The towers were connected by a mix of straight and swivel truss sections, and topped by shaved beams that enabled cable to pass through via a pulley and hoist system. Stageco built a video screen portal at each side of the 53.5m wide stage using 750 tower material, the front of house riser and numerous additional platforms.						
2017	15	Parookaville 2017	Once a year, in mid-July, Airport Weeze in Germany – a former British RAF base – is transformed into Parookaville: an off-the-wall electronic music festival landscape exuding joy, love and madness, and one that is aiming to match the success of Tomorrowland. The biggest project taken on so far by Stageco Nederland, it saw the crew work for 18 days, during which it built the 110m wide x 26m high main stage and numerous other structures, using over 1,000,000kg of steel. Since Stageco's first encounter with the festival, we have been supplying our versatile 25 x 10 festival roof for the main 'Prison' stage with an expanded rear loading dock (31m x 14m) , a FOH tower and other structures. This year we worked closely with the client on the site plan and the positioning of the stage as it had to fit perfectly within the larger site layout – another company was responsible for the scaffolding framework on which the decor was attached.	110	26				
2017	16	Alcatraz Hard Rock & Metal Festival 2017	On Sunday 30th July market square was transformed into a multi-media site, featuring historical projections alongside a military orchestra and solo musicians, with performances by actors and public figures with links to Passchendaele. The 20m x 18m main stage featured a curved transparent roof and thrust, front of stage ramps, a choir riser and PA towers. Other structures built by Stageco included an eight-sided B-stage, two spot towers, seven projector towers of varying sizes, a VIP deck with stairs, a BJ-roof for the Royal Box, the FOH riser and PRM deck, cable bridges, three additional PA towers and, for TV cameras, a 20m x 1m rail track and numerous decks. An event at the Tyne Cot Cemetery, the largest Commonwealth War Graves Commission cemetery in the world, followed the next day. Again, Stageco Belgium was responsible for the event's structures: two 18.53m x 6.21m media stands, covered with crystal rods and skins, three camera decks, a loading dock and stairs over the cemetery wall.	25	10				
2017	17	World War I Commemorations 2017	From the outset, the band's main wish was for a tidy and streamlined production, with sleek contours but absolutely no hint of behind the scenes steelwork. Spreading 60 metres wide, the resulting set features four monolithic 22m high x 11m wide LED video screens, a 26m long T-shaped catwalk and B-stage, and a bespoke, cantilevered, transparent-skinned 'rooftop' -designed and fabricated by WI-Creations- that hovers above the band. Each of the roof's 12m sections accommodates nine Martin intelligent lights that are key to Patrick Woodroffe's lighting design and travel in custom-built beams. Interconnected to the black steel superstructure of two of the four central video towers, the band roof was flown on the indoor arena shows and continued to be a major part of the performance area, with modified construction. As usual with productions of this scale, Stageco handled all the scaffolding and stage decking requirements, and also supplied and built the spotlight towers, platforms and covered front of house risers – for this tour, lighting/video control and sound each had their own riser.	20	18				
2017	19	Les Insus? Concert 2017	4-Tower roof (minus a back wall), four delay towers, a pair of front of house risers and four camera platforms, as well as the Mojo crowd barriers.			4-Tower			
2017	20	Maanrock 2017	As well as building the 20m x 8m Izerenleen stage, Stageco constructed 10m high scaffolding walls all around and a large, 18m x 12m VIP deck with floor heights of 2.5m and 3.5m . The Tuesday and Wednesday saw a 14-strong crew for the load-in at Grote Markt. Here, the team built a 25m x 10m stage tightly around the majestic Town Hall (Stadhuis) of Mechelen, adding a completely covered 26m x 4m backstage area . The brief also included a two-storey 4m x 4m FOH platform , a pair of 6m x 4m 6m video walls, and a 7m x 4m PRM deck.	20	8				
2018	1	Soprano Concert	One of France's more interesting contemporary music artists is singer and rapper Said M'Roumbaba, who performs under the stage name Soprano. After earning fame as a member of rap group Psy 4 de la Rime, 38 year old Soprano first stepped away in 2007 to develop a solo career that has most recently led him to the multi-purpose Orange Velodrome in his home city of Marseille, where he played to more than 55,000 ecstatic fans on October 7th at the close of a nationwide tour. Stageco France was delighted to supply and build a full stadium pack-age for the client. The package consisted of a 40m x 16m Giant Arch with two PA and video screen portals, each on four towers, 1200m² of decking including a front extension podium into the crowd, two FOH risers, four delay towers and four platforms for video cameras. Twelve trailers of gear went into the four-day construction by a team of 10.			Giant Arch			
2018	2	Beyoncé & Jay-Z: OTR II	"a blend of art installation, meets an opera, meets a pop concert, meets a dance piece, meets architecture." His brief, he says, was to base the design around the story of two lovers who "become separated and spend part of the show ringing round each other and then... are reunited." From Stageco's perspective, one of the first ingredients of Mr. Lipson's design to be confirmed was the integration of four, 11.5m long cantilevers that suspend the PA above the stage, in much the same way as do on Swift's production . While the overall stage measures 60m wide and 27m tall at its highest point, the central performance space (standing 16m wide and 12m high) is divided into four floors of five boxes, à la 'Celebrity Squares' and functions as both the main scenic element and the crucial structure that supports a scissor lift, three quick lifts and the tracking video system that is cantilevered into place. Also contained here are two star houses, built by Stageco with scaffolding, that are used as habitats for the artists . Scheduled to run until it reaches Seattle on October 4th, the tour has been carrying three Stageco steel systems, each requiring 17 trucks and a crew of 14. On average, the build takes three days at each venue and the Stageco crew complete the load out by 7pm on the day following a show. The trucks also contain materials for building the front of house riser and delay towers.	16	12				
2018	3	Taylor Swift - Reputation World Tour 2018	Standing at a vertigo-inducing 30 metres high, this is one of the tallest structures ever built by Stageco. The V-shaped wall supports video screens and points downstage, giving the opportunity to deliver immense sight lines. There are also I-Mag screens to the sides and even in the 'cheap seats', Taylor is always in view. Although the stage space is 55m wide, because each side of the 'V' is 33m wide, it means she has a span of almost 60m of performance space to work within, and that's before she ventures out on to the other two stages. Following a similar concept employed by Stageco for U2's Joshua Tree stadium tour last year, Eighth Day Sound's PA is hung on six radiating cantilevers, three per side, that extend 13m from their towers, with the off-stage pair positioned 2m lower. Due to the lengths of the PA arrays, the cantilevers are higher and further downstage than their effect that adds further excitement to the show is a flying gap that occurs twice during the show. Taylor is on zip wires that are connected to the front of house towers. It took quite some time to get them precisely engineered for this purpose. Stageco is fielding four steel systems, each transported in 19 trucks. For most of the world tour, two teams of 14 are on the road.	55					
2018	4	Matapaloz 2018	For this open-air event at the Leipzig fairground, Stageco Deutschland provided a 4-tower stage, massively reinforced in order to withstand the enormous roof load resulting from the event's enormous lighting (LEDs and sound). Stageco was also responsible for assembling delay towers with gondolas for the follow-spot operators, along with FOH and other constructions on the infield.						
2018	5	Eminem Hannover	Stageco Germany in close collaboration with its longstanding partner Live Nation, modified a 3-tower stage and a delay tower for video and sound before assembling it on the infield.			3-Tower			
2018	6	Ultra Europe Festival	This was also Stageco's first time of operating in Croatia. An extra-high 4-tower stage was erected as a support structure for the set planned by the client. Promomlogistica d.o.o., featuring LED walls. The Stageco Deutschland stage provided a performance area of 26 metres and a clearance height of approx. 17 metres. In addition, the clients themselves erected scaffolding walls to the left and right of the stage to extend the set. This resulted in a construction with an overall width of approx. 52 metres, covered from floor to roof with LED screens. When planning the work, it was necessary to factor in the highest conceivable wind loads due to the strong winds commonly found in the region around Split.				26	17	4-Tower
2018	7	Airbeat One 2018	Big Ben, Westminster Abbey and Tower Bridge stood in Neustadt-Glewe for four days. The three major London landmarks formed part of the impressive design for the main stage at Airbeat One 2018 in Mecklenburg-West Pomerania. The sheer dimensions of this construction are impressive: 130 metres wide and 40 metres high. In addition, the crew, numbering 76 members at peak times, were to build two other stages, the Q stage and the Transmission stage. The latter was constructed inside what the organisers claim to be Europe's largest transportable circus tent, The Arena, measuring 30 metres high, with 5,000 square metres of floor space. Stageco was also responsible for erecting numerous auxiliary scaffolding structures, including VIP platforms and FOHs, along with food trucks. The spectacular design of the main stage at Airbeat One 2018 was truly impressive, but the figures from the Stageco Deutschland packing list are also remarkable: If, for example, all 54,000 construction components were arranged end to end, they'd extend for over 84 kilometres, equivalent to an hour's drive from, say, Berlin to Frankfurt/Oder. Overall, more than 800 tonnes of material were transported on articulated lorries to the glider airfield in Neustadt-Glewe. The project time for the four-day festival, from the start of construction to the end of disassembly, was three weeks. True to the Stageco maxim "If you can imagine it, we can build it"						
2018	8	Parookaville 2018	80,000 Dance music fans gathered at Airport Weeze (DE) for the Fourth edition of Parookaville. Stageco Netherlands returned for the third time to Parookaville and build over 100 different constructions including the 200metre wide mainstage. Nearly 800 tons of equipment in more than 40 trailers was brought to the festival. 875 tons of concrete was used as ballast in the structures and it took us 21 days to build the whole festival. Only half of that time was needed to loadout.						
2018	9	Electro Magnetic	The industrial monument Völklinger Hütte, a former ironworks, was declared a UNESCO world heritage site in 1994 and, thanks to the 'steel' testimonies to its past industrial use, provides an impressive setting for all kinds of events. The location has hosted the Electro Magnetic electro festival since 2012. Stageco Deutschland provided the substructure for the set, consisting of 16 black steel towers and a DJ stage with a transparent roof. The 16 towers, differing in height, were erected rather like totem poles. The first row was assembled on a former track bed and several metres higher up, and the second row along the axis of the DJ stage. Working hand in hand with the lighting and set crews, the Stageco team equipped the towers and erected them one after the other. This way, assembly was completed within a very short space of time.						
2019	1	Stageco gets Swedish House Mafia to float	Stageco Deutschland developed a cantilevered stage construction that allowed the three Swedes to seemingly "float" during their performance. The 19 metres wide and 11 metres deep cantilever truss made from solid steel joists was integrated into a video wall with a width of 50 metres and a height of 17 metres. The load-bearing tower for the platform was located behind the video wall. There was no ceiling construction, for example via chains or steel cables. In conjunction with the video sequences (e.g. a starry sky), it seemed to the audience as if the DJs were floating on air. For Stageco Deutschland, this was the first construction of this kind, despite many years of experience catering to special requirements on the part of its customers. The only challenge, albeit a minor one, was the limited time frame available for assembly. The structure was built within 18 hours by two crews of eight, working day and night shifts. A total of 70 tons of material, including 10 tons of customised components especially for the Swedish House Mafia performance, were transported to Stockholm on three trailers.	19	11				
2019	2	Muse European Tour 2019	As with many stage designs nowadays, a conscious decision was taken to dispense with a classic stage roof in favour of a gigantic rear wall made of LED walls. This called for 14-metre long cantilever trusses to bear the immense weight of the sound and lighting equipment without hindering the spectators' view. The semi-circular shape of the steel construction meant that a large open set could be created, allowing a maximum number of stadium visitors an unobstructed view of the stage show. Furthermore, the stage area, measuring approx. 1,500 square metres, provided enough space for the production's extravagant set structures. The stage, developed and constructed by Stageco Deutschland, also carried the convex LED wall, which was approx. 13 metres high and 40 metres wide. The overall structure was just under 30 metres high and 55 metres wide. In order to achieve the tight four schedule, two stage sets were deployed, each with 14 Stageco Deutschland crew members. The 375 tons of staging materials for each set were transported on 17 trailers, respectively.	55	30				
2019	3	Stageco on its 19th mission for Life Ball	Despite a relatively small budget, they always manage to produce a splendid setting for their charity event, during which they celebrate life on Vienna's town hall square and inside the town hall.						
2019	4	Ehrlich Brothers Düsseldorf	"Flash—The Stadium Show" on a 60 by 20 metre stage. With this performance, which attracted 40,211 visitors, the duo set a new world record for the "most spectators at a magic show", breaking their own record set in 2016 for an appearance at the Frankfurt Commerzbank Arena attended by 38,000 visitors. The 60 metres wide and 20 metres high customized solution consisted of a tower as a supporting structure for several LED walls with an overall surface area of over 1,100 square metres to give all spectators the best possible view of the magic show. The magicians also presented several of their illusions on a catwalk in the midst of the audience. The magnitude and complexity of the magic show and the recording of the event for a DVD production and TV broadcast called for extensive preparation and rehearsing of the show elements. The assembly phase was therefore subject to a very tight schedule. Detailed consultation and the prompt completion of each work section, from rigging, lighting, sound and set décor, down to the teams for the special effects, pyrotechnics and technical requirements for the magic tricks, were vital to ensure a smooth overall workflow. In order to adhere to the stringent timetable, Stageco Deutschland deployed a 30-strong crew to assemble the special structure in just three days.	60	20				
2019	5	Airbeat One 2019	One of Stageco Deutschland's responsibilities was to erect the impressive main stage based on the Taj Mahal. Whereas last year, the festival attracted a maximum of 55,000 visitors a day and booked a total of 170 acts, attendance this year totalled 195,000 over four days, with over 200 DJs and acts. A complex supporting structure was needed to reproduce as accurately as possible the impressive historic site with its very intricate statics and wealth of detail in the form of countless pillars, minarets and the characteristic dome. The construction had to bear the load of the simulated facade elements as well as the many video walls. Stageco was able to draw on its wide range of technical options to create the mighty minarets and large wall surfaces, ranging from an XL tower that the Stageco Group had designed exclusively for a German festival, down to a small customized gantry. The versatile pool of construction material available and the transport of equipment from different company branches guaranteed a smooth, reliable and fast assembly and dismantling process. In addition to the main stage at Airbeat One, the crew, numbering over 80 members in peak periods, erected two further stages (Q-Stage and Transmission-Stage), along with numerous ancillary structures, including VIP platforms and FOHs.						
2019	6	30 years of W.O.A	The portal supporting two of the decorative elements came from the stage construction company Stageco Germany, as did the stages named after the festival's motto: Faster Stage, Harder Stage and Louder Stage. Stageco Deutschland also delivered various entrance portals and truss towers for banners, etc. A total of 60 trucks were deployed to transport the necessary material to Wacken.						
2019	7	Rammstein Stadium Tour 2019	Working in collaboration with lighting innovators Patrick Woodroffe and Roland Griel, Wieder's aim to create a dominant architectural statement with a looming steampunk flavour was allegedly inspired by Fritz Lang's 1927 movie 'Metropolis'. Blending in echoes of 'Blade Runner' and 'Tron', Wieder devised a 36m high, 60m wide central tower structure – majoring in Stageco's black steel – that accommodates proud 45m² of automated video screens and moving band platforms as well as flame effects. Although the steel isn't meant to be a feature of the design, it is incorporated in a way that is complementary. While the casual observer may immediately assume that the 55m wide back wall is a large expanse of video tiles, it is surprisingly the home for a massive lighting display. Stageco provided and constructed the rear support structure for this as well as a pristine rear scrim. On top of the back wall, a complete level at 12m hosts large formal 'sky tracer' lights and pyro. Two 23m high, 1.4m x 1.4m downstage PA towers were developed especially for the tour and are the latest additions to Stageco's wide range of innovations. The iconic 5m diameter 'sky pods' travel on a track but, in the original design, two of them were going to interfere with the PA bracket so we had to engineer a tower solution capable of dealing with above average wind loads. After the pod is built on the ground, it is hoisted up the tower on a tracking system until it reaches its final position, allowing the track to become the PA bracket. The bracket then hinges 90° upwards and is then ready for the PA hang to be hoisted and locked. Stageco's work on the tour has also encompassed the supply and building of two custom designed transparent band roof, each supported on four columns that house cabling for pyro effects. In addition, Stageco has provided the four delay towers, front of house control risers and all of the stage decking.	60	36				

2019 8 Metallica WorldWired Tour

2019 9 Gibraltar Calling 2019

The combination of the band's vision and Braun's design prowess on WorldWired was based on a desire to eliminate the generic "box" of the conventional stage, an idea that had allegedly been playing on frontman James Hetfield's mind since 1992. The end goal was to **eliminate as much separation between audience and band as possible**. Steering the project from Tidonk, Stageco provided all of the stage decking and towers with which to deliver this reality. The structures – organised into three touring systems – were re-engineered previous winter to fit on 14 trailers per system, with 3 crewchiefs each overseeing a crew of 13. Following questions about the symmetry between the towers across the five bays, we responded by taking another look at the engineering. Soon realising that **by adding a more stout beam, we could lose the towers and that saved us a truck on each system**. It also made the structure stronger and easier to build and lay out with less crane time.

Apart from having to deal with very high winds, the only way to get to the site was by driving through the half-kilometre Dudley Ward Tunnel, which is just four metres high. This meant that the local police had to impose one-way traffic and we could only gain access at night. The company supplied and built an elegantly curved Boogdak stage roof with PA/video wings, a FOH mix riser and delay towers. To aid practical convenience, part of the steel stayed behind to be kept in storage in Seville for use on the MTV EMAs.

Boogdak

average: 49.2 21.6 22.7



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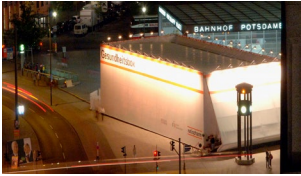
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Average festival stage size 50w x 22d x 22h m



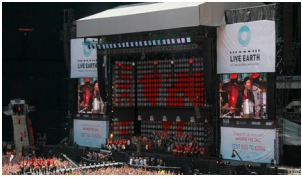
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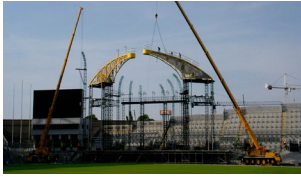
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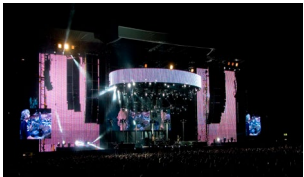
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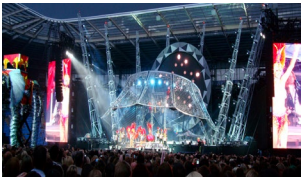
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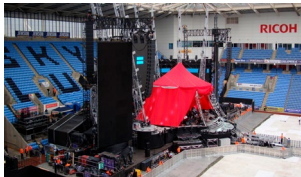
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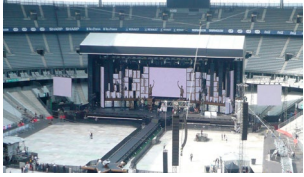




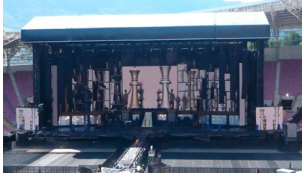
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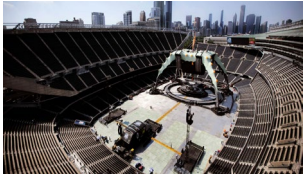
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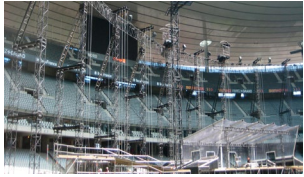
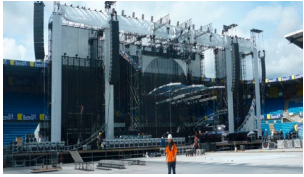
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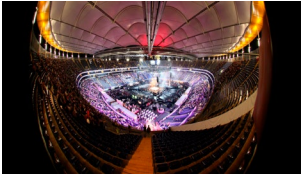
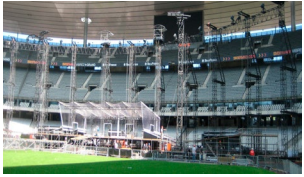
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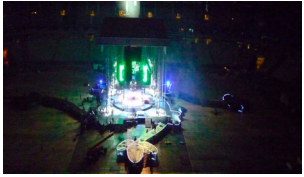
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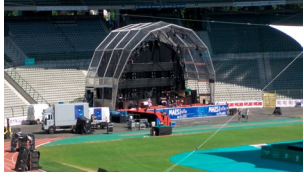
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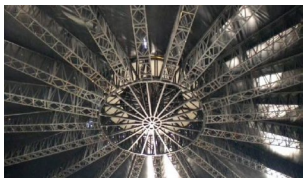
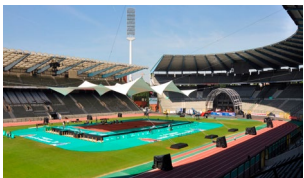
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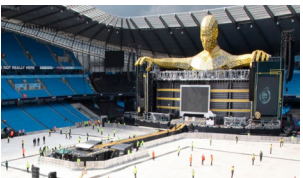
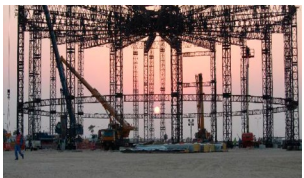
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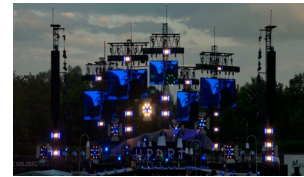


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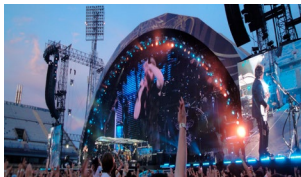
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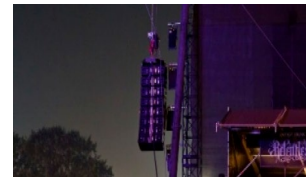
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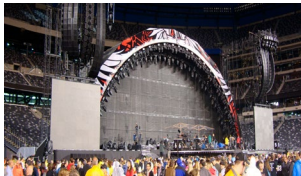
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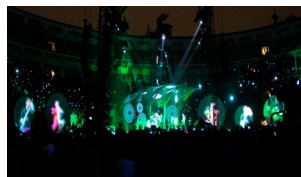
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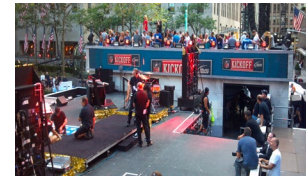
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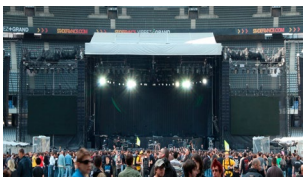
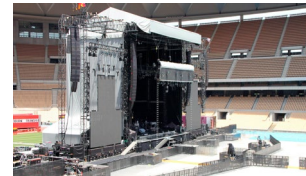
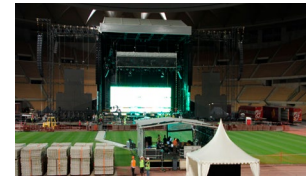
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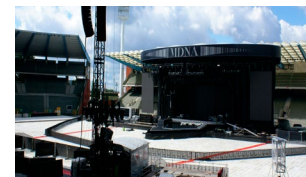
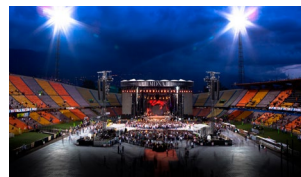
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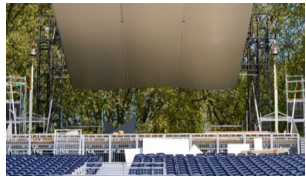


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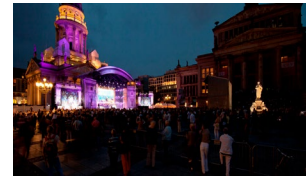


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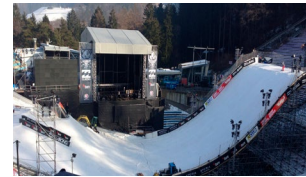
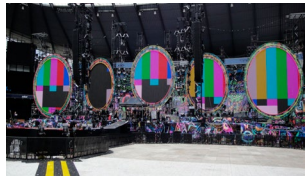
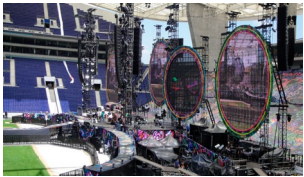
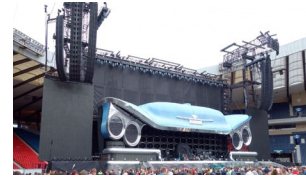
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2012_12



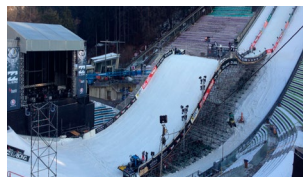
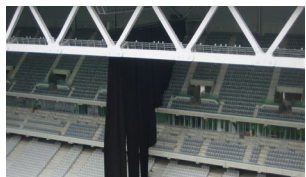
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2013_02

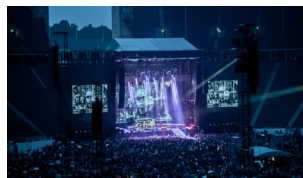


2012_14



2013_03

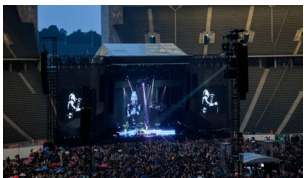




2013_04



2013_09



2013_05



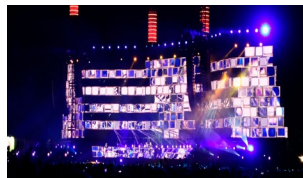
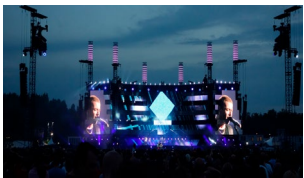
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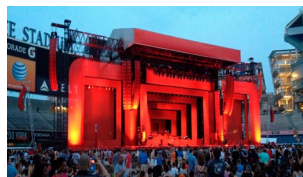
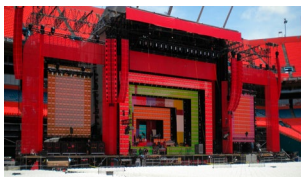
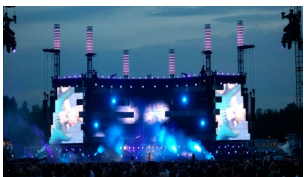
2013_06



2013_07



2013_11



2013_08





2013_12



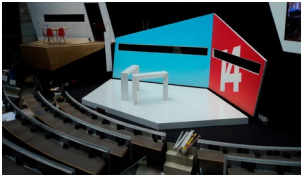
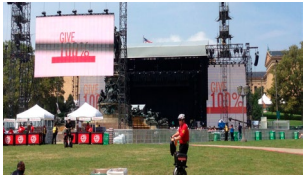
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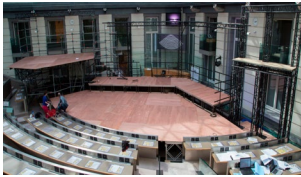
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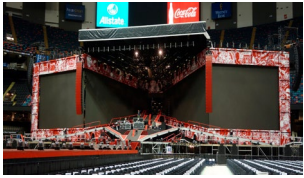
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2014_01



2014_05



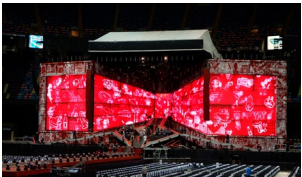
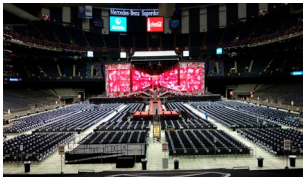
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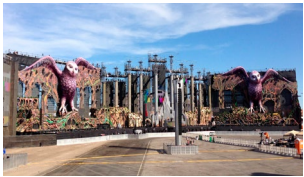


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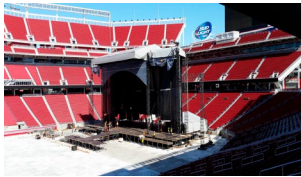




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2015_01



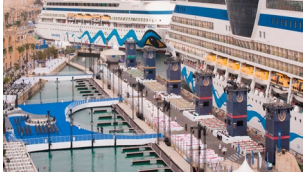
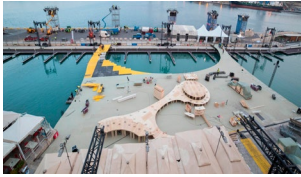
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2015_02



2014_10



2014_11



2015_03



2015_04

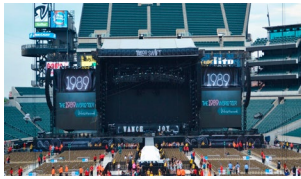


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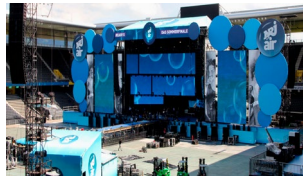
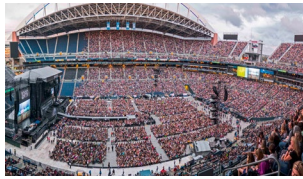




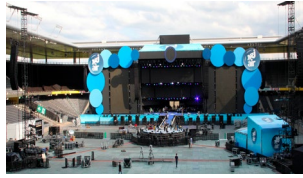
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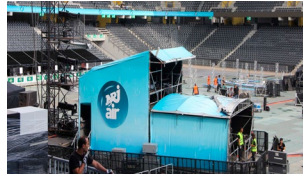
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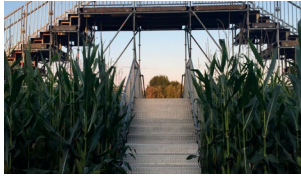
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2015_08



2015_13



2015_09



2015_14



2015_15



2015_10



2015_11





2015_16



2015_17



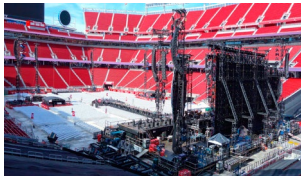
2015_18



2016_03



2016_04



2016_05



2015_17



2015_18



2015_19



2016_05



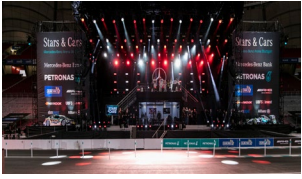
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2016_07



2016_01



2016_02



2016_03



2016_04



2016_05



2016_06



2016_01



2016_02



2016_03



2016_04



2016_05



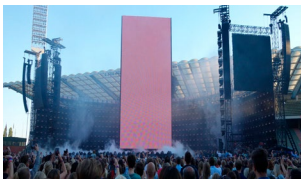
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2016_02



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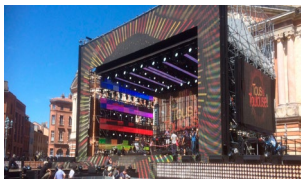
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2016_05



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2016_07



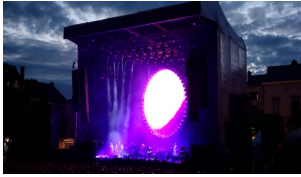
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2016_11



2016_12



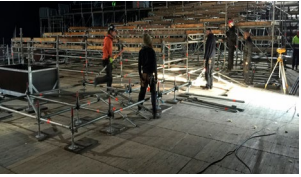
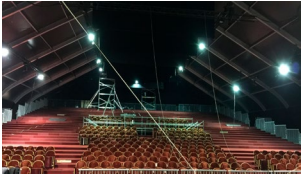
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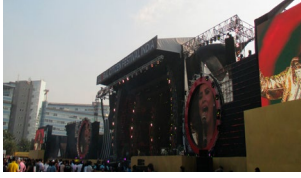
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2016_14



2016_15



2016_16



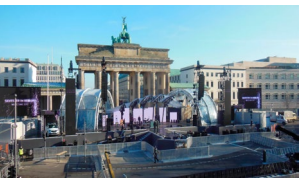
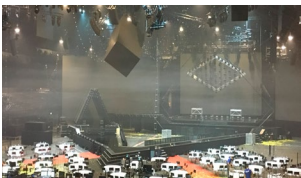
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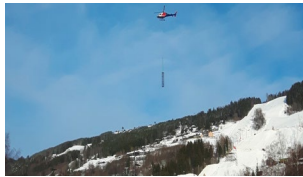
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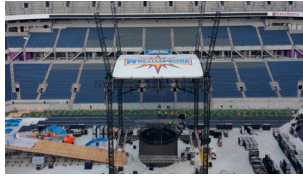
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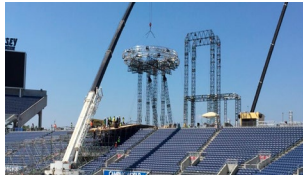
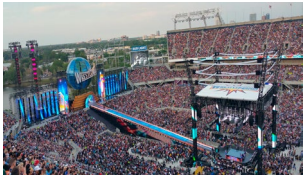
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2017_04



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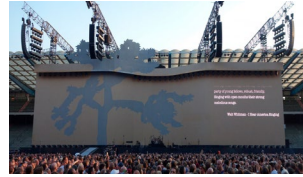


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2017_07

2017_08



2017_09



2017_10



2017_11



2017_12



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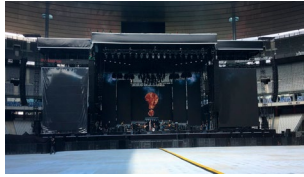
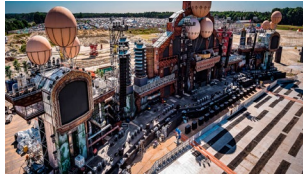
2017_18



2017_14



2017_15



2017_19



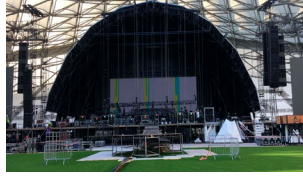
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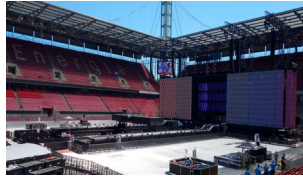
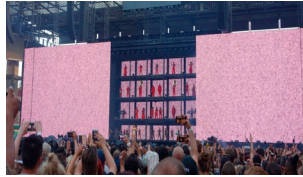
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2017_17



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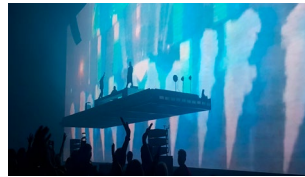




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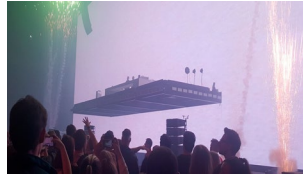
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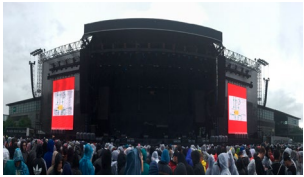
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2018_04



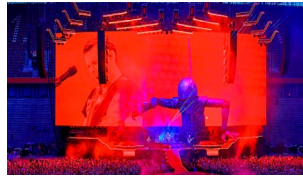
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2018_05



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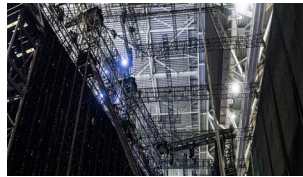
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2019_04



2018_07



2019_05



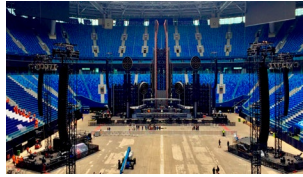
2018_08



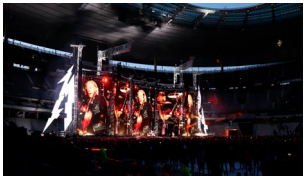
2019_06



2019_07



2019_08



2019_09



No building can match the grandeur of these pop-cultural mass events.

Key to the festival spectacle is vastness and open structure – the opposite of architecture.

For the P3 presentation, a proposal had been presented to 'tame' the festival stage into a pavilion like building.

The festival typology remained resilient, and the building discipline uninviting.

The stage remains untamed.

1.4 Open Air Concert Hall

As stated in the Graduation Plan, the core of this graduation project is exploration of the potentials and possibilities for enveloping large scale mass-events.

Following the P3 presentation it had become clear that the ambition to enclose a volume that is universally suitable for world class musical performance using a festival like construction is not feasible. Mainly due to fundamental incompatibility of typologies — a completely open structure cannot provide sustained comfort and quality of indoor climate. **Placing emphasis on the factor of full demountability and intactness of the site terrain proved to be insufficient for the desired type of venue.**

A shift was made towards choosing a more compact typology that is still connected to the act of a large scale outdoor/semi-outdoor performance.

As a result of development of amplified audio systems, the Open-Air Concert hall typology had become a feasible format for hosting large events as early as the 1960s. Coinciding with the beginning of large-scale music culture (*1965, first stadium concert by Beatles / 1969, Woodstock*)

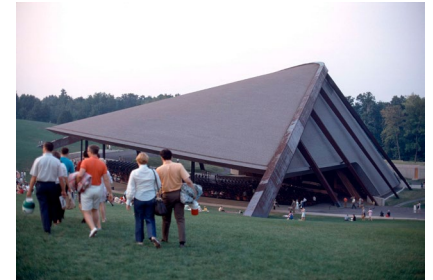
This chapter briefly presents comparative graphics of the more articulate and expressive case studies.

See Research Questions, Chapter 2 'Acoustics' for a more detailed breakdown of the developments in the technology

1959 Saarinen Berkshire Music Center in Lenox, Massachusetts



1966 Blossom Music Center



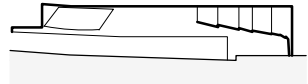
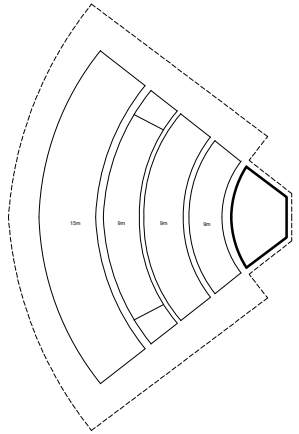
1972 Dzintari



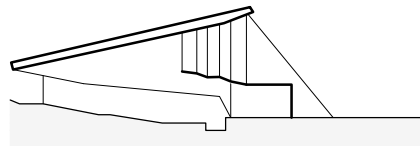
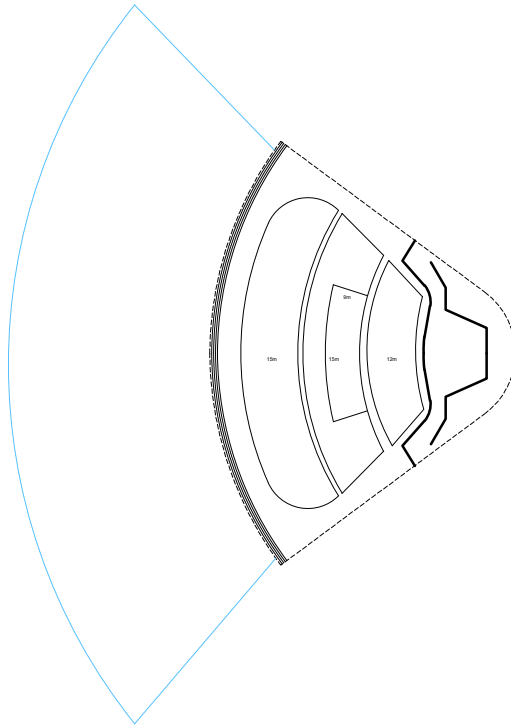
2001 Koka Booth Amphitheatre



1959

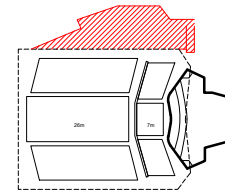


1966

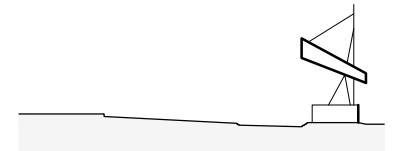
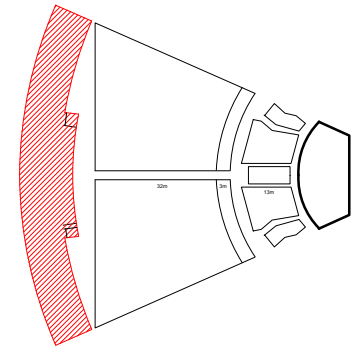


These two case studies show that there is no additional program but the open-air performance. It is a come & go type of event

1972

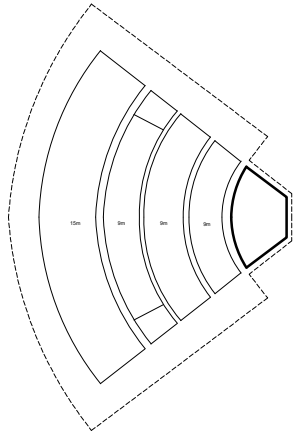


2001

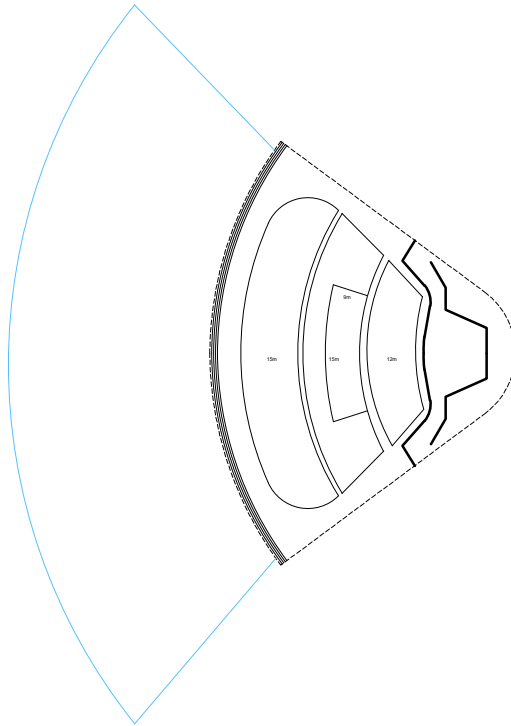


Here you can see how there is cafe positioned in close proximity to the venue, allowing for a longer stay before & after the venue. Both provide basic facilities like bathrooms and catering

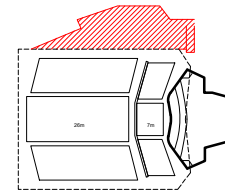
Seating Comparison



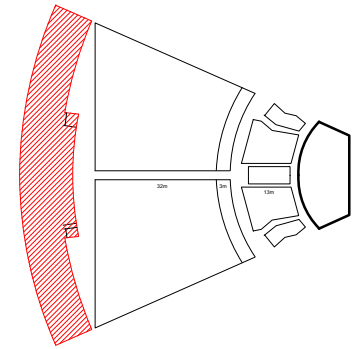
42m
15m + 9m + 9m + 9m



42m
15m + 15m + 12m

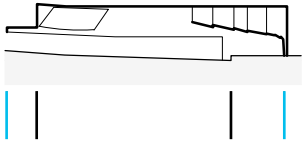


33m
26m + 7m

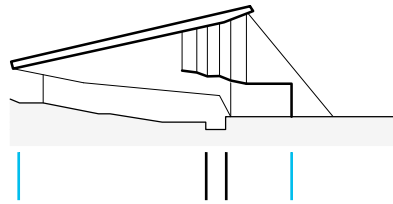


48m
32m + 3m + 13m

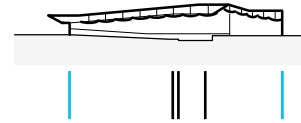
Total Length Comparison



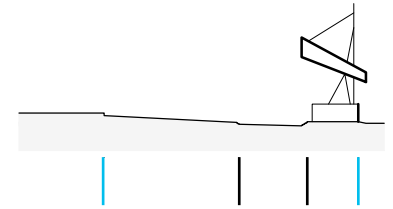
73m
8m + 51m + 14m



72m
50m + 5m + 17m



53.5m
27m + 1.5m + 7m + 18m



66m
35m + 18m + 13m

1.5 Party Courtyard

The Party Courtyard is a universal reference point for all - be it a formal dinner, art exhibition, drinks or a music event.

The most desireable part of this enclosure is its openness and the atmosphere it creates. Most of the referenced events are free entry, where the payment is required only for catering services or beverage.

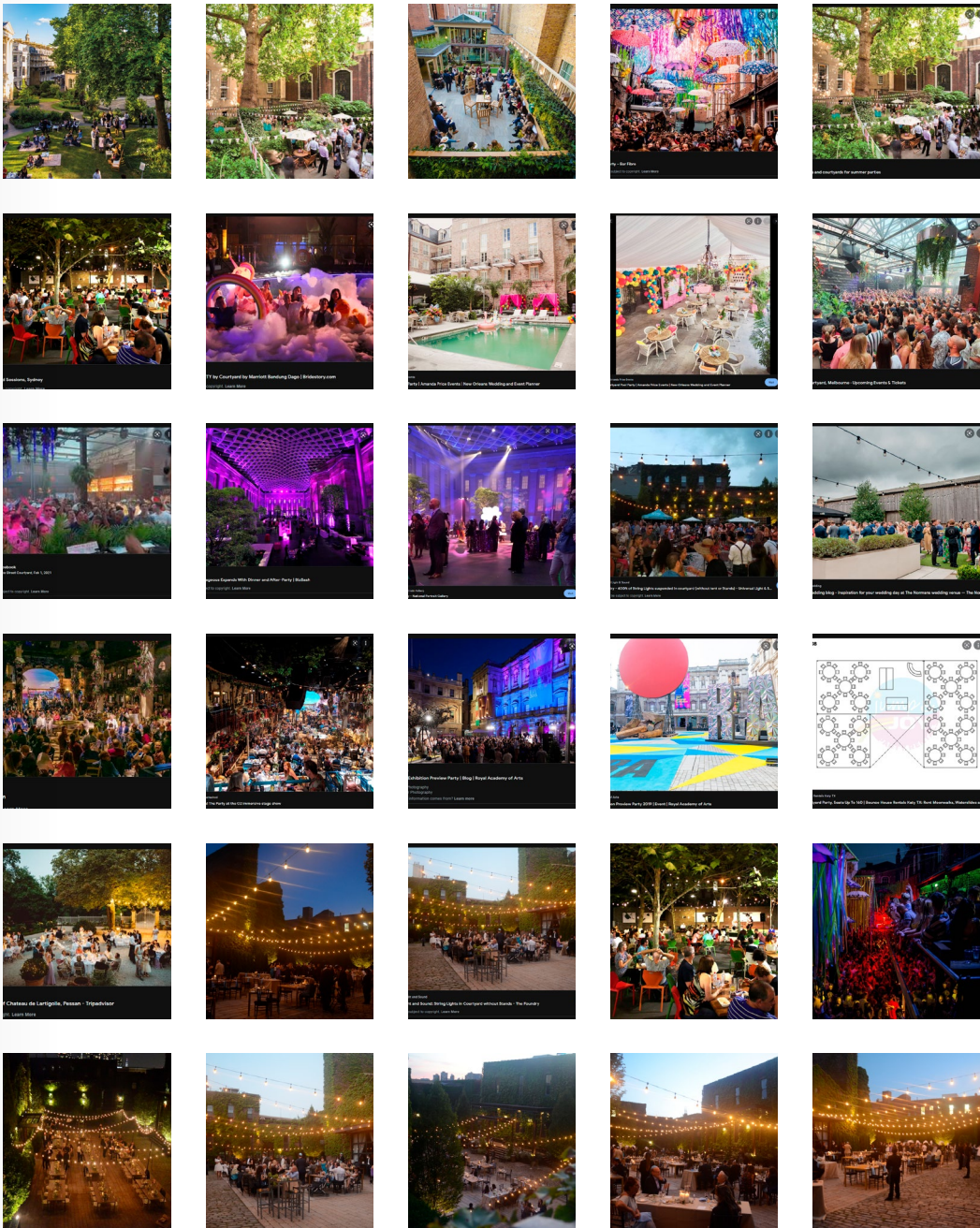
Description of one such venues in Australia (Mardi Gras Courtyard Sessions) sums all of that potency best in their own words:

"A favourite among inner west locals, the annual Mardi Gras Courtyard Sessions take place at dusk in the relaxed grounds of the Seymour Centre. Championing both established and emerging LGBTQIA+ artists, it's all about kicking back with a **cold drink, some food, good people and live music. And it's free to attend.** This year, the series is wrapping

up with a night co-hosted by Sad Grrrls Club on Friday, February 28. Guests are in for an evening filled with funk, beats and pop, starting with progressive soul band Kadimakara. The Sydney-based trio is all about jazz, soul, funk and alt-rock. Then, hailing from Melbourne, self-proclaimed Queen daddy will bring smooth beats and vocals – and lots of daggy 90s dad vibes. Finally, Triple J Unearthed artist RACKETT will deliver energetic, experimental electro-punk.

