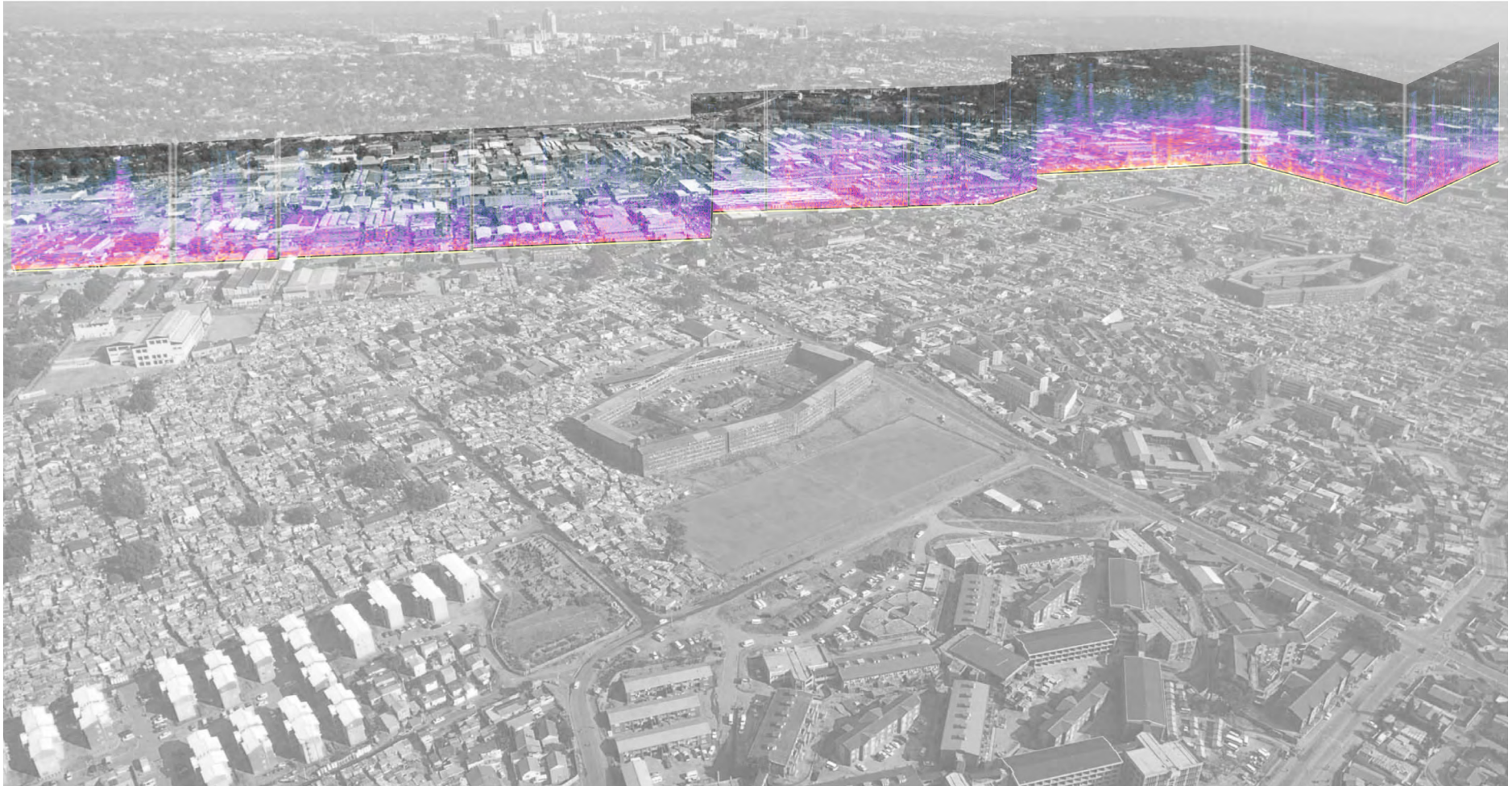


The Sound Incubator

South African Music Library, Live Performance and Improv
at the Gateway to Alexandra, Johannesburg.



Ariella Gimpel 1057850

**Sound Incubator:
South African Music Library; Improv and Live
Performance at the gateway to Alexandra,
Johannesburg.**

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A research report proposal submitted to the Faculty of Engineering
and the Built Environment, University of the Witwatersrand, in
partial fulfilment of the requirements for the degree of Master of
Architecture (Professional).

School of Architecture & Planning
University of the Witwatersrand
Johannesburg, South Africa

Supervised by Brendan Hart

15 February 2024



The cover page (Author’s Own) depicts a sound-bite captured on the 20th of May 2023, in Alexandra, Johannesburg. The audio clip is displayed graphically by means of a Spectrogram – which displays time, frequency and amplitude all in the same graph. Throughout the this report, fragmented layers of this spectrogram are drawn to represent each chapter which culminate at the end to emphasize the spatio-temporal nature of sound.

Acknowledgements

Thank you to my supervisor, Brendan Hart, for guiding me through this process and encouraging my ideas.

Thank you to all my family and friends for your unwavering love and support: To my sisters, Kira and Ruby, for getting me through this year, tears and all. To my auntie, Jax, for teaching me all the tricks for life, love and InDesign. To my mum, Lorien, for the best hugs and unbelievable dedication to our family.

And an unquantifiable thank you to my pops, Jonathan, there is absolutely no ways I could have done this without you.

And... thank you for the music!

Declaration

I, Ariella Gimpel (1057850), am a registered M(Arch) student in the year 2023 at the University of the Witwatersrand. I hereby declare the following:

I am aware that plagiarism (i.e. the use of someone else’s work without permission and or without acknowledgement of the original sources) is wrong.

I confirm that the work submitted for assessment for the course is my own unaided work except where I have explicitly stated otherwise. I have followed the required conventions in referencing thoughts, idea and visual materials of others. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of ideas or words in my own work.



Signed by Ariella Gimpel
15 February 2024

Abstract

Sound is not just an abstract concept; it is an instrument of expression in South Africa. It serves as a means to praise or protest, to unite or disperse, to energize or to mourn. Sound is not confined to a vacuum; rather, it exists within the realm of physical space and unfolds over time. In this regard, sound and architecture share an intrinsic connection as they both occupy and shape the spaces they inhabit.

This thesis embarks on a journey to unravel the intricate interplay between sound and architecture within the dynamic context of Johannesburg, South Africa. The focal point of this exploration is the ‘Sound Incubator,’ a speculative architectural intervention designed to facilitate live performances. Its purpose is to foster artistic talent by deliberately intersecting diverse artists, thereby igniting creativity and safeguarding cultural heritage.

My investigation commences with South African music and live performance, recognizing their immense cultural, social, and economic potential while acknowledging the scarcity of suitable venues for these experiences. I then delve into the essential architectural considerations, encompassing acoustics, psycho-acoustics, psychogeography, the symbiotic relationship between music and architecture, and the role of improvisation as a means of creation and learning.

Amidst the intricate tapestry of Alexandra township in Johannesburg, a community shaped by ongoing political struggles and rapid urbanisation, we find a resourceful, rhythmical, and diverse population deeply committed to the arts. The current and historic soundscape of Alexandra, which exists in an improvised state of survival – provides the ideal context for the Sound Incubator.

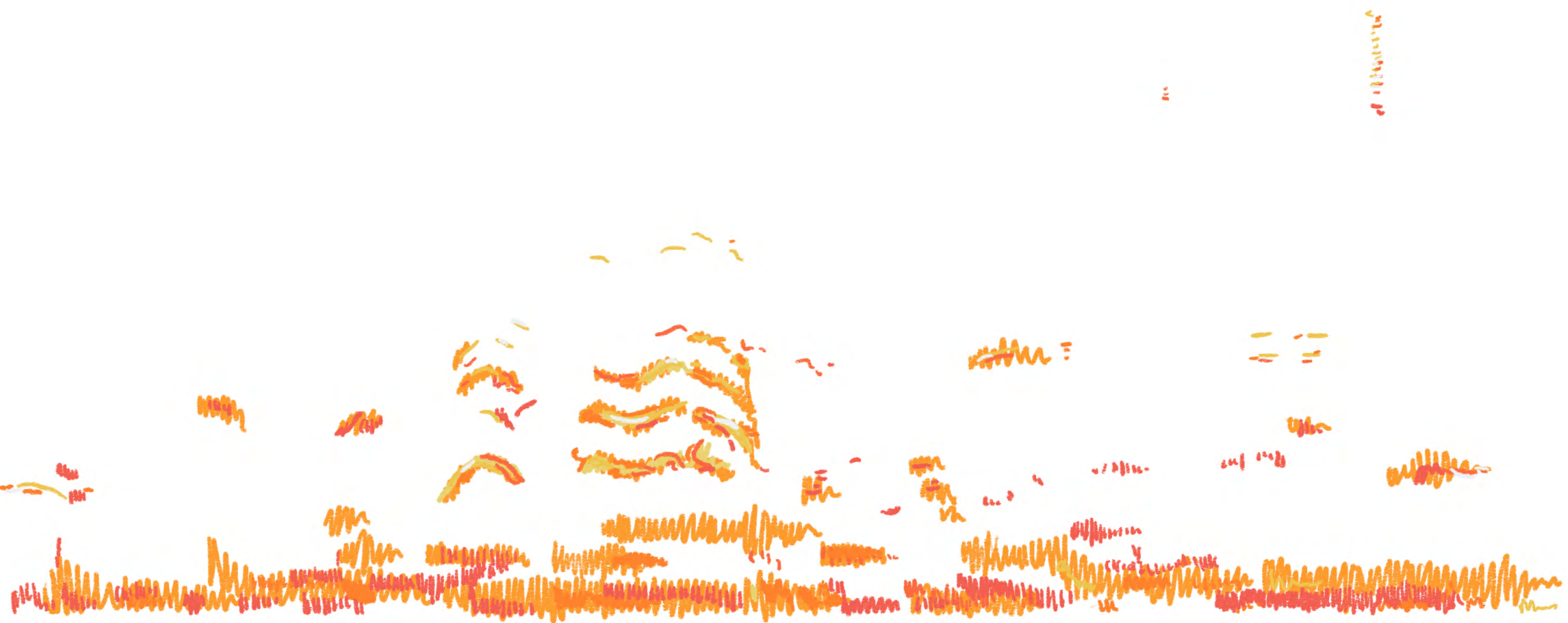


Figure 1. (Author’s Own)
Dolly Rathebe, 1943

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1 { Intro }



How does this sound?

I was brought into this world by two loving parents whose affinity for music was so profound that they ventured to witness Philip Tabane perform live at The Bassline in Melville – a dingy, dimly-lit jazz bar in Johannesburg – with their six-week-old infant in tow... This early encounter not only marked my formal introduction to the world of sound but also ignited a lifelong kinship with music that has been woven into the very fabric of my existence.

Music is a constant presence on lazy Sunday afternoons, an accompaniment during road-trips, and an unwavering companion during the quiet hours spent glued to the computer... Yet, it is the immersive atmosphere of a live performance that holds the most meaning and memory. The rhythmic expansion of the trumpeter's inflating cheeks, the resonating thump of fingers against the strings of the double bass; the palpable warmth emanating from the sea of bodies in which you are engrossed as you are transported into the sonic realm and immersed into the intangible. This visceral connection and appreciation of the power in which music holds to bind communities and transcend the mundane is the essence and motivation of my research and design.



Image 1. (Gimpel, 2001)

This study endeavours to explore the intricate intersection of architecture, music, and social dynamics within the unique context of Alexandra, a vibrant township situated in Johannesburg, South Africa. Focused on the establishment of a novel architectural intervention termed the “Sound Incubator,” this study seeks to address a conspicuous void in the city’s urban fabric – the scarcity of dedicated live performance spaces that capture the rich tapestry of South African musical heritage. Through an integrative synthesis of cultural analysis, architectural principles, and improvisational methodologies, this investigation aims to substantiate the need for a specialized venue that not only resonates with the nation’s auditory traditions but also catalyses artistic collaboration and socio-economic growth.

The foundation of this research lies in the recognition of sound as an unequivocal cultural conduit, a vessel that transmits narratives, emotions, and histories. South African music, deeply interwoven with the socio-political landscape, carries within its melodic contours the echoes of resilience, struggle, and triumph. Yet, despite its profound significance, the present sonic environment remains lacking spaces that foster its immersive experience. This gap not only inhibits the

perpetuation of musical heritage but also stifles the potential economic avenues that music can stimulate. Thus, this study undertakes an analytical exploration of the sociocultural importance of sound, discerning its socio-economic potential, and contextualizing its relevance within the urban soundscape.

Central to this exploration is an architectural inquiry that traverses the realms of acoustic science, psycho-acoustics, and psychogeography. These domains are not treated in isolation but rather entwined to construct a comprehensive understanding of the intricate relationship between architecture and sound. The architectural framework, designed to encourage sonic resonance and spatial interaction, aims to transcend conventional performance spaces. This transcendence is achieved through a meticulous engagement with the principles of improvisation, a process that inherently mirrors the organic evolution of Alexandra itself. Drawing parallels between the township’s adaptive vitality and the act of improvisation, this study seeks to embed the ethos of flexibility, responsiveness, and spontaneous creation into the design.

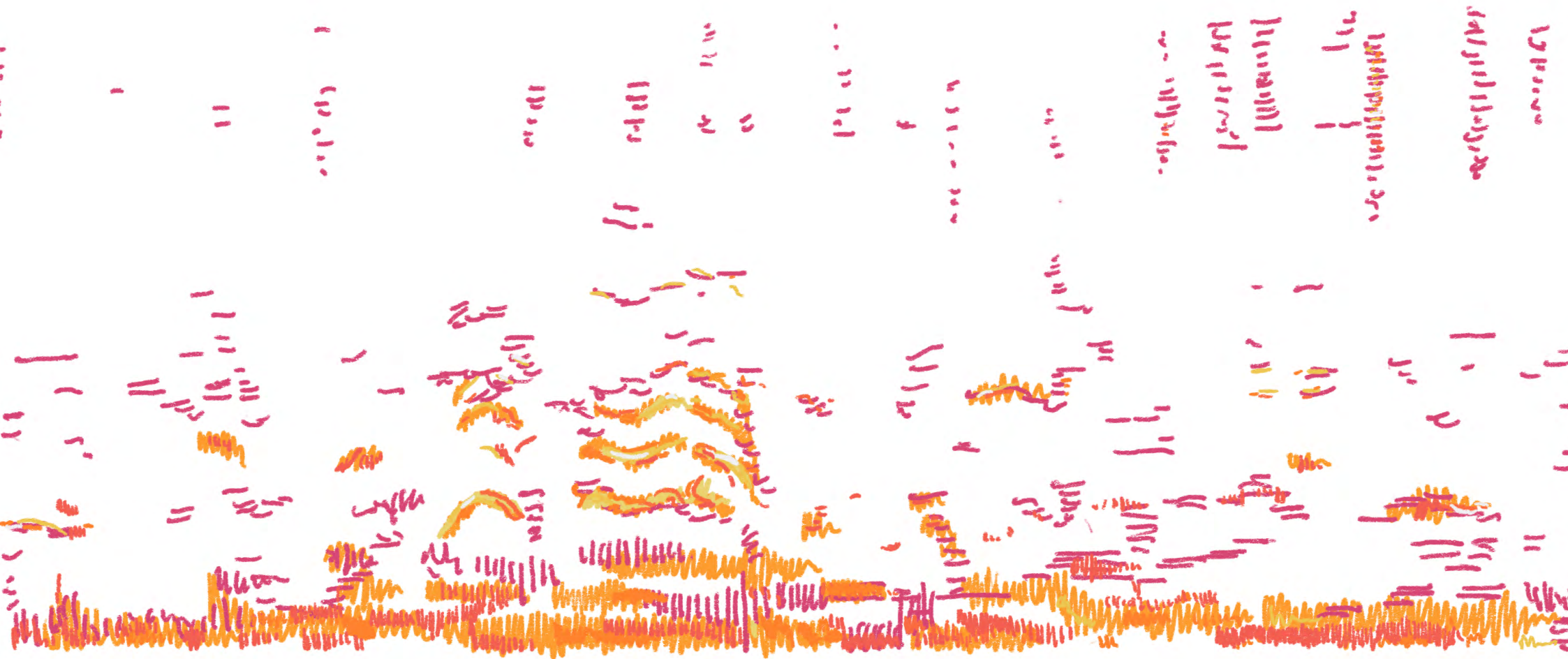
Furthermore, the selection of Alexandra as the locus for this intervention is rooted in a holistic appreciation of its historical trajectory and its present sonic landscape. This township, emblematic of adaptability and cultural fusion, serves as an allegorical canvas for the project’s aspirations. The mix of sounds and cultures within Alexandra becomes a source of inspiration, guiding the exploration of the diverse auditory narratives and the ways in which they are consumed.

In summation, this research envisages the conception of a “Sound Incubator” as a dynamic architectural entity that not only houses musical performances but cultivates an environment of cross-pollination and creative germination. Through an interdisciplinary inquiry that marries cultural analysis, architectural theories, and improvisational paradigms, this study aspires to reinforce the intrinsic link between music, architecture, and society. By doing so, it seeks to herald a symbiosis that not only celebrates South African musical heritage but also amplifies the resonance of its cultural cadence within the township of Alexandra.



Image 2. (Nunn, n.d.)
Philip Tabane performing at Kippies Jazz Club, Johannesburg, 1999

2 { Shall we go out tonight? }



2.1 I feel like dancing!

South African Sound as the point of departure

NATURAL AFFINITY TO SOUND

For generations, in indigenous African cultures, ceremonial song and dance have been used as mediums for storytelling – to connect to their ancestral roots in rituals and rites of passage, whilst also preserving traditions and fostering unity. The mesmerising rhythms and harmonies of traditional song have both inspired and served as profound tools for South African communities to express their identities, spiritualities, collective memories and (often undocumented) histories. Music is scored into the history of South Africa. During the twentieth century, music became an integral part of black subjectivity, imagination, and spatiality, especially within the unjust context of colonial oppression, during the apartheid era, as well as the contemporary post-apartheid era. Social anthropologist David Coplan explores this extensively in his research, which culminated in the second edition of his book: *In Township Tonight! South Africa's Black City Music and Theatre* (2007).

Coplan (2007) notes that in South Africa by the 1920s and 1930s, public spaces and amenities in Black locations, religious, educational and recreational alike, were active generators of musical performance and cultures. He (Coplan,

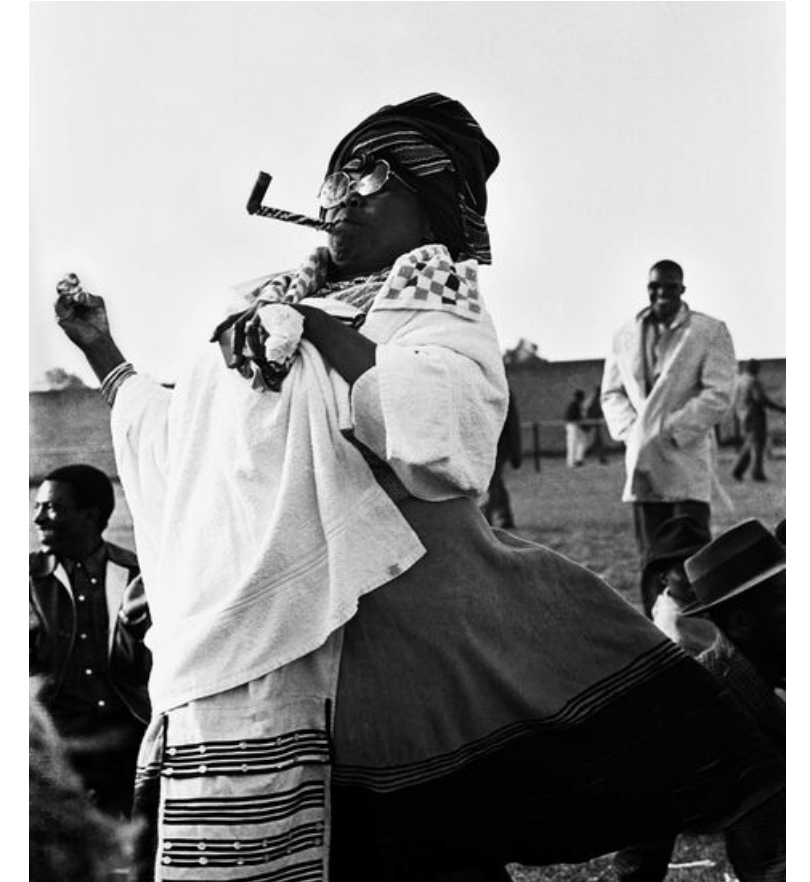


Image 3. (Breakey, n.d.)
A woman dances at a live jazz music gig in Cape Town, South Africa, circa 1960

2007:8) says: ‘Versatile musicians absorbed almost everything, played for almost everyone, and gave birth to an authentically South African ‘jazz’ from a basis very different from the blues.’ This period of intense experimentation was formative for modern South African music, often if not mostly responding to the political circumstances at the time. During the struggle for liberation, emotive songs became anthems of activism, giving voice to the hardships, aspirations, and agencies of different oppressed communities.

Today, the extensive South African musical landscape is formed through the fusion of age-old traditions and contemporary influences, showcasing the ever-evolving nature of this cultural legacy, disrupting the colonial binary notions that often render culture of the colonial subject as singular and homogenous. In *Beyond Memory* (2009), a record of DJ and radio presenter Max Mojapelo’s survey of South African music, as edited by Jazz musician Sello Galane, they poetically describe the breadth of South African music as chaotic as it is beautiful: “from marabi to mbaqanga, from boeremusiek to bubblegum, from kwela to kwaito: as varied as are the many peoples of South Africa in origin, culture and pigmentation, so dizzy is the array of popular music styles and genres that one encounters here.”

Coplan (2007) hones in on the specific stylistic influences and imaginations of South Africa’s music scene during the twentieth century – a new kind of jazz that was locally brewed

emerged from indigenous urban marabi and American jazz, a rich musical tradition that was developing at a similar time in African American communities. South African musical legends, such as Hugh Masekela, Jonas Gwangwa, Caiphus Semenya, amongst their peers, collectively demonstrated that South Africa’s unique marabi-rooted jazz was significant and important in the broader musical landscape, despite the difficulties at the time. The early 60s, a turbulent political time in South Africa, was particularly difficult for jazz musicians. Still, music was an important as a medium of voice, agency, and resistance, and the music created in black townships of South Africa garnered a global audience (Coplan, 2007).

THE CONTENTS OF THE MUSIC

Before the end of apartheid in 1994, the music and performance scene for black South Africans was deeply affected by segregation and strict regulations imposed by the oppressive regime. Coplan (2007: 11) argues that a thematic around this was developed through the musical navigation between social conditions and culture, and performer and their local contexts which he aptly describes as: “the peculiar South African rules and states of play.” In the story of South Africa’s musical development, apartheid spatialities play a significant role. The relationship



Image 4. (Nunn, n.d.)
Guitarist Allen Kwela and pianist Darius Brubeck perform at the Five Roses Bowl, Soweto, 1984

between the music developed and its political climate is multilayered. First, artists were forced to operate within the limitations that apartheid imposed on Black communities; second, artists often responded directly to the injustices they and their communities faced; and third, the creative agency that South African artists wielded disrupted the separatist narrative that was the core principle of the apartheid agenda.

Urban black popular music in South Africa “was then, as it is now, a fusion of local and imported styles.” (Coplan, 2007: 114). In once vibrant, multiracial and multicultural urban spaces like Sophiatown, a significant contribution by urban Black communities to this fusion was marabi. In some sense, marabi formed a generative and creative link between Black communities and their presence within urban landscapes. When they were violently displaced from inner-city spaces, this had a direct impact on their musical cultures. Coplan (2007: 164) says: “The death of marabi was a symptom of a more pervasive attack upon the urban African community and working-class culture under the terms of the Urban Areas Act.” The authorities sought to control and suppress cultural expressions that they perceived as a threat to their segregated and discriminatory system.

Despite censorship and restrictions, music served as a powerful tool for protest and resistance during the 1950s, which was the peak of passive resistance and anti-pass campaigns. Musicians and African broadcasters utilized

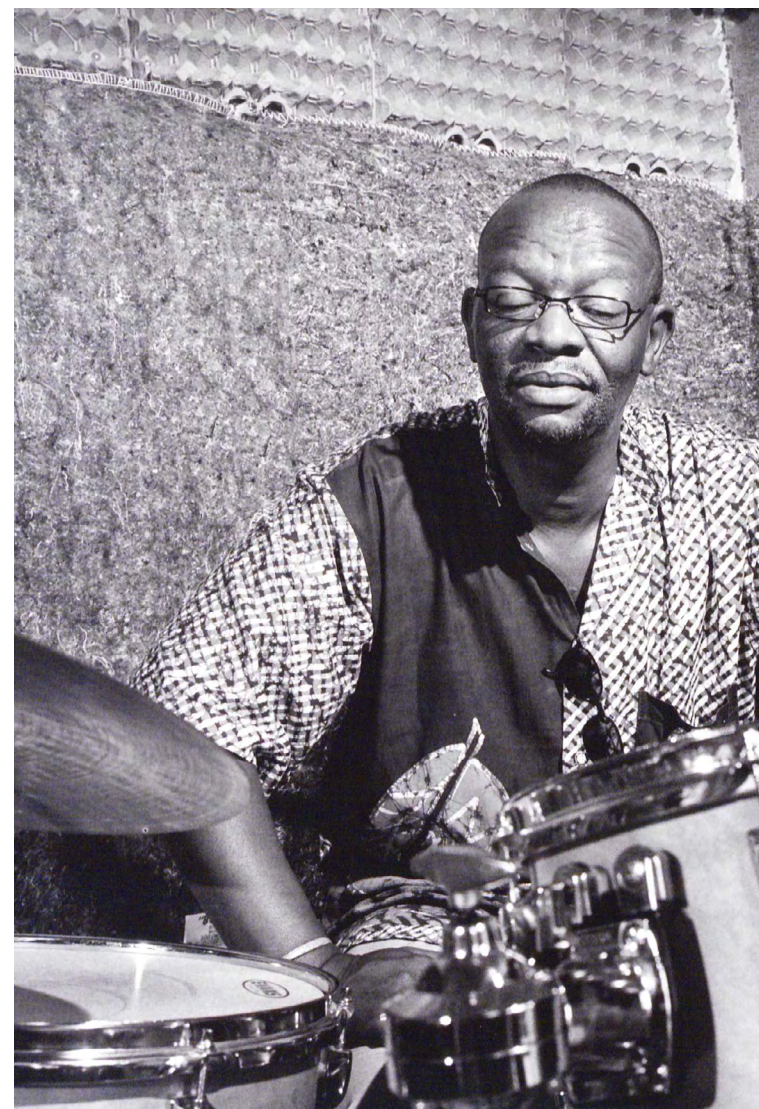


Image 5. (Schadeberg, 2007: 103)
Drummer Morabo Moajele with impromptu acoustic insulation on the walls, 2006

recordings to spread messages of protest and inspiration, empowering the resistance movement (Coplan, 2007). Songs like Masiza’s ‘Vukani Mawethu’ (‘Awake My People’) The music became a vehicle for expressing grievances and solidarity, especially in the face of forced removals and the destruction of communities like Sophiatown (Coplan, 2007). Song writing and song-singing captured the deep sense of loss and defiance during these turbulent times. Songs such as ‘Bye Bye Sophiatown’ by the Sun Valley Sisters and ‘Asibadali’ (‘We Aren’t Paying’) responded directly to the Sophiatown displacements. During evictions, displaced communities sang Strike Vilakazi’s ‘Meadowlands’ in mourning (Coplan, 2007: 204).

The Alex Casbahs released a song called ‘Azikwelwa’ (‘We Shall Not Ride’), inspired by the Alexandra Bus Boycott of 1957, which was banned by the SABC, and broadcasters faced repercussions for defying censorship. The lyrics, originally in Zulu and Sotho, are translated to English below (Coplan, 2007: 195):

*When you walk down Louis Botha [Avenue], you see wonders.
Shoes are worn out.
People are taking their jackets off.
It is hot, and people are walking on foot to work. There are no buses, no motor cars.
We shall not ride! They [buses] are not ridden!
They [buses] are not ridden! We shall not ride!*



Figure 2. (Author’s Own)
Penny whistler, Johannesburg, 1953

NEED FOR A MUSIC ARCHIVE

Generations of Black music and performance were erased under apartheid and are consequently largely undocumented. Even though it played a big part of the resistance movements and is itself an archive of our troubled past, its presence is disproportionately small in contemporary music culture. When it does appear in our histories, its presence is anecdotal rather than generative.

The introductory paragraph to Beyond Memory (Mojapelo and Galane, 2009: 16) Mojapelo recalls a statement that has “haunted” his memory: “Premier Shilowa said: ‘I am told, comrade President [Thabo Mbeki], that you once said that “until lions have their own historians, their history and stories would always be told by hunters”’. Mojapelo lists this as a primary motivator for writing the book. The apartheid regime, through their Bantu education system (preventing Black citizens from access to higher education), not only suppressed the future of Black people and communities, but also prevented the recording of their past. Although never stated directly, this ensured Black culture and lives were perceived as acquiescent and subservient during that period.

Mojapelo and Galane (2009) note that there is far too little recorded in our discourse about South African music, its musicians, and its temporal contexts. They lament the loss of thousands of records from as far back as the 1930s, which were not considered worthy of preservation. In her thesis,

musician Kristel Birkholtz (2009) notes another gap in the musical archive, where local sources mostly dealt with artists who were well-established and surrounded by a known brand, rather than performers and performances more broadly.

Music scholar Brett Pyper (2014) takes a step further, arguing that recorded jazz histories are urban-and performer-centric. These dominant historiographies don’t consider audiences or community contexts to understand musical cultures. He suggests that the act of listening is equally important as performing, which we can extend into scripting the archive of South African music.

To the what, who, and when of the musical archive, I would add the where as crucial to broaden our understanding of the musical impact on our current environments, and the ways in which we can reimagine them. Mojapelo and Galane (2009) argue that music is instrumental in disrupting the barriers that colonial and apartheid administrations set up. These include the geographic barriers that characterize the contemporary urban landscape of apartheid cities, including Johannesburg.

Dorkay House + Bantu Mens Social Centre

JOHANNESBURG, SOUTH AFRICA
1952



Image 6. (Harrison, 2005)
External view of the centre, 1961

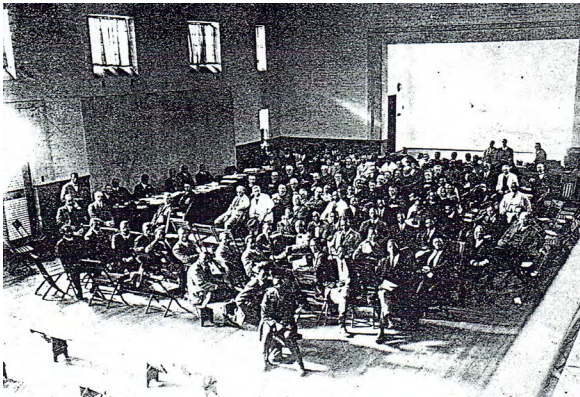


Image 7. (Unknown, 1998: 150)
View of internal hall

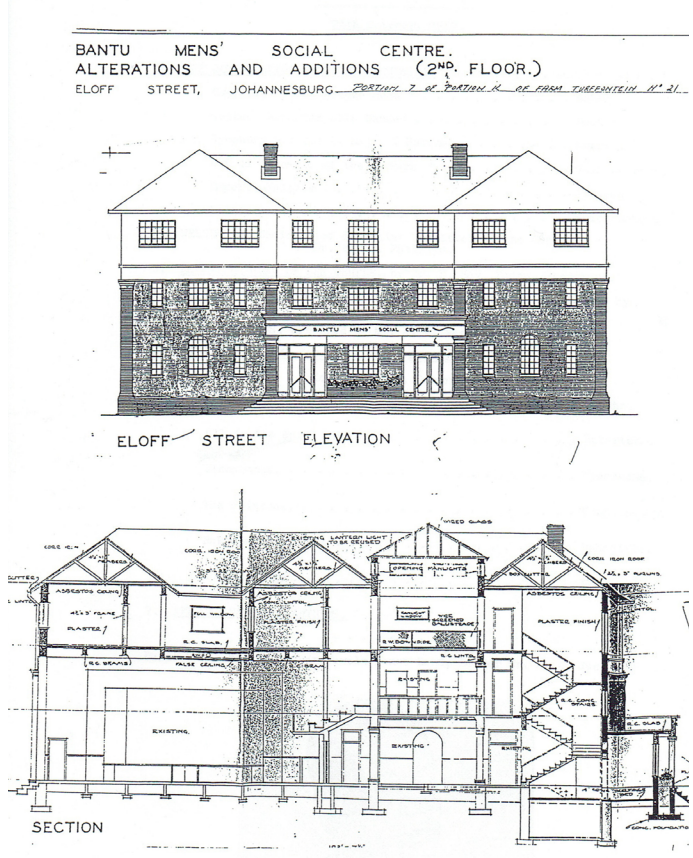


Figure 3. (Unknown, 1998: 158)
Council drawings for the BMSC

The Bantu Men’s Social Centre (BMSC) and Dorkay House held significant importance as a central institution in the urban black society of Johannesburg “...where Union Artists took up the torch of providing both jazz and literary and musical theatre with a production venue” (Coplan, 2007). Established in the 1920s, it became a focal point for various African associations and clubs to hold meetings and celebrations. Led by prominent African intellectuals such as H.I.E. Dhlomo and R.V. Selope Thema, the BMSC promoted African intellectual progress through performing arts and cultural events. It filled a critical void in providing cultural facilities for Africans, who were denied access to public libraries and cultural activities due to the colonialist-racist system in power. The Centre’s spatial characteristics played a pivotal role, offering a platform for inter-racial co-operation, hosting concerts, dances, and variety shows; while still allowing for musicians “to perform in secure, well-organised circumstances, without significant artistic interference from whites” (Coplan, 2007).

In one of the few published documents compiled on the centre, Rafaella (1998) speaks on how the centre addressed social complications that emerged from the high rate of migration to Johannesburg and the various difficulties they were faced with. Its expansion in 1941 included an upgrade of facilities: “The hall was provided with a new floor and ceiling, the stage was enlarged and supplied with dressing rooms with hot and cold water; but most of all, a new block was added, in which three residential rooms, a bathroom and a lavatory were



Image 8. (Breakey et. al, 1997: 16)
Chris McGregor, Dorkay House, 1963



Image 9. (Breakey et. al, 1997: 23)
Migrant mineworkers viewed from the roof of Dorkay House. Many of the musicians were migrants too, and were subject to the same alienation in white Johannesburg.

located (Raffaella, 1998)”. The BMSC’s expansion efforts reflect the responsiveness of live performance venues to societal demands. This flexibility resonates with today’s venues in South Africa, which must cater to shifting preferences, demographics, and purposes beyond mere entertainment.

However, the Centre’s decline due to socio-political changes, particularly the institutionalization of apartheid, underscores the susceptibility of live performance venues to external forces. The BMSC’s story is a reminder of the broader impact of socio-political shifts on such venues. This aligns with the contemporary challenges faced by modern venues in South Africa, as they navigate regulations, economic fluctuations, and cultural transformations that shape their operations and societal significance.

In summary, the Bantu Men’s Social Centre serves as a microcosm illustrating the crucial role of live performance venues in comprehending South Africa’s cultural and social landscape. Just as the BMSC influenced African society’s development in Johannesburg, modern live performance venues continue to be integral in shaping the nation’s identity, fostering unity, and contributing to its cultural vibrancy. As the Centre’s story echoes through history, it emphasizes the enduring importance of these venues in shaping South Africa’s narrative.



Figure 4. (Author’s Own)
Gwigwi Mwrebi, Jonas Gwangwa and Hugh Masekela, at Dorkay House in Johannesburg, 1959

2.2 Is there a show on?

The role of live performance in South Africa

TYPES OF LIVE PERFORMANCE

Resistance, Gathering, Dance, Gospel, Tradition, Stokvels.

“...the close integration of song, lyric, tone, rhythm, movement, rhetoric, visual and plastic arts and drama in African performance... a social crossroads of performers, participants, styles, categories, materials, and occasions of performance.” (Coplan, 2007)

Given the many complexities present in South African music cultures, performances take radically different forms in different spaces, situations, and occasions. For many local communities, musical performance is part of ritual, sacred and profane alike. Coplan (2007) suggests that understanding these complexities is important to unpack the ways in which musical performance becomes agents of identity and meaning-making, especially within the matrix of performance culture that we have inherited from different sources.

Birkholtz (2009: 108) notes the diversity of performance spaces using examples of restaurants, clubs, pubs, theatres, and large festival venues. Furthermore, she notes that from the 1990s, the live musical festivals circuit grew, creating



Image 10. (Gordon, 2007)
Audience at KWV Perfect 10 Jazz Festival, Cape Town, 2007

several different spatialities of performance that related to their genres of music. The forms of listening are also formative to these spatialities, where in some crowds, activities are not always directed to the performance, such as braais, dancing, drinking, and chatting (Birkholtz, 2009).

MUSIC AS A TOOL TO UNITE, EDUCATE, ENERGIZE + INSPIRE

“In all this theatrical strum und drag, performing artists have played and still play a crucial role, because it falls to them both to express and to embody, literally and figuratively, the soul that is the subject of such vital contestation.” (Coplan, 2007: 1)

Live performances offer a multitude of benefits for musicians and audiences in South Africa. For musicians, live performances provide a platform to connect with their fans on a deeper level, forging a unique and intimate bond that cannot be replicated through recorded music alone. These experiences also allow musicians to showcase their talent, artistry, and stage presence, helping them build their brand and gain broader recognition. Moreover, live performances offer valuable opportunities for artists to receive immediate feedback from the audience, enabling them to refine their craft and grow as performers.

For audiences, live performances offer a captivating and immersive experience, creating lasting memories and emotional connections with the music, the artists and the people around them. The joy of experiencing music in a communal setting



Image 11. (Goldblatt, 2010)
African Music and Drama Association, Orlando High School, 1972

fosters a sense of belonging and shared cultural experiences. Additionally, live performances expose audiences to diverse genres, styles, and emerging talents, contributing to the enrichment of South Africa's vibrant music culture. In this way, live performances serve as a bridge between musicians and audiences, enriching the cultural fabric of South Africa and contributing to the growth and vitality of its music industry.

Writer Gwen Ansell cites the use of the term "live music ecosystem" (Behr et al., 2016, : 20), to describe the spatio-temporal experiences of live performances, which are interactive, evolving, and living, and form part of broader social and environmental structures that relate to the urban context, its cultures and social relations. Coplan (2007) concurs, arguing that these engagements build up a broader social context that moves beyond the immediate space of musical performance.

Jazz musician and musicologist, Nishlyn Ramanna (2005) interprets music as language. Both are mediums of communication through which politics of identity, history, and spatiality are conceived, expressed, and enacted. In a political climate that regulated and dictated epistemologies of Black communities through language, music was a form of collective agency, self-identification, and self-expression. Coplan (2007) argues that this point allows us to understand successive re-enactments and reimaginings of musical styles in South African history. I argue that this also demonstrates

how performance is not only a cultural and artistic expression of the social and political circumstances, but it is also actively generative within society.

Besides being linguistic in its nature, music also used language quite literally in the form of lyrics. Using local languages, performances are powerful occasions of vocal agency, where Black subjectivities are free from a white gaze. Coplan (2007: 175) notes that vocal jive opened up a space for reflection of common struggle, the realities of township life, and imaginations.

