



SIGHT SOUND STRUCTURE!

An exploration of the relationship of film music and architecture.

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This thesis is dedicated to my Mom.

Thank you to my Dad for allowing me the opportunity to fulfill a dream.
To my whole family for your support and encouragement throughout the busy years of architecture studying.

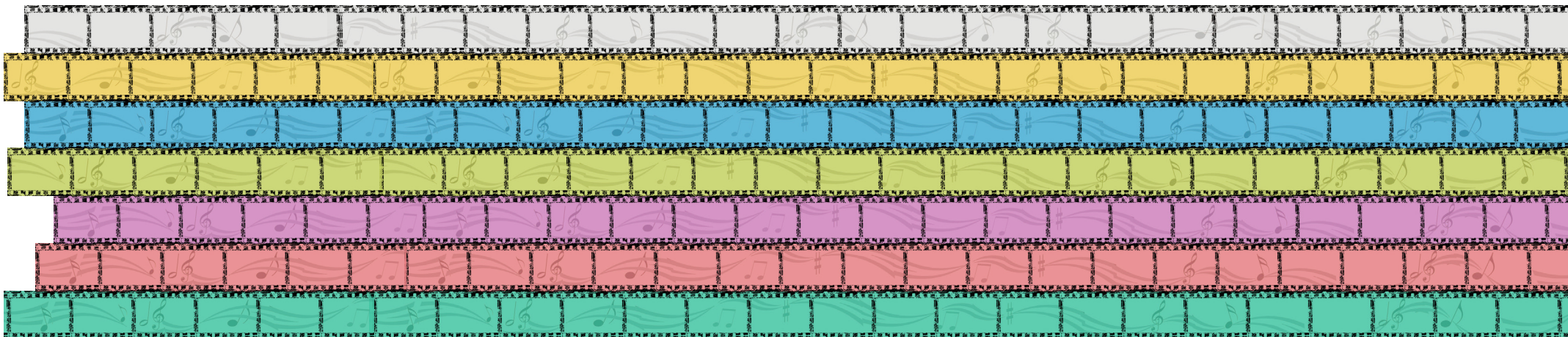
Thank you to all the lecturers and mentors en route this exciting journey. To Hannah le Roux for your continued support and guidance this year. Your supervision and insight has provided some calm amongst the frantic journey.

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CONTENTS



Abstract

6

Sight Sound Structure

8

Physical Context

22

Programme

54

Exploration & Process

58

Design

78

References

106



An exploration of the relationship of film music and architecture.

Film is able to captivate an audience and without a single word being uttered, a piece of music can alter the viewer's perception of a film. The fascination of the encounter of music and film and its provocation of emotions is a trigger for this thesis.

The objective is to explore ideas of rhythm, structure, narratives and other parallels that are present in architecture to inspire a design that evokes an experience. Light, sound and materials and their associated textures were realised to be important in evoking an experience within architecture.

The programme turned out to be a centre (MoAct) in which film is celebrated and which allows for public engagement as a place where films are shown and made; a place that spreads film literacy and adds value to the fragmented area of Braamfontein Werf.

Pallasmaa (2006: 02) states that “architecture and cinema are entangled with the theoretical impurity of the phenomenon of life itself.”

A phenomenon is understood to be an occurrence or happening that is perceived through the five senses.

Is there something valuable in considering how one experiences spaces?

Can a design methodology or strategy be informed by film and its music to create a less bland and predictable architecture?

Film is able to captivate an audience and without a single word being uttered, a piece of music can alter the viewer’s perception of a film. The music adds a dimension of emotion to the visual communication that is often only noticed in its absence and in its presence is often subliminal.

The fascination of the encounter of music and film and its provocation of emotions is a trigger for this thesis. The objective is to explore ideas of rhythm, structure, narratives and other parallels that are present in architecture and to inspire a design that accommodates the ideas that evolve. The design turned out to be a centre in which film is celebrated and which allows for public engagement in a place where films are shown and made; a place that spreads film literacy and adds value to the fragmented area of Braamfontein Werf.

Film is a vast industry that can cover the production of advertisements, music videos to short experimental art films and large popular films. There is also the opportunity to use films as a teaching tool with health, training and educational programmes or documentaries, thus it is able to improve the quality of life for those who have access to it. The aural and visual nature of film allows it to be a form of communication that can cross divisions of society, particularly in one where education has and continues to be unequal.

South Africa is a country with diverse landscapes and locations which has allowed it to become more regularly chosen as a filming location by foreign filmmakers. The low production costs and currently favourable exchange rate mean that it can be up to forty percent cheaper to film in South Africa as opposed to Europe or America and up to twenty percent cheaper than Australia. (SAinfo Reporter, 2008) Recent successful international productions such as *Blood Diamond* and *Lord of War* have enhanced South Africa’s reputation as a film location which brings about opportunities for local film crews and techni-

cians. Critical acclaim to various locally produced films such as Gavin Hood's *Tsotsi* and more recently Oliver Hermanus *Skoonheid* has helped to encourage a growing local film industry.

Despite these international successes South Africa's contribution to the global output is believed to be a very tiny 0.4%. Although there has been an increase in local productions and as a result an increase of 7.5% of people employed in the industry since 1995 there is still a large disparity between the production and consumption of films. (SAinfo Reporter, 2008)

As can be seen in the graphs, South Africa produces one of the smallest amounts of film in Africa yet South Africans are the African nation that consumes one of the largest amounts of films.

The government has identified the film industry as a sector with a large potential for growth; the spin off into transport, hospitality and catering also creates many jobs of various skill levels. Thus the government has tried to create many incentives to ensure this growth occurs, including co-production treaties with Canada, Italy, Germany and the United Kingdom. Locally the National Film -and Video Foundation, the Industrial Development Corporation and the Department of Trade and Industry are the chief investors in the film production industry.

A recent public-private partnership has resulted in an international film studio having been completed in Cape Town, with four sound stages, various offices, set production warehouses and a small cinema. In contrast this thesis explores a smaller centre that

focuses on film literacy and thus attempts to provide opportunities for local development of a different scale.

Through various interviews and conversations I came to realise the complexity of film making and more particularly the post production of a film which includes the addition of sound and music. It intrigued me that in a country with such a high consumption the production is so low, as shown in the graphs.

In a frank discussion with Harriet Gavshon, the managing director of Curios Pictures, I came to realise that this is because film consumption is predominantly aimed at suburban South Africa through cinema complexes within large shopping malls. If film literacy increases then the demand for local films for a larger portion of the population would increase too, thus the need for film literacy becomes important.

To this end the National Film and Video Foundation have a digital screen distribution in place, and have reportedly been instructed to build a film school. The digital screens are largely distributed in previously disadvantaged areas, and any one of these areas could be considered for a film complex. However the opportunity to be within a kilometre of the SABC, with various film companies in the area and two large public tertiary education institutions, allows for a lot of exposure for the centre, which led to the consideration of Braamfontein Werf.

In a recent interview on ClassicFm's programme "People of Note" hosted by Richard Cock (28th August 2011) Michelle Constant, the CEO of Business

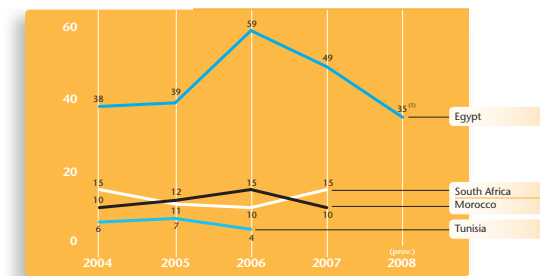


Fig 1. Number of films created
(Source: Dubai International Film Festival, Screen Digest)

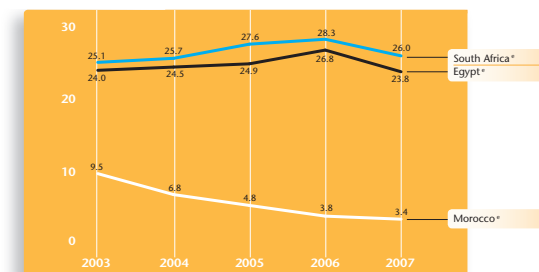


Fig.2 Admissions into Cinemas
(Source: Dubai International Film Festival, Screen Digest)

and Arts South Africa, stressed the importance of private business ventures to continue the development of the Arts within South Africa. She also suggested that there are not enough venues within Johannesburg to support the growing arts and in particular the music scene, which has a need for different sized venues in order to allow for the different types of music as well as the various skill level. As a new musician, it was suggested that it is difficult to find a smaller intimate venue, from which one can build a support group and move towards performing in larger venues.

Although the film industry co-operates with composers and musicians to add music and sound to the films, it is not necessary for them to be working in close physical contact. The always improving technology makes it possible to work with professionals and never have to meet. However there is an international growing trend of creative workers who believe a closer physical collaboration between disciplines could create opportunities for new ideas.

The recent development by Diller Scofidio Renfro of the Perry and Marty Granoff Centre at Brown University illustrates how there is a tendency for digital arts and contemporary arts to be finding more and more common ground. In the design, the disciplines are separated through a split level, so as to allow for the particular development of each's own process; however there are many areas where there is an encouragement to cross over and interact with a different art form and there are also many visual linkages. This suggests that future creative people will want to work in closer proximity as they have learnt to do so whilst learning their disciplines.

In Johannesburg the recent creation of the non-profit organisation Assemblage, illustrates that there are members of the art community who see the value of an inclusive forum of professionals, students and recent graduates who are able to share resources, knowledge and skills. This is done through various workshops, group exhibitions and making peer mentor groups who meet regularly. Both Harriet Gavshon and Wits Professor Dr Tanya Sakota-Kokot implied that this sort of link between professionals and students is currently lacking and that it would be wonderful to have a space that allows for cultural meetings.

It is important for the growth of any artistic industry to have a growing audience. There are a few examples of places and events that allow people of Johannesburg, the opportunity to overlap entertainment with a depth of interest and knowledge. The new independent cinema, the Bioscope in the Maboneng Precinct, shows films of various eras, from many countries and which are often not on the main circuit, giving its customers the opportunity to experience different cultures and styles of movie making.

Similarly, the success of the Troyeville monthly Wine and Dine evenings (regularly featuring on internet 'to do in Joburg' Lists) illustrates that there is an audience in Johannesburg that is wanting a convivial space that overlaps both enjoyable and enlightening experiences.

Thus I believe it is important to have a strong public part to the project, to so as to allow the opportu-

nity for film and music to have an improved quality, driven by the promotion and access to the disciplines in broader society and, through forum and discussion, to enhance the experience of those within the disciplines. Film can be a source of visual knowledge through informatics, architecture and music.

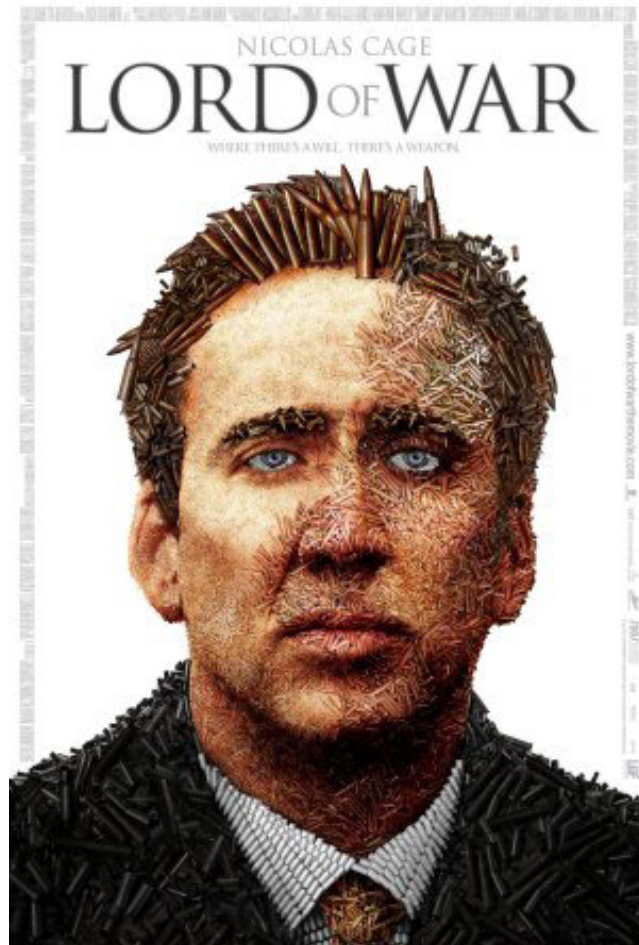


Fig 3. Film Poster - Lord of War
(Source: www.imdb.org)

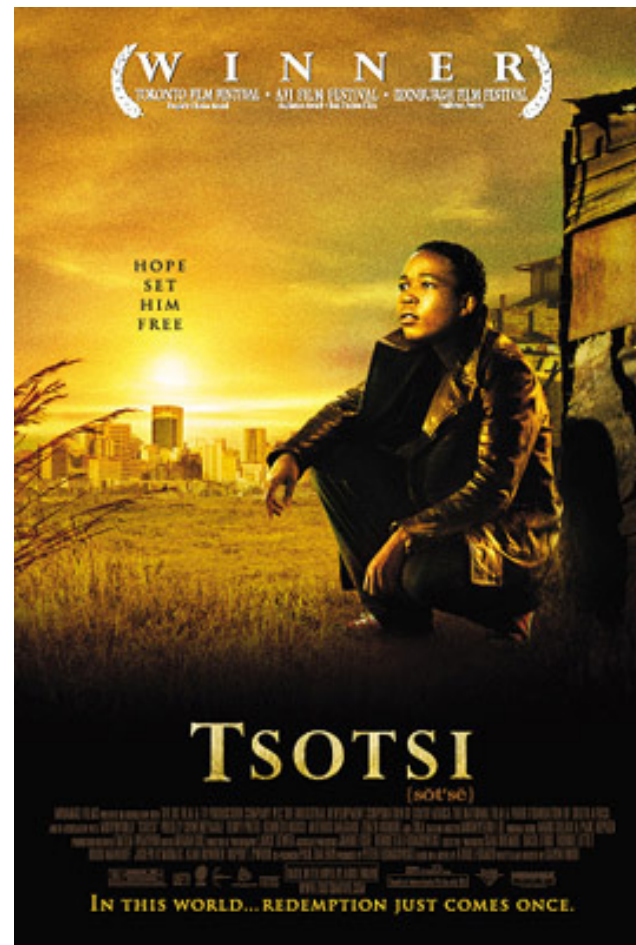


Fig 4. Film Poster - Tsotsi
(Source: www.imdb.org)

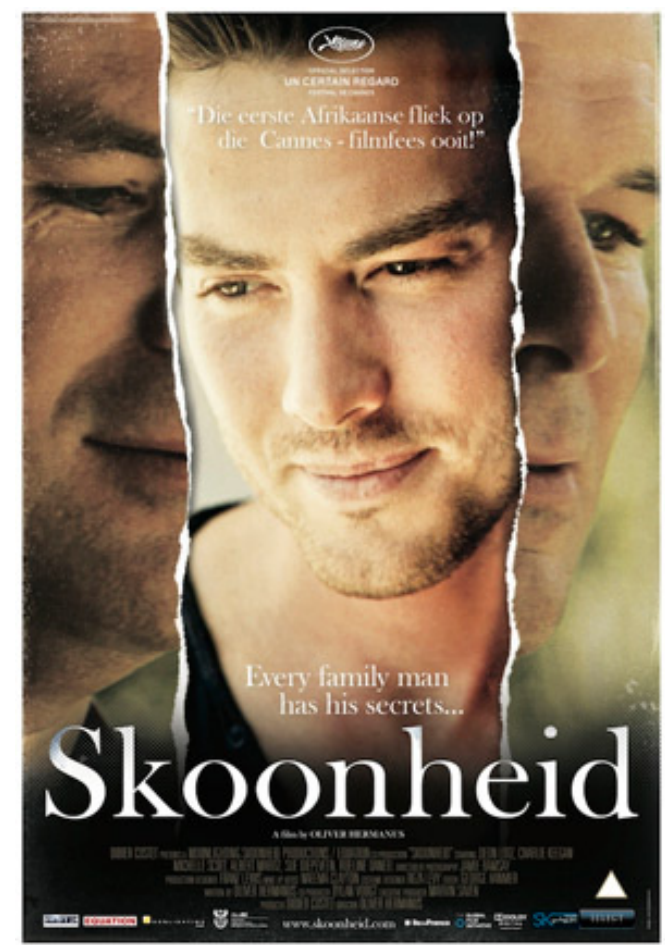


Fig 5. Film Poster - Skoonheid
(Source: www.nfvf.co.za)

Music and sound within films evoke emotion; they add to the atmosphere in such a way that the spectator is not simply watching visuals but rather becomes intrinsically involved in the narrative.

Narrative is defined as the art of telling a story through a series of events, the description of these events allowing for one to make sense of an experience or multiple experiences.

How does architecture become narrative? Is it through a concept or through the spatial quality which one moves?

Barbara Hardy (cited in Finnegan, R 1998: 01) expresses the idea of narrative being an integral part of life by saying, "We dream in narrative, day-dream in narrative, remember, anticipate, hope, despair, believe, doubt, plan, revise, criticize, construct, gossip, learn, hate and love by narrative." By containing events and experiences, is architecture automatically narrative?

If this idea is extended, with architecture being considered a small part of the city, is architecture simply one element of a larger narrative? It is only possible to experience architecture and the city in fragments. Is it possible for narration to be a fraction of a whole? Or is it through multiple narratives that a continuum is collaged together, in a similar way to the montage of scenes that creates a film? What in architecture takes the role of the piano or music as is present in film?

David Adjaye's public buildings have been described by Iwona Blazwick (Allison; 2006 pg 7) as a place that engages one's senses by "activating a dialogue" rather than causing a division. It is this engagement of one's senses through materials, textures and light that makes one aware of the space one is in.

I remember a simple change of texture from smooth pavement to rough rocks alerting me to mind my head on a tilted column of a building on the riverside of Battersea, London and realise that this subtle gesture was a story of foreboding. It is this type of delicate decision that becomes like the film music in evoking an experience and this will be explored further.



Fig 6 - 10. Captured frames of Eisenstein's *Strike*
 (Source: <http://www.youtube.com/watch?v=sZaL9wvyv1E&feature=related>)

Film started as a silent moving image, with actions grossly exaggerated to convey or suggest sounds such as smoke from a gun being fired. In silent films the evocation of a sound was explored through the repetition of a image causing the sound, such as a closeup of the factory siren in Eisenstein's film *Strike* (1925). (Chion 2003:05)

As films became more narrative there would be a live commentator in the cinema who would read a text that was sent with the film. This was slowly replaced by the subtitle or intertitle as is often seen in films such as Charlie Chaplin. The subtitle was also important in providing information to the audience that it was not possible to project through image only.

The first sound of cinema was the sound of the ma-

chines that projected the image, which according to many historians is the reason for the development of film music. Film music started with an orchestra or a one man band in the cinema complex who would play music they felt was relevant to the story, thus providing a musical narrative and an unique performance at each showing. As technology improved, various film studios were able to synchronise sound and image, 'talking' films emerged towards the late 1920s.

Today, film music and film sound has developed and improved its accuracy with the development of technology such that films now have surround sound, and sounds appear to come from the part of the screen where the image is creating or evoking the sounds. In some instances the sound comes from behind to arouse the sense of someone or something being off-screen but still impacting the story.

An anonymous blogger, who had the opportunity to see a few scenes from the *Star Wars* films being reduced to silence and then slowly having each layer of sound added to the visual, stated that "each sound element added a powerful set of cues that helped drive the emotion and overall impact of the scene" (Anon 2006). But why does sound and music have such an effect on the visual image? There are many forms of film and accompanying music, from advertisements to television shows and the longer form of movies. It appears that music is relevant in exaggerating or generating an emotional response in all forms of film.

To understand this response of emotions it is important to understand the difference between sight and hearing.

There is a lot of research exploring the way in which the brain develops, and the effect of music on this development.

The 'Mozart' effect is possibly the most well known outcome of this type of research, in which Rauscher, Shaw and Ky found that undergraduate students had a short term improvement in spatial abilities after listening to the music of Mozart.

Through a series of his own investigations Schellenberg illustrates that playing music in the development of children does enhance the development of various

abilities as tested in the IQ test. One of the four notions Schellenberg suggests (2005: 320) is interesting is the "inherently abstract nature" of music and that "a tune is defined solely by relational information"; thus a listener is able to identify a tune through patterns even if the playing of the tune is different due to pitch or speed.

This relation to patterns could be a link to the way one experiences architecture. A public space usually has a large volume or entrance which creates a pattern by which one can recognise it as a public space.

Arabin (2002: 425) cites two forms of research by Roederer, and Fifer and Moon which illustrate that "the mother's voice has...an impact on the developing brain" and that "newborns react to the musical rhythms of speech" illustrating that aural perception is developed at an incredibly young age. In contrast, vision is only developed at a later stage; a baby often appears to be staring into space with little recognition but responds to the sound of a familiar voice or sound.

If one closes one's eyes and listens, it is possible to hear many sounds, and the memory of those sounds and past experiences allows one to imagine the cause or effect of the sound. In an urban environment it is possible to hear a passing car, a barking dog, a siren of an emergency vehicle. Through sound one can be included in one's surrounds, feel part of a larger experience. Sound has a power of imagination and suggestion, and works powerfully with memory of objects allowing one to imagine the size of a reversing truck or barking dog.

In contrast, our vision is limited; firstly our eyes are placed at the front of our head and there is a focus on what is directly in front of one. This is captured by Pallasmaa (1996:34) when he states that

"sight isolates, whereas sound incorporates; vision is directional, sound is omnidirectional. The sense of sight implies exteriority whereas sound creates an experience of interiority."

Sound can be felt as well as heard; in a club one feels the beat through one's body; at a concert the rhythm becomes integrated in the rhythm of the body, thus there is an element of sound and music that allows for an internalization.

Sight is done at a distance, there is no need for physical contact. Though vision can see that which one knows the feeling of, through the evocation of memory, a sense of texture or weight, "vision reveals what the touch already knows" (Pallasmaa 1996: 29)

Thus one can understand how through the sense of sight and hearing one can have other senses evoked, which then starts to create an understanding of why there is so much power in the interconnection of music and film.

various ratios that integers created. There were sound experiments that Pythagoras did using a single string instrument tightened over a box. (Leopald 2005: 171) By changing the length of the string Pythagoras showed how different proportions created harmonious intervals between sounds, for example halving the string produced an octave (a note half or double the pitch of the original note) hence the ratio 1:2 whilst 2:3 produces a fifth and 3:4 a fourth.

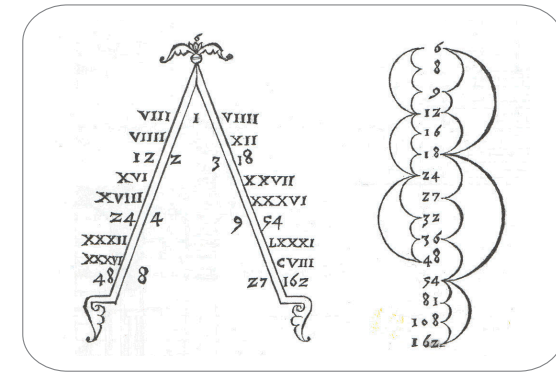


Fig 11. Musical Proportion as notated by Greeks (Source: Ching, 1996; 298)

Music was for a long time considered to be the discipline that is closest to architecture, with structure of music often being used in architecture and architecture inspiring music.

The philosopher Friedrich Schelling described architecture as 'frozen' or 'petrified music'. (Pallasmaa, 2006: 10) This idea of using musical structure to create harmony and proportion in architectural structure can be seen in the Renaissance period. Both music and architecture were related in creating harmony and proportion through mathematical formulae.

The architects in the Renaissance period looked to ancient ideas of harmony and proportion such as those that Vitruvius and Pythagoras had developed.

Pythagoras used integers and found harmony in

The Renaissance architect Alberti states (cited in Wittkower 1945: 76) "the numbers by means of which the agreement of sounds affects our ears with delight, are the very same which please our eyes and our minds," and, "We shall therefore borrow all our rules for harmonic relations ("finitio") from the musicians, to whom this sort of numbers is extremely well known, and from those particular things wherein Nature shows herself most excellent and complete."

This is demonstrated in his façade design which completed the Gothic church S. Maria Novella in Florence. However the use of Pythagorean ratios was not limited to the façade; in many of Palladio's buildings we can see the proportions in the plans of the building as well as in the volume.