*In between sets, Sad Grrrls Club DJs will keep the vibes going with classic R&B and hip hop tracks, while an **outdoor bar** and vintage games will keep you hydrated and entertained.*

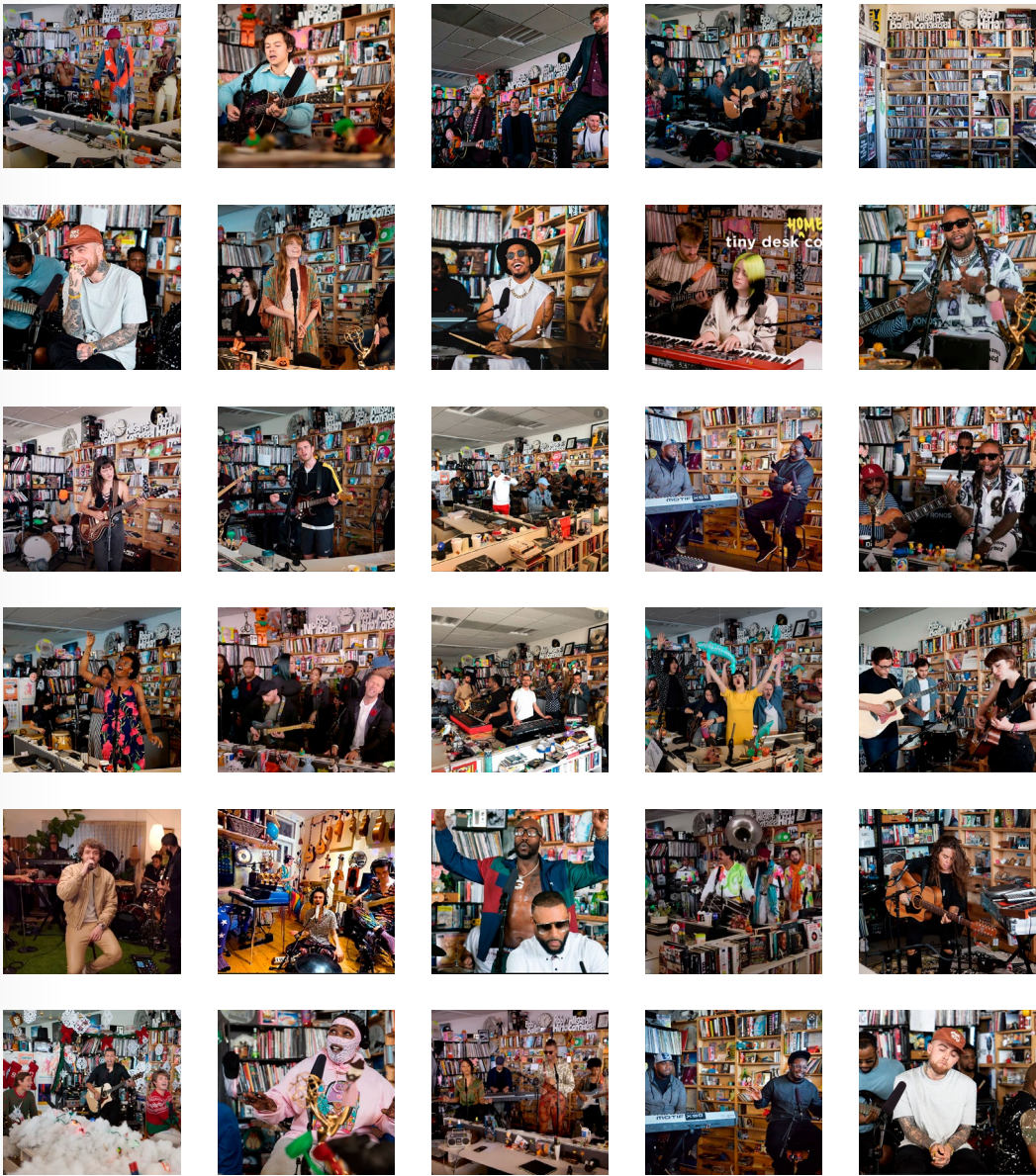
*The **free courtyard gig** will run from 6-9pm, when the Seymour Centre's Mardi Gras Festival Club will kick off its final night for 2020, with DJs, pop-up performances and dancing late into the night."*



1.6 Tiny Broadcasts

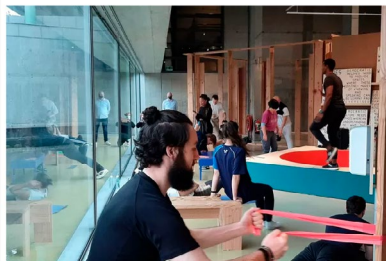
" The first Tiny Desk Concert came about in 2008 after Boilen and NPR Music editor Stephen Thompson left South by Southwest frustrated that they couldn't hear the music over the crowd noise. Thompson joked that the musician, folk singer Laura Gibson, should just perform at Boilen's desk."

Today, the *Tiny Desk Sessions* is a cultural staple, showcasing an wide variety of musicians. Known for the acoustic supremacy of the recorded performance, it is a prime example of how the size of the venue is irrelevant, as long as the sound is good.



1.7 'Guerrilla' pop-up events

It was not unusual during the years of the pandemic for cultural institutions to host alternative activities in their space. Now, when the threat of lockdown seems distant, lessons from these initiatives could be incorporated into consideration when designing a post-pandemic Music Marvel. As these examples showed, all that is needed is a platform for a meeting.



▲ In het kader van Kapsalon Theater is de expositiezaal van Het Nieuwe Instituut één dag een fitnessruimte. © AG

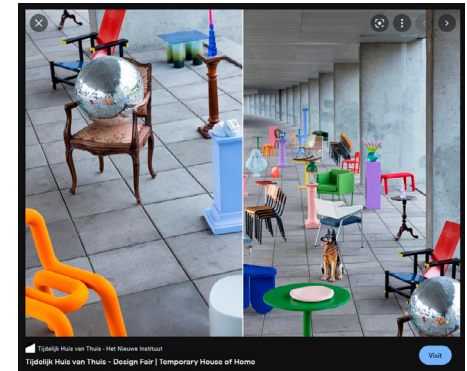
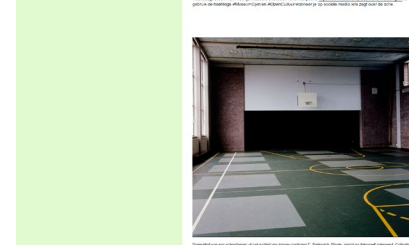
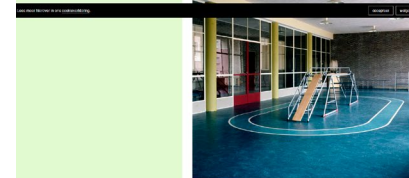
Sporten in het museum

De expositiezaal van Het Nieuwe Instituut in Rotterdam was voor één dag omgetoverd tot fitnessruimte. Want in die sector zijn de maatregelen wel versoepeld. In het museum konden mensen die een 'mentale booster' willen, onder leiding van een fitnessinstructeur de tentoonstelling 'Het ontwerp van het sociale' zien. Zo'n vijftien mensen hadden zich aangemeld na de aankondiging gisteren op Instagram.



Dutch museums protest COVID-19 lockdown

Several museums in the Netherlands temporarily turned themselves over to other roles in order to stay open despite public health rules. A number of museums...



Barbershop, Yoga, Gym and Pop-Up Design fair are all of the formats that could become an integrated consideration of the Music Marvel.

1.8 Atmosphere Glossarry



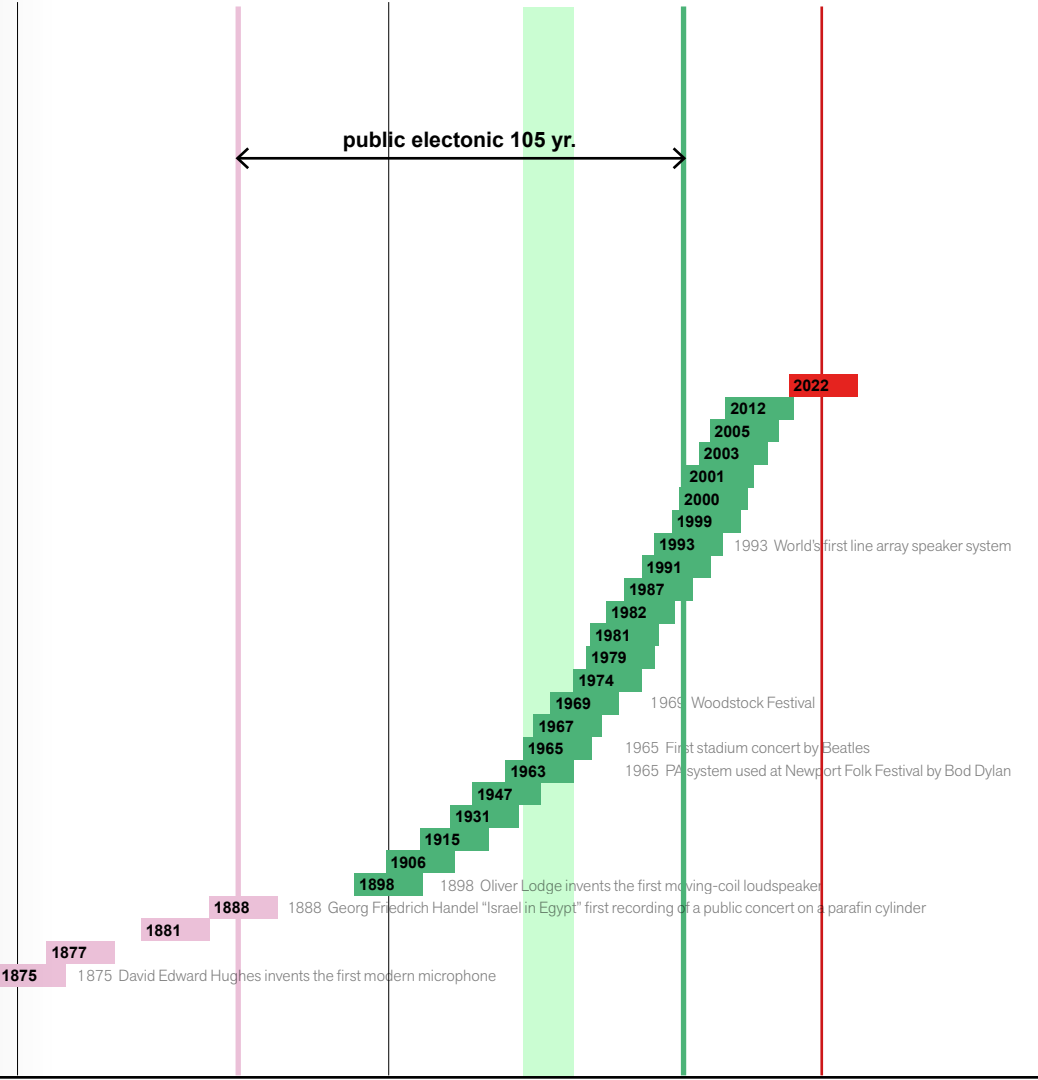
As final chapter, a selection of atmospheres that have been considered when working on framing the experience of the Music Marvel.



2. Amplification in music?

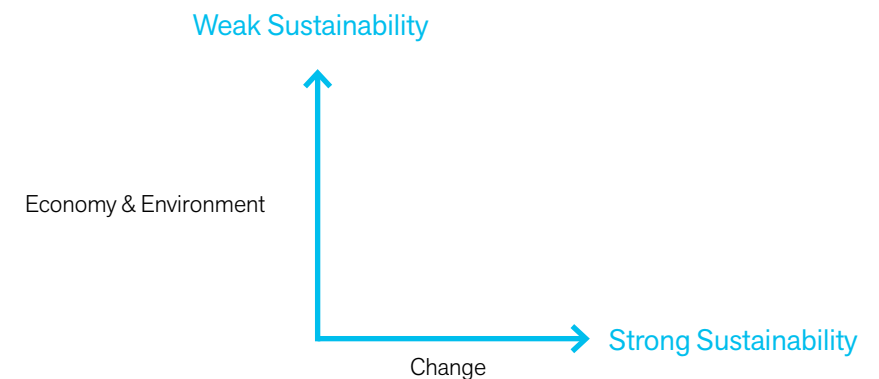
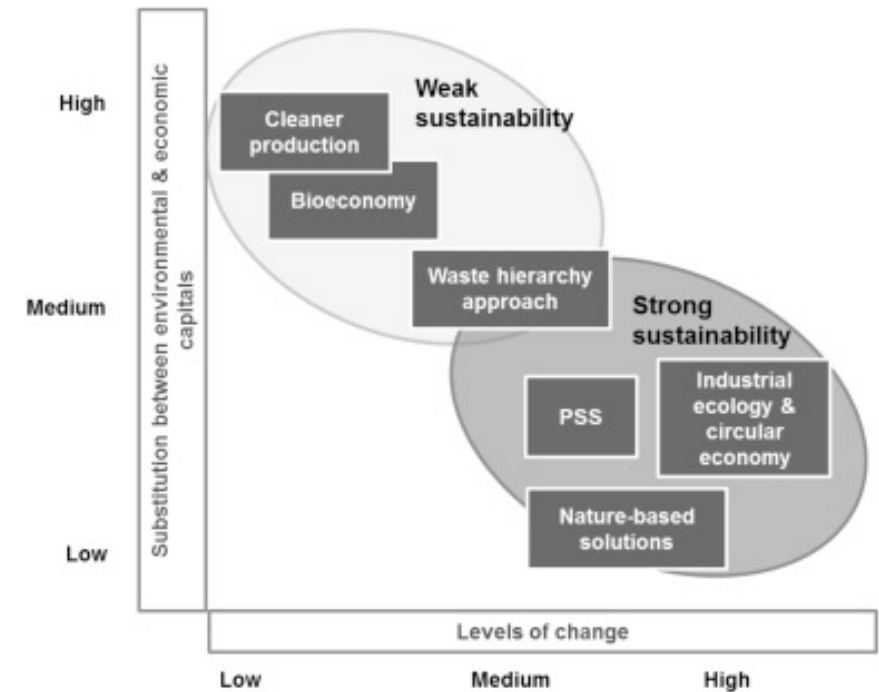
2.1 History of Amplification & scaling in events

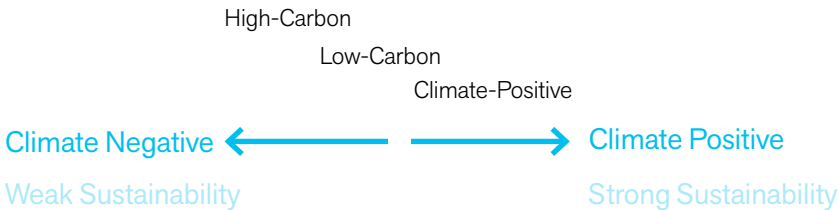
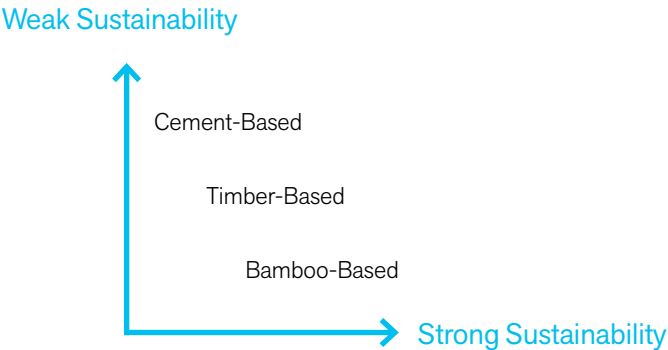
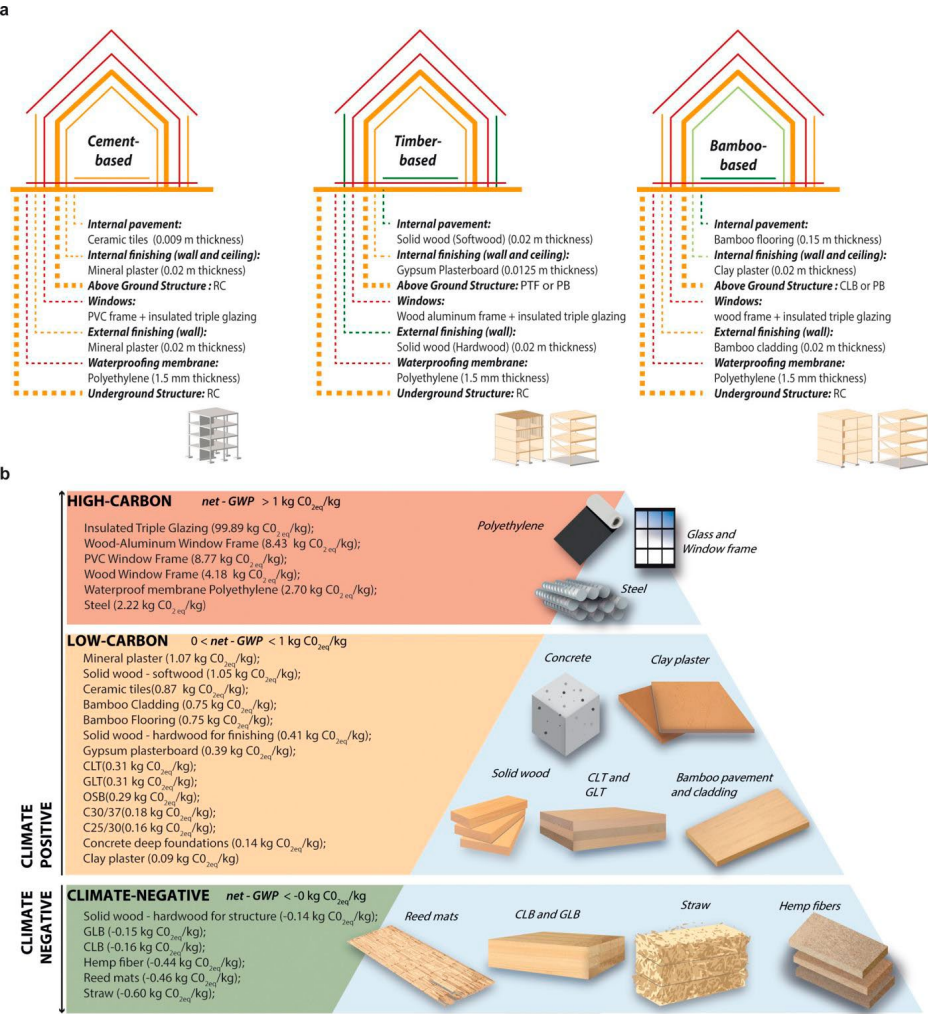
1875	David Edward Hughes invents the first modern microphone
1877	"Mary had a little lamb" phonograph tin foil recording & playback
1881	first central power station
1888	Georg Friedrich Handel "Israel in Egypt" first recording of a public concert on a parafin cylinder during Handel Festival at Crystal Palace, London
1898	Oliver Lodge invents the first moving-coil loudspeaker
1906	Lee DeForest creates the <i>Audion</i> , the first device capable of amplifying an electrical signal
1915	<i>Magnavox</i> by Edwin Pridham and Peter Jensen in California. First amplified public music event - Christmas Eve (100'000 people in attendance)
1931	RCA Victor launched the first commercially available vinyl long-playing record
1947	Transistor invented by Bell Labs
1963	Compact Cassette tape
1965	First stadium concert by Beatles
1965	Bill Hanley's PA system used at Newport Folk Festival by Bod Dylan
1967	Charlie Watkins debuts his first perfected live sound system at Windows National Jazz & Blues Festival. Gets arrested because of its loudness
1969	Woodstock Festival
1974	Mixer console by Soundcraft allowing for scaling of audio systems
1979	Sony Walkman
1981	MTV
1982	Digital Audio Compact Disc (CD)
1987	Garwood Communications produced the Radio Station, the first commercially available wireless IEM system. In addition to solving stage volume issues, wireless IEM systems also gave musicians the freedom to move around large stages and still hear their monitor mix without being tethered to a single position with a wedge monitor.
1991	MP3
1993	Christian Heil of Heil Sound provided a solution with the unveiling of the V-DOSC, the world's first line array speaker system.
1999	Napster, audio streaming platform
2000	LimeWire Peer-to-Peer file sharing platform
2001	iPod, 1st generation
2003	iTunes store
2005	Youtube
2012	Spotify free account option



3. Whats aspects of Sustainability?

- 3.1 Overview of Sustainability Frameworks
- 3.2 Urgency expressed in Articles
- 3.3 Interchangeability & Systems: *what can be rented?*
- 3.4 Re-Usable site assets?
- 3.5 What is the Seventh Generation Principle?
- 3.6 Circularity Roadmap for Music Marvel





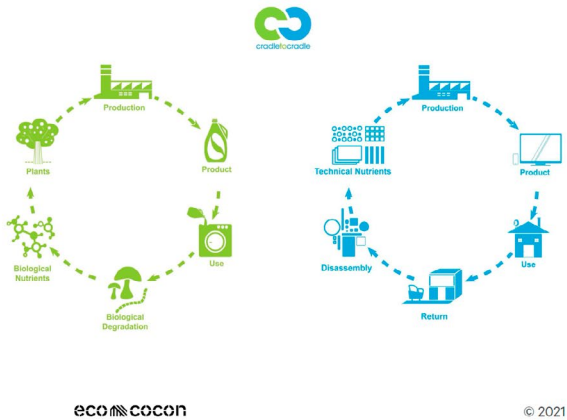
Cradle to Cradle
Certification

- » Cradle to Cradle is a globally recognized measure for safer, more sustainable products made for the circular economy
- » C2C mimics the regenerative cycle of nature in which waste becomes a resource and is reused
- » It is based on a two distinct material cycles - biological and technical cycle

Documents for download:

- » C2C certification report

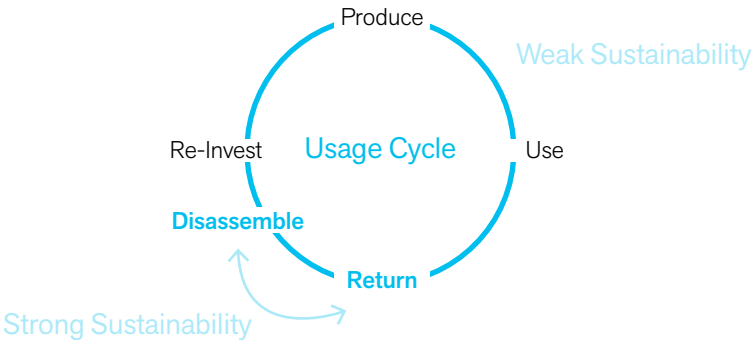
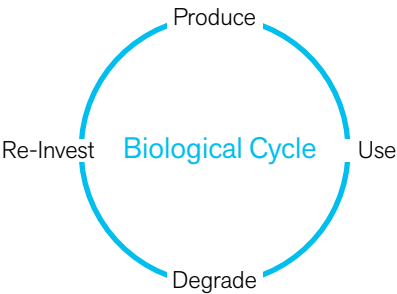
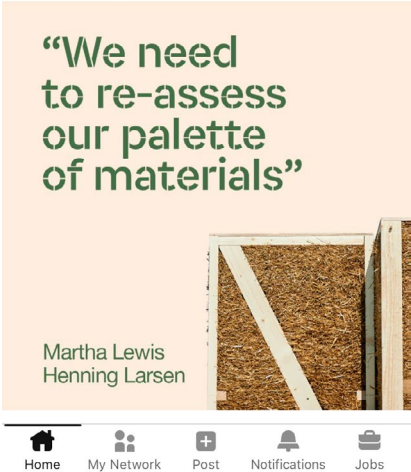
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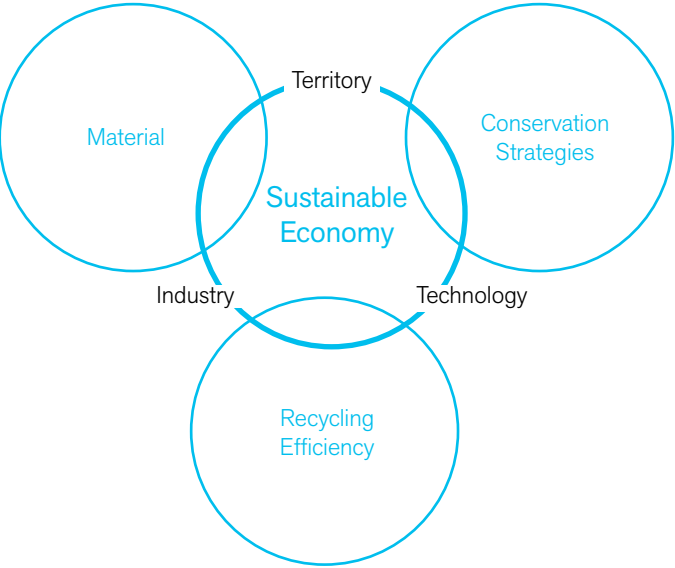
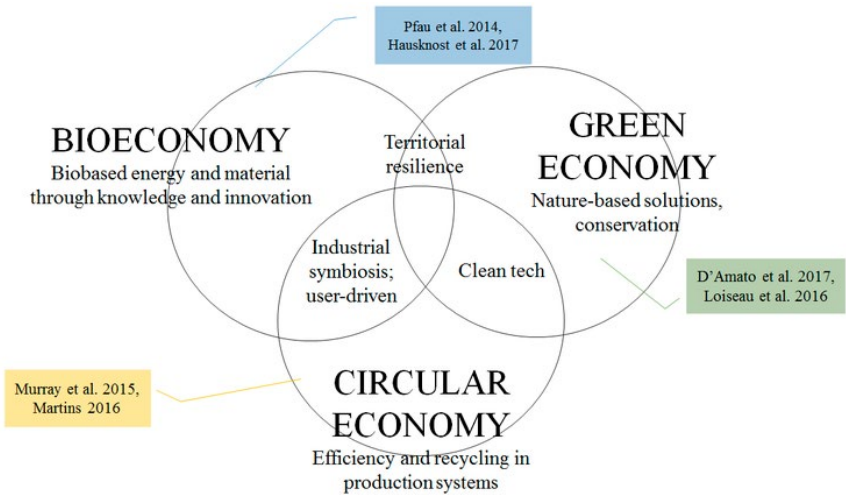


1,873 followers
7h • 🌱

Nature offers healthier alternatives to steel, concrete and aluminium. Bio-based materials store CO2 and are in many ways superior. 🌱

Learn more in our interview with [Martha Lewis](#) from [Henning Larsen](#):
<https://lnkd.in/dRBeBVBt>

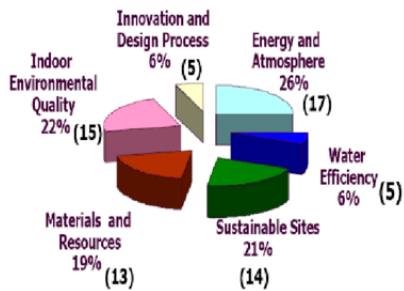
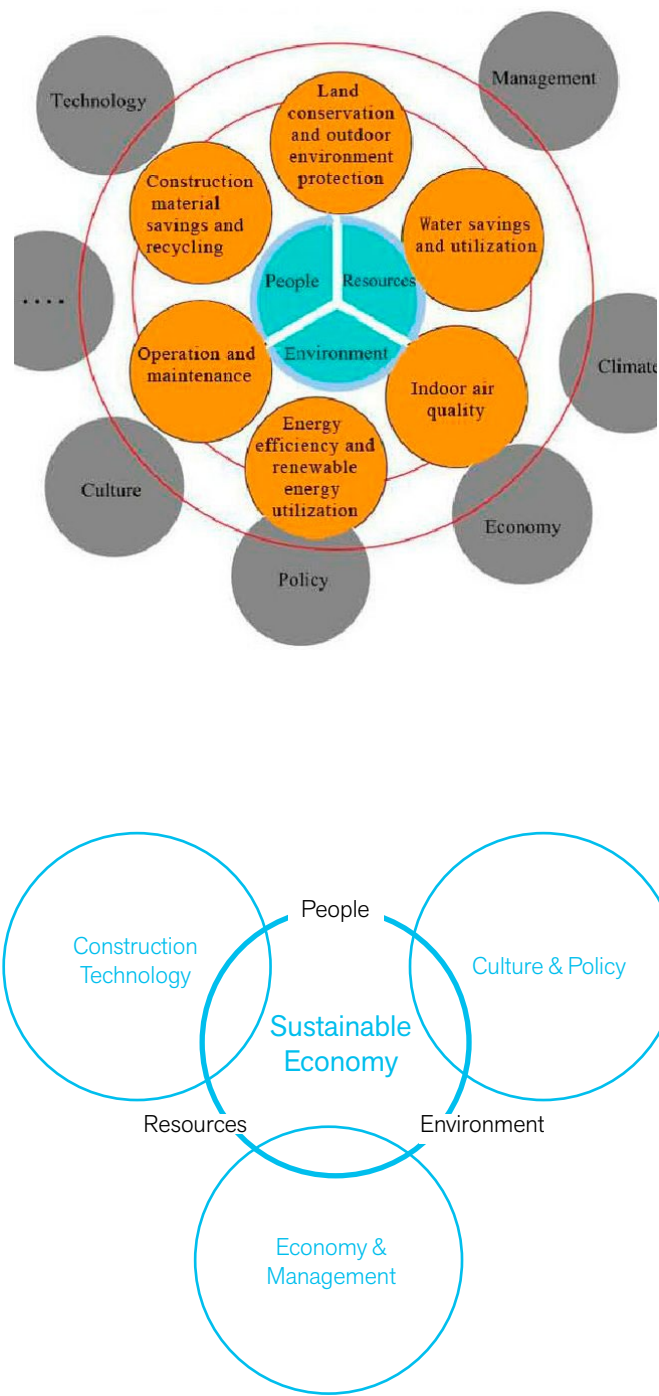


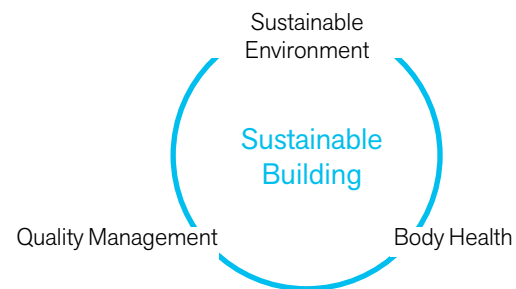


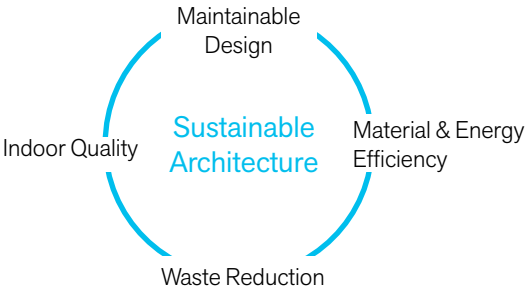
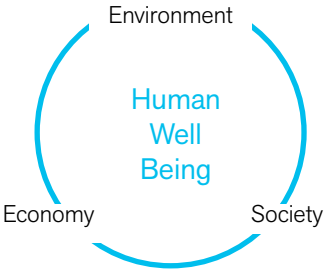
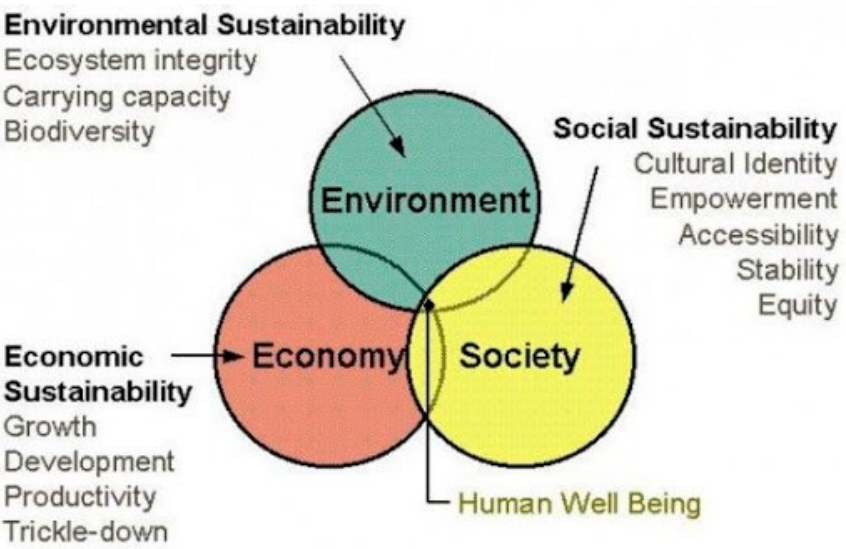
Green Marketing Pie

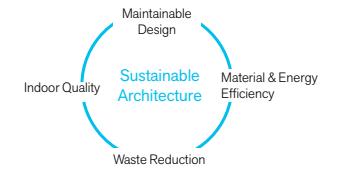
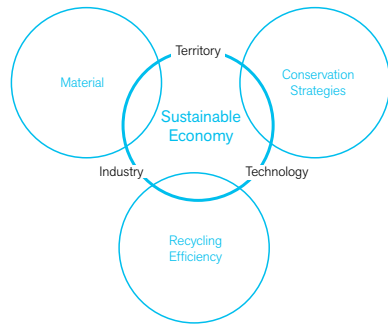
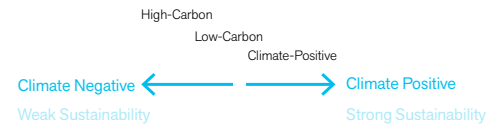
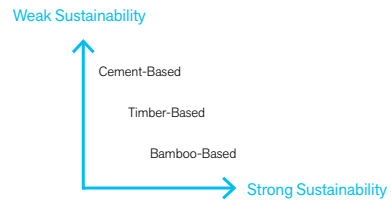
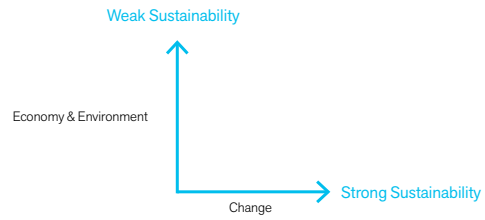
By John Grant











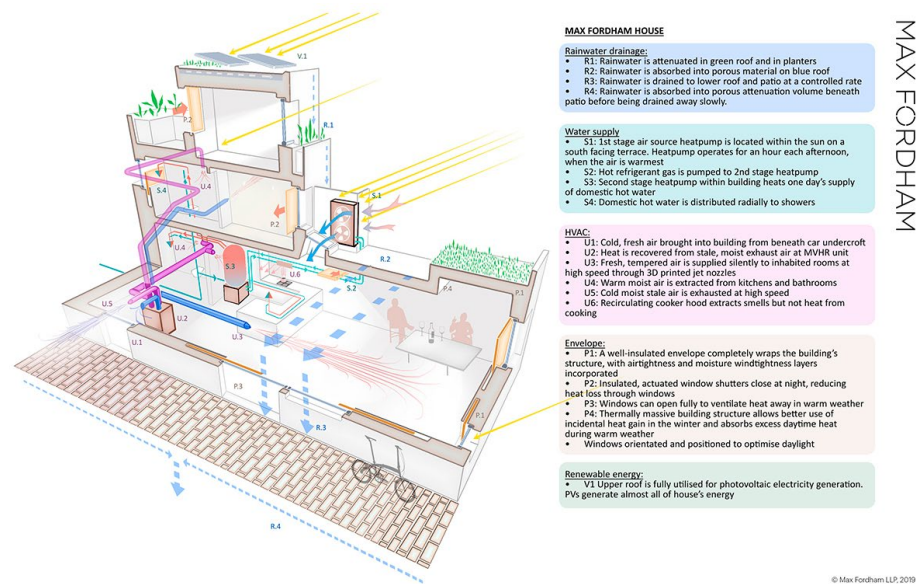
Overview of the currently active frameworks for addressing the urgencies of sustainability and circularity.

3.2 Urgency expressed in Articles

Source: to be added after P4

Max Fordham's home named UK's first net zero carbon house

Max Fordham's north London house has become the first residential building in the UK to be verified as **net zero carbon**, making it a fitting tribute to the late great sustainable design pioneer.



Ben NL 08:28 23%

Max Fordham's home named U...
architecturetoday.co.uk

Passivhaus-certified dwelling was designed by Max Fordham LLP in collaboration with bere:architects and Price & Myers. Max Fordham himself was also an integral member of the design team. It is predominantly a new build with some elements of existing structures re-used. To minimise carbon emissions during construction, concrete with low-carbon cement replacement was used alongside timber for the roof structure, window frames and façade, as well as woodfibre insulation, cork flooring and triple-glazed windows.

To achieve net zero carbon for the emissions created during construction, an investment in offsetting schemes was made at the voluntary cost of £70/tonne. This is far higher than the market rate, but is recommended by UKGBC and the Treasury to accelerate funding and incentivise reducing emissions first.

Architecture Today's post 1,197 48

Like Comment Share Send

1. Reuse existing
2. New:
 - low-carbon cement
 - timber
 - window frames/facade
 - woodfibre insulation
 - cork floor
 - triple glazed windows
3. Offset CO2 emissions voluntarily

Source: to be added after P4

Open building - Wikipedia
https://en.wikipedia.org/wiki/Open_building

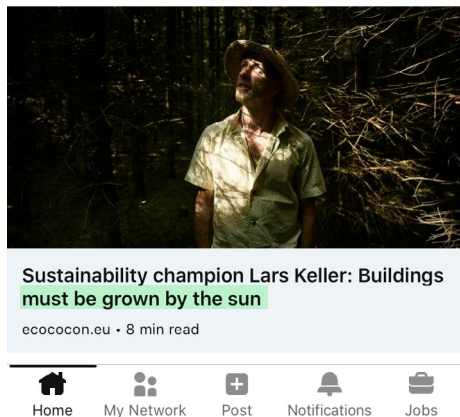
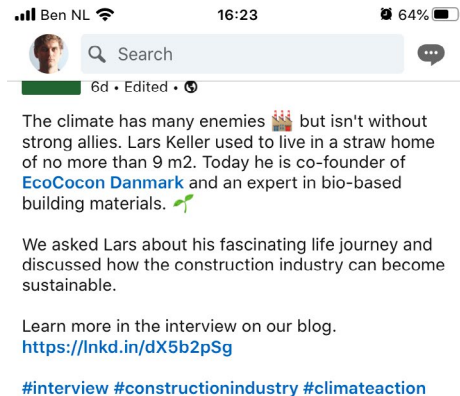
WIKIPEDIA

Open building

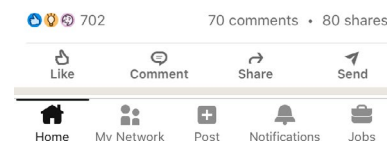
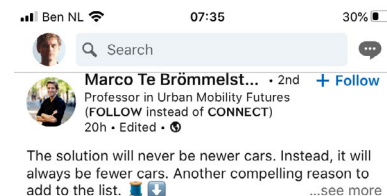
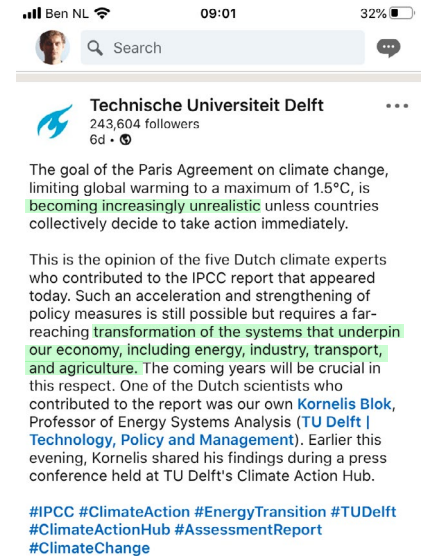
In architecture, **open building** is an approach to the design of buildings that takes account of the possible need to change or adapt the building during its lifetime, in line with social or technological change. Open building design seeks to co-ordinate inputs from different professions, users of the building, and other interests associated with the locality.

OPEN BUILDING.CO

OpenBuilding.co is an emerging group of Dutch architects and engineers who are devoted to radically changing the building industry and the built environment to enable a sustainable and personalised way of living.



Change systems:
energy
industry
transport
agriculture



Biobased is not the 100% answer to everything. Same conclusion in the 'Material Diets' research paper.



regulations. Moreover, a time horizon of 20 years is more appropriate for assessing the contribution of material shifts to biobased materials in the transition period before 2050. This paper demonstrates that this is technically feasible and that climate neutrality in the construction sector just depends on the future that we choose.

emissions).^{10,11} However, the embodied GHG emissions of energy-efficient buildings are approximately responsible for 45–50% of the total GHG emissions when a full life cycle is considered, unlike 20–25% of buildings that follow the current energy performance regulations.^{12,13} Evidently, a compromise

1.1. Existing Climate-Neutral Strategies for Construction. Strategies for mitigating embodied construction emissions currently focus on the reduction of building construction and demolition waste,²¹ on the enhancement of material efficiency⁹ or by choosing alternative materials characterized by lower embodied emissions.²² Although these strategies could reduce the emissions for construction by 50%, they cannot stop releasing GHGs and, as a consequence, reach “absolute zero” emissions.²³ For example, most buildings

For example, most buildings

require cement for concrete foundations or structures, and complete decarbonization is not possible due to energy-intensive manufacturing processes and emissions related to calcination reactions.^{24–26} New frontiers for carbon-neutral

Buildings can then be considered a global carbon sink,³³

to avoid massive deforestation of tropical forests.^{33,36} Additionally, recent studies have demonstrated the efficiency of substituting GHG-intensive materials with fast-growing or herbaceous biobased materials, for example, bamboo and straw, due to their carbon removal potential and reduced life-cycle emissions.³² The advantage of choosing these biomasses instead of woody ones is that they exhibit a shorter rotation period of regrowth (approximately 1 year), hence a higher yield,³⁴ and they are usually byproducts of croplands that can be transformed into high-value applications,³⁷ which avoids land use competition between buildings and food production.

Unfortunately, not all construction materials can be replaced with herbaceous materials, and a compromise between GHG emissions and biobased materials should be made. In fact, by

appropriate material diet required to build climate-neutral construction. Under this innovative vision, the thickness of insulation was designed for climate neutrality rather than for energy efficiency, as it is clear that, under the current energy transition goal, the net-zero emissions embedded in materials have to be the primary objective to pursue.⁴⁶

construction.⁴⁸ For all diets, the insulation materials were herbaceous ones, in particular, reed mats, straw, and hemp fibers with different carbon removal capacities. The replace-

building service life was assumed to be 60 years.⁴⁹ The service life of the structural elements corresponds to that of the building, that is, 60 years, together with the waterproof membrane in polyethylene.¹⁴ All finishing, window and window frames have a service life of 30 years.⁵⁰ Regarding

European Union aims to become the first climate-neutral continent by 2050 with the “Green Deal for Europe” in line with the Paris Agreement.⁴ However, the building decom-

as waste disposal (Module C4). For biobased materials, the waste disposal scenario considered was incineration; for steel, it was recycling, whereas for residual materials, it was landfilling.

We performed this calibration with three herbaceous biobased insulation materials. From the Ecoinvent⁵⁸ databases, we chose reed mats, which exhibited the highest net-GWP value (max), hemp fibers, which exhibited the lowest value (min), and straw characterized by a value between the two (med).

of bamboo-based construction. The timber-based diets are closer to the bamboo-based diets (115–170 kg/m_{RES}²). Structure and foundation control building weight, regardless of diet. In contrast, windows and membranes have a small influence on the final mass.

block typology and up whisker building geometry. Usually, climate-negative material volumes are larger than climate-positive material volumes, whereas for this specific bamboo-

indicating that every cubic meter of a carbon-emitting material, for example, glass, concrete, and so on, should be compensated by 0.74–26.46 m³ of climate negative-materials, that is, biobased ones. Additionally, the results highlighted that for each diet, the insulation material choice controls the MDI regardless of building typology.

thermal and structural requirements. For the hemp fibers (with the worst net-GWP value), the wall thicknesses can reach unfeasible values as high as 10.44 m depending on structural choices and building typology. Even with timber or bamboo structures, some BT (e.g., AB) would require 1.2 to nearly 3.38 m of hemp materials. The straw values remain for most

the MFH). In northern Europe, current construction usually accounts for a wall thickness of 40–50 cm.^{52,61,62} This paper showed that with straw or reed insulation, it would be possible to build similar wall dimensions with timber and bamboo structures. In contrast, concrete construction requires insulation sizes that are too large and heavy for the dimensioned structures or accepted by urban regulations, even if complying with thermal needs. Indeed, all calculated insulation thick-

struction but still require a more insulation material. These results highlight the need for a tradeoff between material embodied emissions and structural and thermal performances.

Hence, once the basic requirements in terms of GHG emissions are set and the corresponding dimension of insulation is defined, the typical iterative design process should be performed to ensure an optimal configuration of the final building in terms of other performances (e.g., structural consistency, operational energy, sound proofing, fire resistance, etc).