Coplan (2007) also suggests that the musicians in Black locations were far from self-made, but that their music may well be considered as products of a deeply communal process. These collective contributions into this rich musical performance culture, which would otherwise not exist, gave a stage for Black musicians to build technical skills onto their creative instincts, disrupting the vision of the apartheid regime in which Black communities were imagined as unmodern.

STOKVELS

The popularity of musical performance across townships in South Africa opened up a terrain in which local communities could build social, cultural and economic infrastructures and systems, indirectly benefiting from and influencing musical practices at the time. These community-driven structures often occupy a space outside the formal economic and legislative systems but are innovative and essential ways in which communities navigate daily life under their respective socio-economic circumstances.

Stokvels, which are rotating credit mutual aid societies primarily formed amongst communities of Black women, often rely on musical performance cultures outside of more publicised and commercialised jazz performance events and spaces (Pyper, 2019). According to Coplan (2007), during the 1920s and 1930s, stokvels offered major patronage to independent brass bands. These organisations became central to social life in rural and urban communities alike, where they also served very pragmatic purposes. Women hosted marabi parties, brewed traditional beer, and looked after each other's children in the events of illness and/or incarceration.

Stokvels, like other music appreciation societies, further demonstrate the live music ecosystems discussed above. Where these collectivities are founded on their appreciation of musical performance, they are also essential to the survival

and success of South African music. According to Birkholtz (2009), in 2008, there were roughly 1490 jazz appreciation clubs in South Africa. Often, these specialised societies are formed in circles such as churches and social organisations, which support the live music performance industry and are useful in determining audience building strategies (Birkholtz, 2009). Pyper (2019:87) refers to these communities as "intimate publics" where people gather in community spaces like halls, taverns and personal homes to play music, listen to recordings, and witness solo improv on occasion.

Mofolo Cultural Bowl (Five Roses Superbowl)

SOWETO, SOUTH AFRICA
1952 + 2022



Image 12. (Nunn, n.d.)
Thandie Klaasen performing at the Five Roses Superbowl, Soweto, 1984



Image 13. (Baloyi 2012)
Mofolo Cultural Superbowl after 2012 fire



Image 14. (Official Soweto Gospel Choir, 2021)
New tensile structure at Mofolo, 2015

“This was our landmark. Now we have nothing. I knew this place since it was built. It was nice to walk through the park every day and hear violin students practising,” he said” (Omar, 2012).

2.3 Venue is value

The missing piece in South Africa’s entertainment industry

The evolution of South Africa’s live performance venues is deeply intertwined with the nation’s socio-political journey. The spatial attributes of these venues can be understood as a product of the restrictions put in place by the authorities of the time.

Ramanna (2005) analyses the concert hall typology within a South African context. He argues that this architectural form limits the spatio-temporal opportunities of musical performance, operating on a clear axis that rests on a hierarchy between producer and consumer, or performer and audience. This bourgeois arrangement and sequence of navigating the space, he argues, are unnatural and unsettled.

In contrast, (Pyper, 2012) describes the spatialities of jazz, which are made up of the intimate spaces of working-class life. These include listening sessions and live performances which take place in domestic homes, neighbourhood taverns, and local halls, between rural and urban spaces alike.

While this is not to glorify the oppressive circumstances that led to these spatialities, there is much to unpack from these spatial resistances, and the cultures, traditions, and heritage value they have brought to the broader South African music scene.



Image 15. (Schadeberg, 2007: 13)
There were dance halls throughout South Africa, from Orlando to Mamelodi, and to Sophiatown. The stages were often improvised and there was real sound, without microphones and amplifiers. Sophiatown, 1952.

PRE-APARTHEID ERA: CELEBRATORY SPACES AMIDST STRUGGLE

As discussed, during the early twentieth century, before the apartheid government rose to power in South Africa, a musical tradition was in its formative stages, where musicians in Black locations were experimenting, absorbing, producing, and performing widely, in churches, schools, clubs, taverns, parties, etc. (Coplan, 2007: 8). According to Coplan (2007), they were conceiving an authentically South African jazz.

Venues such as “Drum Café” in Sophiatown, Johannesburg, embodied the celebratory essence of South African music and culture. This informal space, often a converted backyard, thrived as a melting pot of jazz, poetry, and visual arts. The physical attributes of Drum Café were characterized by an intimate setting with wooden benches, colourful murals, and a makeshift stage illuminated by dim lighting. The atmosphere was imbued with a sense of communal camaraderie, as individuals from diverse backgrounds converged to engage in artistic expression and exchange ideas in a space that defied the racial segregation of the time.

However, Coplan (2007) argues that within these structures of racial segregation, the dynamics of class, identity, and status complicated the relationships between performers and audiences, as well as musical styles and occasions of performance.

APARTHEID AND THE DICHOTOMY OF SPACES

After coming into power in 1948, the apartheid government enforced a strictly legislated separatist agenda upon an already segregated society. In line with the Group Areas Act of 1950 which marginalised non-white communities, Black performers were not allowed to rehearse or perform in designated white spaces. Miriam Makeba recalls having to rehearse with the Skylarks on any space they would not be removed from outside Gallo’s Johannesburg studios. More generally, Black musicians were often harassed, arrested and humiliated when found in these spaces (Coplan, 2007).

The restrictions of Black presence in white areas intensified. There were very few venues that allowed multiracial gathering and performing, and mobility was limited as safe transport in the early hours of the morning were difficult to arrange. The organisation of festivals also proved arduous, owing to poor attendance, policing, substandard sound systems, and a lack of accommodation for both the audience and performers (Coplan, 2007).

In contrast to the formality of established venues for white audiences, spaces in the townships were created and adapted to accommodate musical performances, despite the resource and spatial



Image 16. (Breakey et. al, 1997: 75)
Basil Coetzee with Abdullah Ibrahim surveys an empty venue during soundcheck at Strandfontein, 1970.

challenges that local communities faced. Shebeens were displaced to the townships and live performances which would take place in concert venues were forced to take place in makeshift spaces in backyards with temporary roofing solutions or municipal halls (Coplan, 2007: 260).

The township of Gugulethu in Cape Town harboured “Ekhaya Bar,” an informal gathering spot where locals could unite in defiance of apartheid’s restrictions. This underground hub featured a corrugated metal exterior that concealed a vibrant interior. Inside, the space was adorned with hand-painted murals depicting scenes of resilience and unity. The stage, often a makeshift wooden platform, hosted live performances that ranged from protest songs to indigenous dance forms. Ekhaya Bar served as a sanctuary for expressions of resistance and cultural preservation, providing a stark juxtaposition to the more formal venues that were marked by spatial separation.

Still, music infrastructures in townships then, as today, are disproportionately few or tremendously underserved (Moshito and MMINO, 2010). Where majority of South Africans live and operate and in communities that rely so heavily on the presence of music as a way of dealing with identity, politics, culture, and artistic expression, there is huge cultural production infrastructure gap in the apartheid and post-apartheid landscape.

POST-APARTHEID RESURGENCE AND CONTEMPORARY LANDSCAPE

Pyper (2014) recalls his experience of a performance in Mamelodi township in Pretoria:

“Across the road, a stadium-cum-amphi- theatre now stood where I could only recall a dusty open field before...On a metal collapsible table towards the rear of the stage, a CD player, mixer and amplifier had been set up, with large adjacent speakers that filled the boomy concrete venue with sound... At a quick count, I estimated between 75 and 100 people to be in the audience so far, mostly families with coolboxes, drinks, camp chairs, and a few kids had come along.⁶ The event exuded a relaxed, family picnic atmosphere (the 1st of January is a national holiday in South Africa, and most people stay up late the previous evening to see the New Year in). People continued to trickle in for as long as I was there, and by the end of the afternoon, the audience had probably more than doubled. After spending a bit of time with the DJs, Bizza asked me what I would like to drink, and we went outside to a caravan selling what I took to be reasonably-priced, well-chilled refreshments. Inside the venue, a lady was frying chicken in a skottelbraai (gas cooker) and offering other assorted snacks for sale” (Pyper, 2014: 21).

Following the relative dormancy of musical performances during the apartheid era, after the dismantlement of apartheid, there was some resurgence in the infrastructures of live music venues in inner-city spaces for multiracial audiences. These included: in Johannesburg, Kippie’s and the Market Theatre in Newtown and the Bassline in Melville (which later relocated to Newtown); in Cape Town, Rosies and Manenberg; and in Durban, the BAT Centre (Coplan, 2007).

Coplan (2007) argues that Kippie’s and the Bassline not only hosted the resurrection of South African jazz since apartheid displacements and inner-city restrictions to non-white communities, but they also opened up a space at an opportune moment for the formation of a new fusion of jazz that inherited from parts of local jazz traditions and parts of African American jazz practices. These imaginaries forged an original music that both acknowledged a troubled past, but also adopted principles for a multivocal, eclectic, and celebratory future.

However, as Birkholtz (2009) importantly notes, this rebirth of the jazz scene is not without its challenges. Because of the rise of crime and violence in inner city spaces like Johannesburg, the potential of this form of jazz was significantly hindered. Overcome with fear, many people are hesitant to attend live shows in spaces like Newtown.

Overall, while Johannesburg’s live performance music venues offer a range of experiences and contribute to the city’s cultural vibrancy, there are areas for improvement. Enhancing representation, accessibility, sound quality, affordability, programming diversity, safety measures, and collaboration within the music industry can help create a more inclusive and thriving live music scene in Johannesburg.



Image 17. (Schadeberg, 2007: 65)
'Radium Beer Hall, 2006

WHAT DEFINES A GOOD VENUE?

Ramanna (2005:28) makes a provocation into thinking through the complexities of venues for local performances. He asks: “Where is the music heard? How are the meanings ascribed to local jazz affected by the venues in which it is performed? To what extent do environmental, demographic, political, and economic factors peculiar to Johannesburg and Durban find expression in the textual landscapes of the music examined?”

“The Bassline in Melville [is] small and intimate and smoky; the lights are dim; it’s hot; everybody’s on top of everybody else; the furniture is like nasty, and that’s somehow what it’s supposed to be like. It’s a very mixed audience. You hear [the band] clearly because they’re close to you” (Ramanna, 2005).



Image 18. (photographer695, 2017)
The Baseline jazz bar, Melville, 1999

There are multiple factors that define a good venue for live performance, irrespective of the location. Given the complexities around musical performance culture in South Africa, below is an analysis of some relevant factors for venues in our local context:

Accessibility: The venue should be easily accessible for all demographics, considering factors like public transportation links, parking, and facilities for those with disabilities. This includes ensuring that public transportation schedules align with concert times (Birkholtz, 2009)

Capacity: The size and seating capacity of the venue should match the type of performance and the expected audience size.

Acoustics and Sound System: For musical or theatrical performances, the acoustics of the venue and the quality of the sound system are crucial. There must also be an adequate provision of equipment, especially in terms of musical instruments (Birkholtz, 2009).

Stage and Backstage Facilities: The stage should be suitable for the type of performance, and the backstage area needs to accommodate performers’ requirements. Birkholtz (2009) also emphasises stage presence, which includes all the visual components of a set necessary to engage an audience.

Lighting and Technical Infrastructure: The venue needs a good lighting system and infrastructure to support technical requirements of performances, such as sound and video installations.

Comfort: Comfortable seating and good audience facilities (toilets, refreshments) play a role in the overall experience. Birkholtz (2009) notes that a comfortable listening environment might vary genre to genre, but factors like legroom, sightlines and distances are essential.

Safety: The venue should adhere to health and safety regulations, including fire safety and emergency exit routes.

Historical and Cultural Significance: In the South African context, venues that hold historical or cultural significance can add a deeper layer of engagement for the audience. As Ramanna (2005) argues, the cultural and historical significance of the site predisposes the kind of music-making that it will accommodate.

Flexibility: Venues that can adapt to different types of performances (theatre, music, dance, etc.) are valuable. A variety of sizes is equally important – clubs, restaurants and theatre bars are essential for the development of local music industries and that are more inclusive to audiences that wouldn’t otherwise attend a performance (Birkholtz, 2009).

Local context: The positioning of the venue within the local community is important. Venues need to be in locations where they can cultivate relationships with their local audience, community, and artists.

Thresholds: The creation of a spatially rich sequencing of the event is part of the experience in its entirety. Elements such as traveling, arriving, waiting, and moving are part of the performative nature of event spaces (Beesen, 2016).

More broadly, a sufficient number of venues should be provided to ensure the success of a musical performance culture, where artists can meet and perform, and engage meaningfully with audiences, including spaces for new and established performers alike (Coplan, 2007). Birkholtz (2009) adds that a variety of typologies, or the flexibility of spaces, are also important to cater to different audiences and genres. For example, the Radium in Orange Grove differs greatly from the Linder Auditorium in Parktown, where the former hosts acoustic musicians and the former hosts classical orchestral events.



Figure 6. (Author's Own)
Brenda Fassie performing at the Mofolo Bowl, Soweto, 1985

and innovation. With a wealth of untapped talent, a rich cultural heritage, and a growing appetite for music across the nation, the industry is poised to continue evolving and making an even greater impact on the global music scene. Collaborations, investments in artist development, and innovative strategies to navigate the digital landscape could pave the way for a thriving and inclusive South African music industry in the future.

A-LIVE

"A live music-rich environment can enhance competitiveness and locational advantage and grow employment and revenue, as well as offer benefits in terms of social cohesion and individual wellbeing" (Ansell, 2016)

Live performances in South Africa bring about a range of economic benefits to various stakeholders and the broader economy. Firstly, these events stimulate employment opportunities across the music and entertainment industry, providing jobs for musicians, performers, sound engineers, lighting technicians, stagehands, event organizers, security personnel, and vendors. This job creation contributes to reducing unemployment rates and improving livelihoods. Secondly, South Africa's live performance

events attract both domestic and international tourists, contributing significantly to the hospitality industry. Tourists attending concerts, music festivals, and cultural events spend on accommodation, food, transportation, and other services, thus bolstering local businesses and supporting the tourism sector. "accommodation if they travel away from home; transport; fashion if the live event they attend has a dress culture; food and drink; gig memorabilia; venue memberships and music-related subscriptions; and communications, including items as small as phoning for an Uber cab or making an online booking" (Ansell, 2016)

Thirdly, the live performance sector is a significant part of South Africa's cultural and creative industries, contributing to GDP growth and economic diversification. Its creativity and innovation have the potential to attract investments, create export opportunities, and boost South Africa's international cultural image. Additionally, the demand for live performance venues encourages investment in infrastructure development, including the construction and maintenance of concert halls, theaters, arenas, and outdoor spaces suitable for hosting live events. Such developments enhance the urban landscape and create opportunities for related businesses to thrive in these areas.

Furthermore, the live performance sector provides a platform for nurturing and developing local talent, as musicians gain exposure through live events, become more marketable, and

potentially attract opportunities for international collaborations and performances, bringing in foreign exchange. Overall, the economic benefits of live performances in South Africa span various sectors, enriching the nation's cultural fabric and enhancing its global standing in the world of entertainment and art.

A-LIVE-STREAM

For South African artists, live streaming offers the prospect of reaching historically underserved remote audiences who are excluded from metropolitan-focused live music, even before the pandemic. This expansion in market potential could significantly boost revenue opportunities.

By leveraging creative digital tools, artists can enrich the live stream experience with added interviews, context material, and collaborations with other creatives like set and lighting designers. Live streaming presents the opportunity personalization, allowing artists to shape the aesthetic of their broadcasts according to genre or market research. Cross-national or international collaborations with fellow musicians can foster innovative and diverse musical projects. Diversification through global social media marketing can open doors to monetizing

content and offering custom music services like composing and custom feeds for interest groups worldwide.

“Streaming has long been acknowledged as offering enormous positive potential to music-makers: increasing access to a world audience; making possible diverse collaborations without environmentally-destructive travel, and using enhanced digital formats to inject the sense of emotional engagement that non-live formats are perceived to lack.” (Ansell et al., 2022).

The potential for a global reach is meaningful, as it allows artists to connect with and monetize a wider audience through effective marketing strategies and international partnerships. With no travel required, audiences can now access performances from the comfort of their own space, transcending geographical and economical limitations.

Amidst these opportunities lie numerous risks for artists which need to be addressed in order to harness the power of live streaming. The risks include contractual and pricing concerns, such as reduced income for musicians if ticket prices are lowered and disputes arising from equity agreements. Additionally, challenges related to audience experience, such as unreliable internet connections, the digital divide, and a preference for in-person experiences, may lead to lower ticket sales and hinder accessibility. Production risks, like delays in releasing pre-recorded content and limited



Figure 7. (Author's own)
A digital inception that is a common occurrence at live performances.

access to appropriate technology, may also impact the quality and marketability of live streamed content.

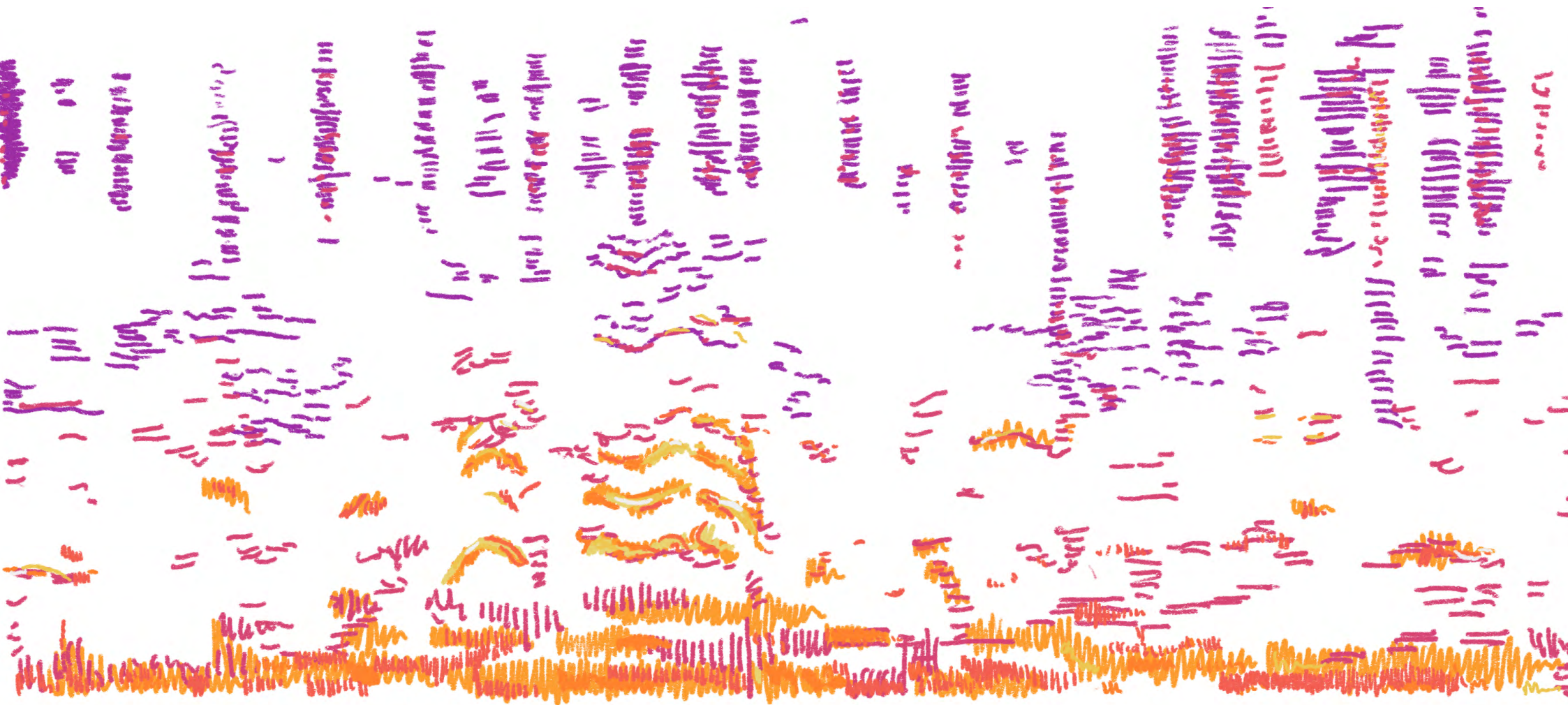
Glen Ansell's article (2022) discusses the challenges faced by South African musicians in generating income from streaming music online. The article notes that despite efforts by South African musicians to leverage streaming platforms like Spotify, their earnings remain meagre. The author mentions that a 2020 report – Digital Futures? Live Streaming in South Africa (White, 2020) – had explored this issue, attributing the poor earnings partly to inexperience, as many musicians turned to streaming as an alternative source of income during COVID-19 lockdowns. Digital Futures Two – Taking Music Online in South Africa (Ansell et al., 2022) expanded the research and findings revealed that the issue of low earnings persisted. International studies also indicated a similar trend globally, suggesting that the streaming system was inherently unfavourable to musicians. The article highlights the significant challenges faced by South African musicians, such as a digital divide, undeveloped policy environment, digital piracy, and issues related to access and power infrastructure.

Overall, despite the inherent risks, live streaming provides a wealth of opportunities for South African artists to expand their reach, enhance creativity, and tap into a broader, global audience, thereby revolutionizing the way live music is experienced and appreciated. However, these opportunities demand substantial changes through government intervention

to bridge the digital divide, develop demand-side incentives for the music industry, and engage with global platforms to establish fair payment arrangements. The article underscores the need for systemic policy changes to address the global and systemic issues within the streaming system, as these problems extend beyond South Africa and affect musicians worldwide.

“...while streaming is “here to stay” as part of hybrid earning models, it can only ever be a supplementary, not a main, source of income for musicians” (Ansell et al., 2022).

3 { There's a new spot }



3.1 What does it **look** like?

Interrelations of sound and architecture

The connection between sound and architecture is a complex and symbiotic one. Sound, as both a physical phenomenon and an emotional stimulus, interacts intimately with architectural elements to define the character of spaces. From the harmonious acoustics of a concert hall that elevate musical performances to the deliberate use of echoing corridors that amplify a sense of greatness in cathedrals, architecture influences sound's propagation and reception. Conversely, sound enriches architecture by breathing life into its static forms. The laughter resonating in a bustling market square, the serenity of water flowing through a courtyard's fountain, or the frantic slamming of a door – these auditory elements create narratives that intertwine with the spatial context. The design decisions made by architects can significantly impact how sound is perceived within a space, and sound, in turn, can transform our experience of architectural environments.

SPATIOTEMPORAL

Spatio-temporality refers to the intricate relationship between space and time. Just as music unfolds over time, architecture provides spaces that curate experiences as occupants move through them. It's a concept that embraces the dynamic

interaction of how spaces are designed and how individuals experience them over varying periods.

Furthermore, the passage of time throughout the day or the changing of seasons contributes to the spatio-temporal experience. Sunlight streaming through windows at different angles can transform the ambiance of a room, just as a change in musical tempo alters the mood of a composition.

Spatio-temporality goes beyond static design and transcends into an engagement with the senses. By orchestrating spatial sequences and temporal shifts, architects can compose environments that evoke emotions and stimulate curiosity – much like a symphony that takes its audience on a captivating journey through sound. Both Ramanna (2005) and Coplan (2007) speak of music venues as spatiotemporal entities which are not just “inanimate physical spaces but ‘historically-alive’ symbolic environments that perceptibly influence musical performance” (Ansell et al., no date). These venues have a crucial role in establishing a music scene

and culture but also act as a format to “mediate interactions among musicians and listeners, and variously enable and constrain different kinds of music-making.” (Ramanna, 2005)

The architectural sequencing should cultivate different realms of public and private experience. Sound is relational where as spatial sound is the activation of the interconnectedness of space and sound. Born (2013) highlights three realities that exist when considering the interactions between sound and space:

1. The human encounter with music or sound within a physical or virtual setting, shaped by individual perspectives, position, and the potential for movement within that environment.
2. The phenomenon of ‘social multiplicity’ when people gather in a shared performance space, resulting in a multitude of distinct experiences of music or sound, each influenced by individual subjectivity, location, and movement.
3. Temporal Mediation, which involves the ongoing evolution of a sonic-spatial-temporal arrangement formed by the mutual modulation – the continuous ebbing and flowing, commencement, and conclusion – of constituent sound occurrences within a particular, enduring acoustic context.

The Philips Pavilion, designed by architect Le Corbusier in collaboration with composer Iannis Xenakis, is an iconic example of the convergence of architectural space and sound. Created for the 1958 Brussels World’s Fair, the pavilion aimed to provide visitors with a multisensory experience that blurred the boundaries between architecture and music.

One of the most striking features of the pavilion was its hyperbolic paraboloid roof, which soared above the visitors. This innovative roof structure, inspired by Le Corbusier’s architectural principles, offered a unique spatial experience. Inside, Xenakis’ avant-garde musical composition, “Metastaseis,” was played through a network of loudspeakers in conjunction with a light-show which emphasized the structure from within. The composition’s mathematical algorithms directly influenced the design of the pavilion’s roof and its curving forms, creating a symbiotic relationship between architecture and music.

Expo ‘58 + Philips Pavilion : Le Corbusier and Iannis Xenakis

BRUSSELS, BELGIUM

1958

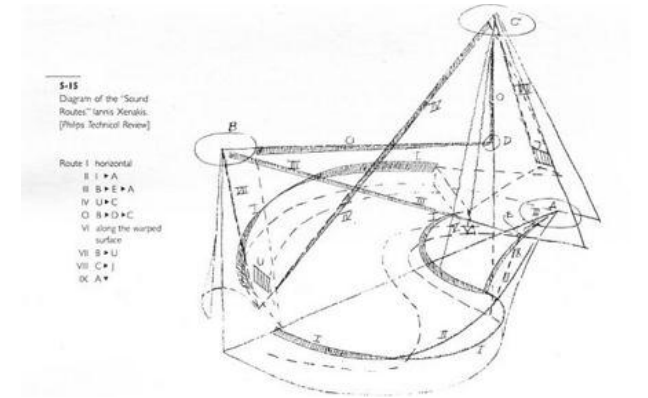


Image 19. (Wikimedia Commons, n.d.)
Axonometric drawing of structure



Image 20. (Wikimedia Commons, n.d.)
External view



Image 21. (Wikimedia Commons, n.d.)
Internal view during display

The Philips Pavilion challenged traditional distinctions between static architecture and ephemeral music. The dynamic shape of the roof, combined with Xenakis’ progressive composition, aimed to envelop visitors in a sensory journey that engaged both the visual and auditory senses.

COMPOSITION

"A composition is like a house that you can walk around in."

John Cage

Music and Architecture can both be understood as the experiential orchestration of components. Individual components are arranged to achieve the composers desired outcome that is later interpreted subjectively by the user. In music, different notes and rhythms are organized to create melodies and harmonies, resulting in an emotional journey for the listener. Similarly, in architecture, the arrangement of spatial elements, such as walls, pathways, and openings, creates a visual and experiential composition that unfolds as people navigate through the space. And thus, architecture and music "are not only supremely emotional, at moments, but semantic and meaningful at other times." (Jencks, 2013) Various techniques have evolved to emphasize the composer's intention and evoke feeling from the user, namely: RHYTHM, MELODY, FORM + HARMONY.

RHYTHM: Rhythm is the foundational element of music, with patterns of strong and weak beats forming musical phrases which define the structure. In architecture, rhythmic patterns can be expressed through repeating visual elements, creating a sense of pace and energy within a building's design. Rhythm in architecture is evident through the repetition of design elements like columns, windows, and patterns. It creates a sense of movement, guiding the eye and enhancing the flow

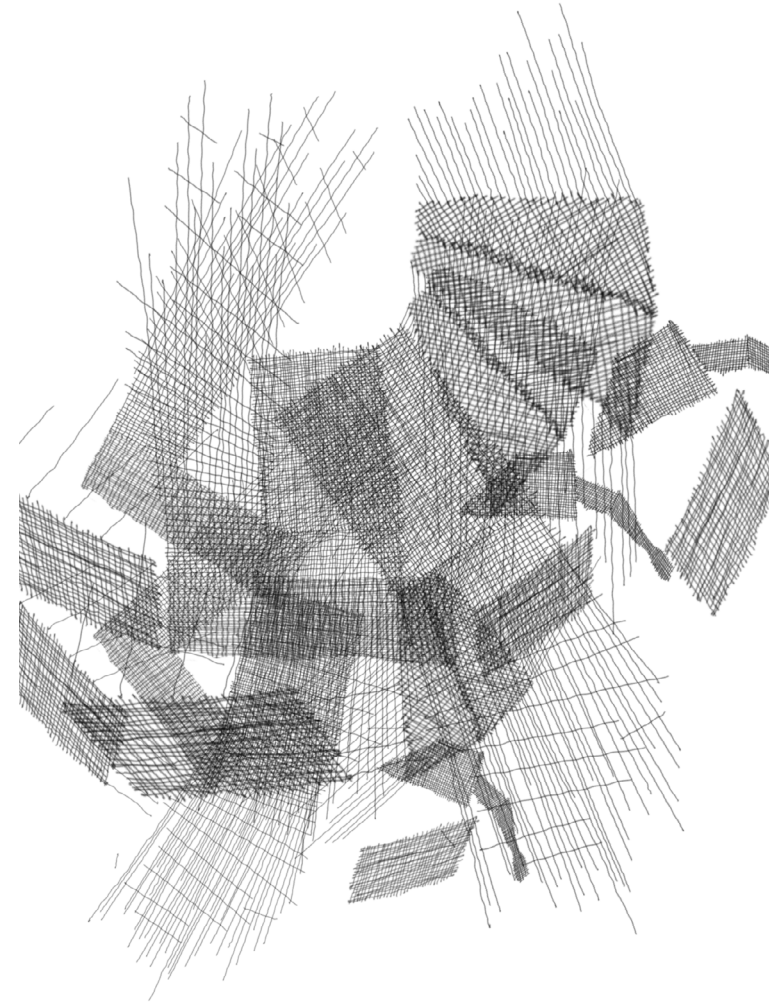


Figure 8. (Author's own)
"Composers components"

within a space. "In architecture, rhythm can be defined by a massing pattern, a fenestration pattern, a structural system. Rhythm can even be defined by the spatial arrangement of rooms, how they repeat, connect, shrink, expand and deviate. Rhythm can be expressed by the articulated form of a façade." (Beesen, 2016:24)

MELODY: Melody is the sequence of single notes that form a musical phrase. Similarly, in architecture, the arrangement of elements and lines can create a visual "melody" that guides the eye and captures the essence of the design. In architecture, melody can be seen in the arrangement of forms and spaces that create a harmonious and memorable visual composition. Buildings often have focal points, like a melody in music, that draw attention and give a sense of identity to the structure. Beesen (2016) defines good architectural melody by its proportions, balance of intensity, and spatial continuities.

FORM: Form in music refers to the structure of a composition, including the arrangement of musical sections like verses, choruses, and bridges. Just as music follows a structured form, architecture is also organized into spatial compositions that influence how people move through and experience a space. Form is a fundamental element of architecture, encompassing the shape, structure, and visual composition of a building. Architectural forms can be dynamic or static, reflecting the intended purpose and design concept.

HARMONY: Harmony involves the combination of different notes and intervals which supports the melody. Similarly, architectural harmony involves the blending of various elements in a way that complements the overall design and evokes a sense of unity. Harmony in architecture is achieved through the coordination of different elements to create a unified and aesthetically pleasing whole. Colours, materials, and shapes work together to evoke a sense of balance and coherence.

The artist Marcel Duchamp is famously known for stating that: it is the spectator which gives meaning to the creative act as he imbues his own understanding and interpretation. Mirroring a similar idea, in an interview with the architect Steven Holl (2021), he states that "Music, like architecture, is an immersive experience; it surrounds you. One can turn away from a painting or a work of sculpture, while music and architecture engulf the body in space." The physical realm in which an architectural space exists as well as the occupants within that space become co-composers of the sound created and thus the experience of that environment.

H.C. Andersen Hus Museum: Kengo Kuma & Associates

ODENSE, DENMARK

2022



Image 22. (Hjortshøj, 2023)
Aerial view



Image 23. (Hjortshøj, 2023)
Looking from balcony to central courtyard

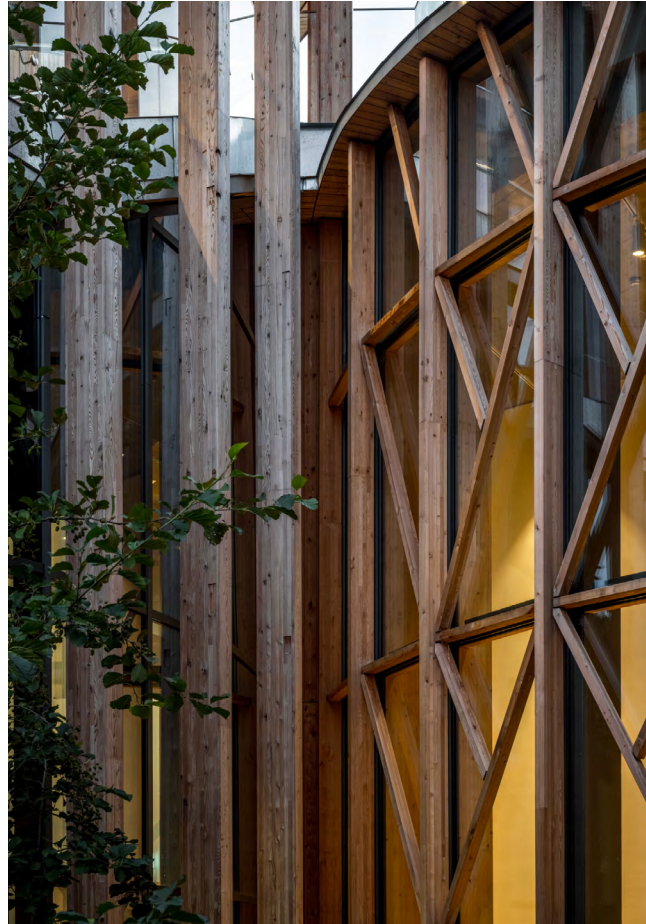


Image 24. (Hjortshøj, 2023)
Detail of timber facade detailing

The principles of rhythm, form, melody and harmony are clearly depicted in this structure by Kuma and Associates. Kuma is well known to often reference music as an inspiration for his work. The choice and composure of materials elegantly defines the thresholds between the garden and internal spaces.

3.2 What does it sound like?

Acoustics

“Noise, then, does not exist in itself, but only in relation to the system within which it is inscribed: emitter, transmitter, receiver” (Brown, 2006).

Sound is the result of vibrations propagated as waves through a medium, such as air or water, which are received and interpreted by our auditory system, and established into subjective aural sensations. Architectural acoustics is a branch of engineering that deals with the study and manipulation of sound within built environments. Its primary goal is to create spaces that optimize the way sound behaves, ensuring a harmonious and pleasant auditory experience for occupants.

The fundamentals of architectural acoustics are rooted in understanding the behaviour of sound waves and how they interact with various architectural elements. Strategic material choices, surface finishes, and geometry of a given room “shapes the contours of sound, moulding it according to reflection, absorption, reverberation and diffraction” (Born, 2013). Achieving proper sound insulation between spaces is also essential to prevent noise intrusion and ensure

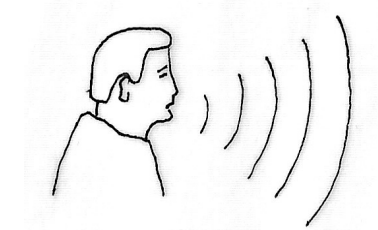
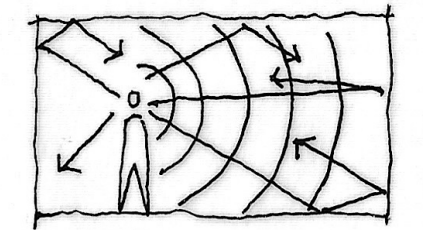
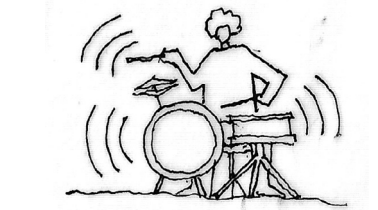


Figure 9. (Author's own)
Emitter, transmitter, receiver.

privacy. By considering the intended function and purpose of a space, architectural acoustics seeks to strike a balance between reverberation, which adds richness to music and speech, and absorption, which reduces excessive noise and enhances speech intelligibility. These fundamental principles are vital for creating environments that are acoustically comfortable, functional, and conducive to human well-being and productivity.

NOISE + VIBRATION POLLUTION

“Any sound undesired by the recipient is classed as noise, as it detracts from the quality of human life.” (Maekawa et al., 2011)

Maekawa et al (2011) explain various ways in which noise pollution negatively impacts human life. Excessive noise can cause annoyance and reduce speech and music intelligibility, hindering communication and productivity in daily life. Physiologically, noise can disrupt digestive, respiratory, circulatory, and nervous systems, with potential effects on foetal development and children’s growth (Maekawa et al., 2011). The most significant physiological impact is hearing loss, with temporary threshold shifts observed after exposure to loud noise and permanent damage possible in long-term noisy working environments. Socially, noise leads to decreased land values near busy roads and airports, and it can also

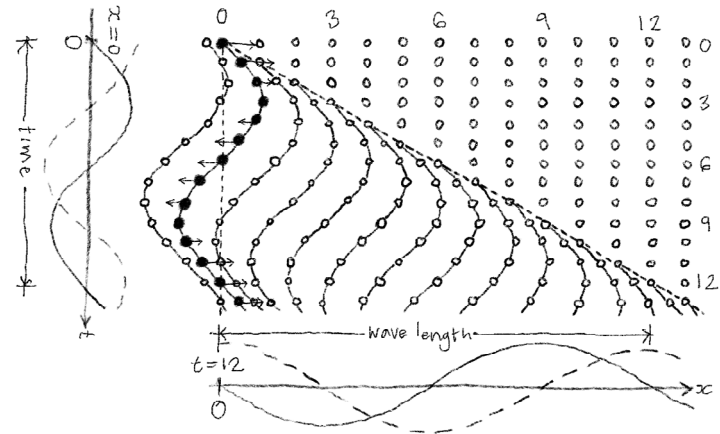


Figure 10. (Author's Own)
Sound Wave

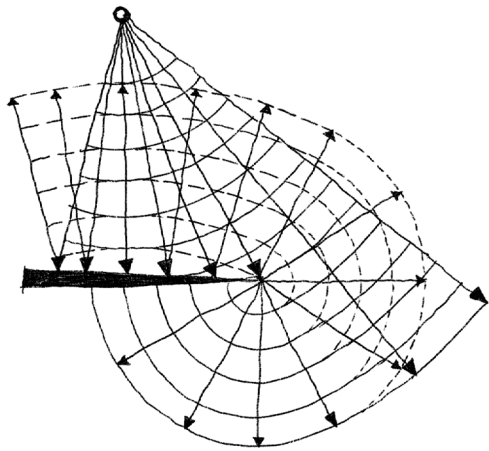


Figure 11. (Author's Own)
Sound reflection and diffraction by a screen

affect livestock and poultry growth, resulting in compensation claims. Overall, noise pollution has become a pervasive issue in contemporary society, affecting various aspects of human well-being and the environment.

In an podcast titled ‘Sound and Health: Cities’ (99% Invisible, no date) architecture journalist Kate Wager speaks about noise equity – a challenge related to fairness in noise exposure. She states that residential areas situated in close proximity to industrial facilities, major roadways, and flight routes tend to experience higher noise levels, and paradoxically, they often offer more affordable housing options. Ideally, individuals should have the ability to choose a living environment that doesn’t adversely affect their well-being, without necessitating a relocation. Noise equity is about empowering people to maintain good hearing health and exercise control over factors that could potentially harm them. She suggests the most straightforward approach to address this problem is through the implementation of regulations. In certain cities, regulations are enforced that designate specific quiet hours, restricting activities like late-night use of noisy equipment or musical practices in garages, with penalties for violations. However, noise abatement laws have their shortcomings, including instances where they are used to target marginalized or vulnerable individuals.