The relation of musical proportion and architecture was also present in the work of Iannis Xenakis, when he worked on the facade of the La Tourette monastery whilst he was a part of Le Corbusier's office. Through the use of Le Corbusier's proportional system the Modular (based on mathematics of the Golden section and the proportions of the human body)

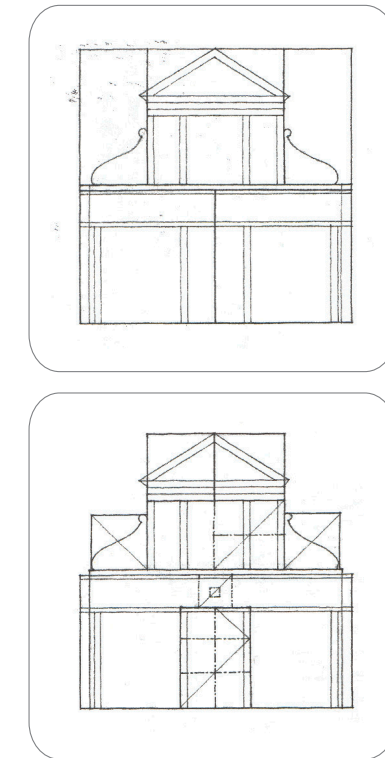


Fig 12. Alberti: S. Maria Novella Florence (Source: Ching, 1996; 298)

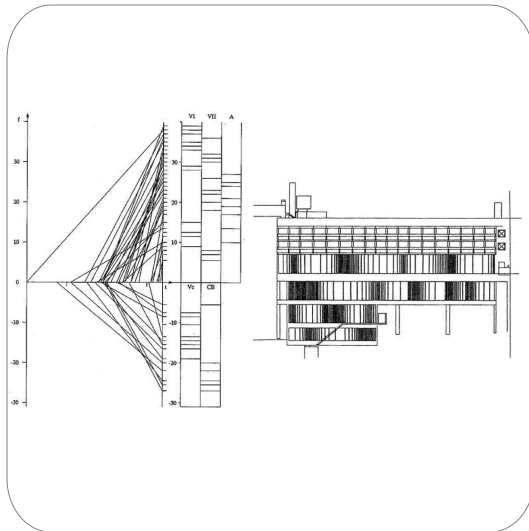


Fig 13. *La Tourette, Notation used in facade*
(Source: Leopald 2005)

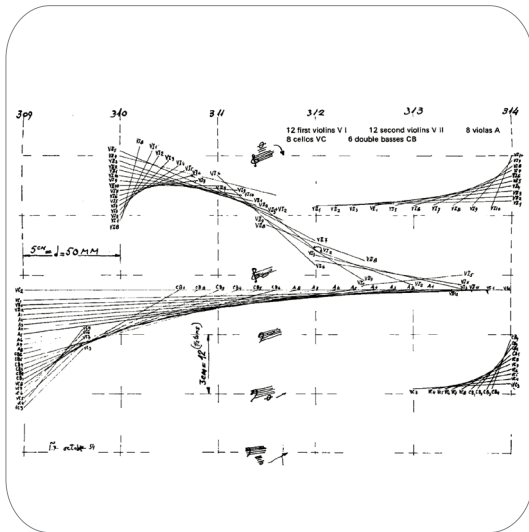


Fig 14. *Notation used for Metastis*
(Source: Leopald 2005)

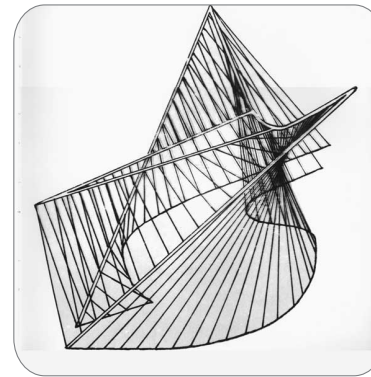


Fig 15. *Philips Pavilion geometry*
(Source: <http://music.columbia.edu/masterpieces/notes>)

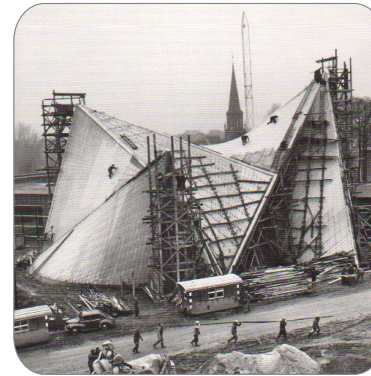


Fig 16. *Philips Pavilion under construction*
(Source: <http://panathinaeos.wordpress.com/tag/phillips>)

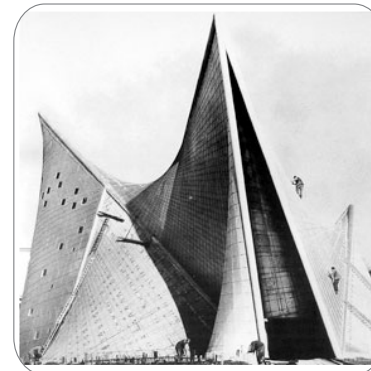


Fig 17. *Philips Pavilion*
(Source: <http://designwire.interiordesign.net1>)

Xenakis composed a piece of music called *Metastasis* with the rhythm increasing and decreasing in accordance to the modular. (Leopald 2005: 171) The resultant proportions were then applied to the façade of the monastery.

Following the design of the monastery, Le Corbusier and Iannis Xenakis collaborated with the composer Edgar Varese to create the Philips pavilion (for the electrical and media company Philips) for the 1958 Brussels World Fair. It was a temporary structure with a visual projection created by Le Corbusier called the *Electronic Poem*, a piece of music called *Poeme Electronique* composed by Varese and the hyperbolic-paraboloid structure was designed by Xenakis. He used the musical composition of *Metastasis* to generate a notation of straight lines which indicate the change of each instrument, a “map of rising and falling sounds” (Sikiaridi 2004).

In contrast there has also been music that is inspired by design and built form such as the Michael Gandolfi composition that resulted from seeing images and then later the actual garden which Charles Jencks and his late wife Maggie Keswick had designed: the *Garden of Cosmic Speculation*. The garden was inspired by another collaboration of disciplines, being that of science (mainly physics) and architecture.

For example *The Willowtwist* is described as “a shiny metallic sculpture suggestive of a mobius strip, except that its curves and twists are more complex. The music inspired by it turns back on itself, being twisting cyclical piece whose surface details are also “circular”” (Jones 2008).



Fig 18. The Willotwist

(Source: <http://gerryco23.wordpress.com/page/7/>)

This is just one element of the garden and one part of the composition, both of which are growing; Gandolfi suggests that he will continue to add to the composition as long as there are additions to the gardens.

There is a large exploration in the idea of architecture influencing music and the exploration continues into ideas of city sounds. A recent exhibition at the 2011 Milan Design Week had a musical device designed by Akko Goldenbeld called 'Stadsmuziek' (meaning City Music). Goldenbeld created a scale model of Eindhoven on a cylinder that when turned caused a set of hammers to play the keys of a piano, thus the city becomes the pianist. The resulting sound, though not always harmonious, suggests that the city not only has its own aural experience (cars, people talking, sirens) but that it can, through three dimensional

manipulation, be an aural experience. (Anon 2011) It is an interesting representation of the texture and diversity that can be experienced in a urban setting.

Similarly it is understood that music has developed as a result of the space that it occupied: Holl describes that Gregorian chant as a development of music is in response to the large interior spaces with its very hard flat materials that were prevalent in medieval churches. It is only in the tone of the chant that sound can be successfully carried to all that occupy the space.

More recently David Byrne (2010) also believes that it is architecture that has resulted in the development of music; the size and quality of space that has impacted the development of contemporary music from punk to 'stadium' rock.

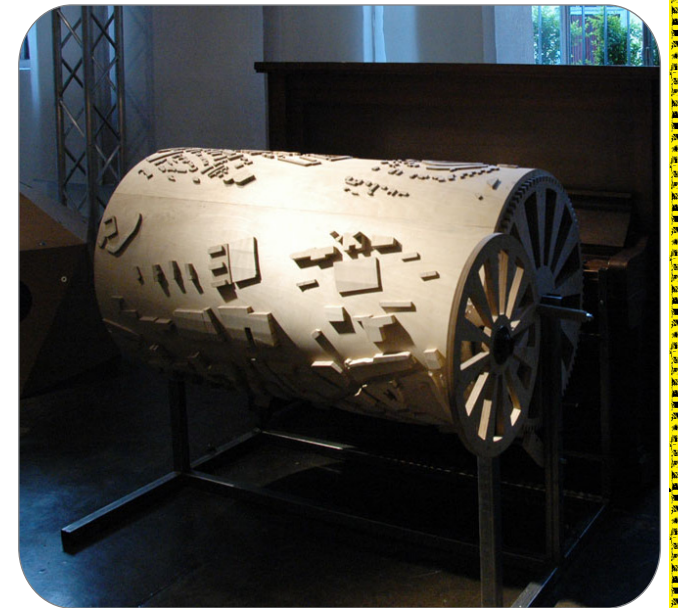
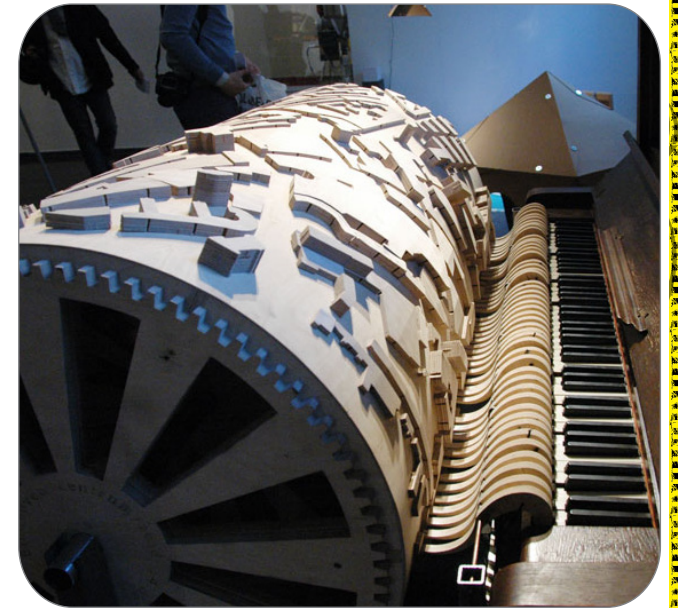


Fig 19 -20. Stadsmuziek

(Source: www.designboom.com)

There are many opinions that cinema is possibly more related to architecture. Pallasmaa suggests that both disciplines, film and architecture,

“articulate lived space” and that “they create experiential settings and frames for situations of life”. Where “lived space” is considered to be a combination of experiences of external space and the memory of space and experience, a mental space of memory and dreams, fear and desire; and inner space of being.

Bruno (2007) agrees, pointing out that both architecture and film are “practices of space.” He also states that the city and film are a modern production and

that they have been integrated since the 1920s where the city was often a subject of films or was an important part of the films’ story. This can be seen in films from that decade such as *Metropolis* (Fritz Lang, 1926) and more recent films such as *Lucky Number Slevin*, *City of God*, *Matrix* and *Bladerunner*.

The city and architecture is an important part of film, often providing the backdrop to a story and becoming an integral part of the film. Film creates a cultural archive of the era in which it was made and of the subject that it depicts. This often changes one’s perception of a space, building or city. What we see and place in our imagination in a film alters the reality of a place for example what one sees of Paris in a film is often different to that which one experiences when visiting Paris.

“since the beginning of the 20th Century... the screen... became the city square.” (Paul Virilio cited in Bruno pg 18)

Thus film can be seen through its consumption to become something more, a space that goes beyond function and can provide place for human interaction and behaviour like that found in a city square.

Eisenstein (cited in Vidler 1993: 56) suggests that the variation between film and architecture is that in film “diverse impressions (are) passing in front of an immobile spectator” whilst in architecture “the spectator (is) moved through a series of carefully disposed phenomenon which he absorbed in order with his visual sense”. Thus movement can be considered important in the metaphor of film, music and archi-

ecture. Movement or a route through a building can thread different functions together, or can separate users, possibly causing intrigue or tension, evoking emotions through an experience or allowing for the “major role of narrative (being) in organising our knowledge and our experience.” (Finnegan 1998: 01)

Both architecture and film are narrative and captured in a sequence, a montage of multiple frames and composition of juxtaposed elements. One cannot see the whole in one instant, only a fragment is visible and exposed; through the exposure of many fragments one is able to interpret the story or building as a whole. Yet a building is not experienced as an individual isolated item but rather as a part of its context or the city continuum. “Our experience of a city can only be, however, perspectival, fragmented, incomplete. This experience... consists of partial views through urban settings.” (Holl 1994: 48)

Films have always been as a result of the incorporation of many art forms and skills. It is a discipline that draws from many people and ideas.

“It was poetry that invented the technique of montage, not Eisenstein” (Brodsky cited in Pallasmaa 2006: 01). Pallasmaa explains that cinema is an amalgamation of narrative structures (such as in literature) with a visual expression and auditive means that evokes the sensations of movement, touch, smell and taste. He contrasts this to architecture which is also a result of immense collaboration despite the author of an architectural project’s idea often being a single person.

Pallasmaa (2006:2) suggest that architecture is also an impure art that fuses the material language of space, matter, structure and light with an emotive use of all the sense and not solely vision. Raymond Durgnat (cited in Pallasmaa 2006:2) suggests “its essence is that it (cinema) makes them interact, that it integrates other art forms, that it exists ‘between’ and ‘across’ their boundaries.” Considering the importance placed on the intersection and interaction of different disciplines, there must be value in looking at whether architecture can be enhanced in the same manner as film is by music, and what will create this enhancement?

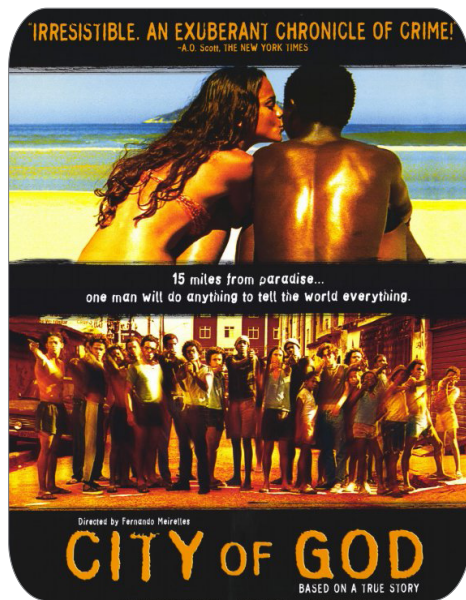


Fig 21. *City of God* Poster
(Source: www.imdb.org)

To try and grasp how music can influence a film, I am going to look at two films which use music very differently and the nature of the experience when watching them.

Firstly *City of God*, in which the story follows a boy, Buscape, who is growing up in the housing project outside Rio de Janeiro. The film starts with Buscape caught between the violent gangs that have grown and seem to run the ‘*City of God*’. The film then rewinds through time to explain how this point of ‘standoff’ was reached. The film is predominantly set in the City of God.

Buscape is responsible for narrating the story, which is told through a series of his memories and his description of the people who live in the city and their roles in the city. The opening scene is full of sounds and music evoking a very busy city experience: the sound of a knife being sharpened creates a tension in which, as the viewer, one is aware of something violent going to occur. The music is again narrative and in the first viewing of the film very unassuming.

However, as Spande suggests, it appears that it is impossible to stay enraptured in the film if one notices the music (in the sense of noticing if it is beautiful). “The music must disappear from the field of its own effects in order to work.” (Spande 1996) Perhaps this is the strength of the music and sound that is realised in “*City of God*”. It remains in the background, creating a local context with music that sounds like it comes from the area; it creates a feeling of routine and passing of time through the narrative. Many times it is very sombre, creating a tense atmosphere that relates

strongly with the image or storyline of the moment, for example when Ned goes after his wife’s murderer there is a fast drumming, creating a build up of tension and drama that is appropriate for the situation.

The film explores many different spaces of the ‘City of God’, starting off with the very sterile rows of match-box houses with public space of the rectilinear streets dominating the layout. A small cafe and a soccer field dominate as the place where people interact, with children spending lots of time at the soccer field. As the story continues, the city grows vertically, creating a very different space with many narrow and winding paths or roads between buildings. In many ways the city seems to produce more intimate spaces. Pathways, stairs, corridors all create subtle thresholds with the flats and homes remaining private spaces which, in the film, are shown to often be host to illegal drug trade. In the opening scene, it seems that a meal is under preparation on a balcony, with many people taking part suggesting the public nature of everyday events.

City of God uses of the technique of montage to condense and link images to narrate the story or event (such as the ‘standoff’) quickly. Montage which comes from the French verb monter, meaning to assemble, is a method of composing multiple images together to illustrate an idea or many ideas. This juxtaposition creates an understanding of many events occurring at once or many thoughts being experienced by the character in the story and thus the director wants to allow the spectator to understand the complexity.

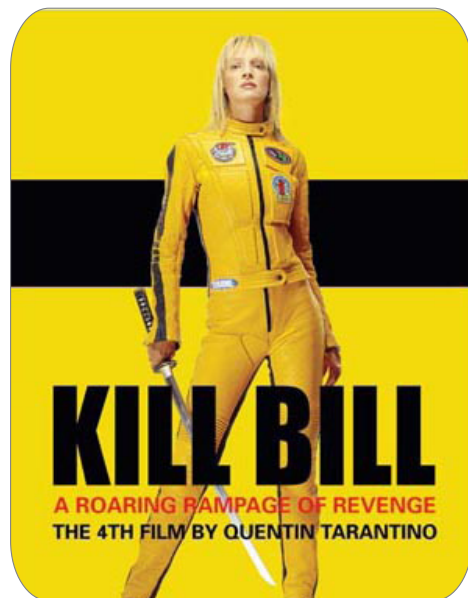


Fig 22. KillBill Poster
(Source: www.imdb.org)

Kill Bill probably represents the idea of montage best as montage is extended to the music and is not simply visual. The music raises a completely contrary emotion to that caused by the action that is occurring on the screen. The film follows the story of revenge of an assassin who was shot by her boss on the day of her wedding. She awakens from a coma five years later and starts a path of revenge on those that she had worked with who betrayed her in following her boss, Bill's instructions. The story moves all across the world, from America to Tokyo, from suburban life to one in the city. There are, as one would imagine with the story line, many incidents of fighting and incredibly gruesome killings. The visuals of chopping limbs, heads, and shaving of a scalp are horrific and incredibly physical in the feeling that one is left with as the spectator.

However, the music is important in lulling or calming the spectator. It is music that was created for a popular market before the making of the film, and is generally upbeat and is completely contrasting to the horrific actions one witnesses. As a result of the music not being specifically composed for the film, it also seems to date the film. The music plays before a fight breaks out, and then reduces to sounds evoking the movement of the fight or instruments used such as swords, and the music then starts again as the fight is completed. This break of rhythm creates a different structure or tempo within the film, creating an uneasy feeling or builds up a sense of dread or fear that the terrible occurrence is going to occur.

There is a piece of music that is played when the 'Bride' character sees any of the assassins on whom

she is taking her revenge. This music is played at the same time as a montage of images is flashed, showing that person's role in the attempted assassination. This ties the characters of the story to their actions and creates a sense of repetition and perhaps a different sense of rhythm, one that suggests an inevitability.

The common elements in music and film are time and movement, which both have spatial qualities and result in a rhythm, a sequence of experience. The music could be seen in many instances as the element that keeps a rhythm or ensures a flowing narration, it paces the film.

In *Winter's Bone* there is very little music, which, considering the subject matter, is fitting. A child is looking for her father in rural America where crystal meth has caused a family and community rift that endangers the child. Despite the lack of music at many times throughout the film causing a discomfort that was appropriate to the storyline, the film was static and often felt as though it lacked a rhythm or pace.

Rhythm and pace are important in architecture. Buildings are experienced through movement, and thus rhythm is important to how one uses or sees a building.

“A building is encountered; it is approached, confronted, related to one’s body, moved through, utilised as a condition for other things. Architecture directs and frames behaviour and movement.”

(Pallasmaa 1996 pg 42)

Steven Holl took the idea of rhythm and musical notation by translating the musical notation of Bela Bartok’s Music for Strings, Percussion and Celesta. He used the contrasting sounds of the instruments to contrast materials used in the building. Loud sounds became heavier materials, the more solid parts of the building, whilst softer sounds were lighter.

Holl has also experimented, as have many architects, with the idea of rhythm being created through the experience of light, or the change of light as the day continues. Natural light is an amazing phenomenon which always makes one feel part of a larger occurrence. Holl’s design for D.E Shaw and Co’s offices in New York used reflected light to show the change of the day. He used coloured glass through which the light passed and caused various projections which changed in their saturation with the passing of time. This links the user of the building to the external situation and climate change, thus always allowing for an experiential quality.

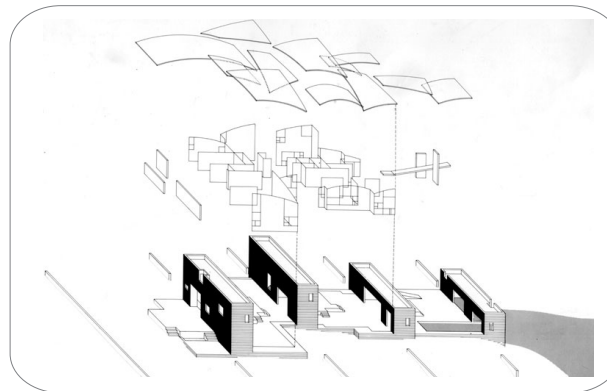


Fig23. Holl Stretto House
(Source: www.stevenholl.com)



Fig 24 -25. Holl DE Shaw Office
(Source www.stevenholl.com)



Fig 26 -27. *The Soundbarrier Houses*
(Source: www.archrecord.com)

The twelve soundbarrier houses in Diependaal by VHP architects in the Netherlands is possibly an extreme case of different movement being experienced as the houses are backed onto a main freeway where cars drive past at an incredible speed and would only notice the barrier for a fleeting moment, whilst the residents will experience their houses not only as they approach by car or bicycle but also as they walk through them at a much slower rate.

The Wall Shopping centre in Utrecht by VVKH architects is a similar example, though more public, of a place that is experienced at very different pace.

“Rhythm refers to any movement characterized by a patterned recurrence of elements or motifs at regular or irregular intervals.” (Ching 1996 :356) This pattern if experienced by the body (as opposed to the eyes) is as a result of the organisation of a building or space.

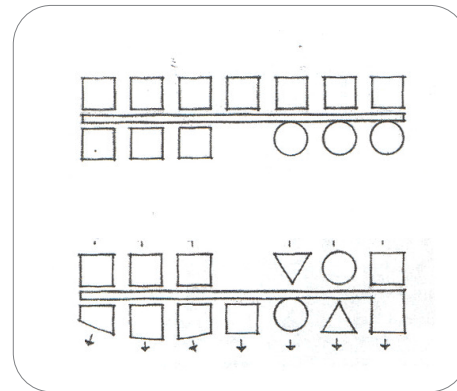


Fig 28. *Organisation of linear space*
(Source: Ching, 1996)

In the book *Form, Space and Order*, Ching looks at various elements that are considered important to architecture. In terms of movement and organisation the way in which space is organised is important.

There are various ways of organising ranging from linear to radial or a grid, however it is perhaps in the linear organisation with movement along an axis that a sequence of space can be understood to be framed almost in a narrative means similar to that experienced in film and music. By linking spaces along a thread it is possible to accentuate certain aspects, allowing for a hierarchy to be easily legible. Hierarchy is important in film in order to understand the importance of characters. There is also the possibility of the threaded spaces allowing for access to the outside.

A closer collaborative space is often designed with a ‘street’ like structure so that each person has a space

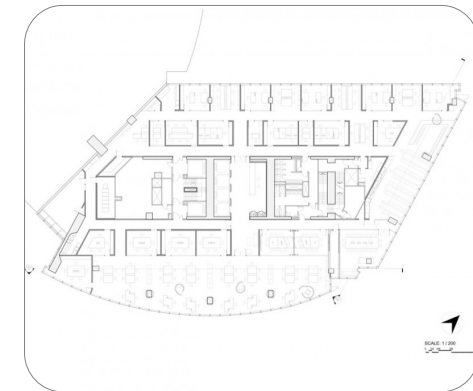


Fig 29. *McKinsey & Company Hong Kong Office*
(Source: <http://www.archdaily.com/141823/mckinsey-company-hong-kong-office-oma/>)

to suit their requirements whilst common areas give the opportunity for collaboration. This change of hierarchy within the office space allows for more flexibility in an industry that is changing and improving with technology and thus regularly having new requirements.

This street idea can be seen in projects such as McKinsey & Company Hong Kong Office by OMA. The inspiration is a barcode and the space is divided into linear layers with a central area providing common areas for all the staff, thus creating a space which promotes interaction between staff members.

Closer to home, in the Velocity Film Studios in Rivonia, Jo Noero designs the film production headquarters along a wide corridor that is lit from above and has all the rooms along it opening into the corridor, “gathering all the spaces in the building into one,

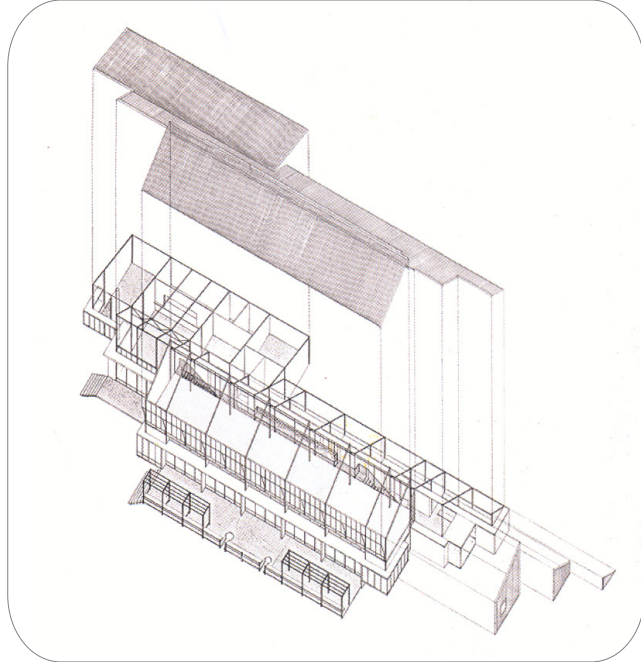


Fig 30-31 Velocity Film Studios
Interior Corridor and Axonometric
(Source: Sorrel, 2009; 61)

large social space.” (Sorrell (ed) 2009; pg 61)

Holl suggests that “our perception develops from a series of overlapping urban perspectives, which unfold according to angle and speed of movement,” and that it is impossible to list all these perspectives as there are too many possibilities and that no single view can be complete. Perhaps it is this that makes montage a relevant idea to architecture, as it allows for the ‘overlap’ of space and ideas which are revealed through movement.

Tschumi is considered influential in looking at montage as a technique for developing architecture which allows for the collision or montage of events or activities. “For if architects could self-consciously use such devices as repetition, distortion or juxtaposition in the formal elaboration of walls, couldn’t they do the same thing in terms of the activities that occurred within those very walls?” (Tschumi 1996:146)

Through the Manhattan Transcripts Tschumi develops ideas of how to notate events and activities that occur within space, he uses ideas from film in which he reduces an event (a murder) in a park to a sequence of framed events and then to a series of diagrams of movement that were derived from choreography notation and the event. Thus the ideas of space, event and movement are important in the dialogue that Tschumi creates.