Performances to prioritise:

1. structural consistency
2. operational energy
3. sound proofing
4. fire resistance

Another assumption we made is the possibility of adopting biobased insulation for basement insulation, which is not recommended due to the high water absorption risk and consequential fast decay. To reduce the risk, we added a waterproofing membrane that increases embodied emissions but removes high-moisture content risks. An alternative biobased solution would be cork due to its nonputrescible properties, but costs and availability make it difficult to reach the full European market.^{66,67}

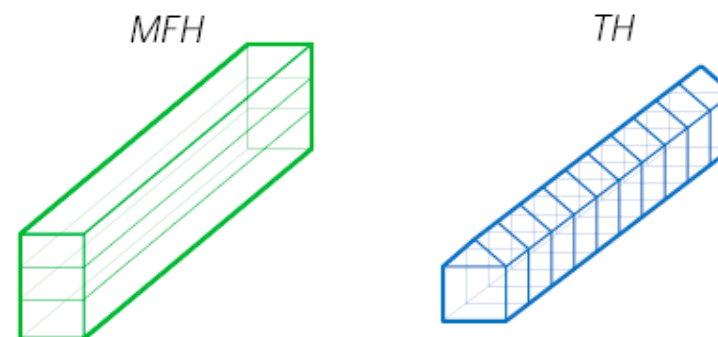
Finally, it is important to mention that the GHG-fossil emissions linked to the use of concrete could be further reduced by implementing low-carbon concrete solutions.^{27,28}

Another strategy is the optimization of structural concrete design, which could be facilitated in the near future by BIM and automation construction.^{68–70} In this paper, we used

usual in our construction practices, but available alternatives allow us to reduce concrete-based emissions by a factor of 2.^{23,26} This would lower the insulation volume by the same

insulation are presented. It clearly shows that no significant differences can be seen for concrete and timber-based diets, whereas emissions from the bamboo-based diet become negative even without insulation. This is due to the very short rotation period of bamboo and would indicate that the construction is climate-negative after 20 years (in 2040) and finally becomes climate neutral in a longer time span (by 2120) when biogenic CO₂ is emitted at the end of the building service life. Consequently, it confirms the main results of this paper, showing that it is possible to reach climate neutrality at the building scale and before 2050, when biobased insulations are used and combined with appropriate building typology (MFH and TH).

In the end, is Music Marvel an appropriate building typology? Too many compromises for the sake of spectacle and acoustic excellence?



Mixed Family Housing

Town Houses

"Debunking Myths about Timber Construction"

Henning Larsen, 2020

<https://henninglarsen.com/en/news/archive/2020/12/07-debunking-myths-about-timber-construction/>

Neither is wood a fragile material that is unsuitable for the large-scale apartments and office buildings necessary in today's cities. In a comparison of its strength to weight ratio, **structural wood beats steel by 20%**. It is durable and long-lasting, with a virtually unlimited lifespan in the right conditions. Within the dry conditions of a building structure, wood can last for centuries and even in a rainy Norwegian climate, wood cladding can last up to 60 years. A temperate climate, or any other climate, is not a disqualifying factor for building wooden structures.

For all the technical advancements in construction methods and materials over the last century, wood remains the most practical. Assembled from prefabricated panels, timber structures are **unbeatably fast and easy to build**. Luckily, this is not news to everyone and in several Northern European countries, wood construction has already achieved considerable support among municipalities and developers. The rapid developments in timber construction have outpaced the global acceptance of this age-old building material. All that is required now to usher in this new standard of wood construction is

"Architect Martha Lewis: How to build for climate and why we need to move beyond recycling"

EcoCocon blog, 2022

<https://ecococon.eu/nl/blog/2022/martha-lewis-how-to-build-for-climate>

The major challenges of the century are swirling around building products because these are our resources: this is what we need to build the huge amount of housing necessary to handle the urban population explosion. And unfortunately, many construction products have high environmental impacts, contributing to global warming potential and increased pollution. Scientific data indicate that **5 of the 9 planetary boundaries defining the safe operating space for the planet have been breached.**

And it seems like we are running out of time to address all these issues...

Given the last year's IPCC report, the message is clear. We have less than a decade - 2030 closes our operating window. Projects on the drawing board have to make the best possible decisions. If you don't know where your structural materials are in terms of carbon emissions per cubic metre, you'd better find out.

Planners should make decisions based on the environmental impacts in the production phase, and choose materials and products with the lowest embodied carbon. This is also known as the **upfront carbon.**

If you work with life cycle assessment, theoretically defined as 50 years, sometimes 60, you should be aware that though the numbers show a benefit in the production phases, the end results for those bio-based materials in the calculations take you back to zero. The material is sequestering CO₂ in growth and production phases, yet the default scenario for end of life of the material is incineration.

I'm quite certain that in **50 years, we will NOT be burning the buildings constructed today** and allowing free release of CO₂ into the atmosphere. This default scenario does not reflect possible future resource treatments, but rather is based on projecting today's waste treatment into the future.

We need to make good decisions about carbon sequestration and design buildings with the possibility to **retrieve those bio-based materials in the future, disassemble and reuse them in other projects.**

Align project ambitions with the IPCC



- 1. Reduce: CO₂ emissions in the critical window**
- 2. Choose: lowest CO₂ emissions in the production phase**
- 3. Plan: Design for future disassembly**

© Henning Larsen

At the beginning, we were looking into the carbon footprint in the production phase of previous projects, to see which of the building components needed to be improved. The lead design architect, Magnus Reffs Kramhøft, and the construction architect, Peter Tegner Matz, explored alternative constructions. How can we **minimise the use of concrete** and sequester more carbon in the building?

The focus was on the **foundations** - how to improve on the standard Danish solution of using concrete in the slab and perimeter foundations. Peter detailed a solution with **steel screw foundations** and a **timber slab**, a solution which would have saved 1 kg CO₂e/m²/year calculated over a lifetime. However, due to the project's economy, the project moved forward with the concrete version.

What other choices besides using bio-based materials, do we have to improve the situation?

As architects we need to be extraordinarily conscious about every single project. Should we build this at all? Can we build it **without a basement** to minimise the use of concrete? Can the existing building structure be preserved?

One guideline is to remember the many "R"s - Refuse, Reduce, Reuse, Regenerate, Repurpose, Reassess, Recycle and I like to tag on Re-wild. It's a radical solution, but what if we refused to build new, and focused instead on renovation and transformation? This allows for huge carbon savings as well as saving resources.

Reassess the insulation you are using by investigating the global warming potential of various insulations. A new building facade has a heavy carbon impact. Look at what you're building the facade out of, as well as the **ratio between glass openings and solid openings**. Daylight is tremendously important but so is heat gain, so we need a **smart balance**.

What should the architects change in their approach during the creative phase of the project?

We need to **re-assess our palette of materials**. It's comfortable to lean back and say: "I've planned bathrooms for 30 years, you have to follow this regulation, you have to do use these materials."

Aluminium is an interesting case. As everyone knows, it has the potential to be highly recyclable. However, the carbon emissions from aluminium products with recycled aluminium are also very high. **Just because a product is recycled, it doesn't mean it has a small carbon footprint.**

The potential of future **recycling does literally nothing for the current urgent climate crisis**. The comment I have heard many times: "It's sustainable because it's recyclable". Yes, there is a high probability that it will be recycled at the end of life, but that's too late. We have to look at the next **10 years and understand the urgency of the climate crisis.**

I research materials, and I see where digitalisation can help material flows. It is necessary that we begin to look at our buildings as building banks, and consider them a **collection of resources for the future generations.**

Henning Larsen summarized the project ambitions with five dogmas. The dogmas are a framework for designing with **planetary health in mind.**



Henning Larsen's 5 dogmas applied in Feldballe school project

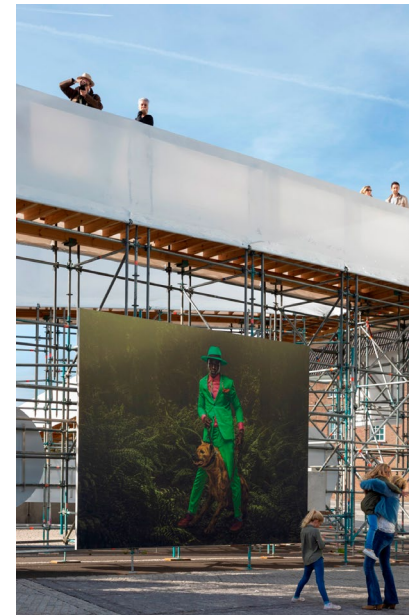
3.3 Interchangeability & Systems: *what can be rented?*

- 3.3.1 Scaffolding
- 3.3.2 Storage Racks
- 3.3.3 Machinery
- 3.3.4 Market Stalls
- 3.3.5 Prefabricated Container Kitchen
- 3.3.6 Prefabricated Container Bathrooms
- 3.3.7 Lift
- 3.3.8 Fences
- 3.3.9 Concrete Pavement Panels
- 3.3.10 Decommissioned Train chassis
- 3.3.11 Foundation
- 3.3.12 Stage Construction see 1.3 Festival
- 3.3.13 Auditorium Seating see 1.3 Festival
- 3.3.14 Audio Systems see 1.3 Festival
- 3.3.15 Audio Mixing Tents see 1.3 Festival

3.3.1 Scaffolding



With a total length of 500 metres and a maximum height of 6 metres, it is supported by a system of scaffolding, making it a design descendent of *The Stairs to Kriterion*, a temporary project from 2016 in which MVRDV created a staircase leading to the roof of the Groot Handelsgebouw in Rotterdam.



Structure and Art Panels as one



Light and minimal intervention to existing structure



Light and minimal intervention to existing structure

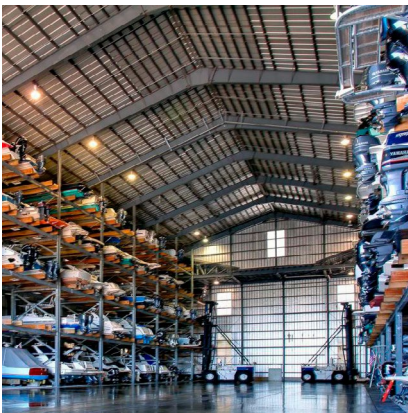


Lightweight timber frame with plywood covering fixed onto a low height steel truss sub-frame

3.3.2 Storage Racks

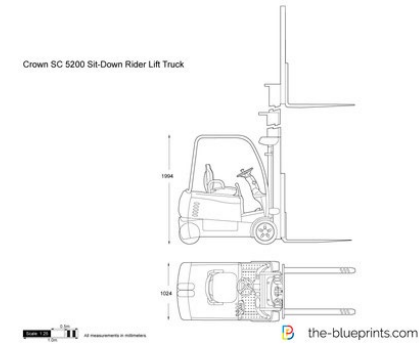


When clearance allows, the space within the racks becomes inhabitable by humans, if needed

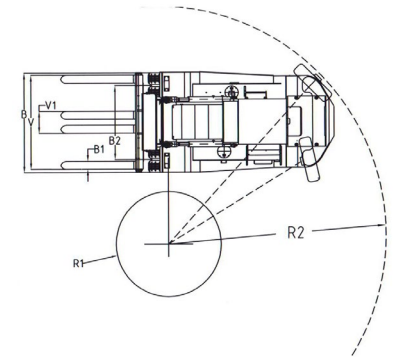


Stiff enough to hold a substantial weight load with relatively minimal footprint

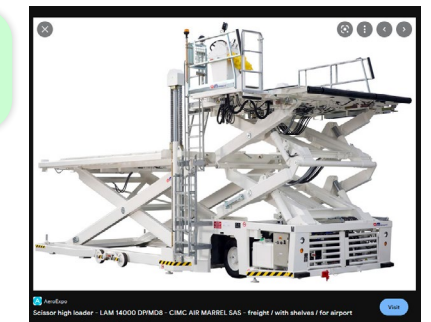
3.3.3 Machinery



The operational height of the forklift often defines the selected height of the racks. Needs a relatively small turning radius, due to all 4 wheels turning



Airport scissor loader - could substitute a heavy-duty elevator for multi-level instrument delivery. Like a grand piano.

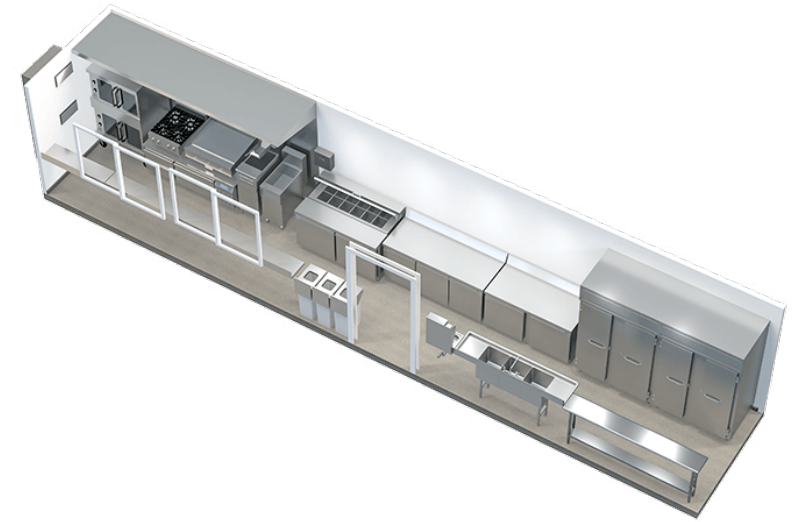


3.3.4 Market Stalls

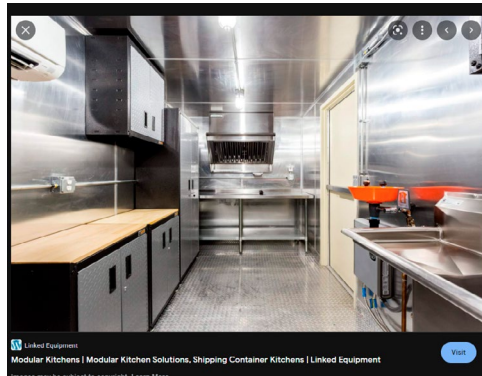
Municipality already provides the streets with stalls - example of 2022 Kingsday in Rotterdam



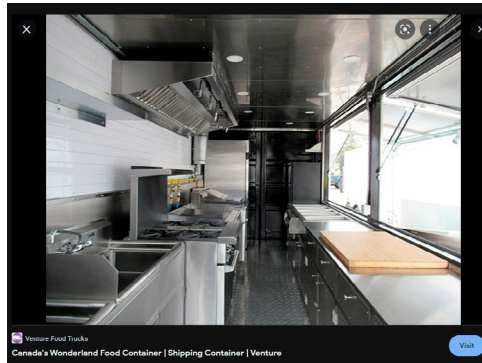
3.3.5 Prefabricated Container Kitchen



The kitchens are prefabricated into 20ft and 40ft containers, with all the services installed, ready to be connected on site

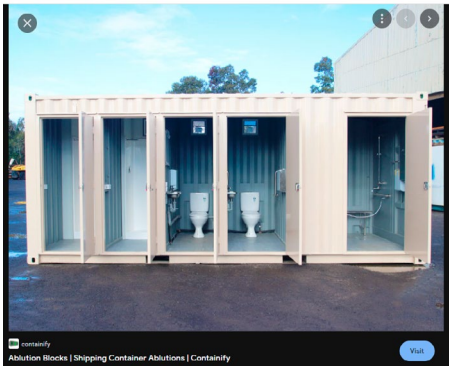
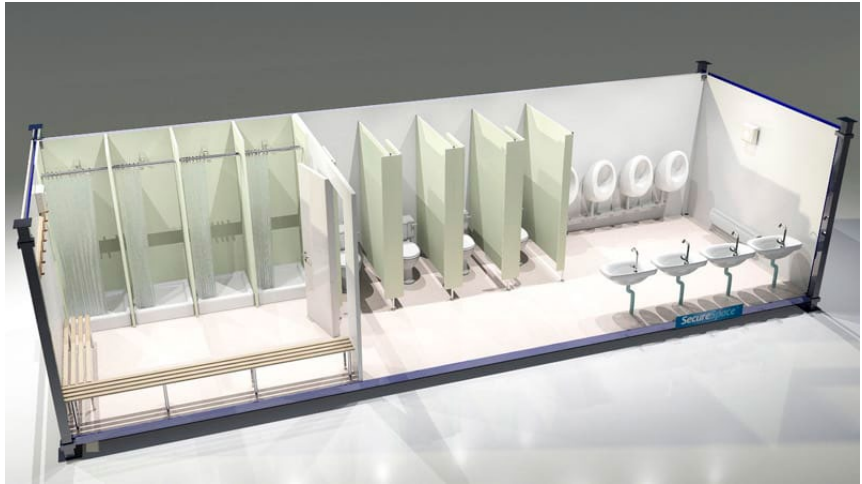


Depending on budget, it is possible to rent a high-grade professional kitchen, fully equipped for a full service catering

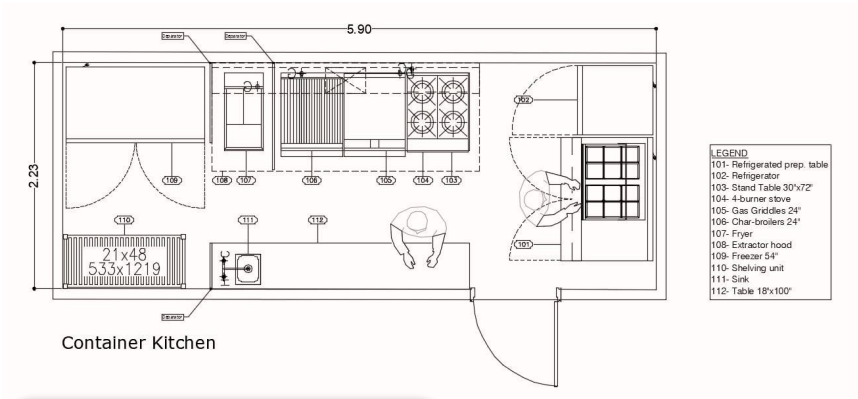


If necessary, an option on wheels is possible - for ultimate flexibility

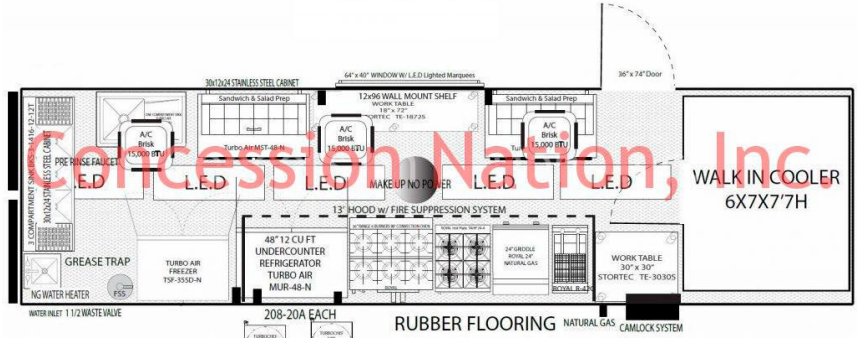
3.3.6 Prefabricated Container Bathrooms



The Bathrooms come in any imaginable combination: single gender / two separate genders / wc + shower / wc + changing room etc.

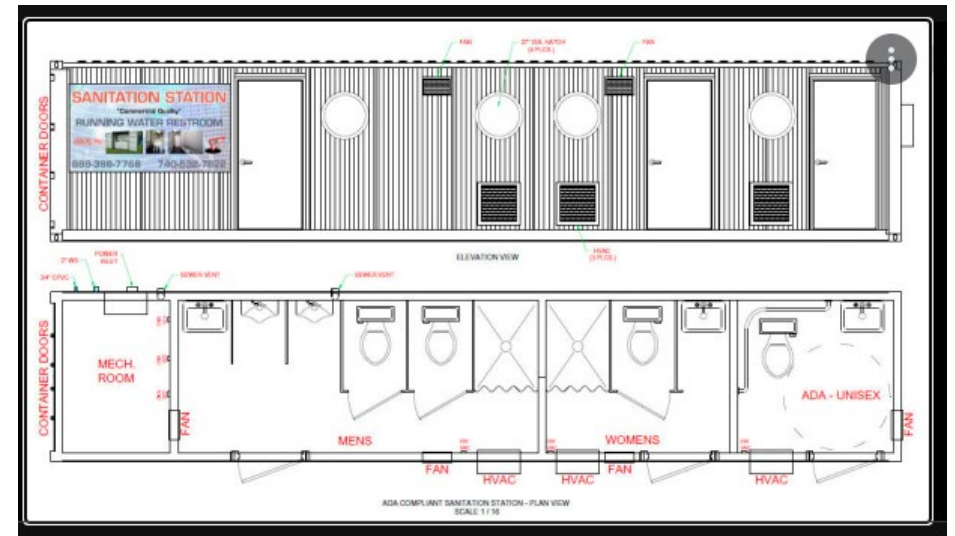
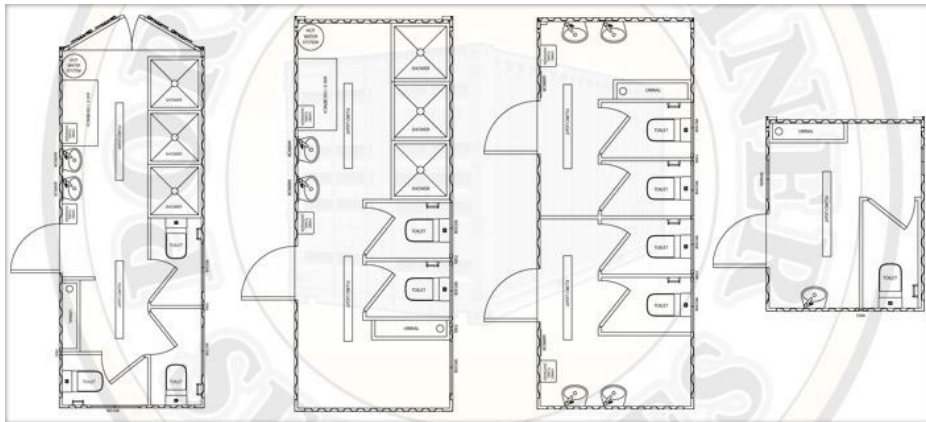
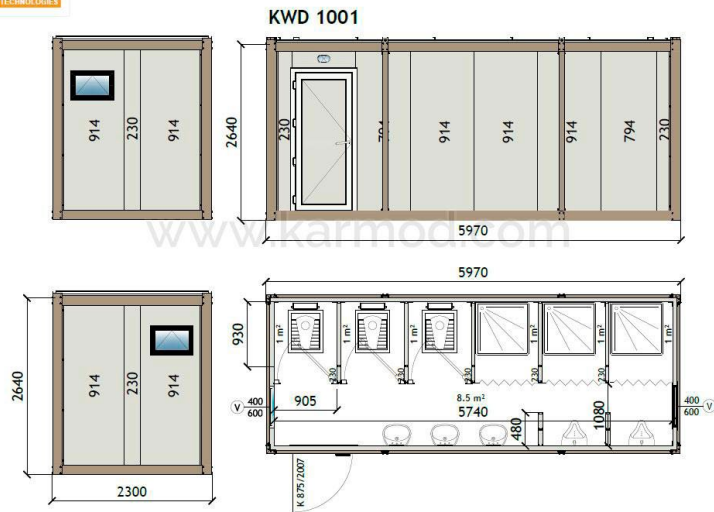


20ft container kitchen example



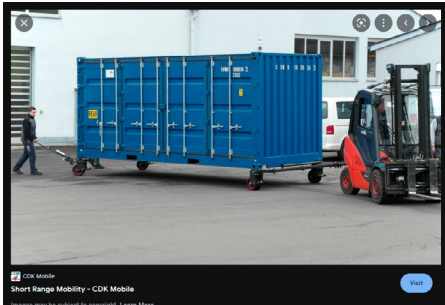
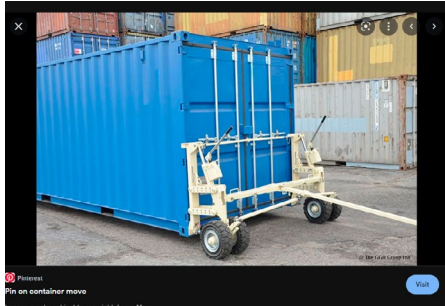
40ft container kitchen example

230 X 600 WC - Shower Container



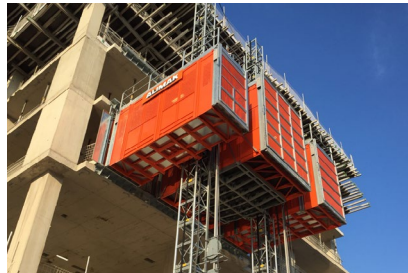
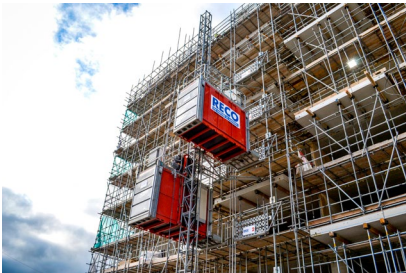
When used in the context of the project, these examples show that the orientation of the entrance can be from any side - allowing for flexible positioning towards the site and main flows of circulation





Ultimately, in combination with the manual lifting rack and the assistance of the forklift - the containers of the kitchen and bathrooms can be moved around with minimal effort and ease

3.3.7 Lift



Temporary construction lifts are a feasible alternative to replace the foundation heavy lift structure. Especially when it will not be used regularly



Connected at the floor plate of each level, in the context of the project, which has only 2 floors at the highest, allows for a minimal intervention into the main structure

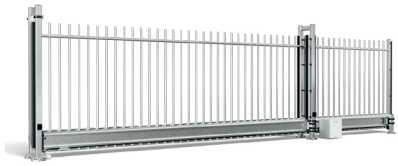


3.3.8 Fences



HERAS is the leading fence manufacturer in Europe. Their pre-assembled fences are ProRail standard approved, meaning that they can be used in highly secured areas





Besides being an ISO verified product, and of highest quality build, in their range they also have Noise Reducing product, which is primarily used on highways and around heightened noise areas



The HERAS 'Noise Reducer' wall can be assembled to max 6m height. It has fireproof PVC finish on both sides, with rockwool insulation inbetween. It comes together with the galvanized steel beams and frames for fixing them in place



The manufacturer claims it is one of their longest-lifespan product (25 years) with a 30dB reduction capacity at 90mm thickness

3.3.9 Concrete Pavement Panels



Large scale concrete pavers, standard size of 2x2m - 12, 14, 16, 25cm thickness. Laid directly from the back of the truck via a vacuum lift.

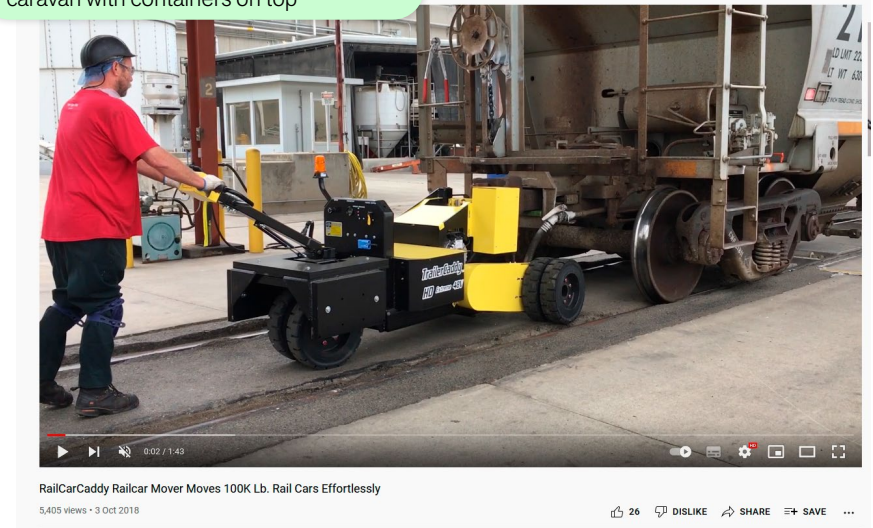
3.3.10 Decommissioned Train Chassis

There are a lot of unused decommissioned chassis on NS Railines that could be used as base for moving elements in the Music Marvel



Load capacity of 1 chassis is 70-100T, depending on the type, which is more than enough for the lightweight stage construction that could be fitted on top of it

'Train Mover' with a contemporary 'power-pusher' machine - can move a whole caravan with containers on top

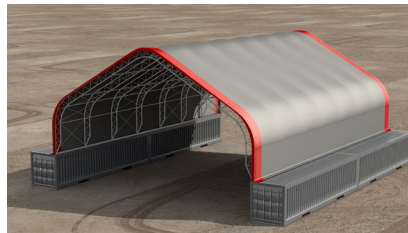
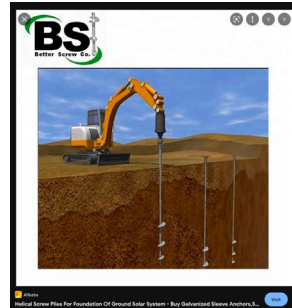
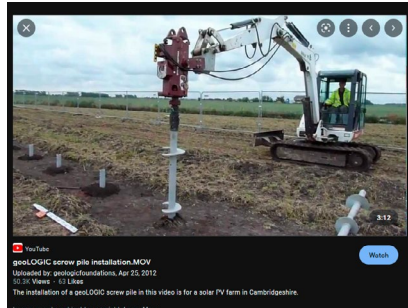


'Train Movers' with a steel safety wrench



3.3.11 Foundation

Helical screw piles can be installed with the assistance of a bobcat, making it a very maneuverable option for the railyard of the site. After the demounting of the pavillion, the piles can be unscrewed and reused. Or even reused ones could be chosen in the first place.



Containers or fastened concrete 'lego blocks' can support a lightweight structure, which is pre-stiffened and braced in advance.



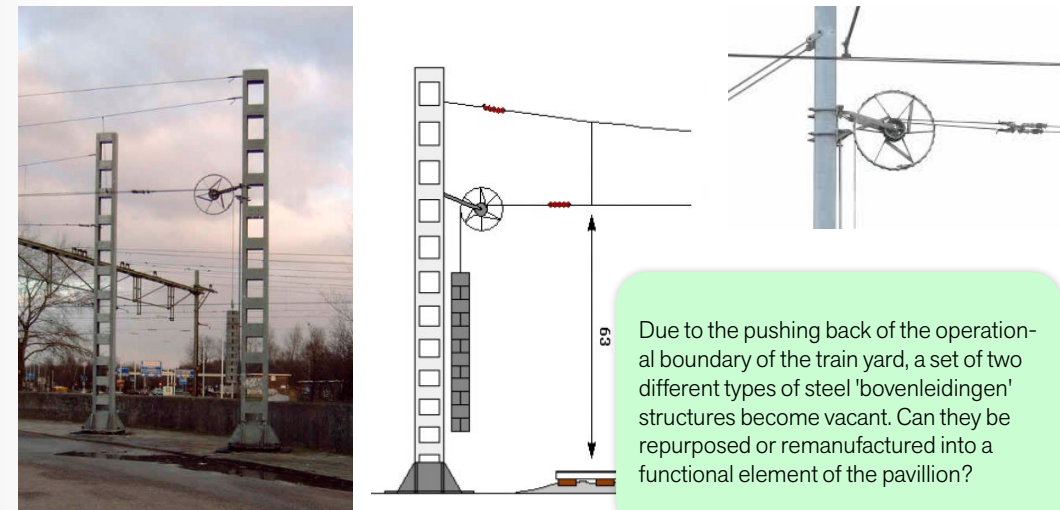
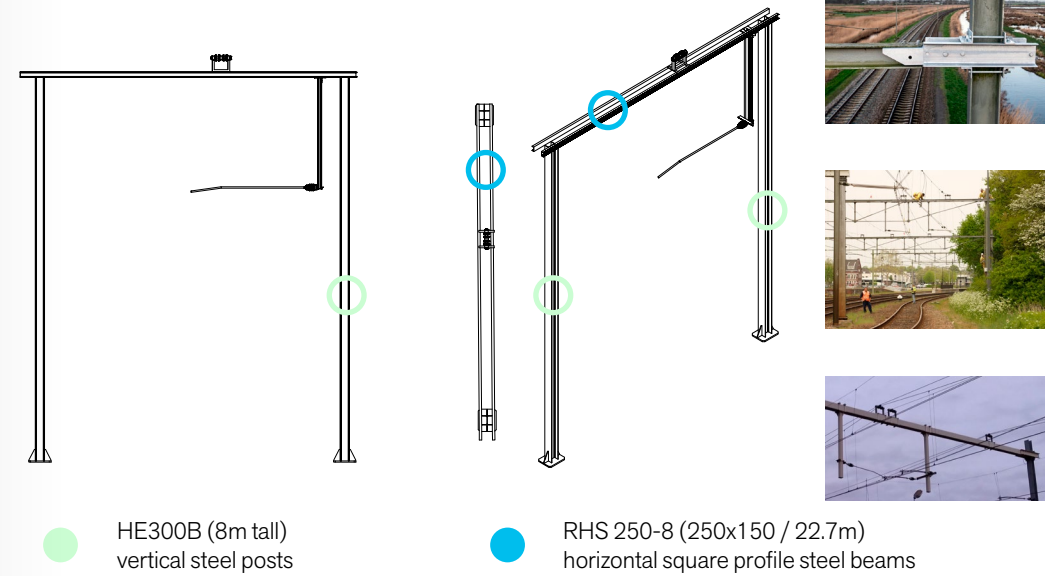
A 2-storey single family house was placed in Belgium (GAFPA architects) on t-profile concrete foundation modules



3.4 Re-Usable site assets?

- 3.4.1 ProRail 'bovenleidingen' & light fixtures
- 3.4.2 Rails
- 3.4.3 Crushed building rubble from Binckhorst

3.4.1 ProRail 'bovenleidingen' & light fixtures



3.4.2 Rails

"The Inktpot, Utrecht, is the largest brick building in the Netherlands. It was built between 1919 and 1921 for the NS or Nederlandse Spoorwegen, the government-run railway company. This imposing building is made of more than 22 million bricks, and its construction also relied heavily on oak timber. Old rails were used in the building's foundations, due to the scarcity in building materials compared to the building's massive size. NS acquired two brick factories for the building's construction, as well as a timber company, three ships and a forest."



Rails in foundation and rails as re-contextualised vertical & horizontal supports

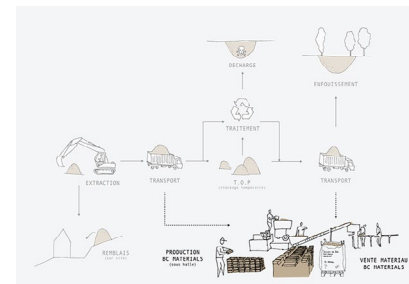


If this heavyweight masonry building could monetize on reusing railway, surely a two-storey timber pavilion can find opportunities to reuse the railways of the site within the built construction

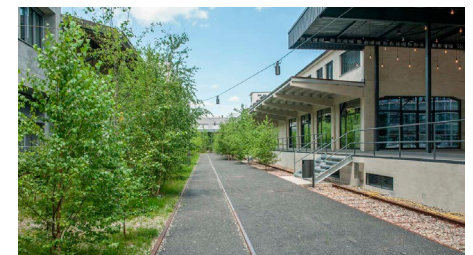
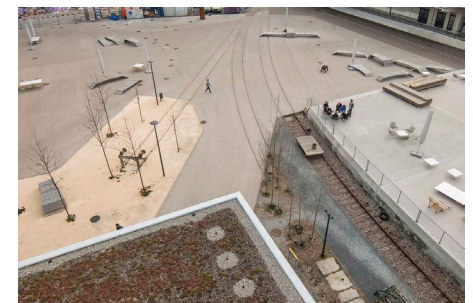
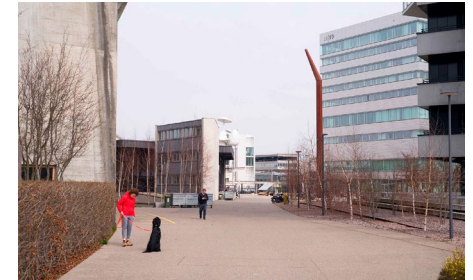
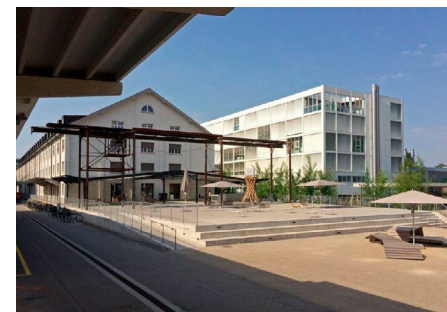
Dreisplatz area in Basel is a beautiful example of reclaimed industrial railway terrain, by filling the surfaces with rubble, and applying different finishes creating a continuously smooth and seamless public surface

3.4.3 Crushed building rubble from Binckhorst

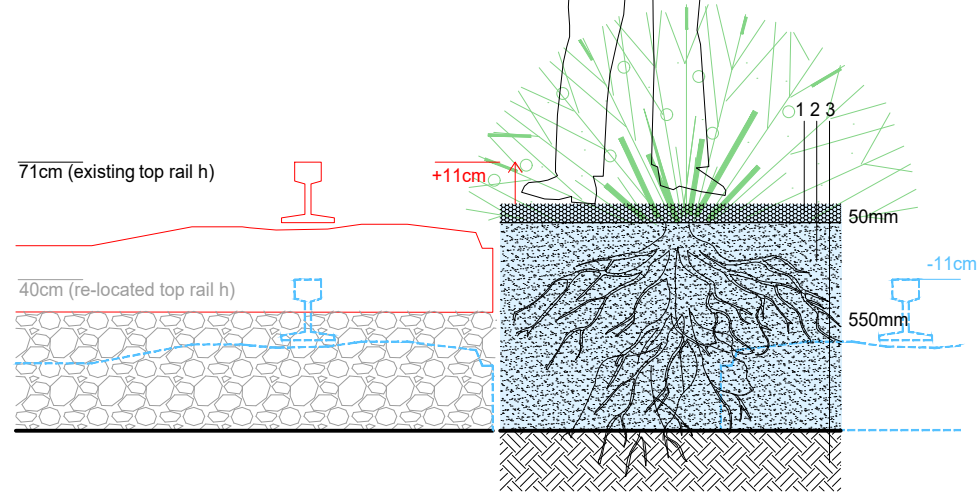
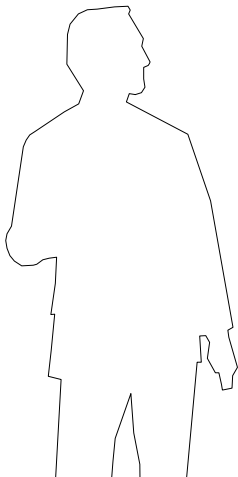
One of the most visible practice in reuse is BC architects, Belgium. They have developed a feasible method for low-tech appropriation of building waste directly on site of a project. With rented mobile crushers, it would be possible to directly process building waste from the demolition sites of Binckhorst, and integrate the fine gravel (as fine as 5mm fraction) into the newly reclaimed Spoorbogzone landscape.



BC Architects, Belgium
Source: https://bcmaterials.org/en_31_concept.html



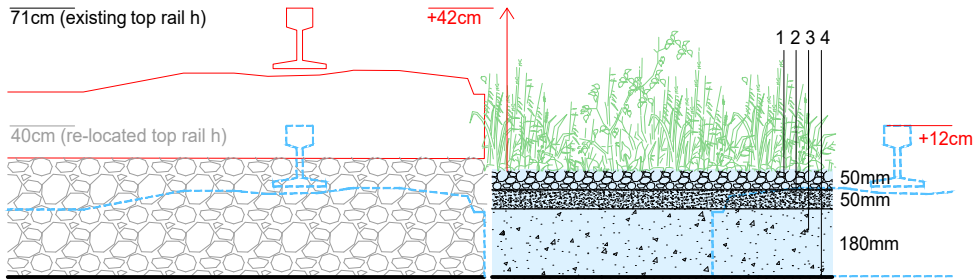
Soft Terrain Type 1: 'Rich Soil'



- Vegetation Landscaping Type 1
- 600mm
- 1 Layer of mulch
 - 2 Rich soil mix: 90% rich soil + 10% compost
 - 3 Compacted existing soil

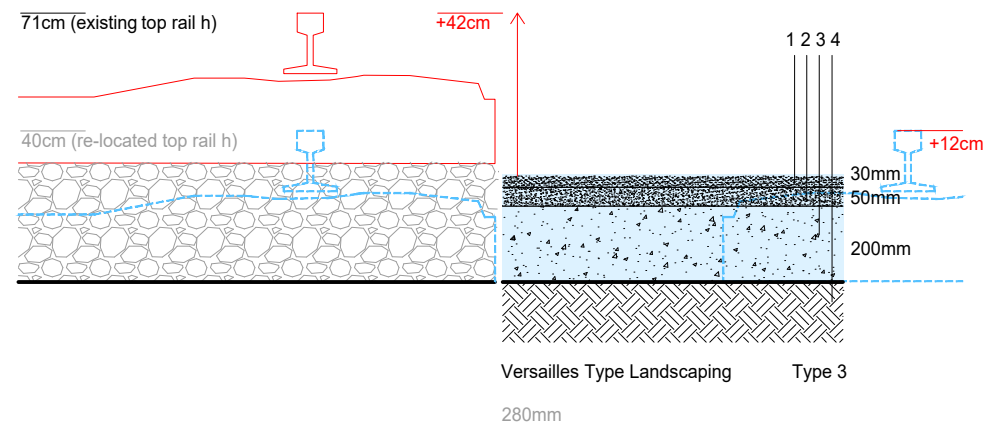
Soft Terrain Type 2: 'Pebbled Surface'

This is a research selection of potential terrain compositions that all could be applied to create a multiplicity of public surface zones



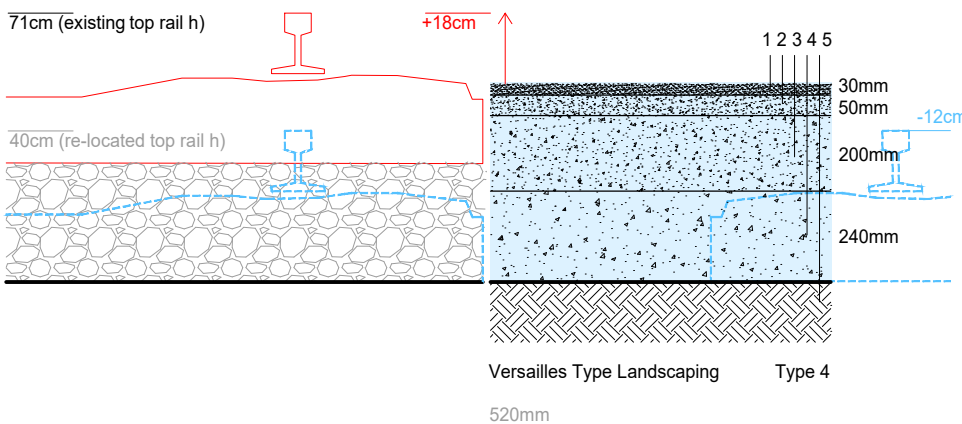
- Pebble Landscaping Type 2
- 280mm
- 1 Rinsed pebble cover D=20mm
 - 2 Dolomite rubble (fr.5/8mm)
 - 3 Compacted rinsed dolomite rubble mix: 10% (fr.8/16mm) + 90% (fr.16/32mm)
 - 4 Compacted existing soil

Soft Terrain Type 3: 'Loose Gravel Surface'



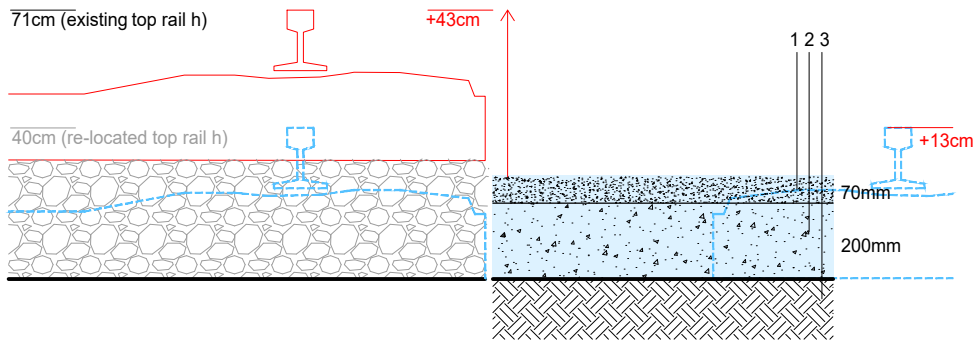
- 1 Fine granite rubble (fr. 2/8mm) scattered in dolomite powder (binder) layer
- 2 Dolomite rubble (fr. 5/8mm)
- 3 Compacted rinsed dolomite rubble mix: 10% (fr. 8/16mm) + 90% (fr. 16/32mm)
- 4 Compacted existing soil

Soft Terrain Type 4: 'Sol Stabilisé'



- 1 Fine granite rubble (fr. 2/8mm) scattered in dolomite powder (binder) layer
- 2 Dolomite rubble (fr. 5/8mm)
- 3 Rinsed dolomite rubble mix: 10% (fr. 8/16mm) + 90% (fr. 16/32mm)
- 4 Frost resistant draining sand (cf > 1m/dnn)
- 5 Compacted existing soil

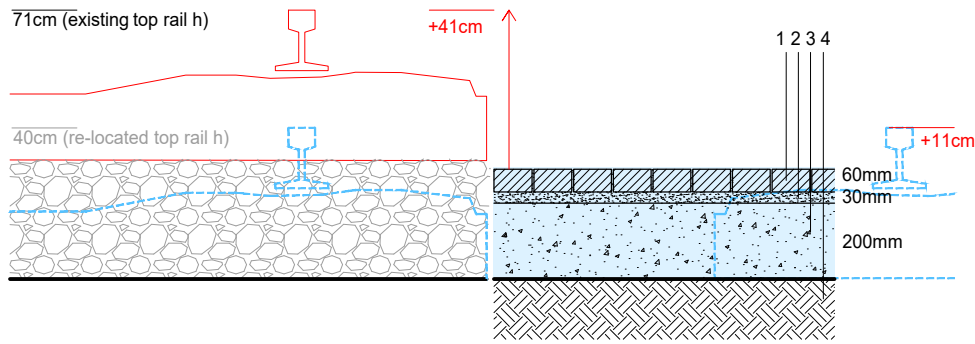
Hard Terrain Type 1: 'Resin Bound Gravel'



Versailles Type Landscaping Type 5

- 270mm
- 1 In mass:
30% clay gravel
30% dolomite rubble (0-32mm)
40% pebbles
 - 2 Compacted rinsed dolomite rubble mix:
10% (fr. 8/16mm) + 90% (fr. 16/32mm)
 - 3 Compacted existing soil

Hard Terrain Type 2: 'Paved'



Paved Landscaping Type 6

- 290mm
- 1 Concrete pavers
 - 2 Rough sand
 - 3 Rinsed dolomite rubble (fr. 0/45mm)
 - 4 Compacted existing soil

3.5 What is the Seventh Generation Principle?

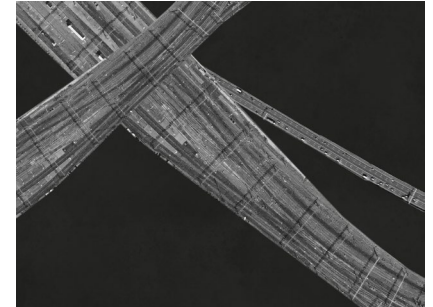
The following text is a transcript from the website of *Indigenous Corporate Training INC*
<https://www.ictinc.ca/blog/seventh-generation-principle>

"The Seventh Generation Principle is based on an ancient Haudenosaunee (Iroquois)* philosophy that the **decisions we make today should result in a sustainable world seven generations into the future.** This extremely prescient philosophy is currently somewhat overused as a "green" marketing ploy to sell everything from dish soap to cars. The first recorded concepts of the Seventh Generation Principle date back to the writing of The Great Law of Haudenosaunee Confederacy, although the actual date is undetermined, the range of conjectures place its writing anywhere from 1142 to 1500 AD. The Great Law of Haudenosaunee Confederacy formed the political, ceremonial, and social fabric of the Five Nation Confederacy (later Six). The Great Law of Haudenosaunee Confederacy is also credited as being a contributing influence on the American Constitution, due to Benjamin Franklin's great respect for the Haudenosaunee system of government, which in itself is interesting from the perspective that the United States formed their Constitution not on the principles of European governments, but rather on that of a people considered "savages". The Seventh Generation Principle today is generally referred to in regards to **decisions being made about our energy, water, and natural resources, and ensuring those decisions are sustainable for seven generations in the future.** But, it can also be applied to relationships - every decision should result in sustainable relationships seven generations in the future."