In addition to noise as an aggravator, annoyance can be caused by vibration (which can result in further noise and potentially

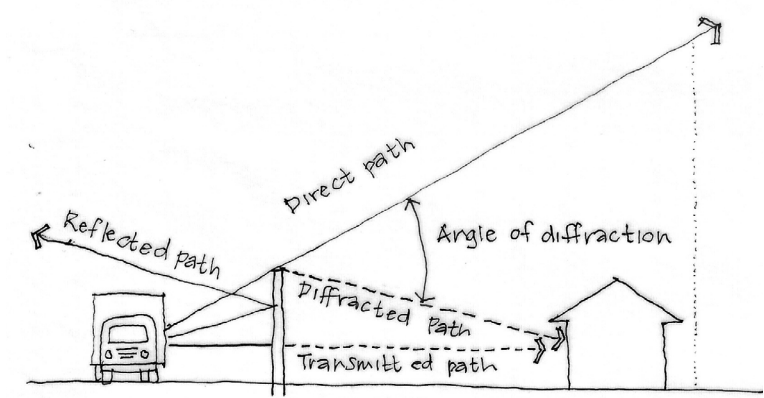


Figure 12. (Author's Own)
Diagram illustrating the use of walls to reduce external noise

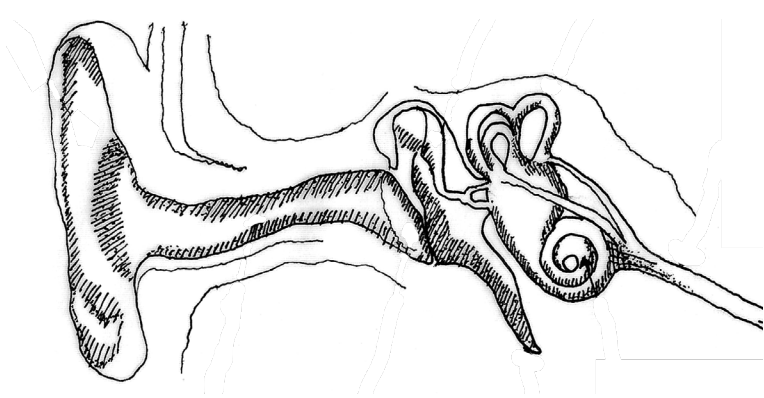


Figure 13. (Author's Own)
The Human Ear, shaped to direct sound pressure to eardrum

physical damage). As Erica Walker puts it “It’s not just how loud the sound is, it’s the character of the sound. It’s whether or not you have control over the situation” (99% Invisible, no date). Transportation, industrial factories, construction machinery, generators are some elements that can transfer vibration through the ground or via air. When designing a building we need to consider the impact of noise and vibration on surrounding residents from the moment of breaking ground until completion and operation.

PSYCHOACOUSTICS

Hearing, as a fundamental sense, plays a profound role in how we perceive and understand the spatial dimensions of the world around us. Sound is a unique perceptual modality because it provides us with a multisensory understanding of space. While visual perception relies predominantly on sight, auditory perception allows us to navigate and interpret our environment even in the absence of visual cues. When we hear sounds, we are immediately aware of their direction, distance, and location. This auditory spatial perception is made possible through the complex mechanisms of binaural hearing, which involves the brain’s interpretation of the time and intensity differences between sounds arriving at our two ears.

This ability to localize sounds allows us to build a mental map of our surroundings based on auditory cues alone.

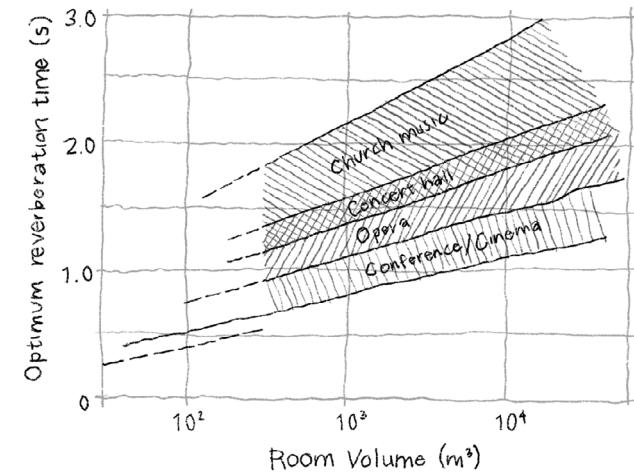


Figure 14. (after Maekawa, 2011)
Optimum reverberation time for different types of rooms

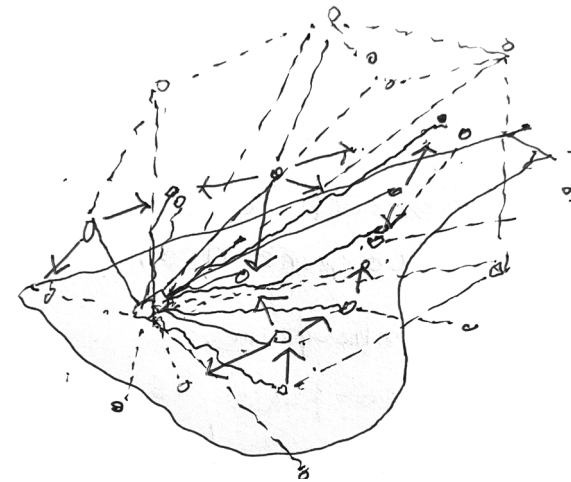


Figure 15. (Author’s Own)
Social multiplicity of music and sound

Psychoacoustics explores the psychological and physiological processes that occur when humans perceive and interpret auditory stimuli. By examining the relationship between physical sound waves and the human perception of sound, psychoacoustics helps us understand how we experience and make sense of the auditory world.

Perception of Pitch: the subjective experience of the frequency of a sound wave. The relationship between physical frequency and our perception of high or low pitch, as well as phenomena such as pitch discrimination and pitch masking.

Amplitude: sound intensity or loudness. How physical sound pressure levels relate to our subjective perception of volume. Factors such as frequency, duration, and temporal patterns of sound also influence our perception of loudness.

Spatial Hearing: perceiving the spatial aspects of sound, including localization (identifying the direction of a sound source) and spatial impression (the perception of sound coming from a specific location or environment). Our auditory system processes cues like interaural time differences and interaural level differences to determine sound location.

Masking and Auditory Thresholds: auditory masking occurs when the perception of one sound is affected by the presence of another sound. Auditory thresholds, are the minimum sound levels required for us to detect or recognize sounds

in the presence of background noise. Detecting the direction and distance of sound in a 3-dimensional environment.

Timbre and Sound Quality: timbre refers to the tonal quality or “colour” of a sound. We differentiate between sounds produced by different musical instruments or voices, even when they have the same pitch and loudness. Factors such as harmonics, spectral content, and temporal characteristics contribute to our perception of sound quality.

Cognitive and Emotional Influences: Cognitive processes, expectations, and previous experiences shape our interpretation and emotional response to sounds.

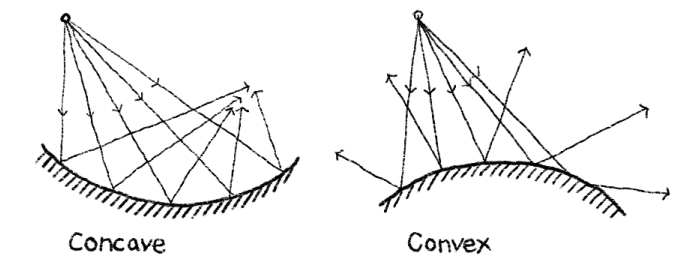


Figure 16. (Author’s Own)
Reflection from a curved surface

In architecture and design, sound is not just a by-product of a space but an integral element in shaping our spatial experiences. Architectural acoustics, informed by psychoacoustic principles, demonstrates how sound interacts with the physical environment. The shape, materials, and layout of a space determine sound reflections, absorption, and diffusion. By manipulating these elements, architects can create spaces that enhance or diminish the perception of distance, size, and even emotional resonance. For example, a cathedral's soaring arches and reverberant acoustics evoke a sense of grandeur and awe, while a hushed library's soft materials and sound isolation promote a feeling of intimacy and concentration. Thus, sound is not merely a passive occupant of space but an active participant in shaping how we experience it.

Beyond the physical aspects, sound has a profound emotional and psychological impact on our perception of space. The quality of sound in an environment can evoke feelings of comfort, security, agitation, or excitement. For instance, the gentle rustling of leaves in a forest may induce a sense of tranquillity and connection with nature, while the bustle of the CBD can evoke feelings of chaos or stress. Moreover, music, as a powerful auditory art form, can amplify or contrast the emotional character of a space. Brown (2006) states in his book 'Noise orders: jazz, improvisation, and architecture': "The music itself has a freedom; it operates on the musicians and audience as much as they operate on it." In a concert hall,

the symphonic swell of music can transcend mere auditory enjoyment, transforming the space into an emotional journey. As sound has the ability to evoke emotional responses, we can put forward the idea that sound (music) therefore has the potential to cultivate individual and collective experiences.

In conclusion, hearing is indeed a way of perceiving space, and sound is a critical determinant of how we experience that space as humans. Our auditory spatial perception is inherently linked to our understanding of the world, and the manipulation of sound within architectural design has the potential to create spaces that engage, inspire, and deeply resonate with our senses and emotions. Recognizing the intricate relationship between sound and space allows architects and designers to craft environments that are not only visually appealing but holistically enriching to our human experience.

Mile Long Opera: Diller Scofidio + Renfro

NEW YORK CITY, USA

2018



Image 25. (Iwan and Schenck, no date)
Tunnel view



Image 26. (Iwan and Schenck, no date)
Choreographed placement



Image 27. (Iwan and Schenck, no date)
Close up showing lighting detail

This immersive sound art installation occupied a mile of the High line in New York City to perform and scattered opera singers throughout the length, as one moves the space they become hyper-aware of the transience of sound and the various forms it takes depending on its context.

3.3 What does it feel like?

Psychogeography and the Kunsthal

At its core, psychogeography revolves around empathy and understanding. It is the ability to navigate and respond to one's environment and be completely consumed within it. Guy Debord's Society of the Spectacle set out the theory that society was obsessed with images an appearance over reality, truth and experience. In his book, The Society of the Spectacle, Debord refers to a '... society utterly preoccupied with the image' (Leach, 1999) and hence the lack of lived experience, and the reliance on representation.

The Situationists International (SI), led by Guy Debord, Ivan Chtcheglov, Asger Jorn, and others was a group formed in Paris in 1957 as reaction to the late capitalist society which surrounded them and called for the construction of a new urban space. The SI took art into the city and layered the practice of art and lived experience in what they called "unitary urbanism". Their aim was to momentarily disrupt routine and expectations of capitalist society using the psychogeographic tactics of play, chance, *dérive* (drifting) and *détournement*. Essentially encouraging individuals to explore the city. The city was an important format of determining the possibilities of lived experience.

'They recognised that "emotions, desires and experiences" differed "according to the architecture of a space, and the arrangement of colours, sounds, textures and lighting with which it is created"' (Leach, 1999).

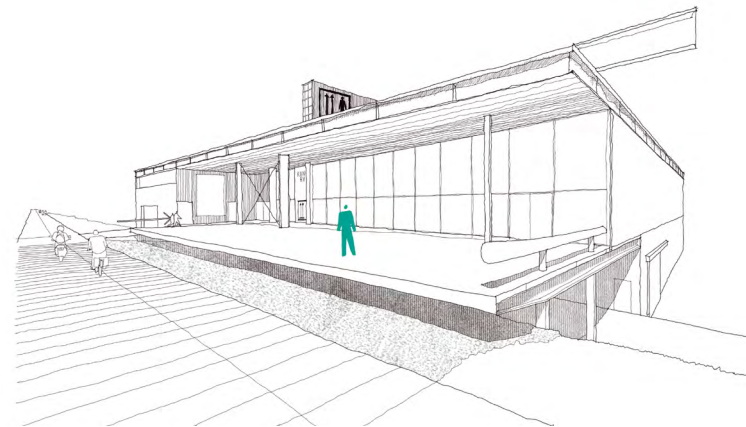


Figure 17. (Author's Own)
External perspective of the Kunsthal

DÉRIVE_DRIFTING

"For the perfect flâneur, for the passionate spectator, it is an immense joy to set up house in the heart of the multitude, amid the ebb and flow of movement, in the midst of the fugitive and the infinite." (Baudelaire, 1860) Flâneur is an active disassociation with our comprehension of the city and instead an engagement with chance and desire. *Dérive* - a technique used by the Situationist Internationale which encouraged 'drifting' or aimlessly wondering through the city which reframes the viewer - making one more perceptive of the geographic phenomenon encountered.

When one is moving through the city with a set idea, it is hard to discover new things because of one's pre-determination and preconception of space. This way of constantly moving and engaging allows for the creation of situations - which can be defined as active spatial temporal participation and lived experience. The absence of expectation leads to reliance on improvisation.

DÉTournement

Détournement is directly translated to mean 'turnabout' and in the context of the SI it was used to describe the appropriative process of using existing artistic elements to form something new. The interpretation and reconfiguration of capitalist matter to be able to critique it and express its hidden agenda. Guy Debord's map of Paris, The Naked City (1959), subtitled "illustration of the hypothesis of psychogeographical turning points" (plaque tournante) was composed of fragmented landmarks cut-out from an aerial map of Paris spaced arbitrarily on a page with various arrows connecting them.

"Through the fragmentation of Paris and its Situationist re-construction, the map forms new relations among the city's parts and their inhabitants based on the subjective experience of traversing the cityscape" (Coelho, n.d.).

This engages with the viewer as it encourages them to construct a new path among familiar elements through a variety of possibilities. In addition the process of *dérive* (drifting) is constantly at play as the viewer cannot expect what is to be seen.

UNITARY URBANISM

Unitary urbanism refers to the layering of art, technology and the city. "Urban space is constantly mutating. Our experience of space as a practiced place changes gradually as the surrounding environment evolves around us." (Daniilidis, 2016) Unitary urbanism is defined as "the theory of the combined use of arts and techniques as means contributing to the construction of a unified milieu in dynamic relation with experiments in behaviour." (Coelho, no date)

The pedestrian in the contemporary capitalist city has become a subordinate to the dictatorship of the vehicle, the spectacle, and consumerism. He is confined in an emerging new urban landscape, a non-place devoid of individuality and content while dominated by technological amenities and billboards. Situationists' goal was to resist and overthrow the "society of the spectacle", the immense banalization and homogenization of modern society. Their goal is significantly topical in our present times where the losses of quality public space and the ongoing immense privatization of our cities are even more apparent.

LIVED EXPERIENCE

Henri Lefebvre investigated the production of space to understand moment or lived space as opposed to conceived or perceived space which exists in just Euclidean and cartesian geometry. He describes 'a fleeting, intensely euphoric sensation that appeared as a point of rupture revealing the totality of possibilities of daily existence.' The situationists set out to discover these moments or situations where one is free of the constraints that society possesses over our minds, the search for the "situation, an active spatial-temporal event of lived experience, unshackled from the constraints of the spectacle" (Leach, 2000).

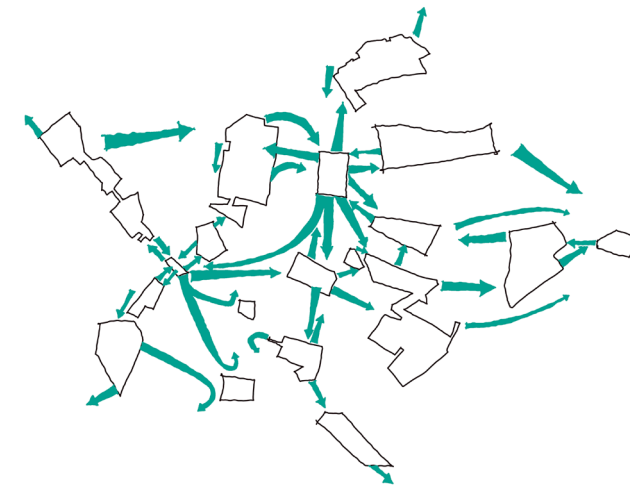


Figure 18. (Author's Own)
A representation Debord's map of Paris 'The Naked City'

Kunsthal : OMA

ROTTERDAM, NETHERLANDS
1992

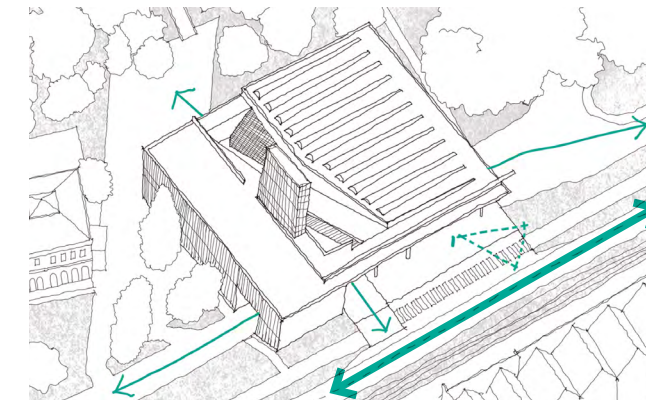


Figure 19. (Author's Own)
AXO

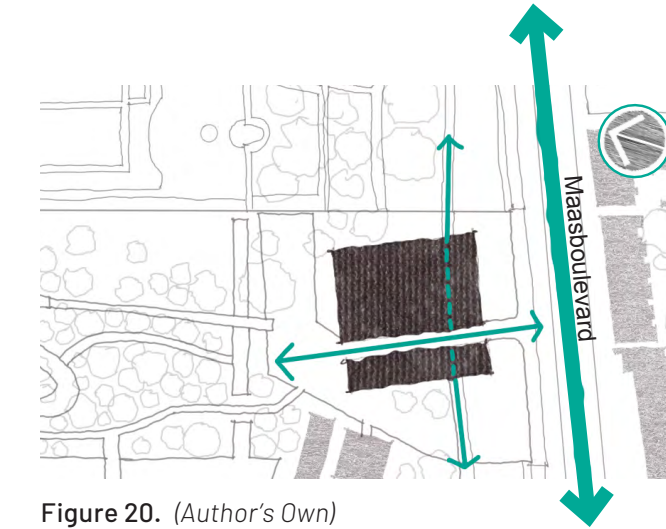


Figure 20. (Author's Own)
Site Plan

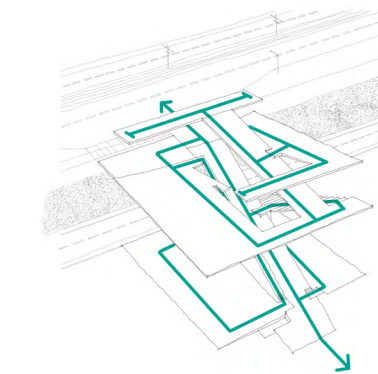


Figure 21. (Author's Own)
Circulation

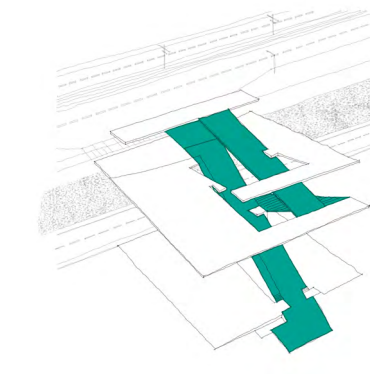


Figure 22. (Author's Own)
Connecting Ramps

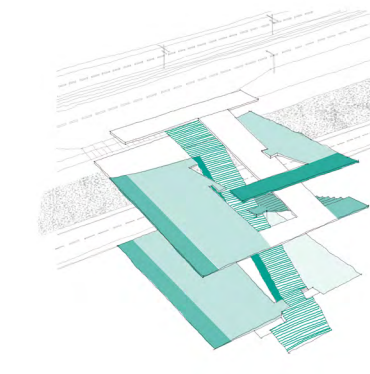


Figure 23. (Author's Own)
Program

The Kunsthal is a multi-functional, collection-less exhibition space that comprises an auditorium, gallery space and a restaurant. Externally the building appears as a simple cube, but within spaces are compounded and fractured and pieced together to create a continuous, singular narrative.

The site was fundamental in determining the form. Bordered on the south by one of Rotterdam’s largest dikes, above which runs the Maasboulevard – a busy roadway which services vehicles, trains, pedestrians and of course bicycles. In contrast the northern edge opens into Museum Park – a cultural hub within the city. The building was conceived as a square which is crossed by two paths, the first being the public ramp creating the North/South axes; and the second is a road parallel to the highway which runs underneath the structure and is used to access the lower level of the park. An entrance plinth fronts the highway floats above the traffic to stress the difference between the city and the space for art.

The Kunsthal is arranged by a system of intersecting ramps and shifting floor plates resulting in a field condition where the viewer needs to be present in order to understand or experience the space. Although the building form is rectilinear and externally simple, internally the structure is very complex and expresses the design as a volumetric study instead of a planimetric one. These ramps function very differently to individual floor plates, which could be defined as the form of the floor which is separate from the above or below levels.

Here the ramps intersect at various point which encourage the viewer to move between different slopes and be able to discover a completely new space.

Adjacent programmatic functions have been intentionally positioned to create the potential for meandering and drifting experience. The circulation ramps form the interstitial spaces linking the various programmes which encourage the user to drift. The programme – which is interspersed with public facilities such as cafes or high pedestrian movement routes –simulates the experience of moving through an urban environment. The user cannot understand the building/object from one point, it is pieced together through the process of moving through the building. The object unfolds itself.

Koolhaas said this in regard to his proposal, “all the planes are connected by a single trajectory, a warped interior boulevard that exposes and relates all programmatic elements. The visitor becomes a Baudelairean flâneur, inspecting and being seduced by a world of books and information – by the urban scenario.”(Böck, 2015)

3.4 What’s happening there?

Improvisation

“Instead of a final form, there is a perpetual state of development and change in playing that facilitates a leap into the unknown” (Brown, 2006).

SOUTH AFRICAN IMPROV

Improvisation is a conversation, it is free-form dialogue between one or multiple individuals. The process requires concentration, creativity, technical skill and, most importantly, the ability to listen. It requires the mind and body to interpret and respond almost instantaneously. Coplan (2007) notes that in philosophies of African performance, alongside replication as a way of imparting knowledge, there is a tradition of solo improvisation.

In South Africa, musical improvisation has been an undeniable coefficient in the development of a unique sound, as well as a unique listening experience. According to Pyper (2012), a characteristic feature of jazz listening sessions was the practice of co-improvisation, where the collective of DJs, dancers and sometimes, musicians engage in a meaningful and social experience. Alternative strategies of musical education were also used during this time: Pianists who

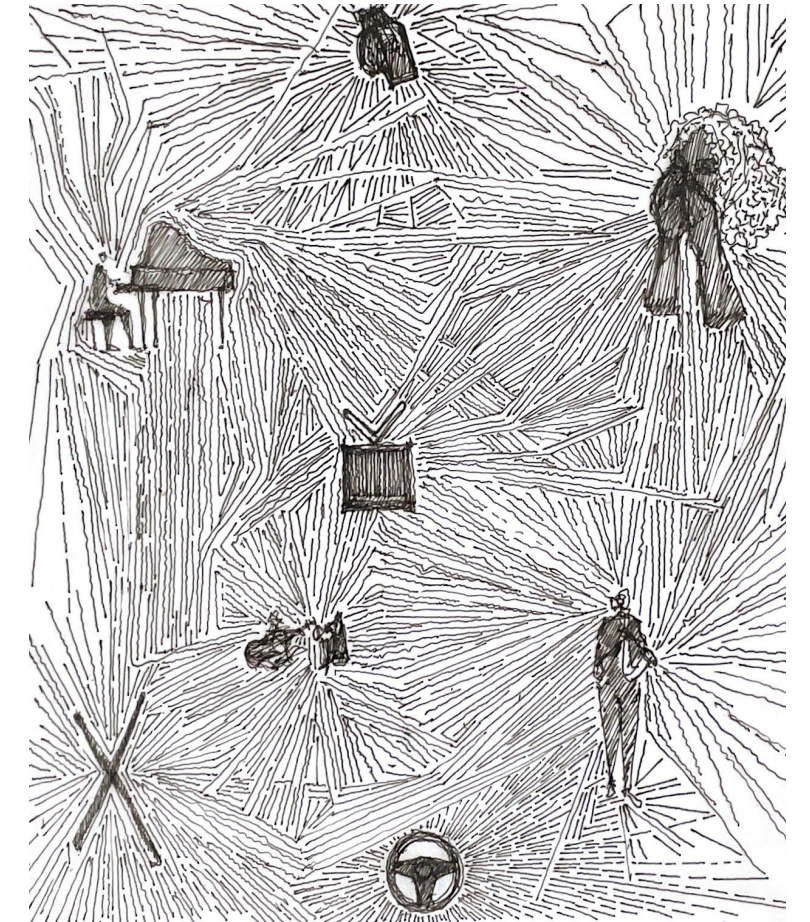


Figure 24. (Author’s Own)
Improvised sound sketch

couldn't read music, and indeed those who could, opted to learn purely by sound. This form of improvisation enhanced the making of a new kind of music (Coplan, 2007). This is reinforced by Brown's (2006) notion that the interaction between the bodies, instruments, and vocabularies of musicians was necessary for the music. Coplan (2007) expresses how solo improvisation formed a bridge between the prestige of jazz skill, and different socially divided audiences, bringing them together into a socially integrated space.

Brown (2006: 129) sees the act of improvisation as "a specific method for developing a structure, or setting parameters, quantities, dimensions, and/or extents". In his concluding paragraph, Brown (2006) speaks to the concept of "conducted improvisation" by looking at the work of conductor and musician, Laurence "Butch" Morris:

With the first sound, potential directions are indicated. By executing a gesture to initiate other sounds, Morris begins to parse through those potential directions and to describe parameters for form and structure to subsequently develop. However, Morris at times might leave the ensemble alone to let sounds develop and emerge before gesturing to initiate the selection and manipulation of sounds. Seeking to provide forms, structures, and directions that propel the music but can neither take control nor subordinate the group or the music, Morris works to "determine boundaries then let them go." Such action enables a play between directed

and emergent orders by providing a basis for the production of differences. Letting go emphasizes any boundaries that are determined as volatile sites rather than distinct and inviolable edges. (Brown, 2006)

Ramanna (2005) emphasises that jazz music relies not just on the elements of sound, but also the important element of human interaction, where the music is often conceptualised for interaction rather than inertness, which is why improvisation is so relevant. Pyper (2012) considers solo improvisation as a kind of kinetic listening, which is echoed in Coplan's (2007) apt descriptions: "The music's loose progression of improvised phrases, disjunct melodic and rhythmic lines, and poeticised chanting was puzzling to listeners, who had difficulty explaining its unique appeal," on Philip Thabane, and "Good as they were, their recordings were a poor representation of the electricity and spellbinding virtuosity of their live performances" (Coplan, 2007: 253).

LEARNING VIA IMPROV

Improvisation, particularly in the context of music, has been the subject of scientific research that highlights its positive effects on cognitive responses. The cognitive demands of improvisation require individuals to adapt, think creatively, and engage various cognitive processes, contributing to these positive effects. "Sustain, repeat, mimic, remember, develop, and expand:" (Brown, 2006: 125)

Enhanced Creativity: Scientific studies have shown that engaging in improvisational activities, such as music improvisation, stimulates creative thinking. A study published in the journal "NeuroImage" (Limb & Braun, 2008) used functional magnetic resonance imaging (fMRI) to observe the brains of jazz musicians while they improvised. The research found that during improvisation, brain regions associated with self-expression and creativity were highly active. This suggests that improvisation can boost creative cognitive processes.

Improved Problem-Solving Skills: Improvisation requires individuals to think on their feet and adapt to changing situations. Research by Pinho et al. (2014) published in "PLOS ONE" demonstrated that musicians with improvisation experience showed improved problem-solving skills compared to non-musicians. This suggests that the cognitive flexibility required for improvisation can extend to general problem-solving abilities.

Enhanced Memory: A study published in "Nature Neuroscience" (Berkowitz & Ansari, 2008) explored the impact of improvisational music training on memory. The research found that children who received music improvisation training showed enhanced memory skills compared to those who received other forms of music instruction. Memory is a crucial aspect of cognitive function, and these findings suggest that improvisation can contribute to its improvement.

Reduced Anxiety and Stress: Engaging in improvisational activities, such as drama improvisation or music improvisation, has been linked to reduced anxiety and stress levels. A study published in "Psychology of Music" (Thoma et al., 2015) found that individuals who participated in group music improvisation sessions experienced lower levels of anxiety compared to a control group. Reduced anxiety can positively impact cognitive functioning, including attention and memory.

Enhanced Brain Connectivity: Research using neuroimaging techniques, such as functional MRI (fMRI) and electroencephalography (EEG), has shown that improvisation can lead to enhanced brain connectivity. In a study published in “Frontiers in Human Neuroscience” (Pinho et al., 2016), researchers found that improvisation training led to increased functional connectivity in brain networks associated with creativity and cognitive control.

DESIGNING FOR IMPROV

“Noise Orders: Jazz, Improvisation, and Architecture” by David Brown (2006) delves into the fascinating intersections between jazz music, improvisation, and architectural design. Brown’s exploration challenges the traditional boundaries of architecture by examining how improvised music offers dynamic insights into spatial conception and composition. He discusses the relationships between subject and object, time and space, and the fluidity of architectural design. Through this analysis, Brown suggests that architecture can move beyond the fixed, visually dominated structures it often produces. Instead, it can embrace improvisational qualities, fostering flexible designs that respond to changing needs and contexts. By drawing parallels between the roles of architects and improvisational musicians, Brown encourages architects to adopt a more fluid approach, adapting to the evolving requirements of their projects.

Brown (2006:92) quotes architect Ludwig Mies van der Rohe on the importance of flexibility over function: “Today, function changes so rapidly that only great flexibility has any value in a building. Flexibility is what is important and characteristic in my buildings, not the expression of function” (Brown, 2006). The emphasis on adaptability bears a striking resemblance to the act of improvised music: while the framework is sketched out beforehand, the actual order is not inherently within the written scores but rather materializes through the act of performance and that “order is not implicit in its written instruments but emerges through playing” (Brown, 2006: 92).

As a conclusion to chapter 4, listed below are various items to consider when attempting to design spaces for improv – a guide for designing the Sound Incubator.

Acoustic Considerations and Noise Control: Ensure the space has good acoustics that allow for clear and balanced sound. Consider the size, shape, and materials used in the space to achieve optimal sound reflection, absorption, and diffusion. A balance between liveliness and control of sound is crucial for improvisation, as it allows musicians to hear and respond to each other effectively. In addition, prioritise strategies for noise control to minimize distractions and provide a focused environment for improvisation. This may include soundproofing measures to prevent sound leakage between adjacent spaces and external environment or incorporating designated quiet zones for reflection and concentration.

Flexibility and Adaptability: Design the space to be flexible and adaptable to accommodate different musical setups and ensemble sizes. Provide movable furniture, modular stage platforms, and adjustable acoustical elements that can be reconfigured to meet the needs of various improvisational performances and collaborations.

Spatial Layout: Consider the spatial layout to encourage interaction and communication among musicians. Create an open and accessible floor plan that allows musicians to see and hear each other clearly. Avoid physical barriers that may hinder visual and auditory connections and consider the placement of performers and the audience to foster a sense of intimacy and engagement.

Supporting Infrastructure: Provide necessary infrastructure to support musical improvisation. This may include stage lighting, audio/video recording capabilities, power outlets, and connectivity for instruments and audio equipment. Having the right technical support enhances the musicians’ ability to explore and experiment with different sounds and effects.

Aesthetics and Atmosphere: Create an inspiring and conducive atmosphere that sparks creativity and

enhances the mood for improvisation. Consider elements such as lighting, colours, artwork, and comfortable seating that contribute to the overall ambiance of the space. Balancing a sense of comfort and stimulation can help musicians feel inspired and encouraged to take risks in their improvisations.

Collaboration Spaces: Include dedicated areas for musicians to interact, discuss ideas, and collaborate before and after improvisation sessions. This can be informal lounge areas, breakout rooms, or even outdoor spaces where musicians can gather, exchange ideas, and build connections.

Access to Instruments and Equipment: Provide easy access to a variety of musical instruments, amplifiers, effects pedals, and recording equipment within the space. Having a diverse range of instruments and equipment readily available encourages experimentation and exploration during improvisation sessions.

Audience Engagement: If the space is designed to accommodate an audience, consider their experience as well. Ensure proper sightlines, comfortable seating, and acoustical considerations for both performers and listeners. Encourage an interactive and immersive experience where the audience can engage with the musicians and be part of the improvisational process.

La Concordia Amphitheatre : Colab-19 + Taller Architects + SCA

BOGOTÁ, COLOMBIA
2020

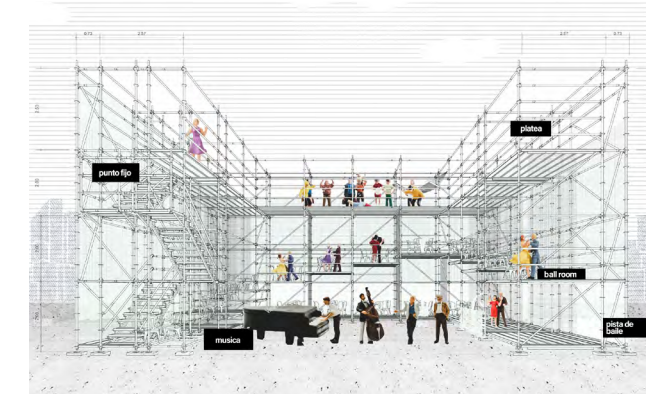


Image 28. (Colab-19, 2020)
Perspective



Image 29. (Roa, 2021)
Framed View

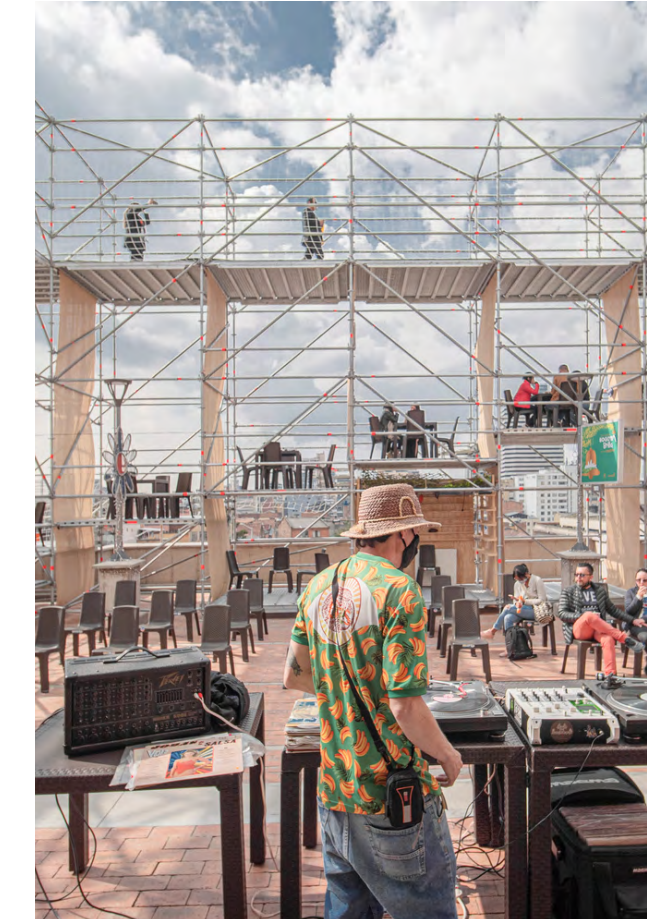
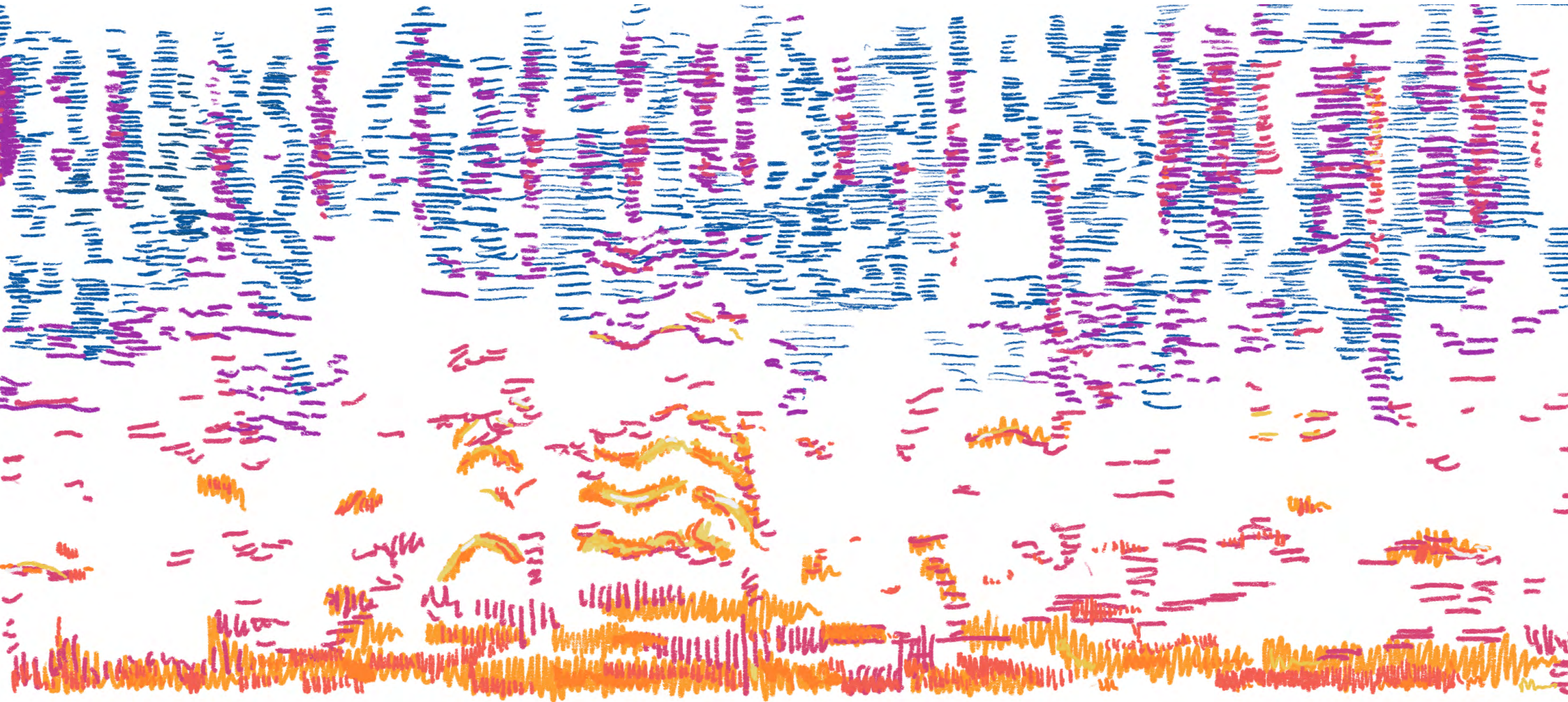


Image 30. (Roa, 2021)
On "stage"

In 2020, a period when the whole world had to improvise, this structure created a opportunity to gather and enjoy music.

4 { Let's go! }



4.1 Where is it?

Improvised Alexandra

Coplan (2007) begins his investigations during the nineteenth-century where he describes “...a proletarian majority among the permanent black townsmen, lived by their wits in the shadows and shanties of the mushrooming, segregated locations, creating hybrid styles of cultural survival that permanently shaped black music and drama” (Coplan, 2007). This is the epitome of Improvised Alexandra.