Tschumi believes that “a park is a site of production and consumption, but of social behaviour rather than objects” (Hill 2003: 78). This relates to the ideas of events being important in creating a space or series

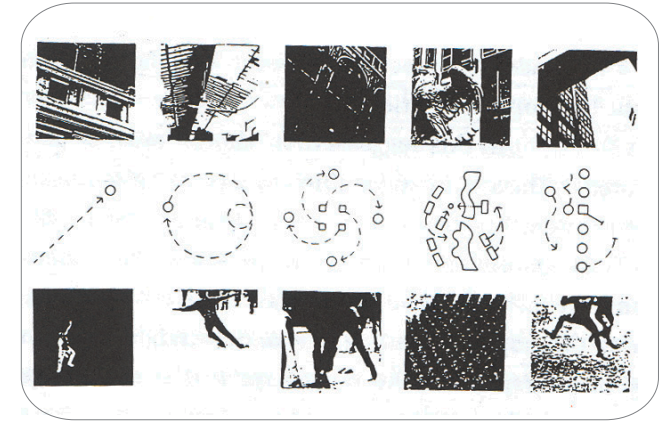


Fig 32. Tschumi's Manhattan Transcripts
(Source: Tschumi, 1994)

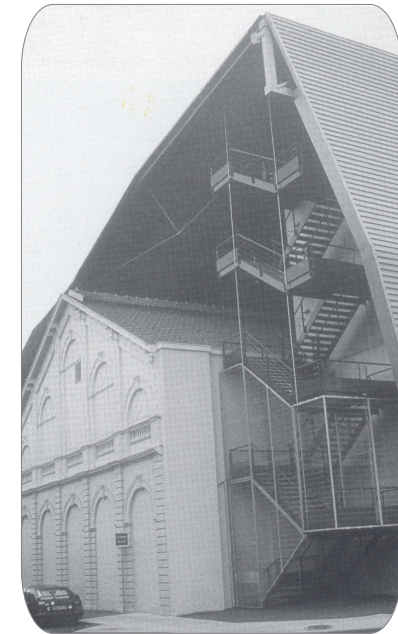


Fig 33. Tschumi's Le Fresnoy National Studio for Contemporary Dance

of spaces that are used for a series of events or functions. In considering the event, Hill suggests that to consider the user of a building is important in designing space that allows for disjunction as suggested by Tschumi. Disjunction is understood in these terms as “intentional or accidental appropriation of a space for a use for which it was not intended” (Hill 2003:84).

In allowing users to react to architecture, Hill considers the importance of flexibility that will allow for the most possible functions to be catered either through movable elements such as found in the Rietveld house or through what he terms ‘spatial redundancy,’ where the space is large enough to house various uses. Using ideas from Hertzberger, Hill suggests that polyvalence be a different approach to allow for multiple events to occur as the space is able to be interpreted in many ways such as in Hertzberger’s design of a central space in a kindergarden school that allows for a podium to be used at assemblies and to be used in spontaneous play by the children. Hertzberger expresses these ideas (cited in Hill 2003:45) by stating that “if we want to respond to the multiplicity in which society manifests itself we must liberate form from the shackles of coagulated meanings. We must continuously search for archetypal form which, because they can be associated with multiple meanings, can not only absorb a programme but can generate one. Form and programme evoke each other.”

These ideas are continued by other architects such as Rem Koolhaas who by using routes in the Rotterdam Kunsthal allows the user to create their own journey or path through the building by using what he describes as a ‘continuous circuit’. The ramp has a spatial

redundancy that allows for various events to spill out of the designated spaces. In the design of Le Fresnoy National Studio for Contemporary Arts, Tschumi has also allowed for programmed space as well as a gap or ‘in-between’ space that allows for spontaneity and different functions in alignment with his ideas of disjunction.

Thus ideas of montage that lead to cross programming can allow for diverse multipurpose spaces creating new experiences for the user; these experiences should be more than simply functional. “Beyond the physicality of architectural objects and practicalities of programmatic content, enmeshed experience is not merely a place of events, things and activities but something more intangible, which emerges from the continuous unfolding of overlapping spaces, materials and detail.” (Holl 1994: 45)

Through looking at film and music and ideas that relate to architecture it is possible to find ways to enhance the experience of space. “Whereas architecture fuses the material language of space, matter, structure and light with an emotive use of all the non-visual senses, cinema amalgamates narrative structures with visual expression as well as auditive and musical means with ideated sensations of movement, touch, smell and taste.” Pallasmaa (2006; 2) The ideas of phenomenology illustrate that an experience is undoubtedly affected by our senses which are impacted through spatial continuity and orientation, the resulting light quality, forms, textures and sounds. These all result from the enclosing (or lack thereof) of space. The method of enclosing space is influenced by scale and proportion which is affected by one’s perception

of music. Thus it is possible to translate something as ephemeral as music into a built form.

The way in which space is used also has relation to film as shown through the use of montage and crossprogramming. Through collaboration it has been possible to develop new ideas in music and film, and thus there are possibilities in creating new spaces through the interaction of film and music production as well as intersecting it with a public space to create a complex new space.

Ideas of rhythm and narration can be produced in architecture by considering movement as a means for one to experience a place. The emotional occurrence of a film that is heightened by music can be interpreted into the design of space and building, creating a place for experience and not simply function. “Space changes with the movement of the sun, place changes with the movement of human beings.” (von Meiss 1993:135)

Enhancing the experience of space.

Film and music are both a composition of parts, a montage that tells a story, and through an exploration of the theory and the nature of the site it is possible to develop some ideas into architectural strategies or gestures. Through the exploration of ideas in drawing and model making this thesis is going to investigate how to create a heightened experience of a place, (A place allows for social interaction within a space as well as an interaction with the spatial structure or building.) so as to lead to an architecture that is less bland and predictable.

The idea of layering became a strong strategy from both music and film and can be articulated in many architectural ways that would lead to and enhance experience.

Layered organisation can articulate a sequence of events. A sequence of events occupies the interest of a visitor and a visual sequence will intrigue a passerby. The creation of a sequence can be done through spatial changes or a series of artistic installations that involve the visitor directly engaged with an event.

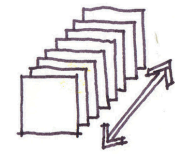
Circulation running parallel to the layers becomes a layer itself and amplifies the length of the building.

Public access to the building to be orientated across the layers exaggerates the permeability of the building and how the building addresses the street edge by pulling visitors through into the building and allowing for a transition from city to nature.

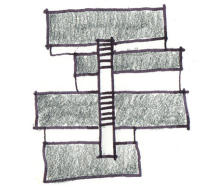
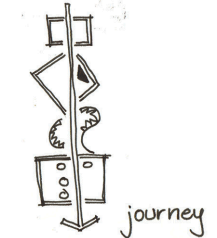
The positioning of programme in layers creates a hierarchy as well as an opportunity for an experience through the movement of a journey. This movement allows a story to be unfolded through the experience of the space, which feeds the idea of narrative that is inspired by film and music.

Layers are also important in creating a threshold which through texture, sounds, surface or stepping can engage a visitor and make sure that, for example, the entering of the building is a special occurrence.

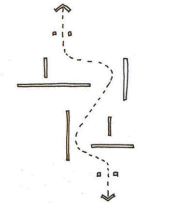
The use of juxtaposition exaggerates a feeling. Solid vs light, tall vs short, thick vs thin, dark vs light, quiet vs noisy, smooth vs rough, warm vs cold, a change of rhythm or pace: the experience of one will make the experience of the other more noticeable.



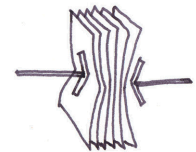
horizontal layers



layer crossing



suggested route



compress



privacy layers

Enhancing Social Encounter

This thesis proposes to make a film and music centre that adds to the quality of the industry through collaboration within the industry and through collaboration with the public through film literacy. To do this it is important to consider how one can enhance the social encounter, and create a building which allows for public encounters, be they planned or chance encounters.

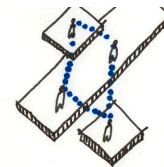
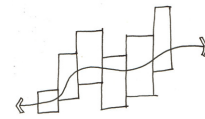
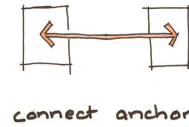
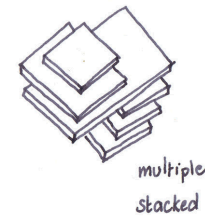
The promotion of movement through the site so as to link it to the area immediately surrounding it is one way in which social interaction may occur. The design of an environment that allows people to connect visually and physically is important in encouraging encounters to occur.

Some of the strategies that would allow this to occur are :

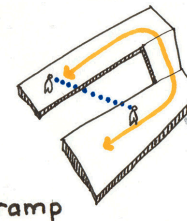
Multiple stacked layers that are shifted, create a split level that deals with the change of height across the site and promotes connection visually and physically through ramps and stairs.

The anchoring of the north and south part of the building generates an active interior as either end is connected through movement, which threads both function and user. By containing uses within a programmatic box it causes the users to interact in the space between.

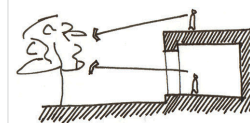
A central band or path which promotes interaction of users and of spaces on either side of the band allowing for unintentional collaboration. Functions become threaded like a narrative links ideas in a story.



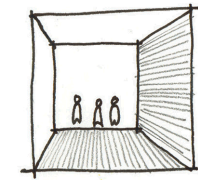
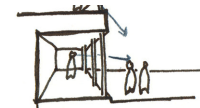
visual connect



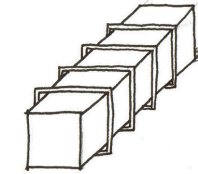
ramp



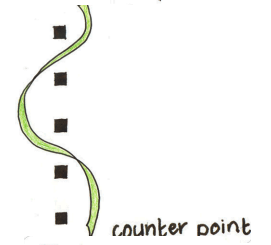
12
common reference



frame



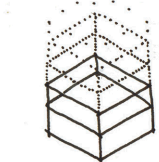
multiple frame



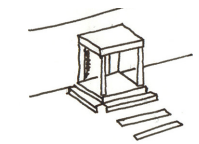
counter point



hierar



transparency



thresholds



Fig 34. The entrance to the Kunsthal
(Source: www.oma.eu)

“Flexibility is not the exhaustive anticipation of all possible changes. Most changes are unpredictable... Flexibility is the creation of a margin – excess capacity that enable different and even opposite interpretation and uses.” (Koolhaas cited in Hill 2003, pg 36)

The Kunsthal is a cultural centre in Rotterdam designed by OMA. It is situated on the top of a dike with the a busy highway to the south of the building and on the lower and northern side the Museum Park. It can be seen to serve as a gateway to Rotterdam’s cultural neighbourhood.

The building was seen to be a place of intersection, much like a public square. It has two routes which intersect the spaces creating a division whilst simultaneously joining spaces, through visual connections and the movement of a visitor. The one route is a road that cuts through the east west axis of the site, whilst the wide pedestrian ramp slopes from the higher southern side of the site to the lower Museum Park in the north. The route forms a continuous spiral which links the divided building and creates the contradictory experience of a building carved with movement routes with continuously connected spaces.

The ramps serve as the primary vertical circulation through the building. There are two ramps, one which is split by a glass wall separating the inside of the building from outside linkage between north and south, the second ramp runs in the opposite direction parallel to the first and is terraced in order to accommodate the auditorium. The entrance to the building is in the middle of the building where these two ramps meet, giving a visitor a choice of where

to go: to the auditorium or to proceed down the ramp onto the park or continue up to the highway or, on the inside of the glass wall of the same ramp, one continues to the exhibition halls. The ramp from the second floor to the roof garden cuts the building at an angle, adding to the dynamic nature of the project, which is further enhanced through the structure of angled columns that appear to be unaligned and ad-hoc so as to increase the experience of the building “with its schisms, interior slips and jumps” (Balmond, 2002 Pg99).

The building plays with the idea of visual connection through the different levels and halls having transparent or translucent material dividing it. For example on approaching the first hall via a stairway the view is obstructed with a landscape of columns. Thus the building plays with an aspect fluidity.

“A ramp is a luxury. It travels through time, collecting moments of arrival and departure, its line through space touching all parts and mixing adjacencies” (Balmond, 2002 pg101).

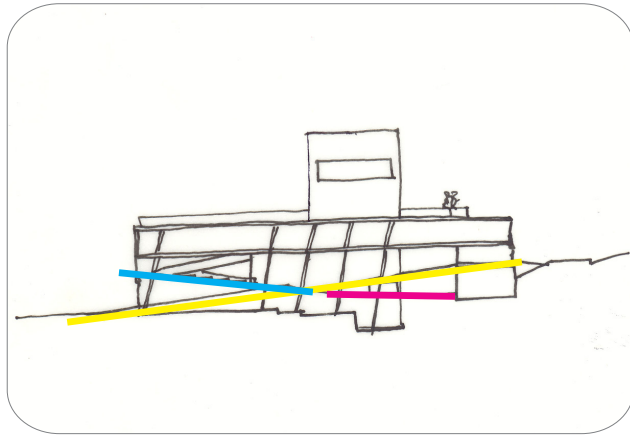


Fig 35. Section of the Kunsthall, highlighting the ramps
(after Balmond 2002: 10)



Fig 37. Slope of Auditorium with restaurant below to the right of the image and to the left the ramp to the entrance of the building
(Source: www.archdaily.com)



Fig 39. In elevation can see the dynamic nature of the ramps and the service road that cuts east west axis
(Source: www.oma.eu)

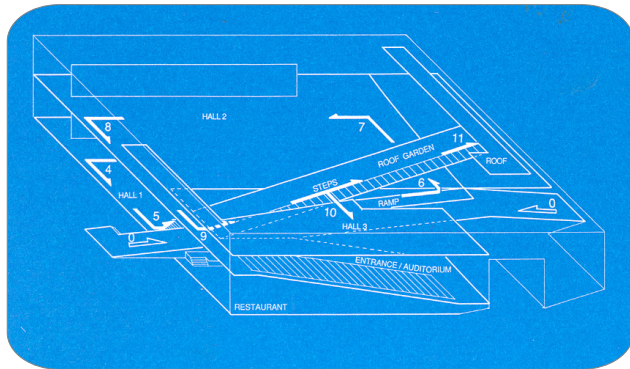


Fig 36. The Kunsthall Ramps
(Balmond, 2002: 110)



Fig 38. Ramp divided by glass
(Source: www.oma.eu)

Tools learned

Movement can add to the experience of a building as it gives the visitor the flexibility to construct their own journey.

Visual connection can entice one into a space while physical obstruction causes one to want to seek the space in a denial/reward system.

A strong public movement that links two spaces adds to the dynamic nature of a building



Fig 40. The Highway

(Source: <http://landscapeisdeb.blogspot.com/2010/03/focus-seouls-cheonggyecheon-stream.html>)

The Cheongyecheon river runs through Seoul. By the 1940s it had become over-populated with a shanty town around it and in order to rid the pollution the river was covered. Civil unrest and the Korean War meant that the project of covering the river was abandoned with full scale work of covering the stream only occurring between 1967 and 1976 when the elevated highway was built, covering over 5km of the river.

An urban renewal project was started in 2003 to remove the highway and to restore the river. A new bus rapid transport system meant that the use of the highway was no longer pivotal to the movement within the city. The river has become a new social part of Seoul that connects the north and south parts of the city, previously divided by the elevated highway. It has become a well used green public space right in the middle of the city with many urban gathering spaces along the length of the river and it has encouraged walking within the city. "A green river park that beautified downtown Seoul and gave its residents a spectacular setting in which to walk, splash, linger, and truly enjoy the city." (Rao 2003)

Shop owners were originally threatened by the removal of the highway as they were fearful that the removal of cars would remove their business. However, since the renewal of the green space properties have tripled in value and the high pedestrian movement has helped shop owners. It has also been noted that the temperatures in the area have reduced by as much as 10 degrees and that the "urban heat island" effect is diminishing, making Seoul a more comfortable place to be.

The imagery from the renewal project shows how beautiful the place has become and how people have populated it, making it a successful project that has brought some nature into a dense city. The contrast of nature and architecture can enhance the experience of each other through their contrasts such as the light and texture.

The river itself has been controlled through the positioning of slowing devices such as stones which also serve as stepping stones, allowing people to cross it and changing the sound of the river which adds to the atmosphere of the areas. At points the river is slowed sufficiently to allow people to splash within it. There are also bridges reinforcing the link between the two sides. By being below the city level it is imaginable that one can forget that there is a major city around the river. The edge of the river has been adapted to allow for people to walk, meander or take a moment to sit and enjoy the nature. There are raked seating and gathering areas that provide space for events and celebrations to occur. Lighting makes it a safe space no matter the time of day.

Public space is most often successful when there is some form of 'urban buzz' that is created through animation and activity. If a passerby sees something that looks exciting they will either enter the building or tell friends that they want to do so. Jane Jacobs argues in the book *"The Death and Life of Great American Cities"* that by bringing people onto a street there is the creation of the idea of vitality and animation. (1961: 378) Seoul Cheongyecheon River illustrates that vitality and animation can be created along a street of water.



Fig 41 -48. The River after renewal
 (Source: <http://landscapeisdeb.blogspot.com/2010/03/focus-seouls-cheonggyecheon-stream.html>)

Tools learnt

Though the Braamfontein Spruit that is the boundary to my chosen site is many times smaller than this project it is the idea of creating a space along a natural source to enhance the area in which it is and the occupants of the area that is inspirational and of relevance to this thesis.



In order for a film and music centre to be successful in spreading literacy and creating a forum, it is necessary to situate the building in an area where the programme will be visible and where a dynamic flow of people through the area ensures exposure to the centre. It is important that the building should add to the functions that already occur in the area.

“The Johannesburg TV and film industry are gravitating towards a convenient central node.” (Gimpel, 2011)

This node is driven by the trend to be near the national broadcasters, the SABC who are situated in Auckland Park and other industry facilities in the area of Auckland Park, Melville and Braamfontein Werf. The broader area of Melville, Auckland Park and Brixton is home to many actors and artists. (Green, 2011)

Artists are often at the forefront of enjoying new places and events as can be seen with the success of the Maboneng district (Bioscope, Arts on Main) which has now expanded into attracting a wider audience circle. Thus the value of an artistic community is important in the development of a creative hub that serves both working and entertainment value.

The presence of the University of Johannesburg’s Faculty of Art, Design and Architecture and the nearby main campuses of University of the Witwatersrand as well as the private South African School of Motion Picture Medium and Live Performance (AFDA) has meant that there are many students in the area, especially with a recently completed apartment block on the corner of Empire Road and Barry Herzog. Students are the perfect vehicle for expanding film literacy as they are usually in a position where they want to expand their knowledge and experience base and are thus open to new things. By capturing the interest of students it is possible to reach a larger circle of society as the students share their experiences with family and friends.

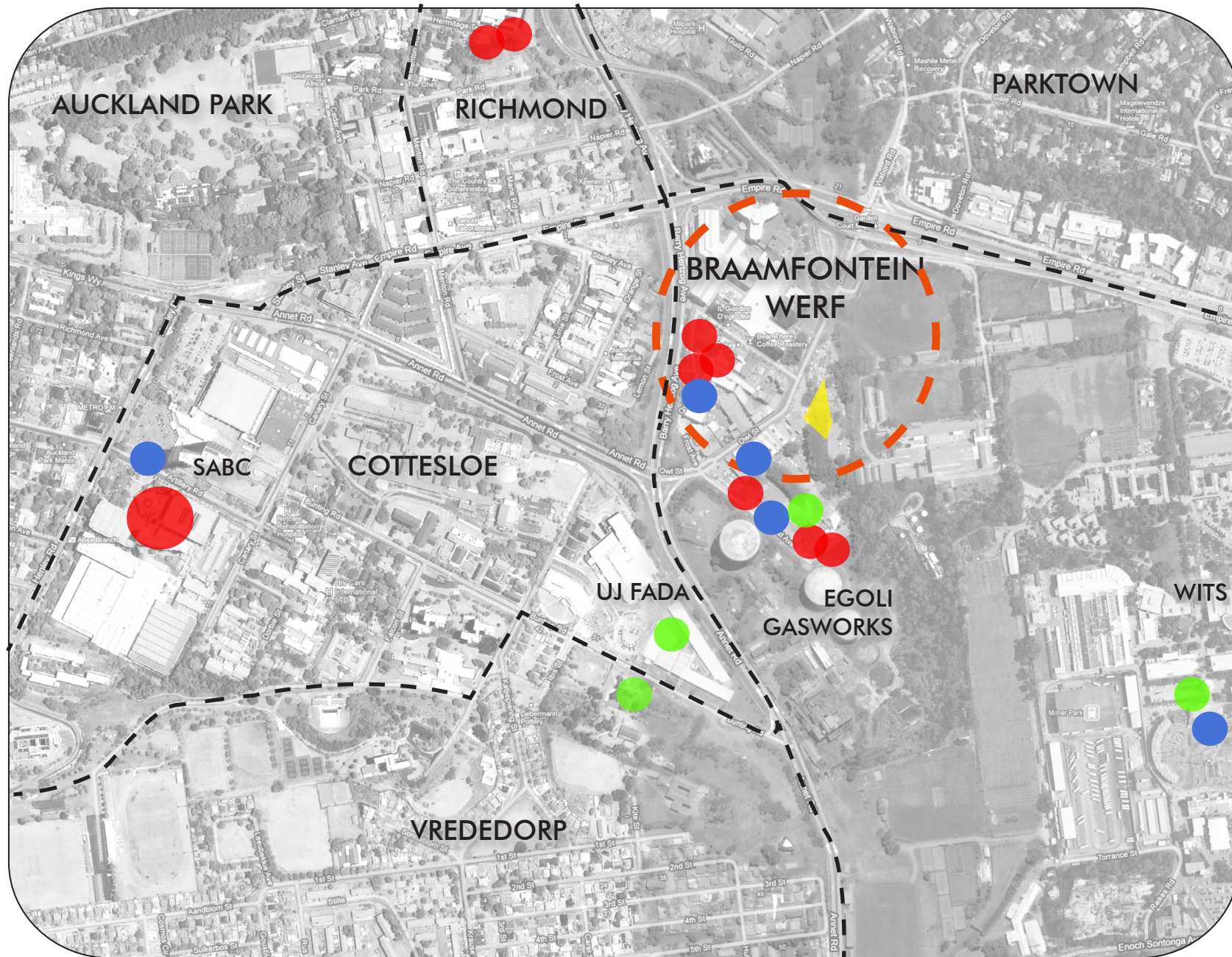


Fig 49. Map of film and music within a kilometre radius of SABC (Source: Map from www.joburg.org.za Mapping author's own)

Braamfontein Werf can be seen as an area with many potential linkages. Not only does it sit along the academic arc within the city of Johannesburg (Dewar, Louw & Urban Solutions 2009) it is situated between the Braamfontein train Station and Parktown, the start of the northern suburbs. The variety of uses and variety of residential income areas surrounding it place it in a position to become a major mixed use node and to become a zone of integration. (GAPP Architects and Urban Designers, 2010) This node has already begun to develop as Braamfontein Werf is an area that has undergone many changes in the past 10 years, with renewal projects of various spaces transforming an old industrial area into a thriving creative hub.

The transformations include that of the rundown abandoned Atlas Bakery into the Atlas Film Studios, housing film and television studios, by Jonathan Gimpel. He is also responsible for the Media Mill on Quince Road with its variety of creative users ranging from architects, film makers, advertising and graphic design. Next door is the 44 Stanley complex, in which Brian Green has converted eight office buildings into a mixed use complex with offices and retail, both shops and restaurants. The negative space between the buildings becomes an internal courtyard system that is continuously used with a few restaurants and retail spaces flowing into outdoor space, allowing consumers the opportunity to capitalise on the beautiful climate that Johannesburg experiences.

Brian Green sees the area as a “stepping stone for people to get back into the city, (Davie, 2003) particularly with changes and growth of culture occurring in

Braamfontein. This idea is obviously shared by Ricci Polak who is responsible for the development of the old Chubb headquarters and two adjoining office buildings into 29 loft apartments called the Refinery. This means that the area is truly mixed use with the opportunity to work, play and live in the area.

However the play aspect is predominantly that provided by the 44 Stanley complex which is not really in the spending range of an average student. There is a Pick ‘n Pay store and a few chain restaurants across the road from 44 Stanley and the recent addition of a Virgin Active gym has added to activities that are possibly more financially accessible to students. Thus the area lacks an entertainment aspect for the students who live in the area, resulting in their travelling to nearby Braamfontein, Newtown or north towards the malls such as Killarney and Rosebank.

As the area is predominantly refurbished or redeveloped buildings it allows for a new building to make a mark and define the area. Thus the addition of a film and music centre would be suitable in this area and would form a gateway to the creative hub that has developed in the area for both people involved in industry and for public users. The public add a new complexity to the programme that would also hopefully mean that new forms of collaboration and inspiration can occur within the centre and allows the expansion of film literacy.



*Fig 50 - 57. The materials of some of the surrounding buildings
(Source: author's own)*



- 1 VOVO TELO BAKERY
- 2 SIRKEL JEWELLERY
- 3 CRAFT UNLIMITED
- 4 IMAGINE NATION HARDWARE
- 5 LA BASSE COUR FRENCH WARE
- 6 TIN TABLE FURNITURE STORE
- 7 VENDAGE FOOD WINE OLIVE OIL
- 8 VINTAGE COWBOYS
- 9 BEAN THERE
- 10 BOAT COURTYARD CAFE
- 11 IL GIARDINO DEGLI ULIVI
- 12 SALVATION CAFE
- 13 ART ON PAPER
- 14 REFINERY LOFT APARTMENTS
- 15 GALLERY AOP
- 16 MEDIA MILL
- 17 AFDA
- 18 GLAMASPHERE CASTING AGENCY
- 19 CURIOUS PICTURES
- 20 ATLAS STUDIOS

*Fig 58. Map of immediate functions in area of chosen site
(Source: author's own)*

A recent proposal by GAPP Architects and Urban Designers has shown that there is more interest in expanding this mixed use node through a development on the Egoli Gasworks site, which extends from Annet Road in the south to Owl Street in the north. The first draft for this precinct plan was presented in March 2010. GAPP's vision is for the proposed development is to create a new urban node with mixed land use, medium to high density built environment that is integrated with the open space on the site.