*Terminology note: Called the Iroquois Confederacy by the French, and the League of Five Nations by the English, the confederacy is properly called the Haudenosaunee Confederacy meaning People of the long house. The confederacy was founded by the prophet known as the Peacemaker with the help of Aionwatha, more commonly known as Hiawatha. The exact date of the joining of the nations is unknown and said to be time immemorial making it one of the first and longest lasting participatory democracies in the world.

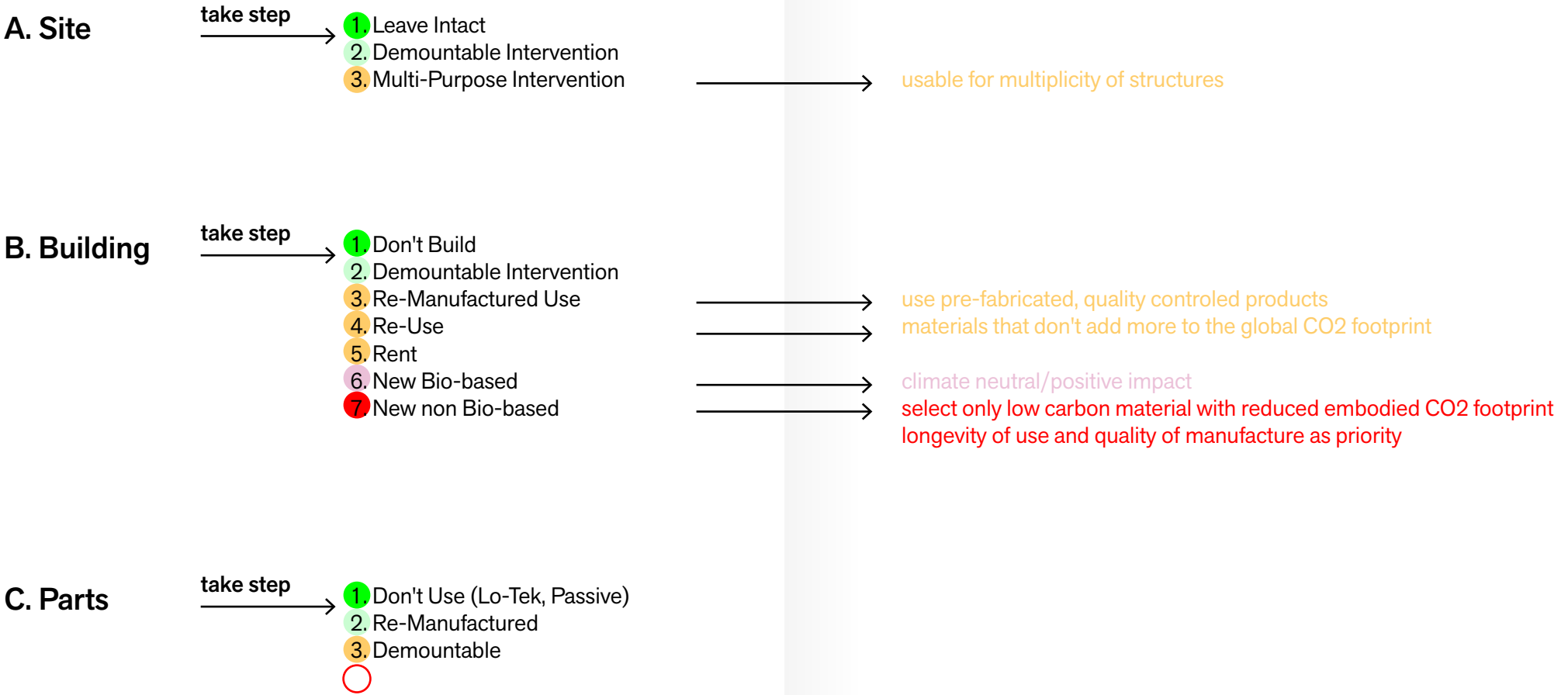
Manifesto linked to his framework, only instead of 7 generations, it focuses on 3. Why? Because with the contemporary attention span and overall state of culture, the furthest connection that still can be an influence is that of the people we can still physically grasp. Daughter, Father and Grandmother - 3 generations. The range of influence - give or take 75 years.

see manifesto of P2



Check out "Iroquois Constitution" (<http://www.indigenouspeople.net/iroqcon.htm>)
www.indigenouspeople.net

3.6 Circularity Roadmap for Music Marvel



4. What are my Quality Goals?

Social Quality

- ☐ 4.1 Harvest intergenerational value on the urban terrain of the project
- ☐ 4.2 Open platform for wide range performance
- ☐ 4.3 Multiplicity of usage, both musical and civic
- ☐ 4.4 Define systematic hierarchy for circular decisions
- ☐ 4.5 Position on designing for 3 generations

Architectural Quality

- ☐ 4.6 Biomass construction
- ☐ 4.7 Design for disassembly
- ☐ 4.8 Quality indoor climate
- ☐ 4.9 Reuse local assets

P5.A Process Documentation
 (Research Questions)
 (Design Journal)

P5.B Final Design
 (Project Formulation)
 (Project Design)

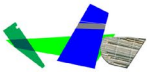
P5.C Final Reflection

Design Journal

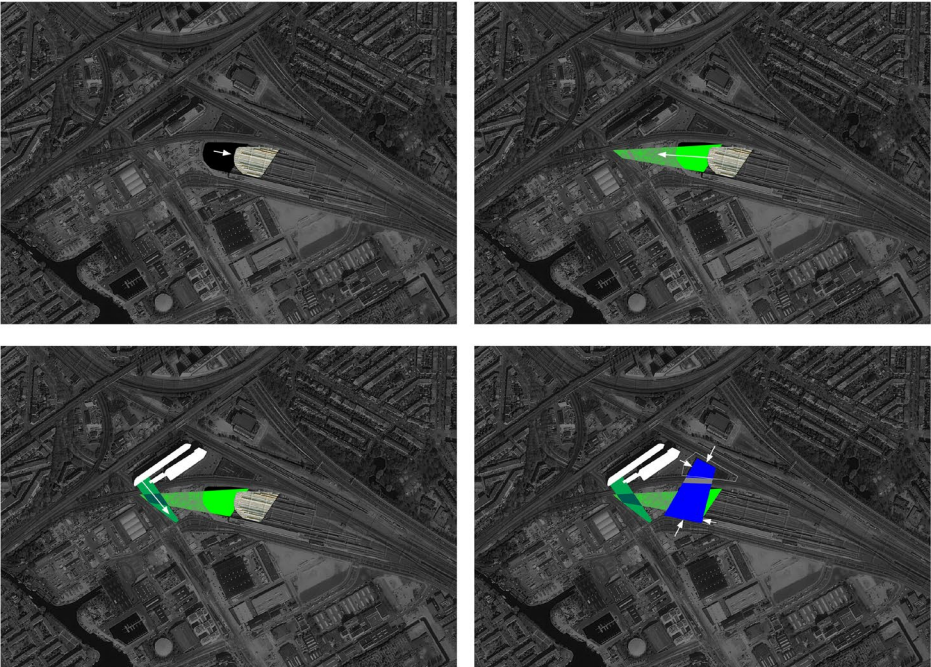
In-Between alliences

Noise is Free. Music is Paid. Conflict between individual and public. „Sound doesn't exist in nature“. Music is a special event. Music vs Demonstration? Demonstration descends, concert ascends. Pay money to see. Concert. Free demonstration. Noise = Free; Music = Paid. Demonstration concert! Blurring spetial condition. Sound of the city, welcome in all form. „Building

is important, but it cannot do without its surroundings. It's the mental surrounding, it's the biographical surrounding, it's the place where it stands; the place where building stands is always historic. And traces of history are stored in topography of townscape, city, landscape. When building resonates with the existing, it becomes more valuable than standing alone.“



Clutter of intersecting site dependencies ↑



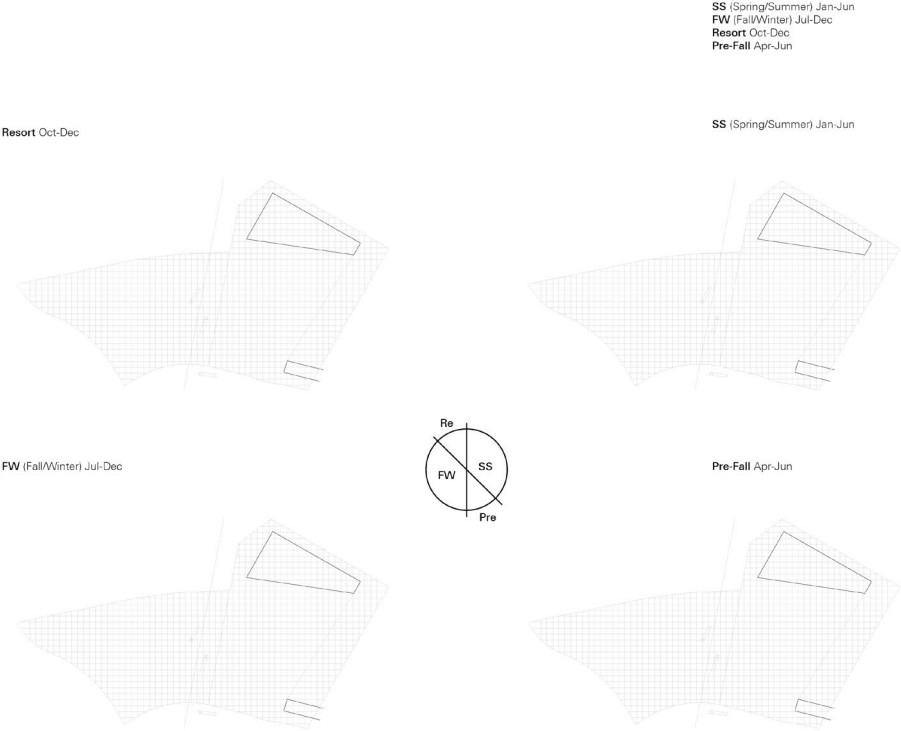
Four Seasons, scales of a universal music pavillion

Do Play is a universal performance ground. „Neoliberal architecture can be of public benefit as side effect. Since architecture is expensive, firstly, it serves the interest of the ones who pay.“ „Architecture as spatio-financial form, not as shelter or cultural manifestation.“ Site exception? Building exception? Universal behavior; system; space? Summer: wide open; Winter: cozy.

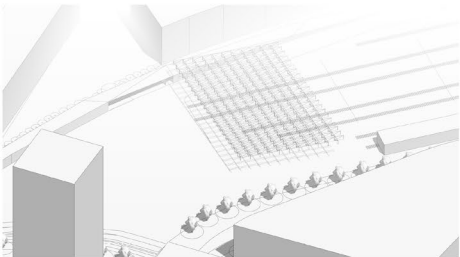
System — Universal
Usage — Distortion
Site — Exception
or
System — Exception
Usage — Distortion
Site — Universal
„Under my roof.“
Control of territory.



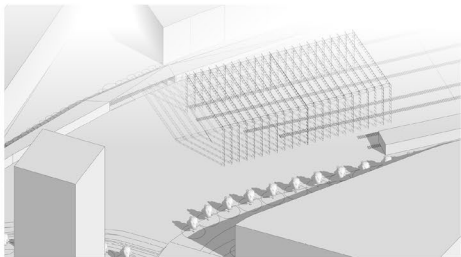
Embodied potential of music performance formats ↑



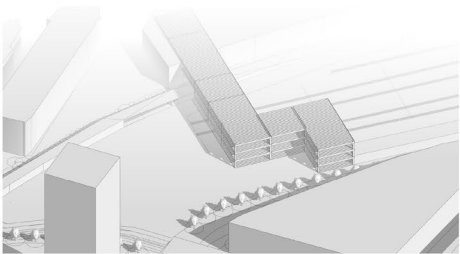
Pavillion studies



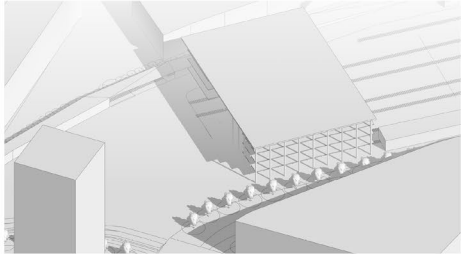
100m
Grid: 100m span



48m
Grid: 48m span



20m
Grid: 20m span, 1200mm deep



16m
Grid: 8 16m, 16m typical

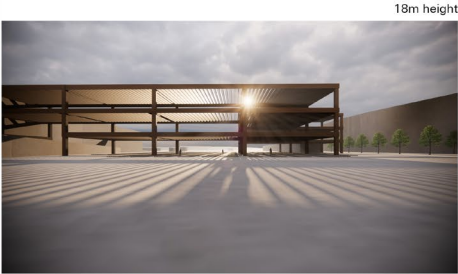
Pavillion studies



100m
Grid: 100m span



48m
Grid: 48m span



20m
Grid: 20m span, 1200mm deep



16m
Grid: 8 16m, 16m typical

Pavillion studies



100m
Grid: 100m span



48m
Grid: 48m span



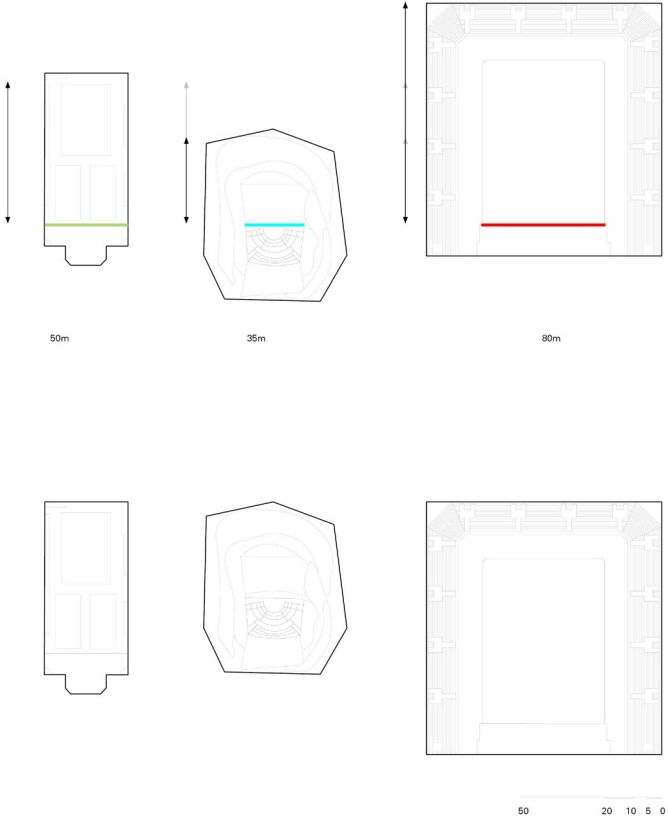
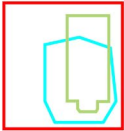
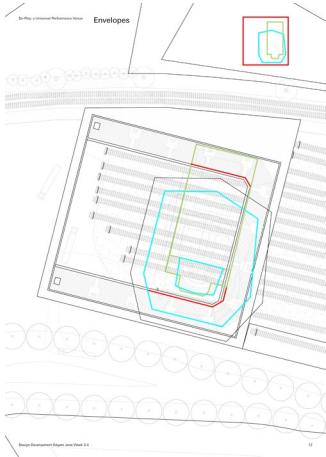
20m
Grid: 20m span, 1200mm deep



16m
Grid: 8 16m, 16m typical

Pavillion studies





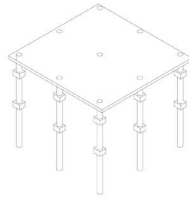
Concrete

Grid typical: 6-8m
Grid extreme: 10-18m

Revalidatiecenter, Groot Klimmendaal



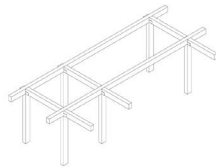
7m
Grid: 6-10m, 7m typical



Station Groningen, Groningen



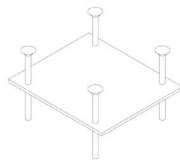
8m
Grid: 6-18m, 8m typical



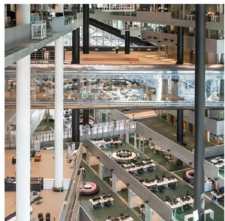
Woonzorg Nederland, Amstelveen



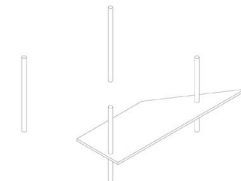
10m
Grid: 10m, fixed



Axel-Springer, Berlin



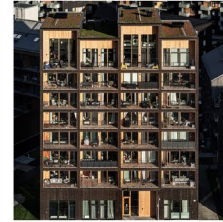
16m
Grid: 8-16m, 16m typical



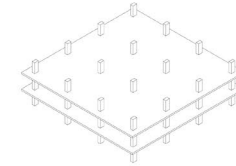
CLT

Grid typical: 6-8m
Grid extreme: 10-18m

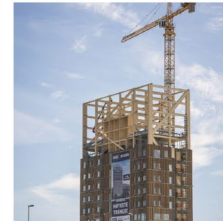
Kajstaden Tell Timber Building, Västerås



6m
Grid: 6.2m, fixed

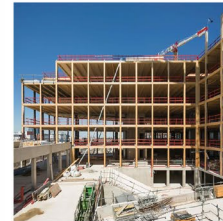


Mjøstårnet, Brumunddal



7m
Grid: 5.5-8m, 48m (28-support-20),
7m typical

Office in Wood, Paris

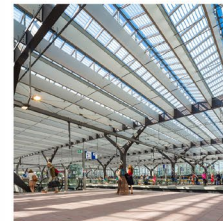


8m
Grid: 8m, fixed

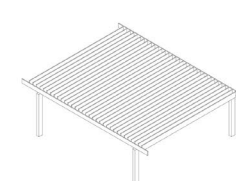


Office in Wood is the largest timber-frame project in France and the first of its kind in the country. It is part of a large urban regeneration project to the north of Paris

Rotterdam Centraal, Rotterdam



20m
Grid: 20m span, 1200mm deep



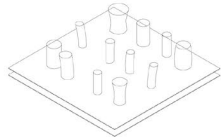
Steel

Grid typical: 8m
Grid max: 10-14m/14-20m
Grid extreme: 20m+

Sendai Mediatheque, Sendai



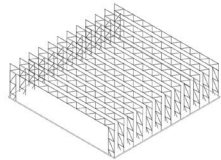
8m
Grid: 5-15m, 8m typical



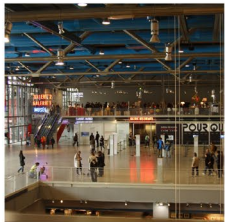
Sainsbury Centre for the visual arts, Sainsbury



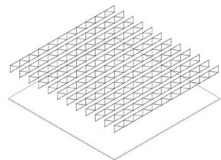
28m
Grid: 28m span



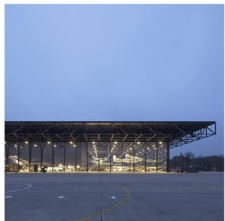
Centre Pompidou, Paris



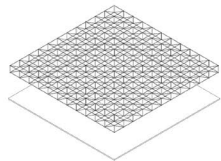
48m
Grid: 48m span



Military Museum Of The Netherlands, Soest



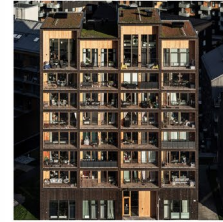
100m
Grid: 100m span



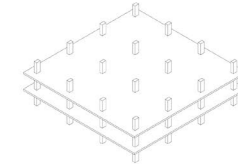
CLT

Grid typical: 6-8m
Grid extreme: 10-18m

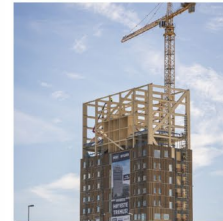
Kajstaden Tall Timber Building, Västerås



6m
Grid: 6.2m, fixed

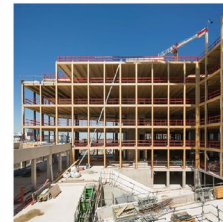


Mjøstårnet, Brumunddal



7m
Grid: 5.5-8m, 48m (28-support-20),
7m typical

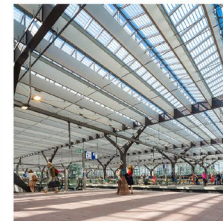
Office in Wood, Paris



8m
Grid: 8m, fixed

Office in Wood is the largest timber-frame project in France and the first of its kind in the country. It is part of a large urban regeneration project to the north of Paris

Rotterdam Centraal, Rotterdam



20m
Grid: 20m span, 1200mm deep



Frontal

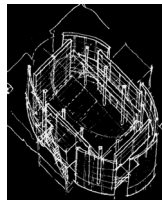
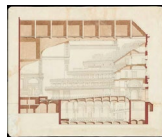
Gravure 't Hofje van Nieukoop te 's-Gravenhage 18e eeuw



Carnegie Hall, NY, 1891



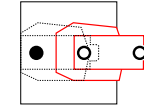
Universal Music Pavillion 2022



Transformation Frameworks



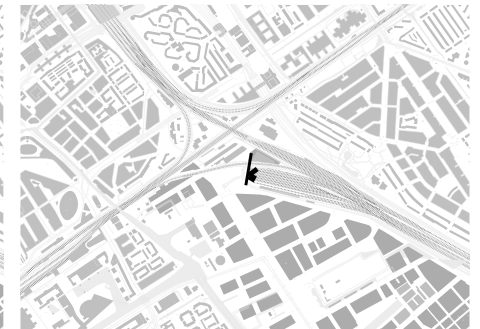
Linear expansion



Linear expansion



Radial expansion



Design Development Edgars Jane Week 3.5

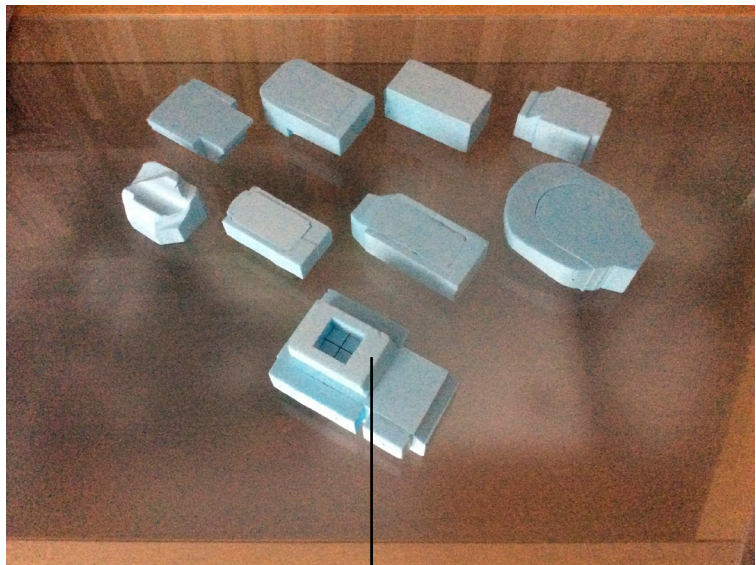
1

Extracting spatial data from 8 of the best world class concert halls

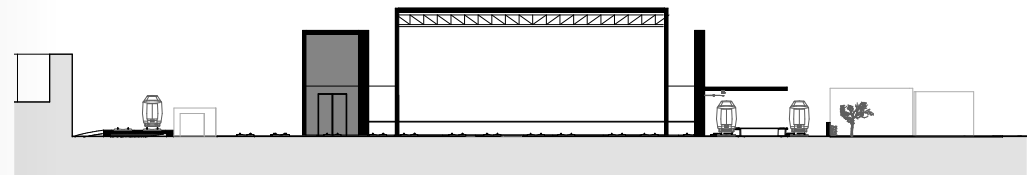
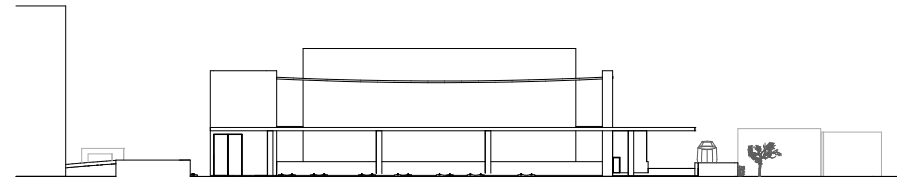
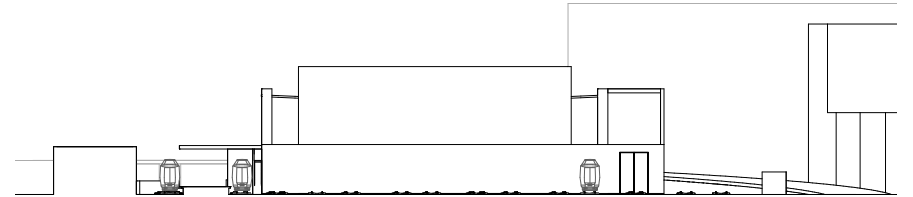
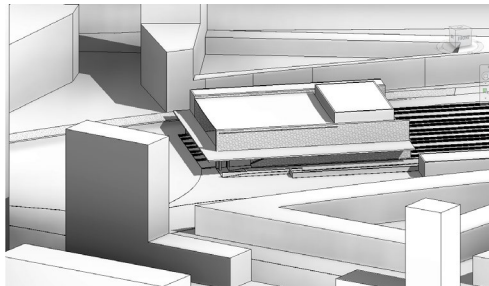
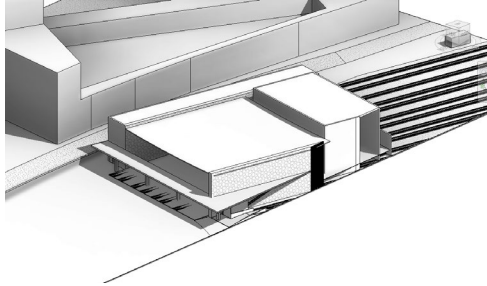
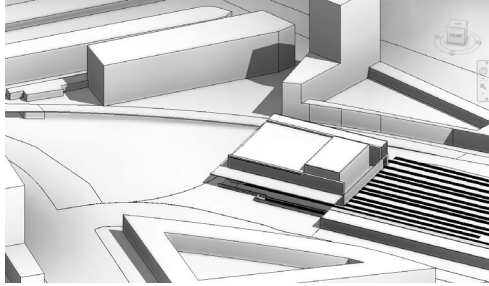
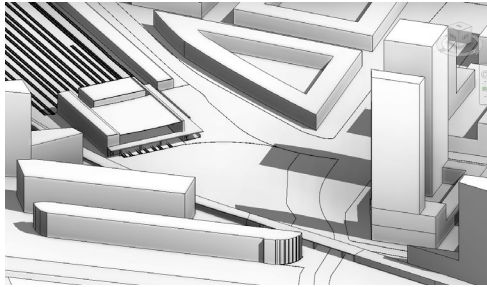
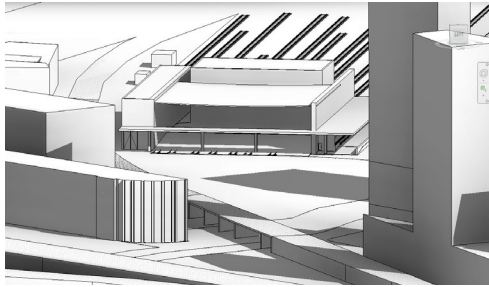
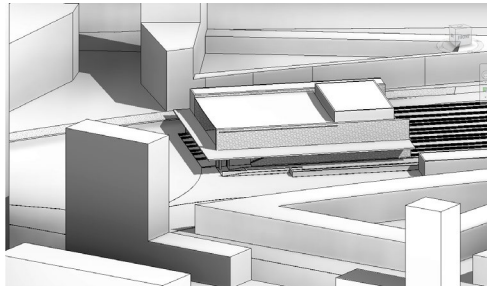
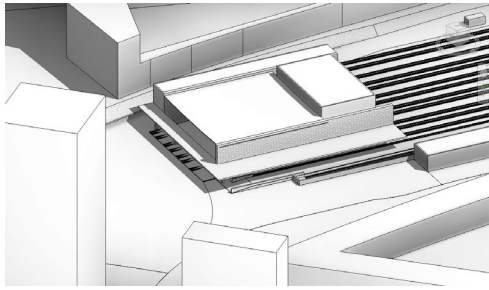
	RT	Length	Width	Height	Volume	L/W Ratio		Area	S/Area Ratio
1 NY Carnegie Hall	1.80	32.90	25.90	23.80	24,270	1.27	x	852.11	28.5
2 Cardiff St. David's Hall	1.95	27.40	27.40	18.00	22,000	1.00		750.76	29.3
3 Amsterdam Concertgebouw	2.00	26.20	27.70	17.00	18,780	0.95		725.74	25.9
4 Boston Symphony Hall	1.85	39.00	22.90	18.60	18,750	1.70		893.1	21.0
5 Vienna Musikvereinssal	2.00	35.70	19.80	17.40	15,000	1.80	x	706.86	21.2
6 Berlin Konzerthaus	2.05	24.10	20.70	17.70	15,000	1.16		498.87	30.1
7 Zurich Grosser Tonhalleaal	2.05	29.60	19.50	14.00	11,400	1.52	x	577.2	19.8
8 Basel Stadt Casino	1.80	23.50	21.00	15.20	10,500	1.12		493.5	21.3
Average Shoebox	1.96	29.68	21.93	16.65	14,905	1.38		Average Total	24.6
Average Vineyard	1.88	30.15	26.65	20.90	23,135	1.14		Average Special	25.2
Average Weighted	1.92	29.92	24.29	18.78	19,020	1.32			
Surface Area (m2)					2986				

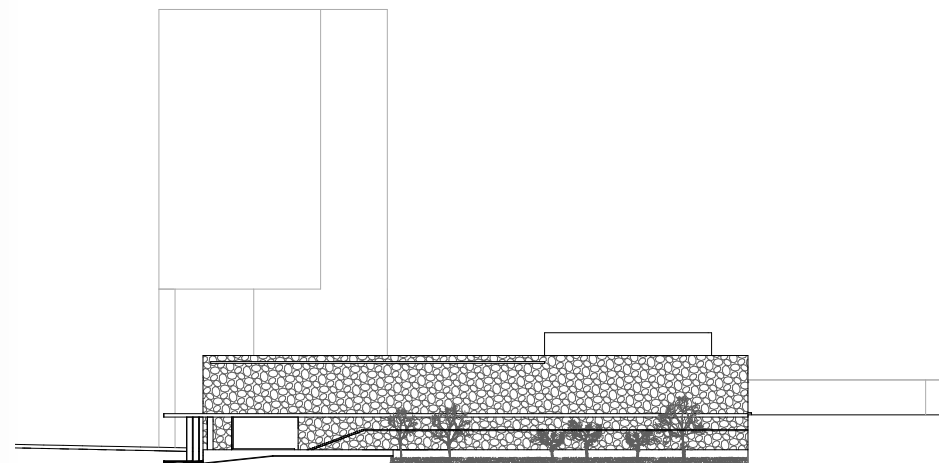
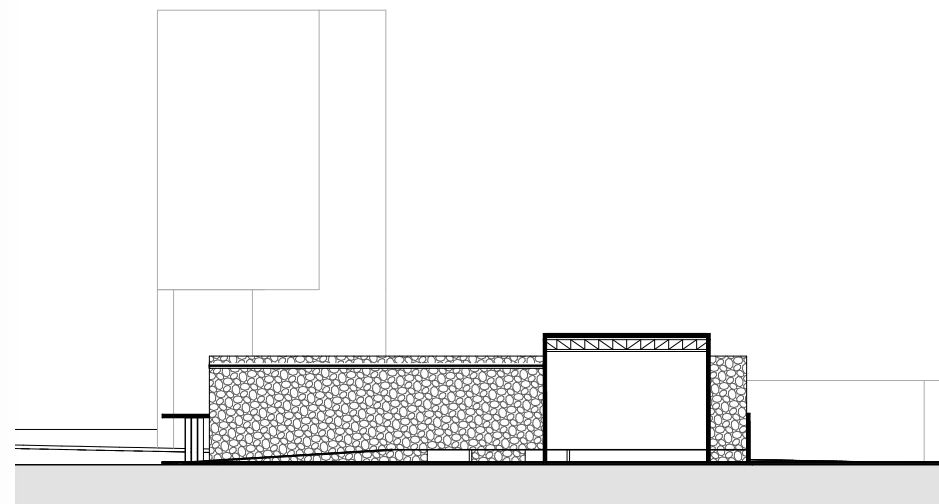
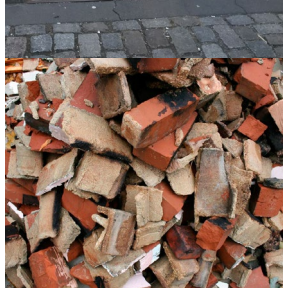
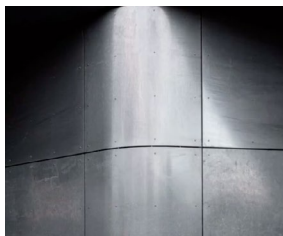
Design Shoebox #Amsterdam	22.325	23.50	18.60	9,758	0.95	524.6	-775.4 m2
Design Shoebox #Boston	39.95	23.50	18.60	17,462	1.7	938.8	-361.2 m2
Design Shoebox #Vienna	42.3	23.50	18.60	18,489	1.8	994.1	-306.0 m2
Design Shoebox #Berlin	27.26	23.50	18.60	11,915	1.16	640.6	-659.4 m2
Design Shoebox #Zurich	35.72	23.50	18.60	15,613	1.52	839.4	-460.6 m2
Design Shoebox #Basel	26.32	23.50	18.60	11,504	1.12	618.5	-681.5 m2
Design Shoebox WIDTH	55.32	23.50	18.60	24,180	2.35	1300.0	0.0 m2
Design Shoebox LENGTH	50.00	26.00	18.60	24,180	1.92	1300.0	0.0 m2

							S/Area Ratio
Design Vineyard	35.80	33.30	18.60	22,174	1.08	1192.1	-107.9 m2 18.6
Design Shoebox (MAX)	59.80	23.50	18.60	26,139	2.54	1405.3	105.3 m2 18.6
Design Shoebox (Vienna)	42.30	23.50	18.60	18,489	1.80	994.1	-306.0 m2 18.6
Design Shoebox (Vienna)#H	42.30	23.50	21.00	20,875	1.80	994.1	-306.0 m2 21.0



Universal volume





Open Facade facing the
Festival Plane



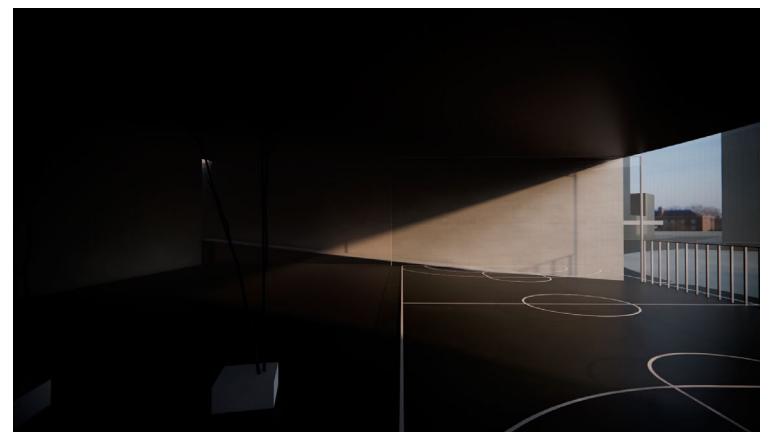
View from the tribunes towards the
highrise of New Binnchorst



View towards the tribunes from the
lower ramp



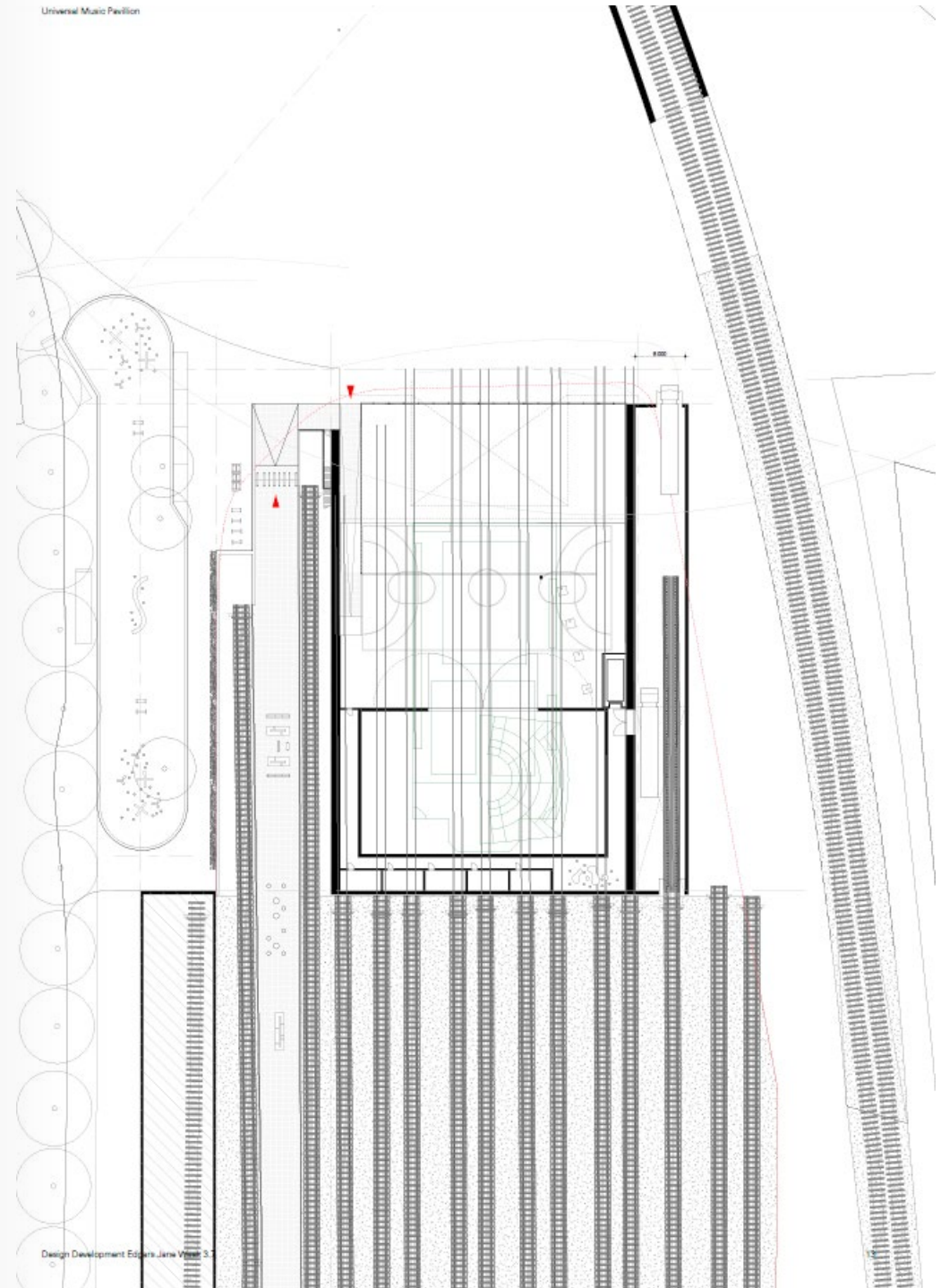
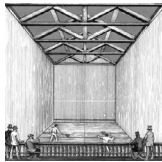
View from the tribunes toward the
entrance ramp

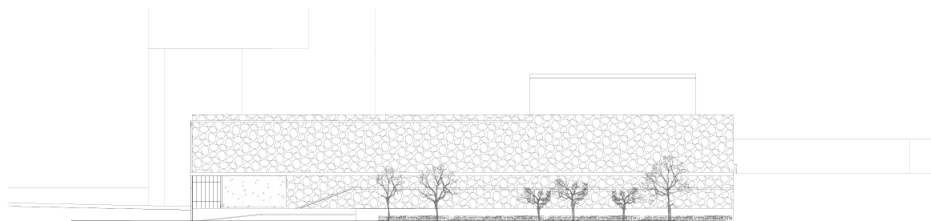
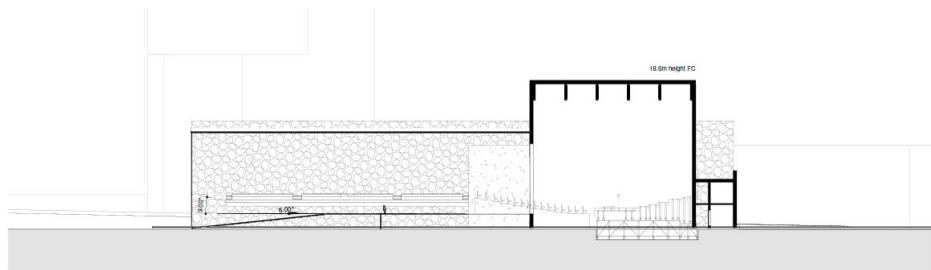


Plasticity of the Entrance corner

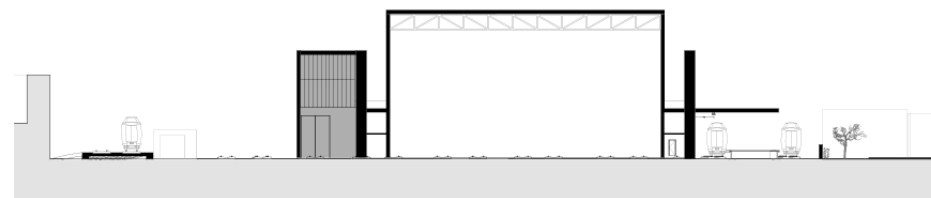
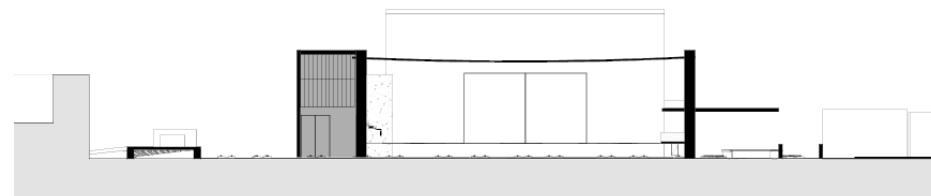
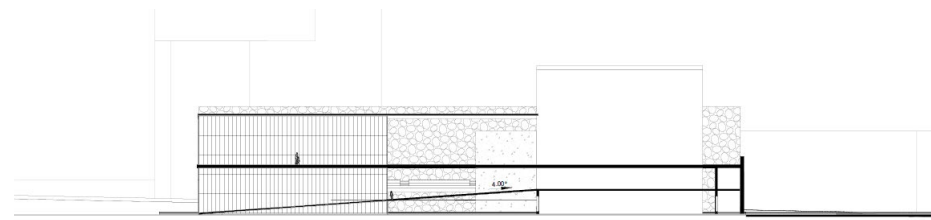
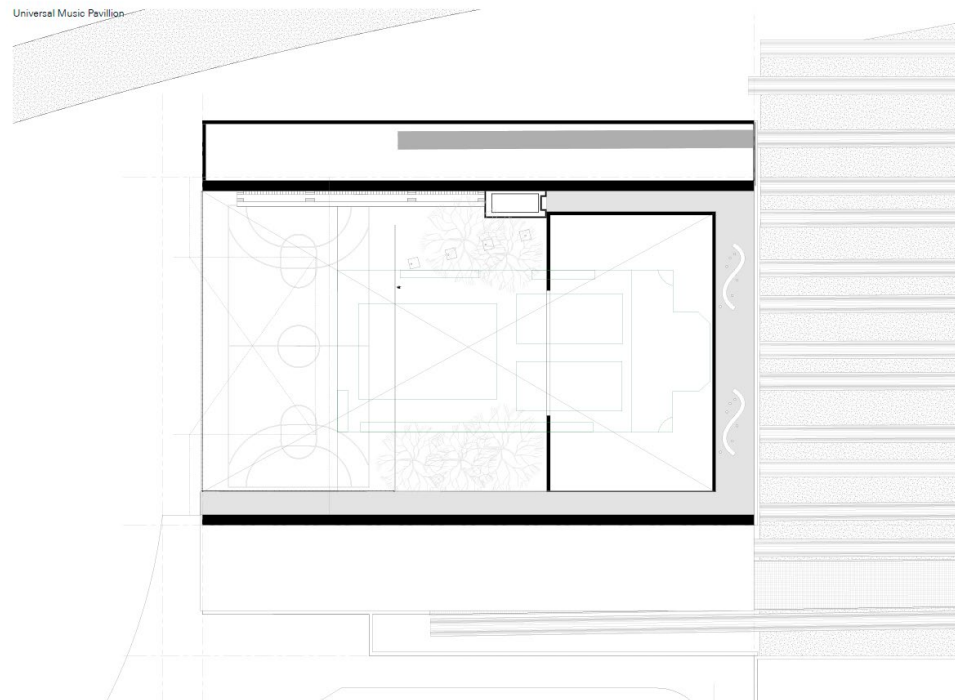