Established in 1912, Alexandra Township stands as a unique example of a black freehold community, a space that developed its own distinct social character within black urban society, as noted by Bonner and Nieftagodien (2008: 1). Alexandra is situated adjacent to Sandton, an upscale suburb of Johannesburg often dubbed “Africa’s wealthiest square mile” (Sondzaba, 2019). In the post-apartheid era, Alexandra has frequently been described as a place grappling with land shortages, homelessness, and high unemployment rates, in stark contrast to its historical role as a relic of a bygone urban era (Bonner and Nieftagodien, 2008:1). This romanticized urban past harks back to a relatively unique privilege in racially-segregated South Africa, where Black South Africans had the opportunity to own freehold land, unusual from the prevailing norms established by apartheid legislation such as



Image 31. (Goldblatt, 2010: 312)
Miriam Mazibuko watering the garden of her RDP house for which she waited eight years, Far East Alexandra Township, 2006

the 1913 Native Land Act and the 1923 Natives (Urban Area) Act. Property ownership in Alexandra allowed black homeowners to assert their respectability in comparison to other urban Africans, supporting their claims for self-governance and political representation (Bonner and Nieftagodien, 2008).

Sondzaba (2019) illustrates that Alexandra has faced multiple efforts aimed at reshaping it into what state authorities, experts, and urban planners envision as an improved version of its existing self. Thanks to its robust tradition of community-based politics, Alexandra has been able to push back against these endeavours to transform it into a more socially acceptable image of itself. This opposition has complicated the interaction between state officials, experts, and urban planners’ conceptualizations of an idealized Alexandra and the practical actions they undertook in their pursuit of creating this envisioned version of the Alexandra Township.

An issue identified by Harrison, Masson and Sinwell (2014) as an obstacle to progress is the clear lack of social cohesion within the community of Greater Alexandra: “Levels of societal distrust are high: only one-half of residents feel connected to their neighbourhoods, crime is high and very few residents are actively involved in community life.” Alexandra represents a place marked by intricacy and societal divisions. Deep-rooted disparities exist among its residents, such as those between property owners and renters, as well as between families with a longstanding presence and newcomers. To achieve any



Image 32. (Author’s own)
Exhibit at Alex Heritage Centre

effective intervention, addressing not only the material issues in Alexandra but also tackling the pronounced social divisions and limited social unity is crucial.

The blatant link between the act of improvisation and the township of Alexandra is the format in which residents are required to respond immediately to a variety of challenges. Due to racial discrimination and socio-economic factors, formal urban planning and regulated construction have been limited, leading to a high prevalence of informal settlements and improvised housing.

For the purpose of this research report I identify a few ways in which the act of improvisation has influenced the building style I Alexandra – often characterised by informal and makeshift structures.

Informal Dwellings: The majority of structures in Alexandra Township are informal dwellings. These often consist of small, single-story houses or shacks made from a variety of materials such as corrugated iron, wood, plastic, and scrap metal. The structures are typically self-built by residents and may lack proper foundations, insulation, or adequate ventilation.

Dense Settlements: The lack of available space (land + property) and the need to accommodate a growing population has led to the construction of structures in close proximity, resulting in narrow alleys and limited open spaces.

Extension and Expansion: Many houses in Alexandra Township have undergone incremental expansion over time. As families grow or economic circumstances improve, additional rooms or floors are often added to the existing structures. This expansion is usually done informally, without architectural plans or adherence to formal building regulations.

Mixed-Use Structures: Some buildings in Alexandra Township serve multiple purposes. For example, a single structure may house a residence on one level and a small business or informal shop on another. This mixed-use approach reflects the entrepreneurial spirit and the necessity to maximize available space for both living and economic activities.

Converted Factories: On the Northern outskirts of Alex, a new built typology has formed which illustrates the notion of improvisation. By using Google earth street view, I have extracted examples where vacant factories or warehouses have been adapted for residential use.

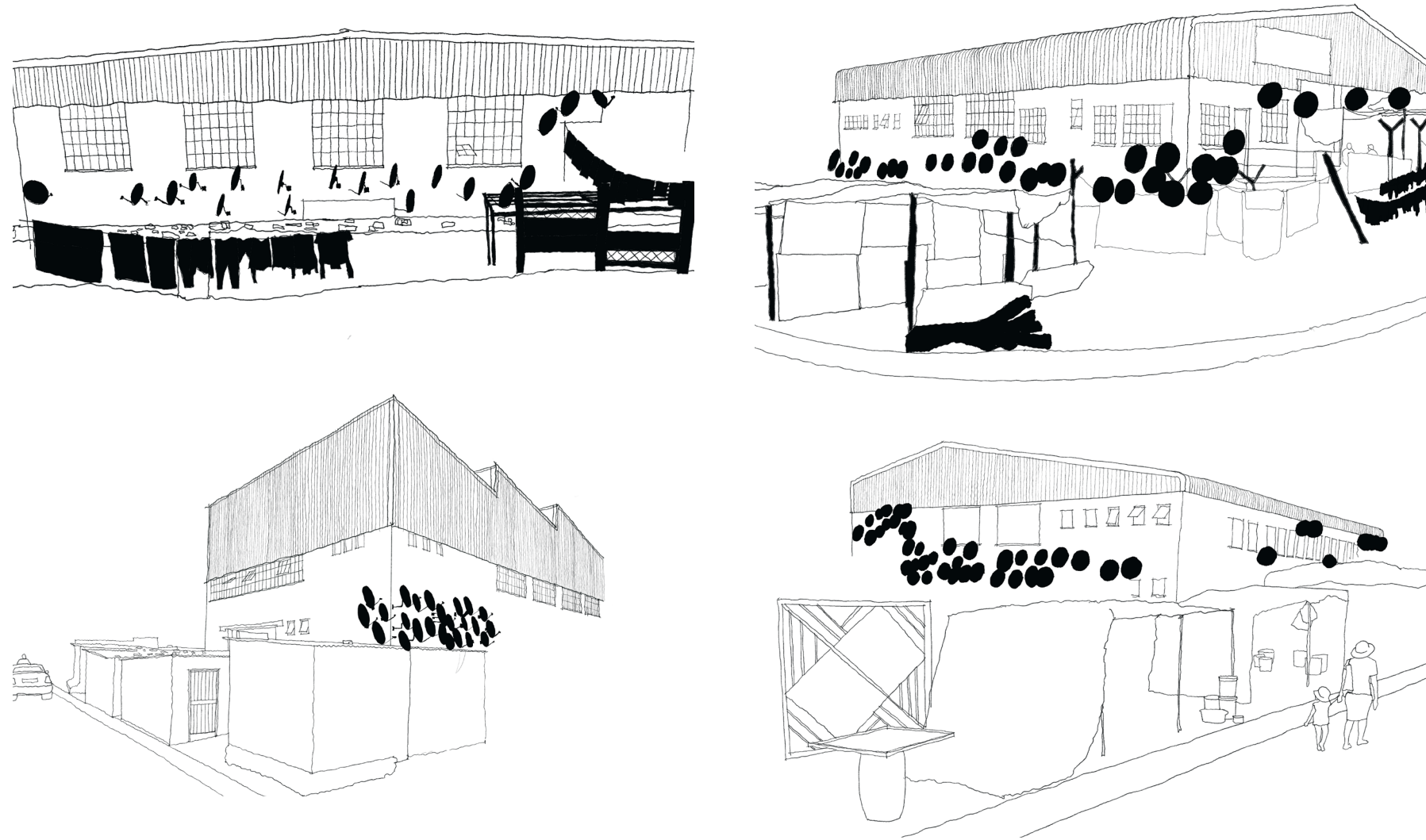


Figure 25. (Author, 2023)

A collection of vacant factories and warehouses that have been converted into housing due to extremely high demand

4.2 How is the vibe?

Sounds of Alex

“Spread out north of the city of Johannesburg is one of the oldest and funkiest townships in the country –Alexandra” (Mojapelo and Galane, 2009: 56).

Music and performance have always played a vital role in the life of Alexandra Township. Historically, the township has been a vibrant hub of musical creativity, producing talented musicians and performers. Due to limited resources and access to formal training, residents of Alexandra often had to rely on their ingenuity and improvisational skills to create music and perform.

In the realm of music, the act of improvisation is deeply ingrained in the local genres, such as marabi and jazz. Marabi, a style of music that originated in the townships during the early 20th century, heavily relies on improvisation. It emerged as a fusion of various musical traditions, including African rhythms, ragtime, and American jazz. Marabi musicians would often gather in shebeens (informal bars) and spontaneously create music, with each musician adding their own improvisational elements to the composition.

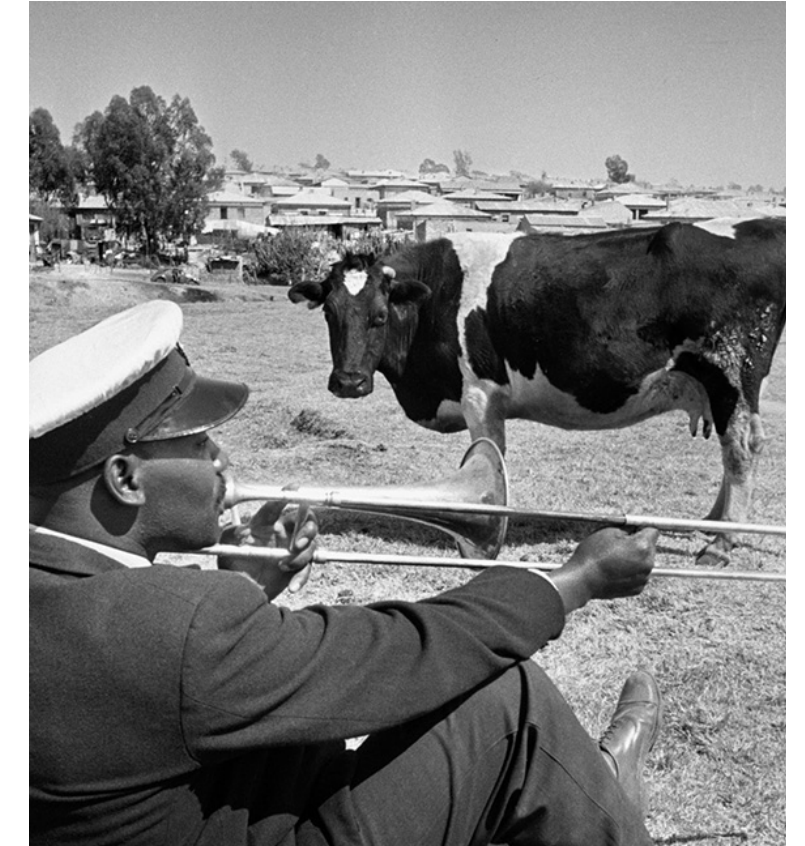


Image 33. (Schadeberg, 1951)

Alexandra, a township north of Johannesburg, was surrounded by open country and farms where cows were often entertained by lonely brass band players rehearsing a tune.

Similarly, jazz, which has had a significant influence on South African music, particularly during the apartheid era, thrives on improvisation. In Alexandra Township, jazz musicians would gather in jam sessions, where they would spontaneously create music, building upon each other’s ideas and improvising solos. These sessions served as a platform for collaboration, self-expression, and the exploration of new musical territories.

SHABEENS

“Musical creativity and appreciation and intellectual discussion flourished in the backyards and shebeens” (Coplan, 2007: 220).

Shebeens, often hidden gems of urban culture, held profound cultural significance in the lives of working-class individuals living under the weight of the apartheid regime. As Coplan (2007) notes, shebeen musicians had a remarkable ability to resonate with a diverse audience, drawing in people from various ethnic and regional backgrounds who shared the common experience of urban life marked by racial discrimination.

It’s worth noting that the shebeens were predominantly frequented by men, but their establishment and organization were largely orchestrated by resilient and resourceful women within the community. These ‘shebeen queens’ emerged as essential “cultural brokers,” creating a vital bridge between individuals and their shared cultural heritage (Rörich, 1989).

The shebeen, often viewed superficially as a means of additional income and an escape through intoxication for lonely migrant workers, carried far-reaching cultural implications.

Indeed, shebeens served not only as a personal coping mechanism but also as a platform for collective identity and solidarity. They played a pivotal role in helping build and reinforce values and norms suitable for city life (Rörich, 1989). Moreover, akin to the shebeens, stokfel gatherings, primarily orchestrated by women for women, represented another facet of communal wealth circulation and cultural bonding. These weekly stokfel parties provided not just social and recreational interactions but also acted as intricate “credit rings,” symbolizing the interconnectedness of the community’s financial and social well-being (Rörich, 1989).

A 2022 article by the founder of Johannesburg-based design-research studio UrbanWorks –Thireshen Govender – explores two shebeens in South Africa to illustrate the potential of using space and architecture as a tool for political change (Govender, 2022). Looking at Ruby’s Shebeen in Sweet Home Farm, CapeTown and Jack’s Shebeen in Ivory Park, Johannesburg, Govenders analyses (2022) underscores the fascinating realm of improvisation

within urban contexts such as Alexandra. Shebeens, with their unique ability to swiftly adapt and transform, to embrace or conceal, exemplify the improvisational spirit that’s often inherent in volatile urban environments. These establishments “functionally and spatially, are beyond the existing threshold of what is deemed legal” (Govender, 2022: 49). Operating in the crevices of formal regulations, despite the very serious risk involved, “the shebeen demonstrates a powerful capacity to adapt to existing physical infrastructure and to refuse repressive and regressive policies, politics and top-down spatial logics” (Govender, 2022: 50).

Moreover, the adaptability of homes to serve as essential social hubs reflects a form of architectural improvisation. These spaces are customized to cater to the ever-changing needs of households, showcasing the resourcefulness and flexibility of their users. In essence, shebeens and the adaptable homes hosting them embody the improvisational practices that individuals and communities employ to navigate the complex and challenging urban landscape, demonstrating how improvisation becomes a vital tool for survival and resilience in such contexts.



Image 34. (Nunn, n.d.)
Murphy’s Tavern. Alexandra shebeen and tavern. Johannesburg 2005

Club Jazz

61 7TH AVENUE, ALEXANDRA

This club in the heart of Alex is an establishment that has been running for many years and is a stomping ground for local jazz fanatics.



Figure 26. (Author, 2023)
Rough sketch of Club Jazz



Image 35. (Author, 2023)
Stage at Club Jazz



Image 36. (Author, 2023)
Mural at Club Jazz

4.3 What is it all about?

Incubation: Composed Exposure

In biology, incubation refers to a period or process of developmental growth often during the gestation period. During this time, optimal temperature and environmental conditions are maintained as necessary for the success of birth or hatching. Incubators, in this sense, are mechanical apparatuses in which premature and underdeveloped babies are placed to create the environment for regular foetal development. Incubation is often used as a metaphor for ideas, businesses and creativity, in reference to spaces designed to optimise the process of conception, development, production, and implementation, much like the process of gestation. The spatial intervention proposed in this project is conceptualised as an incubator for sound, where interactions and intersections form the basis of design, for the incubation of music in a context to which it is so intertwined.

Ramanna (2005) lists a string of relevant interactions for the space of sound: “form and content, stream and information, code and message, culture and behaviour, production and reception, construction and interpretation.” Further, he asks how the spatial and material situation of producing music informs its possibilities, and how music signifies particular meanings.

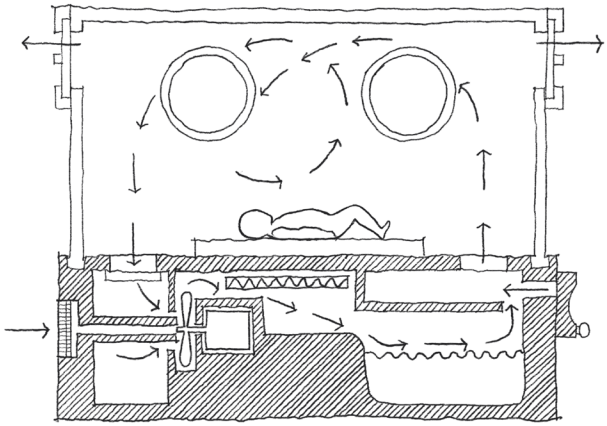
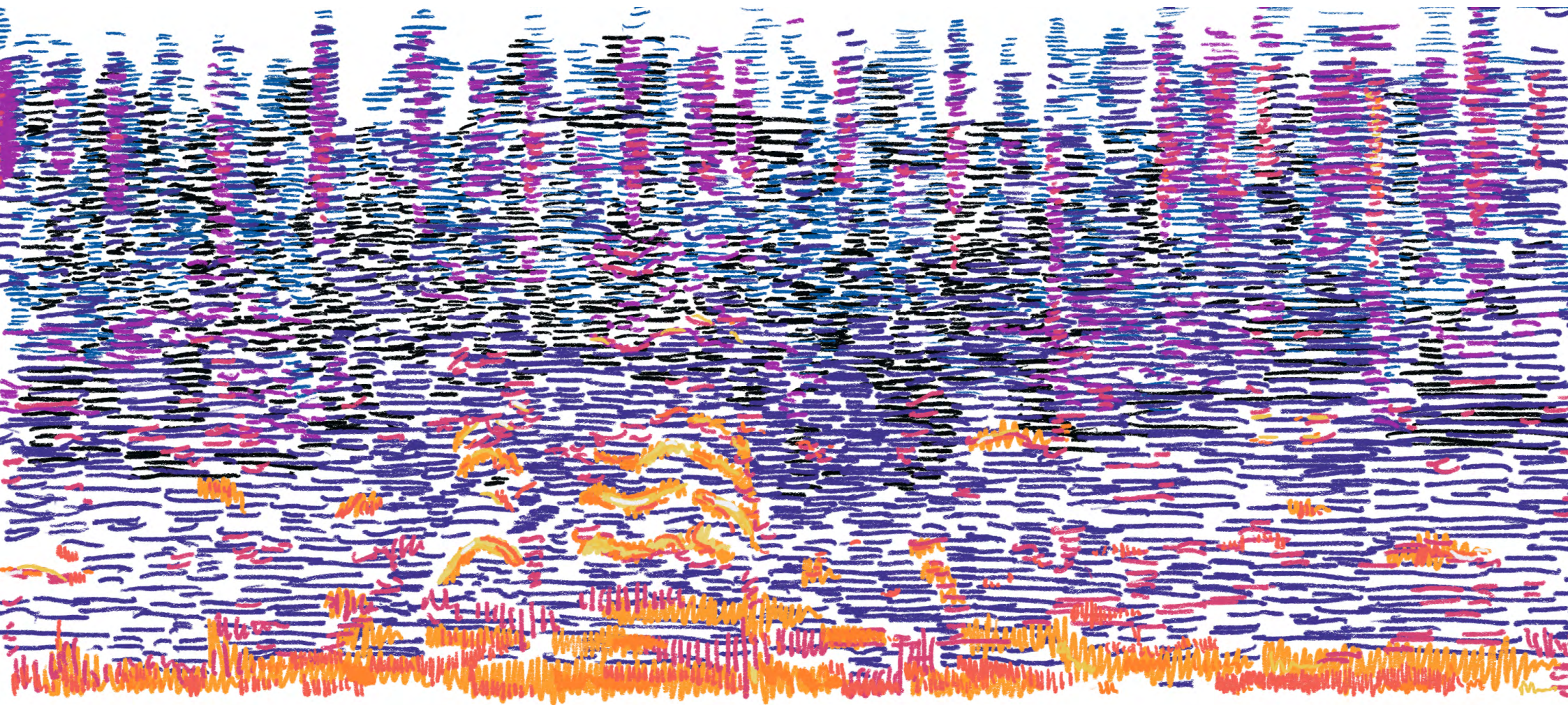


Figure 27. (Author, 2023)
Incubator

From construction to occupation, the building should be considered as sound, through sound, and from sound. Imagine a sound map of construction site, sound plans, sections, and elevations. How do we integrate this noise and music intentionally and efficiently into the spatial experience of the building? How does sound interact with building materials, tectonic details, or construction methodologies? How do we understand volume, as a measure of three-dimensional space, but also a measure of the sound that might occupy said space? The design process aims to experiment with these sonic-spatial prompts to create an architecture relevant to its musical context, spatial and temporal.

5 { Site }



5.1 Zoom Out

Urban context

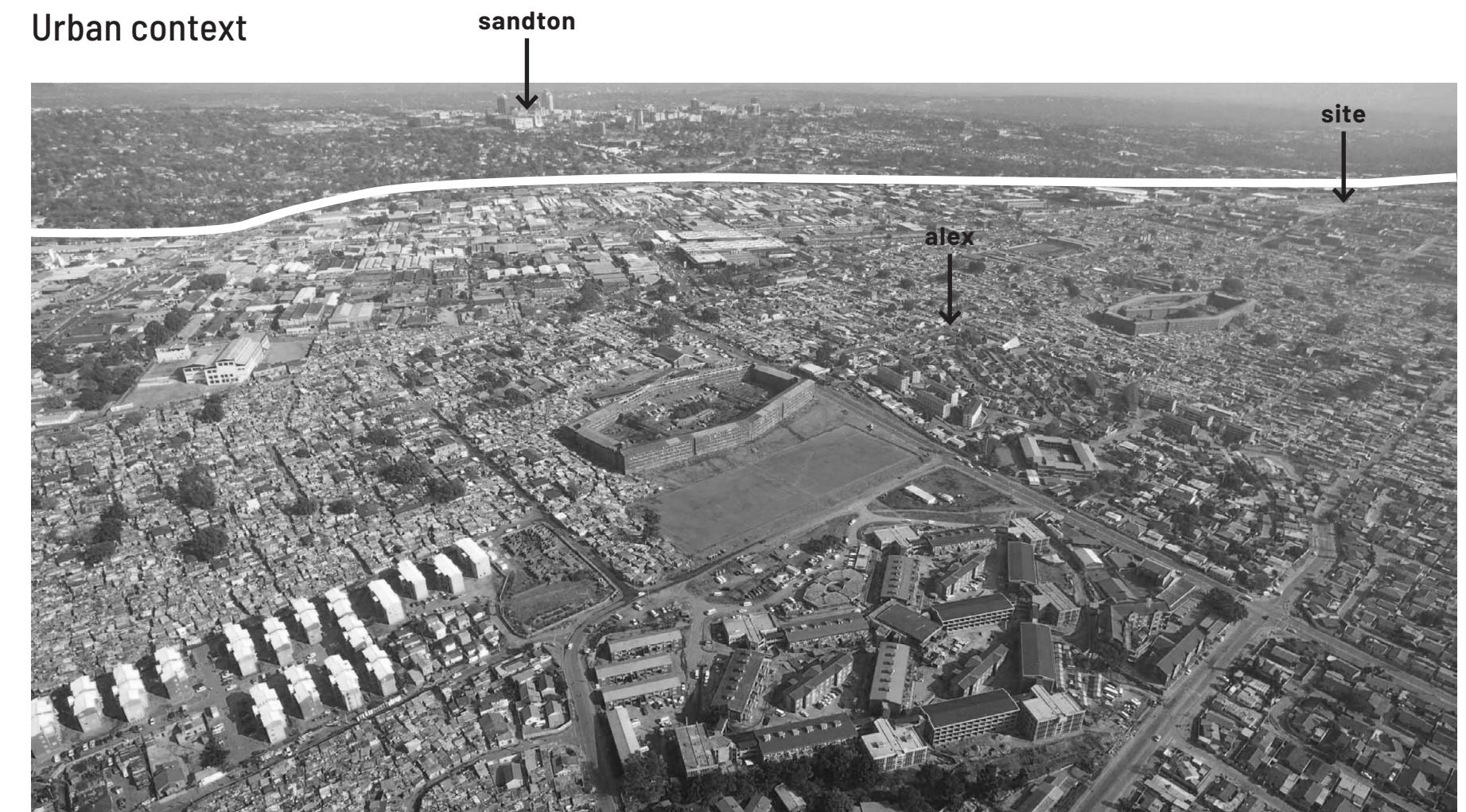


Figure 28. (after Miller, n.d.)
Aerial photograph of the famous divide between Alexandra and Sandton.

Site Informant

LOCATION

At the apex of Alexandra township, adjacent to the water reservoir, the site stands proud. Look South and see the sprawling density of the township; look West and see glistening glass high-rises of Sandton. The site lends itself to be a landmark; perched at the origin of First Avenue, a direct line straight into the heart of Alex.

The venue is situated at the Gateway to Alex as it needs to be accessible for both residents of Alex (by foot), as well as people coming from other parts of the city to watch performances. Notably, venues – Alexsan Kopano Centre, Kings Cinema and the Alexandra Interpretation Centre – within the heart of Alex are very difficult to access as a destination, especially by vehicle, due to the specific nature of the township (there is also no parking available). Accessibility is a paramount factor for the ultimate success of the project as an entertainment venue.

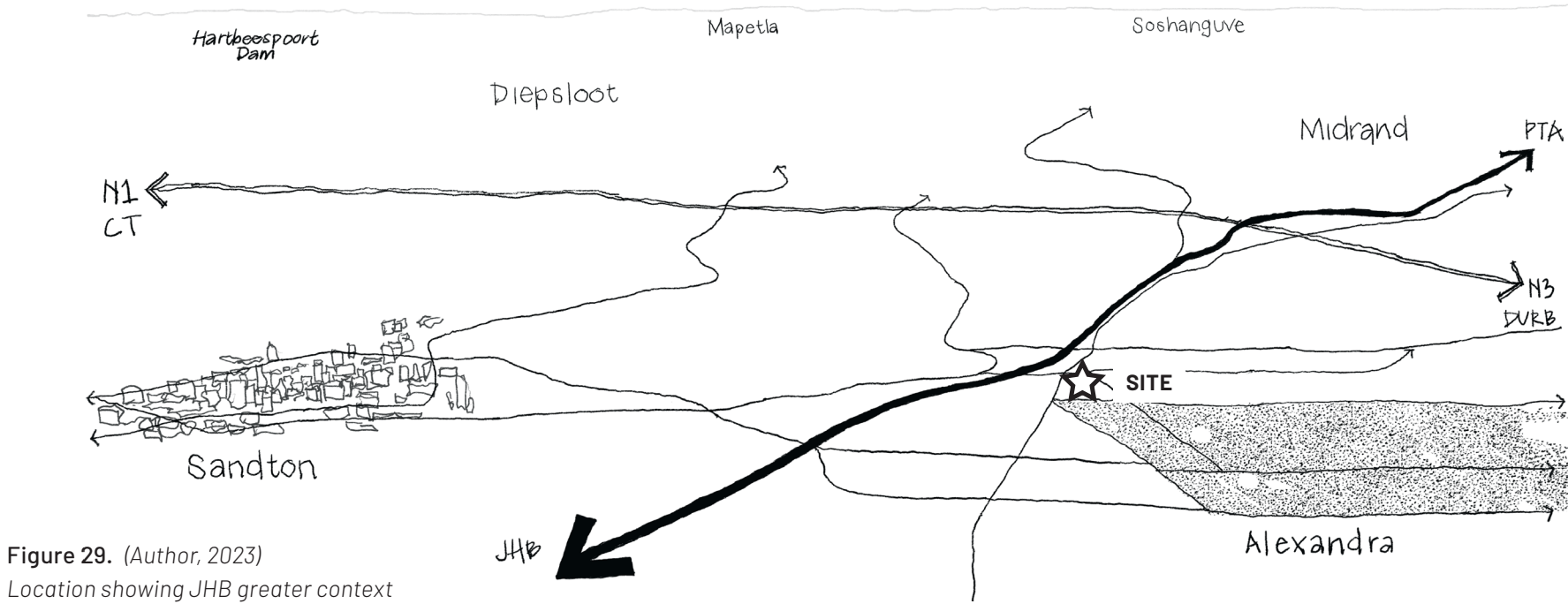


Figure 29. (Author, 2023)
Location showing JHB greater context

Site Informant

LOCATION

★ SITE

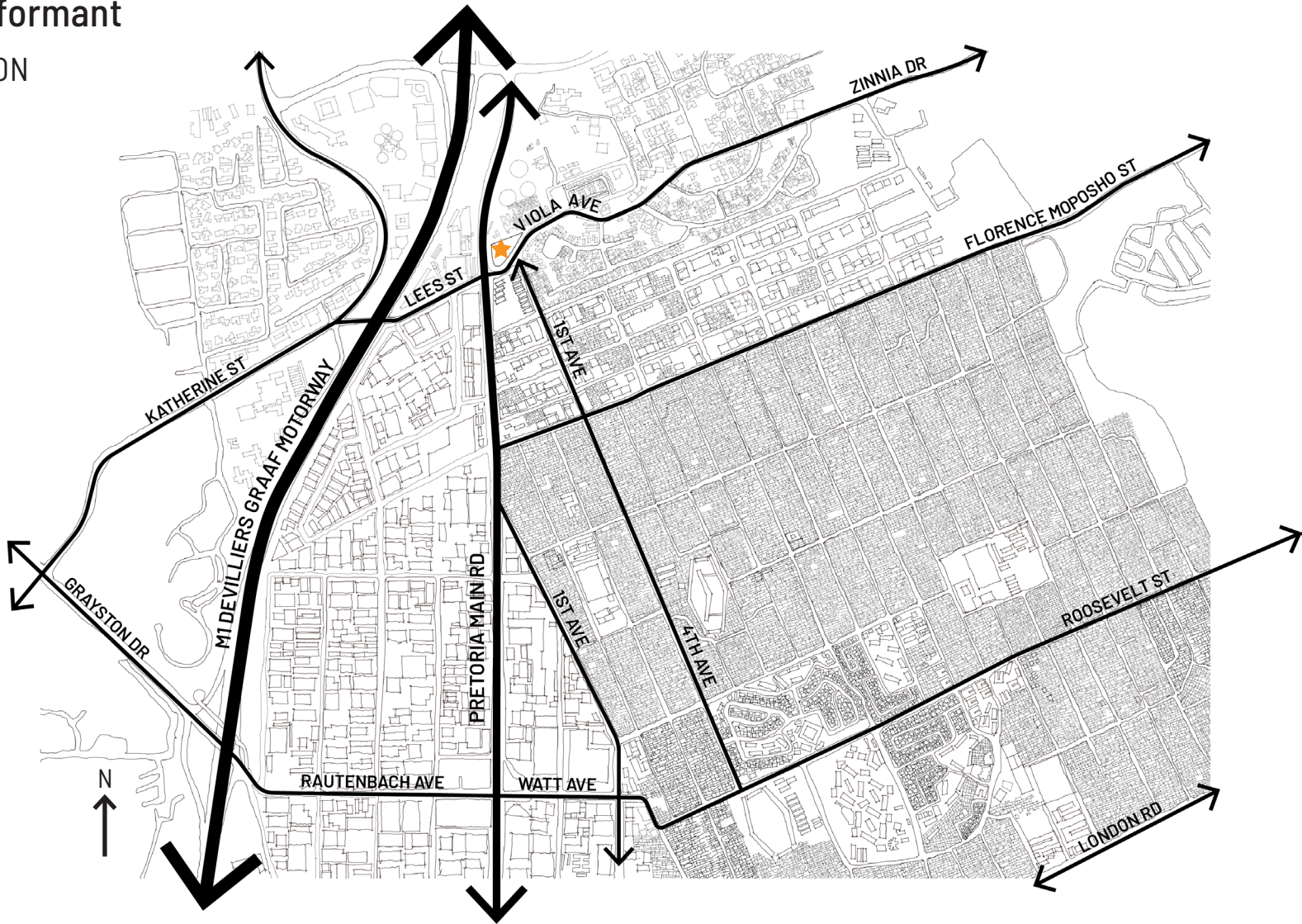


Figure 30. (Author, 2023)
Location map situating site and primary roads

Site Informant ACCESSIBILITY

1. Walking distance from Alex
2. 300m from the bridge crossing over the M1 highway
3. On the Louis Botha Corridor of Freedom
4. Rea Vaya, Metrobus, Putco and minibus taxis stops adjacent
5. 500m from M1 Marlboro Drive offramp
6. 3.5km from Marlboro Gautrain Station.
7. The apex of Alex (next to the water reservoir)

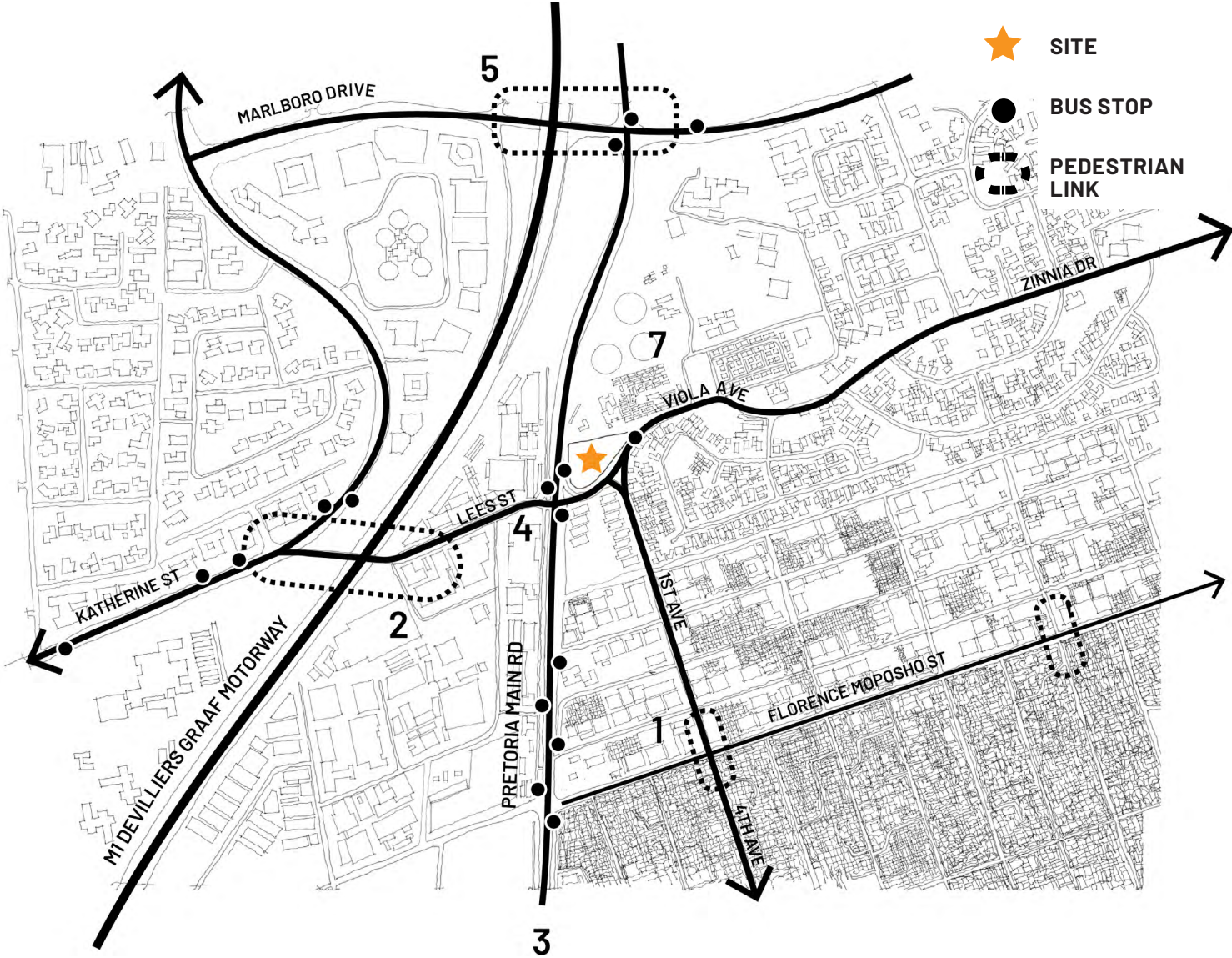


Figure 31. (Author, 2023)
Map illustrating pedestrian barriers.

Site Informant DENSITY + DIVIDE

- ★ SITE
- ⚡ BARRIER

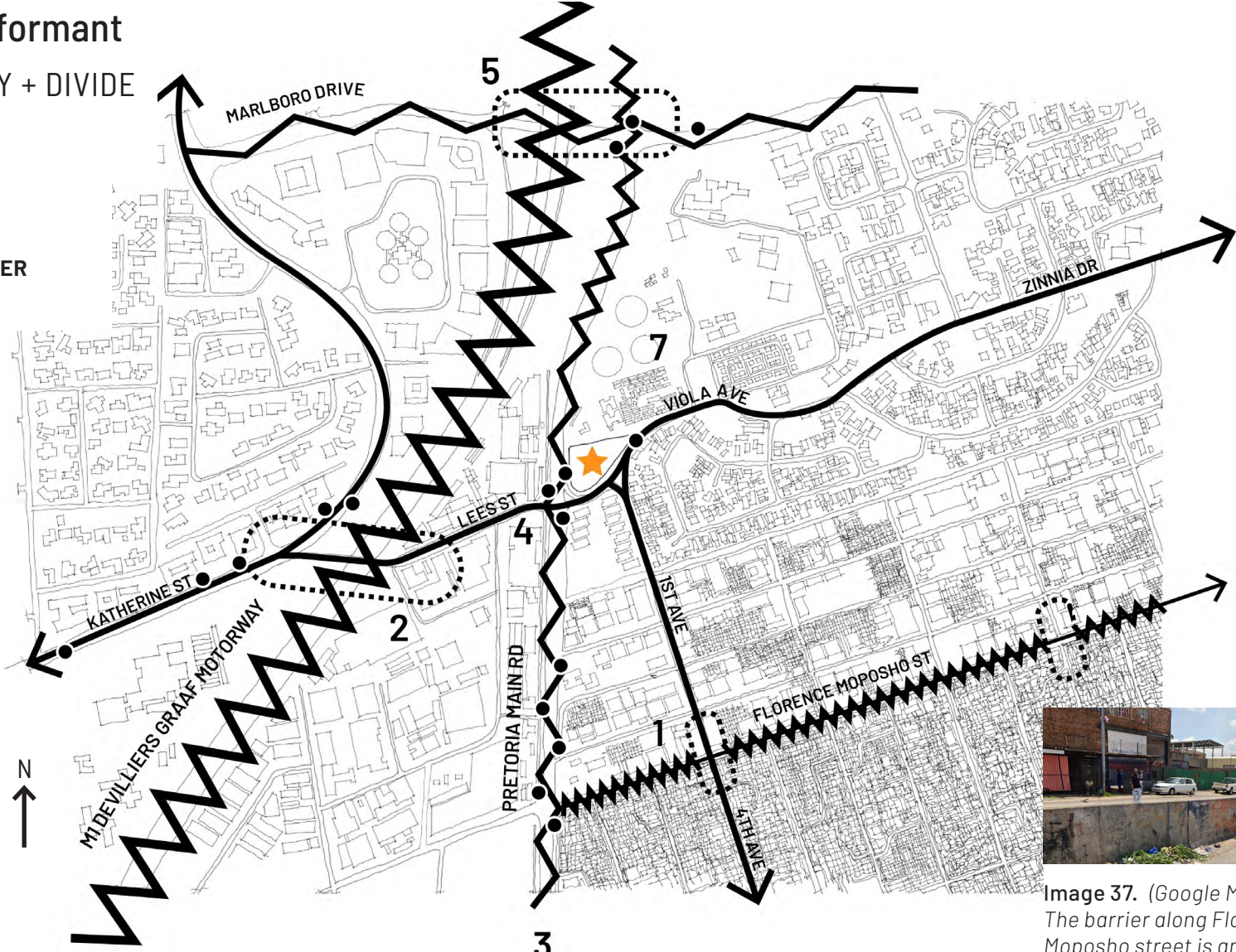


Figure 32. (Author, 2023)
Map illustrating pedestrian barriers.