GAPP's aim is to position the development as a mixed use node to achieve a "secure, work, live, play, shop precinct" that includes:

- Niche & Lifestyle / Leisure Retail.
- Boutique Hotel.
- Offices
(institutional, professional, creative art etc.)
- Apartments
(middle-upper income & student).
- Education/Training
(IT, UJ/Wits links, Private Colleges).
- Hi-Tech
(IT, Film / Publishing/Advertising & Creative)

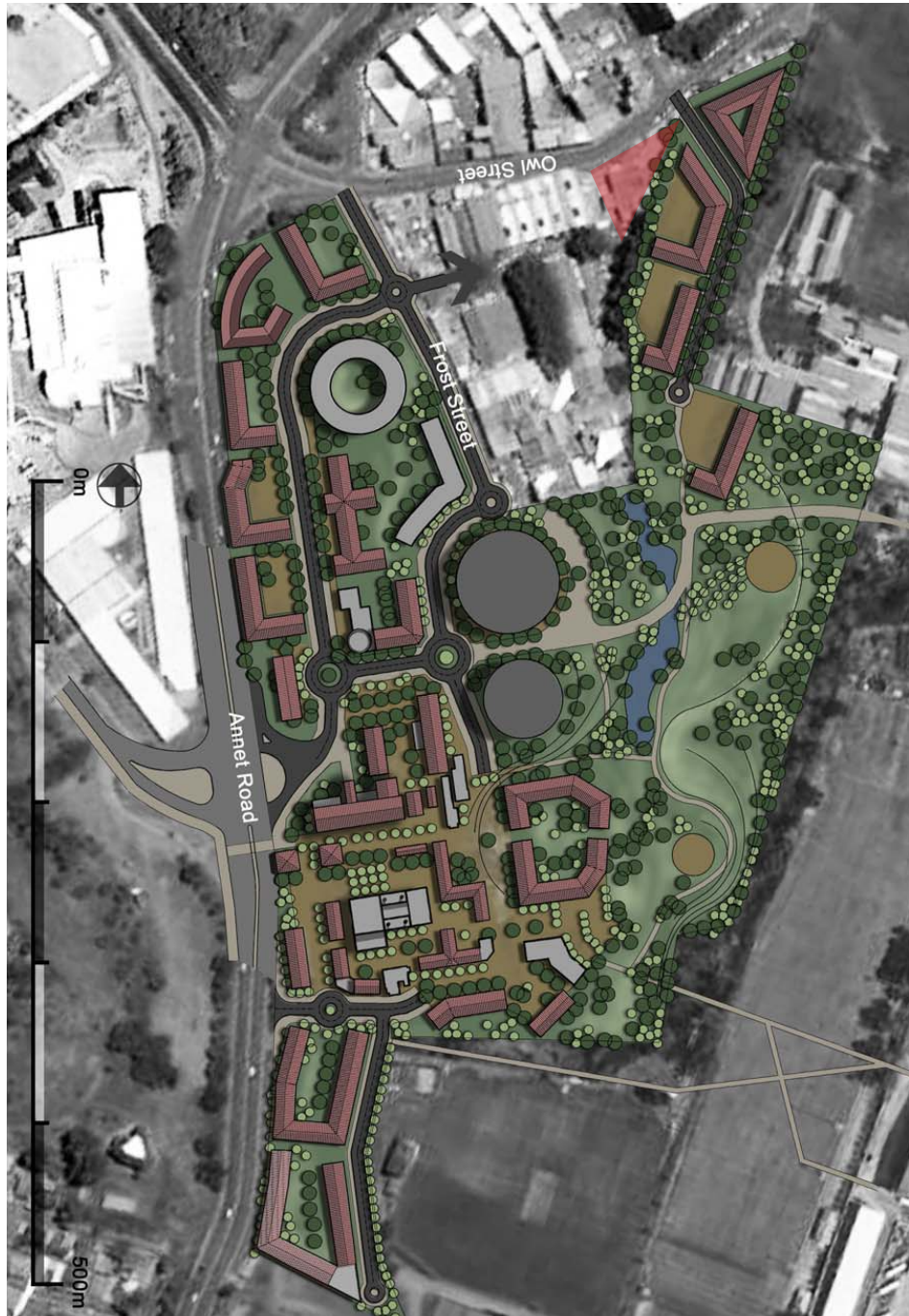
These aims are in align with the rest of the development that has occurred in Braamfontein Werf with the renewal of Atlas Studios, the Media Mill and the Refinery.

The eastern portion of the site is set out to be a recreational park space and the wetland area, tapping into the Braamfontein spruit piped beneath, and through

landscape interventions dealing with the contamination of parts of the land which make it inhabitable though Environment experts are monitoring it and so far it has not seeped into the Braamfontein spruit and thus is possible to reuse through landscape interventions.

This idea of a green space fits in with the Wits 2009 Urban Framework by Ludwig Hansen, Piet Louw and Dave Dewat. This framework suggests the expansion of Wits University occurring as infill projects and that there is a link to the city through the green system such as the green land. The Wits University precinct plan proposes to connect with its a city wide transport which creates an opportunity to use the Braamfontein Spruit between Wits and the Egoli Gaswork Precinct site as a natural recreational pathway for bicycles and walkers, thus further enhancing the area and its opportunities.

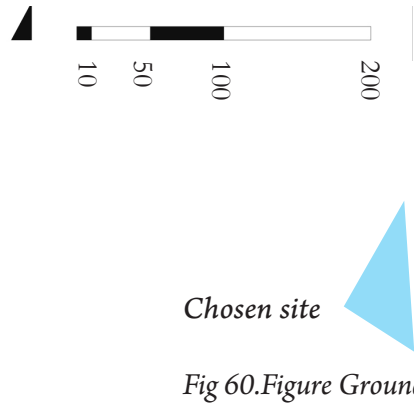
This is of interest to this thesis as the Braamfontein Spruit is the eastern border of the chosen site. As the function of the Centre is one that caters for public and the centre aims to act as a gateway here is an opportunity for it to do so. The start of a recreational pathway can occur at the Centre and make its way past Atlas Studios, AFDA, various film related companies such as Curious Pictures and along to the University of Witswatersrand.



Chosen Site 

*Fig 59. Urban Framework for Egoli Site by
GAPP Architects and Urban Designers
(Source: Egoli Gas Precinct Plan for Mixed
Use Development 2010)*

Figure Ground



The figure-ground of Braamfontein Werf and its immediate surrounds shows how the area is an area caught between spaces, with the western areas of Cottesloe and Richmond having a more rectilinear grid layout with a more dense configuration in contrast to the east and south where the institutions of Wits University and UJ FADA Campus are more spread out with more open spaces.



Surrounding Heights



Fig 61. Heights

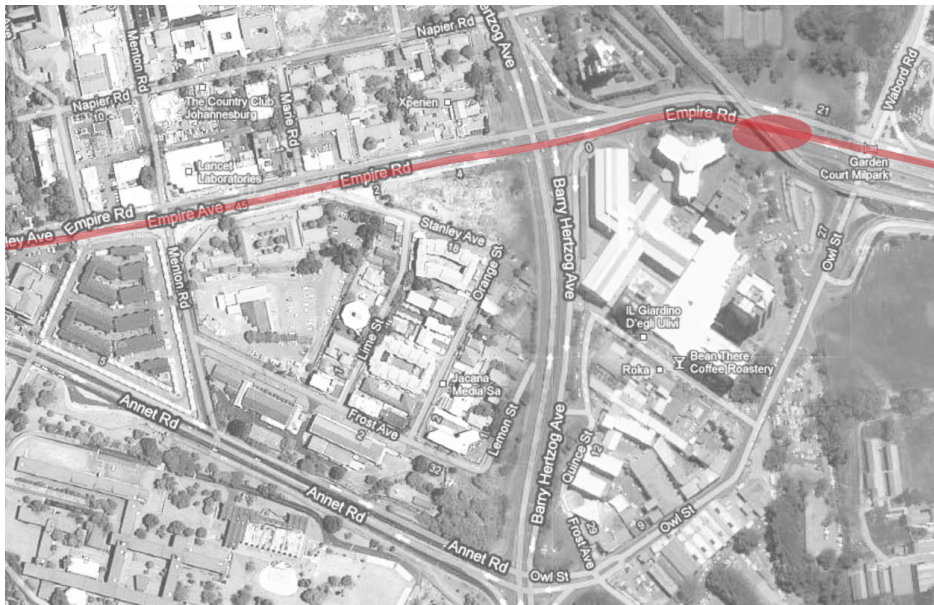
The majority of the buildings within Braamfontein Werf and surrounding areas are low rise with many only two or three storeys. The taller buildings are clustered together and are situated close to the large road intersection of Barry Herzog Avenue and Empire Road. These taller buildings are predominantly office blocks, with the new apartment block on the corner of these two main roads being the tallest residential building in the area.



Movement

The movement in the area is predominantly vehicular movement, particularly with the main roads of Empire Road and Barry Herzog Avenue so near by. The M1 highway is easily accessible and minutes away whilst Newtown is minutes away to the south of the site. However the high level of students and scholars means that there is a lot of pedestrian movement through the area, with several modes of public transport being accessible nearby. This movement is seldom leisurely movement rather to catch transport to and from the area. The narrow pavements make it difficult to linger. The high movement of people walking in the area does mean that it is possible to design a building that can rely on passing by pedestrians, and if this is considered and a space is created to give back to the public, making the walk more pleasant, it is likely to allow for some lingering before rushing off on the nearby taxi, BRT or bus.





BRT Station and route



Bus Routes and Stops



Prominent Taxi Routes and Stops



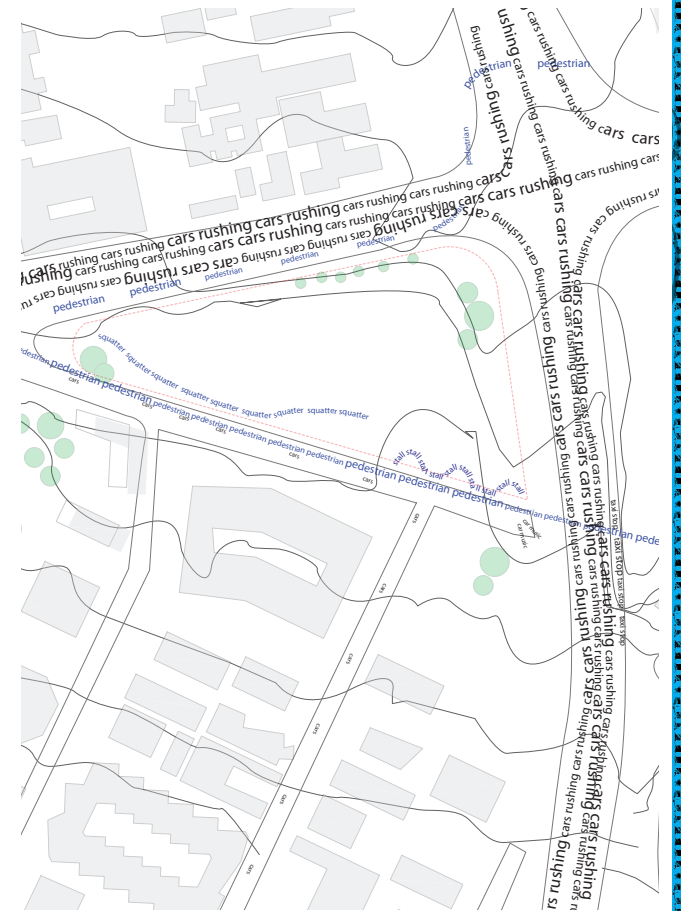
Prominent Pedestrian Routes

Fig 62 - 65. Movement routes
(Source: Map from www.googlemaps.com)





Fig 71- 73. Photos of the considered site
(Source: author's own)

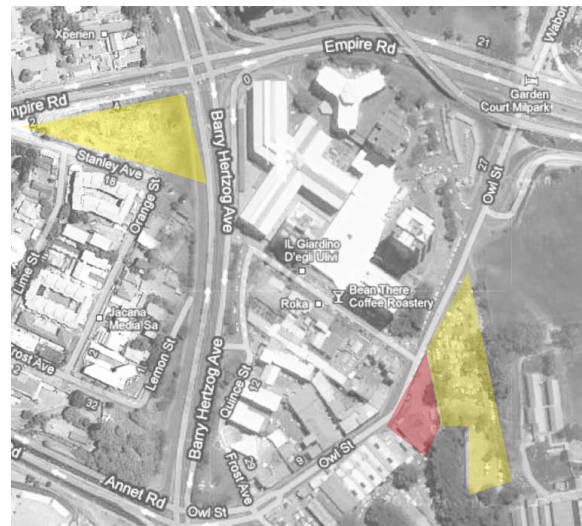


- Machine
- People
- Natural

A change in text size indicates a change in frequency in peak periods of the day. A gap suggests less frequent use.

The other is situated at the intersection of Barry Hertzog and Empire Road whilst its triangular form is completed with the more pedestrian Stanley Avenue. It is currently owned by Empire Crossing Development and is zoned for industrial use with a height restriction of 3 storeys.

It is incredibly visible as a result of being on a corner of two main roads, which would be great in publicising the building and making it known to the public. However it creates pedestrian access issues and becomes isolated from the creative hub that has formed on Stanley Avenue as a result of Barry Herzog Avenue which is a very busy road.



● Chosen Site

Fig 74. Map exploring sounds experienced
(Source: author's own)



Through mapping and analysis of the area it was identified that this site would suit the function of the building far better than the two previously discussed sites, for the following reasons:

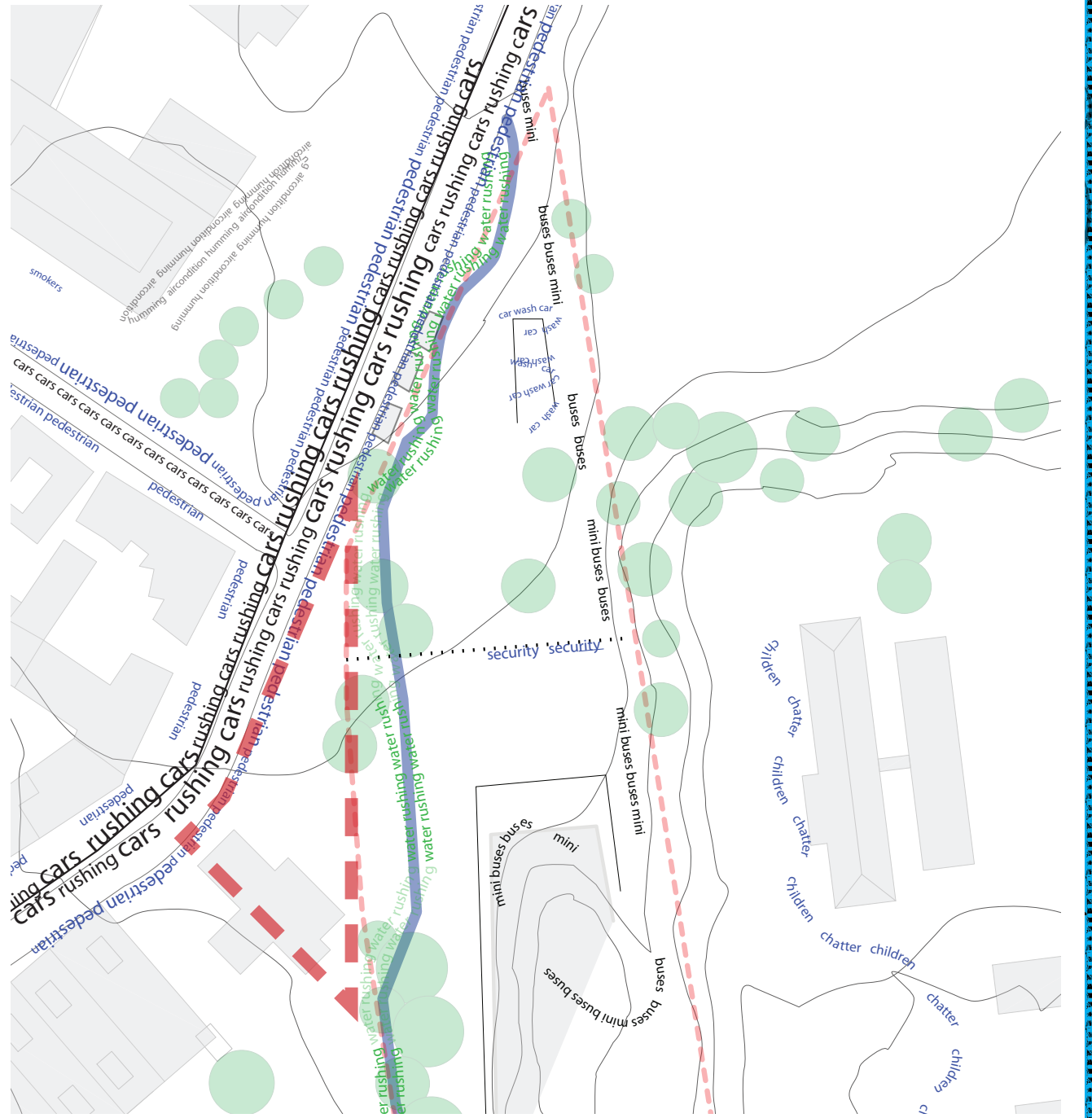
Situated just to the north of the Atlas studios on Owl Street is a triangular site with its northern tip placed at the T-junction of Stanley Avenue and Owl Street. This gives the site many opportunities of being visible from Stanley Avenue when travelling both north and south along Owl Street and even the nearby Empire Road flyover. This visibility is important in promoting the building as one for the public.

The site is tightly fitted between Owl Street and the Braamfontein Spruit, a small stream which is currently contained in concrete culverts. This creates a binary of noisy street and quiet nature, suggesting a natural threshold from public to private. The idea of binaries also comes across in the combination of music and film both in finished product and in the production of the product.

As it is to the north of Atlas Studios and Afda, it is the ideal siting for a building to become an entrance into the area and an introduction into film and music and thus hopefully a celebration of both disciplines with public exposure easily possible. Thus the siting of the building on this site would be a reinforcement of a creative spine that has developed with many film related business moving within easy distance of the SABC. The building should interlock with the current uses in the area while providing something more.



Fig 75. Map exploring sounds experienced
(Source: author's own)







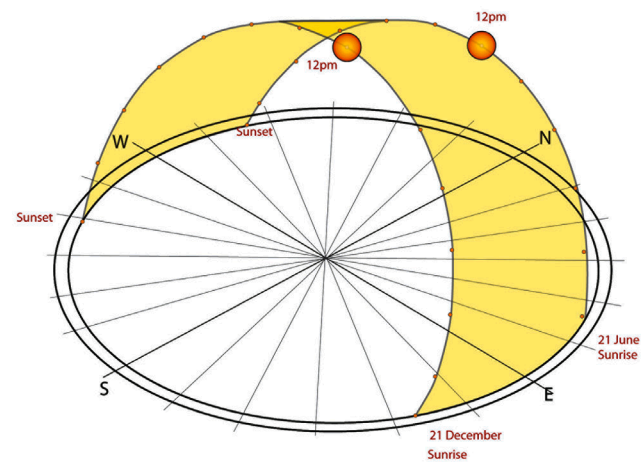
*Fig 76. Site photo
(Source: author's own)*



*Fig 77. Site photo looking north east
(Source: author's own)*



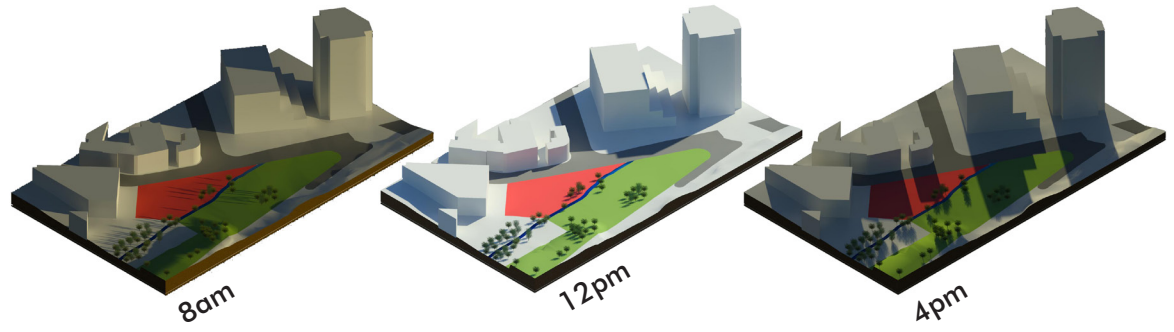
*Fig 78. Site photo looking south
(Source: author's own)*



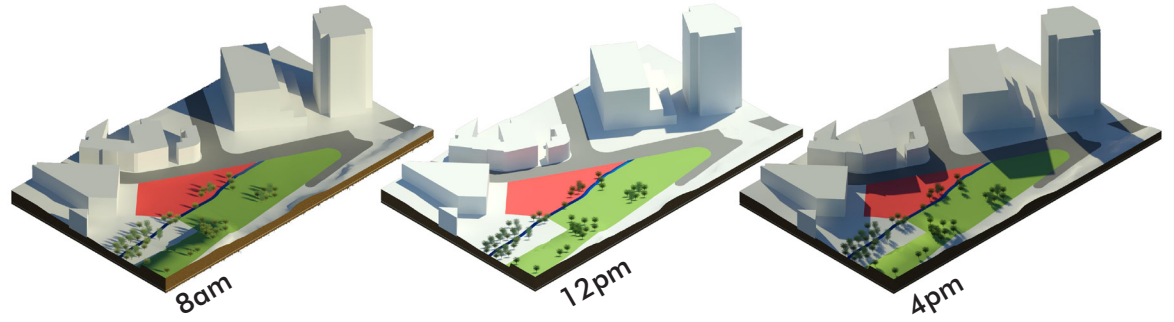
Light is an important part of film and has been identified as an important aspect in the design of the building as it has the power to create an experience or mood. The consideration of glare from direct light is also an important consideration, as most post production is done on computers and glare makes it difficult to see what is on the screen so as to make the subtle decisions of colour grading etc. Thus it is important to understand the amount of natural light that is available through the course of a year.

These sun studies illustrate that there are long shadows cast in the winter from the tall buildings to the north west of the site which impacts the entire site rather significantly in the afternoon. However the morning sun can radiate across the site unheeded at the present with the site to the east being not built upon. In the summer the site is affected by the 4 storey and 5 storey buildings to the west of the site. However as a road divides the site and these buildings the shadow cast seems to be predominantly affecting the site in the late afternoon. Stanley Avenue means that there are no shadows falling in the evening on the northern part of the site, which as experienced on site visits means that from the northern point there are views of the sun setting which can be very dramatic and beautiful.

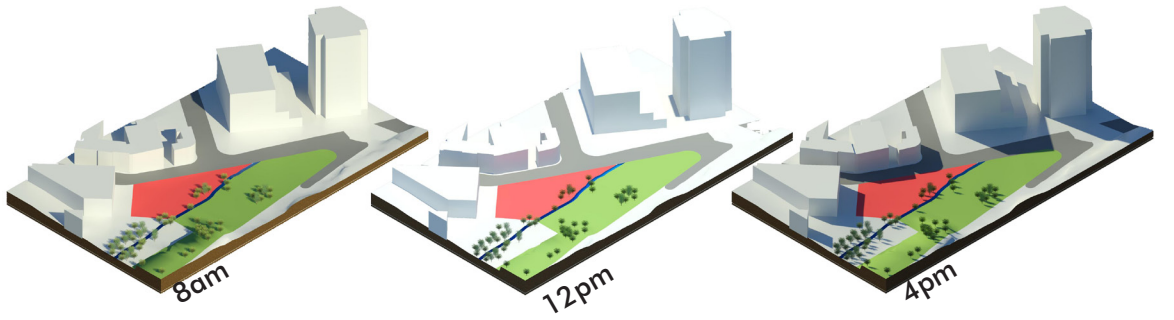
WINTER



SPRING



SUMMER



AUTUMN

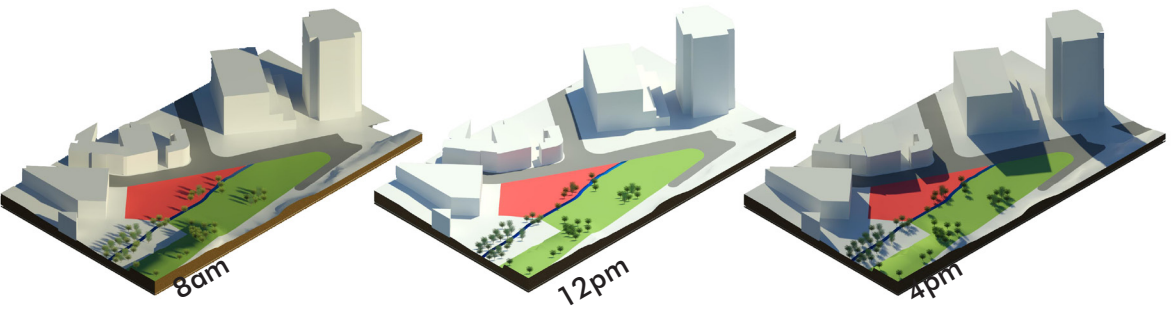


Fig 79. Solar Study
(Source: author's own)



The proposed building is sited in an area that links many diverse areas thus becoming a place of integration. The site is surrounded by many refurbished buildings which has resulted in the surrounds being circumstantial and forced to fit into buildings built originally for a different purpose to their current use.

There is a wonderful opportunity to create a building which serves as a public gateway to the area that brings cohesion to the space and creates a symbol of its place in a growing industry of film and music by including public flow and accessibility as well as having technical enclosure for the post production of film and music. The MoAct Centre proposes the idea of intergrating and growing an urban area that has many players in an industry due to the gravitation of the national broadcasters.

The centre seeks to become a prominent space in the city of Johannesburg where industry players may meet in forums, expand links with students and graduates of the industry and expose the public to the wonder of films and music associated with them. The centre would have private investors who are working in the area and have a vested interest in the area and in the industry. There is also possible support from the National Film and Video Foundation as they are instructed by government to assist in the expansion of the industry and its public literacy.

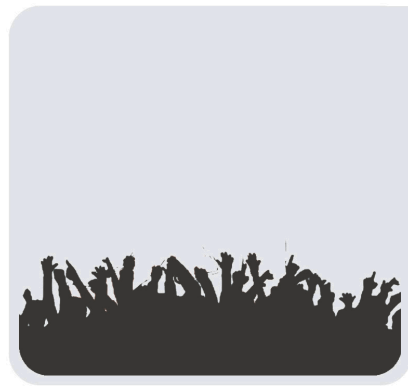
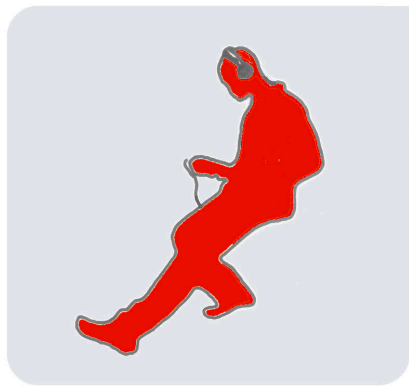
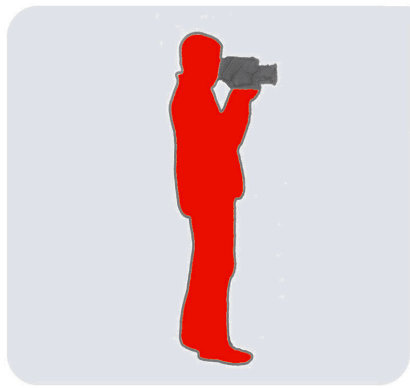
A renewal of the urban area, in particular the Braamfontein Spruit, would also ensure that the building successfully links to the various institutions and functions in the area, ensuring that there is better use of the area and 24-hour security which as Jonathan

Gimpel says, “would ensure the safety of television and film producers who work odd hours.” (Ntshingila, 2003) It is understood that other developers in the area are interested and that the Joburg Development Agency is prepared to act on these developers’ plans of urban renewal.