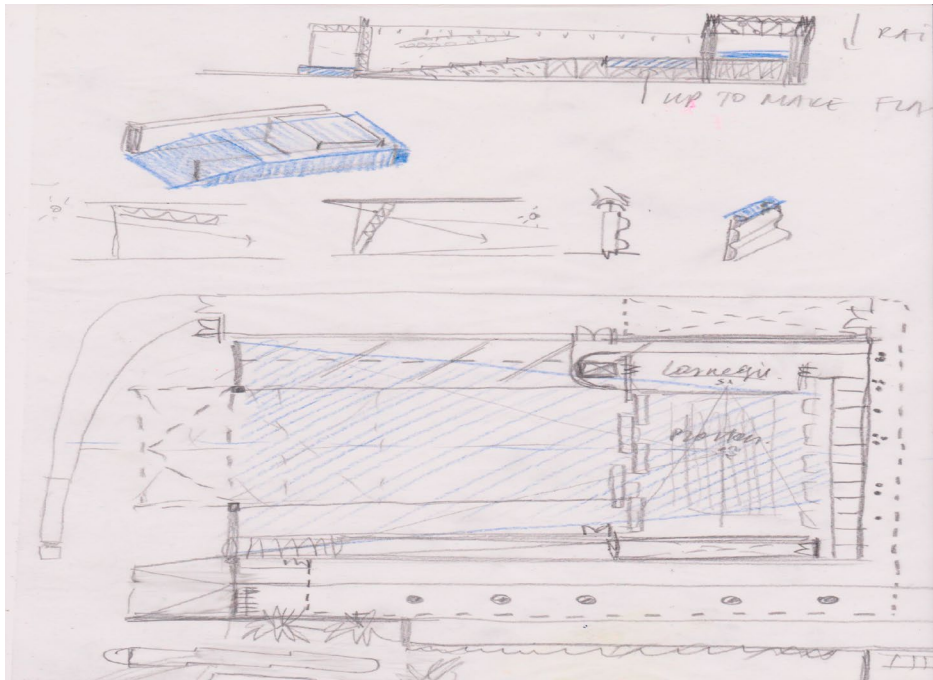
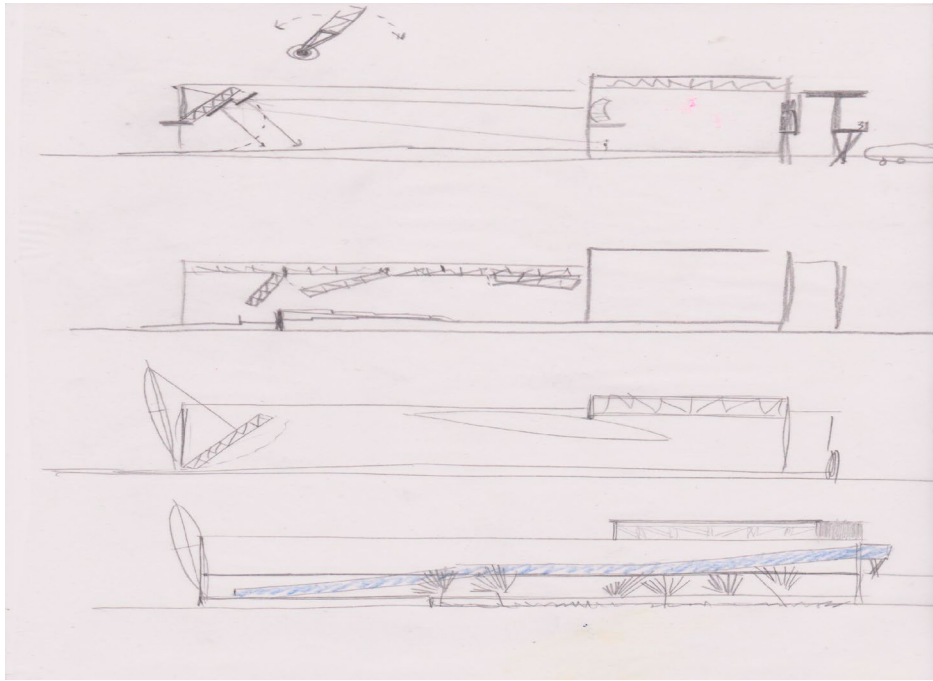
Voyeuristic presence of competition throughout the journey

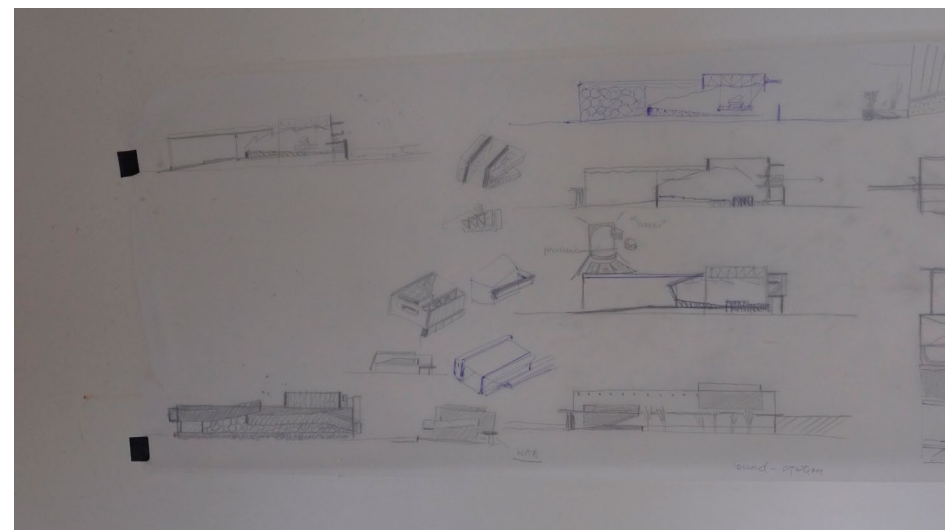
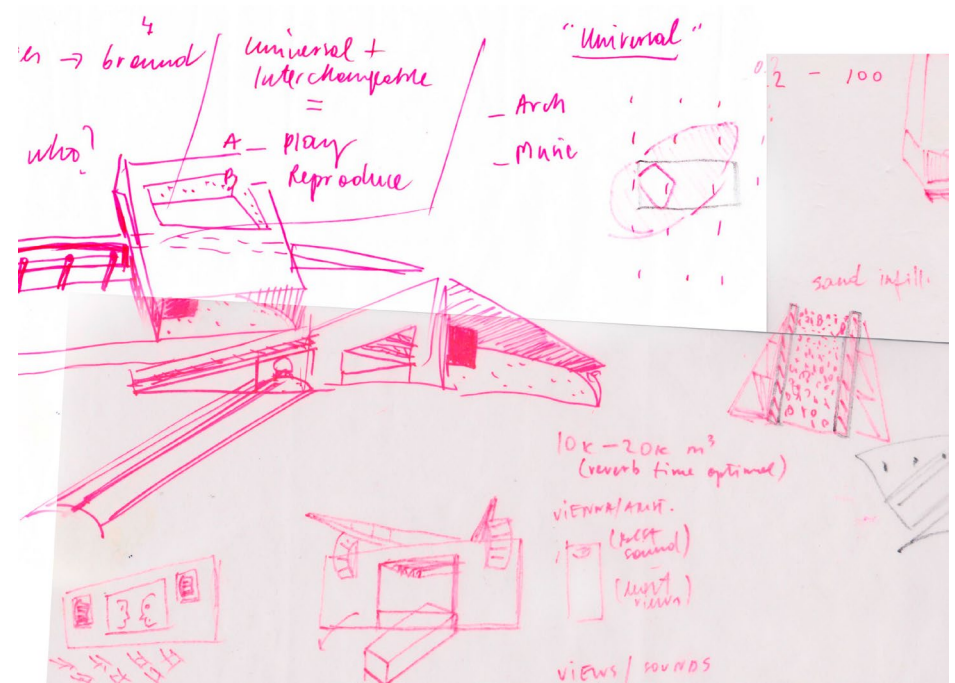
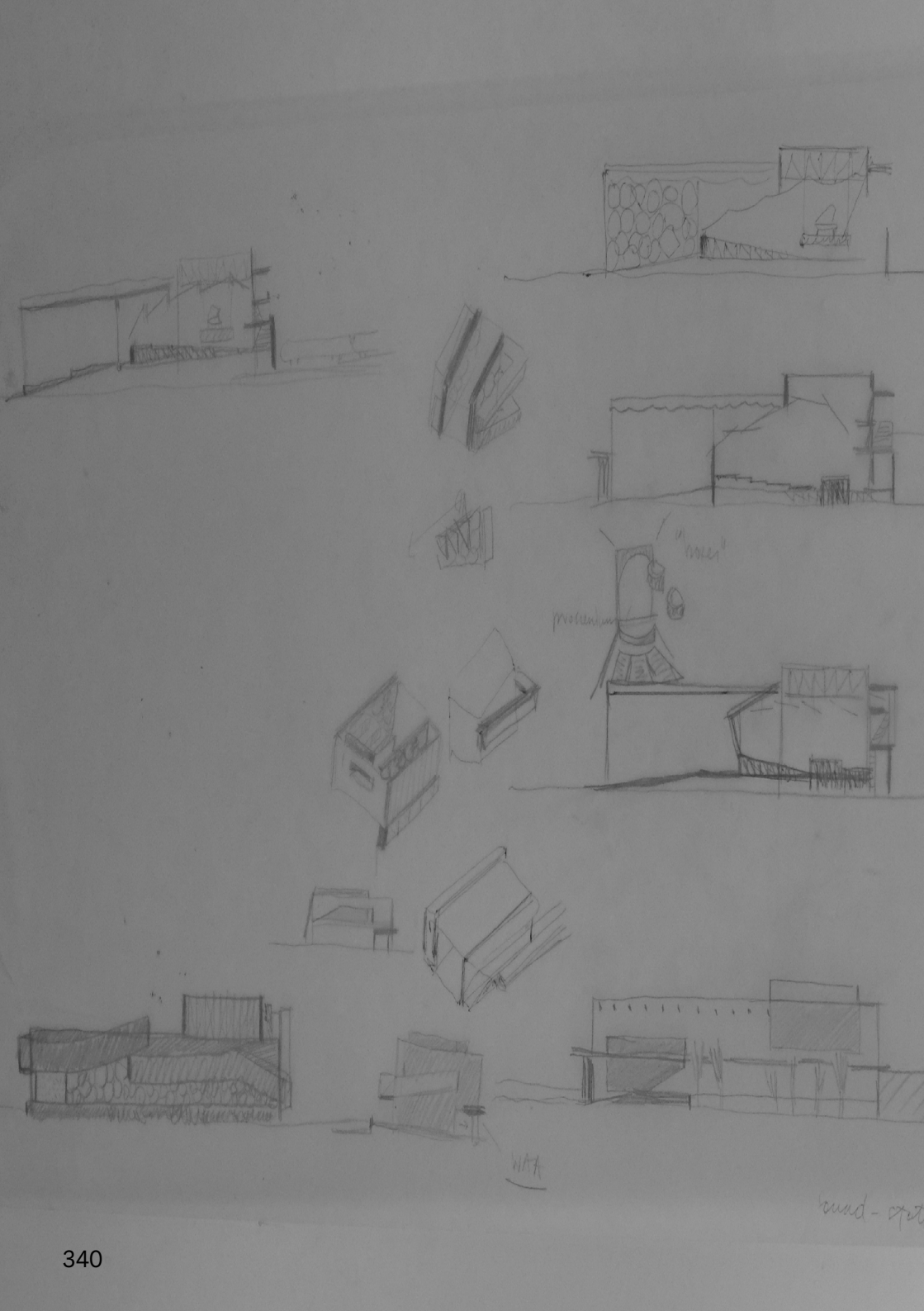




Universal Music Pavilion







Public Architecture

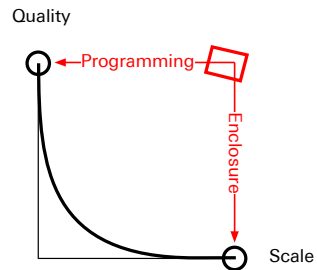
We are running out of *elements* to mine. What happens when the inevitable consequences of the consumption inertia kicks-in? Preparations must be made for that moment, so that we are equipped to face the music. There are, really, but two sustainable scenarios for public architecture—both marginal in their framework.

1. Build only in the highest possible quality, in order to extend the life span of the construction. #Perfection
2. Curate available material in the highest possible degree of quality, in order to generate meaningful public engagement. #NotPerfectJustGoodEnough



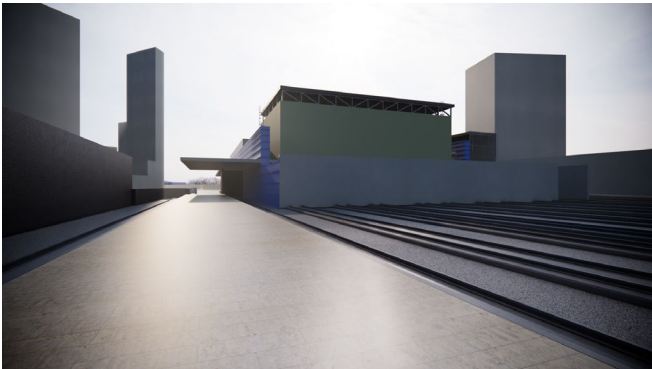
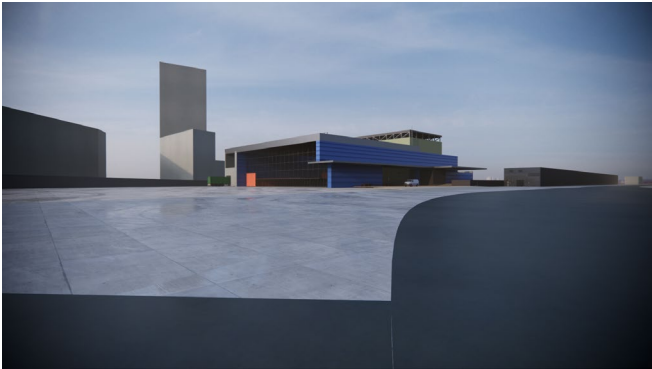
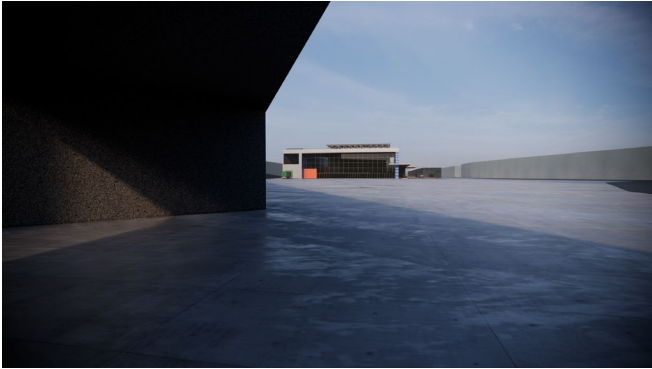
1. Permanent Buildings

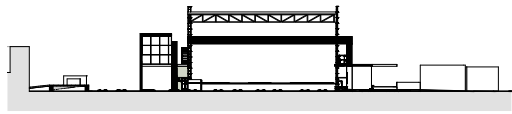
Public architecture requires large scale, and it is not always possible to execute in high quality within the given monetary constraints. As mediocrity is not feasible, in context of global resource depletion, aspects of curatorial programming become a major force in the built process. It is a recognition of the inability for high-quality building. The usage of available energy is optimised into an intermediate, detached and demountable enclosure which can generate culturally 'programmed' activities of scales that otherwise would not have been available. The first is an economy of solutions; the second of service. A performance of generating quality by re-associating materials of low perceived use-value into constructions of a higher one.



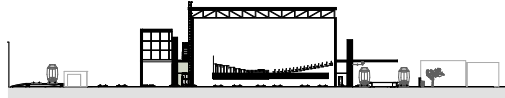
2. Intermediate Pavillions



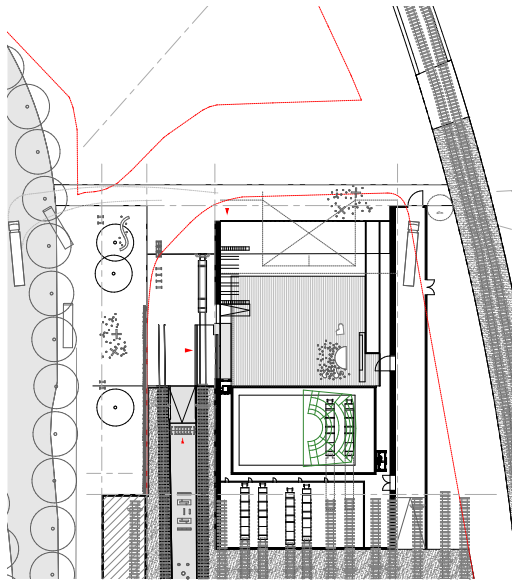




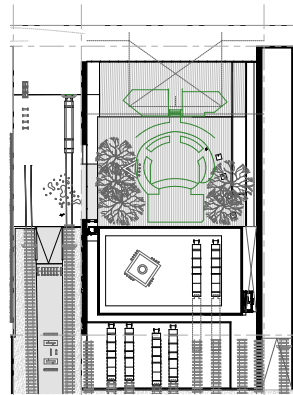
Cross section through the Hall 1:500



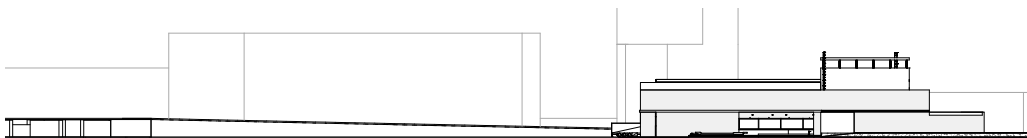
Cross section through the Box 1:500



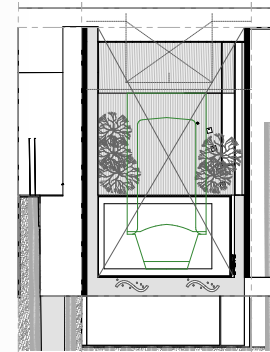
Ground Floor 1:500



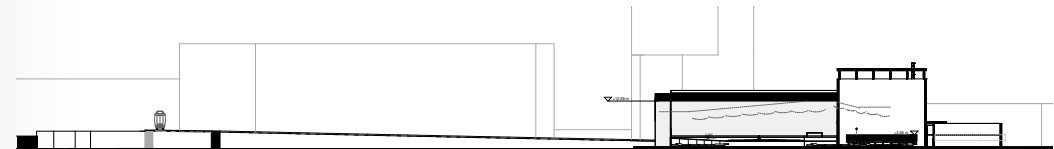
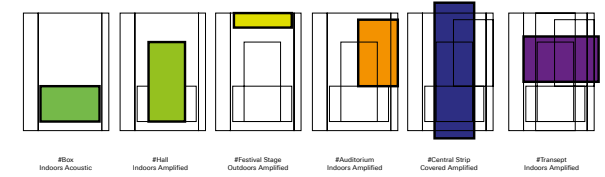
First Floor 1:500



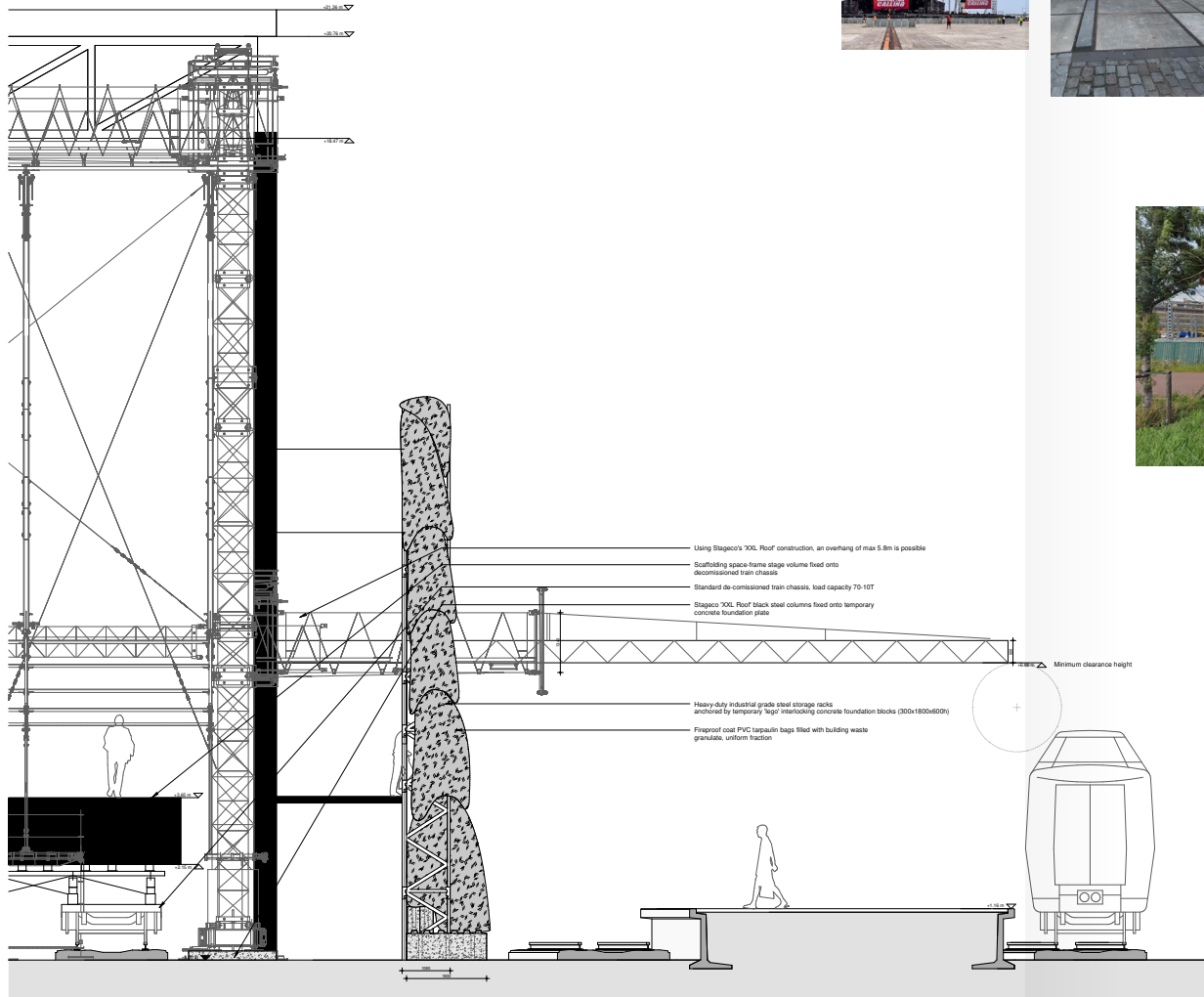
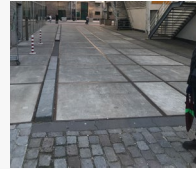
Section through the new platform 1:500



Second Floor 1:500

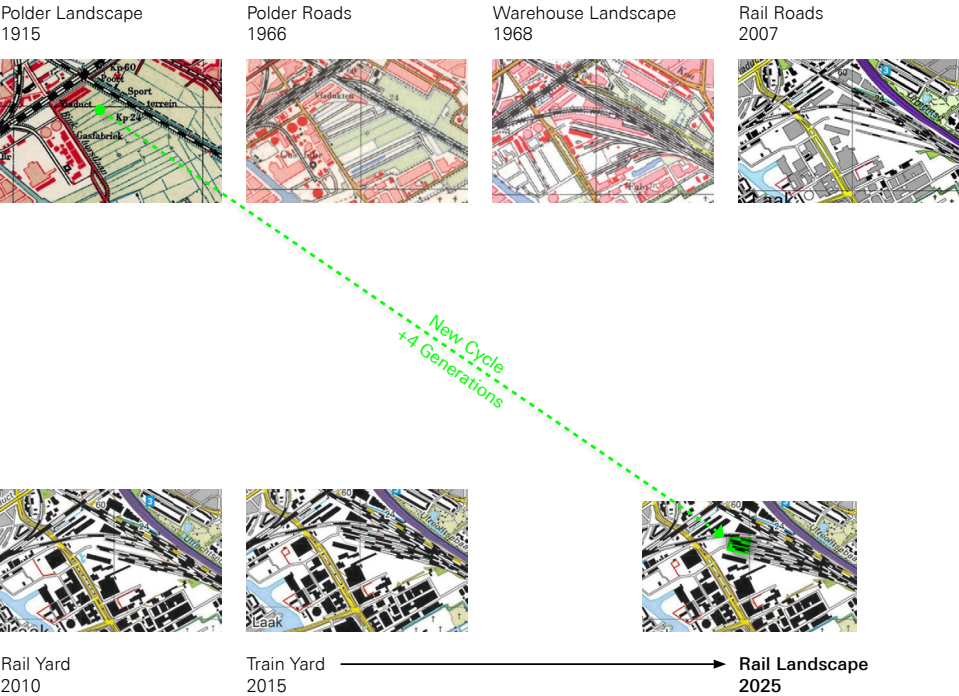


Long Section through the Central Strip 1:500

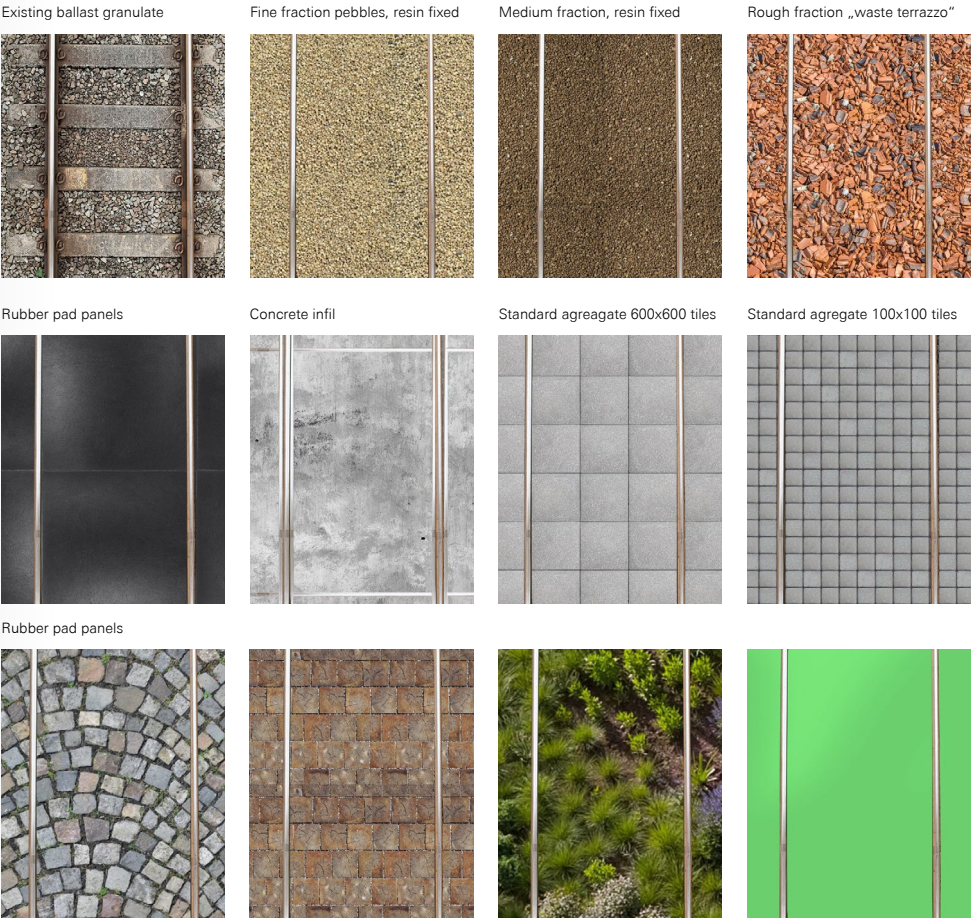


Fragment section through the street facing side 1:50

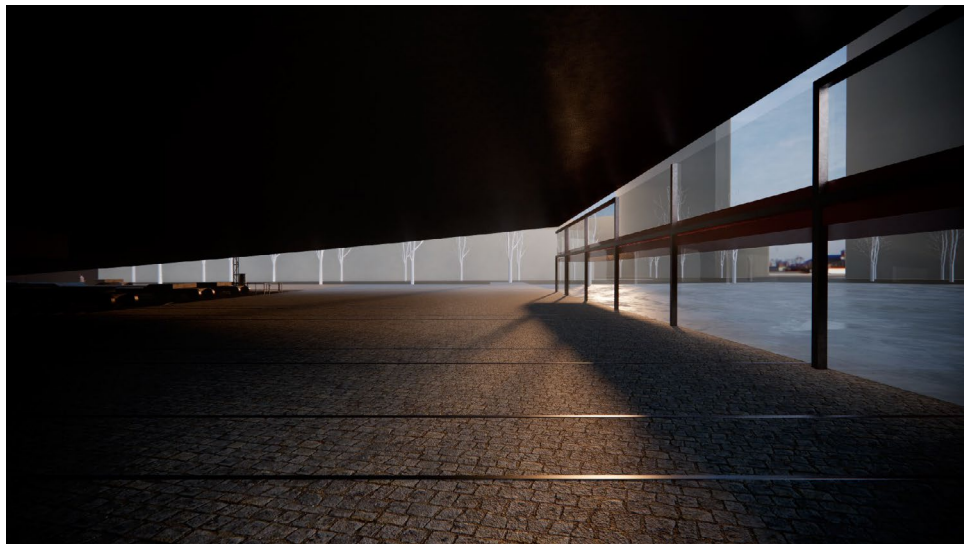




Cycles of area transformation. In 100 years from complete green to complete grey. Next cycle? Absorbing the previous by opening access to all these layers.



Cycles of area transformation. In 100 years from complete green to complete grey. Next cycle? Absorbing the previous by opening access to all these layers.



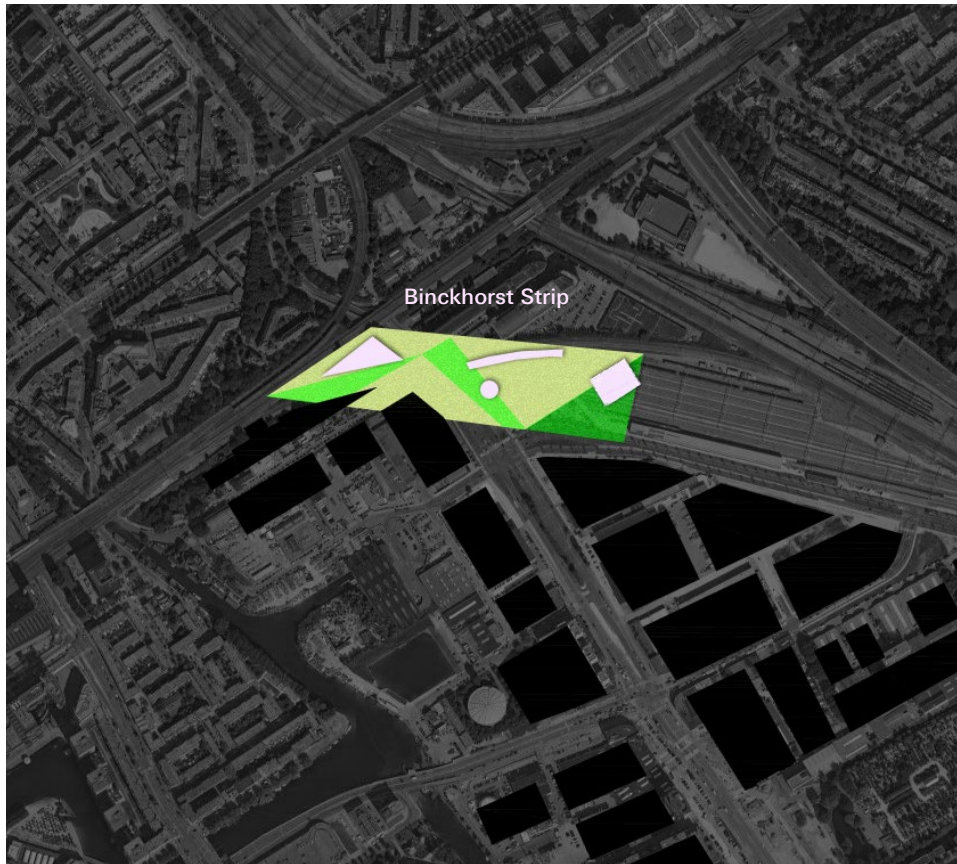
Places of Low-Rise Recreation



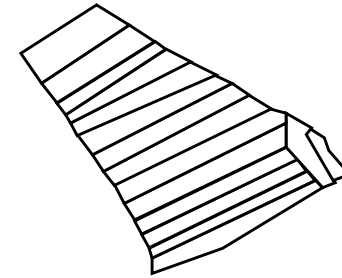
Seam zone of indeterminacy



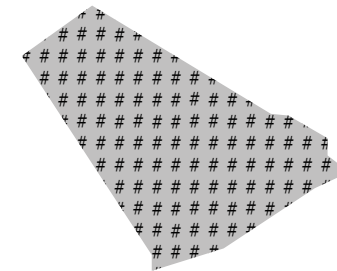
Places of High-Rise Dwelling

Seam zone of ~~ind~~determinacy

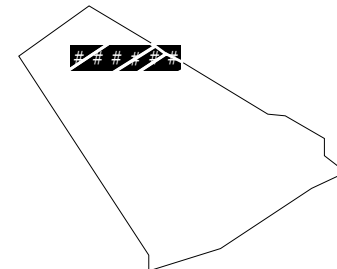
„B-Strip“ district. Like a secondary B-Side of vinyl records, this area presents more experimental arrangements between, along & on the rails. All bound by the ethos „off the rails!“



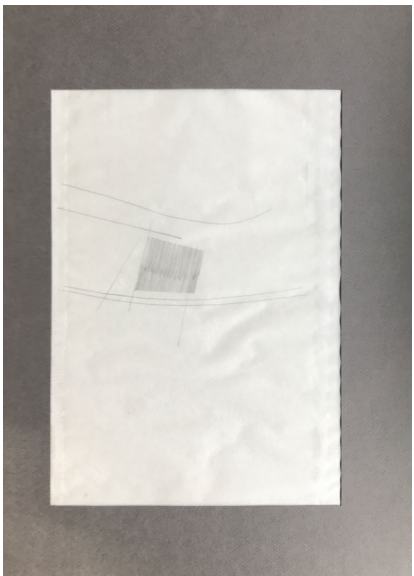
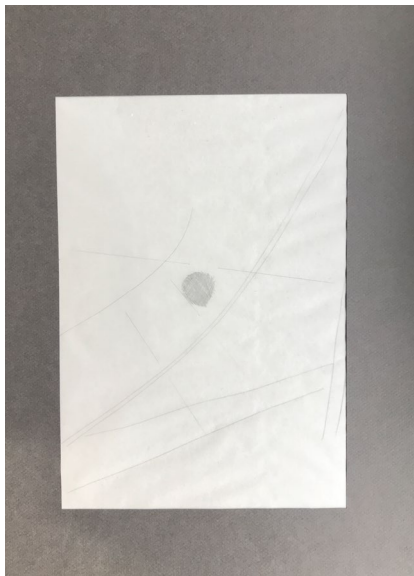
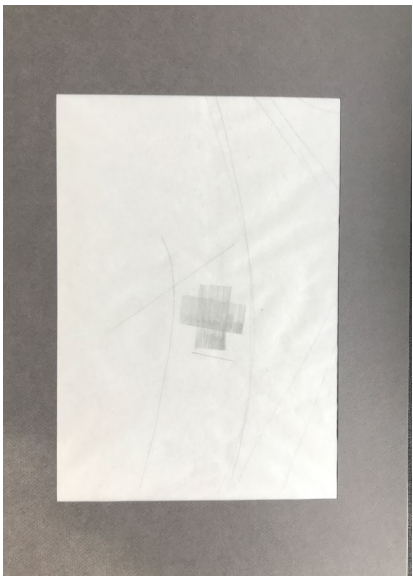
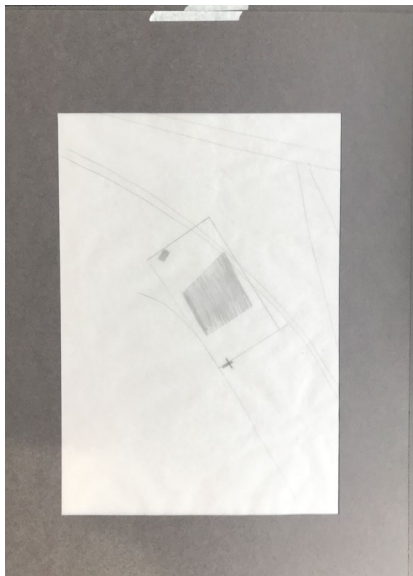
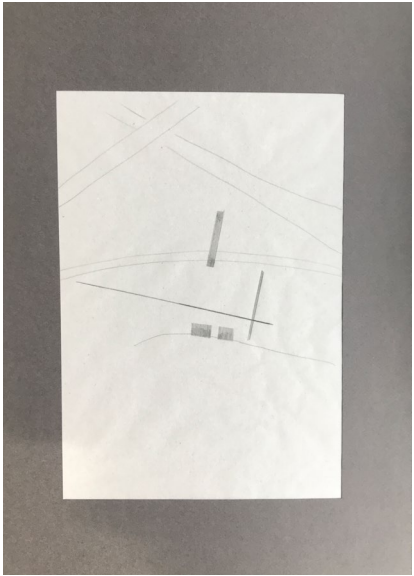
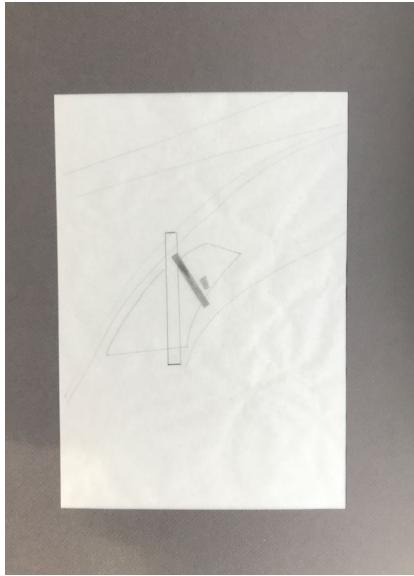
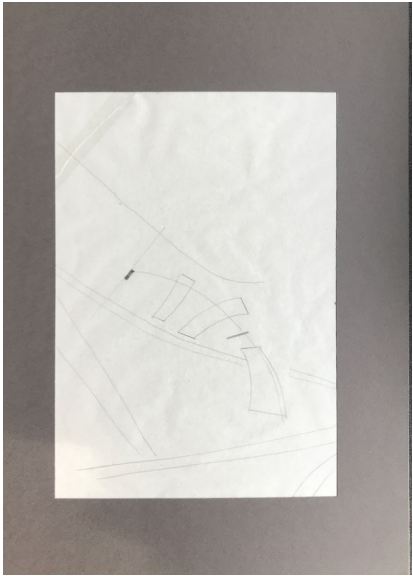
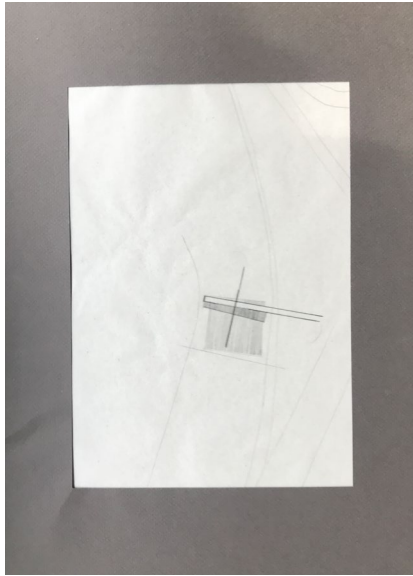
Rural is *Division*



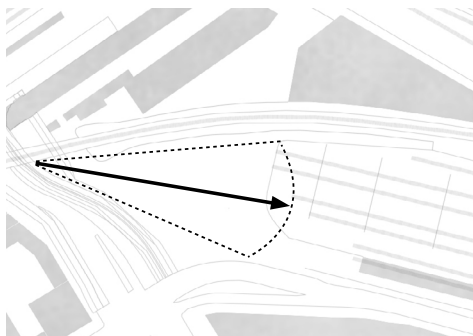
Urban is *Interaction*



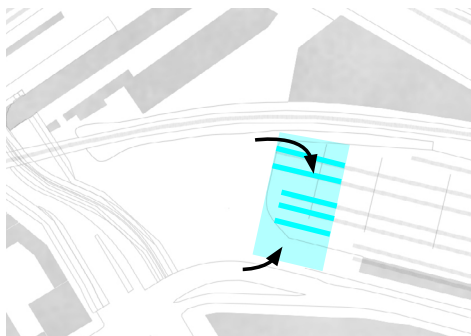
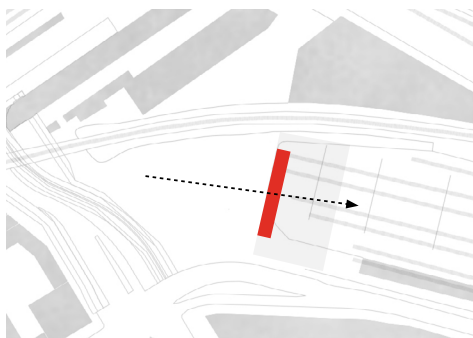
Concentrated *Division + Interaction*



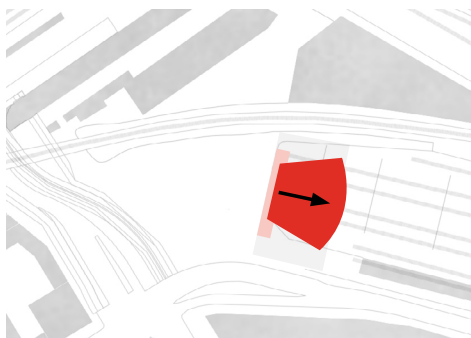
Sightlines



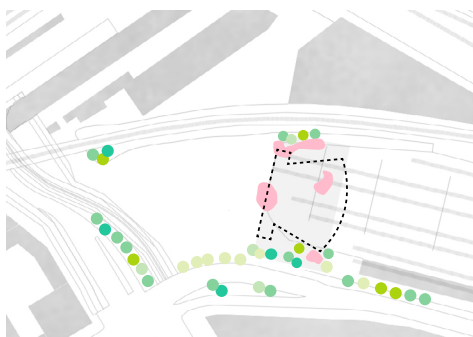
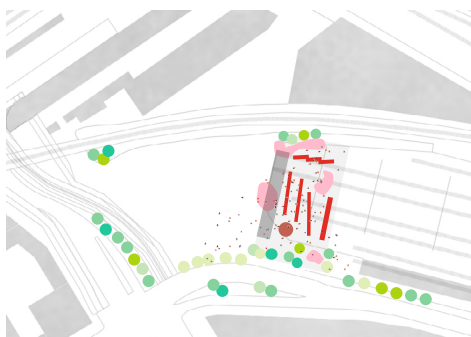
Integrated & Accessible Public Plane

Permanent Pavillion
Urban Proscenium

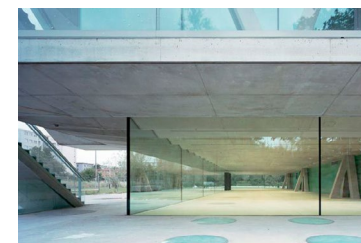
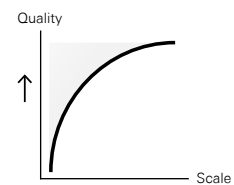
Temporary Extension



Permeability & Landscaping

Cycles of Usage
Weekend market scenario

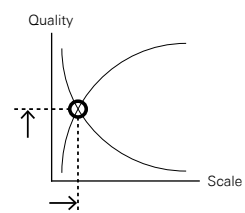
Permanent Intention

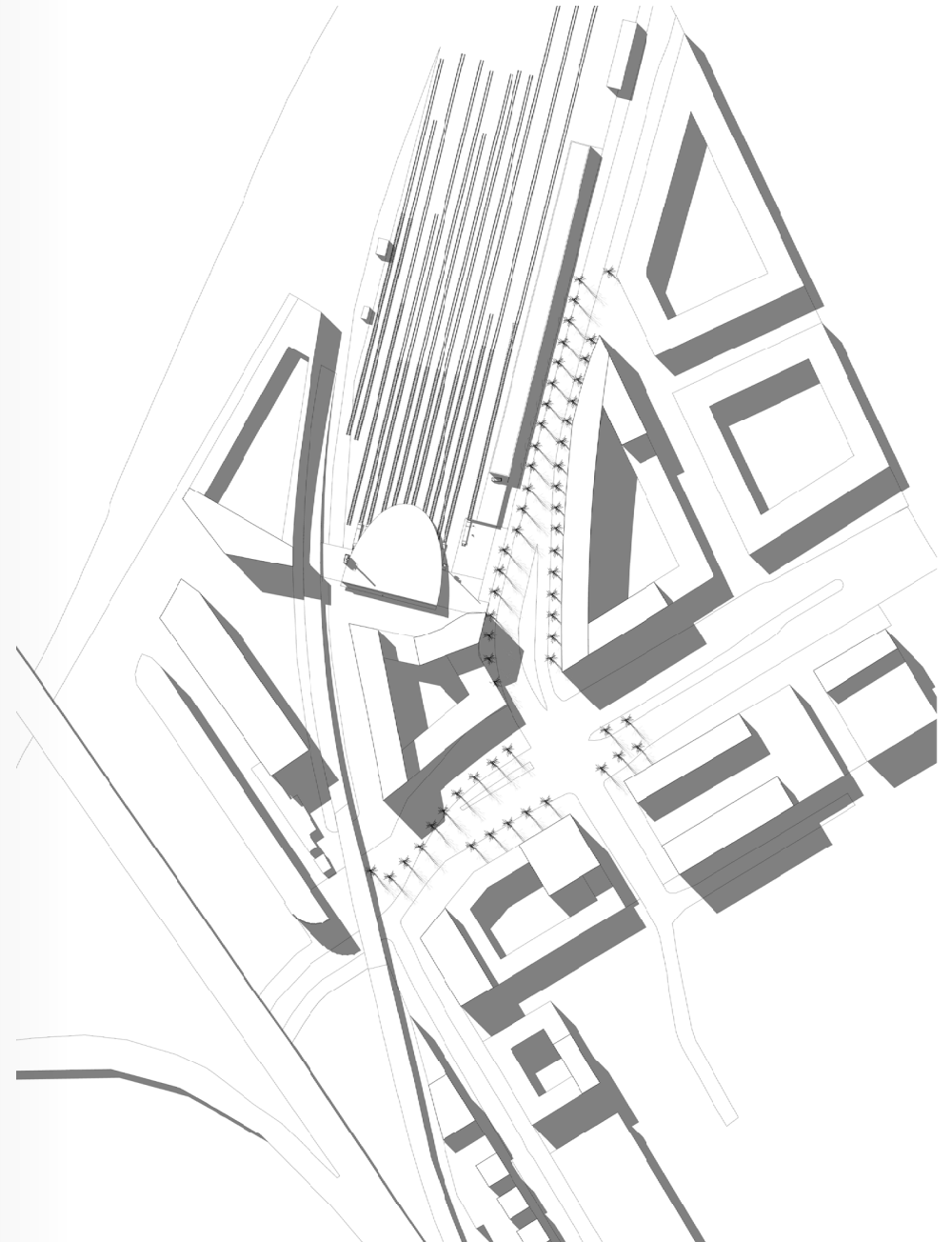
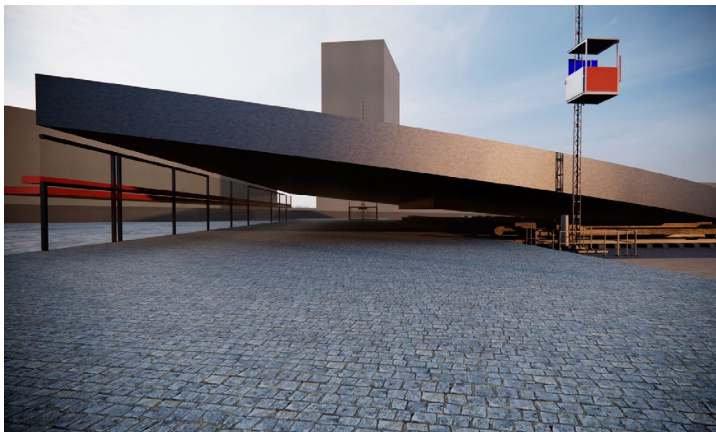
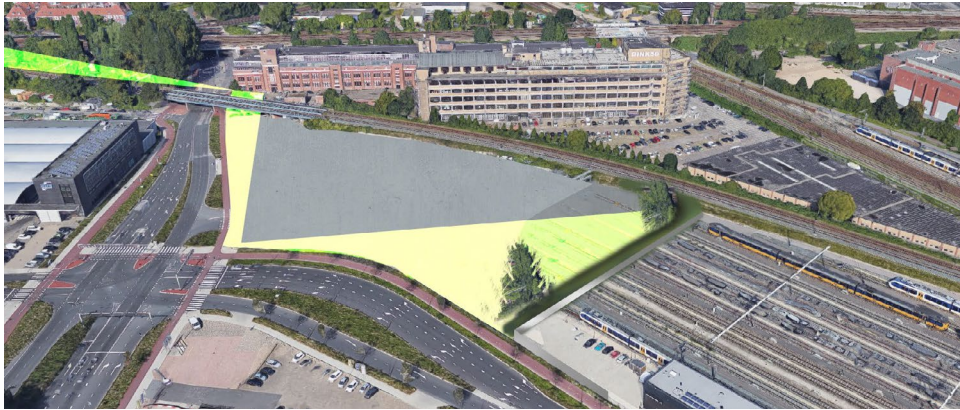
*Leutschenbach School, Christian Kerez*