Image 37. (Google Maps, 2023)
The barrier along Florence Moposo street is an inaccessible concrete wall which prevents pedestrians from crossing.

Site Informant NOISE

- ★ SITE
- BARS
- ◈ AUTOMOTIVE
- ◈ MANUFACTURER
- ◈ SUPPLIER
- ◈ STORAGE
- ◈ SCRAP YARD
- ✚ CHURCH
- ◆ SCHOOL

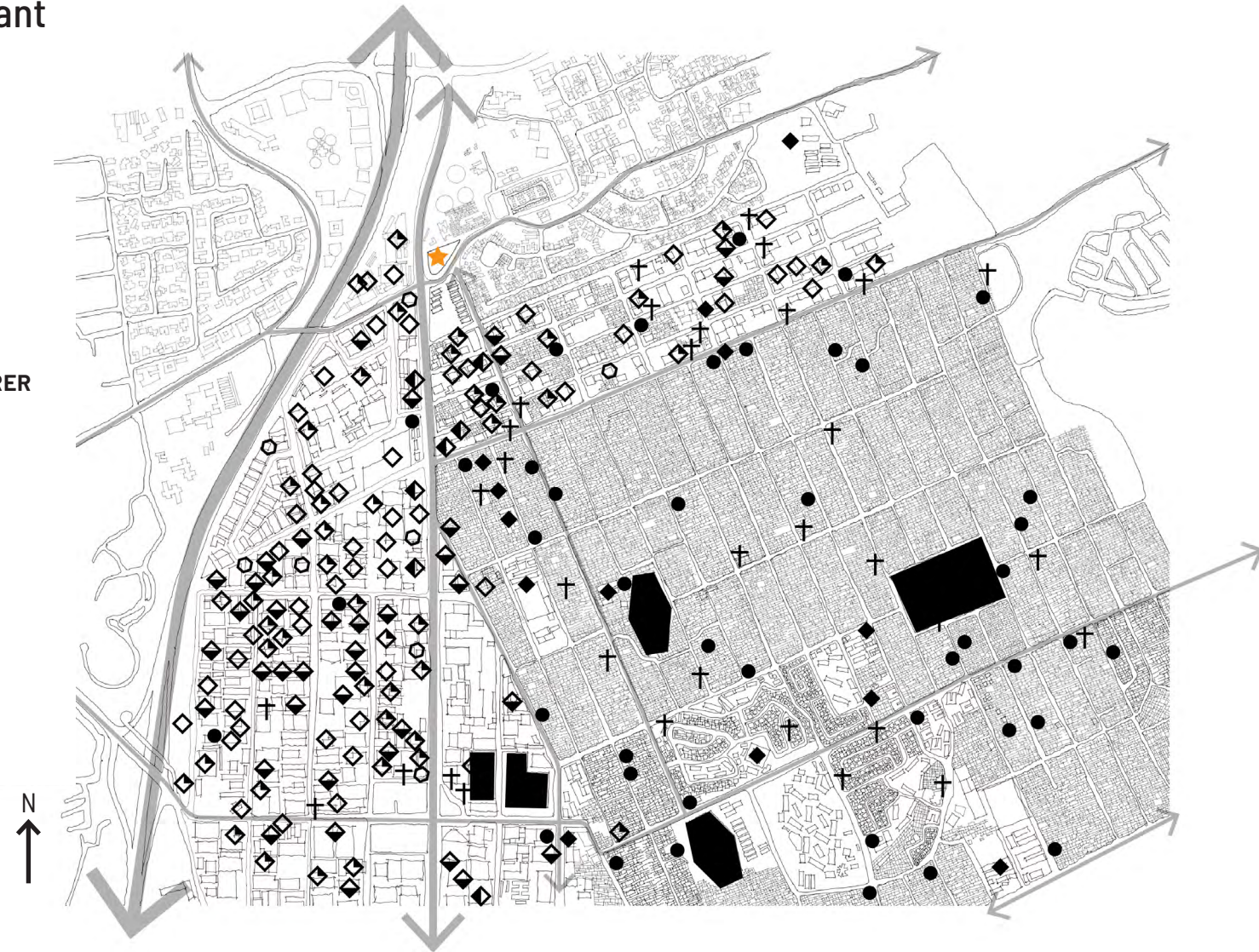


Figure 33. (Author, 2023)

Mapping Noise Makers. The surrounding areas of Marlboro and Wynberg are primarily industrial as shown by this figure.

5.2 Zoom in

Chosen Site



Figure 34. (after Miller, n.d.)

Aerial photograph of the famous divide between Alexandra and Sandton.



Figure 35. (Author, 2023)
Site location

A rare 5000m² currently vacant property on the Northern edge of Alex situated alongside multiple major transport nodes, makes the ideal site for this cultural intervention. The location at the edge of Alex (technically Marlboro Gardens) is very intentional:

The demand for housing in Alex is extremely high due to its constant rapidly growing population. The site is a crucially vacant piece of land along Pretoria Main Road that is not ideal for purely residential accommodation. This is due to the noise levels and pace of Pretoria Main Road, as well as the heavy industrial factories across the road. The identifiable sprawling, impromptu residential development that is typical within Alex predominantly occurs beyond this “industrial buffer.” This notion is substantiated by the failed container housing development adjacent, and further validated by the fact that there is currently no development on site.

Site Informant

NOISE THRESHOLDS AND EDGE CONDITION

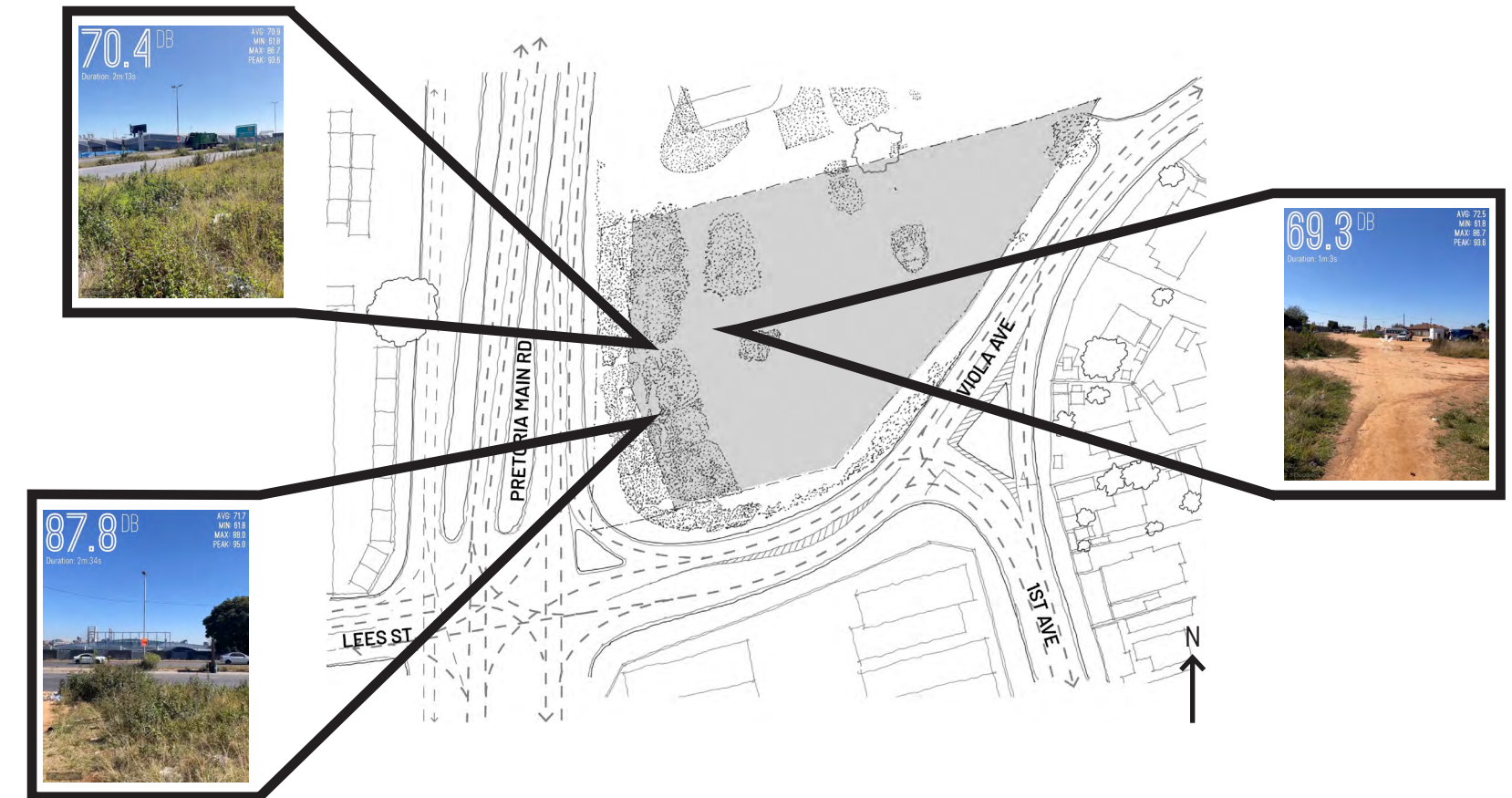


Figure 36. (Author, 2023)
Sound readings at various points around the site

Site Informant
DIRECT CONTEXT



Figure 37. (Author, 2023)
Views on site.

ZONING INFORMATION

ERF NO: RE/710
USE ZONE 9: Special
AREA: 5124m2
COVERAGE: 60%
FAR: 2,1
MAX HEIGHT: Height Zone 0
(no height limitation)
BUILDING LINES: 7m along Pretoria Main Road
6m from all other streets

PRIMARY RIGHTS: Business, retail, shops, residential buildings, dwelling units, municipal purposes, public and private transportation facilities (including a station) and uses ancillary thereto, social halls, private open spaces, places of refreshment, theatres, bioscopes.



Image 38. (Author, 2023)
View 1



Image 39. (Author, 2023)
View 2



Image 40. (Author, 2023)
View 3



Image 41. (Author, 2023)
View 4



Image 42. (Author, 2023)
View 5



Image 43. (Author, 2023)
View 6



Image 44. (Author, 2023)
View 7



Image 45. (Author, 2023)
View 8



Image 46. (Author, 2023)
Only existing tree on the site is well utilised by the public as a gathering point



Image 47. (Author, 2023)
A future star on a future stage

Site Informant
JUXTAPOSING CONTEXT



Figure 38. (Author, 2023)
Views along 1st Avenue

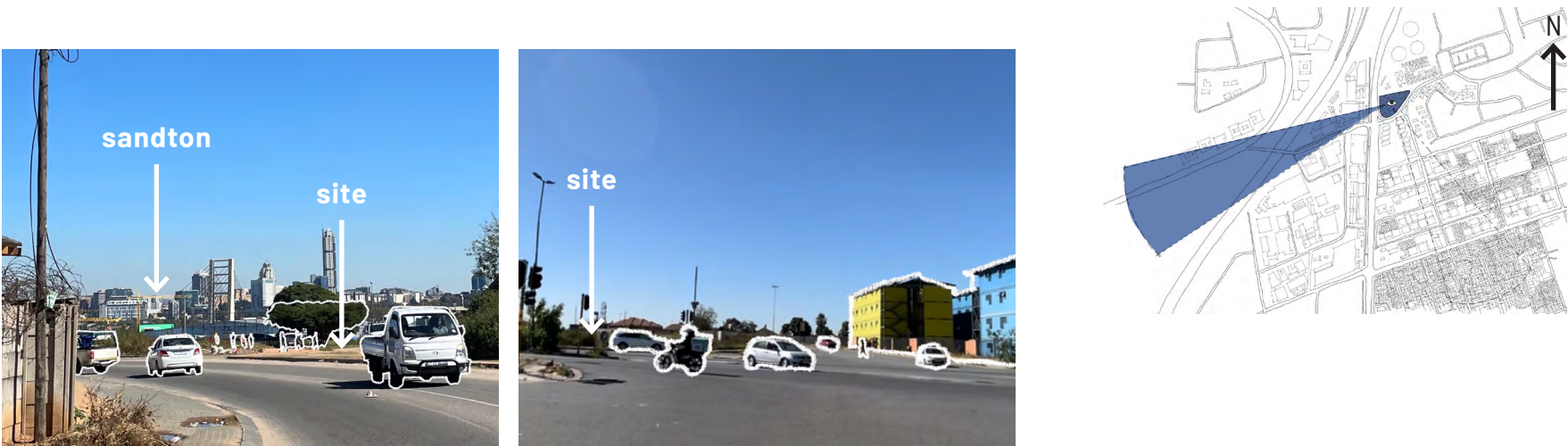
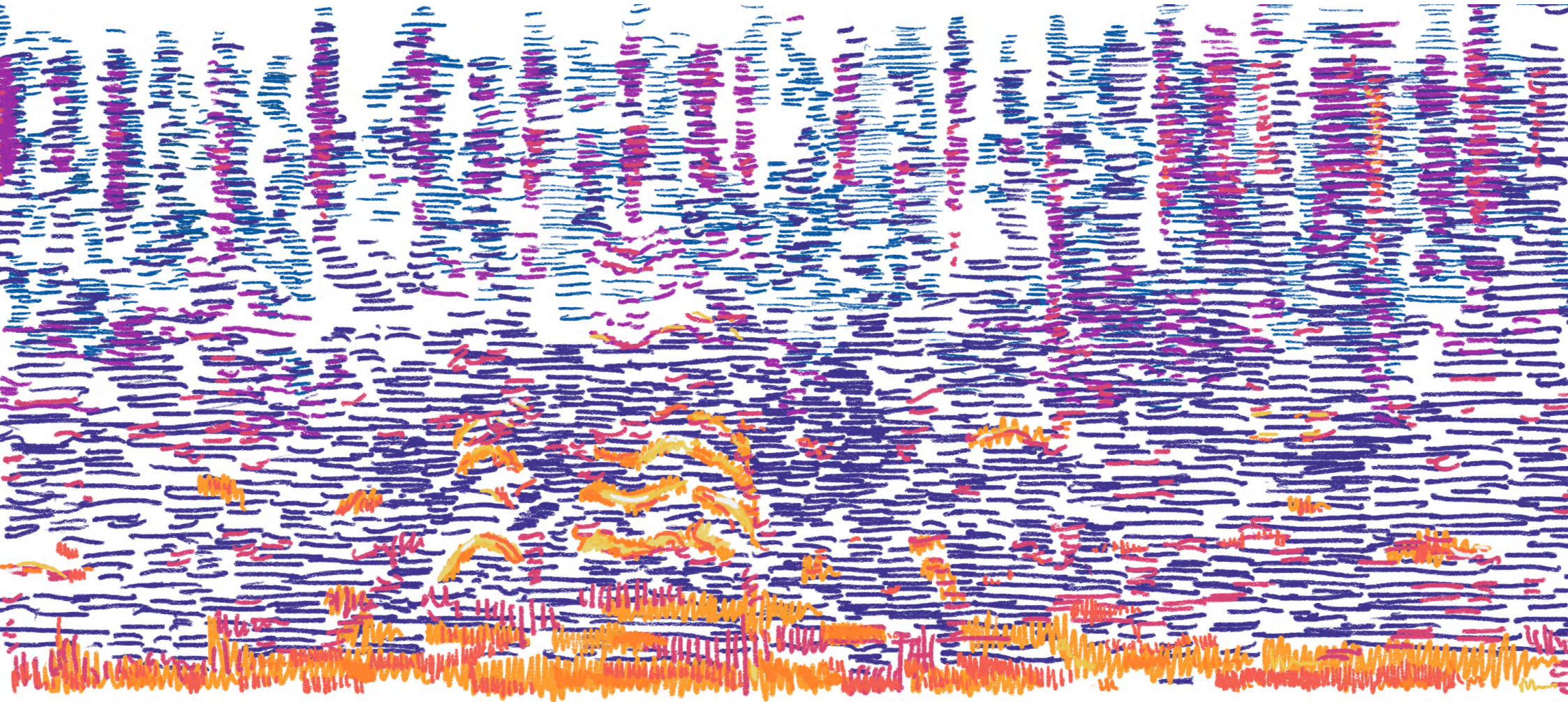


Figure 39. (Author, 2023)
Views along Viola Avenue

6 { Design Brief }



6.1 Sounds good to me!

Theoretical *outro*

In conclusion, the theoretical analysis undertaken in this study illuminates the multifaceted nature of the evolution of and demand for live performance venues in South Africa, from the pre-apartheid era to the present. It underscores that these venues are not mere physical spaces but dynamic entities deeply intertwined with the socio-political and cultural fabric of the nation.

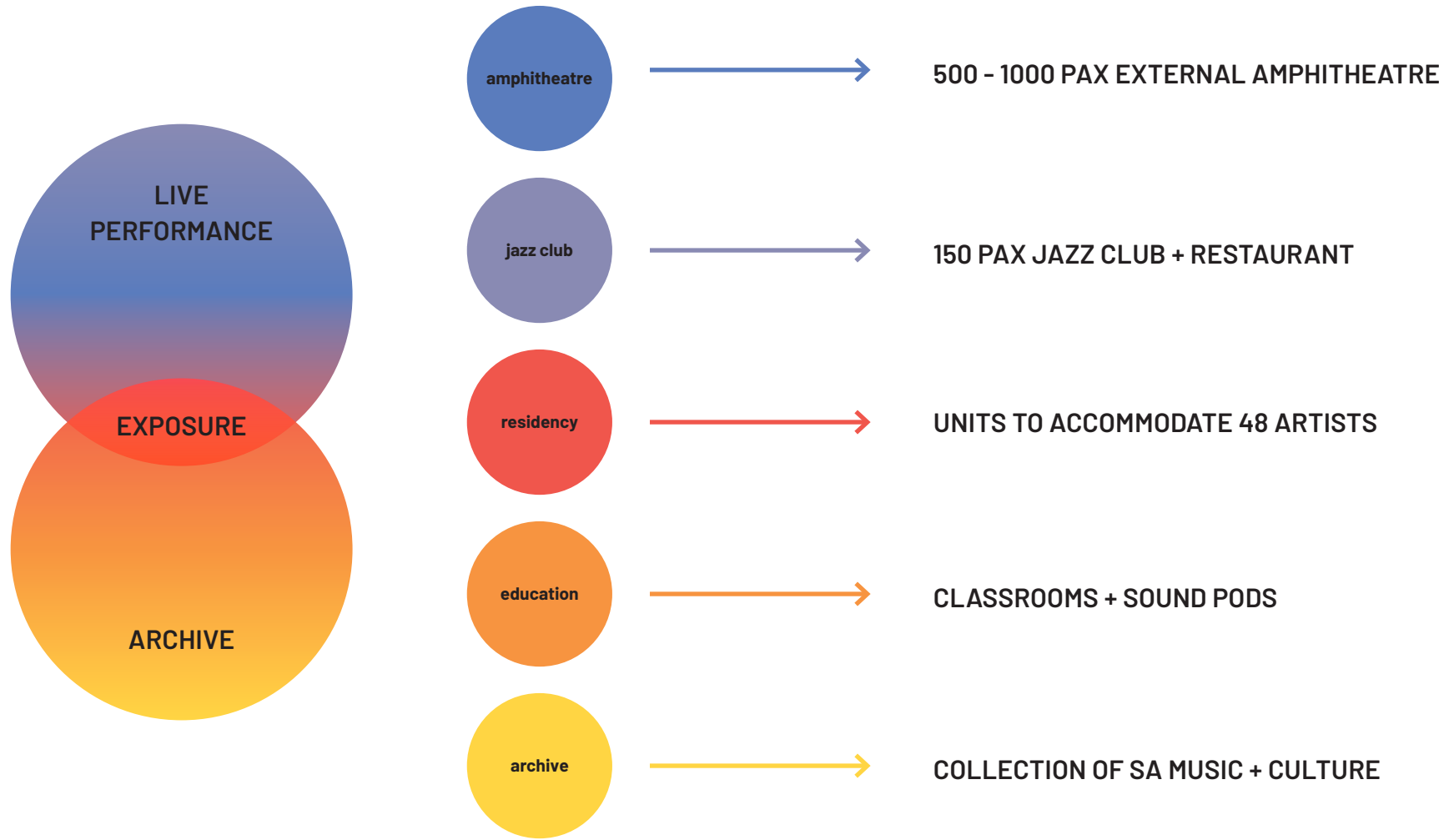
Throughout this exploration, it becomes evident that a good live performance venue transcends its architectural design to embody a nexus of historical resonance, cultural heritage, and artistic expression. It resonates with the ethos of music as a dynamic interplay between physical spaces, socio-historical contexts, and musical innovation.

The study reaffirms the idea that venues play a pivotal role in mediating interactions among musicians and listeners, fostering communal engagement, and channelling the pulse of the locality.



Figure 40. (Author, 2023)
Allan Kwela, Soweto, 1984

6.3 Typology



6.4 Programme

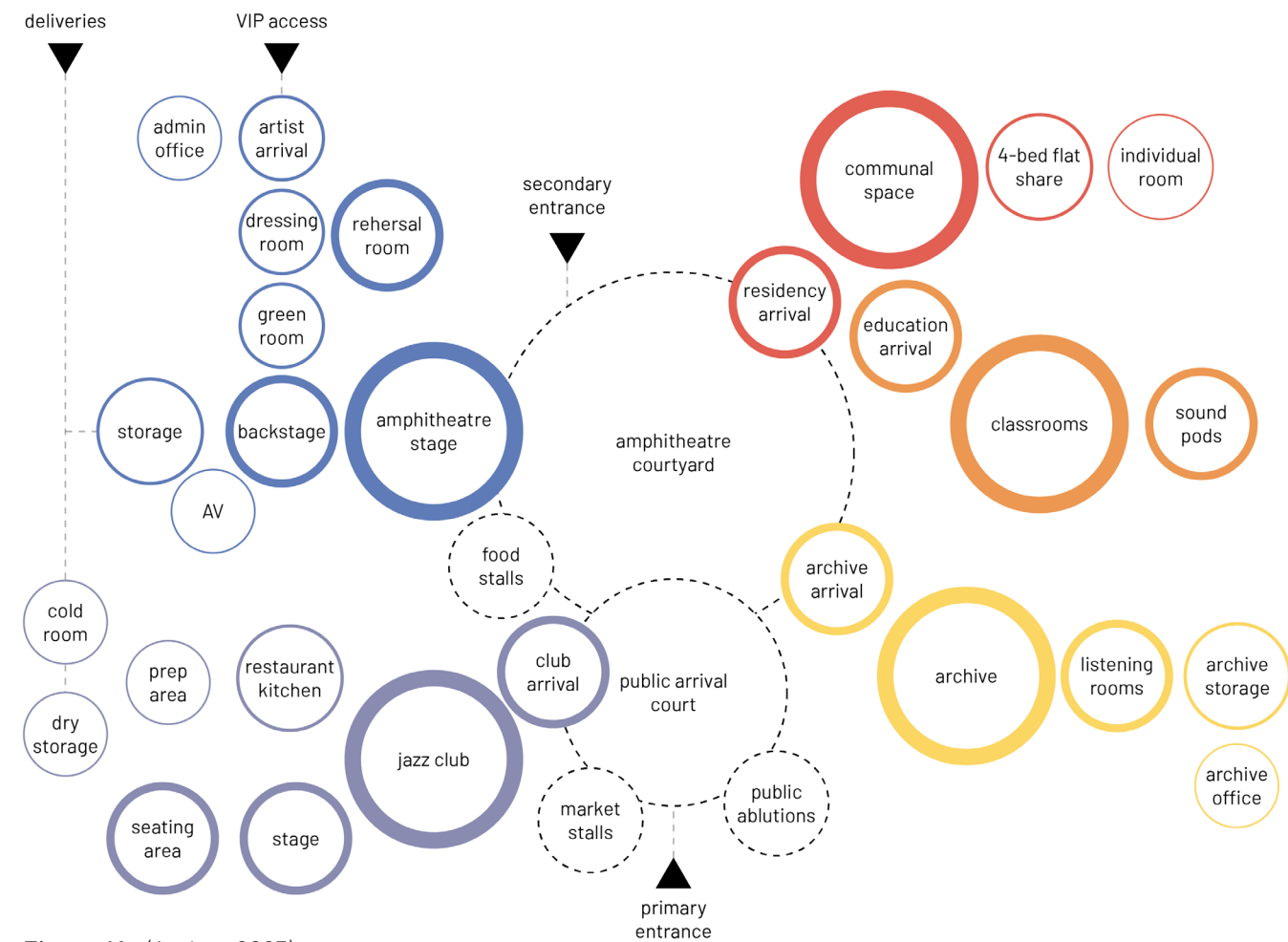


Figure 41. (Author, 2023)
Programmatic Relations

Performance Requirements

SCALE AND PRIVACY

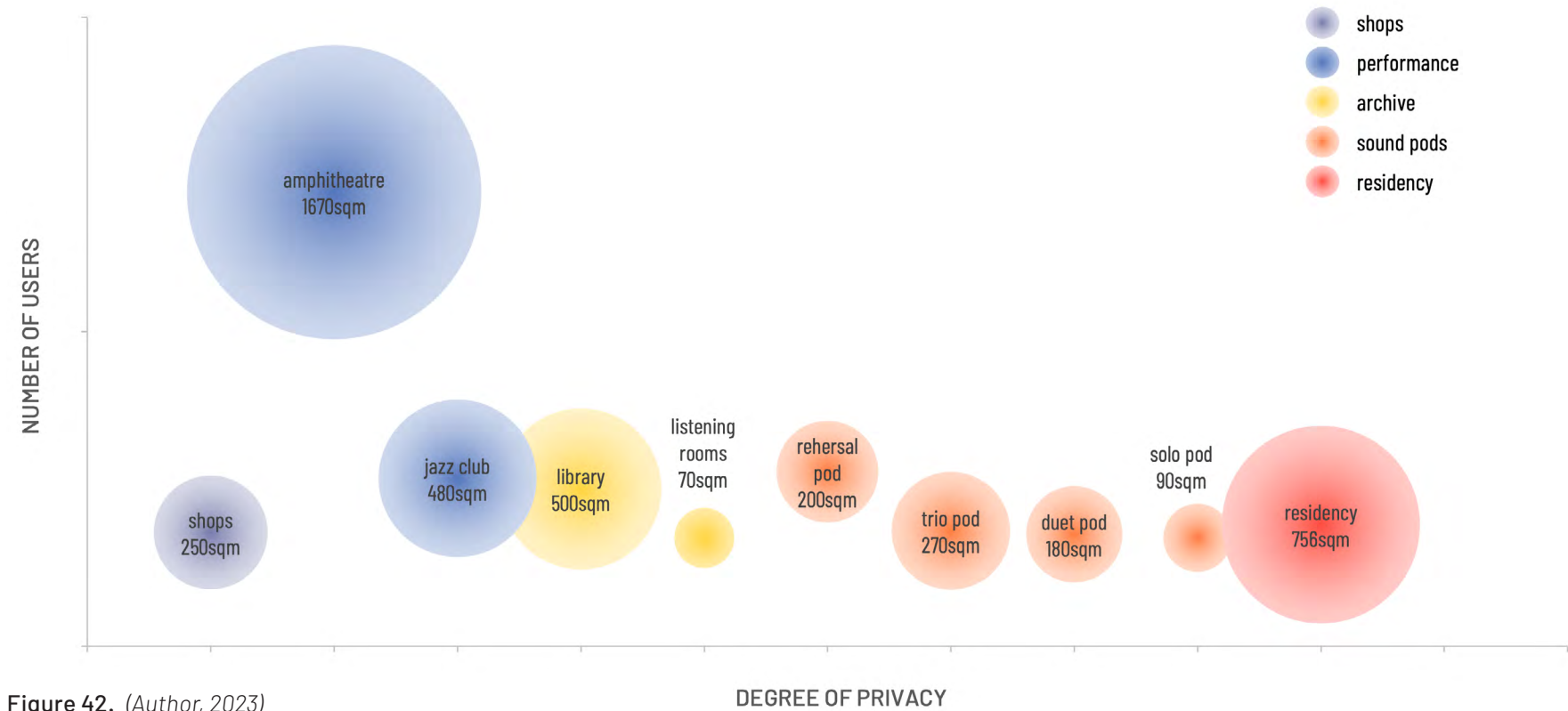


Figure 42. (Author, 2023)
Mapping scale and degree of privacy

Performance Requirements

SOUND GENERATION AND RELATIONSHIPS

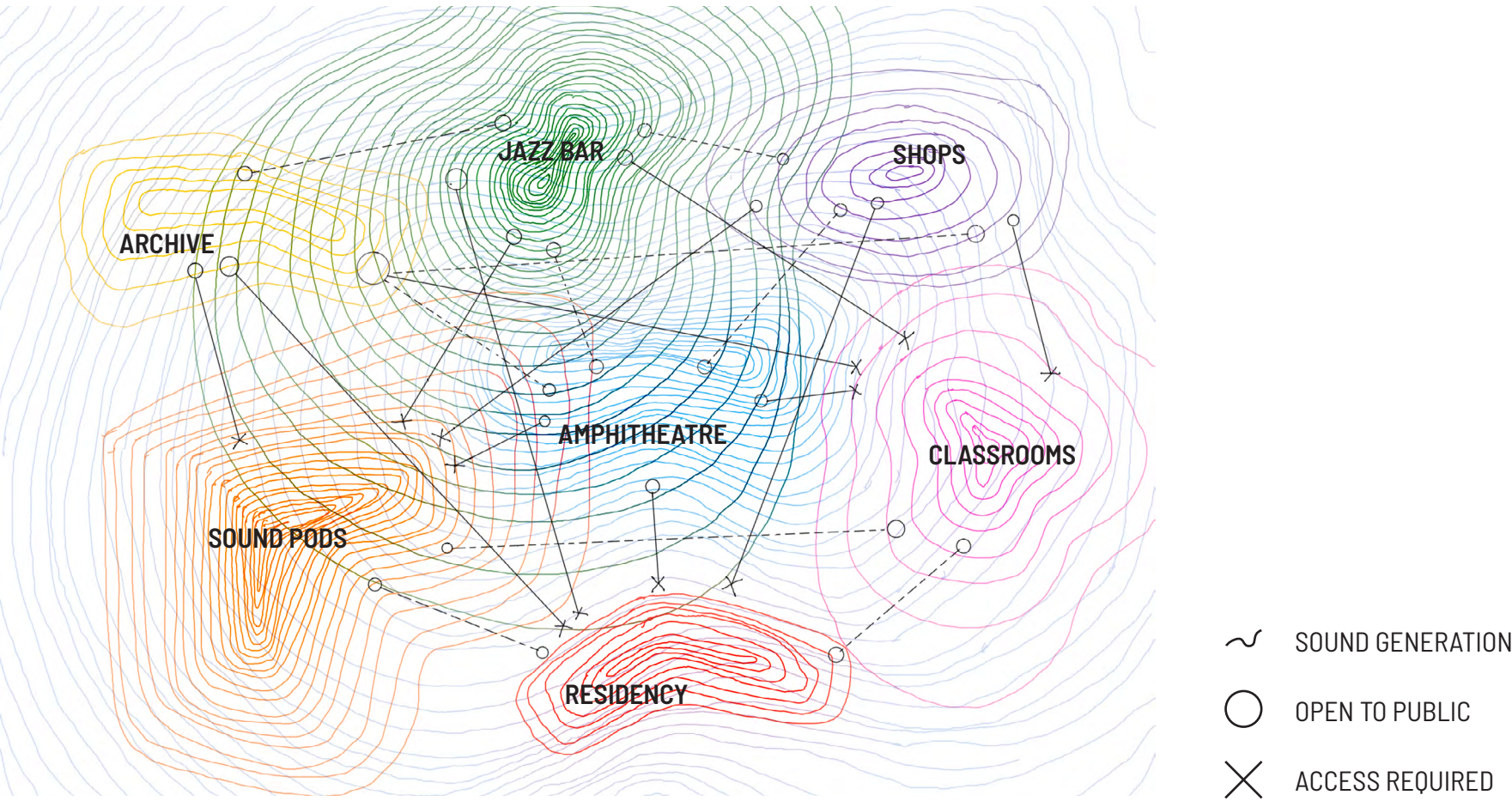
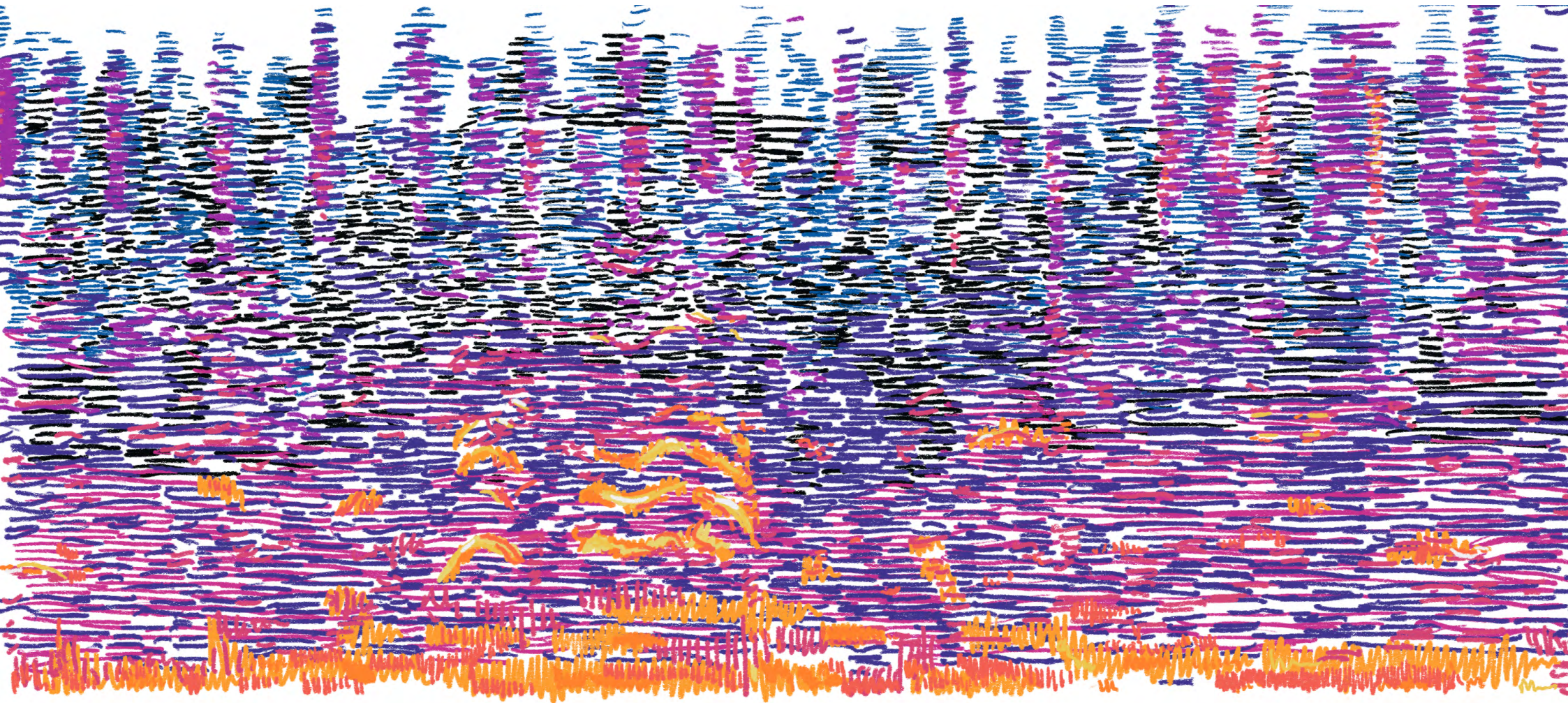


Figure 43. (Author, 2023)
Mapping sound generation and connections

7 { Design Development }



7.1 Research Informant

Design

Sound as a form-making tool

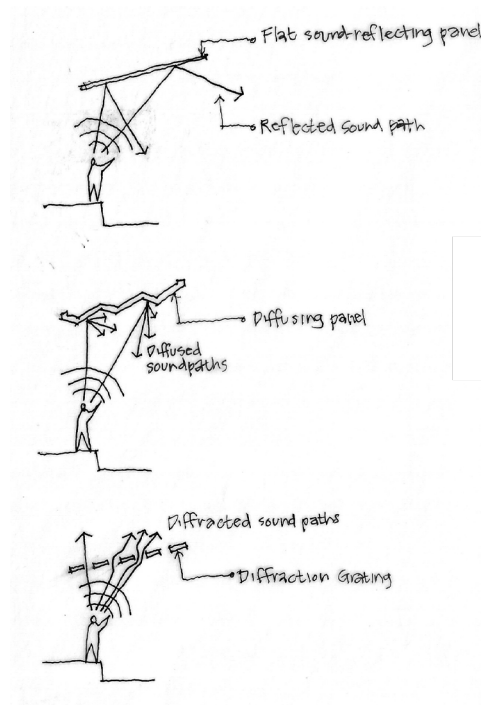


Figure 44. (Author, 2023)
Reflection, diffusion, diffraction

Sound as an experience-making tool

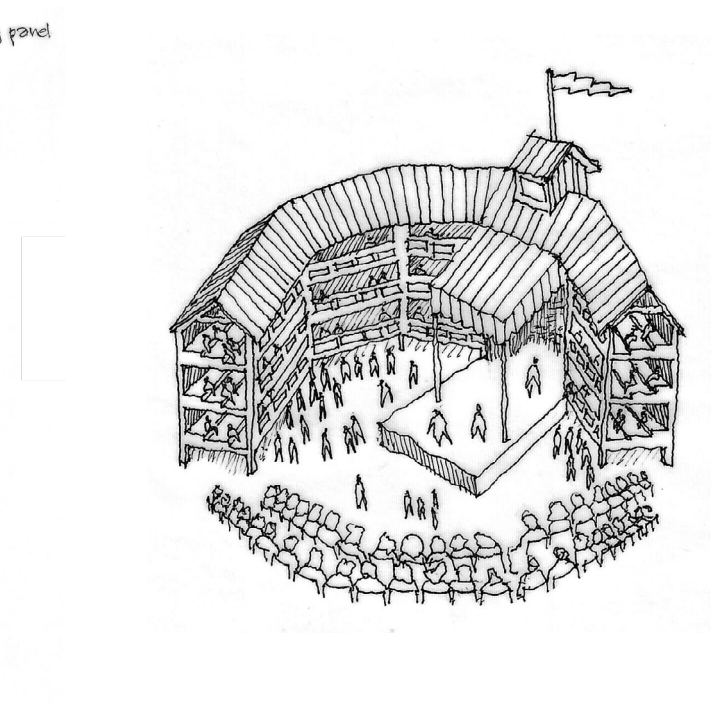


Figure 45. (Author, 2023)
Reconstruction of a Elizabethan playhouse
based on contemporary drawings.