The centre’s programme is based on the production, performance and experience of film and music which should add to the functions of the area currently and allow for growth in the future. Through the diversity of the programme it is possible to create a building that is used for the majority of the day and most nights of the week.

The performance space includes auditoriums that can serve as a cinema or a musical performance area. Screening rooms and a function room as well as an outdoor ampitheater also allow for performances. As there are already production spaces such as filming studios at Atlas studios the production space becomes predominantly post production in the film discipline with recording studios and rehearsal rooms allowing for the production of music which can then be added to the film. Thus the production space includes music studios, and film suites. There is only the addition of one film studio to the programme as a result of the site choice taking the space at the bottom of the Atlas Studio property where there are plans to increase the studio space through the addition of a 7th studio.

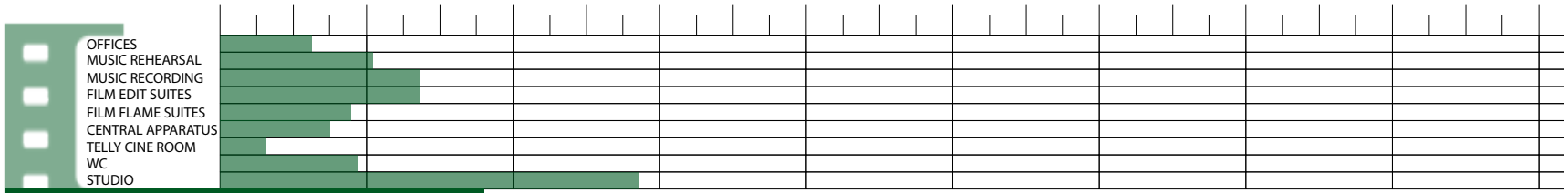
The amenity is through a retail store, coffee shop, restaurant and bar and exhibition spaces as well as an archive.



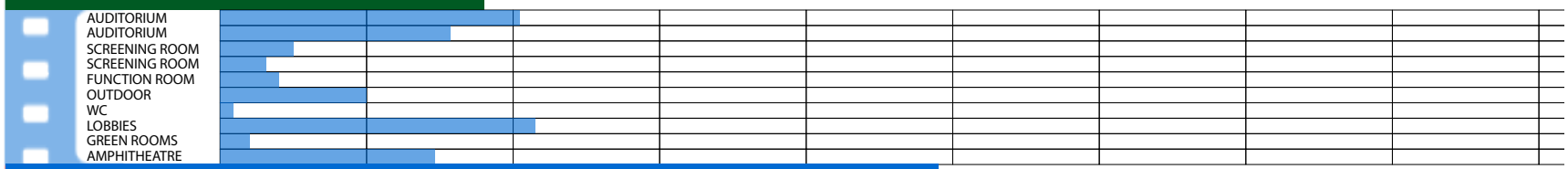
*Fig 80. Sketches of the programme overlapping
(Source: author's own)*

PROGRAMMING

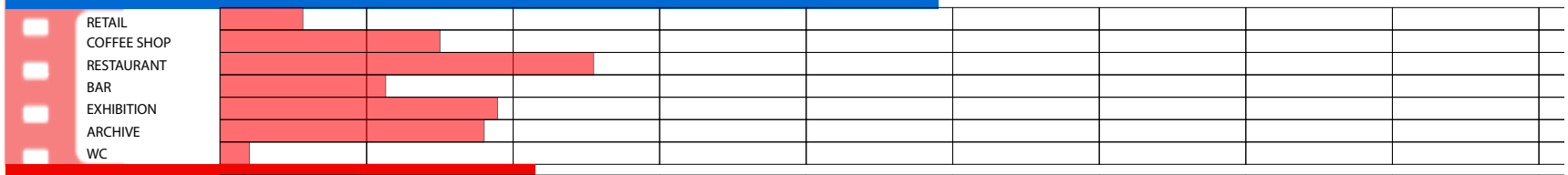
PRODUCTION



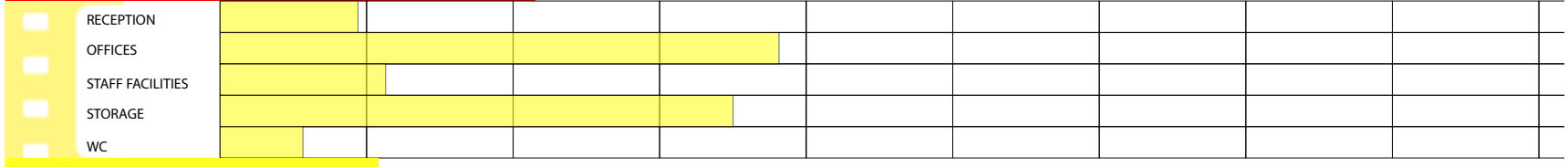
PERFORMANCE



CONSUMPTION



ADMINISTRATION

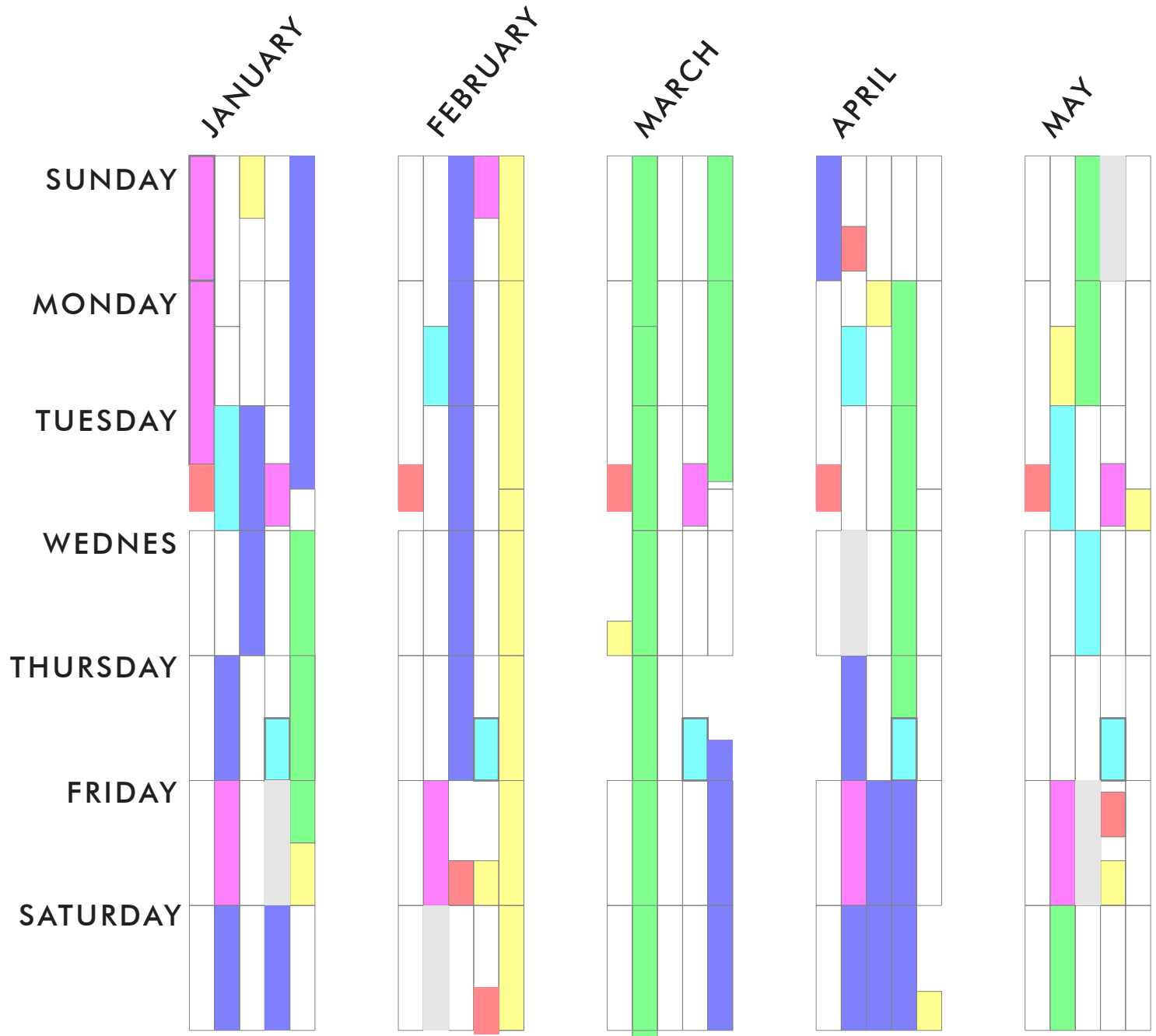


	No of Rooms/ People	Factor (area)	Area
Production			
Music offices	5	12	60
Music Rehearsal (possible to use as studio during events)	1	120	120
Music Recording	3	50	150
Film edit suites	5	30	150
Film flame suites	8	12	96
Central Apparatus	1	80	80
Telly Cine Room	1	40	40
Toilets	70	1.5	105
Studio	1	320	320
		Total	1121
Performance			
Auditorium	220	2.8	620
Auditorium	150	2.8	420
Screening Room	80	1.5	135
Screening Room	54	1.5	80
Function Room	1		85
		Total	1340

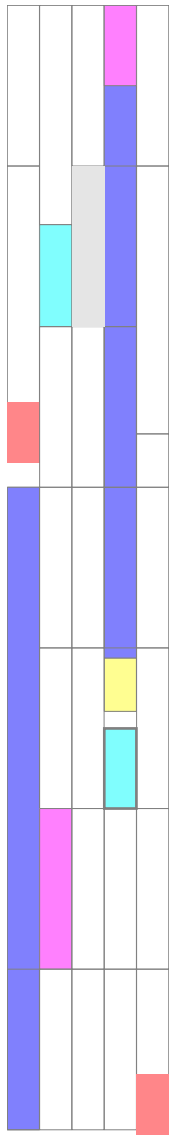
Consumption			
Retail	1		90
Coffee shop	1		200
Restaurant	1		350
Bar	1		160
Exhibition	3	80+170+35=	265
Archive	1	250	250
		Total	1315
Administration			
Reception			60
Offices			250
Staff facilities			80
storage			100
		Total	4500
		TOTAL	8276

Programmatic Breakdown
(area calculated in sqm)

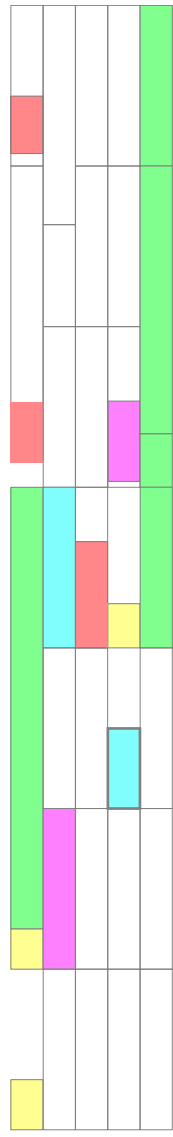
Building use in a year



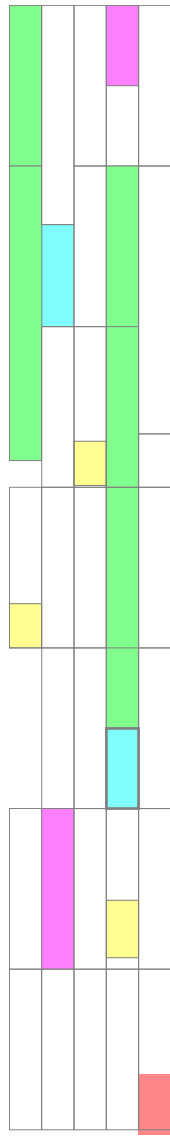
JUNE



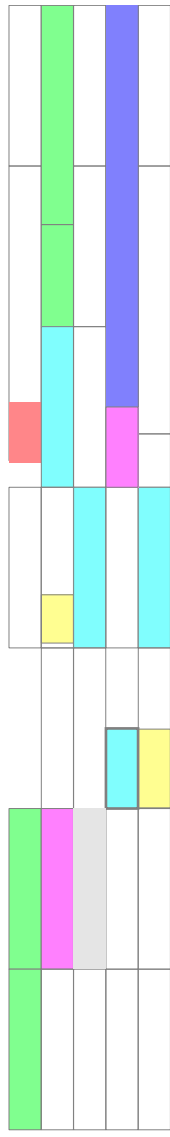
JULY



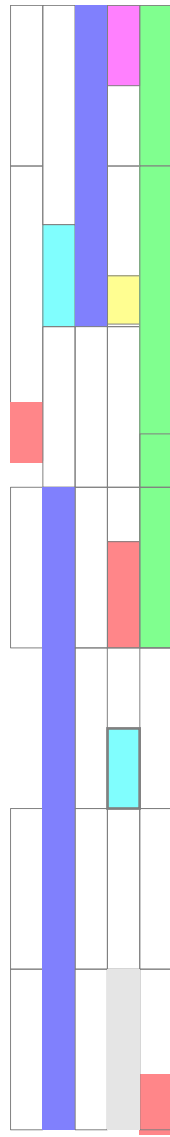
AUGUST



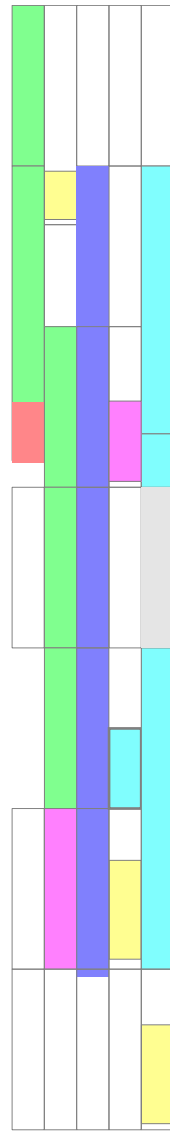
SEPTEMBER



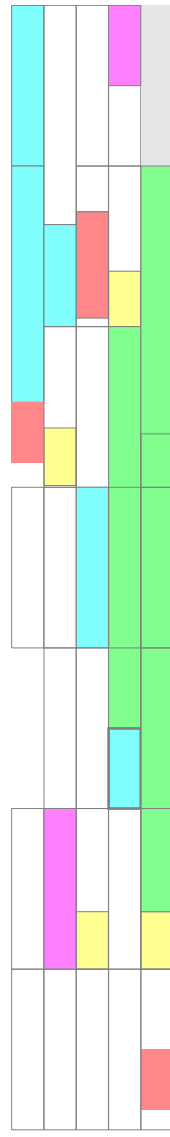
OCTOBER



NOVEMBER



DECEMBER





“Architecture comes real through playing with technique. Something intentional and unintentional is able to occur.”

Elena Rocchi

In the middle of thesis year I attended a passionate talk by Elena Rocchi, currently a lecturer at the Universitat de Barcelona. She presented her work which she had done whilst working at EMBT Architects. Her enthusiasm and encouragement convinced me to attend the ‘on the edge’ Masterclass in Durban with three colleagues, between 16th and 19th June. The Masterclass mentors included local architects Andrew Makin and Peter Rich and international architects Claudio Vekstein, Angelo Bucci and Elena Rocchi.

The workshop explored ‘the edge’ through looking at two contradictory sites, the beachfront and the very vibrant trading area of Warwick Junction.

At Warwick Junction I was struck by the overpowering sounds and how the various sounds made me intrigued to visit a particular stall and when it became too much I found a silent spot which linked one area to another. It was here that I took the photo in which various levels of connectivity, the highway, the traders routes and bridges are captured. It shows the various means of transforming a space through the way it moves and crosses over.

Back at the beachfront pumphouse studio, in proposing ideas, I came to realise that it was the co-existence

of the informal stalls and the formal highway that showed how space combines and collides. In looking again at the photo it also became clear that the background of the photo was beautifully framed by the various layers of infrastructure which can so often pull apart areas or stitch other areas together, but from a distance can also capture elements of the place in which it exists. The experience reinforced the importance of considering context.

The two places are incredibly different with Warwick Junction forming part of peoples' everyday route. With many particular paths and forms it is a space that has become a place with a strong identity. In contrast the beach is a destination often for enjoyment but there is no specified use and as a result there is a lot of freedom in what one can do along the beachfront. It is a vast space that has recently undergone an

upgrade in which buildings with no specific programme have been placed along the pathway. Many of these are regularly left empty. The outlook to the sea is also one that is vast with only the moving ships giving some perception of scale and depth.

The rhythm of the piers and roads gives some relief to the area in breaking down the long beachfront into smaller spaces that can relate to a particular aspect or neighbourhood. Similarly when standing on the beach looking back from whence one has come from or back onto the city, the piers create a strong point of reference and start to capture many glimpses of the background, making it possible to notice certain aspects. The frame here becomes a motif, a narrative that is reduced and repeated making it possible to comprehend something that is of a large scale.

Thus I started to realise the power of a frame in drawing attention to that which may be unnoticed and so my exploration was in how to modulate the path, and give it some form of measurement so that there is an identity to it (or one part of it) that passing people can start relating to.

Facing page

Fig 81. Warwick Junction.

Infrastructure movement layers framing the distant city.

(Source: author's own)

Below

Fig 82. The beachfront, city meets land edge: a long path broken by the rhythm and repetition of the piers and the street blocks.

(Source: author's own)

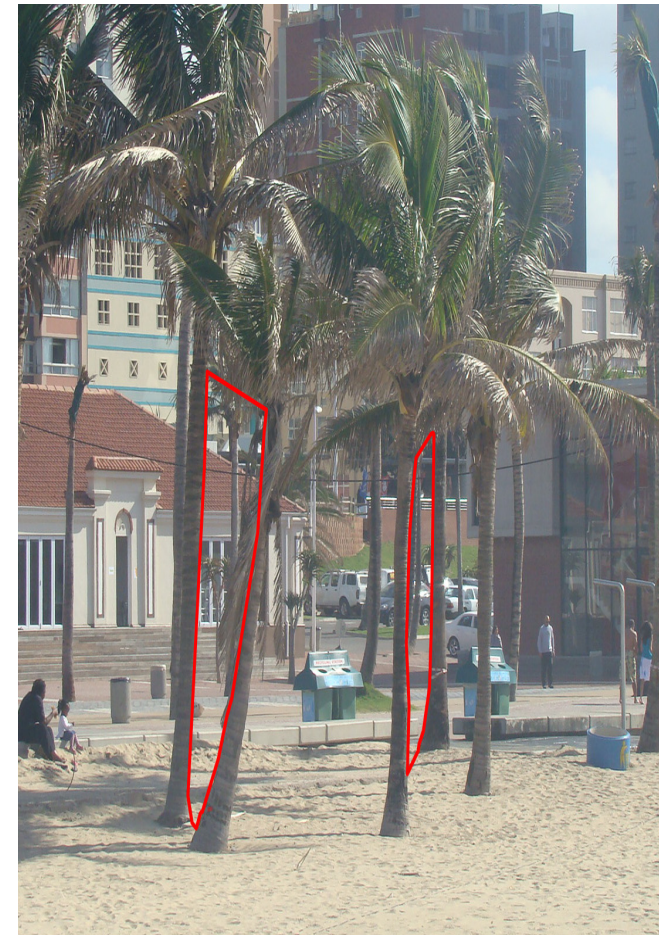


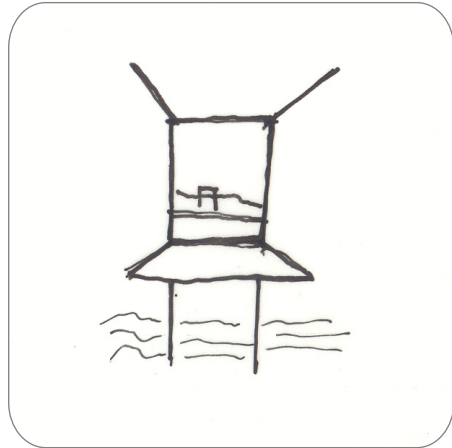
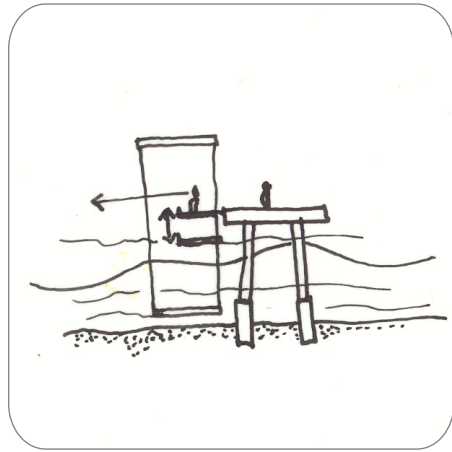
After identifying the repetitive frame of the infrastructure on the beachfront, that of the piers that protrude into the water, which divides the long stretch of coastline, the exploration evolved into a 'red line cavity', where a redline started to alert one to the natural frames on the beachfront, to trying to make a physical red line cavity between objects and trees that do demarkate different areas of the beachfront. And then would come a creation of an actual frame with the rectilinear rhythm of the supports of the pier

and placing it along the beach front, allowing view of activities to be highlighted in one direction and buildings and aspects of the city in the other direction.

I also suggested an exploration of a floating framing device off the edge of a pier that would move with the ebb and flow of the sea, which would be highlighting a glimpse of the vast coast edge through the design of the frame. The movement would highlight the different rhythms time.

*Fig 83 - 85. Photos edited to highlight the framing device that was seen.
(Source: author's own)*





Above
 Fig 86. A section through the pier with a framing device attached, it would move with the flow of the ocean
 (Source: author's own)

Below
 Fig 87. A view is isolated when sitting in the floating frame, it enhances the experience by removing distractions and focusing and filtering the phenomenon.
 (Source: author's own)



Left
 Fig 88. A shadow of a frame creates a different space that changes with the movement of the sun whilst the structure could potentially be something one can interact with.
 (Source: author's own)

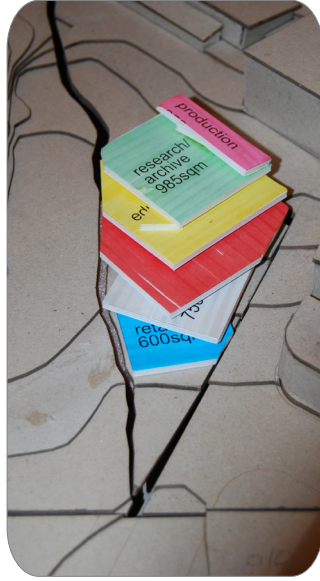


Below
 Fig 89 -90. Frames focusing attention onto specific activities or views.
 (Source: author's own)



PROCESS AND EXPLORATIONS

Development



The workshop made me question ideas of framing, and a building which provides a frame or is a frame became an exploration.

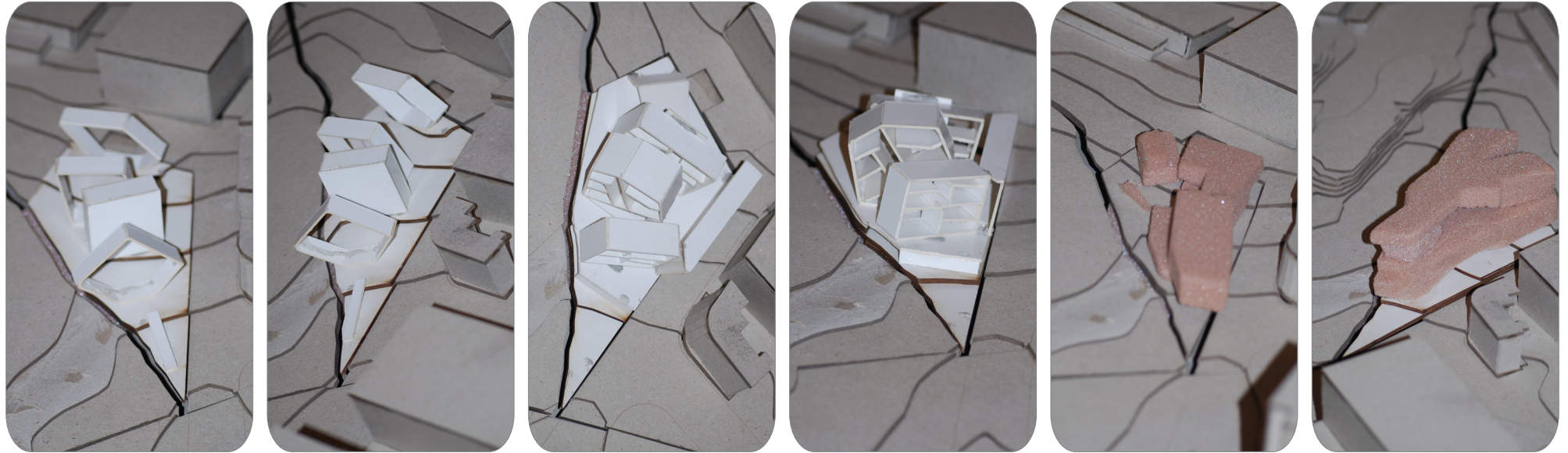
There were however limits to the ease of circulation and movement in the scheme and it felt jarring on the intimate site.

What did come out of the exploration is that through a 'glimpse' one is able to create the illusion of a framing device.

The building developed from a series of frames or blocks that ran perpendicular to the road to a

scheme where movement defined the shape more resulting in a long building that ran parallel to the river and the road. The exploration also include a combination of parallel and perpendicular shapes to the road with pockets of outdoor space.