Temporary Intention

*Lowlands Festival, Stageco BV*

Optimal Hybrid





Permanent Front (urban proscenium)

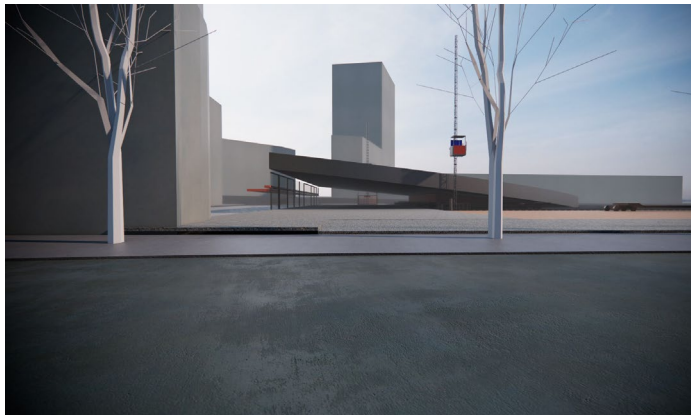


Site Access



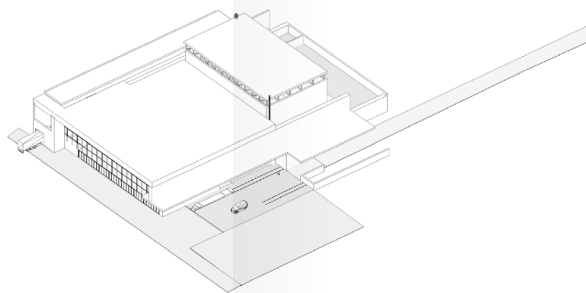
BUMP

Dynamic Roof

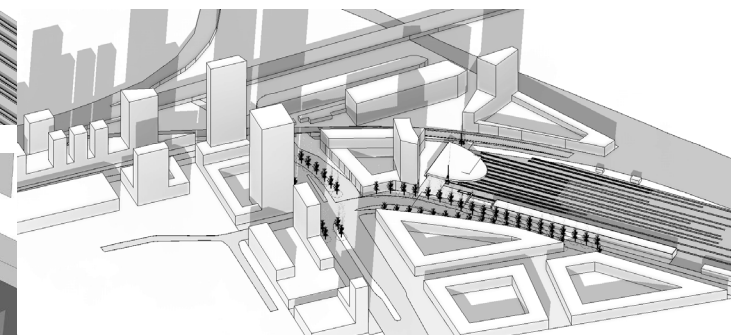
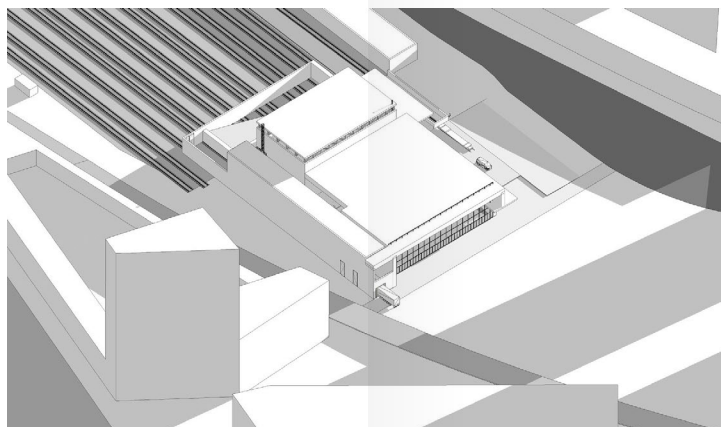
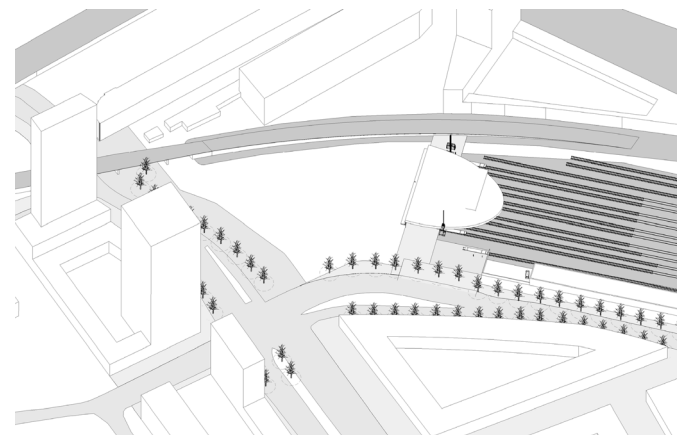
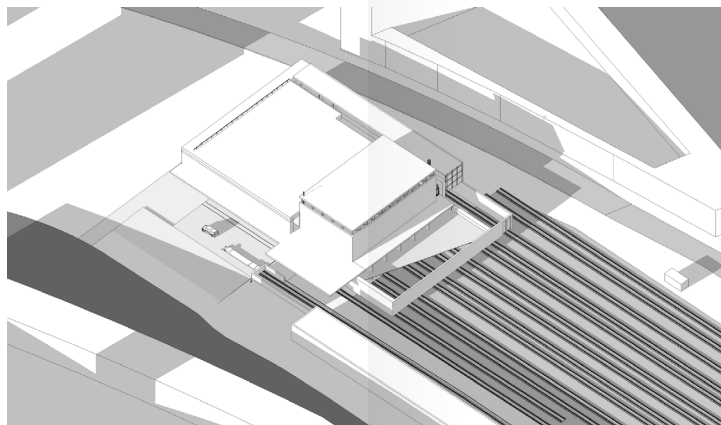


Design Development Edgars Jane Week 4.0

BUMP

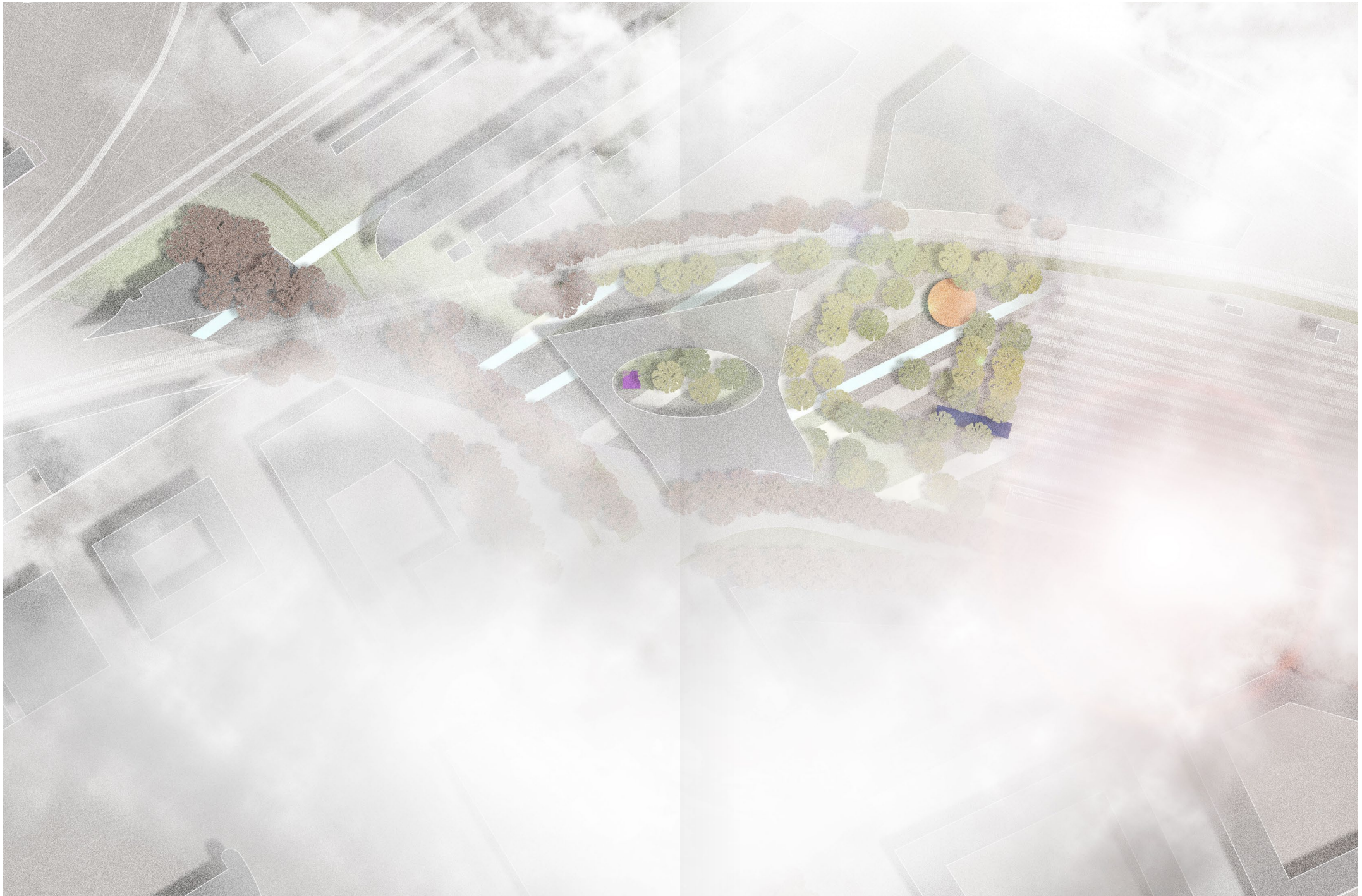


BUMP

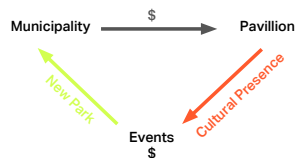


Design Development Edgars Jane Week 4.0

Design Development Edgars Jane Week 4.0



Terrain reclamation



From Reclaimed Green

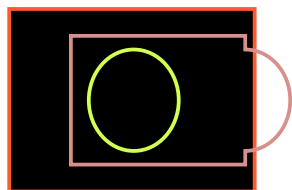


To Grey

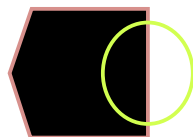


Collective green

To Greened Grey



Courtyard



Open Area

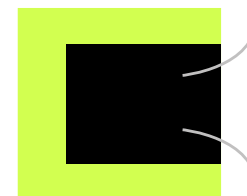


Enclaved

Performance expansion principle

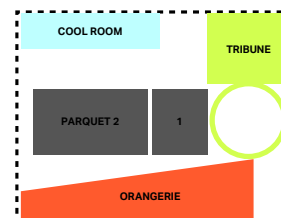


Typical Spoorboogzone masterplan footprint

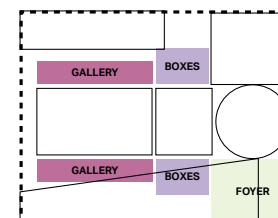


Contextual interpretation for a temporary pavilion

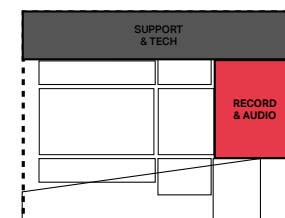
Open Court



Pavillion program distribution
Floor 0

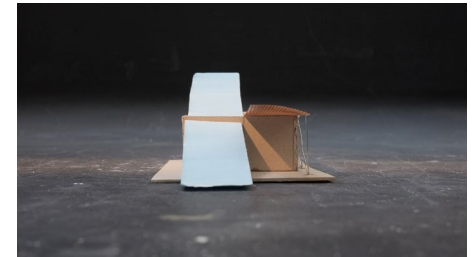
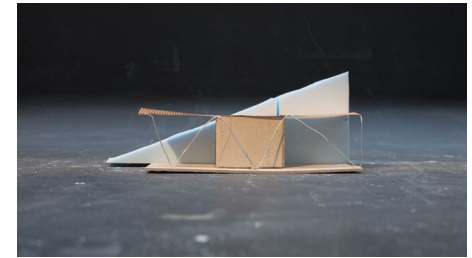
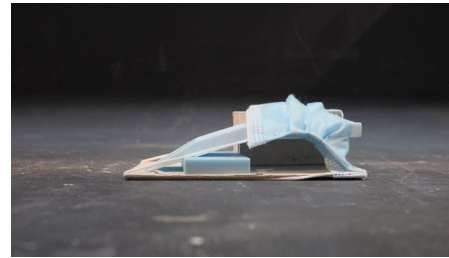


Pavillion program distribution
Floor 1



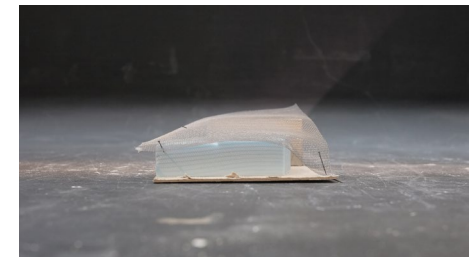
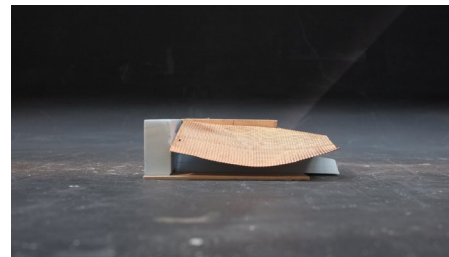
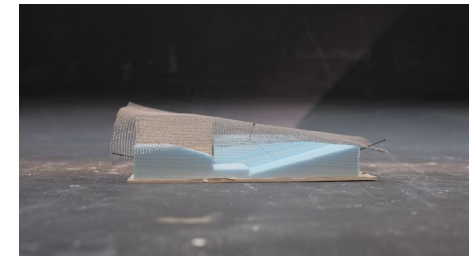
Pavillion program distribution
Floor 3

Program distribution



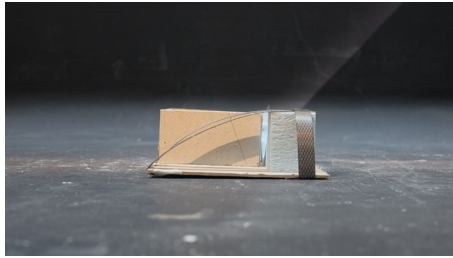
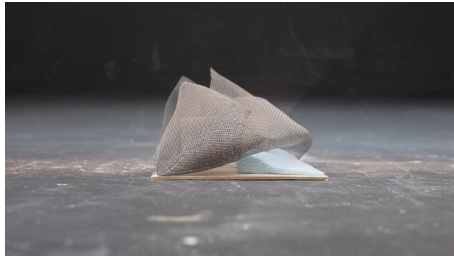
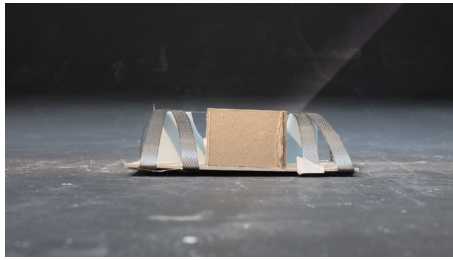
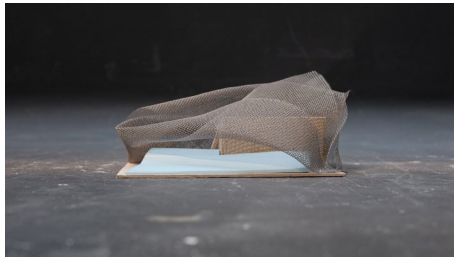
Tensile Canopy

Ramp & Flatroof



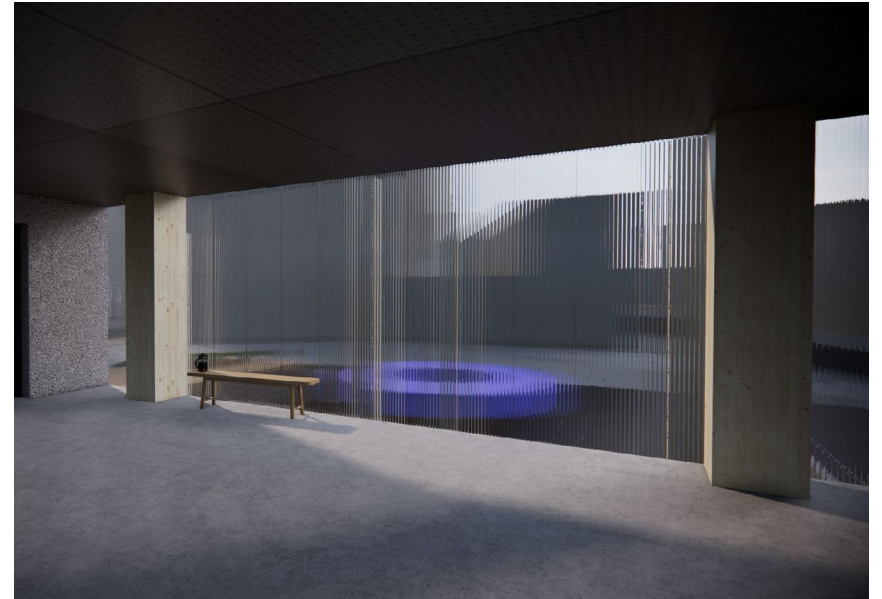
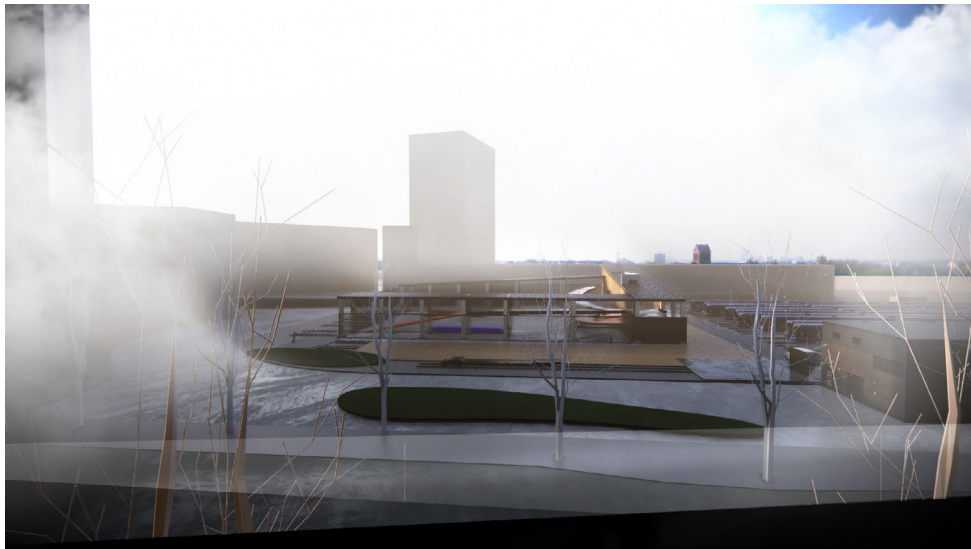
Double Curved Roof

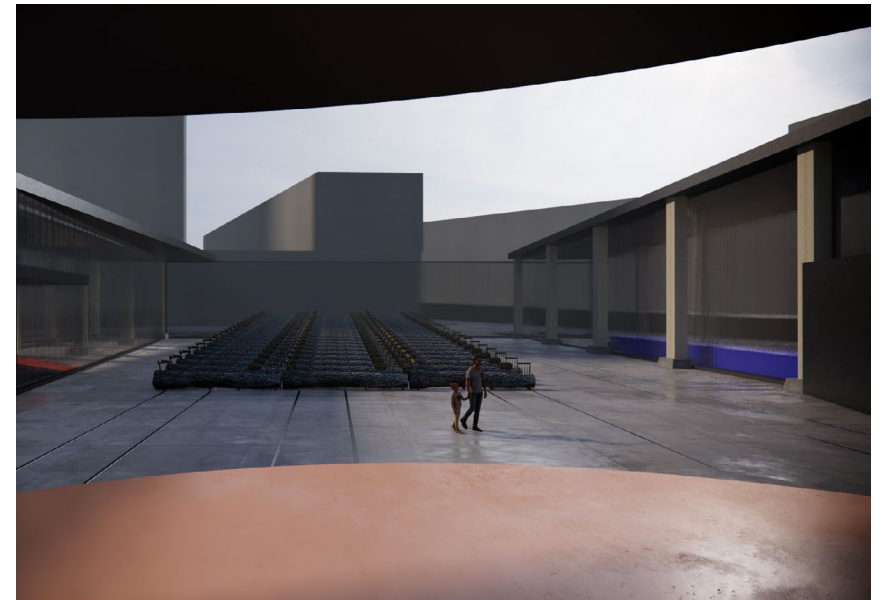
Tensile Overhang

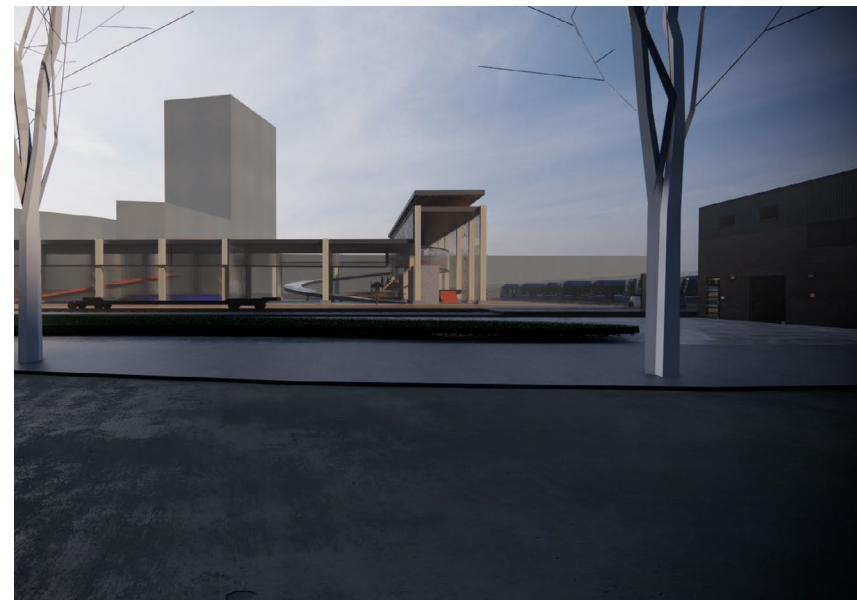


Volumetric Mesh

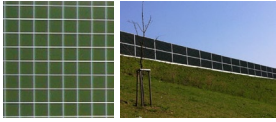
Strap Tensioning











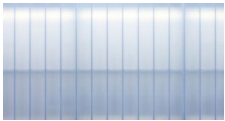
Acoustic Barrier, HERAS 'Noise Reducer'
Metal mesh, double PVC layer, frame, 6m max height



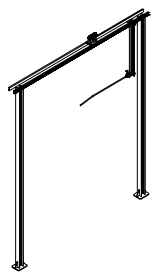
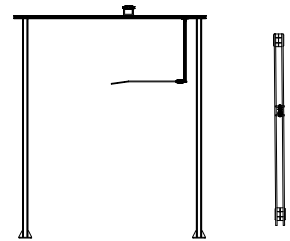
CLT



Galvanized steel, remanufactured & reclaimed from de-commissioned Prefab locations



Polycarbonate insulating cell facade, click connected



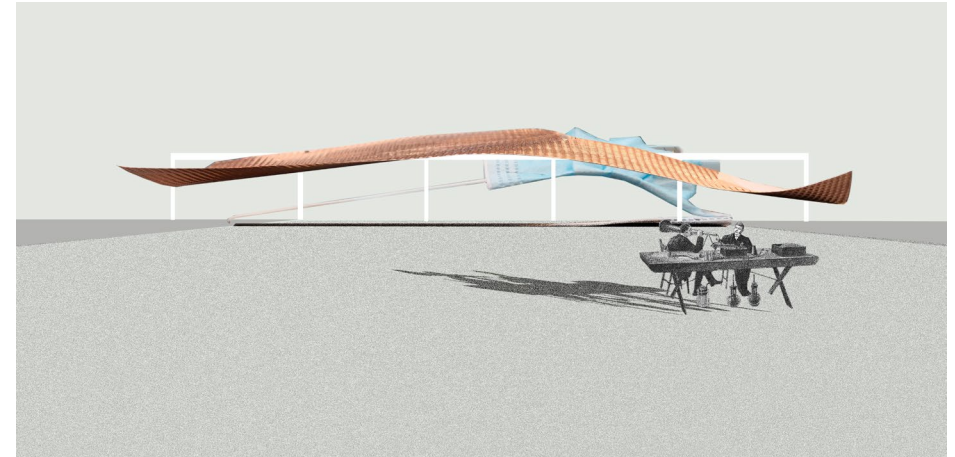
HE300B (8m tall)

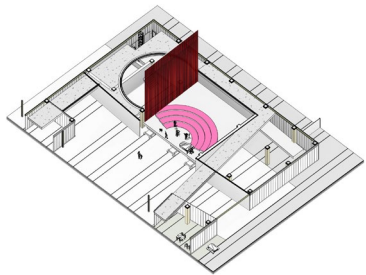
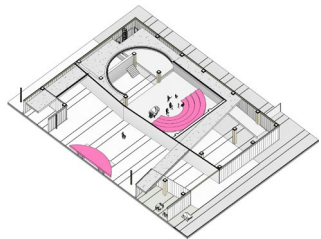
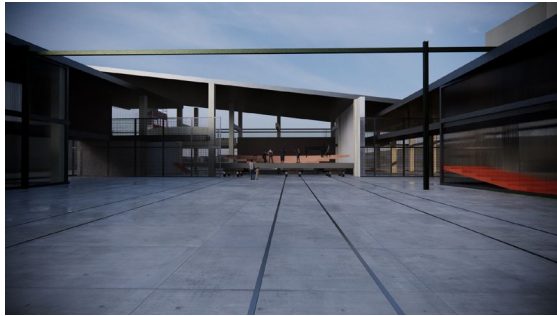


RHS 250-8 (250x150 / 22.7m)

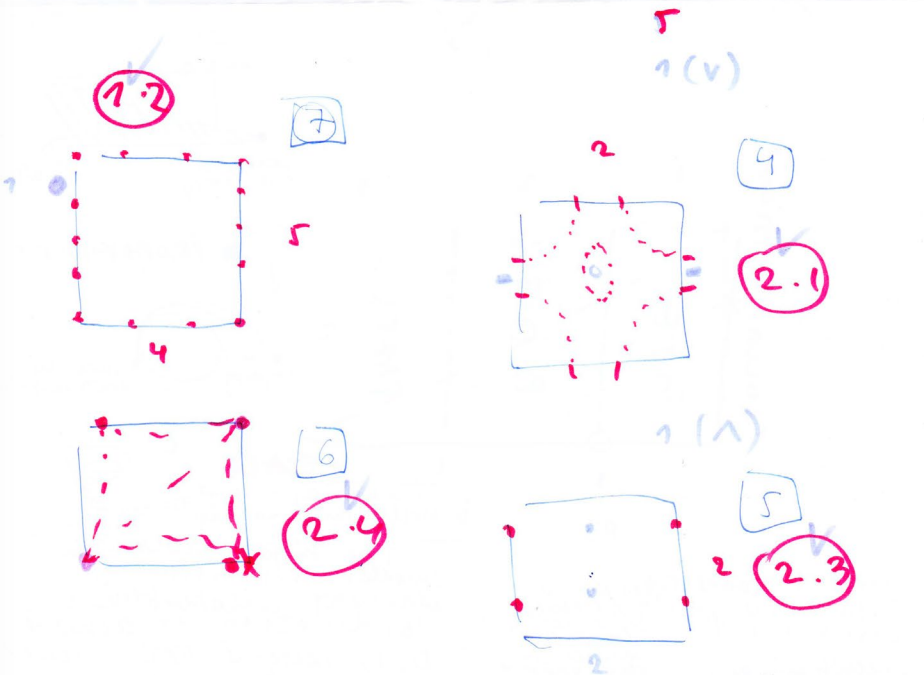
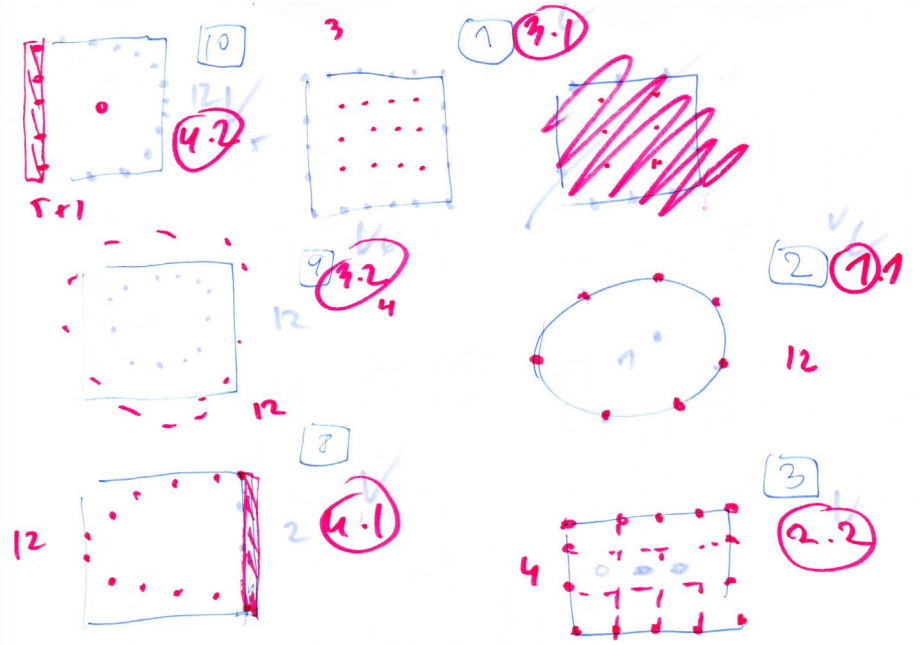


reinforcing connectivity between zones of activity

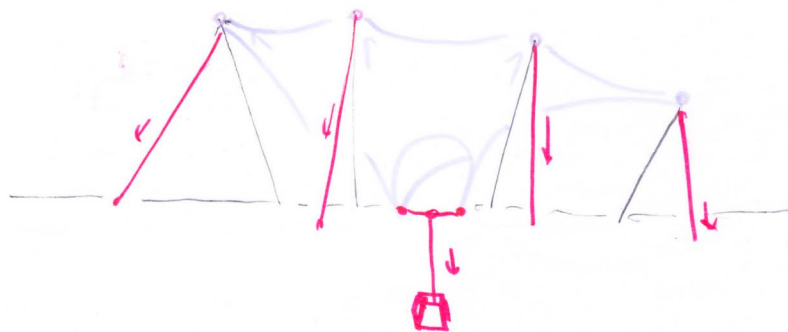




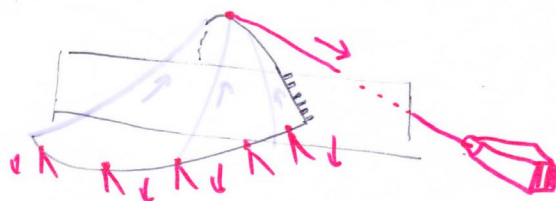
tensile roof structure case study sketches



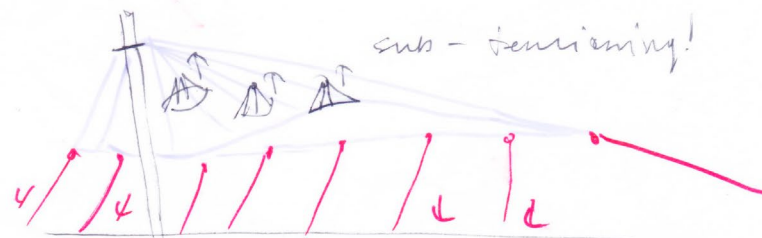
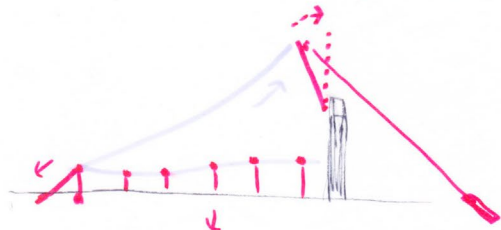
6



FLORIANNE, 2002'
#VILINDER



RIYADH



ABBEY EXTENSION, 1968'

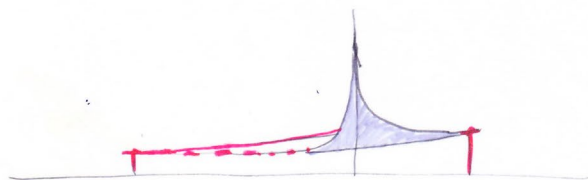
5/6



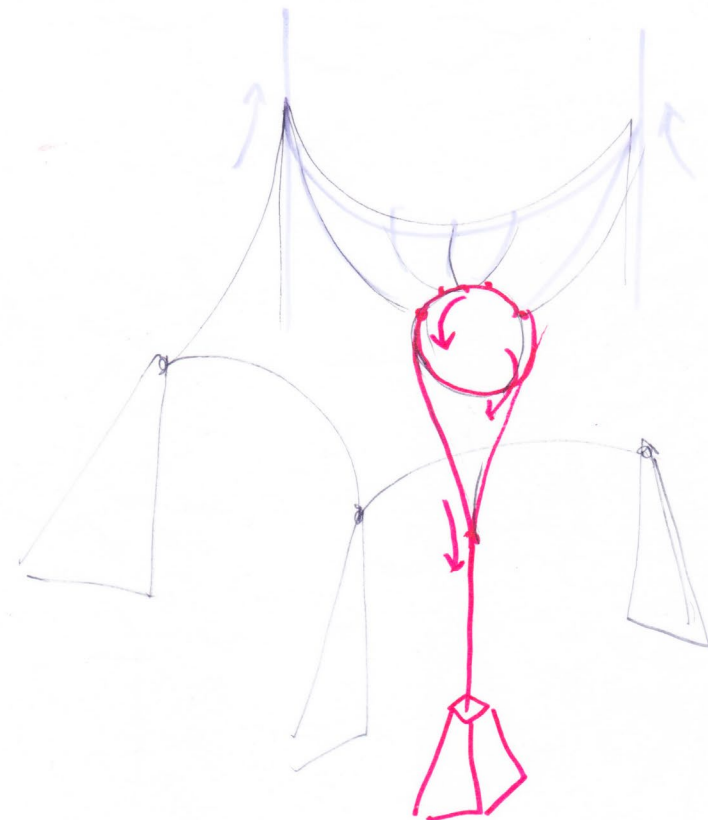
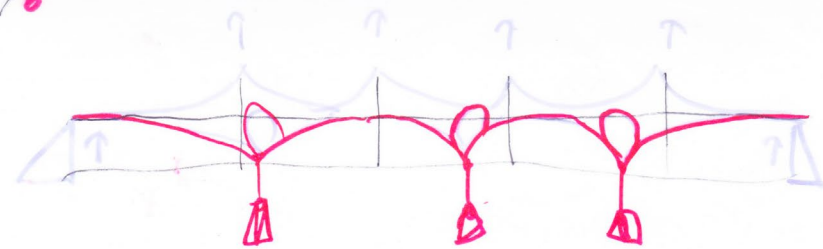
eccentric tent / complex
asymmetrical tensions,
HOUE, 1999'

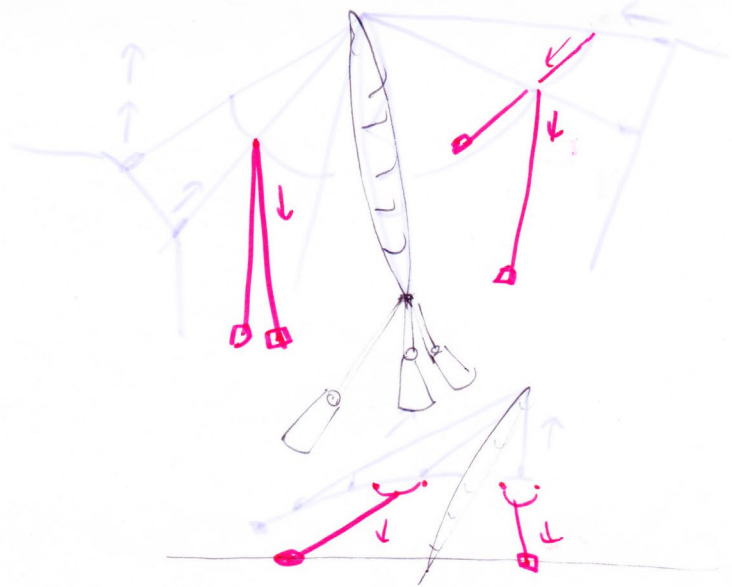


STUTTGART 21, 1997'

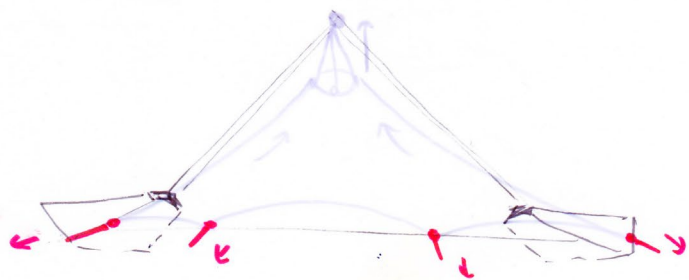


5/6

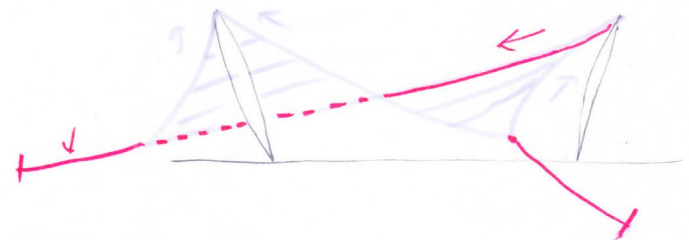
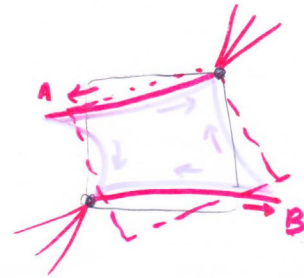
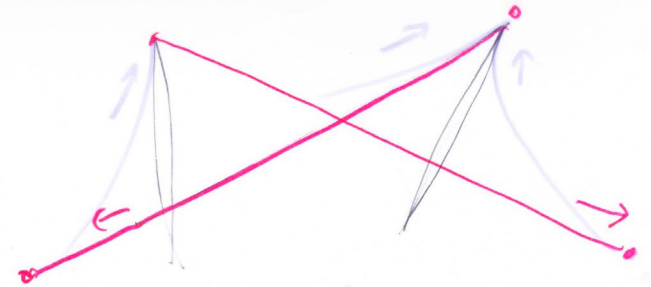




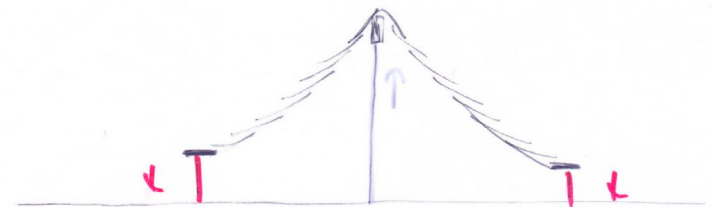
Ø2, 2007'



TENT CHURCH, 1964'

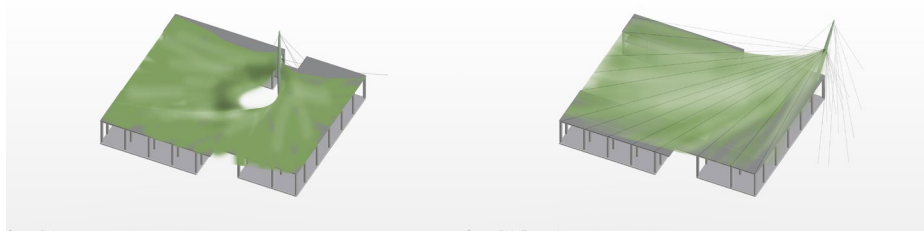


MUSIC TENT, KARLSRUHE, 1955'

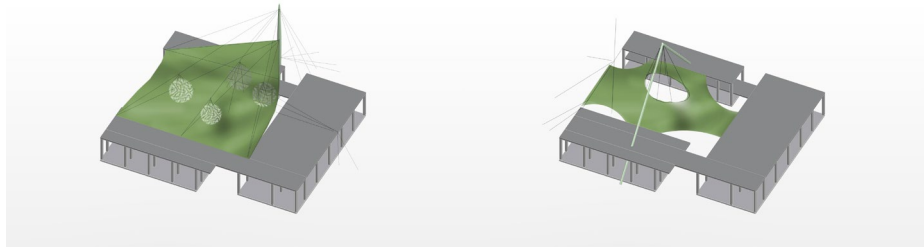


MUSEUM STYRIA, JAPAN

testing tensile roof structure typologies

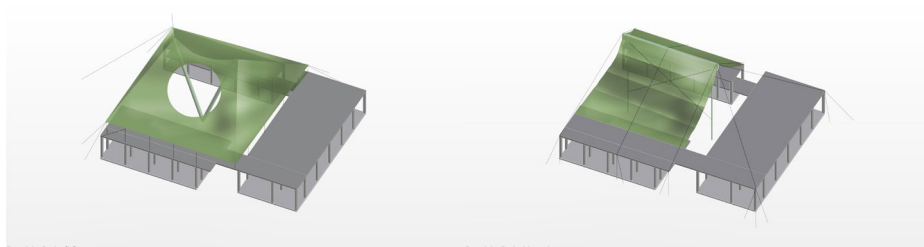


Center Pole Center Pole Eccentric

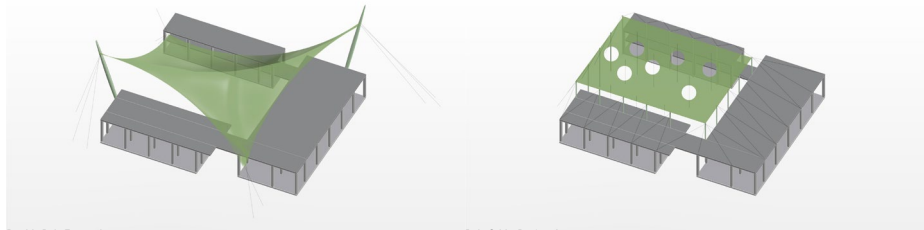


External Pole Double Pole (A)

Week 4.4

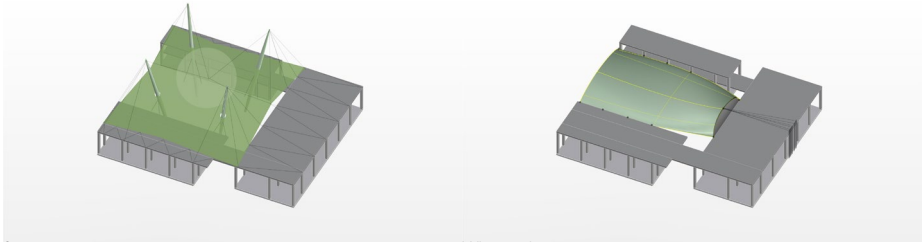


Double Pole (V) Double Pole Hanging

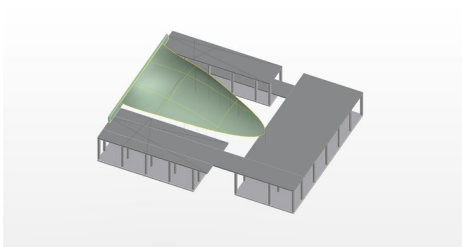


Double Pole External Pole Grid + Perforations

Week 4.4



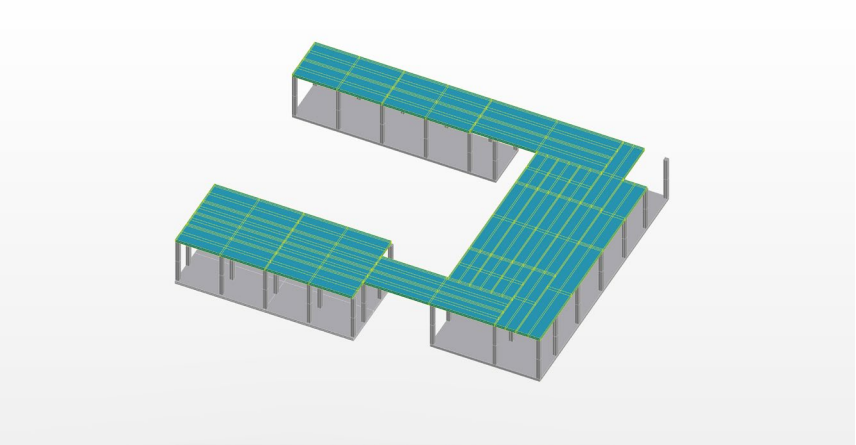
O2 Wall supported



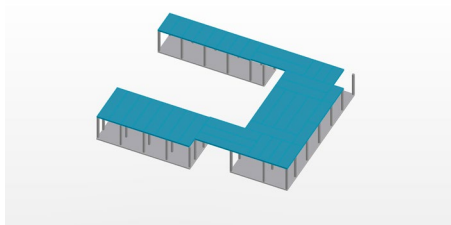
Wall center anchor

Week 4.4

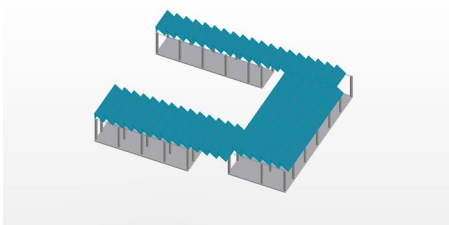
testing roof structure typologies



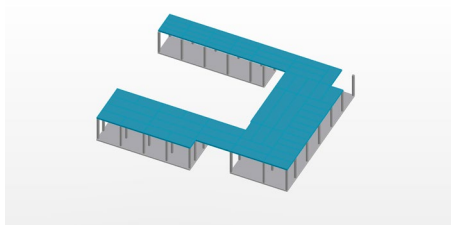
A.1 Roof CLT Max Long panels



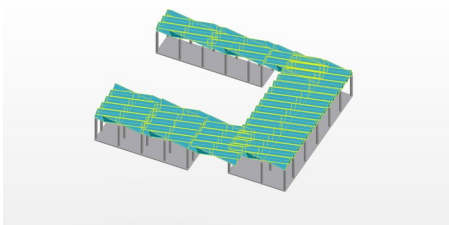
A.2 Roof CLT Max Cross panels



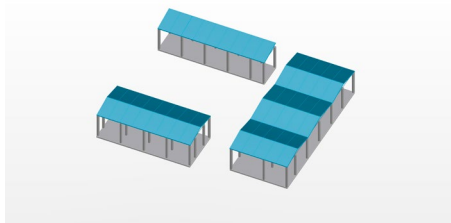
B.3 Roof CLT Sawtooth



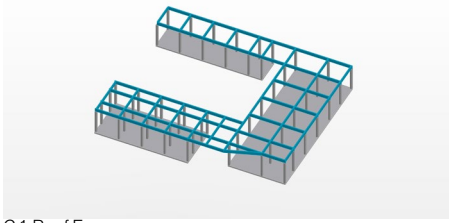
A.3 Roof CLT Min panels



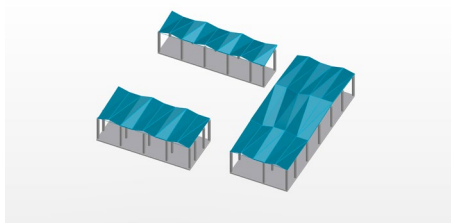
B.4 Roof CLT Sawtooth Rotated towards optimal solar harvest azimuth angle and true south (14 degree rotation)



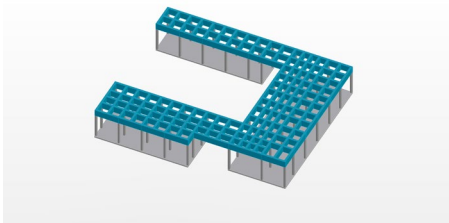
B.1 Roof Pitched



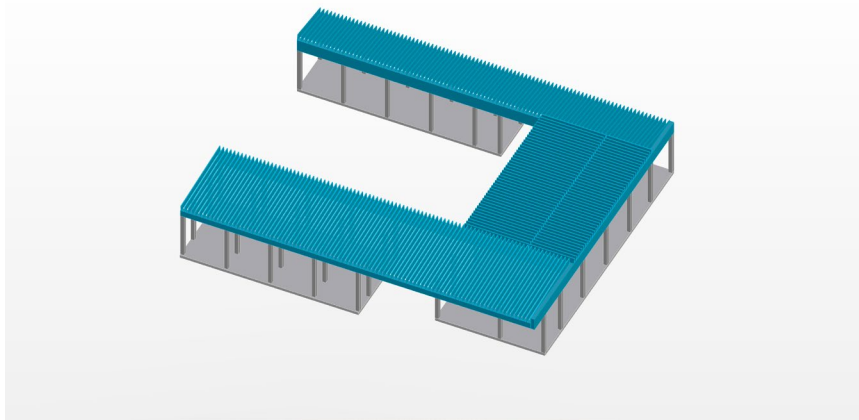
C.1 Roof Frame



B.1 Roof Pitched



C.2 Roof Waffle



C.3 Roof 'Japanese'

From all options, I find this one to be the most beautiful

P4.A Process Documentation
(Research Questions)
(Design Journal)

P4.B Final Design
(Project Formulation)
(Project Design)

P4.C Final Reflection

Project Formulation

1. If doing nothing is the most sustainable move, what is the next option for a music marvel?

2. Circularity is fundamentally based on generic interchangeable parts — a music marvel is the opposite: custom solutions for the effect of acoustics and spectacle. How to proceed?