Designing for improvisation

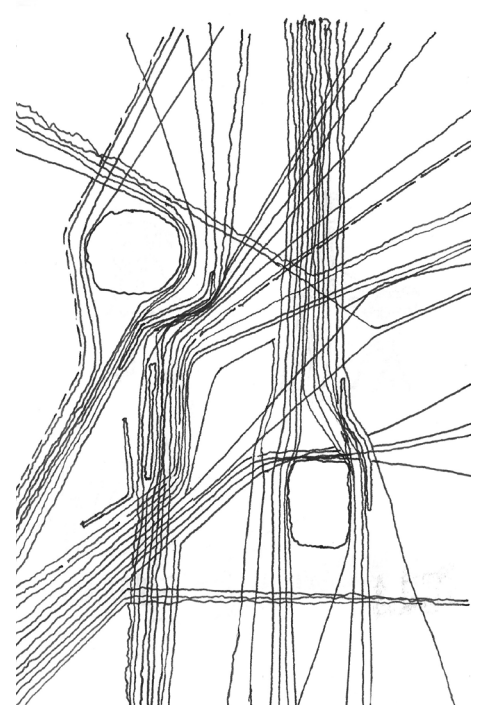


Figure 46. (Author, 2023)
Sketch illustrating the process of improv

Design Progress

ESTABLISHING ATMOSPHERE

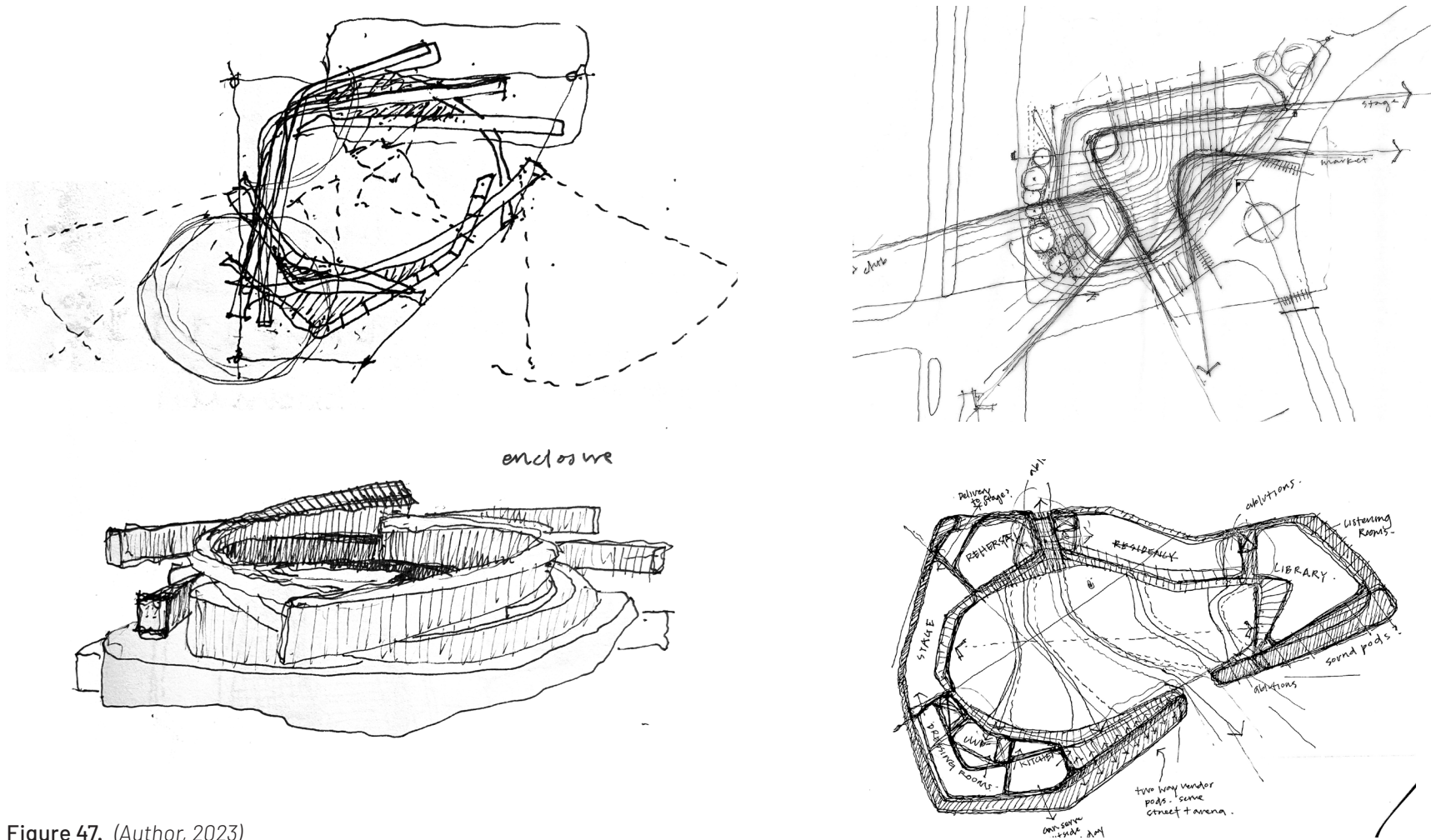


Figure 47. (Author, 2023)
Models exploring atmosphere, materiality and light

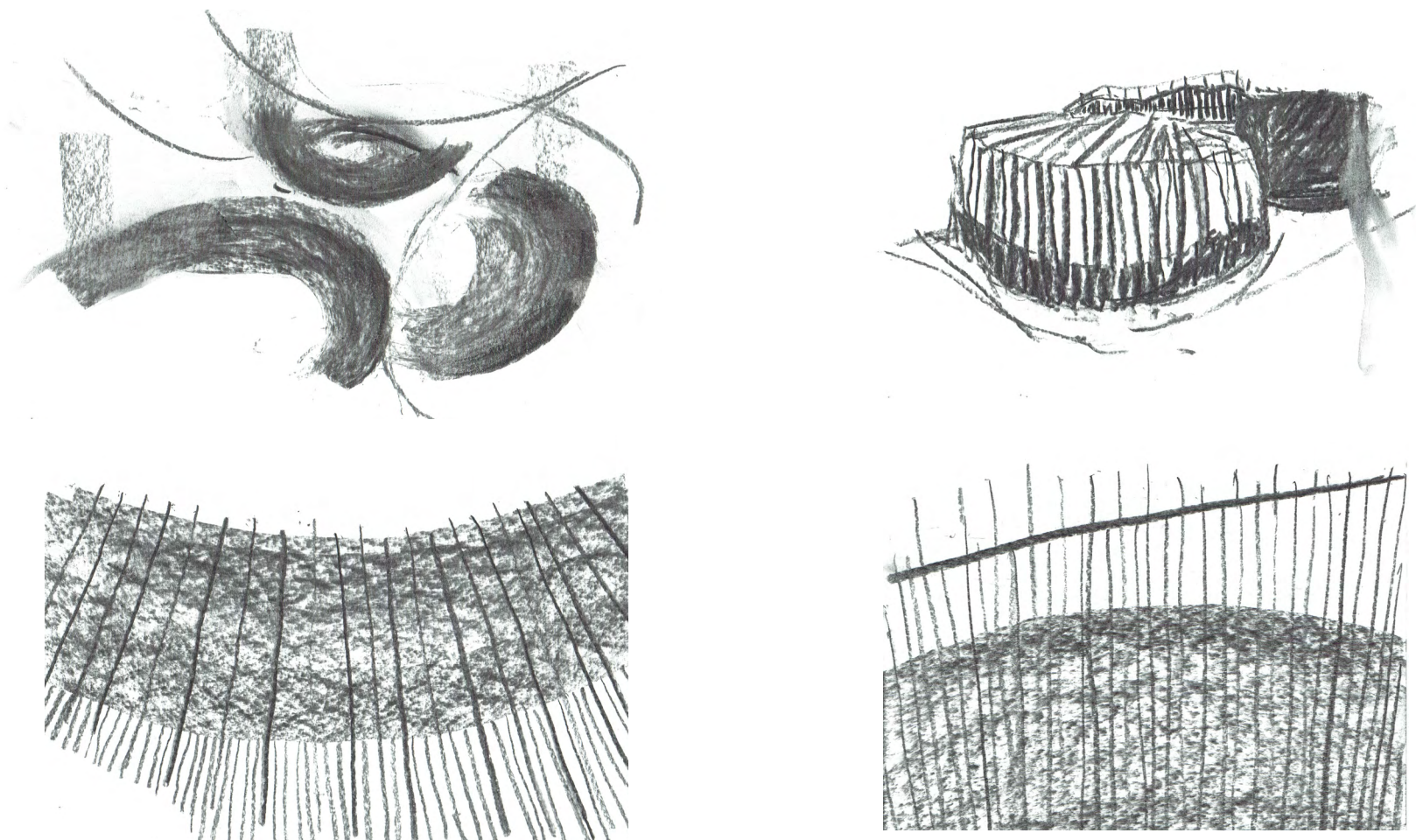
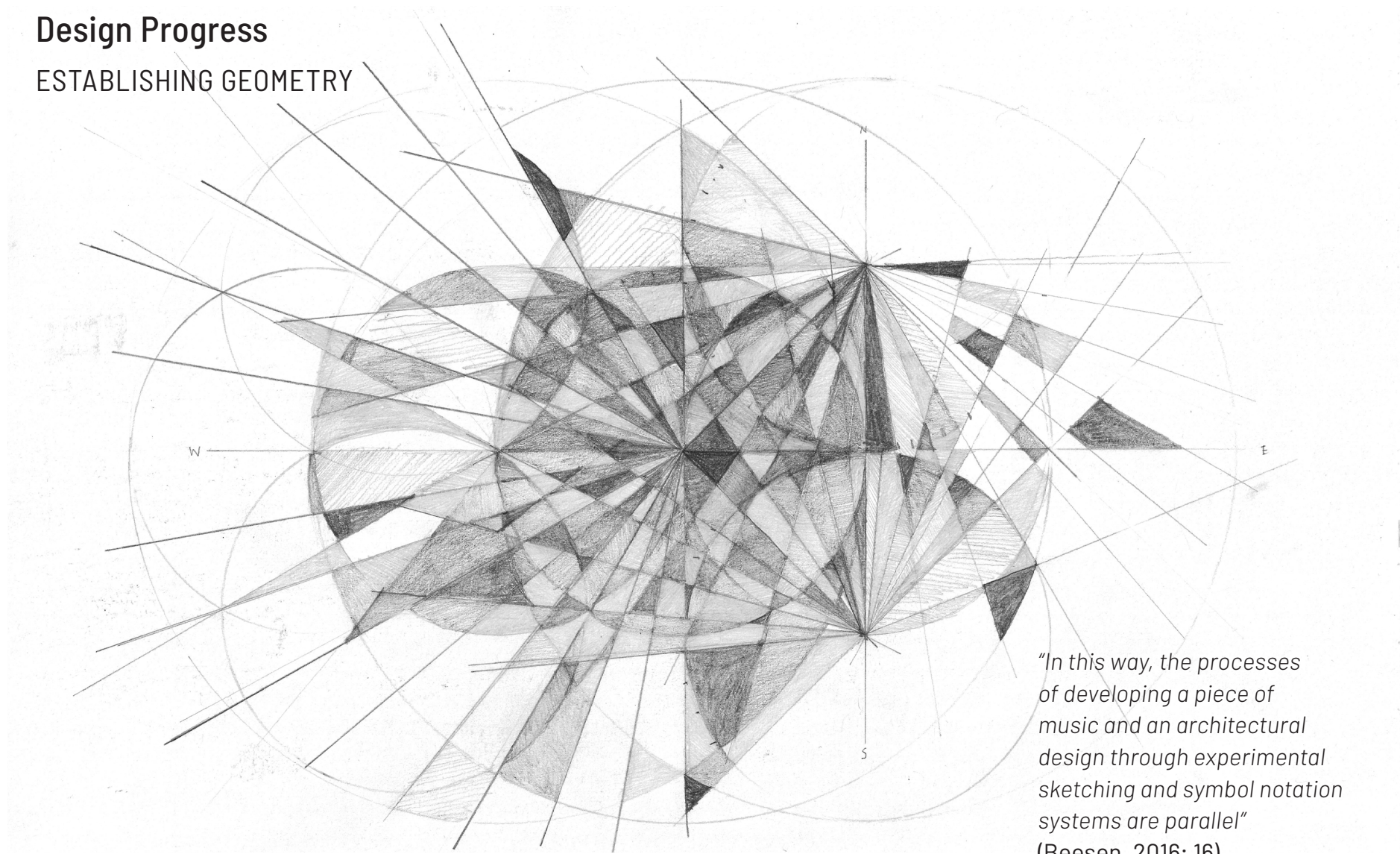


Figure 48. (Author, 2023)
Charcoal explorations of composition

Design Progress
ESTABLISHING GEOMETRY



*"In this way, the processes
of developing a piece of
music and an architectural
design through experimental
sketching and symbol notation
systems are parallel"*
(Beesen, 2016: 16)

Figure 49. (Author, 2023)
Geometric investigation

Design Progress
EXTRACTING A GRID

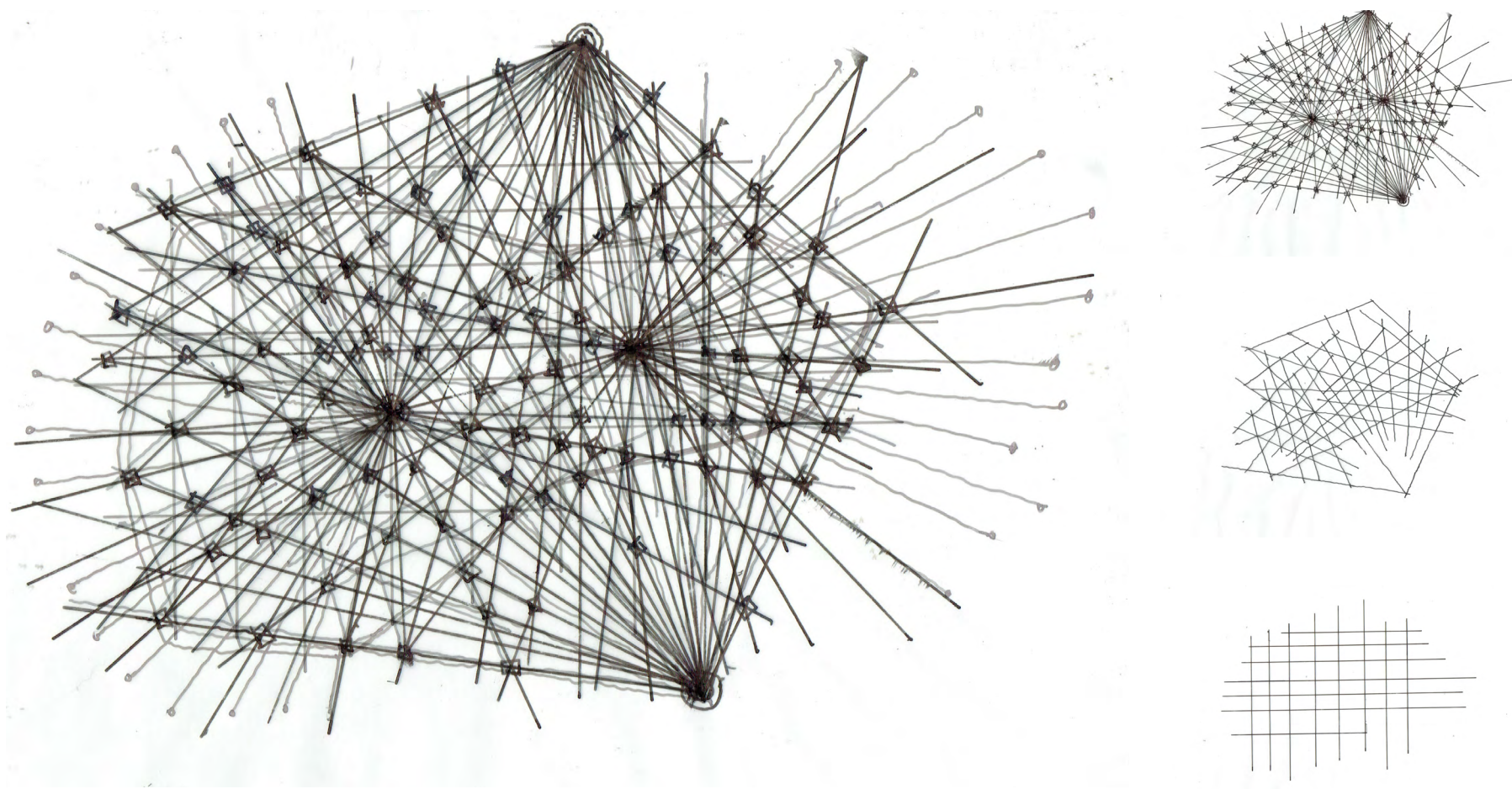


Figure 50. (Author, 2023)
Process of superimposing a structural grid onto geometry



Figure 51. (Author, 2023)
Models exploring atmosphere, materiality and light

Design Progress RESOLVING GEOMETRY

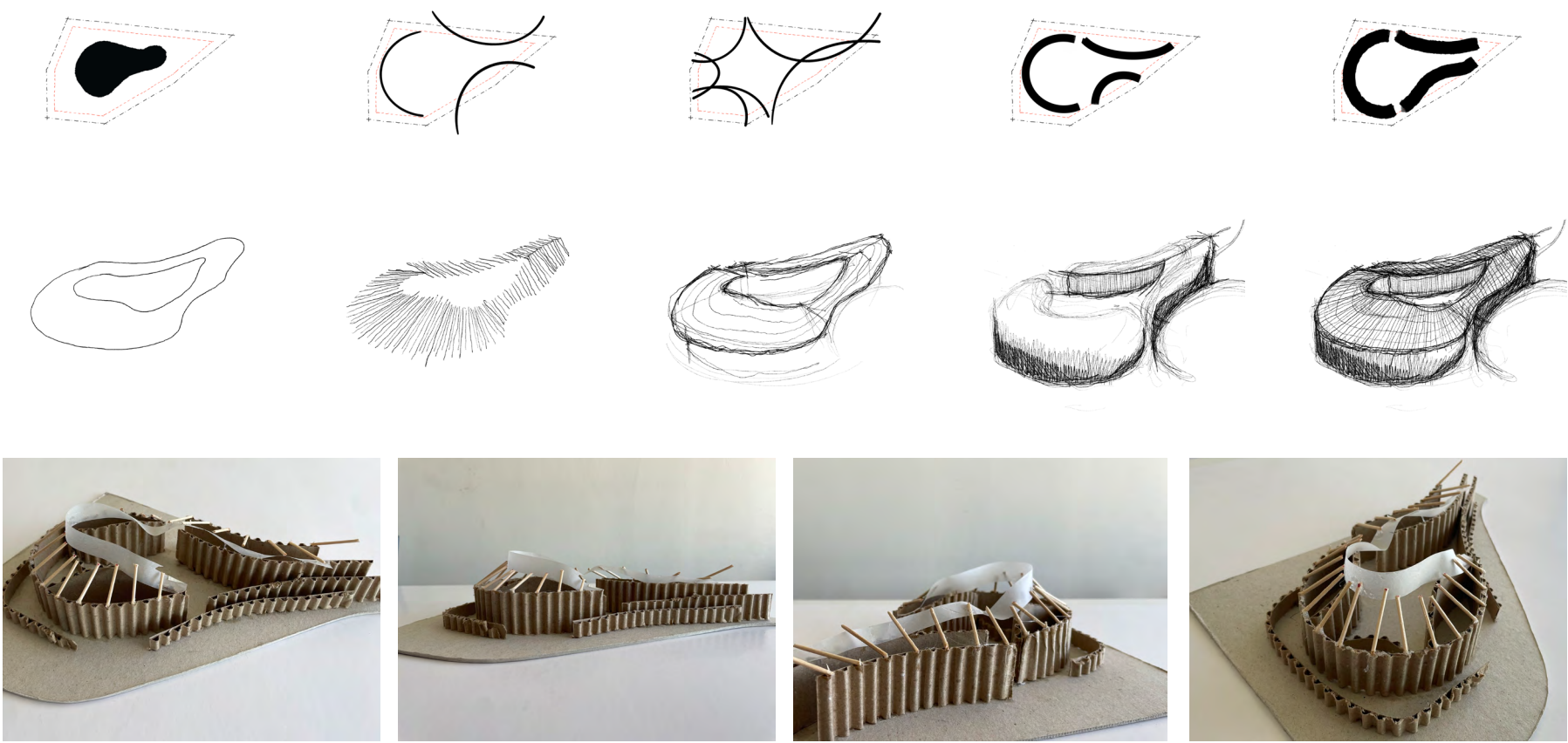


Figure 52. (Author, 2023)
Geometric investigation

Design Progress
LOCATING NODES

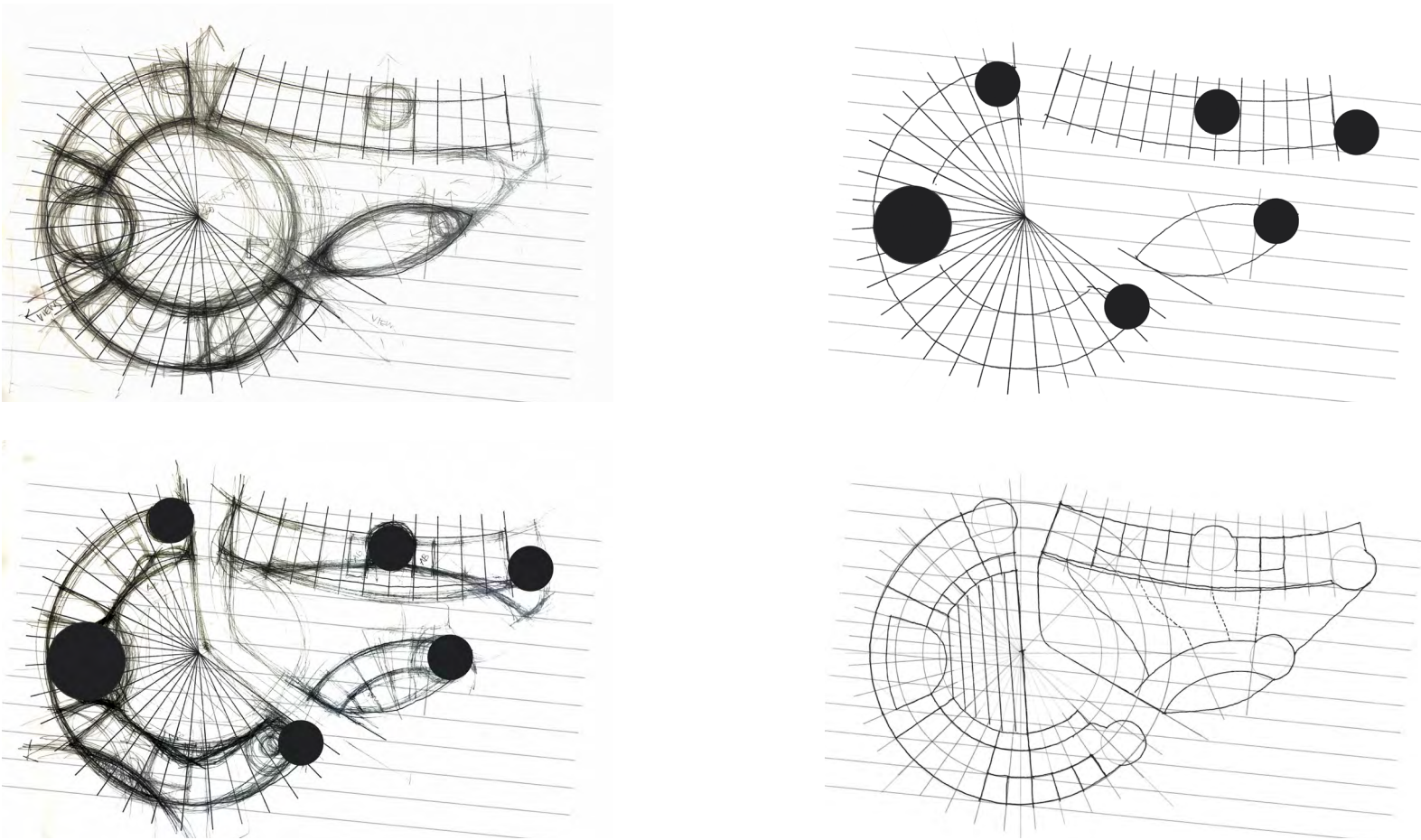


Figure 53. (Author, 2023)
Nodes

Design Progress
INTEGRATING PROGRAMME, PLACEMENT AND FORM

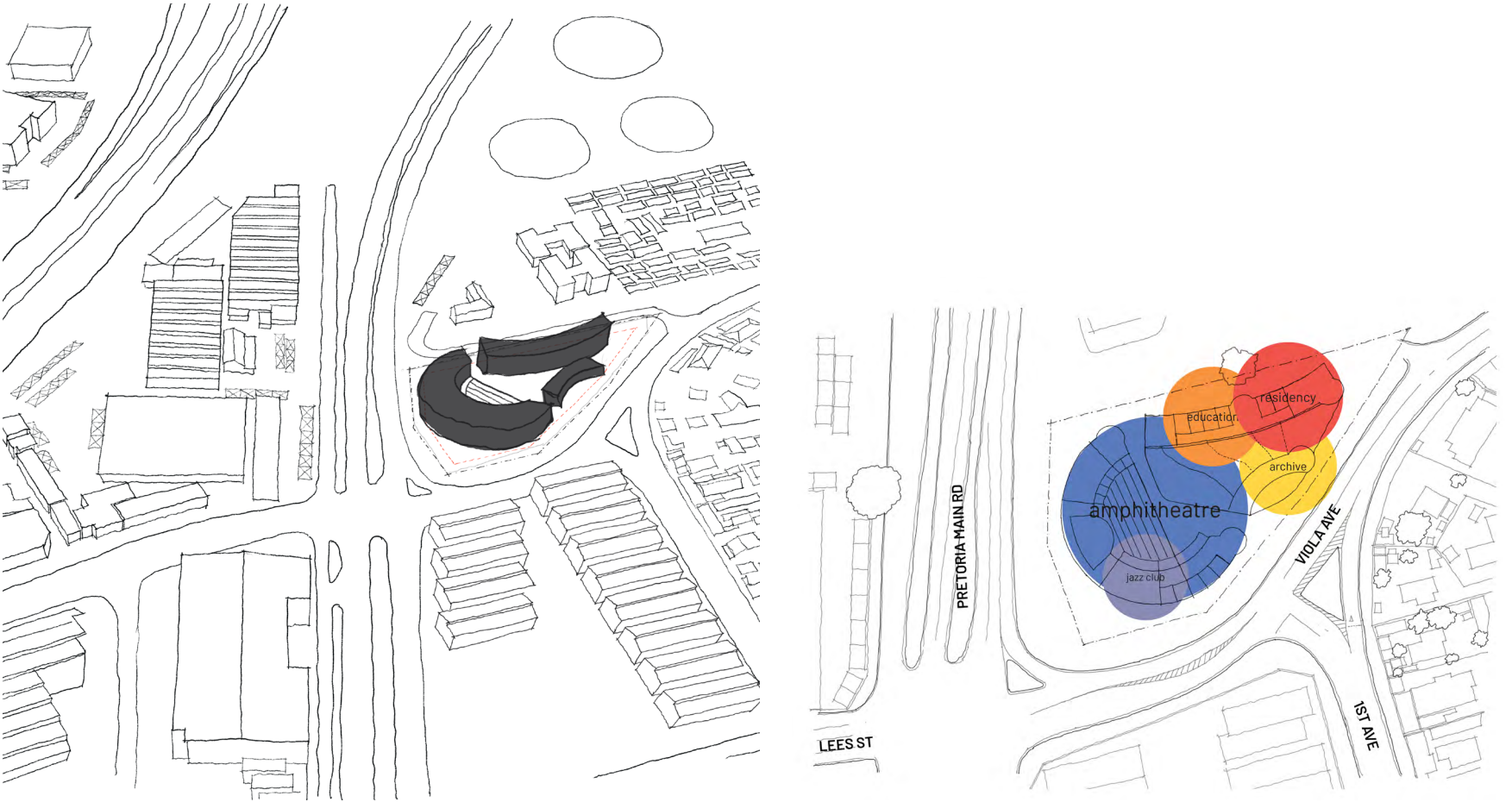


Figure 54. (Author, 2023)
Geometric investigation

8 { Final Design }

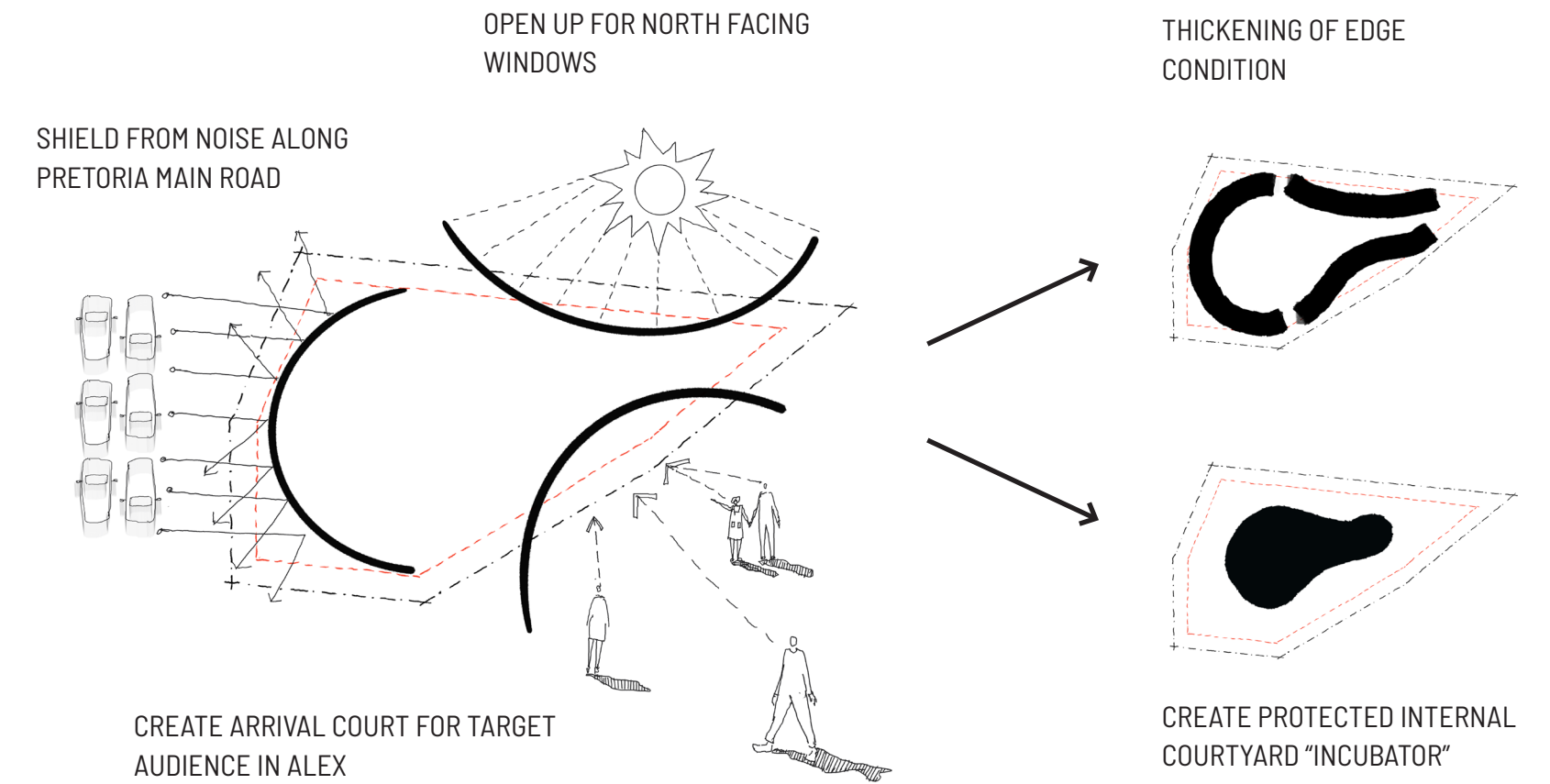
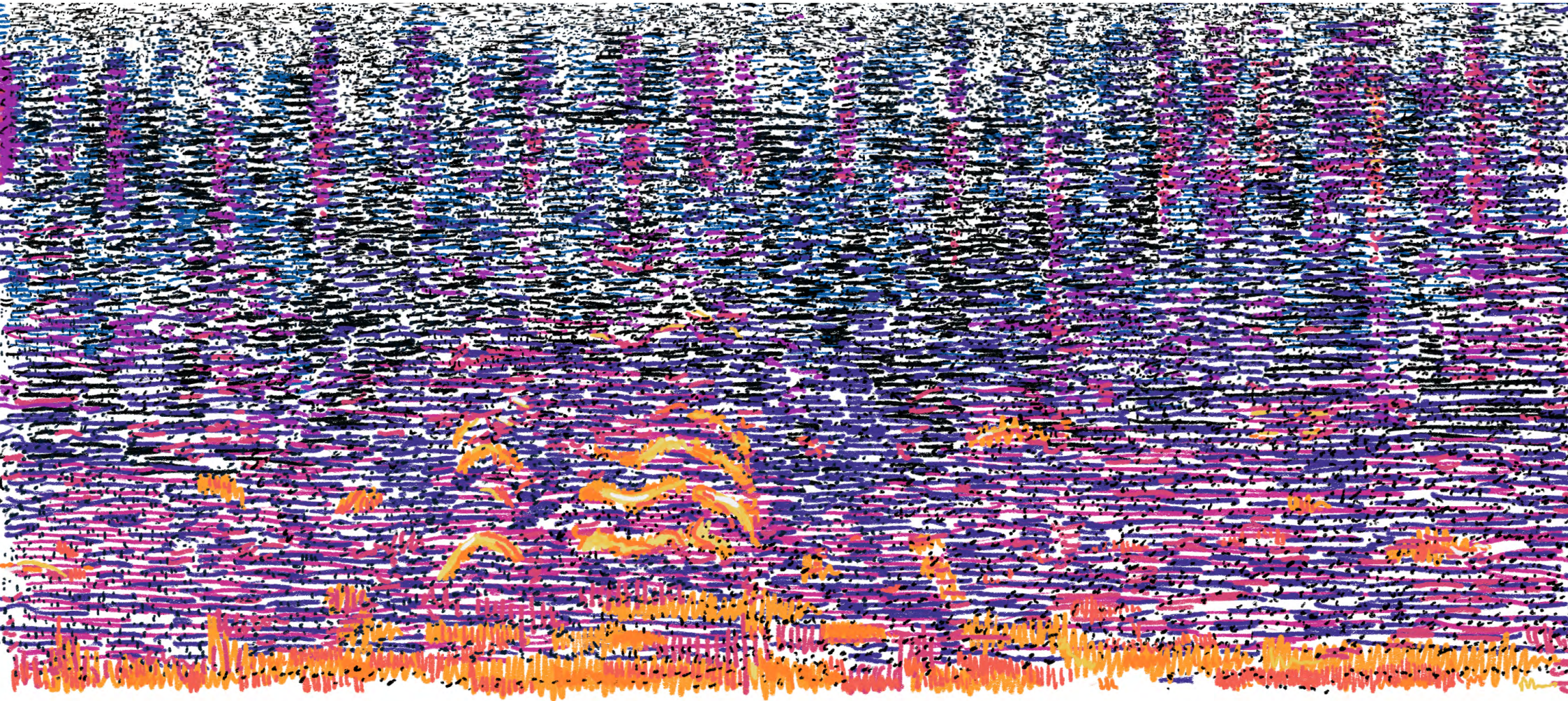