*Fig 90 - 100. Photos of process model explorations
(Source: author's own)*

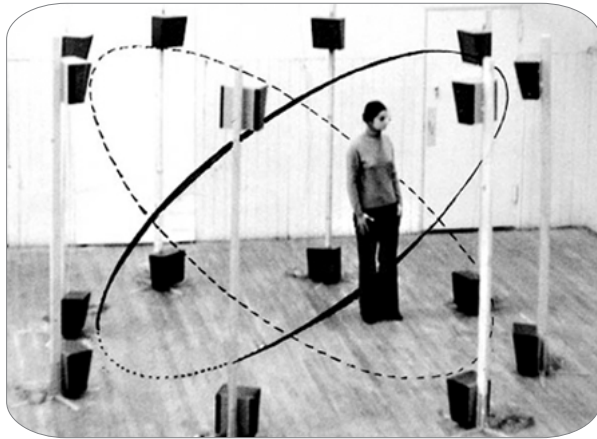
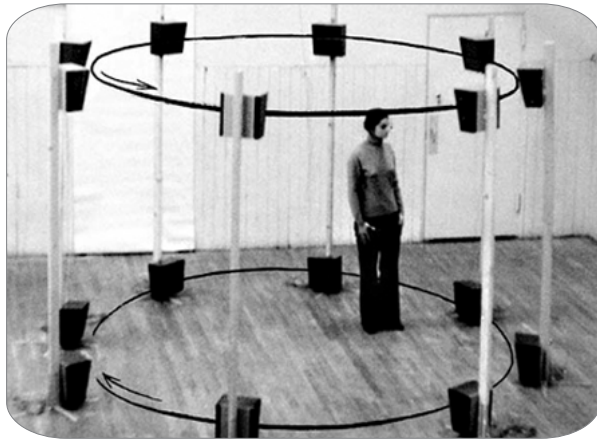


Fig 101. Sound installations and explorations
(Source: www.archdaily.com)

There are many buildings that cause interest as far as sound is concerned. A cylinder in which a whisper can be heard from the other side, staircases that are a large piano that plays a note as one steps on the tread, a square in China where one can stand in a point and scream yet no one can hear them.

Bernard Leitner has revolutionised the way sound is experienced through various projects and installations. They create a unique experience for the participant. It is possible to learn from these projects and install similar principles into a building so as to enthuse emotion from the user of the building.

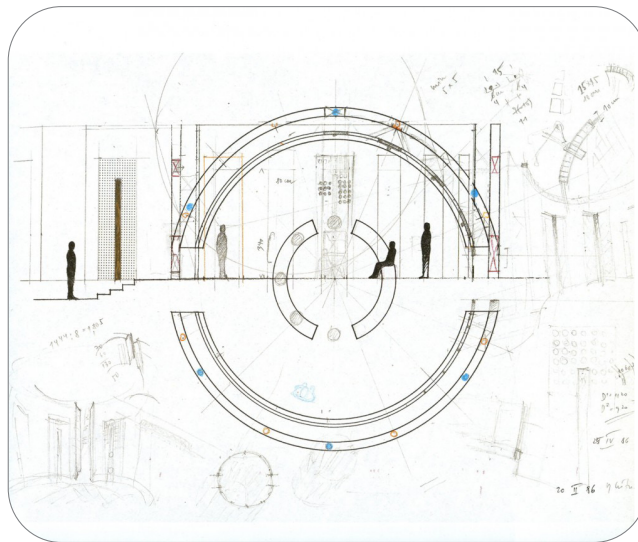
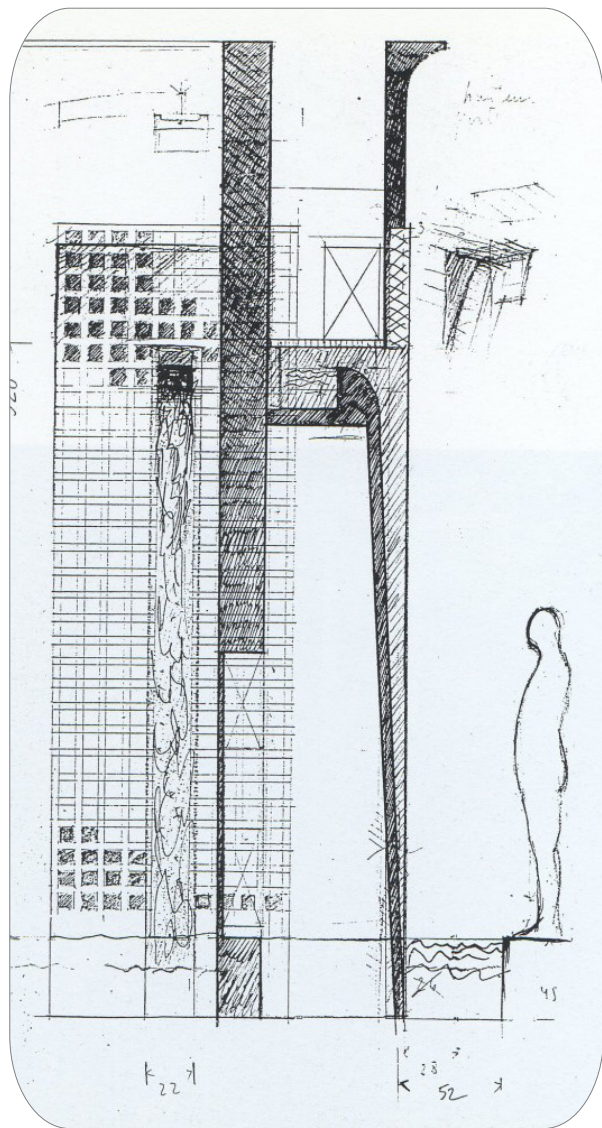
His projects often reduce objects and forms and concentrate on the experience of sound and how it can be a solitary experience in which the individual is captured, and is able to change from the high level of visual installations that occur all around us to one of an acoustic value. However, it is a very different experience of listening to sound, in comparison to listening to music in a concert hall. As most of Leitner's installations or sound spaces are experienced individually, a participant in the sound space, is a spectator with no stage dividing the visual aspect of the performance. And becomes

part of the performance which others can spectate.

Leitner considers the ability to measure and control sound through his projects. 'It draws lines, builds walls and permeates according to architectural rules' (Lopez, 2011) Thus sounds can be seen to be a constructive material that can be used as an architectural element to make a space emerge.

In the *Cylindre Sonore*, Leitner has used a shape that increases the sound as it consolidates the sound to a point as a result of the curved surface making the ring a resonance chamber. Leitner uses natural noise and man made sound through the use of loudspeakers which are placed behind eight perforated concrete columns. Water forms a narrow division between the cylindrical wall and the island ground in the centre of the cylinder.

The water creates white noise, which is believed to allow one to concentrate and be more sensitive. The project encourages passing people to enter it as there is a sense of intrigue as one can hear sounds outside of the cylinder thus making one want to find the source, it appears due to the size of the walls that the architecture is one that is closed yet it is open to sky.



The Cylindre Sonore is an interesting pavilion; in how place can be created and enhanced through the use of sound, both through the use of power and speakers and through the use of water. The simple architectural gesture of using a convex wall makes the sound converge and thus making the sound more powerful as it is reflected.

Fig 102 - 104. The Cylindre Sonore.
(Source: www.archdaily.com)

Whilst sound installation using technologies such as speakers can create an atmosphere and install sounds from elsewhere into a building, there is also a lot one can do with acoustic forms.

Space has an effect on the way sound waves travel and thus on the expression of sound. Similarly the type of material has an effect on sound waves in either its ability to absorb the sound or in reflecting it.

Although sound can be emitted in all directions, most sounds are directional in that there is a greater intensity of sound in one direction as a result of sound being a wave.

Frequency is the number of vibrations per second of the air molecules as created by the source. High frequency sounds have shorter wavelengths (the

distance between compression centres). This also means that higher frequencies (whistle) travel less distance than lower frequencies (bass). Sound can thus be directional, reflected or absorbed.

Reflection: The diagrams illustrate how the shape of a surface is very important in the direction it reflects the sound. A concave surface reflects the sound back to the source which creates a confusion of sound and is not good for acoustics, unless the need is to amplify the sound.

A convex surface reflects the waves at a wider angle, therefore making the sound weaker and quieter. A planar surface will differ the reflection of sound depending on the angle of the planes. If the surfaces are not parallel to each other the sound will be dispersed throughout the space.

Absorption: Material plays an important role in the absorption of the sound. Sound is reduced when it is modified, as it is a form of energy. Thus when a sound hits a material it loses energy and loudness. However, different materials allow for a different amount of absorption (transfer of energy from sound wave to material).

The more porous the material the more sound is absorbed. Thus smooth, hard, dense and heavy materials reflect sound more than rough, soft, porous and light materials.

To get good absorption, more than one material can be used as a change in material density, means more of a loss of energy and thus sound.

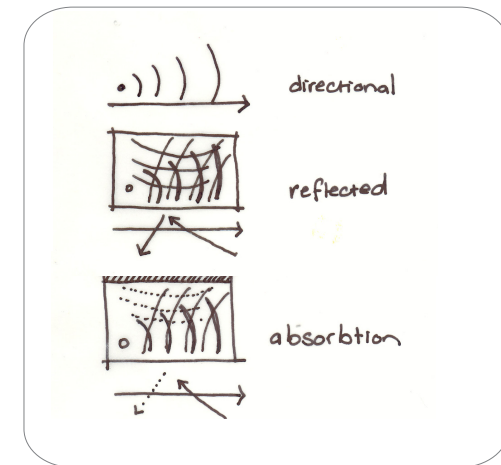


Fig 105. Movement of sound and the ability to reflect or be absorbed
(Source: after Moore 1967)

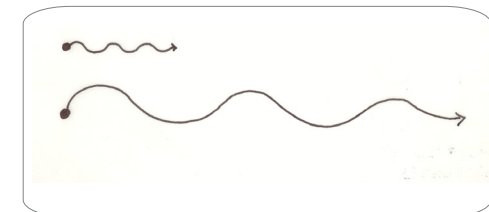


Fig 106. High Frequency - travel less
Low Frequency - travels far

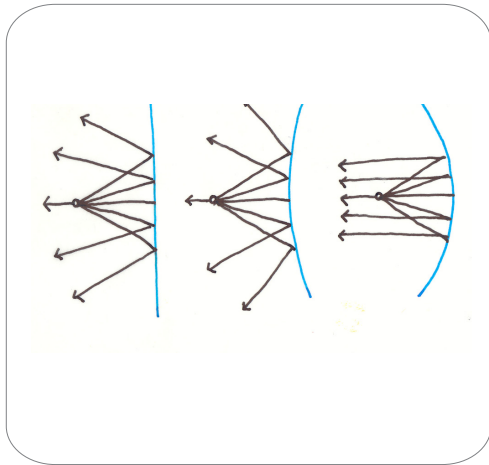


Fig 107. The reflection off a flat surface a convex surface and a concave surface
 (Source: after Moore 1967: 21)

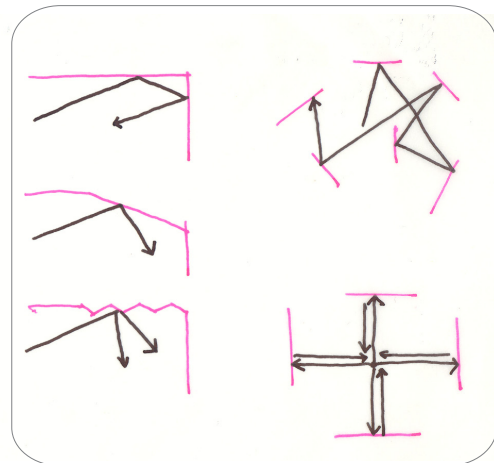
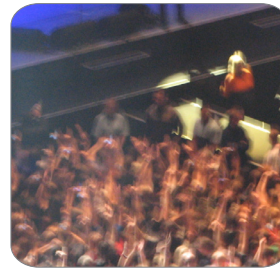


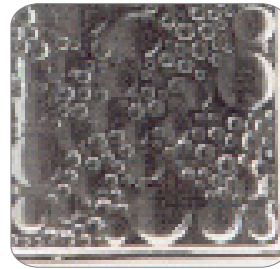
Fig 108. The reflection off a planar surface relies heavily on the angles of the surfaces to each other.
 (Source: after Moore 1967: 23)



People



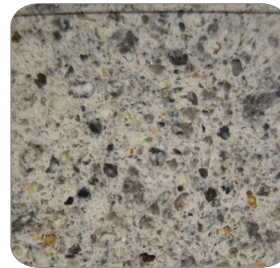
Rubber



Glass



Timber



Concrete/Stone

Absorbing materials

Reflective

Barriers

Fig 109. The difference in materials and their ability to absorb or reflect sound
 (Source: Martin 2005)

Many architects have worked with light to harness different atmospheres. Some have also used colour to exaggerate a feeling.

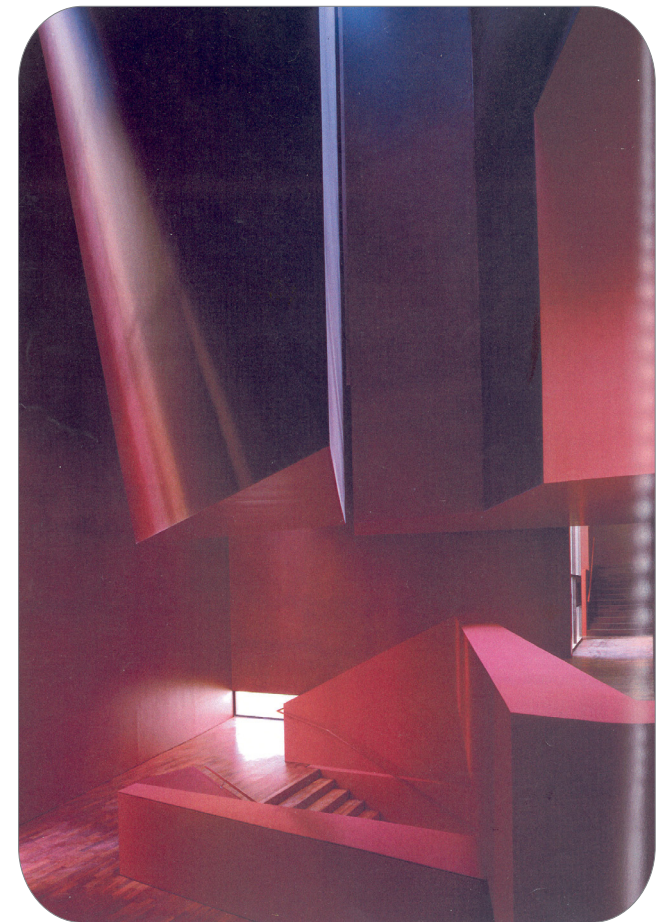
Steven Holl has done a series of experiments to see how light reacts depending on the size and direction of apertures and the wall on which the light falls.

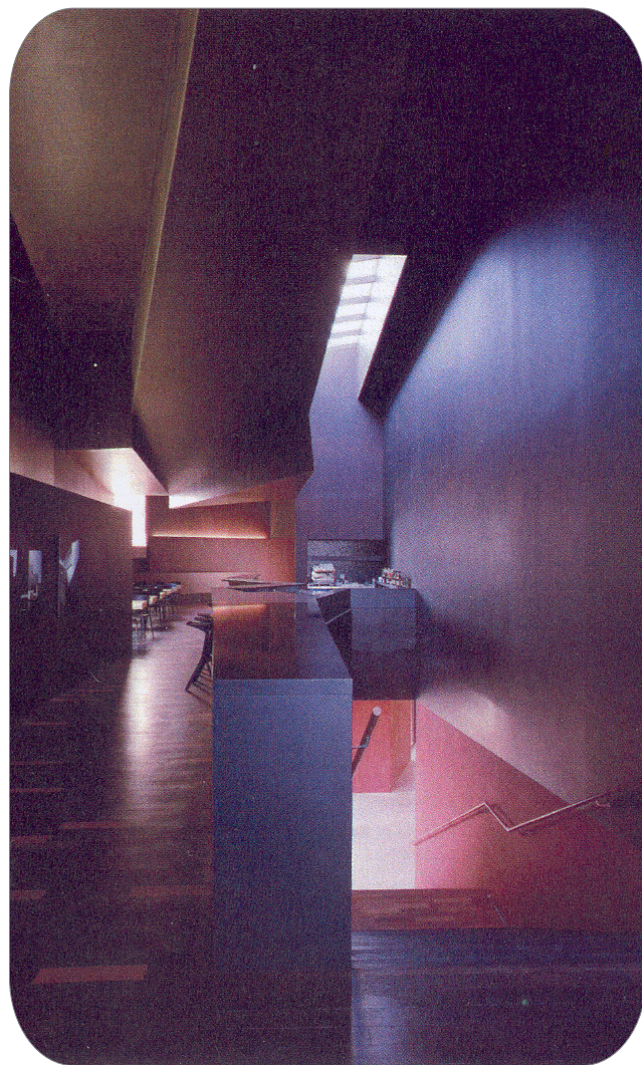
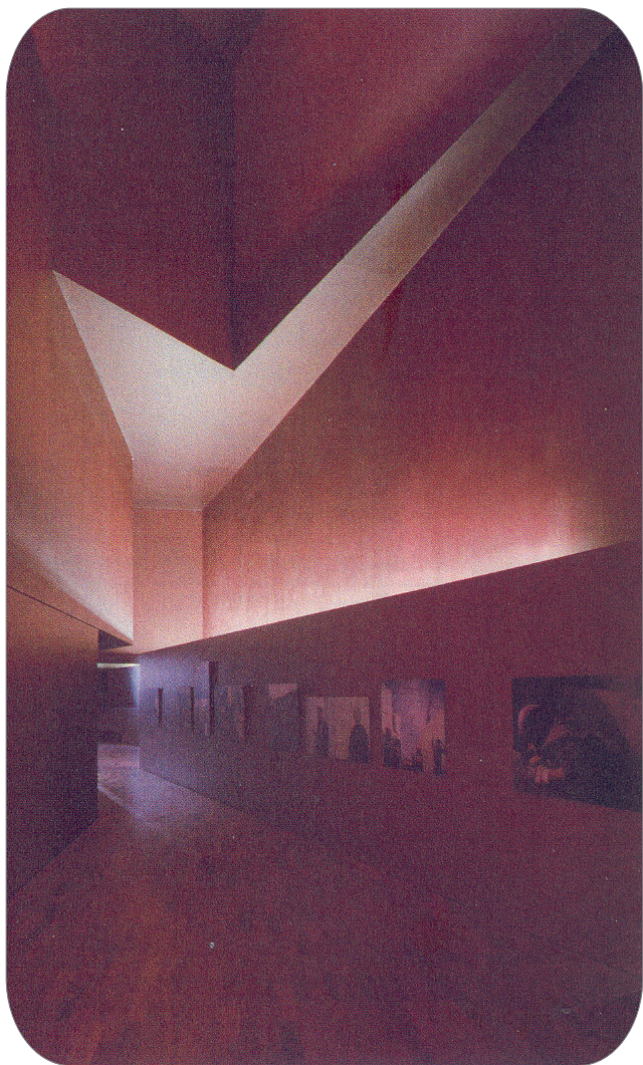
Tadao Ando uses light effectively to create an atmosphere of calm by sometimes placing windows where one would not expect as they do not always allow for a view but rather control the light that is entering the space.

Whilst David Adjaye has used light and colour very effectively in the Idea Store, London making the building a friendly environment to work in.

Light should not be underestimated, this Theatre in Montreuil by Dominique Coulon shows how a small opening can create a sharp entrance of light. The light also increases in dramaticness as a result of coming into the building from above or below. The use of shadow gaps in contrast to a direct joining of surface changes the effect of the light. There is a sense of drama, which relates to the way stories can be told in films and theatre productions.

Fig 110 - 113
Dominique Coulon's Montreuil Theatre
(Source: Architecture and Urbanism)





Light has been used to animate buildings often for artistic purposes and sometimes in protest.

With improvements in technology it is now possible not only to project media onto a facade but to also create a facade from media technologies such as LED screens.

Ilumesh and Media mesh are a combination of LED technology and a woven metal mesh which together creates a translucent media facade.

The cable mesh is woven to any required length and at certain distances the LED carrier sleeves are woven into the mesh. The carrier sleeve supports and holds the LED in place and has an open front so that the LED lights are seen. A resin is used to protect the LED

The Media mesh can be used to provide some shading for a facade as well as a media outlet. This is an exciting opportunity in a cinematic building. To welcome people and to have a beacon the design proposed in the thesis results in a glass facade on the north side of the building to capture interest and the views.

The product was used in Milan Italy as an urban screen during the alterations of a building. It provided some safety to a large scaffolding requirement and a communication means. Being translucent it also allowed for people to see inside the building.

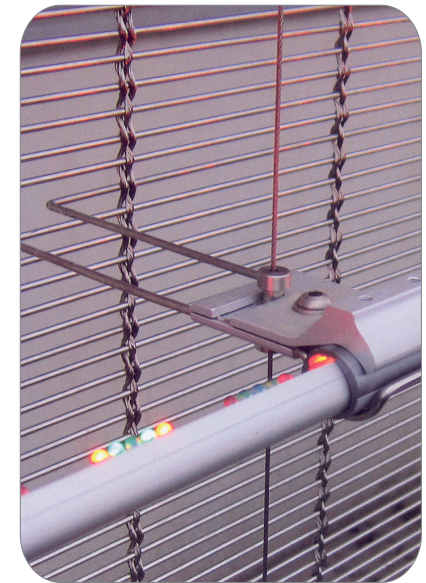


Fig 115 MediaMesh
(Source: Haeusler, 2009; pg146)

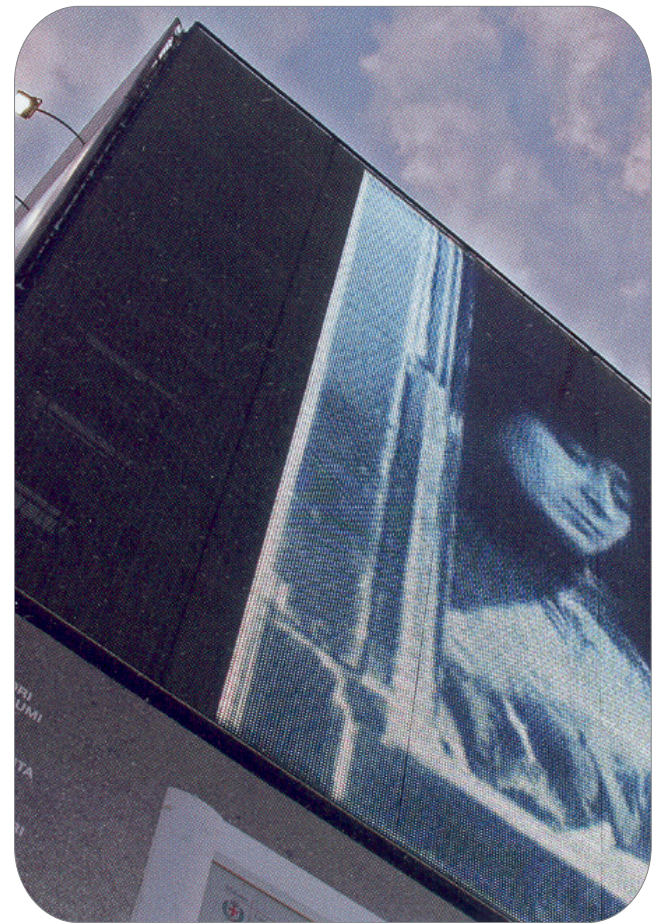


Fig 116 - 118
Palazzo dell' Arengario by ag4 media facade GmbH
(Source: Haeusler, 2009; pg146)

DESIGN INTENTIONS

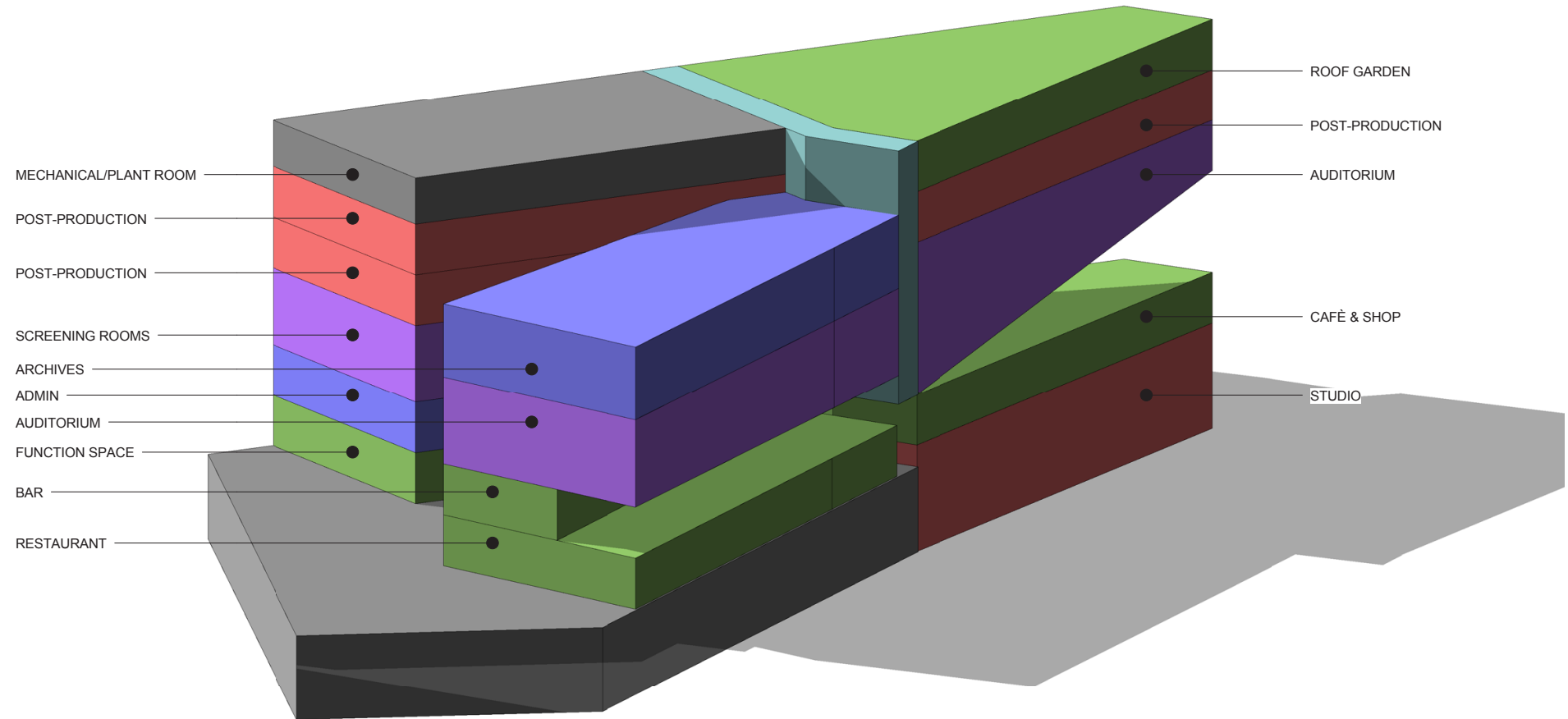


Fig 119
Design intentions and massing of programme
(Source: Author's Own)