3. The project becomes an exercise of doing the minimum for a maximum spectacle.

Accessibility.

Public logistics, Transport, Musicians and Visitors - both wheeled and unwheeled.

Belonging.

To the place, to the history and to the material and immaterial culture.

Competition.

Finding an angle to position the venue in a competitive manner to the existing venues. Competative angle? Competition itself. Competes by being a place of competi-

tion as a virtuoso athletic aspiration.

Performance.

Facilitate a broad spectrum of formats. Provide reasonable conditions, with the priority on flexibility, connectivity and range of possibilities over the excellence of sound.

Acoustics.

Good enough.

Inclusivity.

Circular Resistance.

Designed as intermediate construction - still can be decided to be used long term. Circularity not as fixed composition but a spectrum of choices. Not one scale, but a coordinated system of measured spatial decisions that allow for adaptation, expansion and contraction of usage within the same built volume.

P5.A Process Documentation
(Research Questions)
(Design Journal)

P5.B Final Design
(Project Formulation)
(Project Design)

P5.C Final Reflection

Project Design

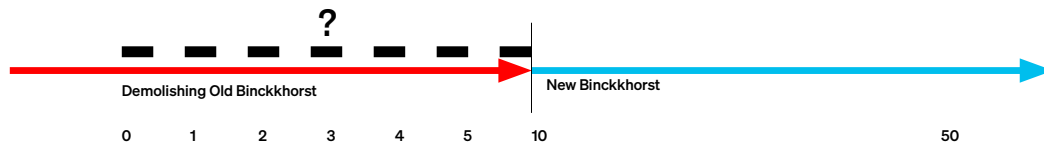


Urban Plan 1:5000

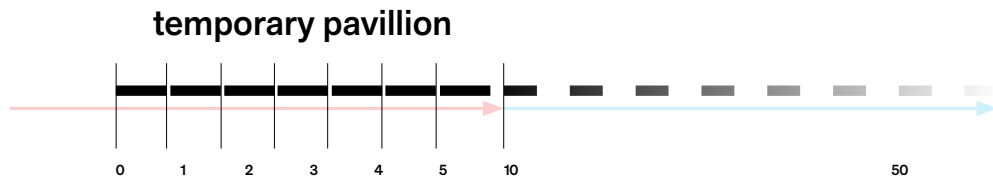
1. Conventional scheme of development



2. Addressing the intermediate vacancy

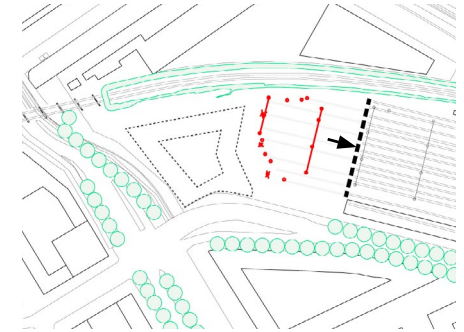


3. designing for duration & seeing the site of the project as a continuous long-term regeneration project



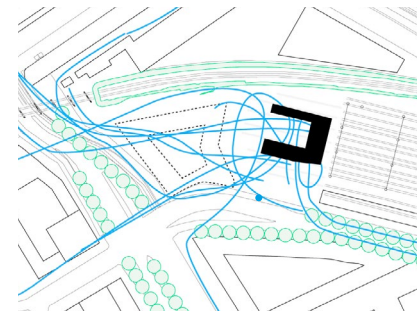
OPEN SITE

Currently the fenced off perimeter of the territory defines a highly isolated and introvert 'island'. Removal of the barriers is the initial step of transforming disconnection into an open and permeable public place.



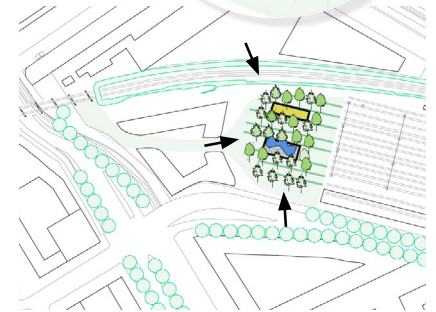
CLEAR BOUNDARIES

Establishing a transparent and clear demarcation line between the functioning railway and the project terrain allows to frame and articulate the presence of historical railway, while also placing new activities right next to it without administrative contradictions.



TEMPORARY CATALYST

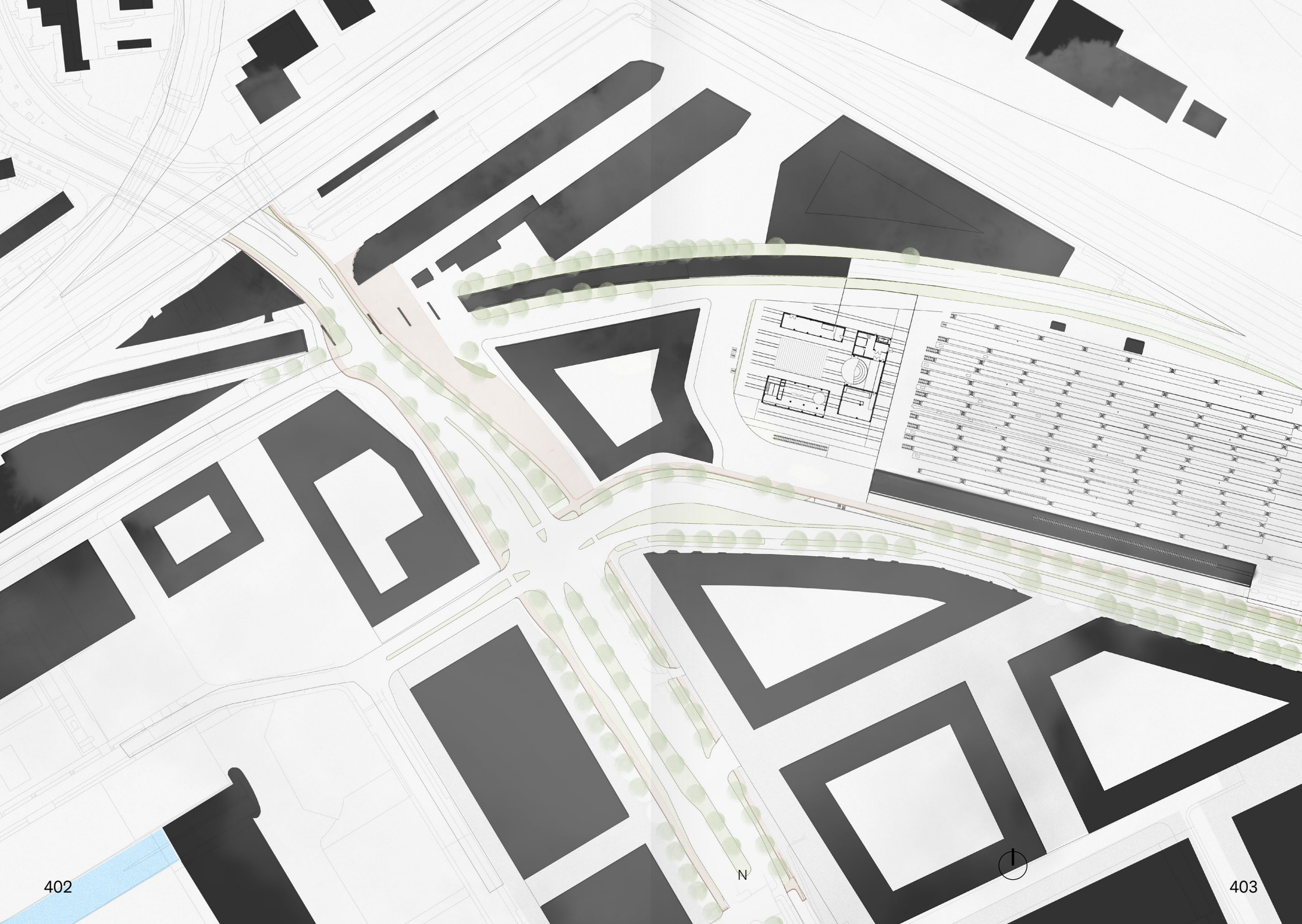
The multiplicity of offered formats of public performance enable the pavillion to act as a catalyst for regenerating the perception of the area. The range of the temporary program of activities conditions the Spoorbogzone area to be more connective and open.

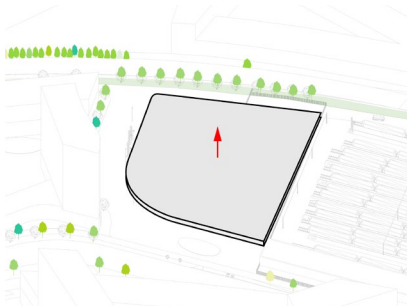


POST-OCCUPANCY VALUE

As pavillion is disassembled, permanent parts of the design remain as ground for new future exhibits. The area is transformed into a permanent community park within the collectively harvested new public terrain.

• + New Bus Stop





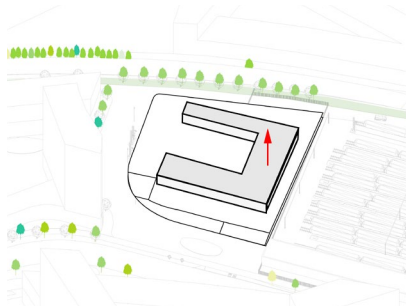
RECLAIMED RUBBLE PODIUM



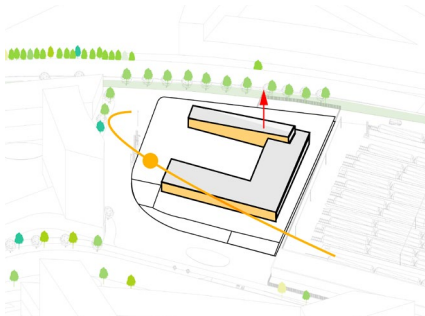
CONNECTIONS TO TERRAIN



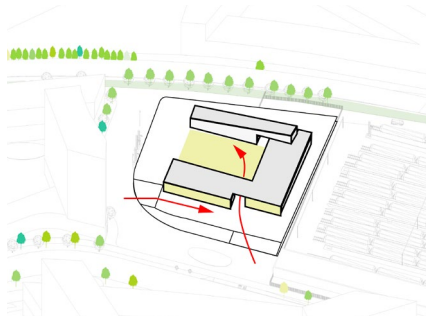
PERMANENT INTERVENTION



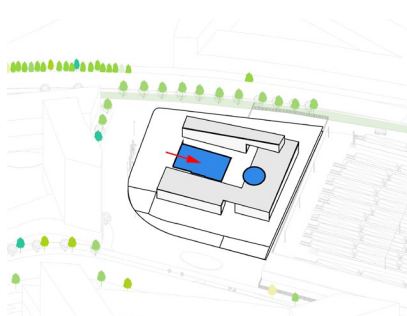
TEMPORARY PAVILION VOLUME



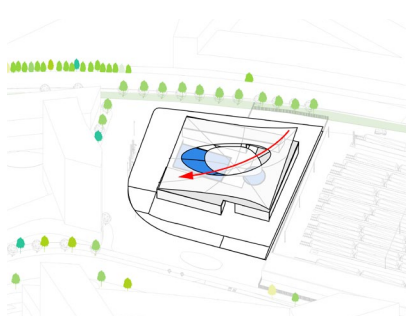
SOLAR EXPOSURE



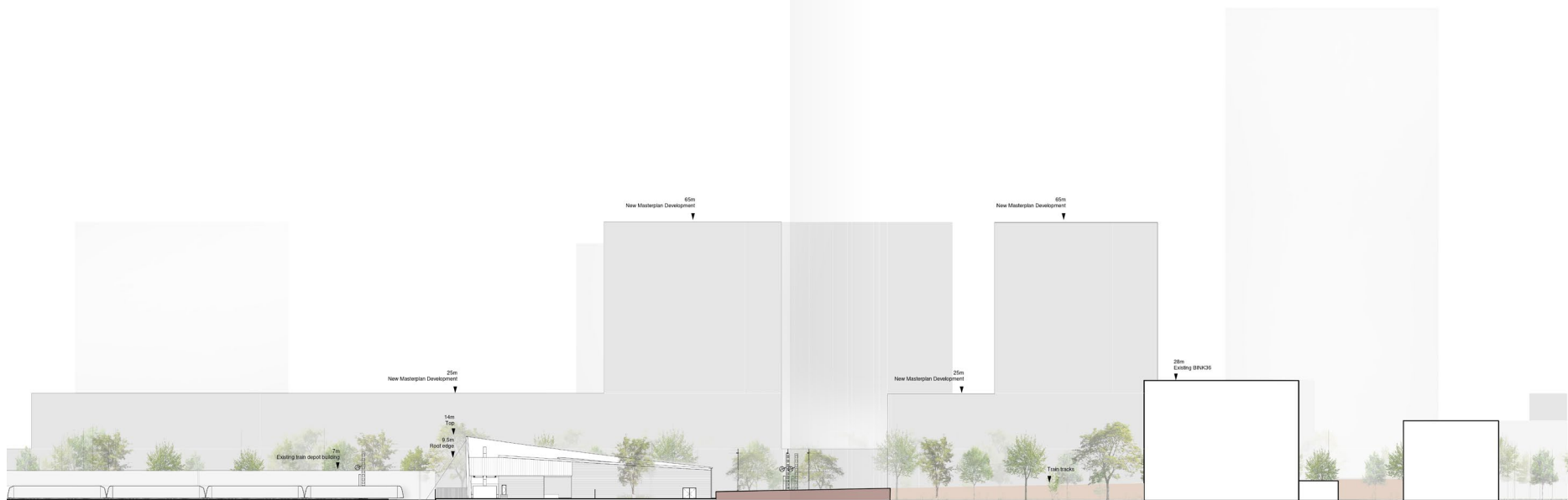
OPENINGS & PUBLIC ACTIVITY



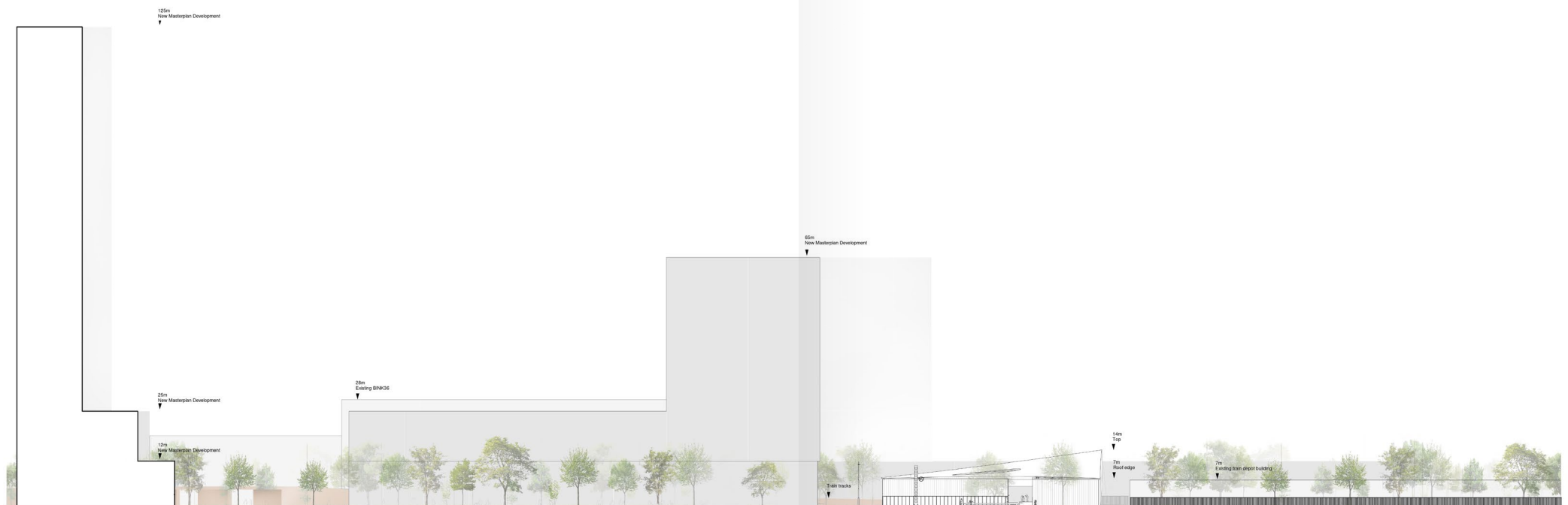
LARGE SEATING TO STAGE



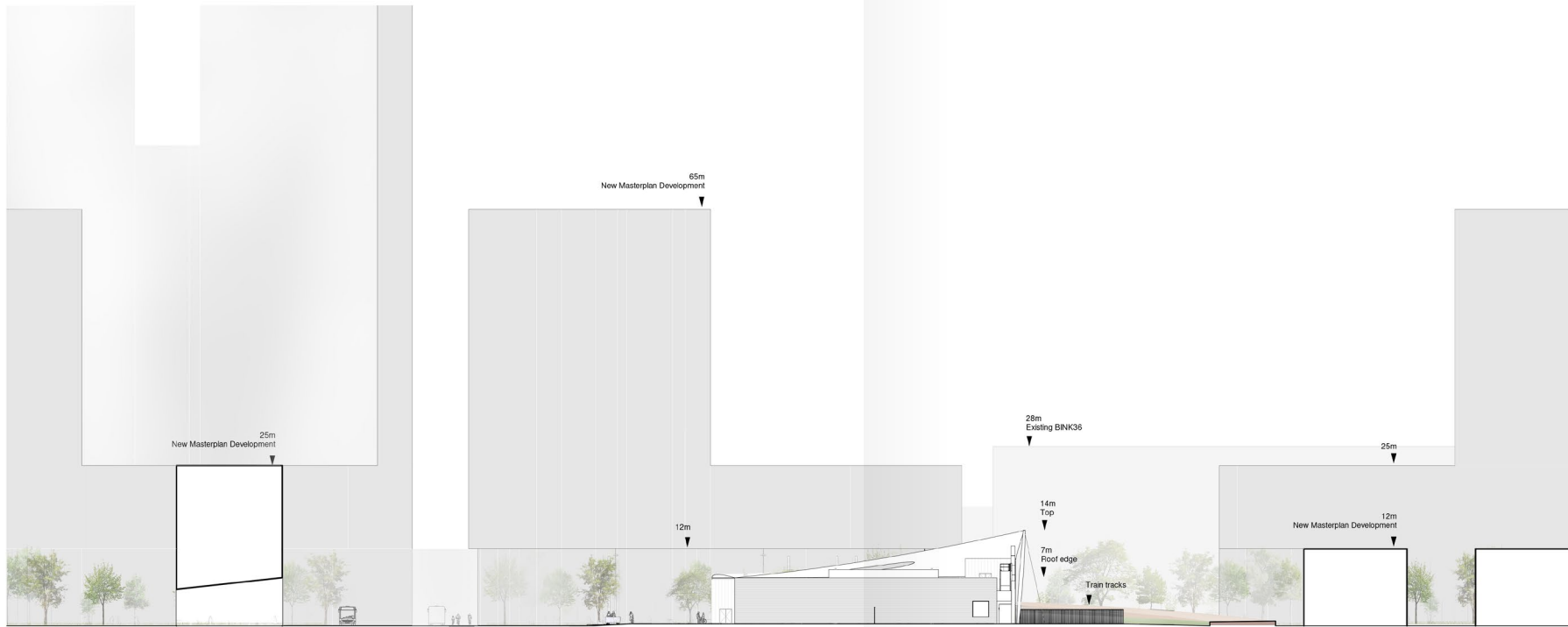
TENSILE ROOF COVER



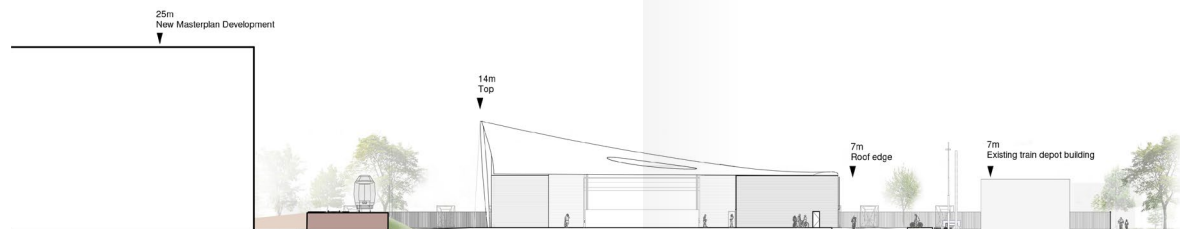
Long section (north facade) 1:500



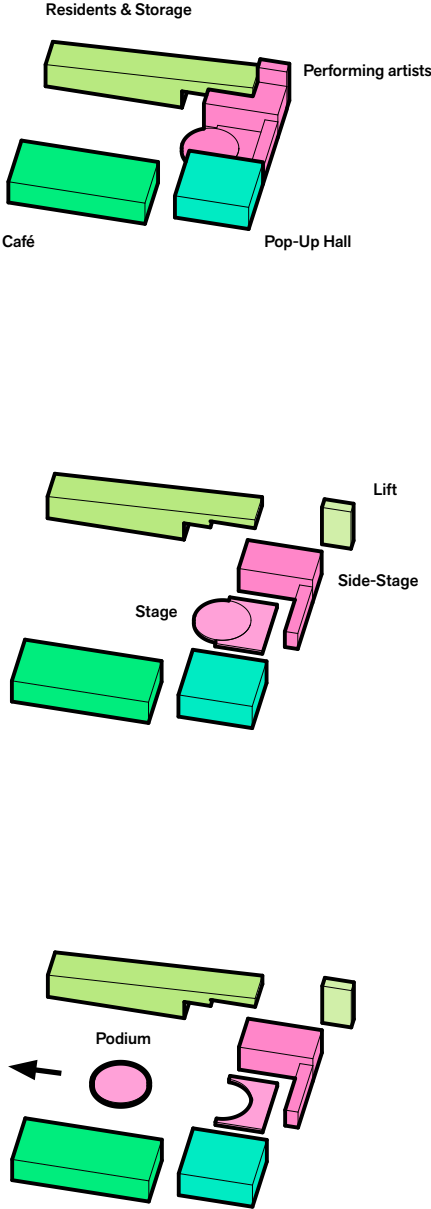
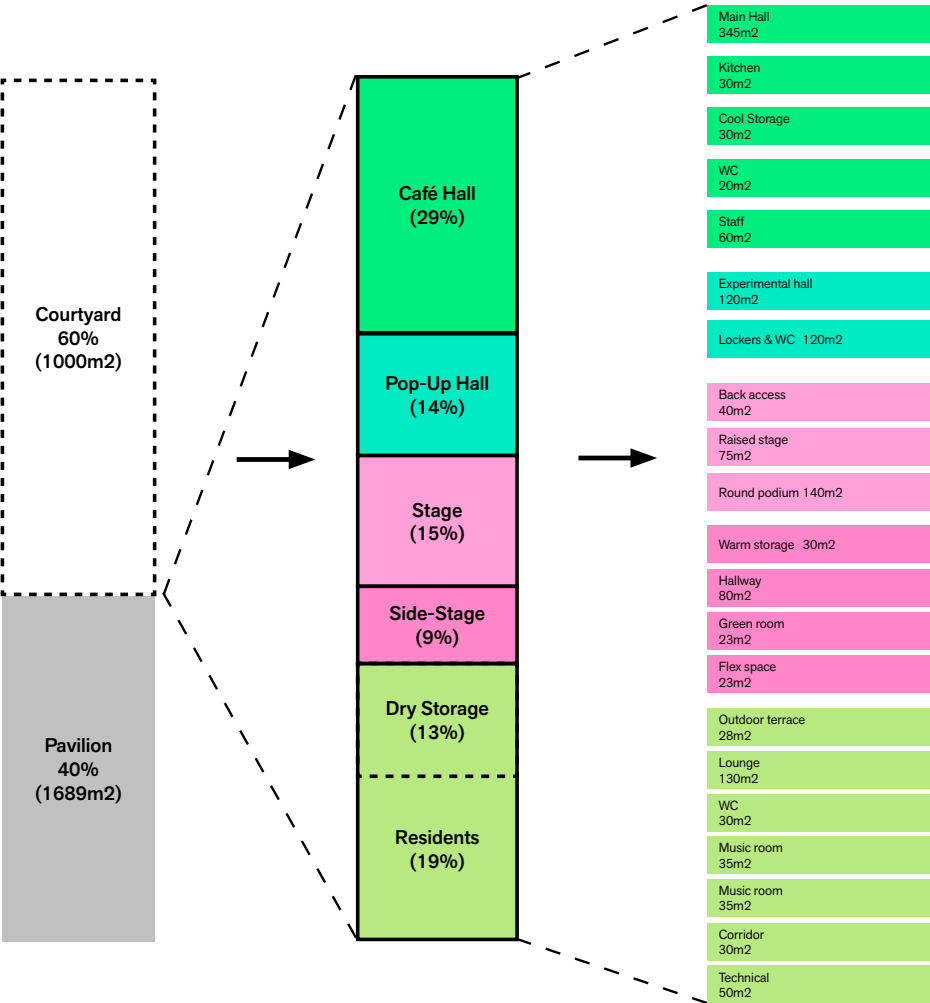
Long section (south facade) 1:500

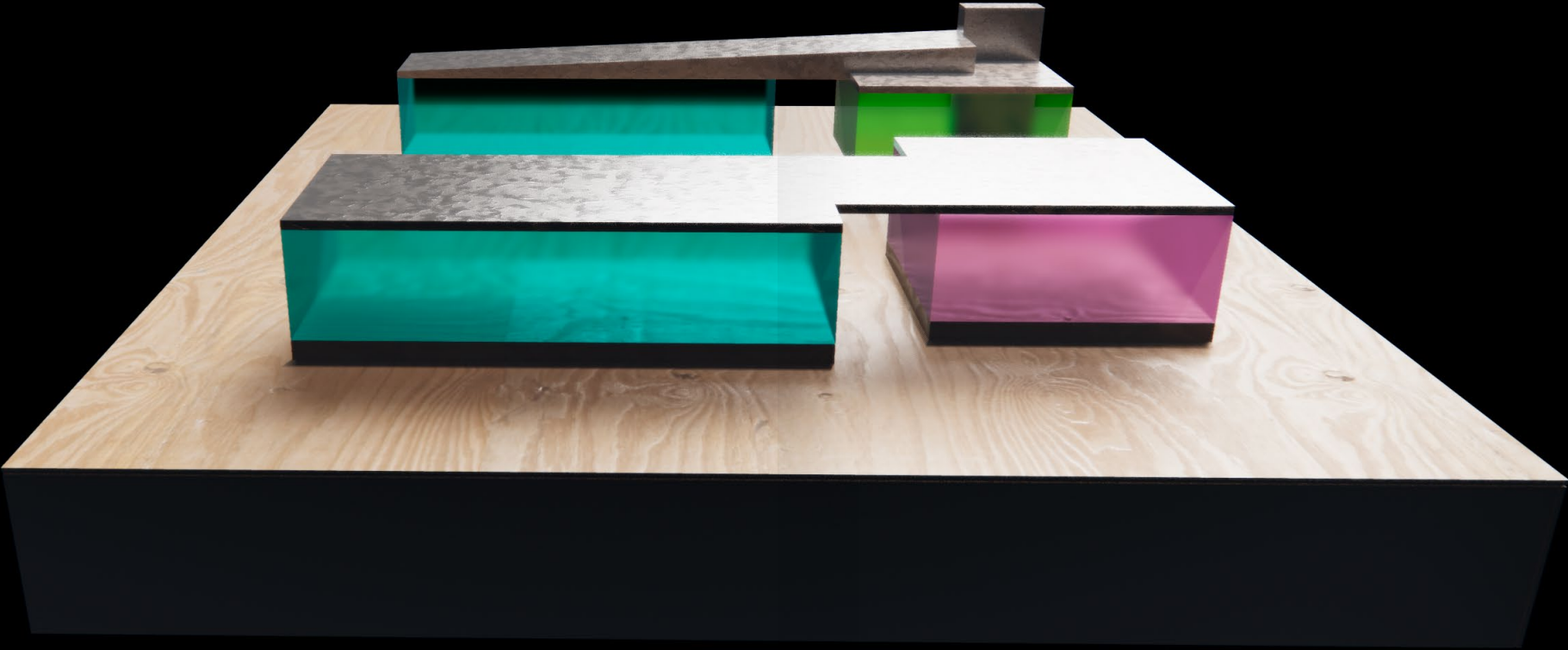


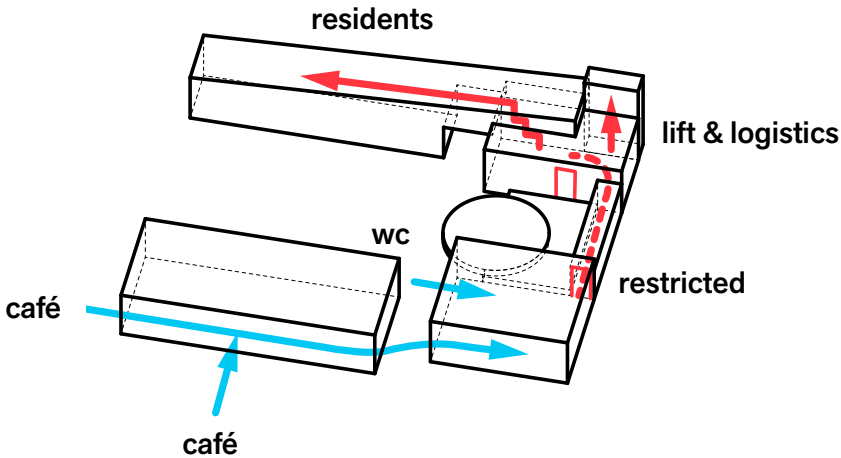
Cross section (east facade) 1:500



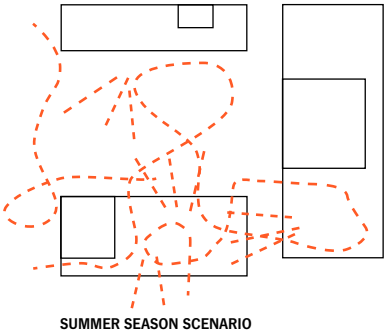
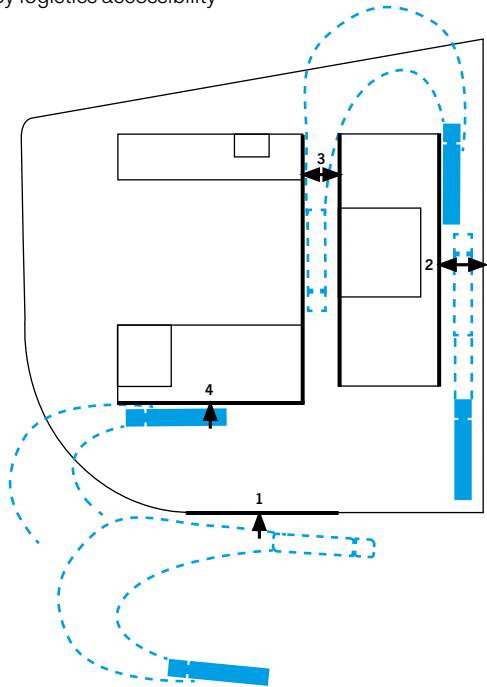
Cross section (west facade) 1:500



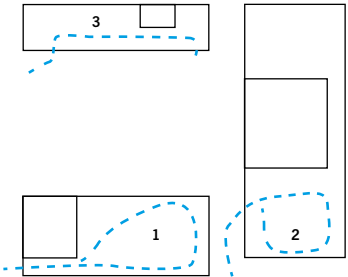


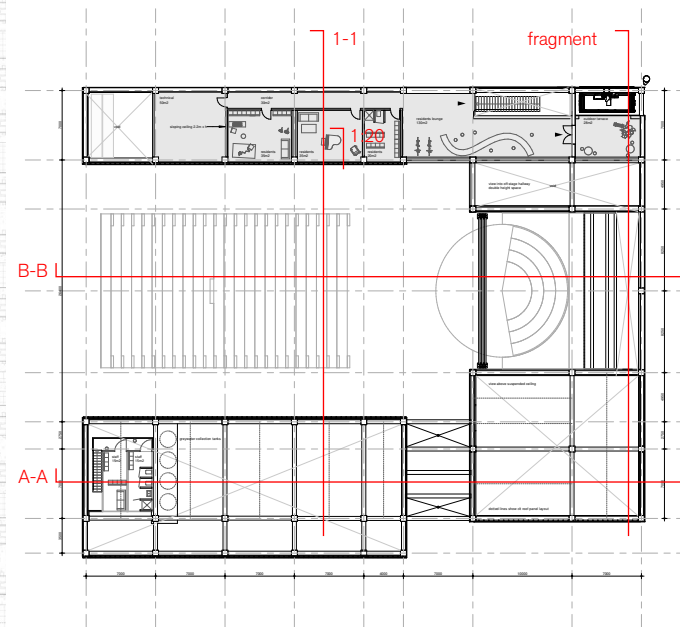
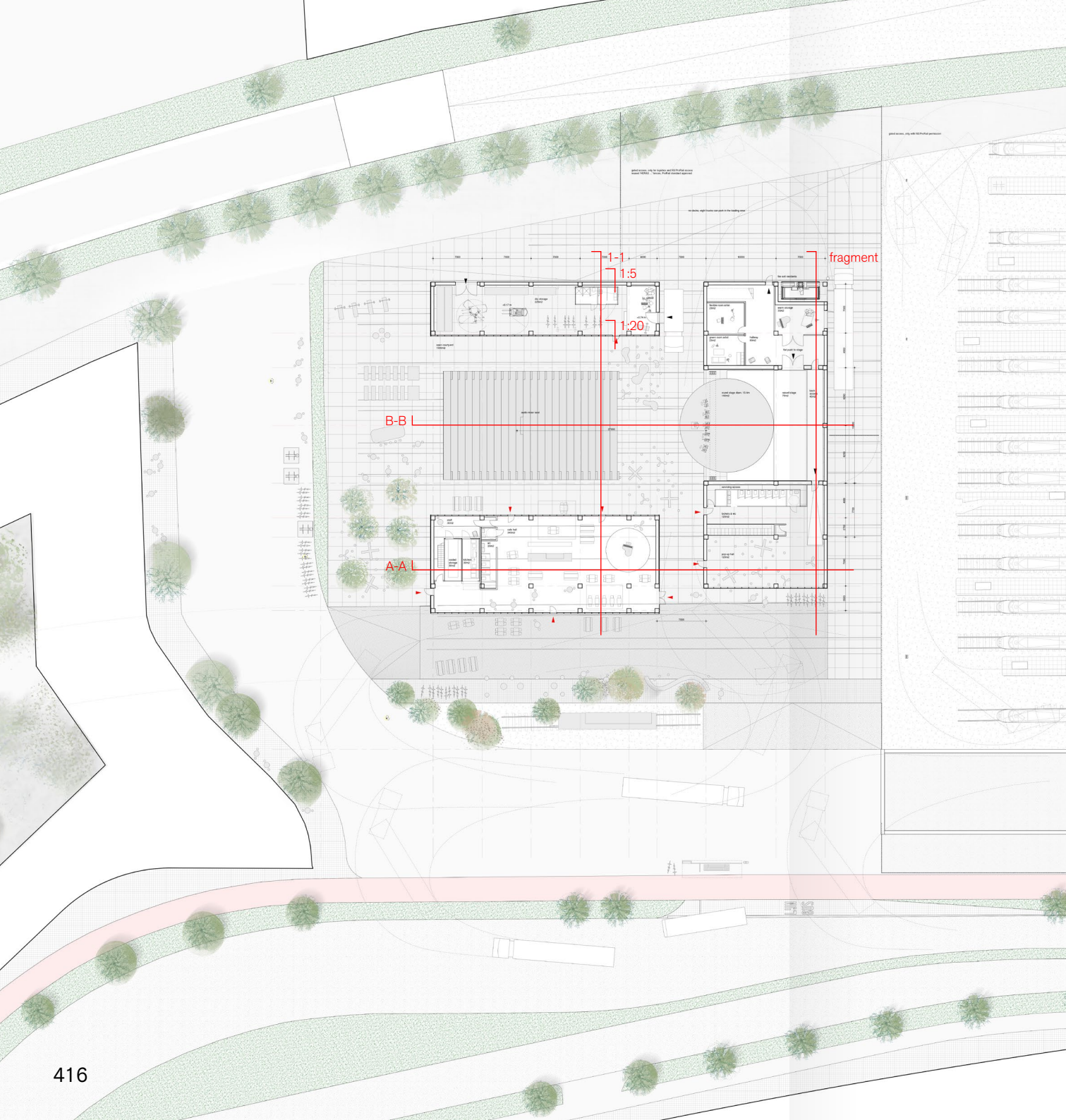


Footprint defined by logistics accessibility

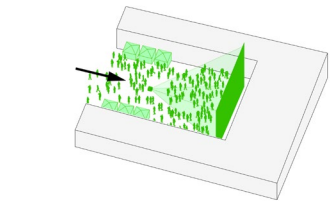


OFF-SEASON SCENARIO

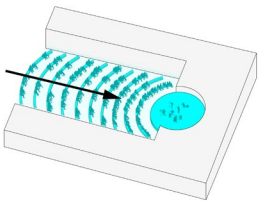




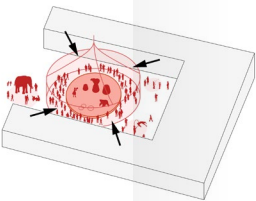
multiplicity of destinations and range of connectivity