Figure 55. SPATIAL FIELDS + CONTEXTUAL RESPONSE
defining the form



Figure 56. Axonometric View

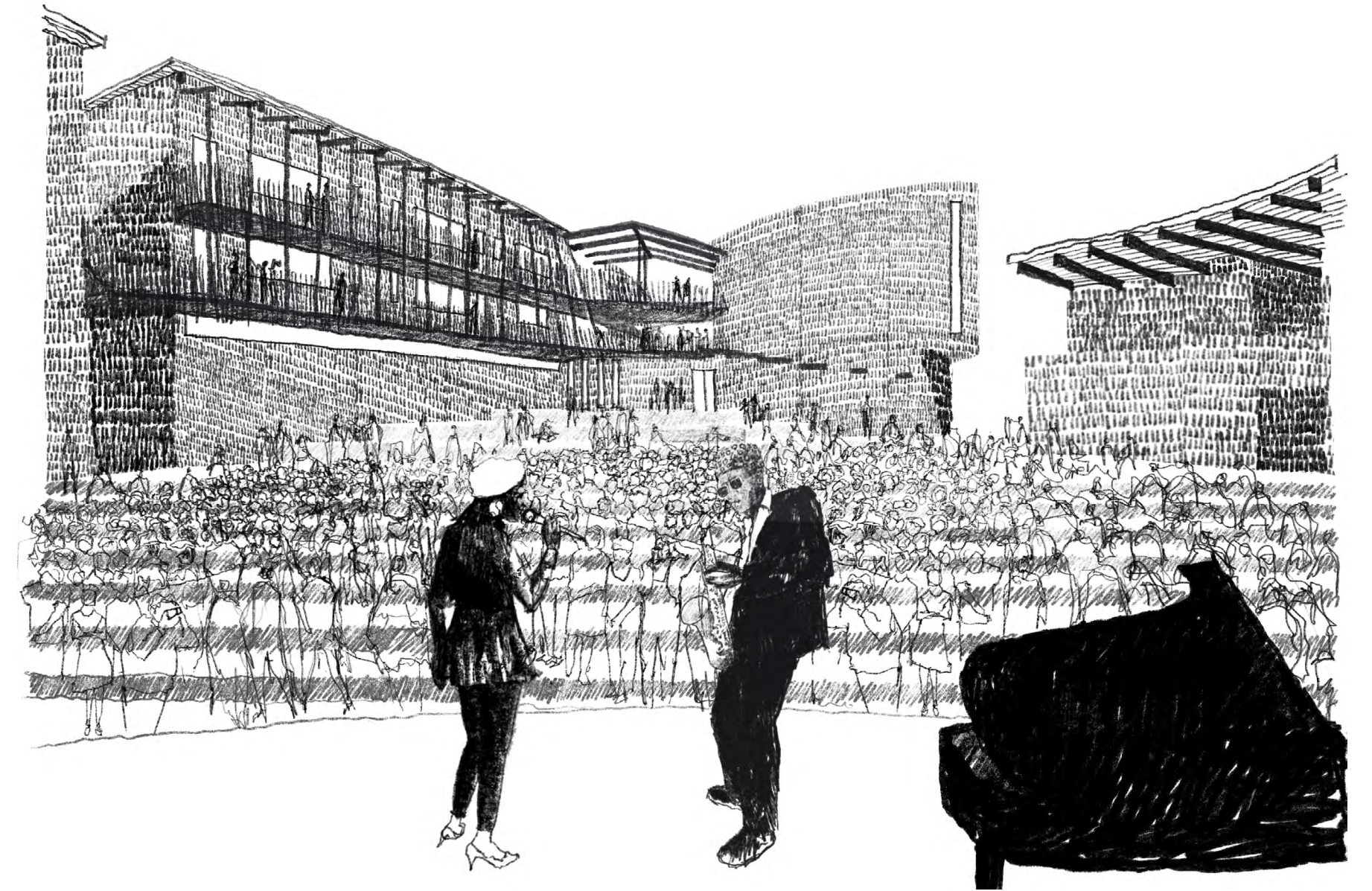


Figure 57. Brenda Fassie + Basil Coetzee on the main stage at 4pm

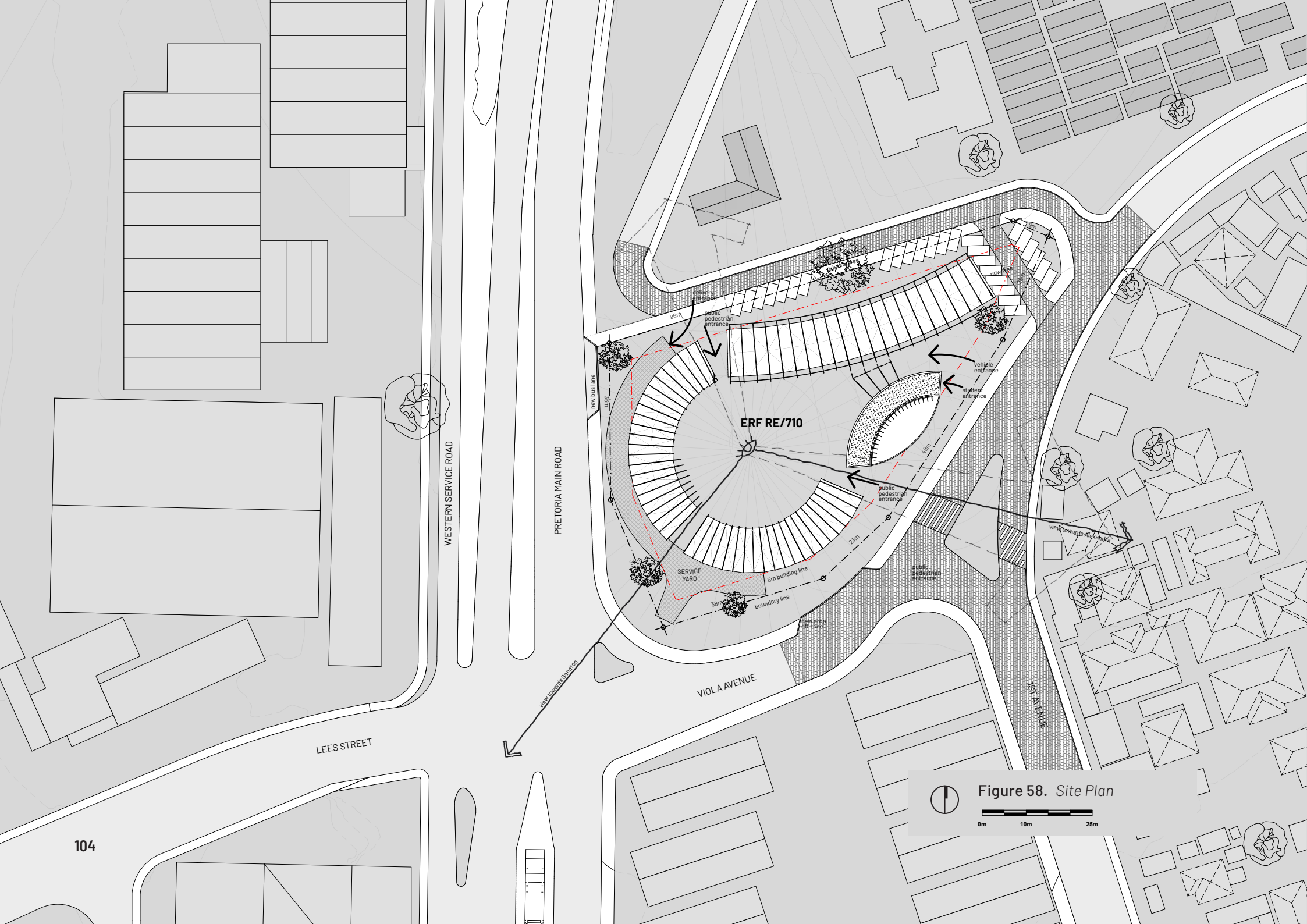


Figure 58. Site Plan

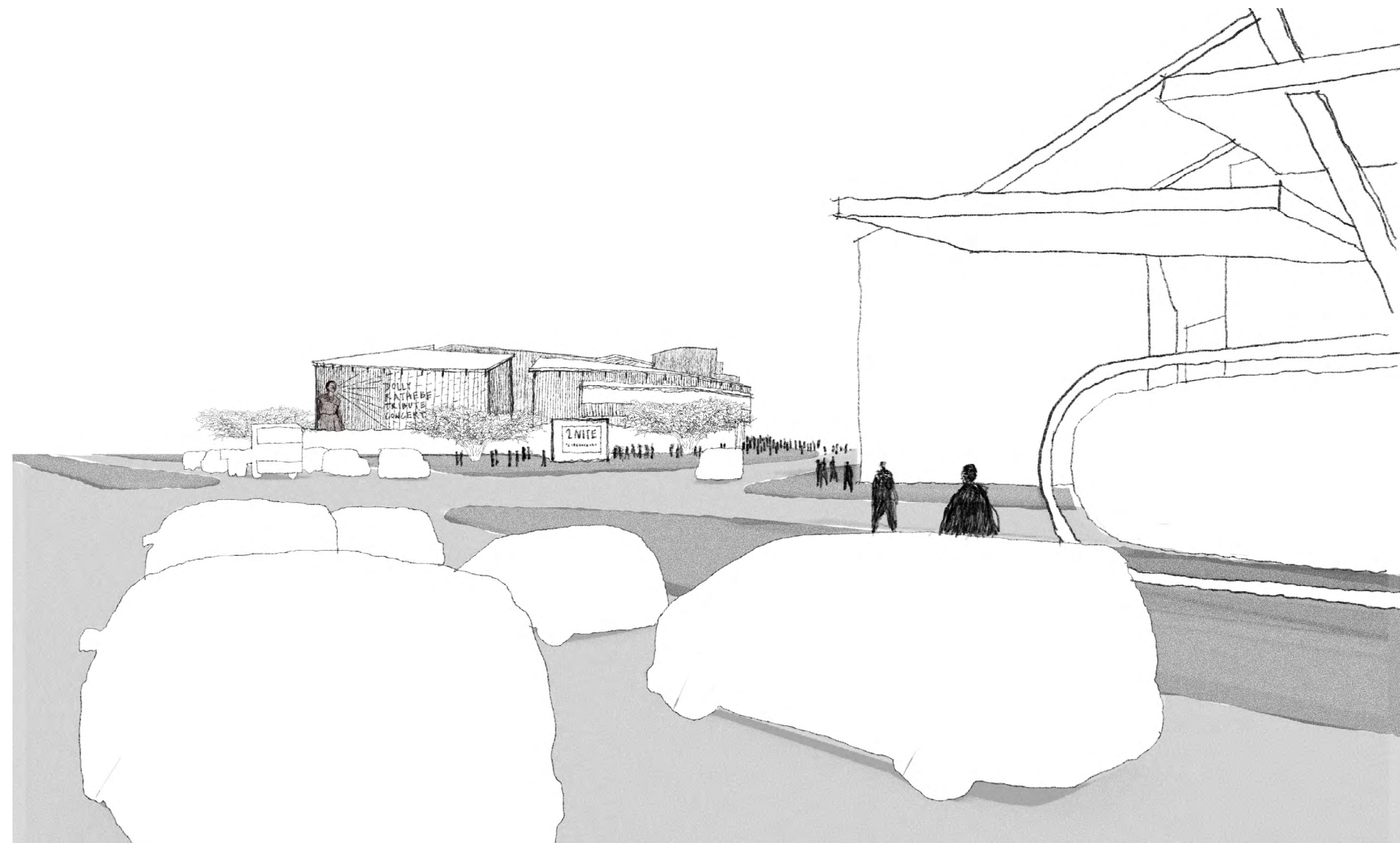


Figure 59. looking from Pretoria Main Road

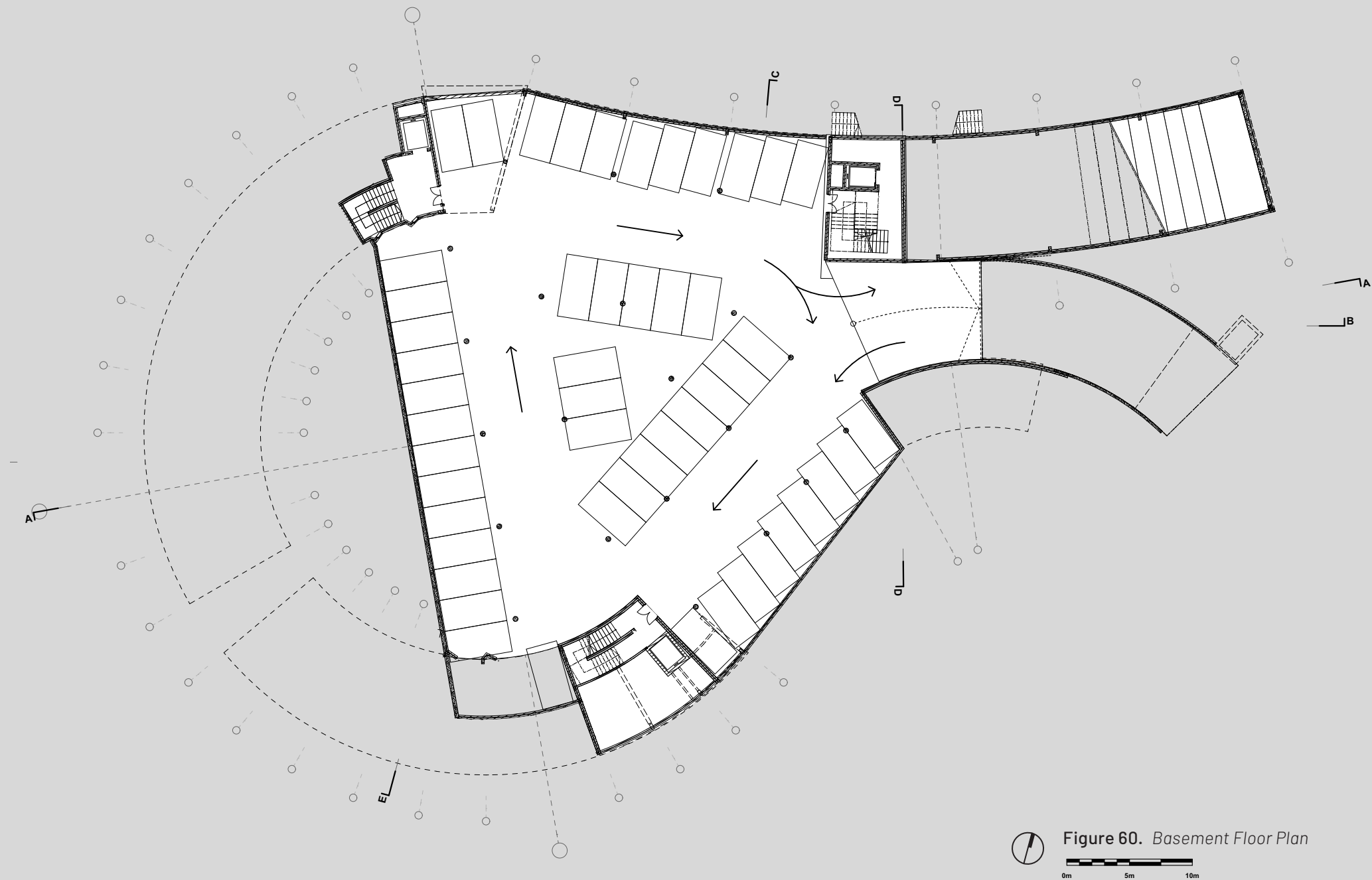


Figure 60. Basement Floor Plan

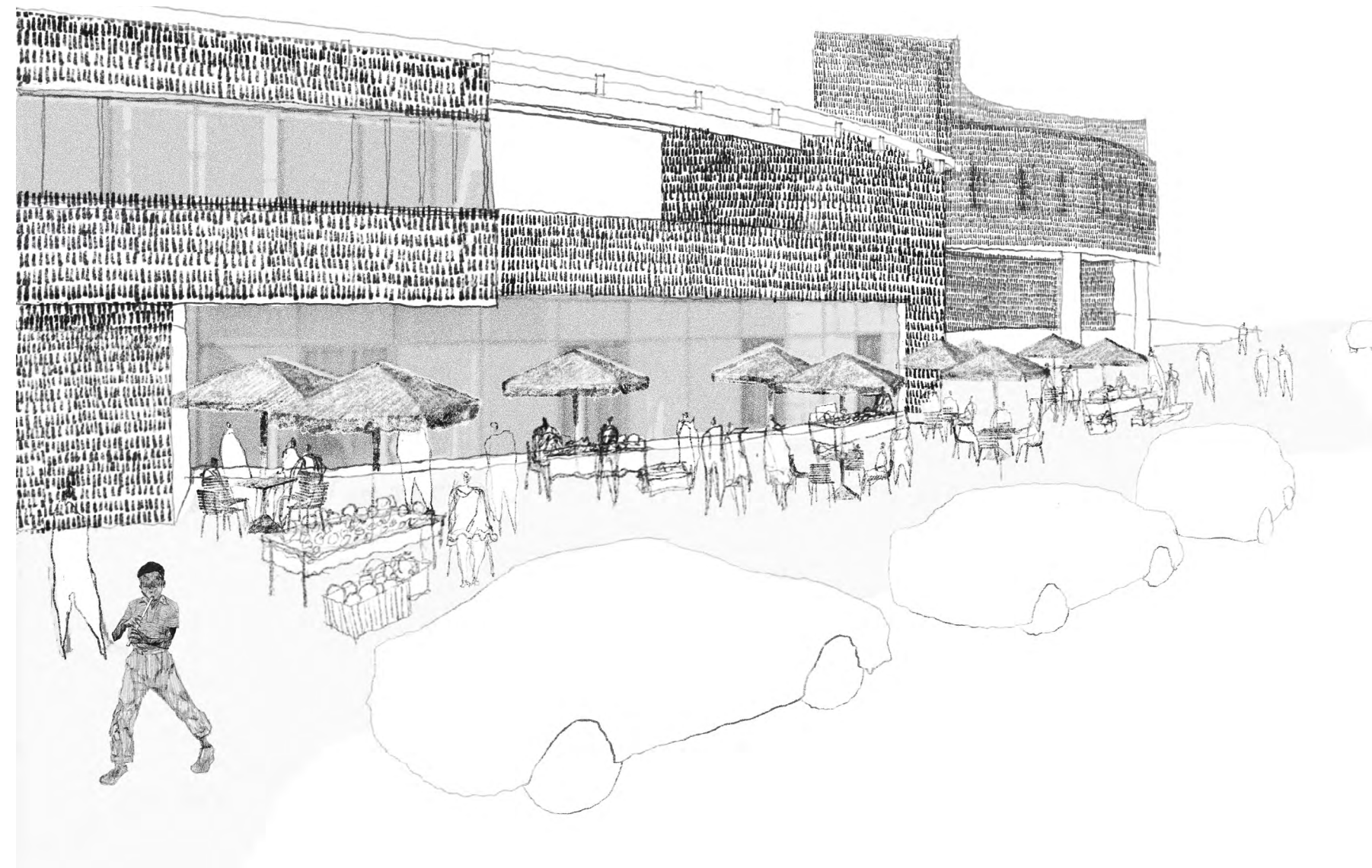


Figure 61. along viola avenue

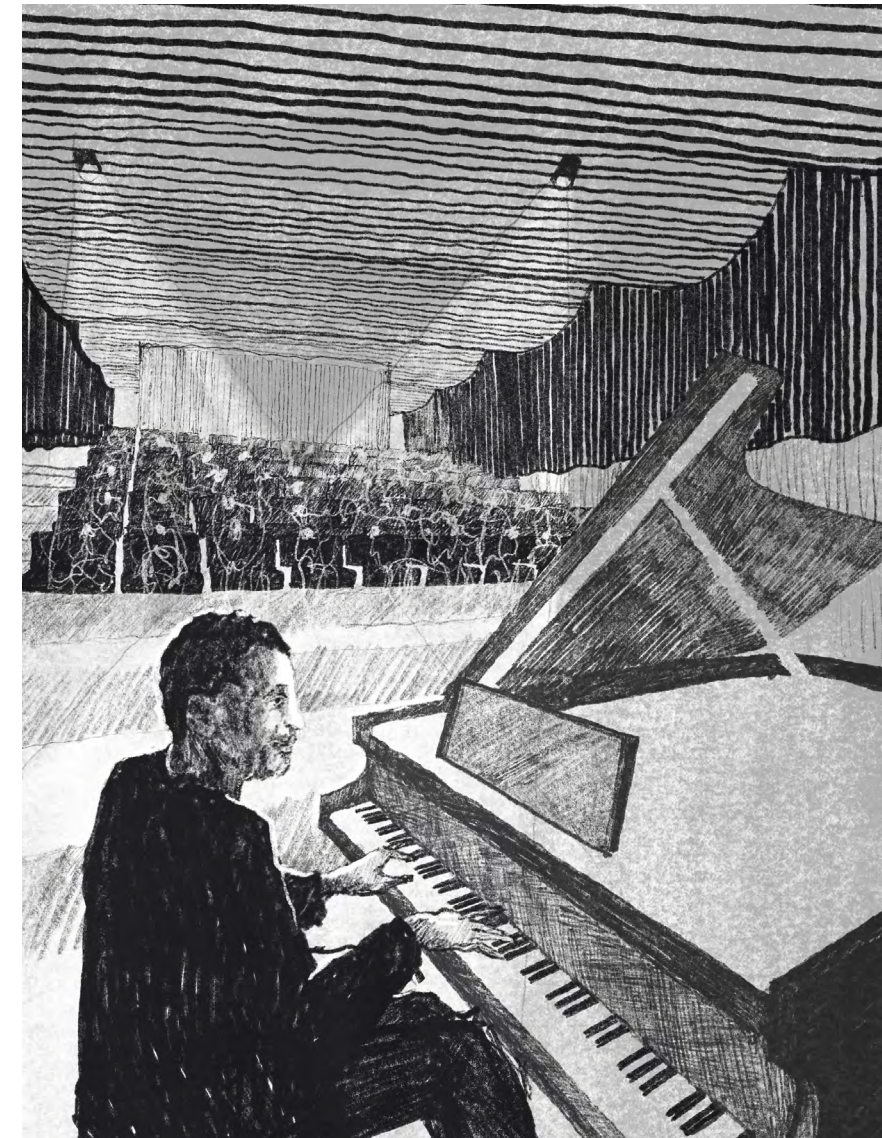
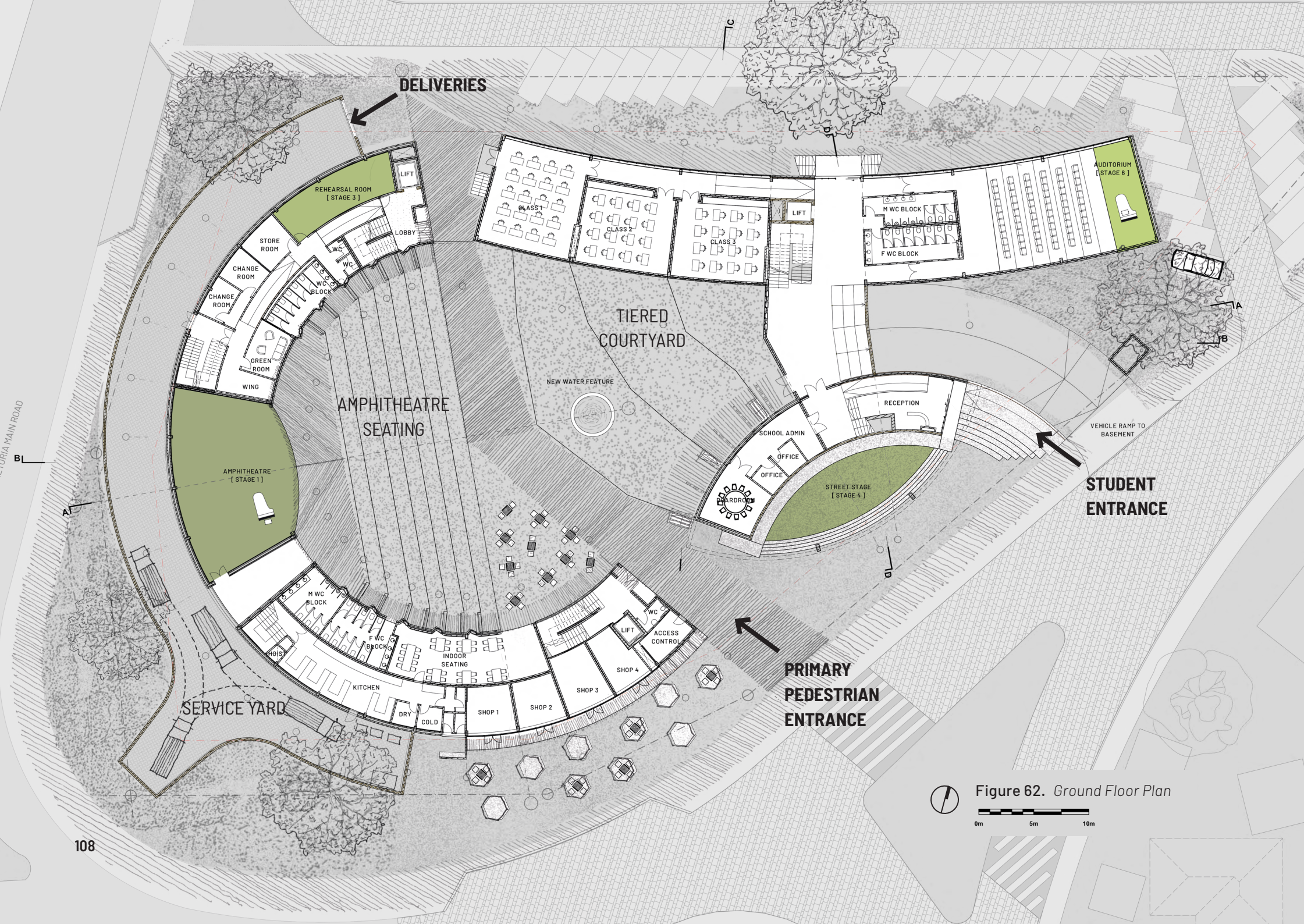


Figure 63. Abdullah Ibrahim on keys in the Auditorium



Image 48. (Palmer, 2014)
Material Palette_ Composite Felt

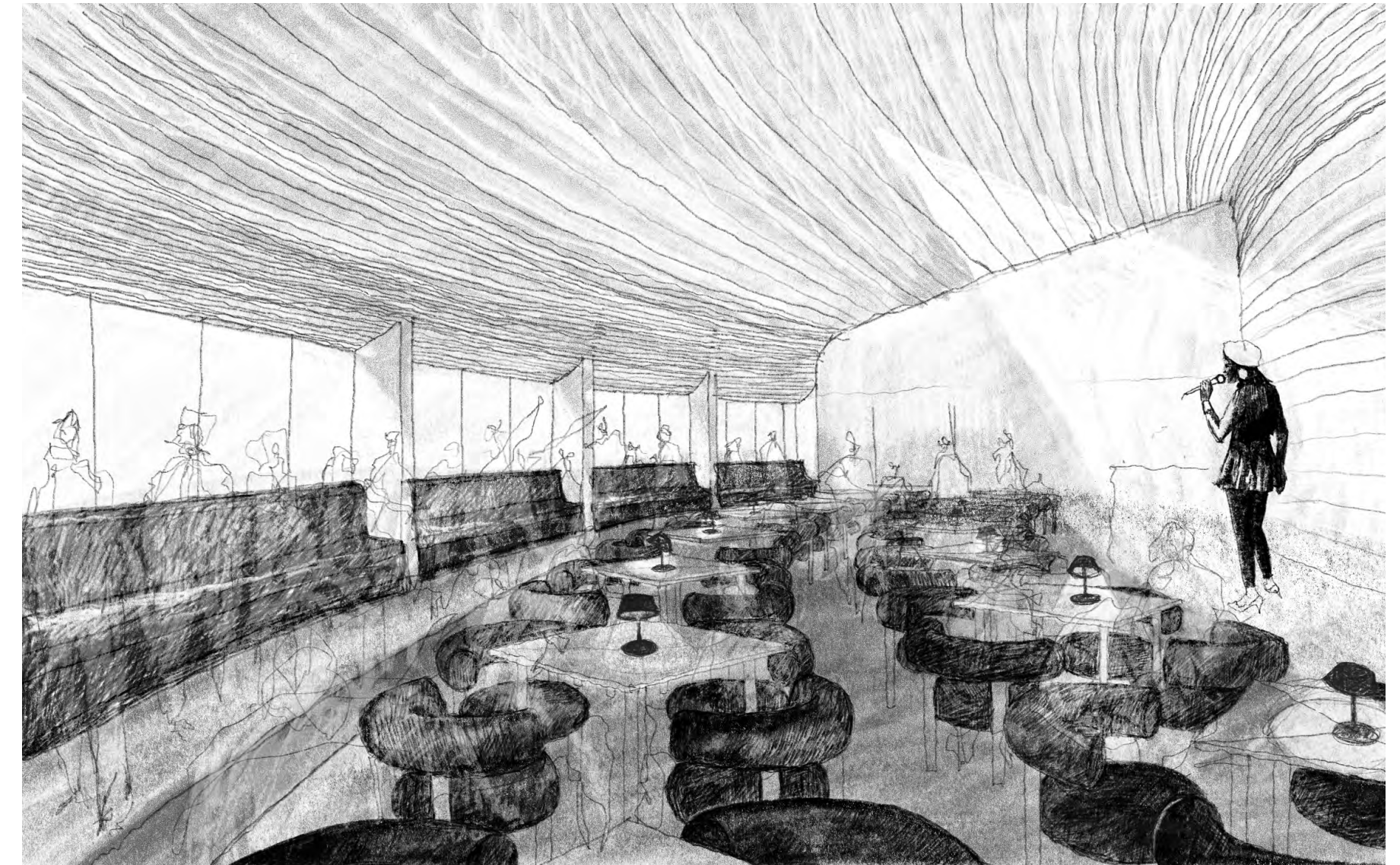
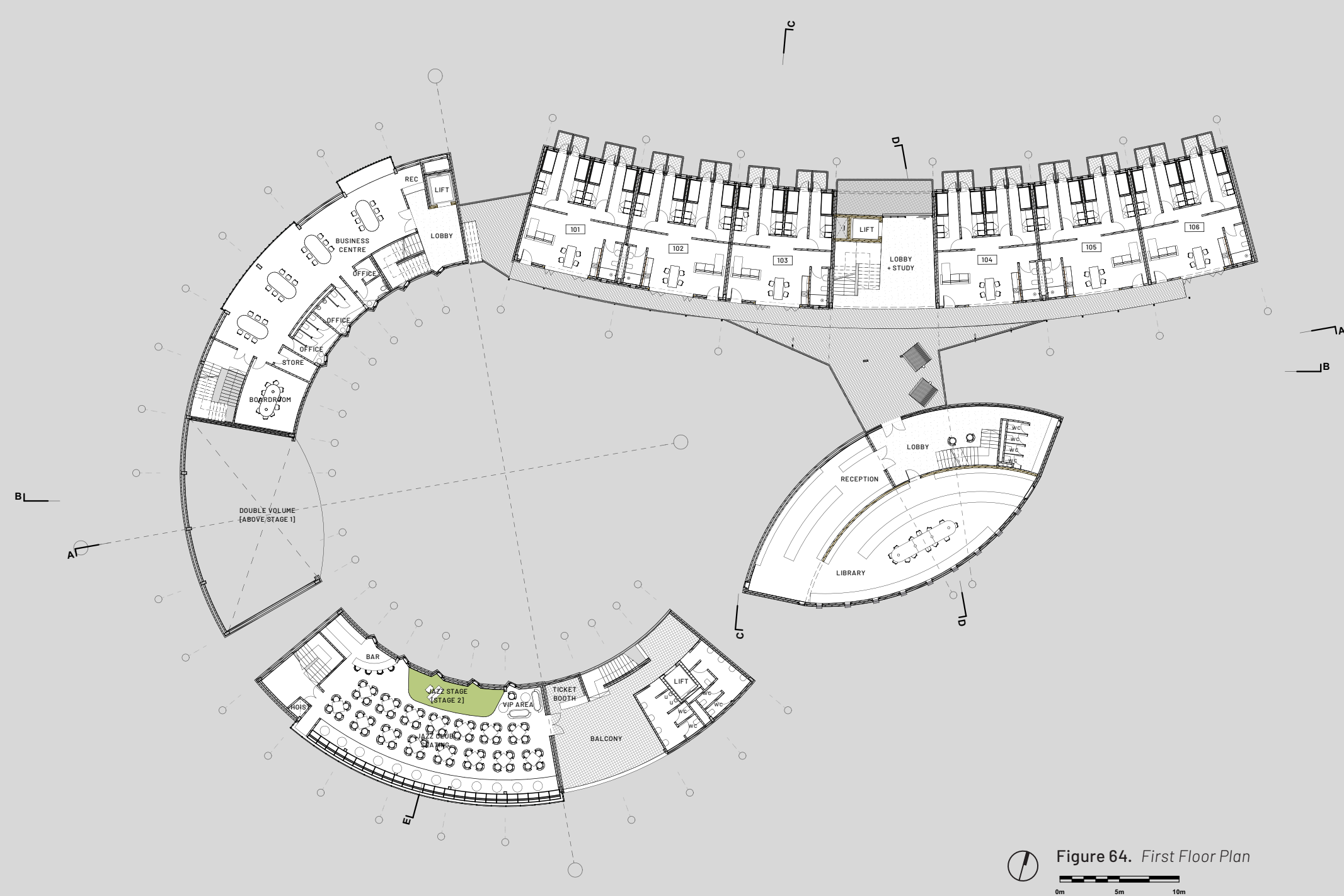


Figure 65. Brenda Fassie live at the Jazz Club

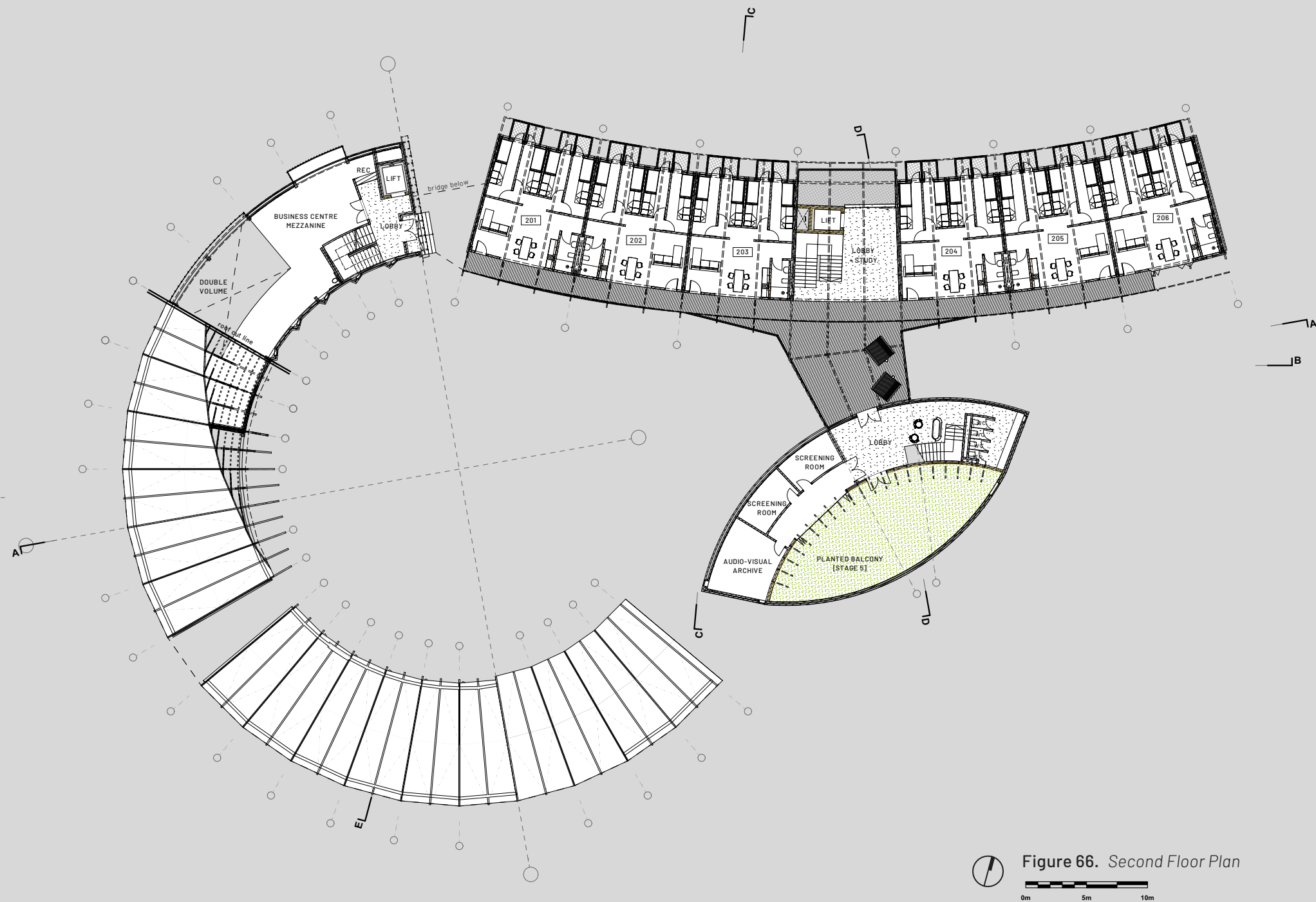


Figure 66. Second Floor Plan

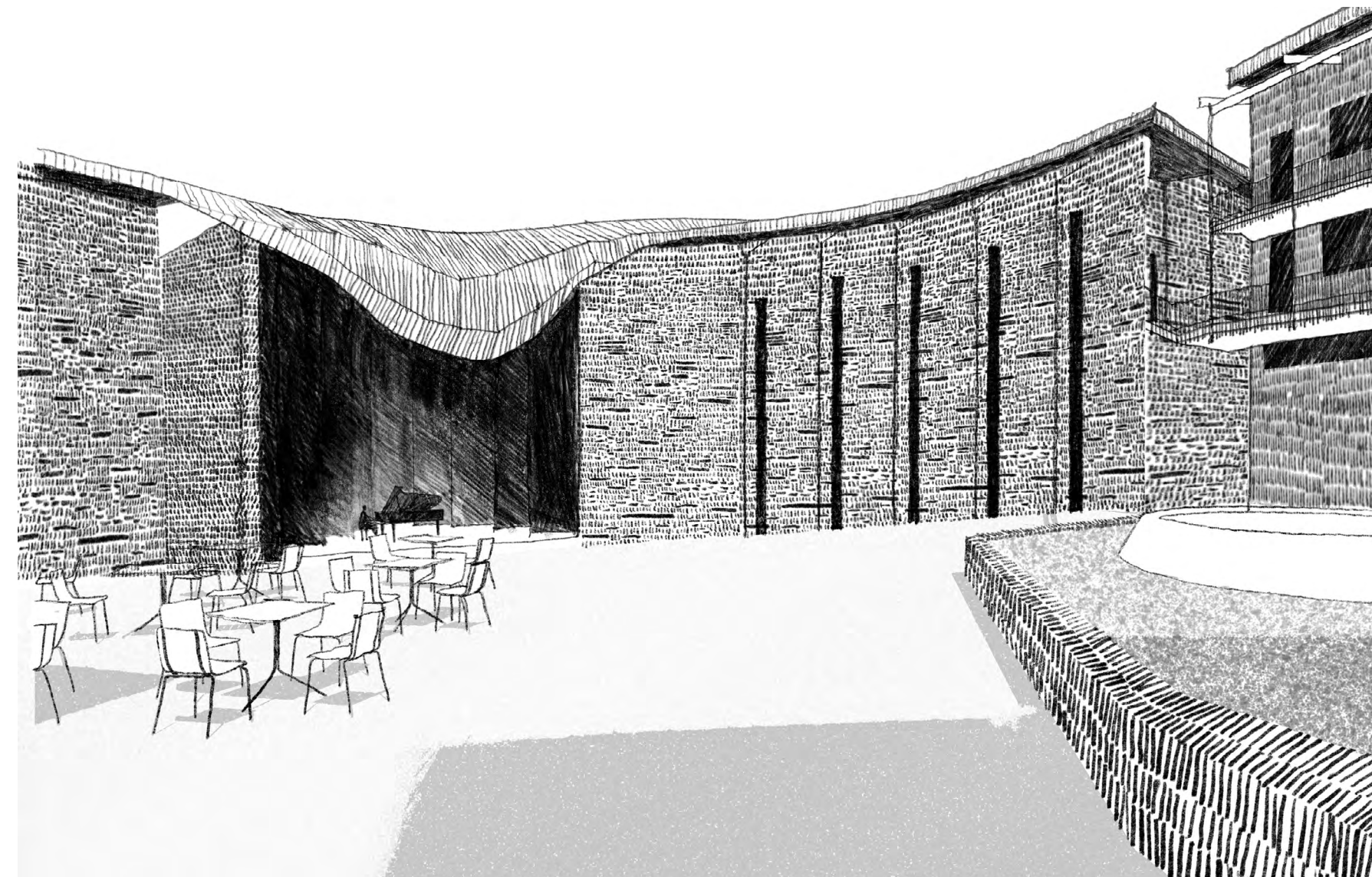


Figure 67. approaching stage 01

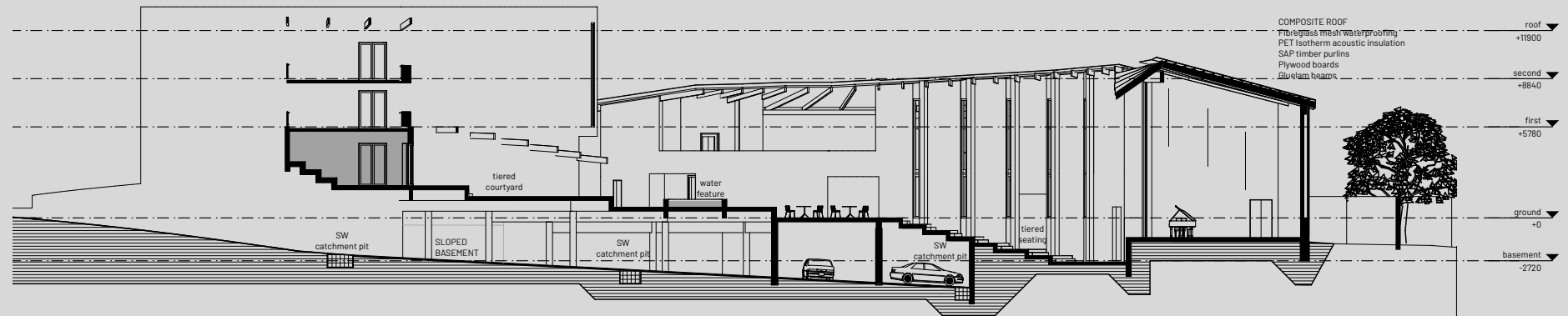
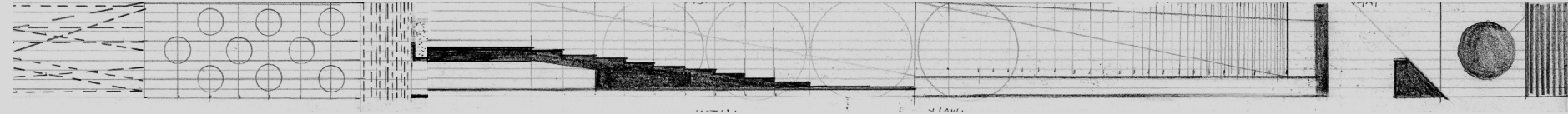