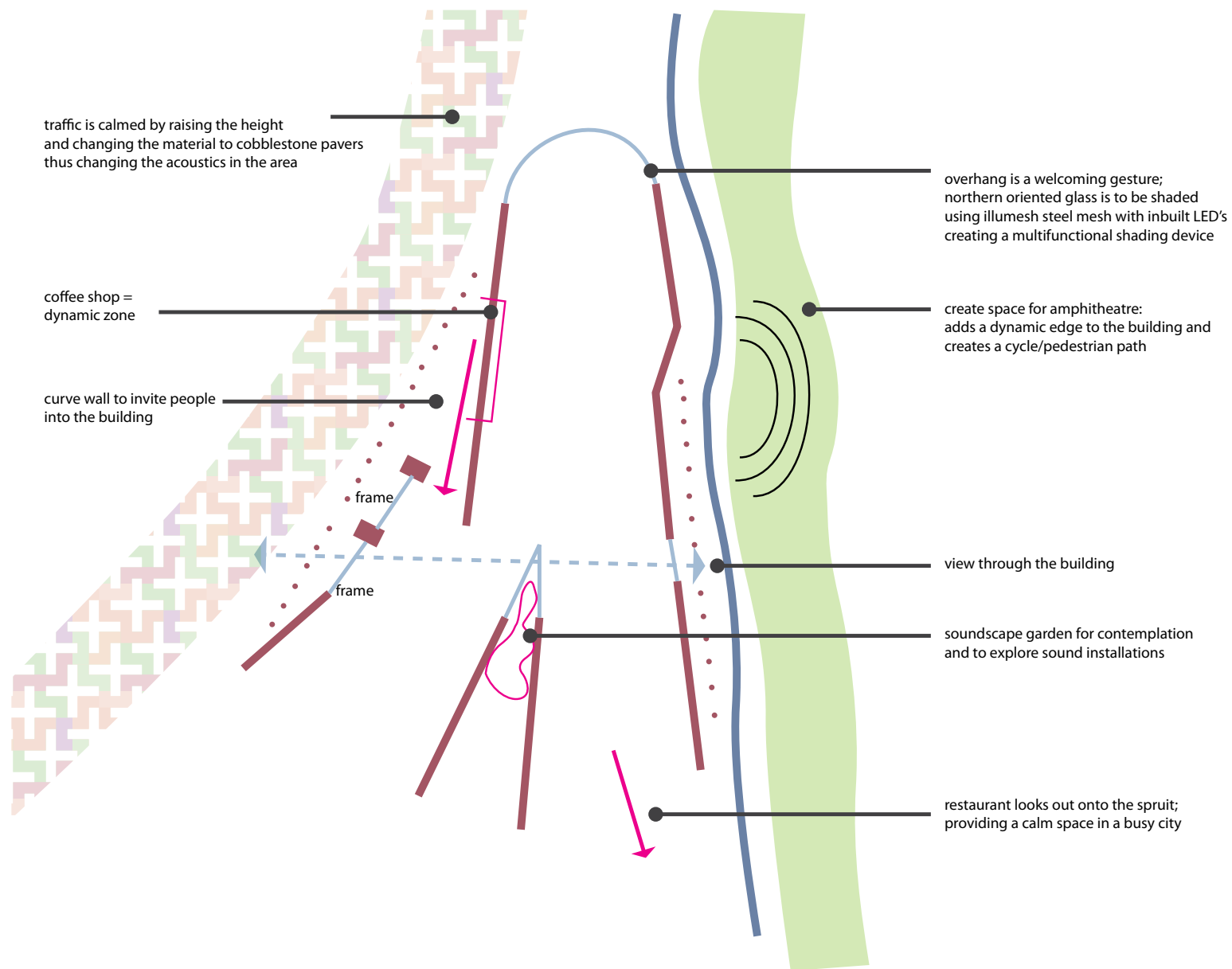


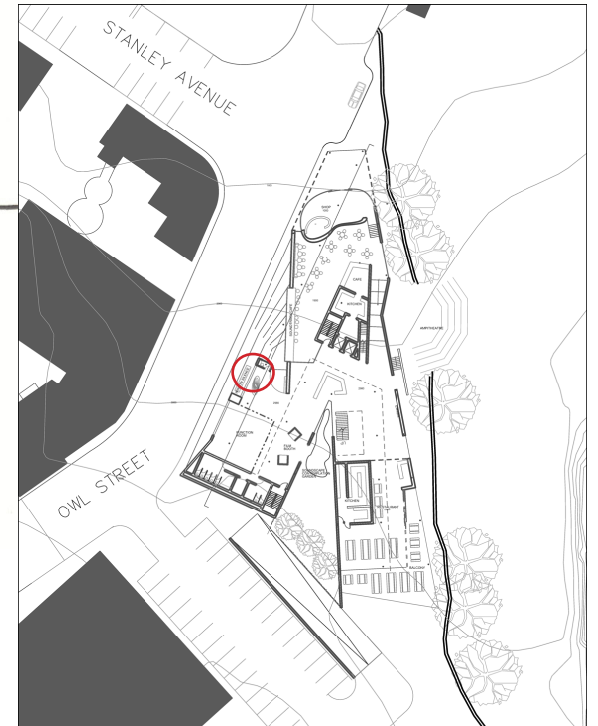
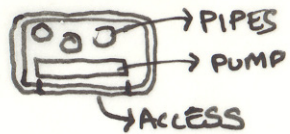
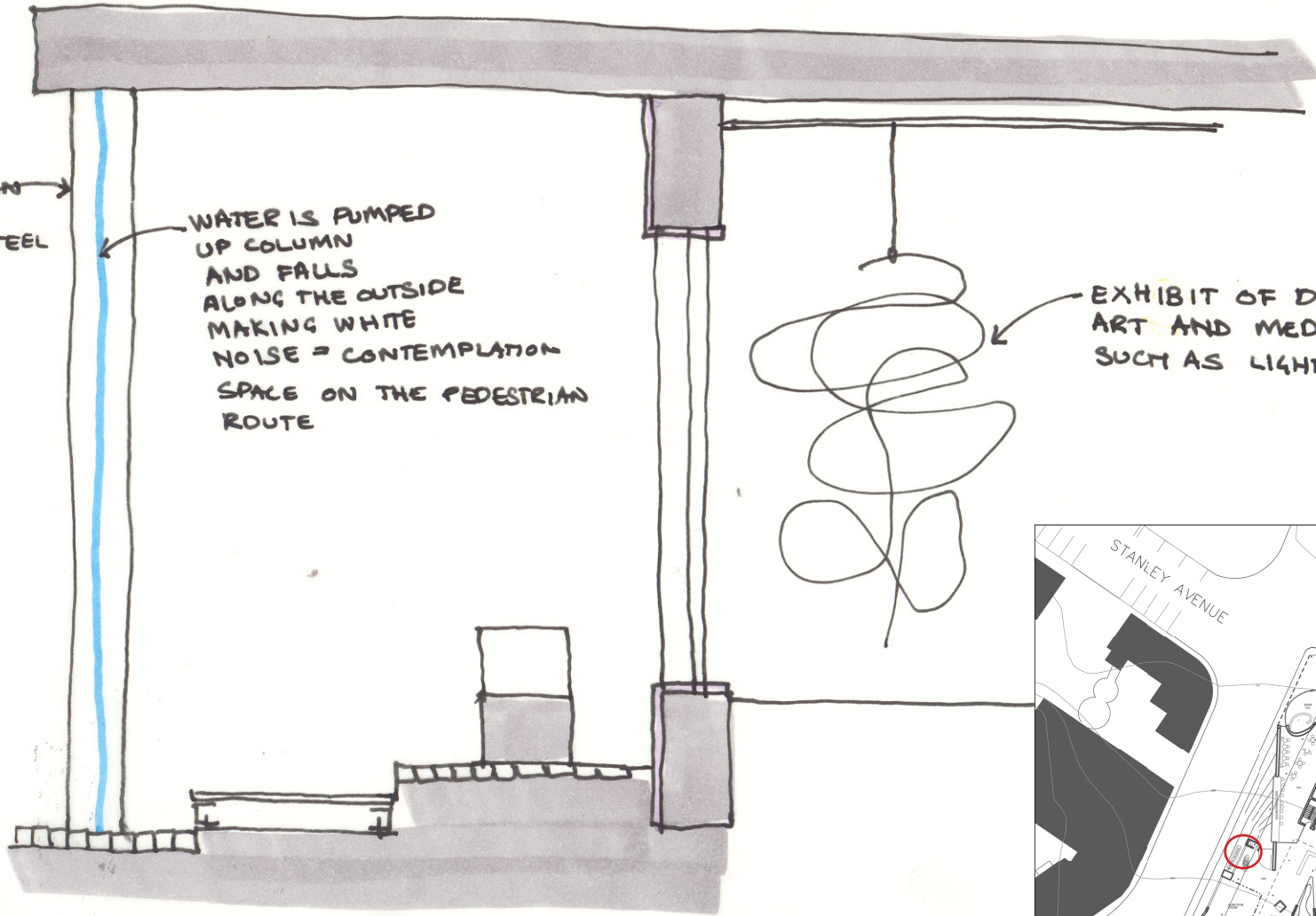
Fig 120
 Design intentions
 (Source: Author's Own)

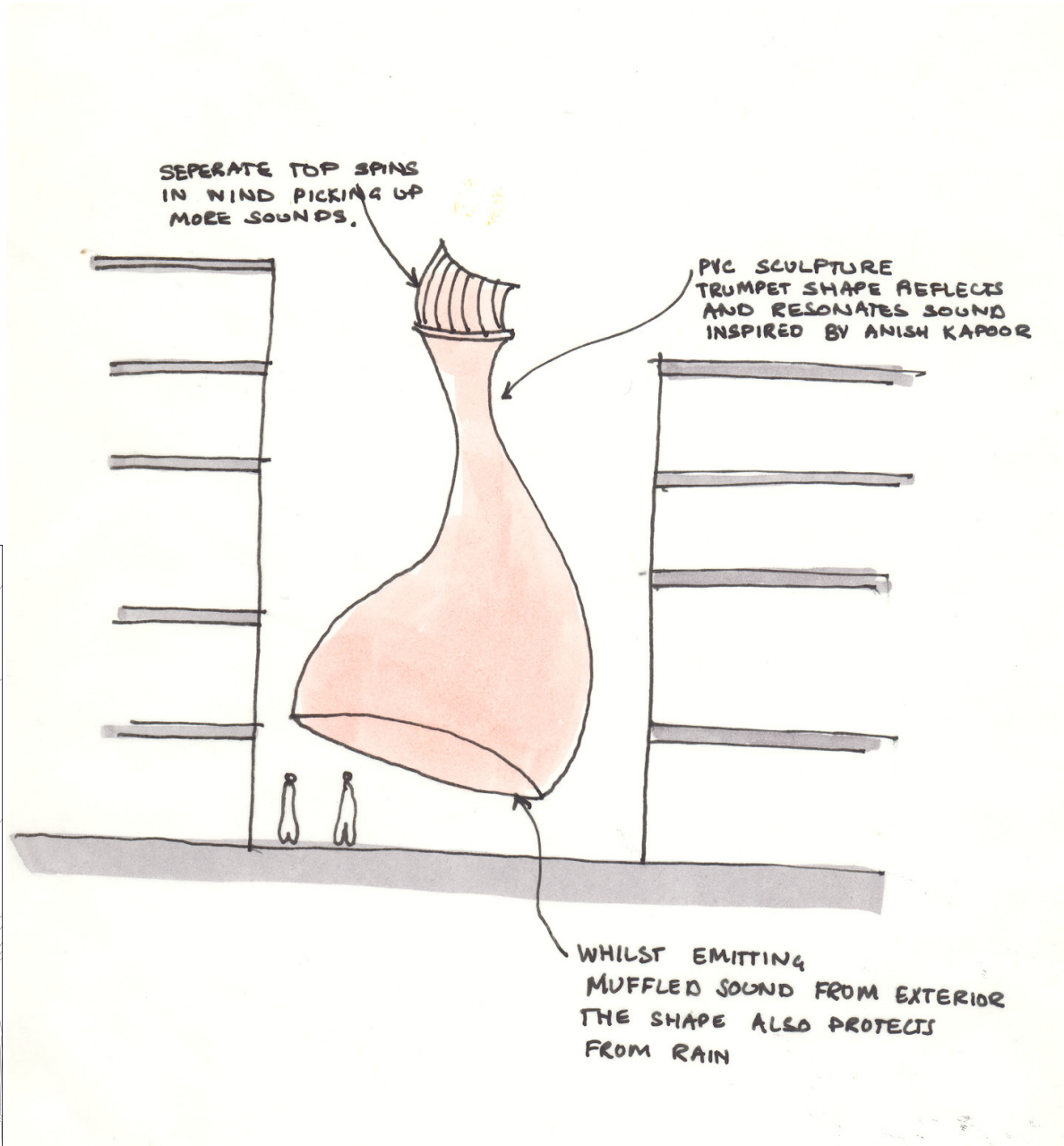
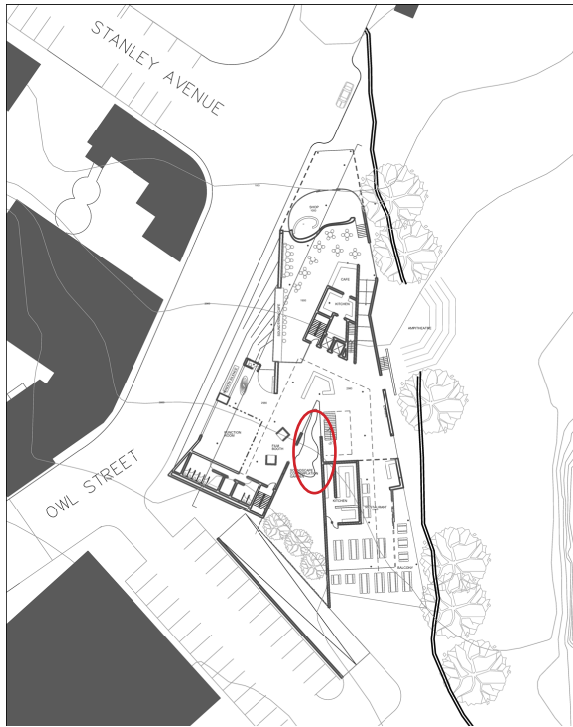
EXPLORATIONS

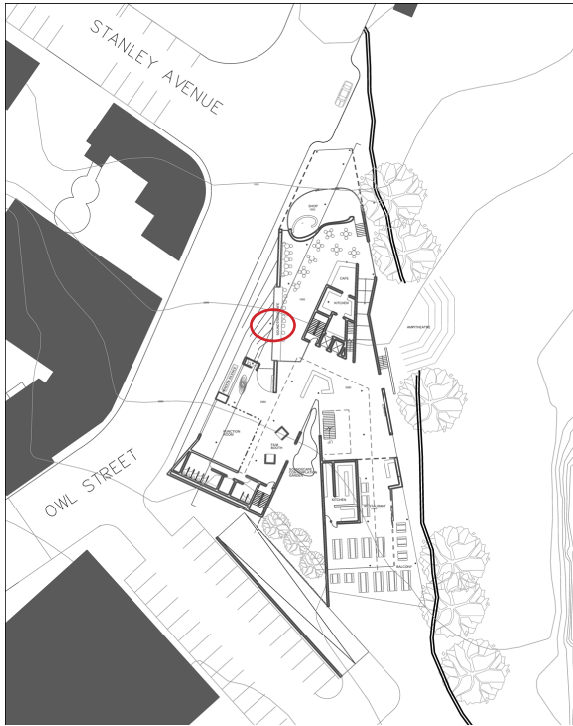
THIN COLUMN
~~CONCRETE~~
CORTEN STEEL

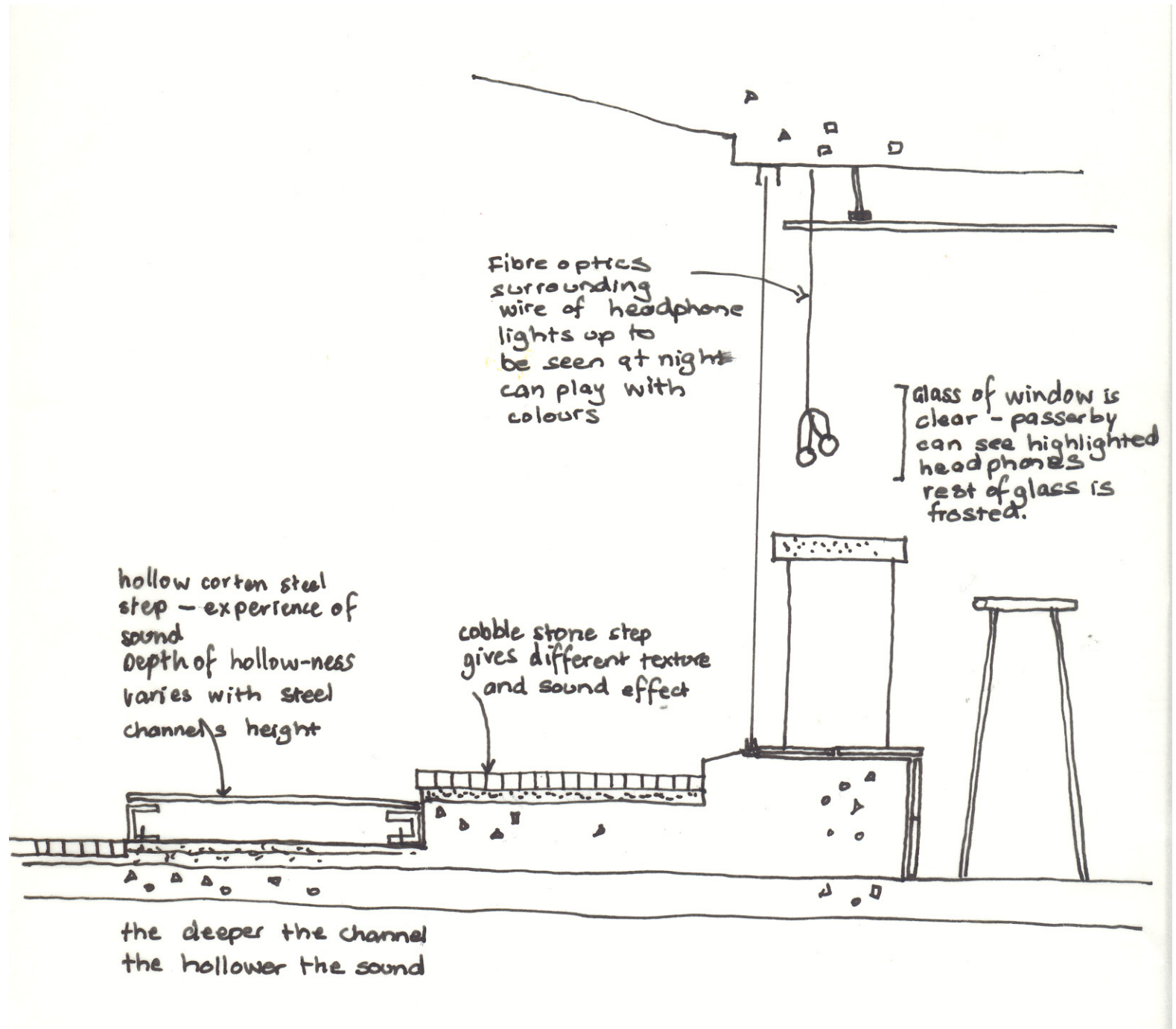
WATER IS PUMPED
UP COLUMN
AND FALLS
ALONG THE OUTSIDE
MAKING WHITE
NOISE = CONTEMPLATION
SPACE ON THE PEDESTRIAN
ROUTE