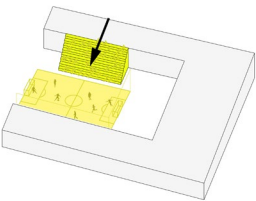
live football



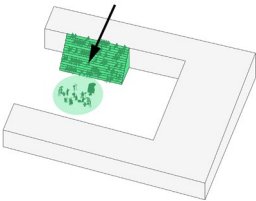
classical concert



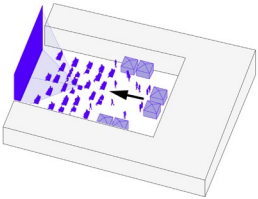
circus tent



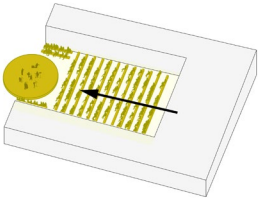
covered sports field



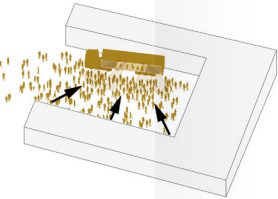
tribune concert



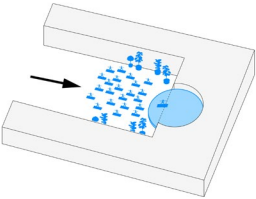
open-air cinema screening



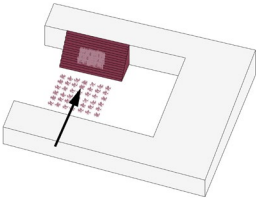
guerilla truck concert



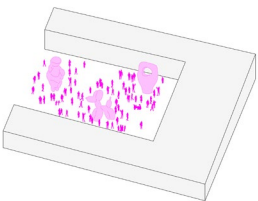
guerilla truck concert



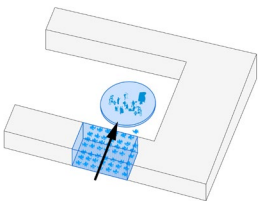
outdoor yoga class



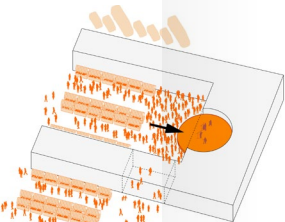
tribune choir



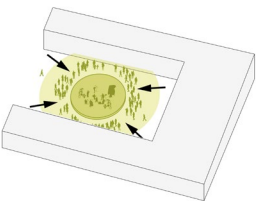
sculpture garden



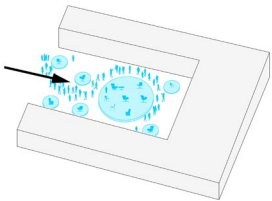
extended café concert



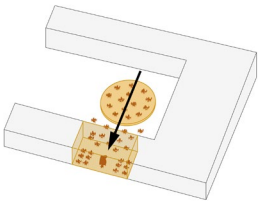
weekend market



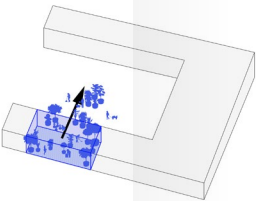
center stage concert



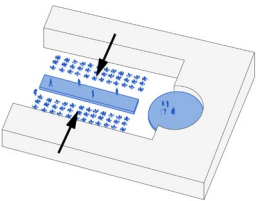
design fair & market



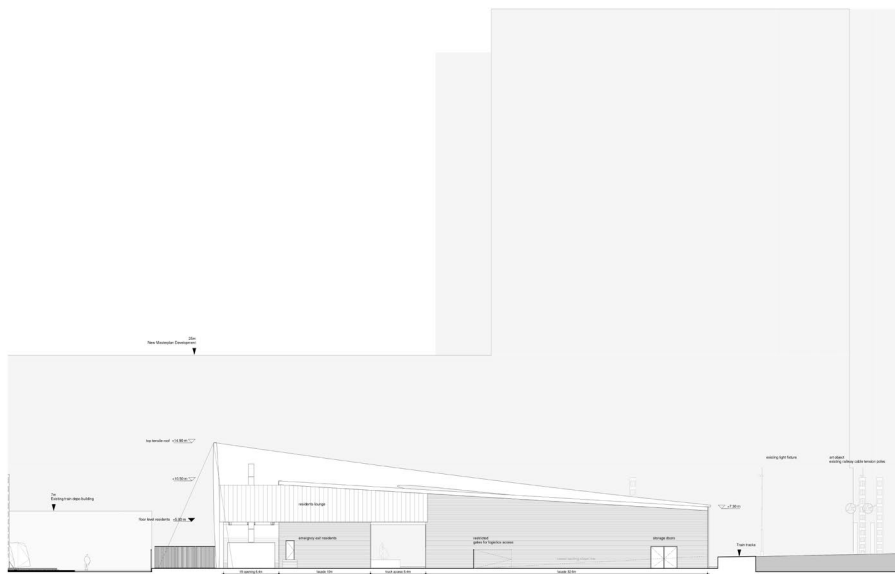
reverse café concert



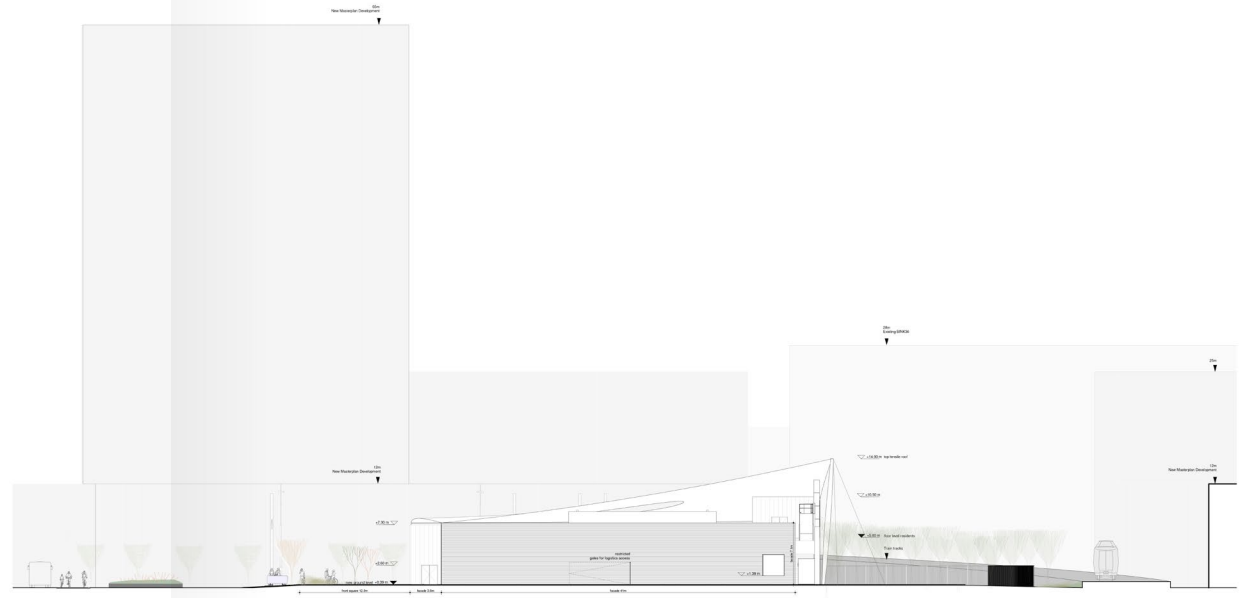
future park workshop



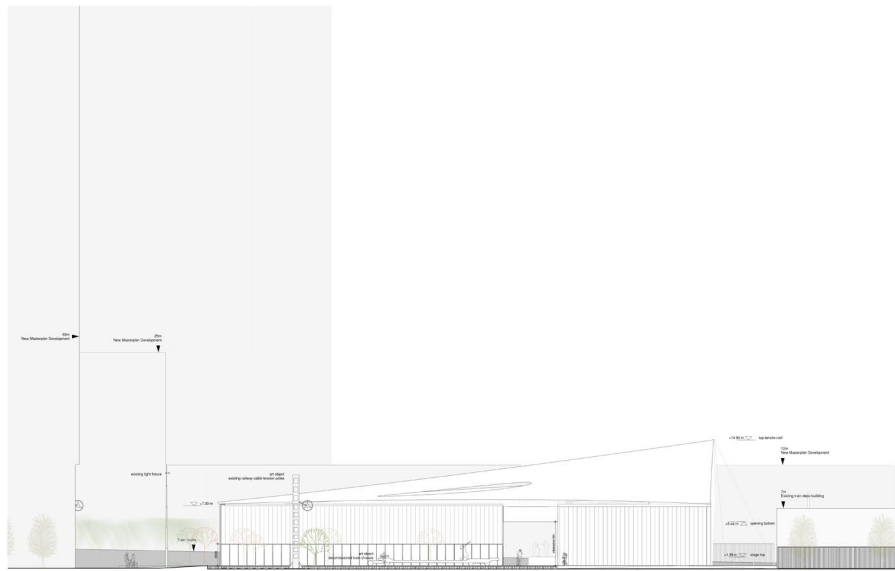
catwalk concert



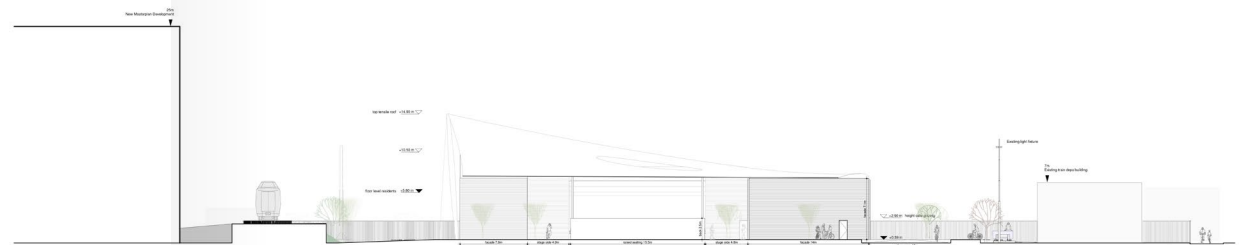
north facade 1:200



east facade 1:200



south facade 1:200



west facade 1:200

connectivity of events

Primary Configuration



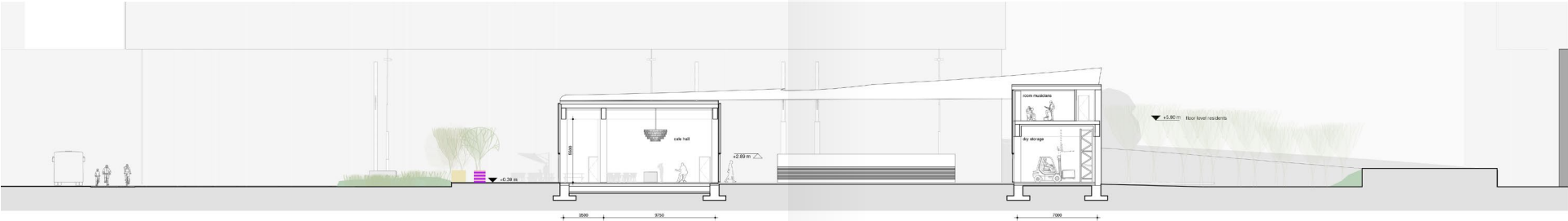
Maximum utilisation of the pavilion



Concert Scenario



Educational & Recreational



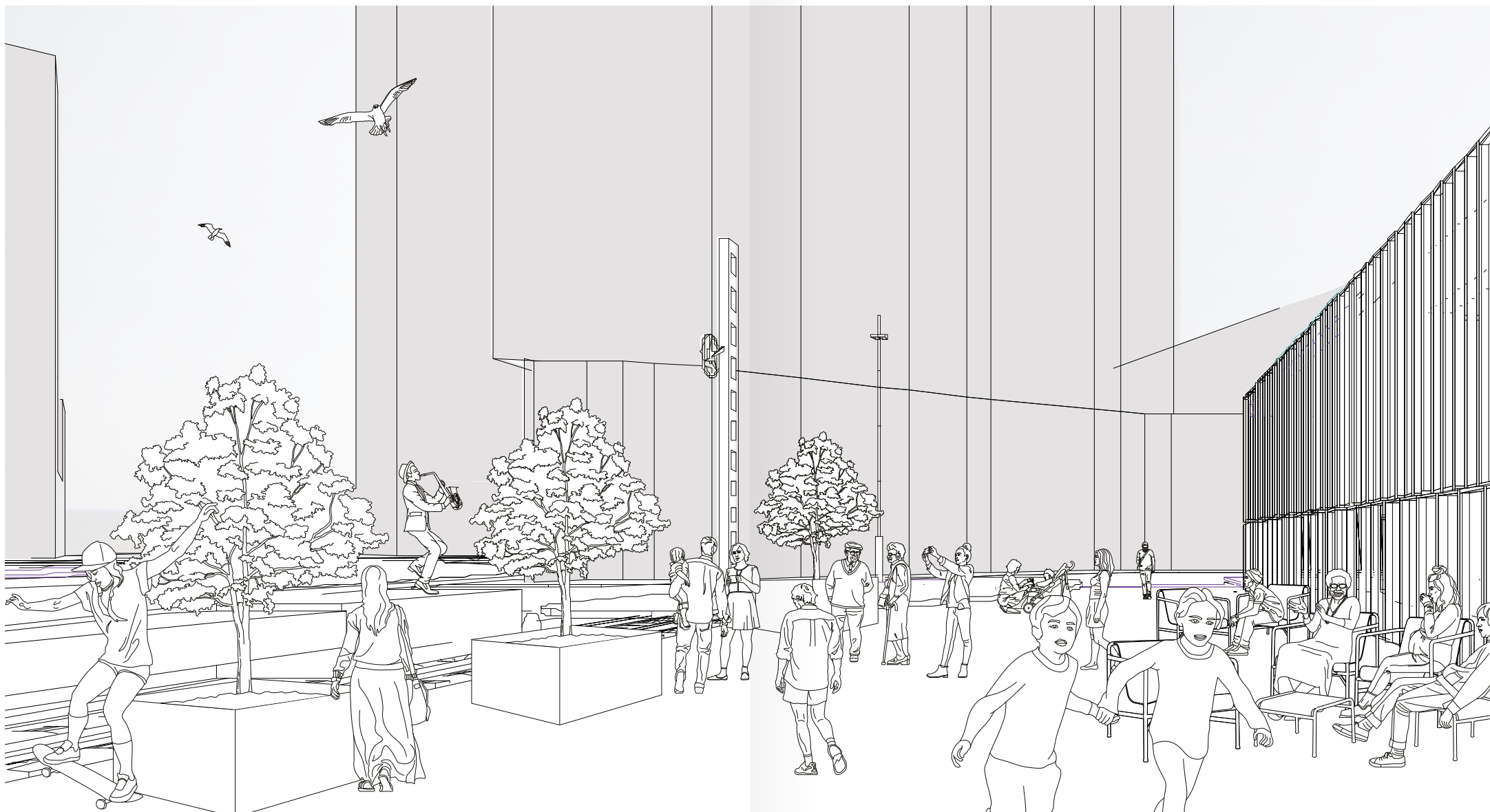
cross section 1-1 1:200

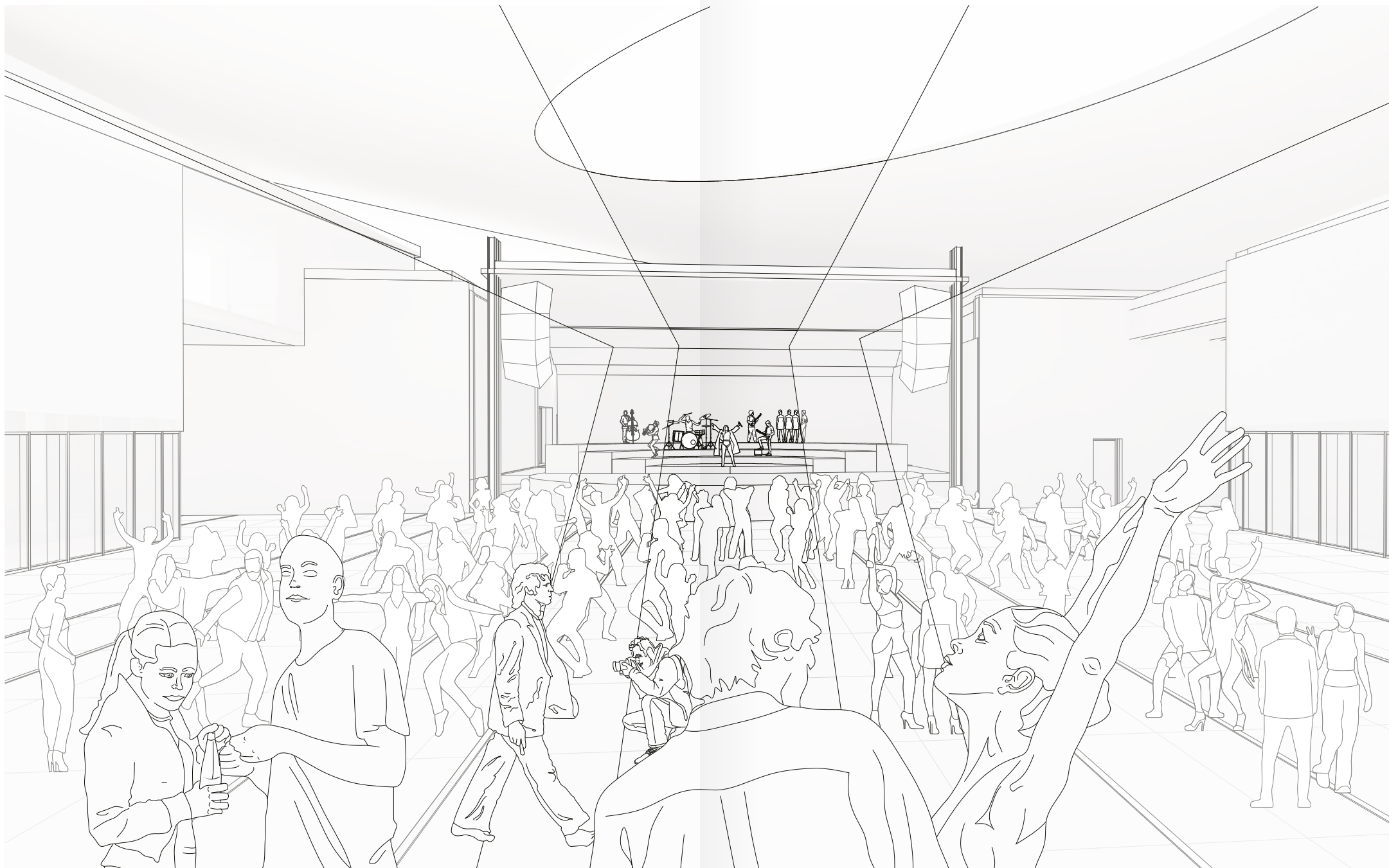




View into a courtyard concert scenario







View into a courtyard concert scenario

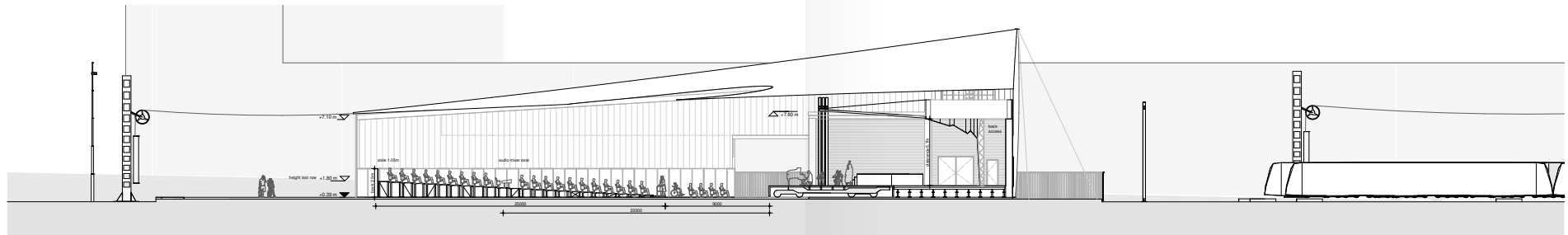


View from central stage during day rehearsal

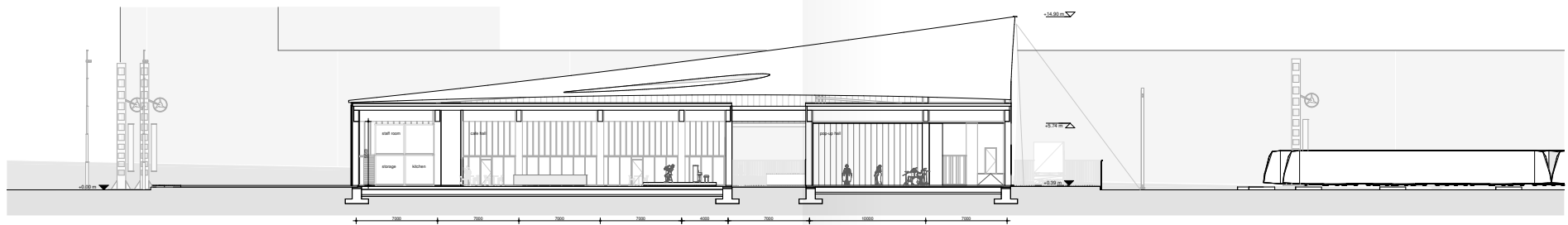


View into a central stage concert gathering

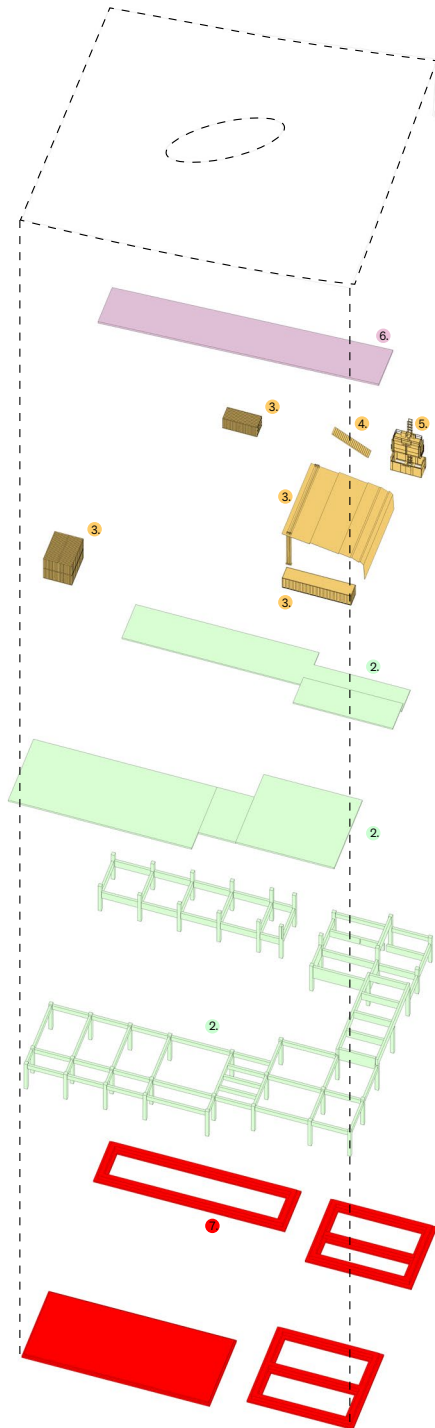




long section B-B 1:200



long section A-A 1:200



structural decisions mased on personal circularity roadmap

A. Site

take step →

- 1. Leave Intact
- 2. Demountable Intervention
- 3. Multi-Purpose Intervention

usable for multiplicity of structures

B. Building

take step →

- 1. Don't Build
- 2. Demountable Intervention
- 3. Re-Manufactured Use
- 4. Re-Use
- 5. Rent
- 6. New Bio-based
- 7. New non Bio-based

use pre-fabricated, quality controled products

materials that don't add more to the global CO2 footprint

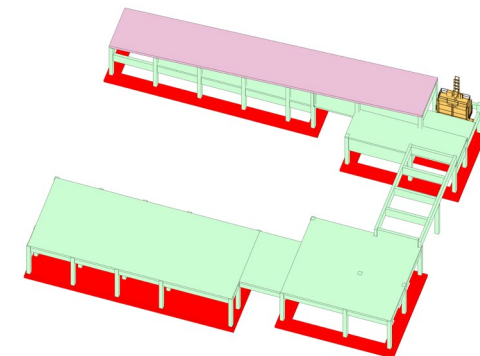
climate neutral/positive impact

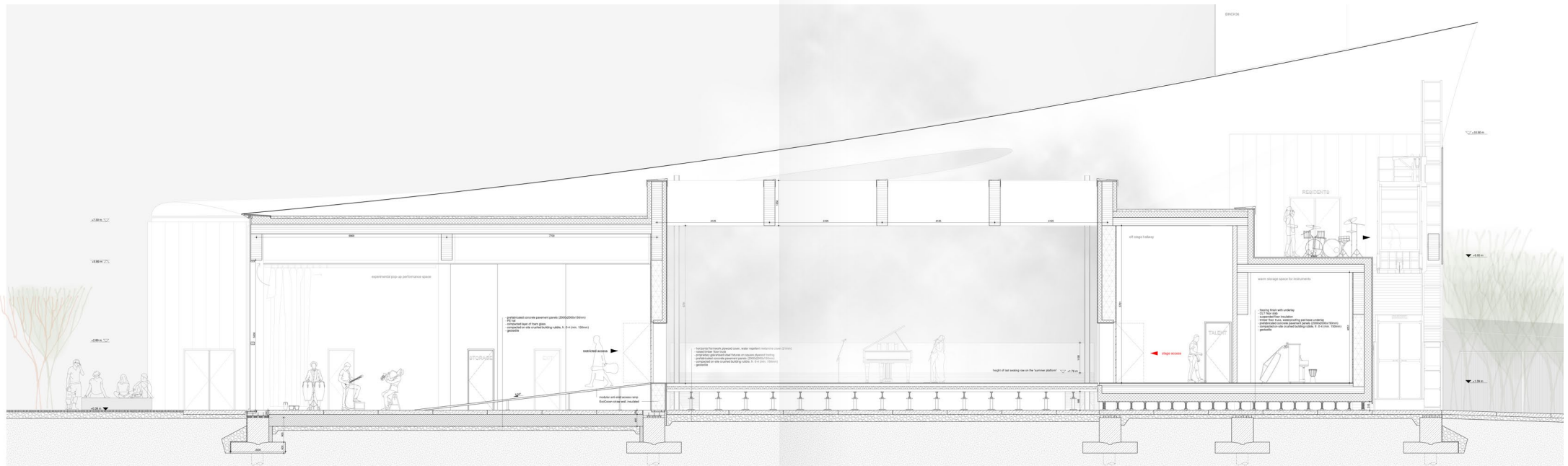
select only low carbon material with reduced embodied CO2 footprint
longevity of use and quality of manufacture as priority

C. Parts

take step →

- 1. Don't Use (Lo-Tek, Passive)
- 2. Re-Manufactured
- 3. Demountable





fragment cross section 1:50

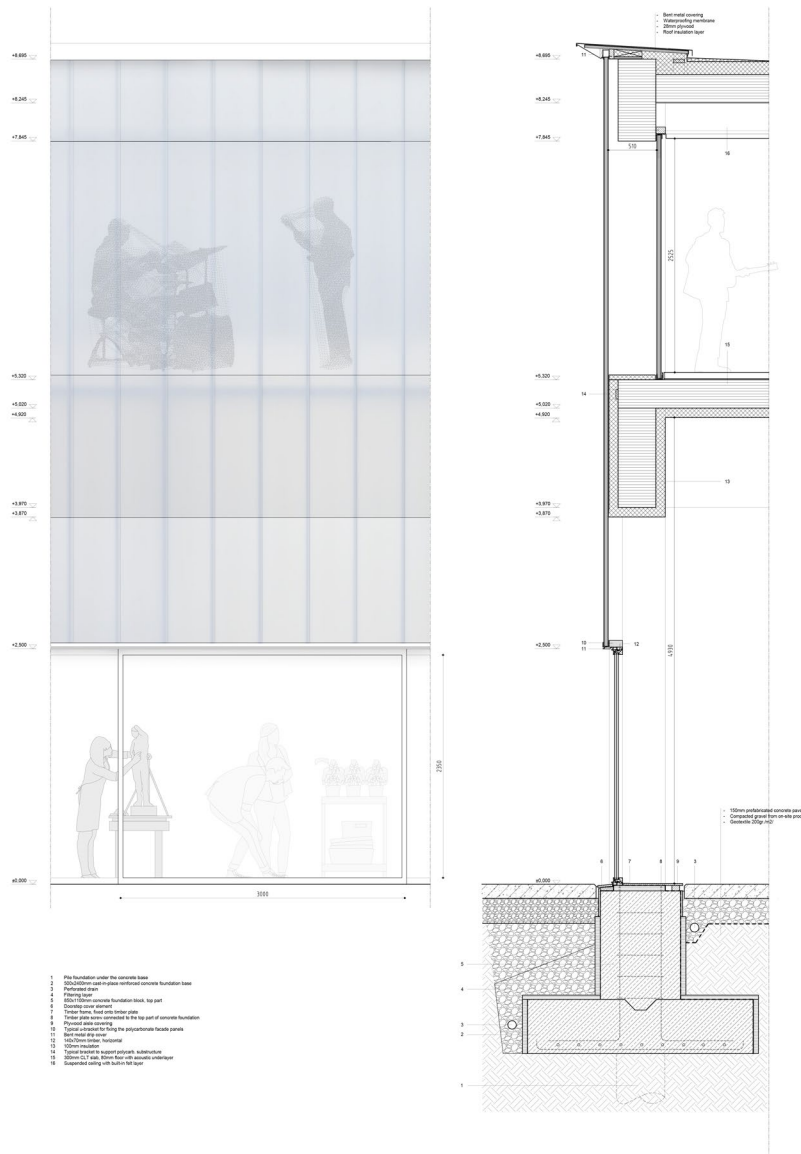


View into an experimental event in the pop-up hall

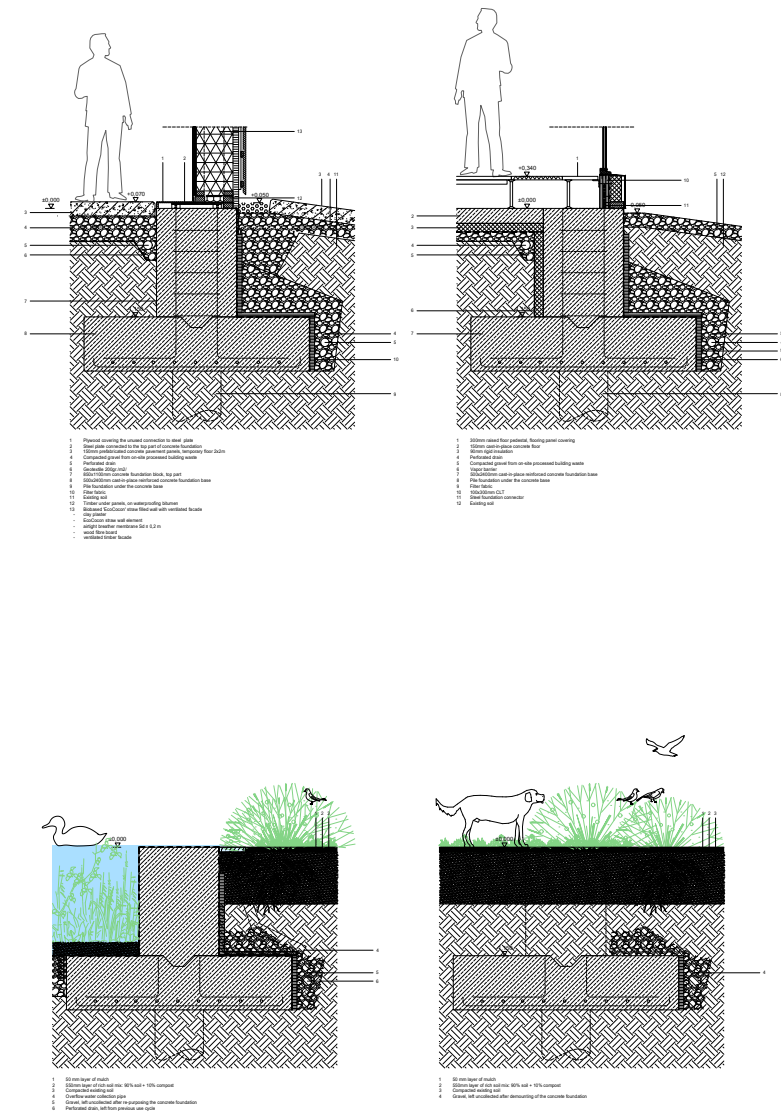


View of people gathering for an evening courtyard concert





facade fragment 1:20



foundation detail sequence 1:5 (scaled to 1:20)



P5.A Process Documentation
(Research Questions)
(Design Journal)

P5.B Final Design
(Project Formulation)
(Project Design)

P5.C Final Reflection

Reflection on the Public Building Music Marvel Graduation Studio

This reflection is an expanded version and a continuation of the text in the Graduation Plan, submitted for the P2 examination of the Public Building studio.

Approach

In the Graduation Plan I had defined that the project is set out to explore the capacity of a building to be used as a *didactic tool for generating an evolving understanding of history & identity of the place, all in the midst of performance*. The development of this graduation project cannot be described as a linear progression. In sum, despite the unrelenting attempts, throughout the evolving stages of the project it has, more often than not, failed to articulate a feasible answer to this core question. Until the post-P3 presentation, the extensive research on all the possible methods of circular design and sustainability frameworks had been probe-tested within the project site in Binckhorst. Most of the time rendering the incompatibility between the scale of the potential human (visitor) experience & the scale and method of construction. In other words, what the building was offering was more serving the urgency for a specific construction method, rather than the performance scale of the people.

This late realization is seen as value, rather than shortcoming - because finding all the incompatibilities allowed to choose a more precise and fitting typological match that in the end does address the set-out question in a more feasible way. Moreover, the whole stretch of the design research has enabled me to find firm ground on understanding a wide range of acoustical spaces and formats of performance. And, finally, to articulate an irreducible position on the fundamentals of a Music Marvel and the relationship to circularity beyond the issues and scale of a single building.

How? (on method)

Very early in the process, the project started with a fundamental contradiction:

The global urgency requires buildings to be **circular**, designed for deconstruction (**DfD**) with **generic interchangeable** and **disconnectable** parts—the local urgency of the music marvel graduation project requires to design of a building, with supreme acoustic capabilities, achieved through an accumulation of **custom integrated** solutions.

In the beginning of the project I had a bare knowledge of the circularity discourse and building possibilities. The design of a large-scale public venue was chosen to drive the extensive research on circularity. In order for it to be an iterative process, the research findings were being projected back onto aspects of the design, to test their compatibility with the typology and scale. Upon concluding that the applied research is contradictory to the building, or rather vice-versa, adjustments were made to either scale down the ambition of the research, or the design project. Up until the P4 presentation, the project had gone through consecutive iterations of reduction - specifically, in reduction of built scale and programmatic variety, in order to maintain feasible balance between the circularity research, integration into the urban conditions of the site and architectural ambition of the typology of a large-scale music venue.

Reflecting on the Public Building method

Entering the Public Building graduation studio I was determined to explore fundamental new ways of constructing an experience of music. In the graduation manual the studio has defined 3 main priorities - Position, Composition & Actualisation, all circling around the core idea of Multiplicity. This vortex of method is what I adopted in my own design & research process - balancing a theoretical position, with design exploration and practical case studies of contemporary built methods. By the end of the graduation studio I had managed to articulate my own reflection to the framework of the studio - adjusting the more universal Public Building 'trifecta' to fit the typology of a Music Marvel. *Terrain, Spectacle & Structure*.

Why? (argumentation)

The main ambition with this project was to *engage with the complexity of large scale public programming*. This has led to the specific choice of site; choice of the reference open-air concert hall typology & to the multiplicity and range of offered performance formats of the project. As sub-considerations of this ambition are the following questions:

- What is the identity of a completely new urban development and how to express it publicly?
- What are the limits of an urban music-venue?
- Can history, identity, performance and city branding all be sustainably combined in a music-venue?
- What is the role of 'public-music' in the city?

Relationship between research and design

Starting with the summarization of the group-work of case studies, the design project was driven by the idea of the 'universal music pavilion'. But rather than posing as a *universal solution*, the ambition was to act as an early adopter of circularity in large scale

mass-venue planning. The opportunity to focus on the development of a conceptual and spatial proposal with the Music Marvel as main subject seemed a highly suitable exercise to do so. Besides that, it was also seen as a practice of spatial negotiation between the needs of private stakeholders and public desires for 'public-ness'. The initial project presentation of the responsible municipal planner (Rikka Tuomisto) showed that almost all of the Binckhorst territory will be redeveloped 'from scratch'. As an emphasis, it was positioned to us as a new experimental masterplan for developing urban proposals in a highly collaborative and interdisciplinary manner. I saw this invitation as an opportunity to set up a design trajectory that would try to simulate that ambition for a cross-disciplinary approach, where there is no hard distinction between infrastructure, landscape and architecture. Rather, a focus on 'seducing' the public audience with bold illustrations of collaborative design practice, so that gradually an aesthetic interest could be transformed into an active part of life in New Binckhorst.

Integration of feedback in the process

Reflection on given feedback

On a weekly basis we have had stimulating conversations about the direction and the gradual build-up of the project and the wide range of reference points presented by me and the tutors. During the formulation of the project in the P2 - P3 phase the amount of research superseded the design output, which then resulted in an ambiguous moment during the P3 presentation. The support that was present in the consistent evolution of the workshop sessions was not evident in the presentation. As mentioned in the opening chapter 'Approach' this could be explained partially due to the lack of the focus on the visitor experience. As I answered in the feedback session about what the project was about: "if anything, this project is a material driven exploration of the possibilities to envelop a music venue, strictly corresponding to the circular and sustainability lessons and urgencies presented to us at the beginning of the design studio". Despite the clear answer, a loss of faith and a substantial withdrawal of support happened, as exemplified by comments such as "but I don't see a project" and "don't worry, we are not failing you yet". This did play a noticeable role in the continuation of the set trajectory of the development, and the overall approach to the project itself.

How feedback was translated in my work

Throughout my interactions with the tutors and lecturers, I have been actively noting down valuable aspects that are relevant to the project. Regularly these ideas have been tested or 'planted' in the process, and majority of them have stayed in the project as crucial aspects of the design. I would like to share a selected transcript of the most defining moments of feedback, gathered during and after the P3.

7 Apr 2022, P3 Feedback & the accumulated sub-considerations:

1. Make use of what is there in the area (*Nathalie*)

- Challenge and question the accepted status and condition
- Create *opportunity* for nature to grow back again
- Stimulated landscape/people movement
- Reduce number of activities but make them more active
- 2. From closed to open. Why open? Is it better than closed? (*Sang*)
 - (*me*) Open-Up & Clean-up = in short, give quality access to the area
 - (*me*) Not fully enclose space that is already there but has options to open-up
 - (*me*) For generations VS for 1 generation of city dwellers
 - What will people need? Miss? Public meeting - adult playground
 - Spaces people can *engage* with and *interpret*
 - Invite community. A gathering place of community where it can be seen and see each other.
- 3. Unique Temporary Quality? (*Florian*)
 - Place / Meaning (Amsterdam Dam)
 - Place / Indeterminate
 - Has to be interesting
 - Rails are the most dominant identity of the Spoorboogzone
 - What happens during other days?
 - What remains after use?
 - Show process of temporality. State - 1,2,3,final (timeline?)
 - Everything is structure (integrated experience)
- 4. Question: How Binck will change with the densification plans. Important question, because of a large presence of new high-rise
 - (*me*) What could be the music marvel in Binckhorst?

Lessons learned from my work

1. Acquiring an overview of the core typologies of music performance (from classical to open-air).
2. By definition, a circular music marvel is compromised and 'impure'. When the typology, which always requires adjusted, custom solutions, is coupled with the sustainability and circularity goals, it becomes impossible to achieve a fully demountable construction with a carbon negative footprint. Except festival structure, which is a completely developed and tested short-term temporary music typology. (Reusable long-lasting product with embodied CO2 energy.)
3. Understanding of acoustically Universal volumes for music performance types.
4. Universal is too big to execute in a demountable way. So, hard choices have to be made: Choice → Selection of typology → Compactness & Versatility of scale.
5. Nr.4 is as close a music marvel can come to reacting to the urgency of non-biobased material reduction.
6. Intimacy & Experience is also part of performance. When starting the next music project from a more informed material culture standpoint, this consideration can become a more dominant driving force in the earlier stages of the project.

7. Too flexible becomes self-canceling and the overall experience becomes illegible and impossible. It is essential to have a clear sequencing of activities and a distinct separation between the zones of the dynamic range of performances, in order to protect their own value proposition. Setting clear boundaries is essential to maximizing the potential of multiplicity.

What is a Music Marvel?

Unquestionably, a Music Marvel is a *spectacle*. It is either a spectacle of vastness (festival), impression of grandeur (classical) or the intensity of isolation (black box). In more urban cases this typology has the capacity to transform the whole terrain around itself (Paris Philharmonic), or be a completely isolated and introverted 'black box', like Ziggo Dome in Amsterdam. Despite this range of impact, I have discovered that it is inherently a potent and resilient typology. During the post-presentation feedback of our case study group work, together with prof. Nicola Marzot, we summed up our own "ziggo philharmonic™" paradox, which is the most reduced description of a Music Marvel: "people go to arenas and mass concerts for a *specific reason* but the environment is generic; with concert halls people go specifically for the environment, yet the reason might be generic..as unremarkable as just visiting the building to see it." For it to be successful, at least one of these aspects has to be in place—either the appeal to the senses through the tactility of the architecture, or the offered range and intensity of aesthetic experiences of the program.

(see more elaboration on this line of thought in the Graduation Report, chapter. 'P2.D1 Individual Research Book')

What is my Music Marvel?

My proposal is building on the lessons learned from the case studies of the studio, specifically on the ones that were more urban in their character - bringing a regenerative change in the terrain around themselves. As the project progressed, especially after P3, this ambition was merged with the typology of an open-air concert hall, which then led to the final design proposition. In this 'genre' of a building, the factors of infrastructural functionality, specifically the clearances for large scale logistics access and ease of mobility, play a crucial role in dimensioning the volume of the venue. As set out from the beginning, the personal ambition of this graduation studio was typological innovation. In the case of this project, the unconventional decision to place an open-air venue in a newly developing area of metropolitan congestion is the element of exploration.

Multiplicity in Project?

Identity

To what extent respecting 'historical-identity' of a place is even responsible in a planning process? What and how much to protect? Need to do both - not duplicate, extend or keep alive for keeping alive sake - but *play* and *create new places* as platforms of interaction. Don't be paralysed by the need for historical continuation, but be liberated

by the priority to design places with (con)temporary meaning.

Dynamic Range

Offer a wide spectrum of the 'music envelope': from an open-air festival to an impromptu flash mob; an evening courtyard concert or a cafe music session.

Design to Regenerate

Regenerative design for a positive climate impact. To do so, the linear distinction between landscape, infrastructure and architecture has to be substituted by a circular and interdisciplinary design process, where the decisions are based on the compatibility of scale and not the distinction of the disciplines.

Adaptability

Adaptable usage, both structural and programmatic, is more durable by principle.

Design relationships of potential connections of expansion and contraction of a variety of activities.

Graduation Project in a wider context

The fields of social, professional and scientific communities have one main word on their agenda: sustainability. It starts with a fundamental recognition of the needs of people, the social aspect, and then expands to a scale of free-market production, guided by evolving scientific research and development. As mentioned in the previous chapters, the project was set out to explore contradicting frameworks between social expectations and limitations of circular construction. Posed as an explorative 'pilot project' of expanding circular design language for music buildings in the city, the project itself becomes a transparent example of typological compromise. The transferability of the project results lies in

- The extensive research underlying the iterative choices made in scaling down the venue to a feasible balance between fixed elements and interchangeable ones;
- The personal circularity roadmap, as defined by the author at the end of the design project;
- The project itself is a visualization to the question formulated at the P2 presentation: "What is the role of the city in music? In reverse, what then is the music's contribution to the act of civic performance?"

Ethical issues and dilemmas

(i) Doing the research & (ii) Elaborating the design

On Circularity

Circularity is almost always presented in diagrams with a circle. From Urgency to a Solution. Throughout an extended process of design and research in this project, I discovered this representation to be flawed, or at least partial. How?

1. Once you return to the starting point, it has shifted already. So, circular is *not*

static, it is dynamic. The potential of the context is changed with the presence of intervention, no matter how big or small. One cannot *count on everything to stay*, but to change; (fig.2)

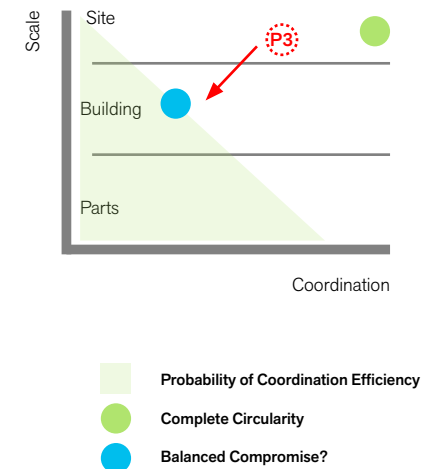
2. Circularity as diagram is a flat projection. Circularity as practice is not thinking in a circle, but finding vertical connection within the built environment. That vertical connection is the 'multiplicity shaft' of the project. Real circularity is a spiral. (fig.3)
3. Circular is not a loop, but a spiraling evolution of our environment;
4. The bigger the scale, the smaller the probability of efficient collaboration and coordination to achieve DfD beyond 'parts' scale. (fig.4)

Circular is flat when viewed from the top, when in reality it is spiral. If the designer, or any involved specialist, positions themselves outside of this process, then circularity is only a flat varnish. Once deep in the process

(iii) Applying results in practice

- Sustainability studies show that architecture exponentially becomes impossible.
- What is the role of an architect in the context of today, when the ultimate sustainable building would be not building at all?
- Important to recognize that each building is not to be designed to *return* where it started (flat circularity). Rather layer the built environment in a spiral motion, so that deconstruction of building doesn't lead to the same starting point (impossible), but that with its presence it generates a multiplicity of new starting points.

(fig.4) Scaling Contradiction



An example of a multiplicity position from this graduation project:

1. Current project site used as closed railway terrain for 'trains to go to sleep'
2. Open it up and start cultivating a new experience and identity of the place
3. Introduce a garden to offset the CO2 expenses of placing the Music Pavillion on the site
4. Instead of being foreign, the garden becomes an integrated and continuous part of the urban identity
5. Cultivate creative program
6. Harvest experience
7. Extend the program through continuation in the landscape
8. Establish a Music Garden

As soon as you make a building, it starts to deteriorate and *decompose*.

Once you plant a garden it starts to *grow*.

Completion of a building is an *endpoint*, cultivation of a garden is a *start*.

Position on personal future practice

The following decades are crucial for the global environmental crisis and our industry (building) has a large role in this process. The lessons learned through the research, collaboration with the tutors and the overall design process, are defining ones for my future practice. They have expanded my understanding of the urgencies, and potential architectural methods of addressing them. Rounding up this reflection paper I would like to share these core values with you:

- Continue developing a practice that is based on finding a balance between resource efficiency and cultural impact on a variety of scales: from an individual, to a community - both local and global.
- Maintain an active line of research for finding meaningful ways to construct for deconstruction (DfD), with emphasis on hybridity between predominantly bio-based material stock, in pair with low carbon embodied products and building techniques.
- More importantly, I have learned that circularity is not only a requirement in building culture, but also in design practice. This graduation project was set out from the start to *uncompromisingly review current circularity maxims*, only to discover that compromise is unavoidable. This realization came rather later than sooner, due to the extensive amount of research and design probing that had to be done to arrive at this conclusion. To stubbornly maintain this trajectory of exploration was a conscious decision, understanding that this graduation project is the last opportunity to take an extensive amount of time to do so without the pressures of professional practices. The realization, which is the ultimate value gained from this Public Building studio, is that contradiction and compromise is inevitable in the global transition to a circular economy and sustainable existence. Currently, a fully

circular public building is not achievable. The next best option is to take a strong and educated position towards what is the strongest value offered by the project; and how to execute that with the least amount of non-bio based material and CO2 emission. Ultimately, the future of circularity is embedded in the developing specialists of today; and the keyword to securing a sustainable future is 'choices'. Through having developed this project within the strict limitations of testing applications of circular methods to enclosing a large-scale public venue, a conclusion has been reached. The founding core of my professional practice has to be based on ethical choices. Each circular project has a point of dilemma, where the balance between *urgency* and *contradiction* has to be defined. The sooner that point is defined, the stronger a value proposition can be developed. Decisions in a project are made for the sake of providing a better scenario than the existing; but *what is better?* The true answer to this question can only be answered post-factum, but does it come from the architect? Or is it part of the process of post-occupancy interaction, done voluntarily for the sake of becoming a more involved, informed and responsible designer?

This has been the full scope of reflection as a result of the design project for a Music Marvel, Public Building graduation studio 2021-2022.

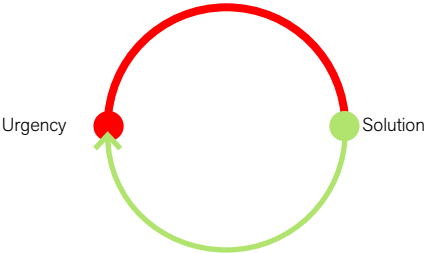
How will the final part of the graduation period be filled in?

Following the P4 examination there will be two lanes of priority:

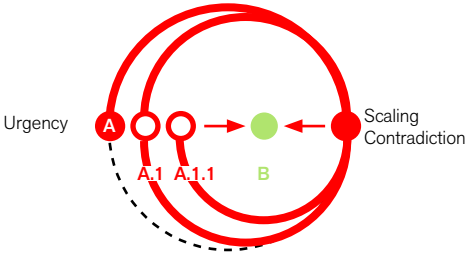
- *Building Technology elaboration of the project.* First, a more extensive working-out of the connections, dimensions and material choices of the main structure of the pavilion. Second, a more expanded development of the service systems of the pavilion, that are controlling the quality of indoor climate. This will be done in focused workshop sessions together with the responsible tutor - Gilbert Koskamp.
 - *Final P5 Graphical package.* For the P4 presentation an emphasis was put on showing an extended storyline of the project, which has resulted in an eclectic mix of graphical content. There are a lot of valuable typological insights and research findings accumulated during this project. Currently, they are not presented in the most legible way, so an extra effort has to be put to format the final Graduation Report, with emphasis on graphical uniformity and legibility.
1. Formatting of the final Graduation Report, with emphasis on continuity of research and design development;
 2. A story-line like set of computer visualizations of the design in its urban & programmatic context. Show the variety of the defined music scenarios in images;
 3. If time allows, building a 1:200 or 1:100 scale model of the proposal (no context);
 4. Finally, writing a concise brief summary of the project, sharing the story of the Music Marvel in an easily accessible format.

Conclusion diagrams by author

(fig.1) Circularity as popular Diagram

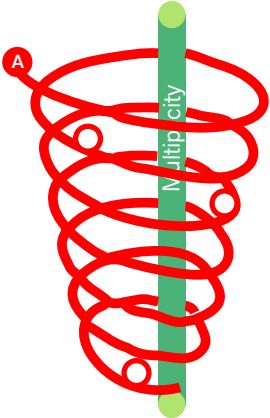


(fig.2) Circularity in the Music Marvel project



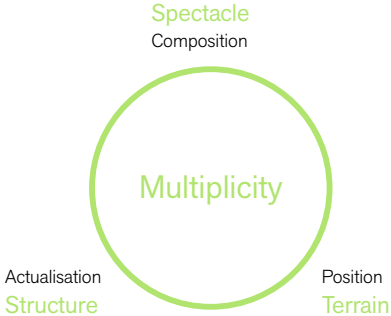
Main Urgency	A	(Paris Agreement)
Sub-Urgency	A.1	(Demountability)
Sub-Urgency	A.1.1	(Partial Demountability)
Point of compromise	B	(P4)

(fig.3) Realisation: Circularity in Practice



Circularity from the top is circular
Circularity from within is spiral

Multiplicity in a Music Marvel



Black values are the 3 defined core points of the Public Building Studio. Source: Graduation Manual AUBS 2019-2020.pdf