Figure 68. Section A

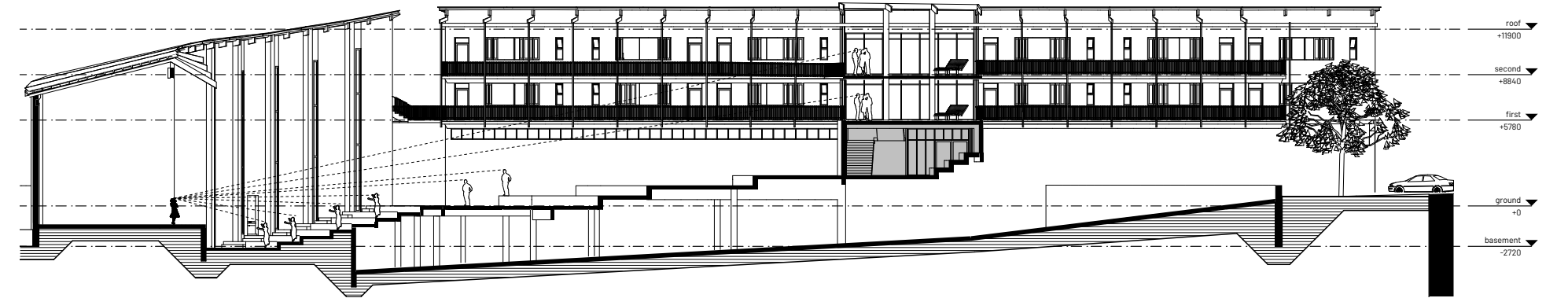
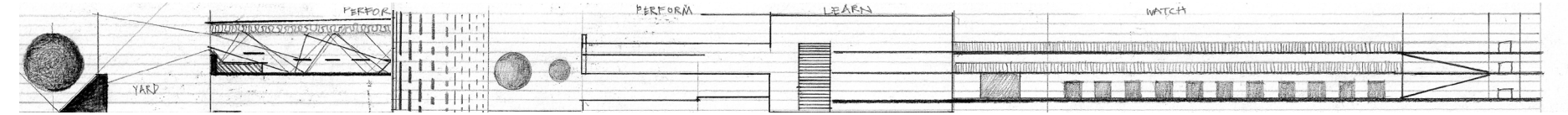
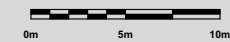
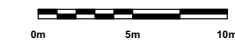


Figure 69. Section B



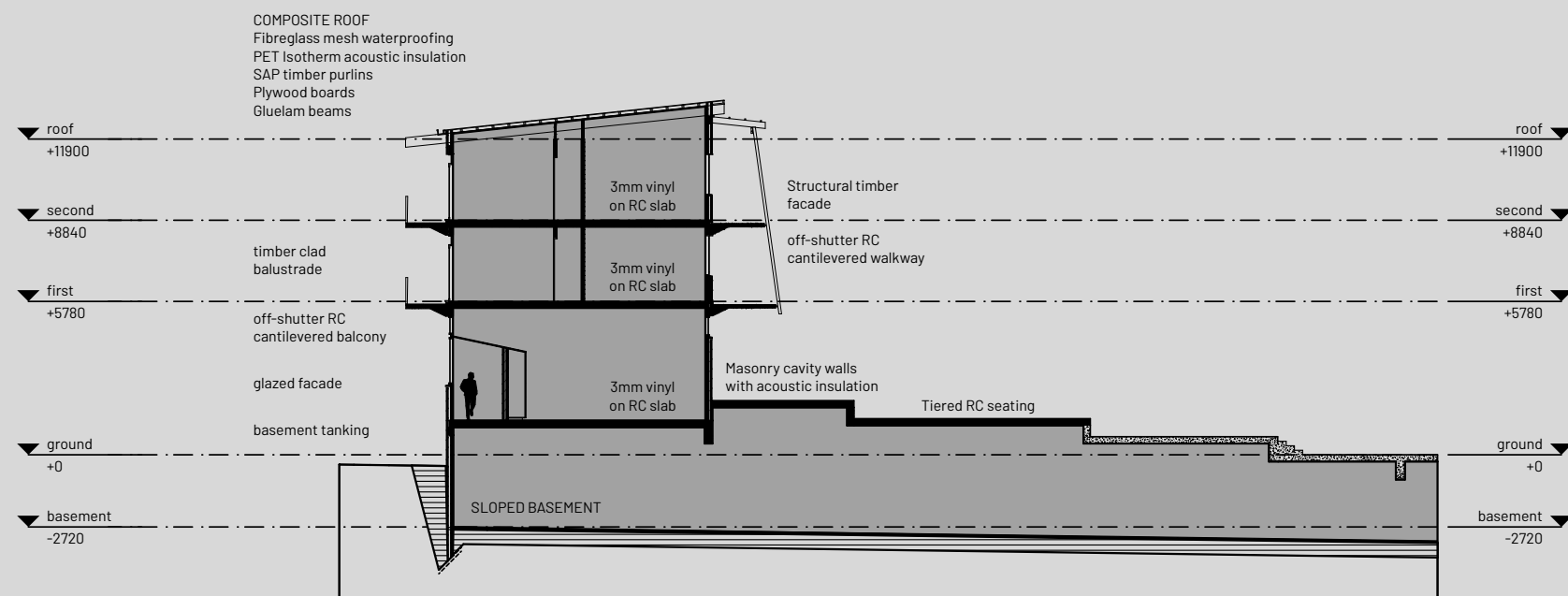
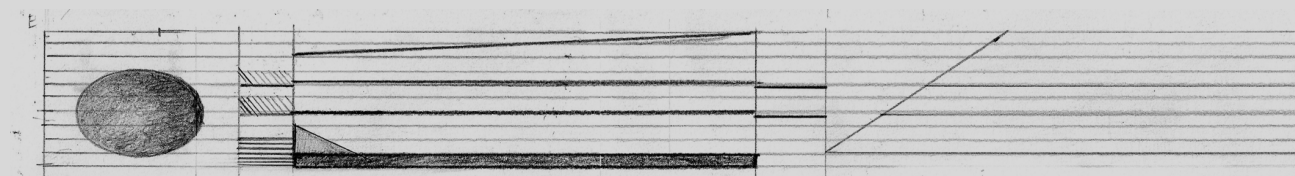


Figure 70. Section C

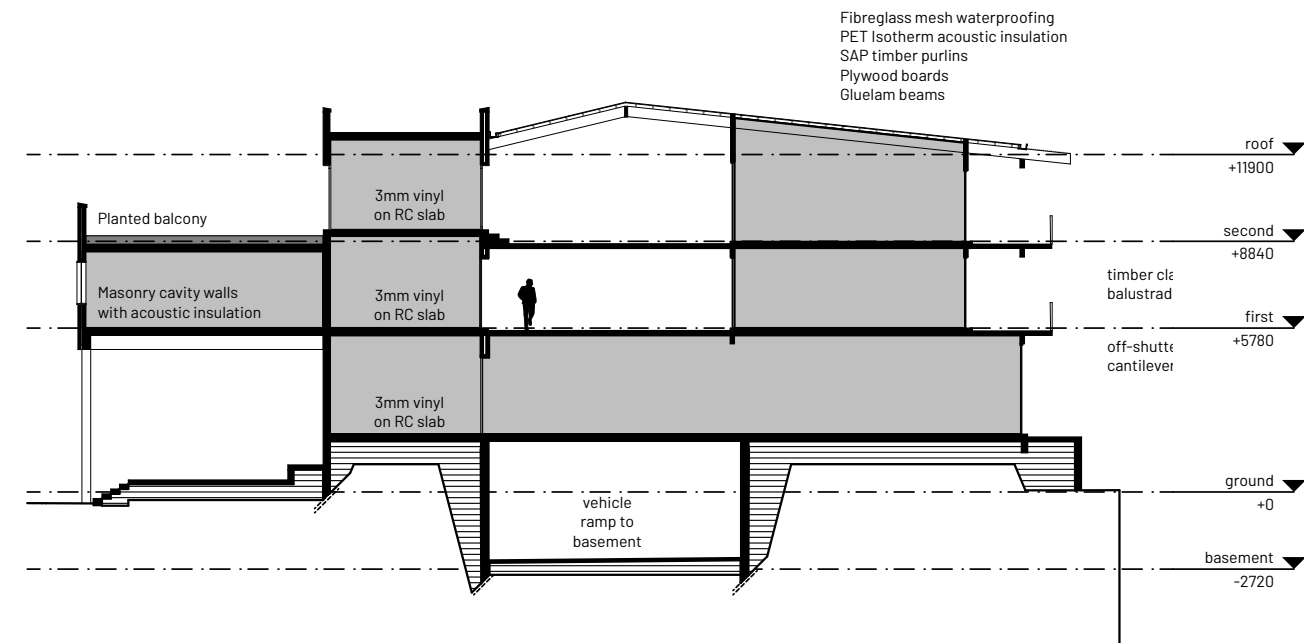
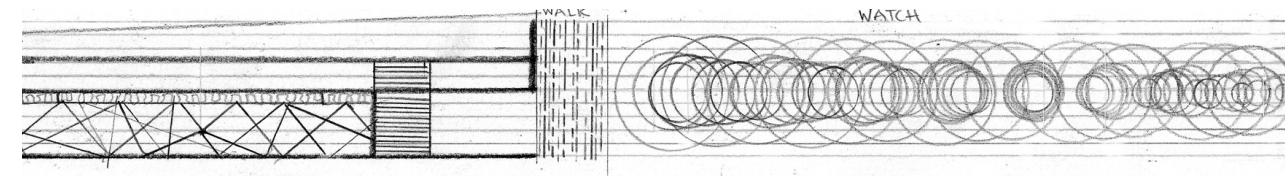
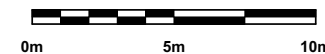


Figure 71. Section D



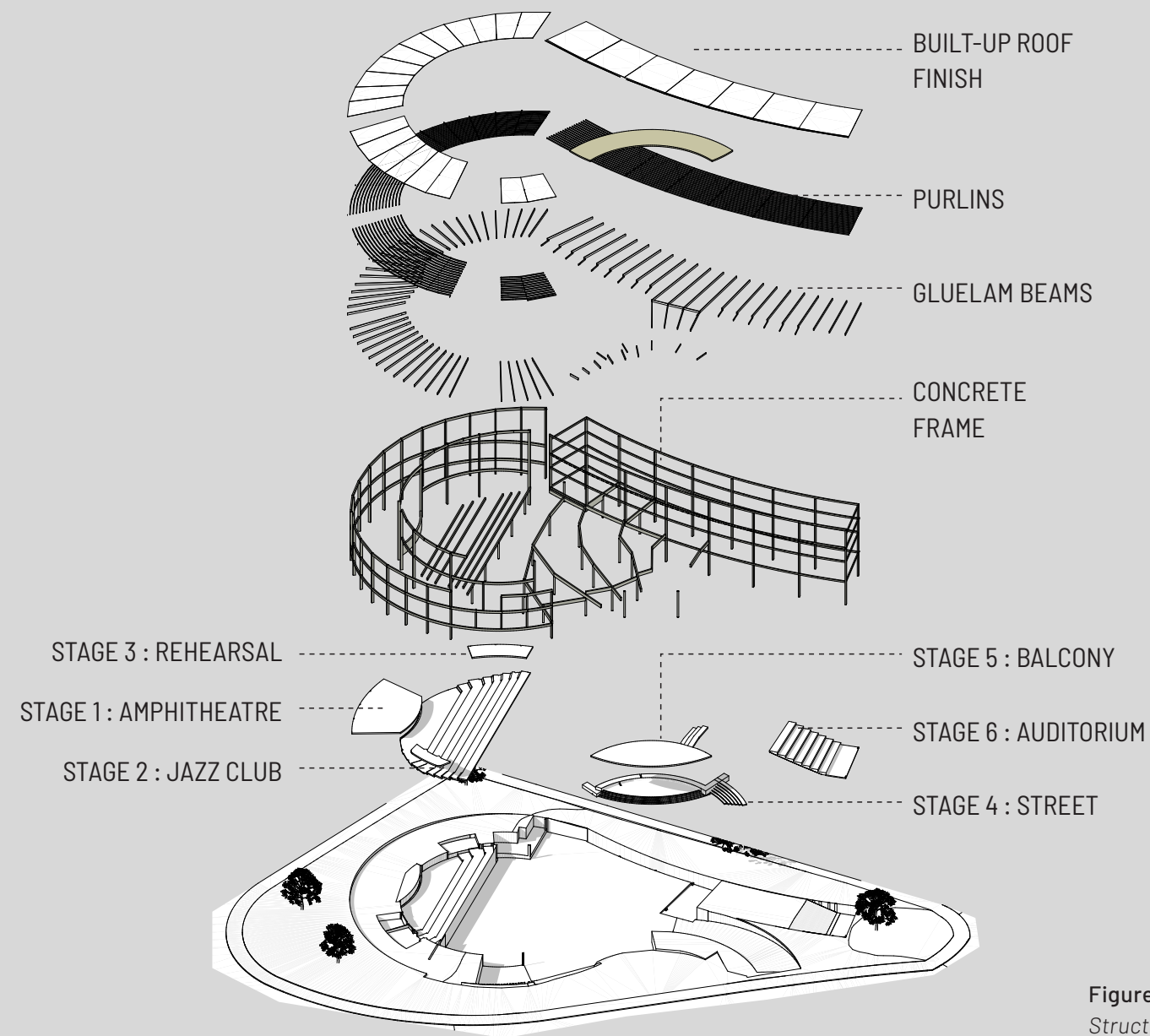


Figure 72. Exploded view of Structural composition



Image 49. (Deér, 2015.)
Material Palette_ Gluelam Beam

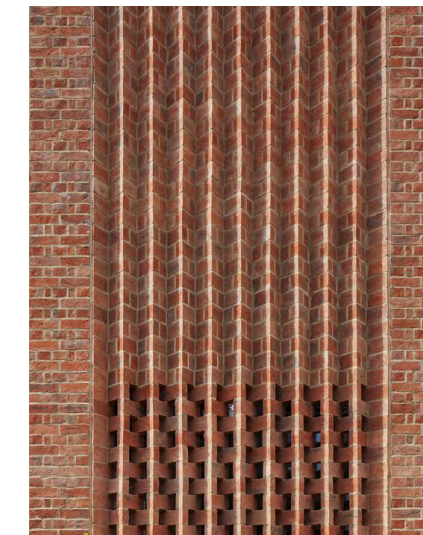


Image 50. (Gilbert, 2019)
Material Palette_ Textured Brickwork

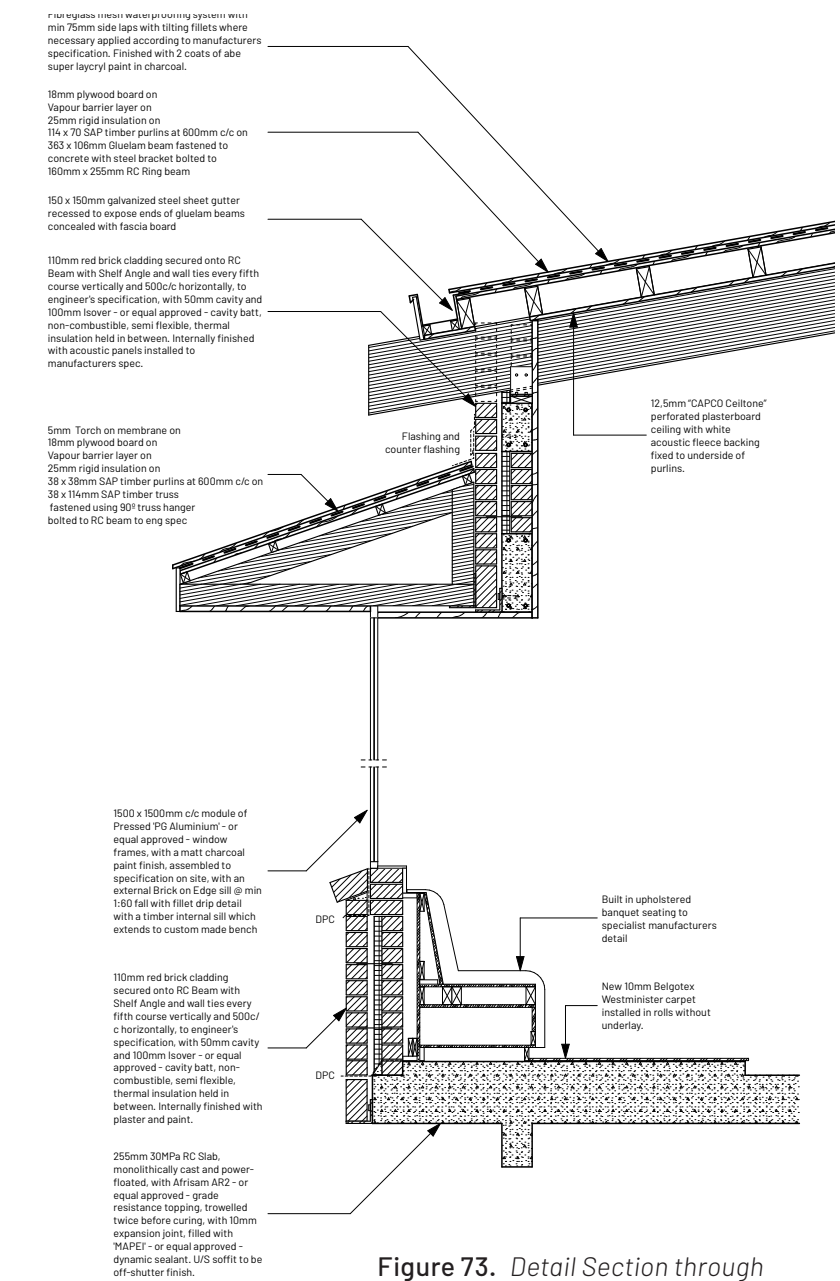


Figure 73. *Detail Section through Jazz CLub*



Figure 74. Unit Floor Plan

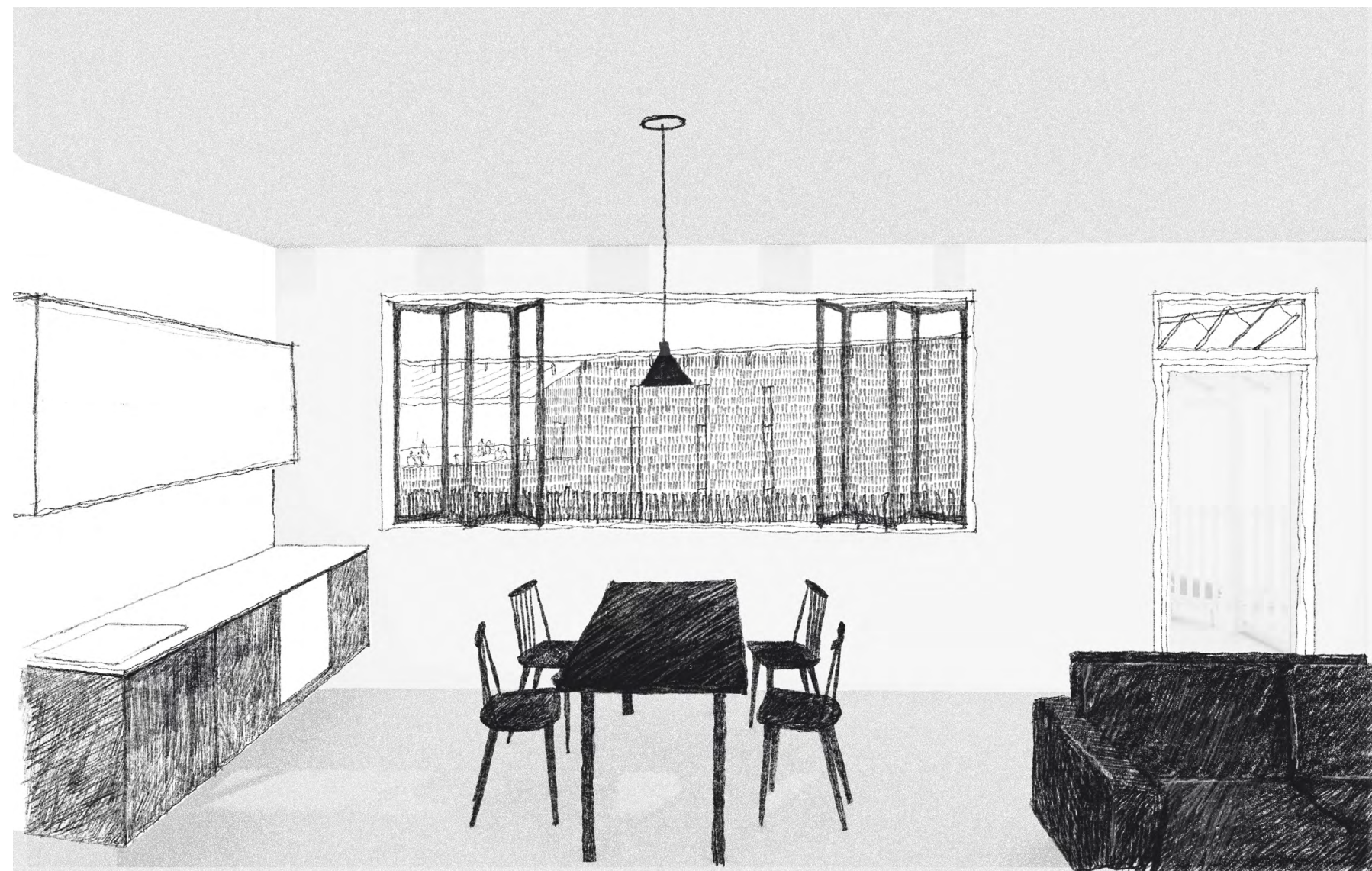


Figure 75. view from residency unit

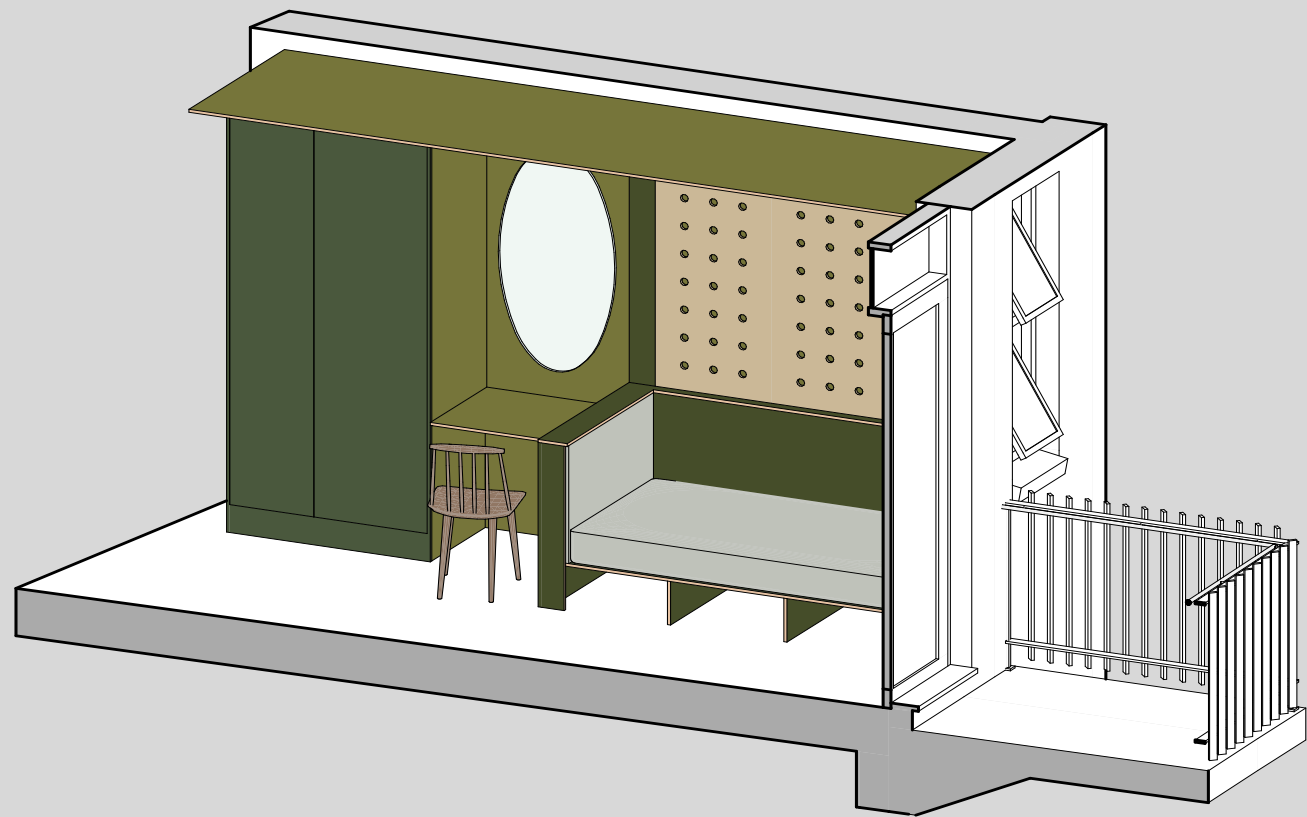


Figure 76. *bedroom unit
furniture module*



Figure 77. *View of student entrance*



Figure 78. *northern facade*



Image 51. (Author, 2023)
1:200 Model_ pedestrian entrance

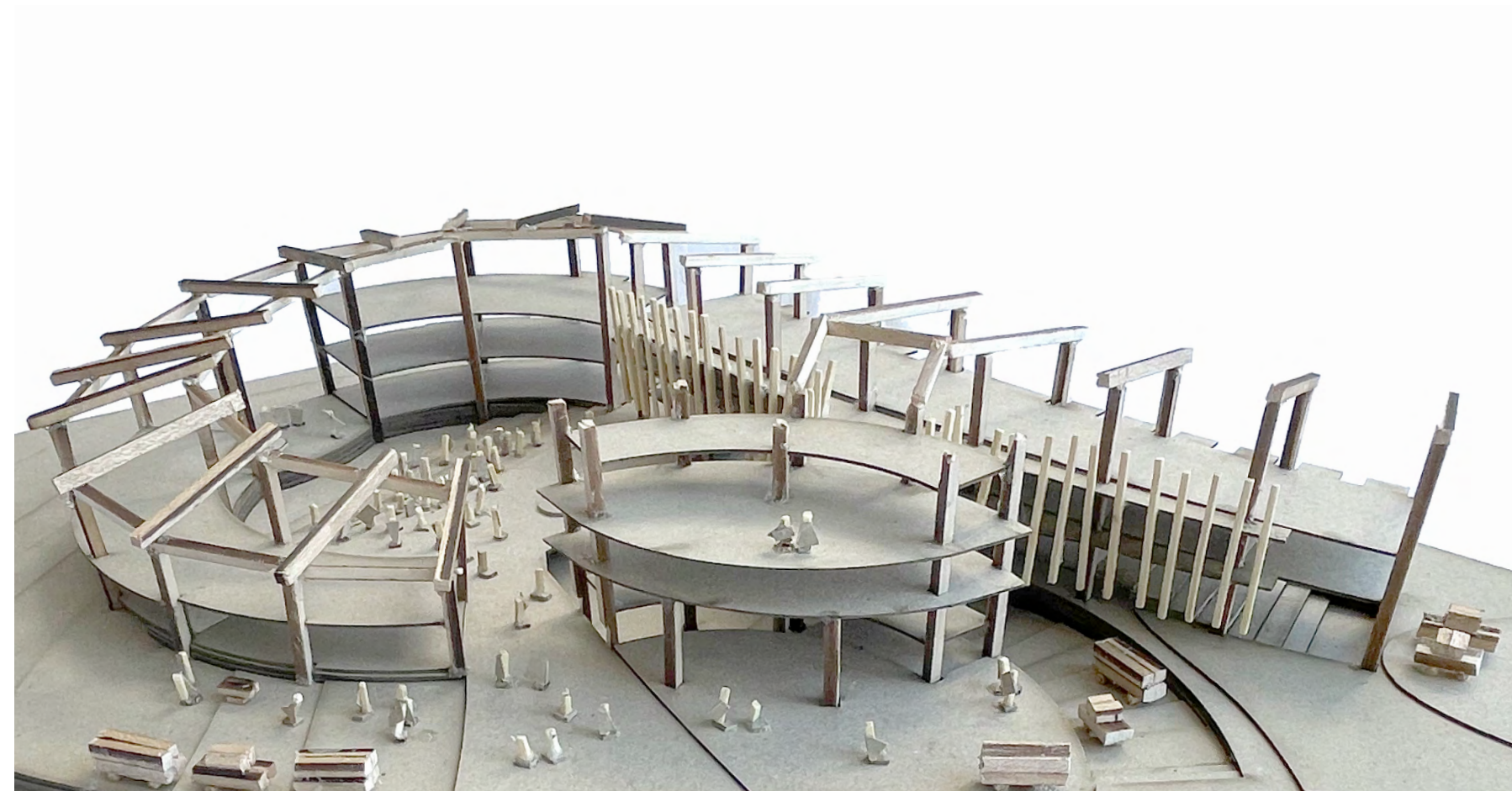


Image 52. (Author, 2023)
1:200 Model_ South Facing Facade

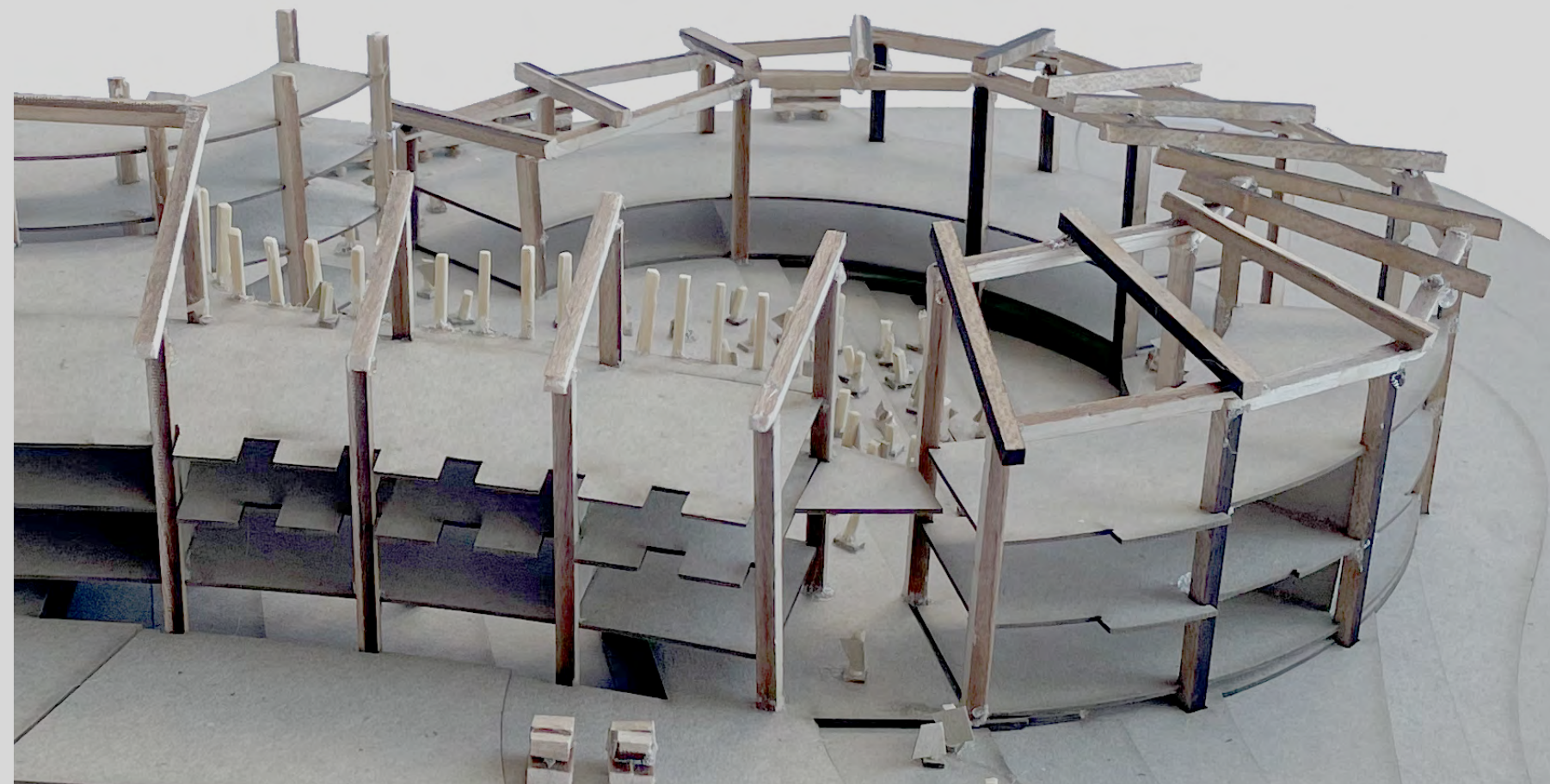


Image 53. (Author, 2023)
1:200 Model_ North facing facade

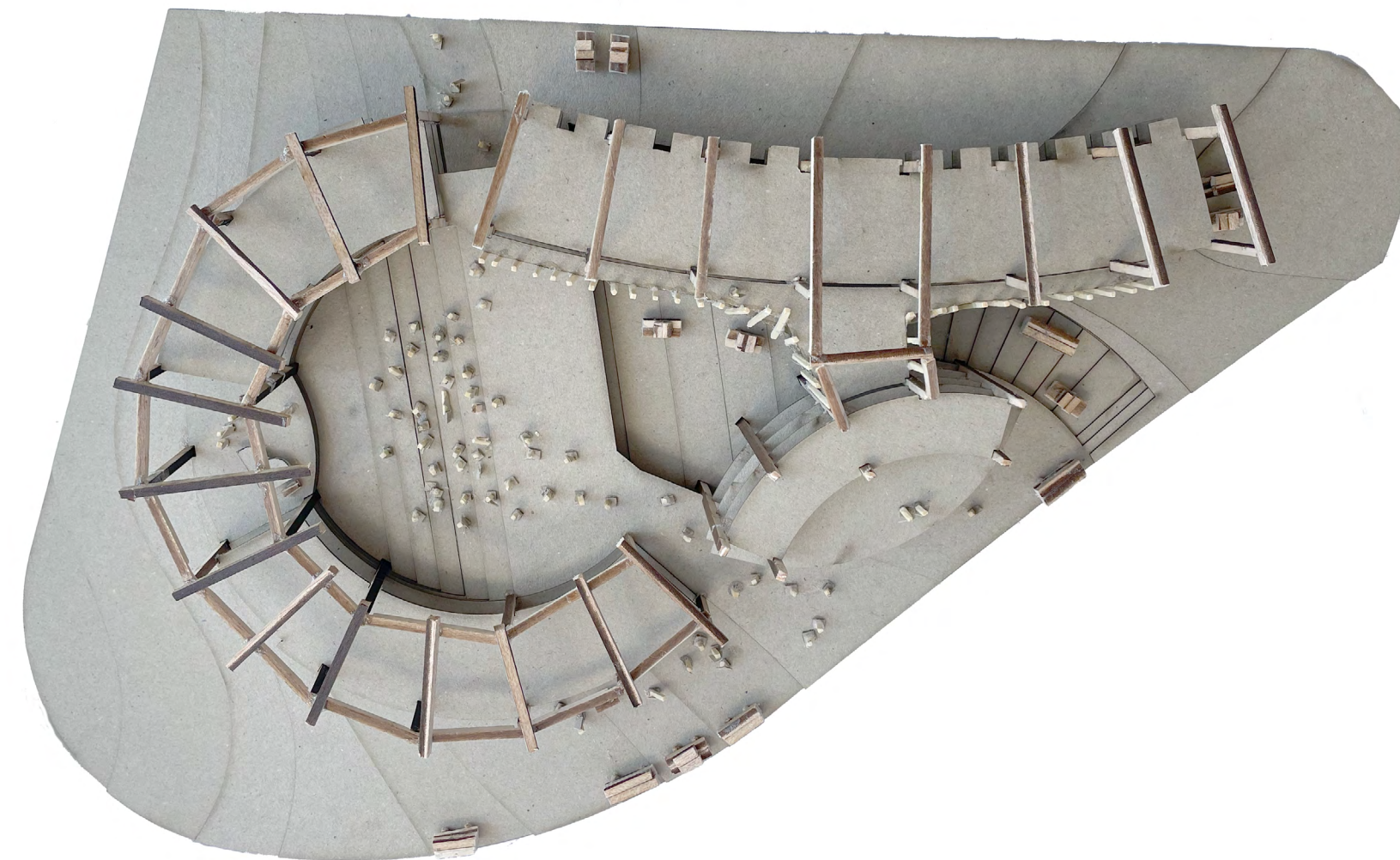
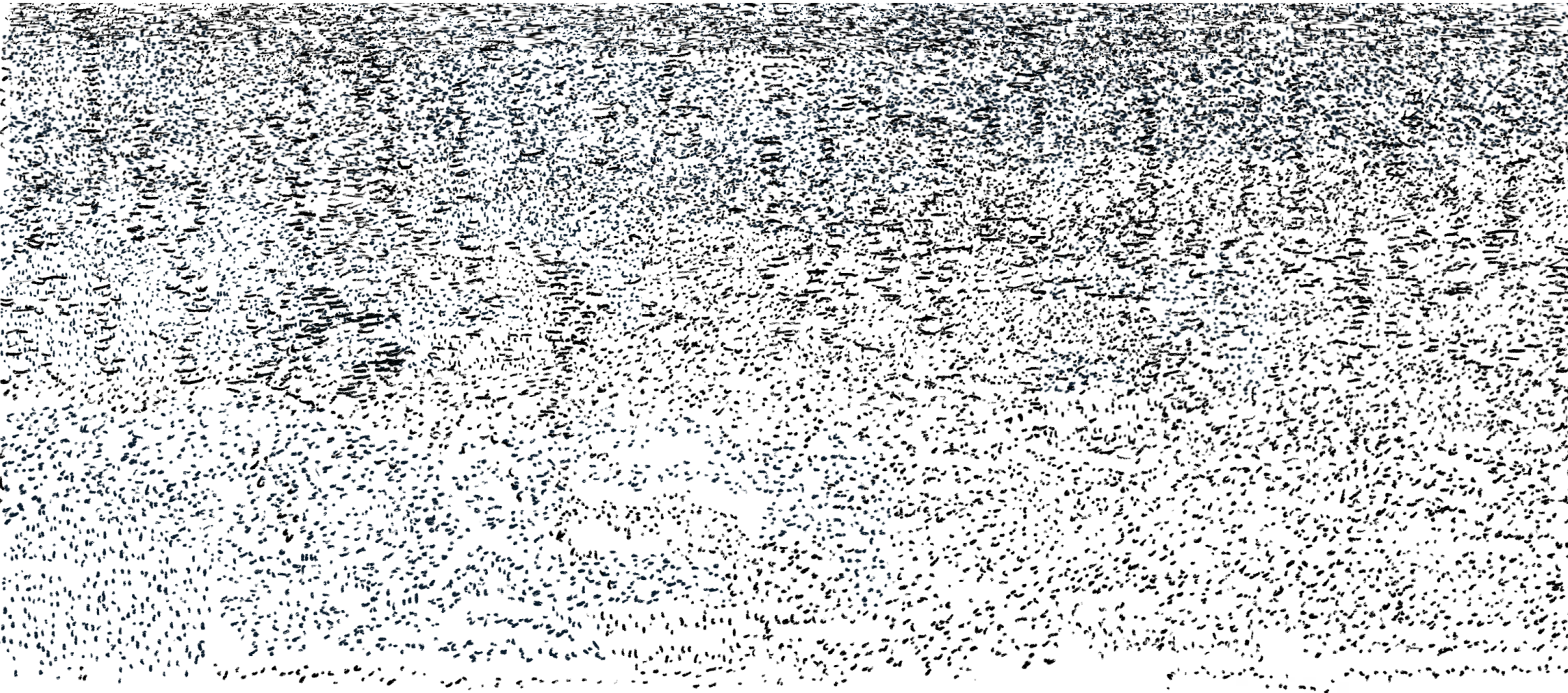


Image 54. (Author, 2023)
1:200 Model_ From above

9 { Endnotes }



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Ethics Clearance



24 May 2023

Faculty of Engineering and the Built Environment:

Ethics clearance letter:

Dear Ariella Gimpel

Student number (1057850), this letter confirms that your ethics application has been cleared. Your clearance/protocol number: SOAP007/04/2023


Yours sincerely

Lerato Nkosi

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