EXHIBIT OF DIGITAL
ART AND MEDIA
SUCH AS LIGHT INSTALLATION





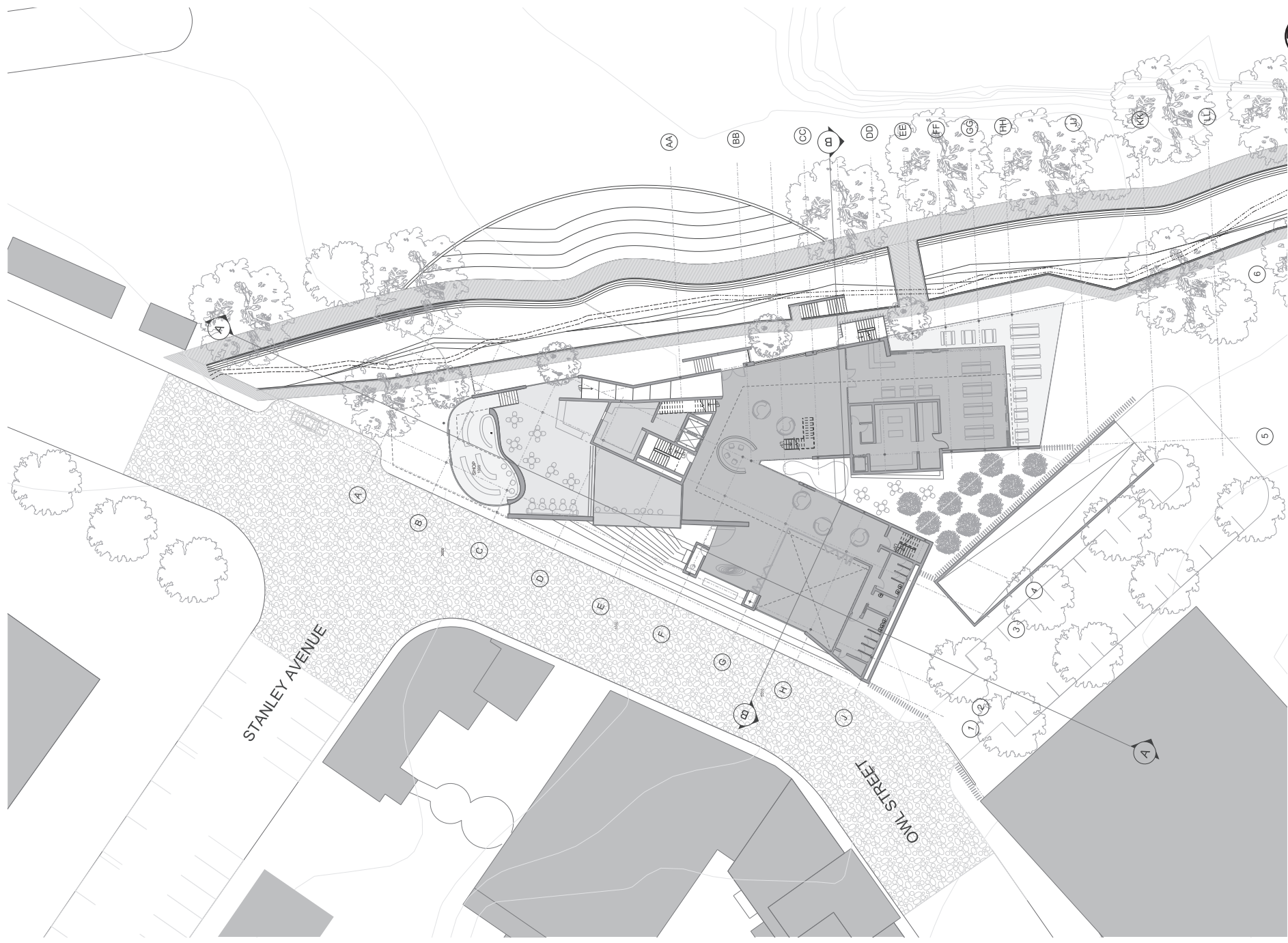




Scale 1:20

DESIGN

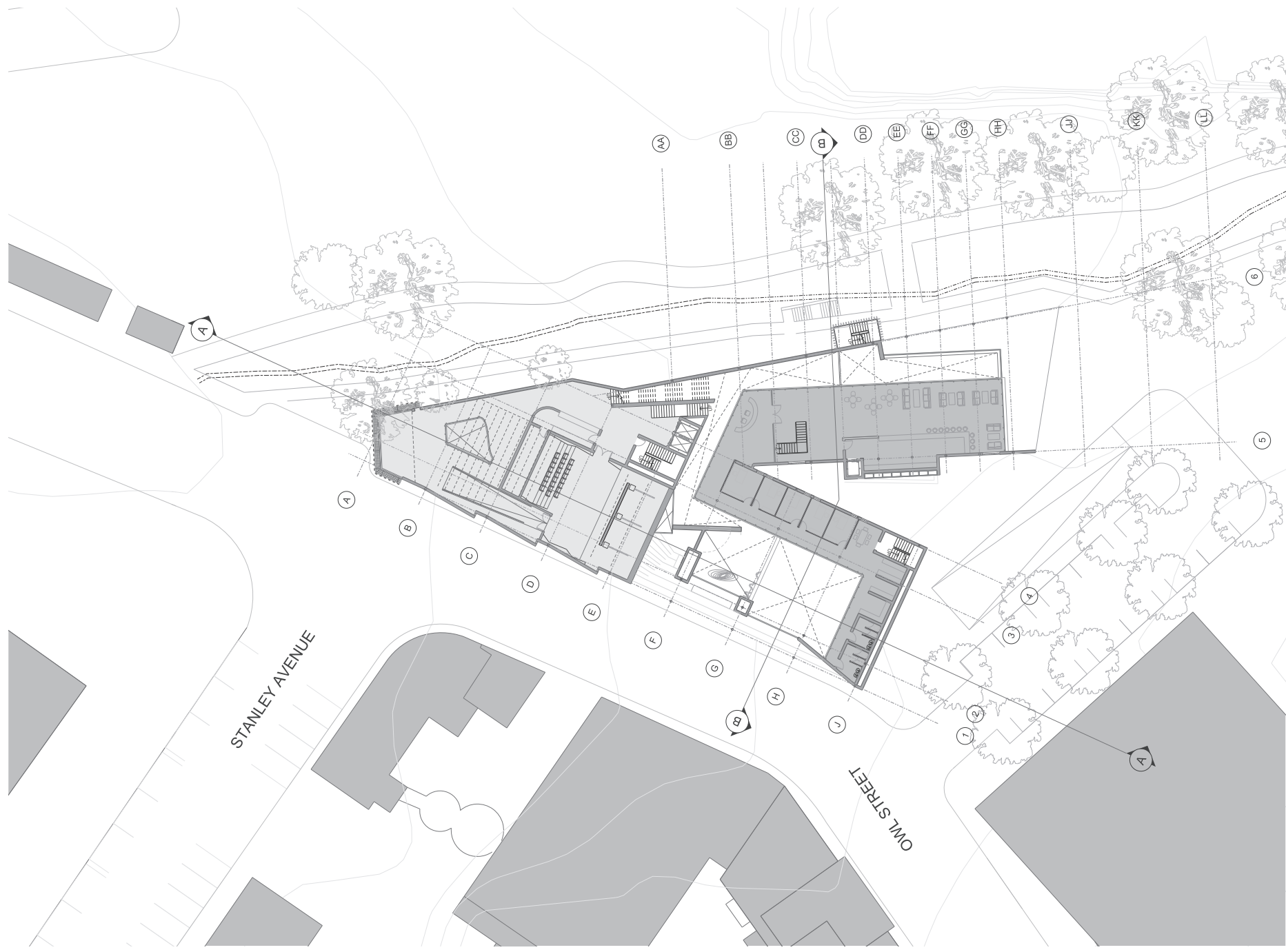




Ground Floor Plan

Scale 1:500





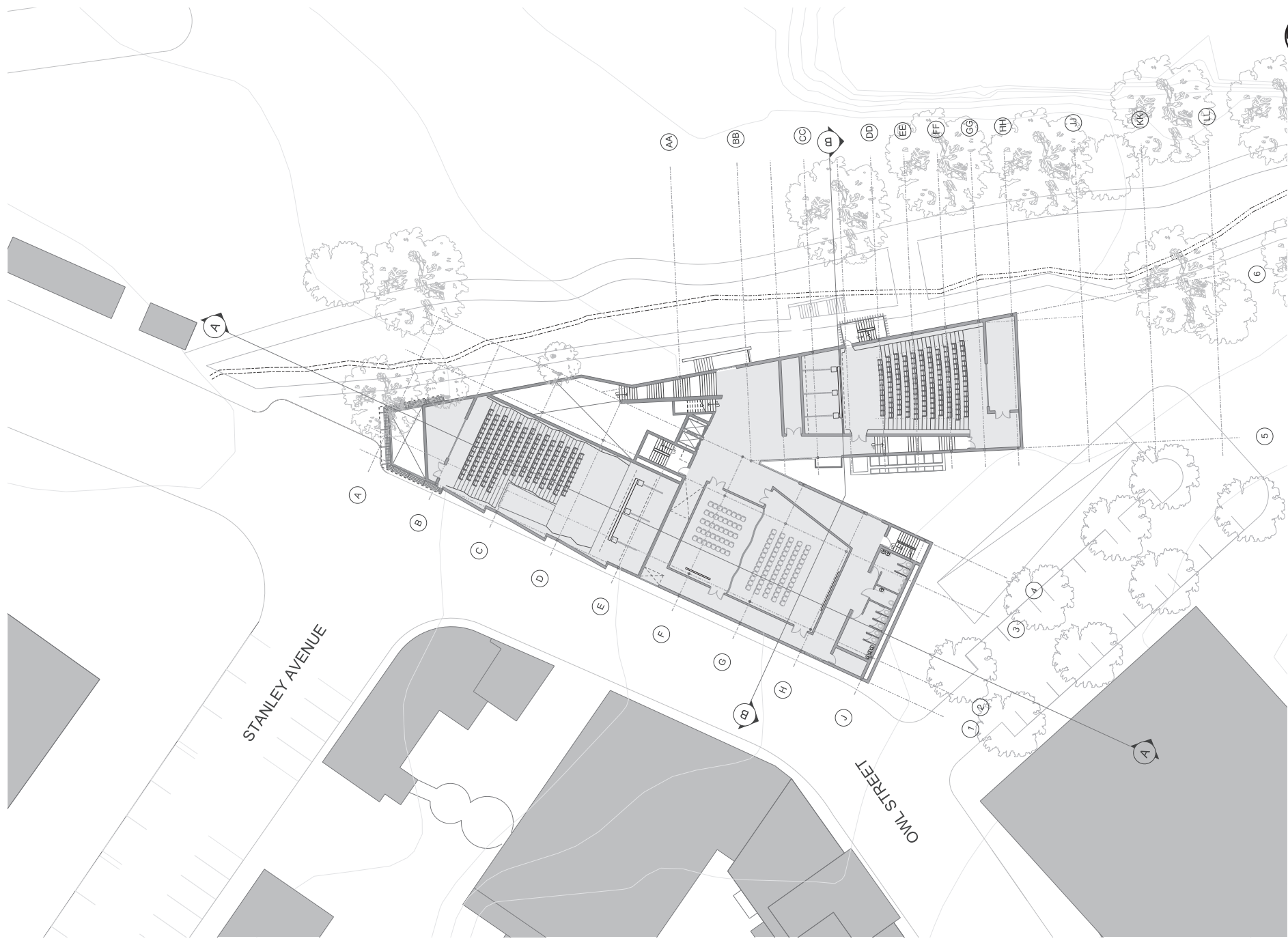
STANLEY AVENUE

OWL STREET

First Floor Plan

Scale 1:500





STANLEY AVENUE

OWL STREET

Second Floor Plan

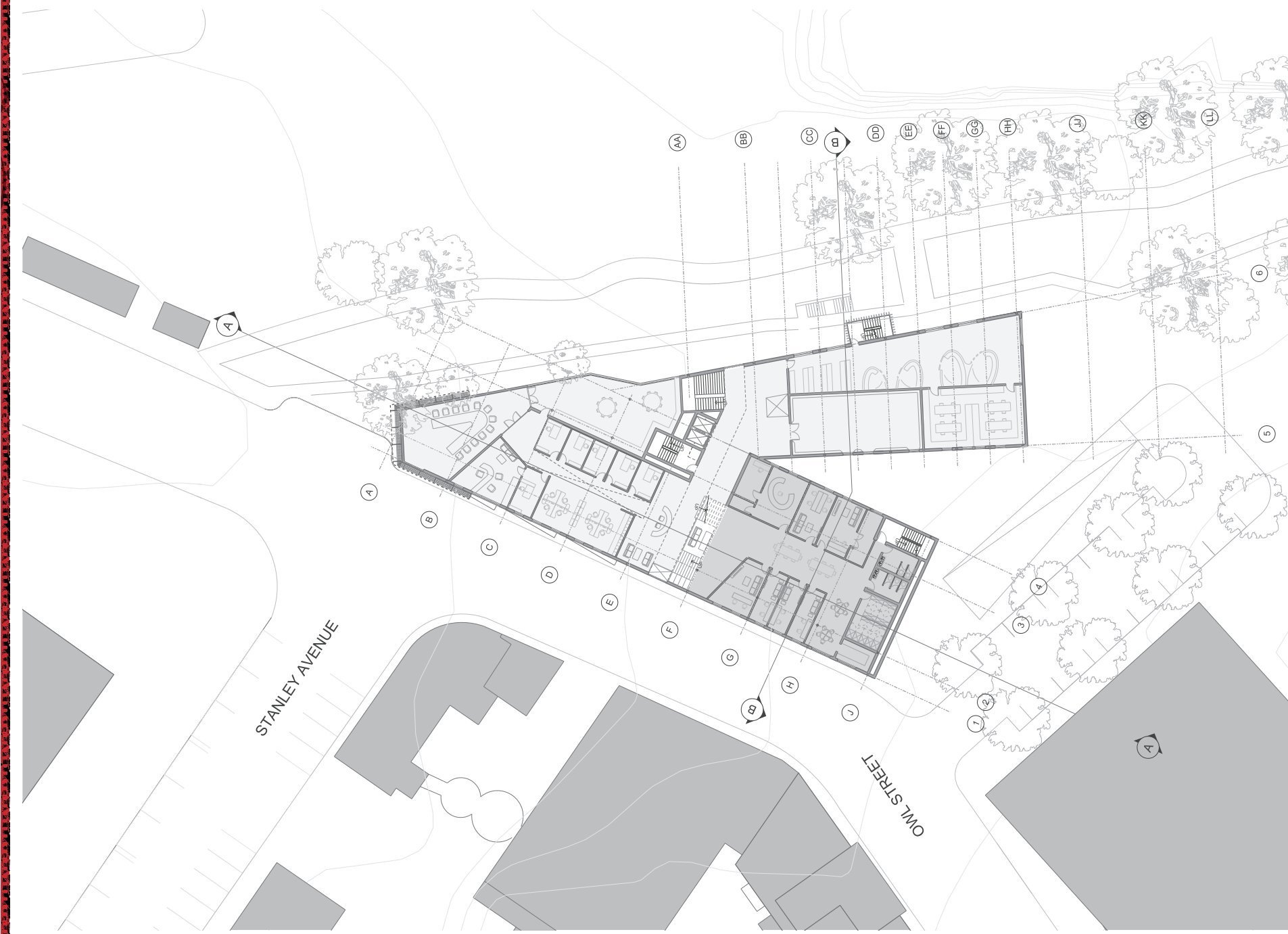
Scale 1:500



N



N



STANLEY AVENUE

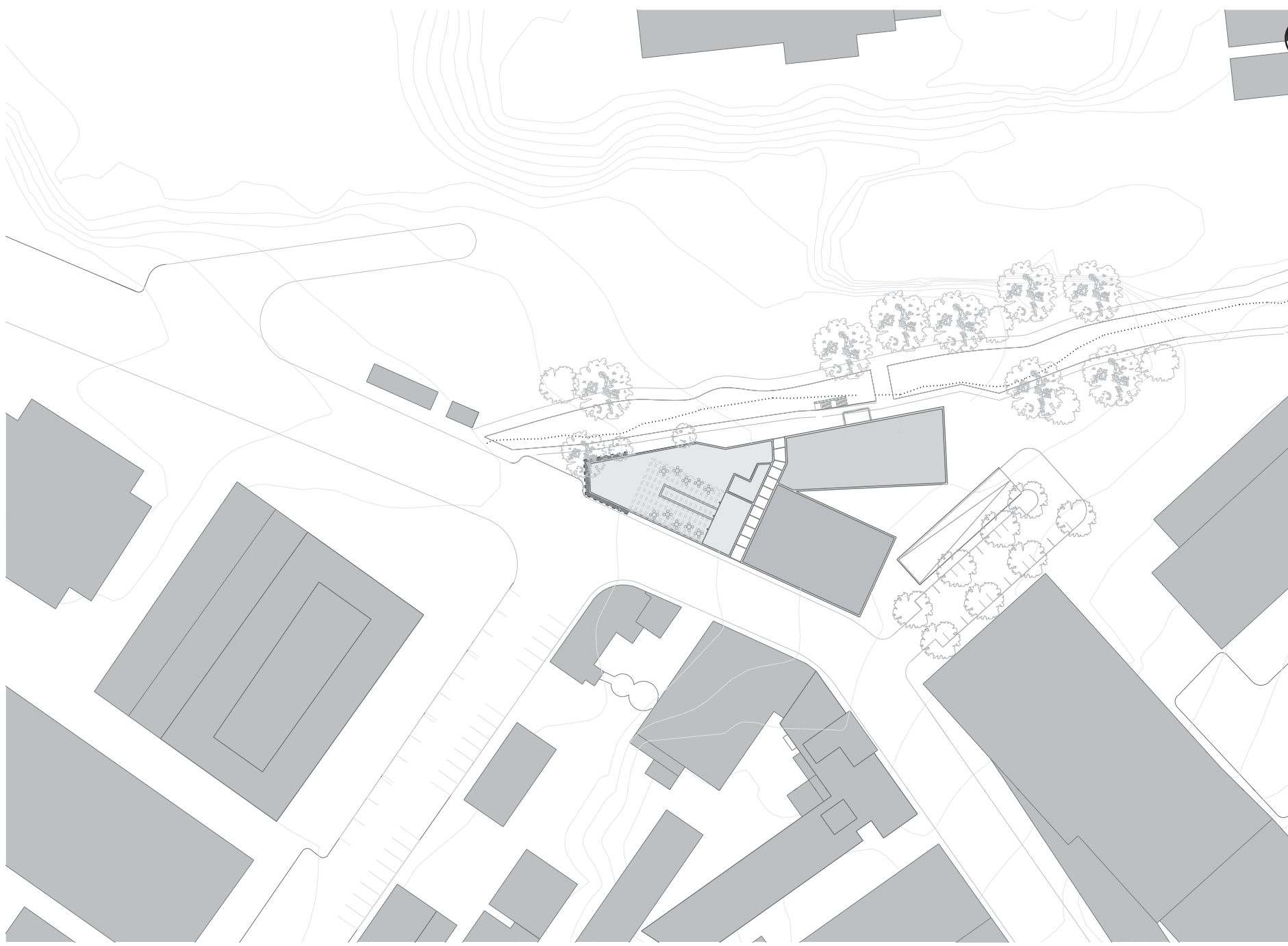
OWL STREET

Third Floor Plan

Scale 1:500



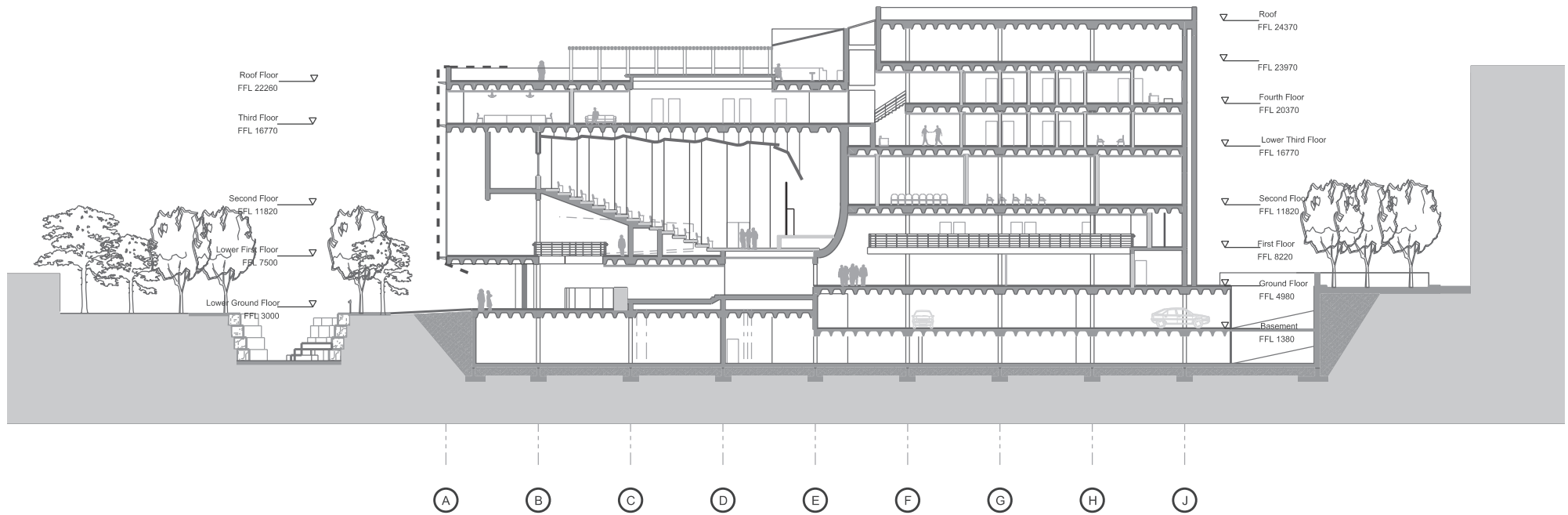
DESIGN



Fourth Floor Plan

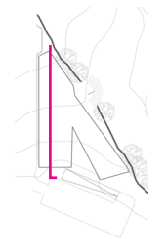
Scale 1:1000

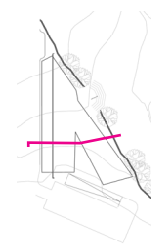
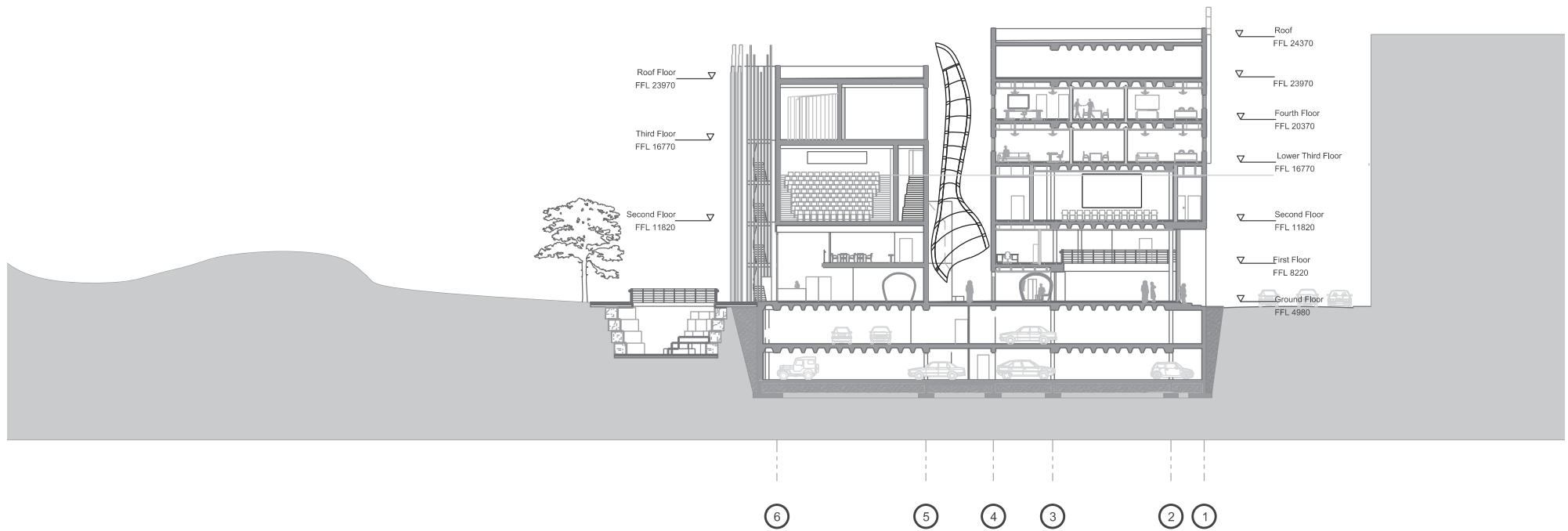




Section AA

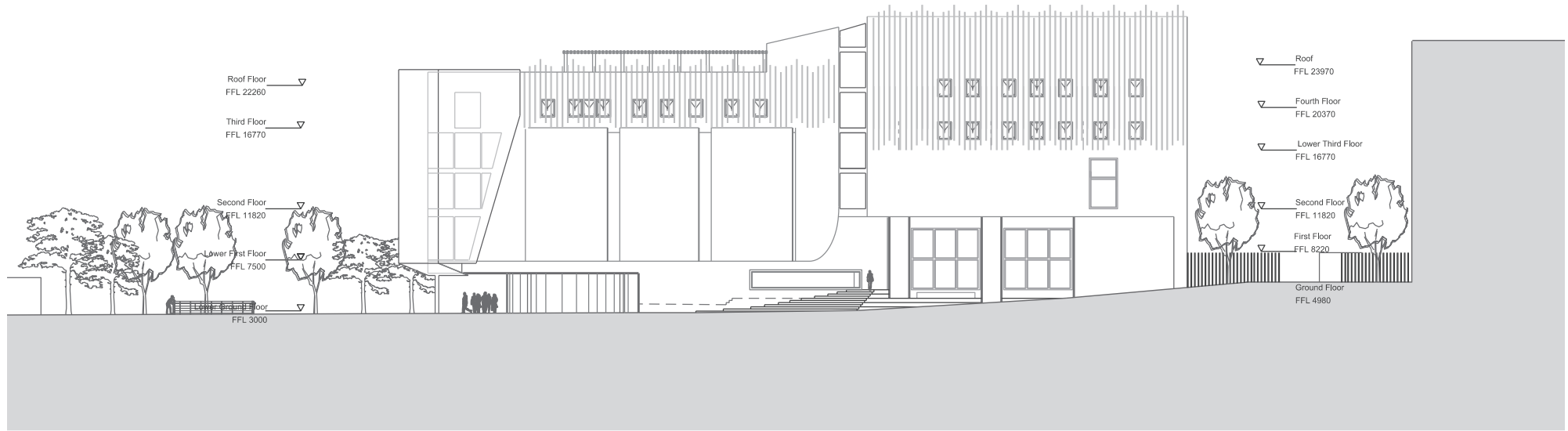
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Section BB

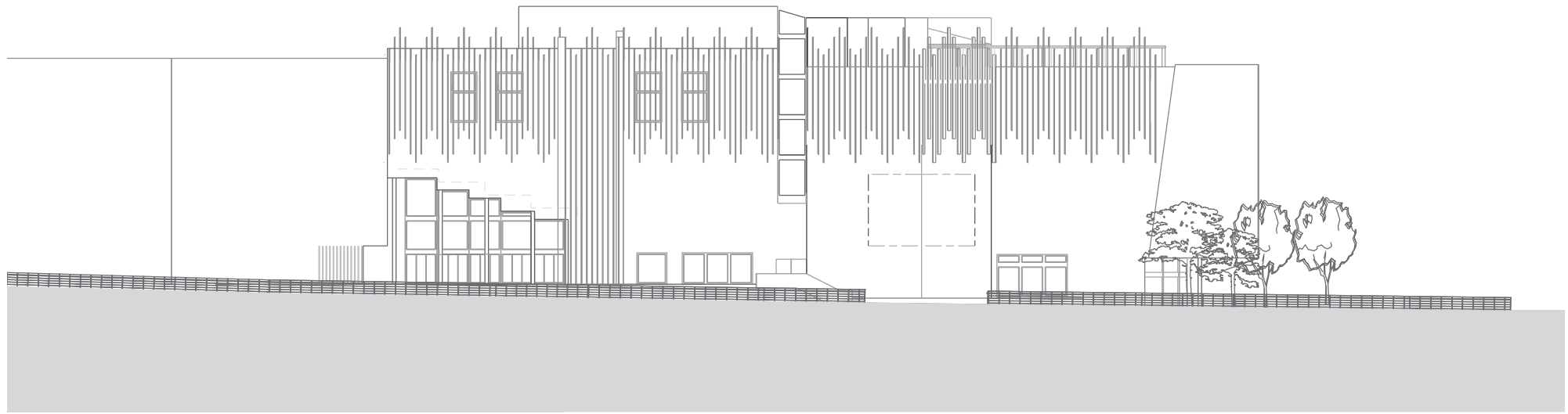
Scale 1:500



West Elevation

Scale 1:500

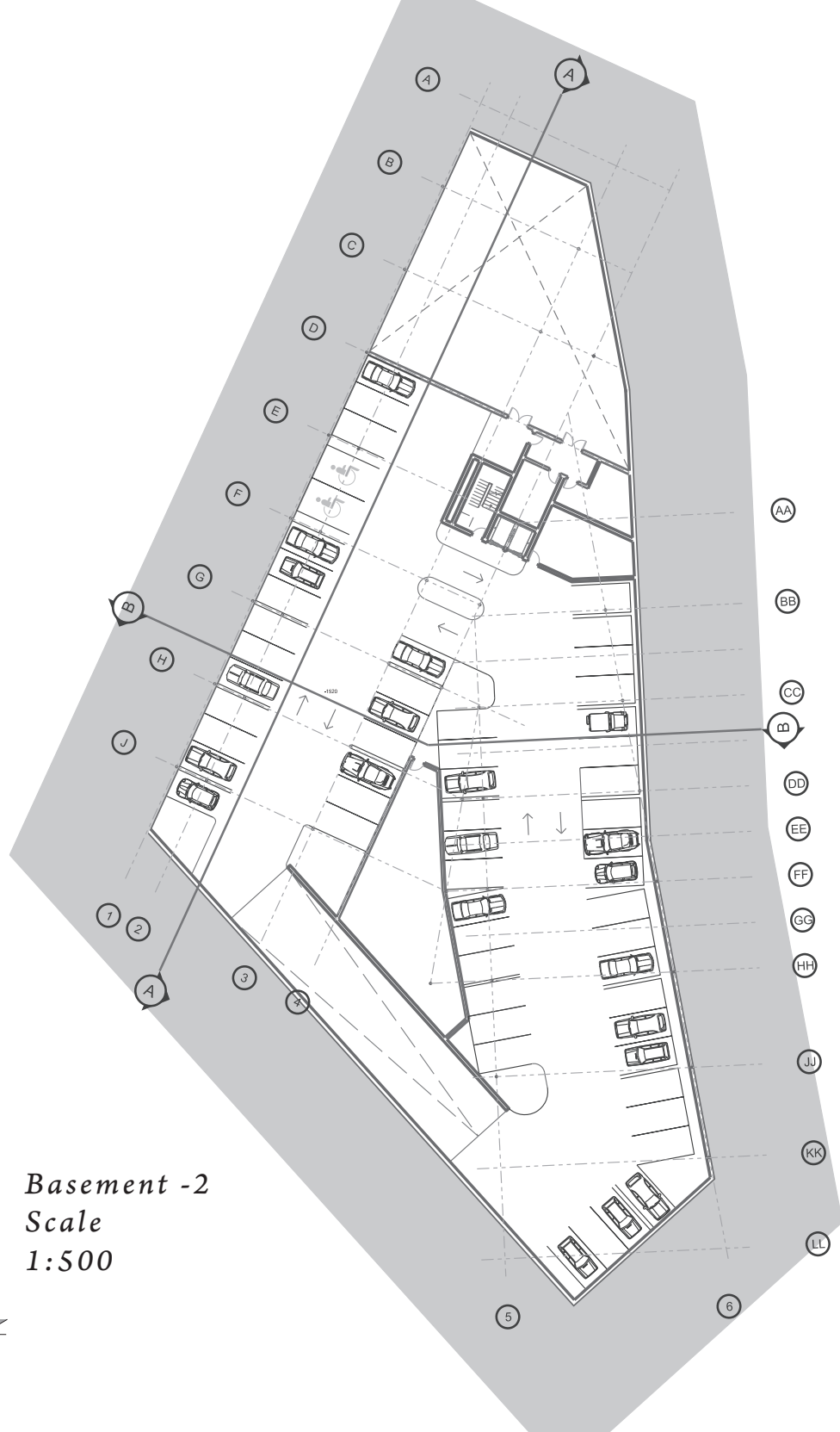




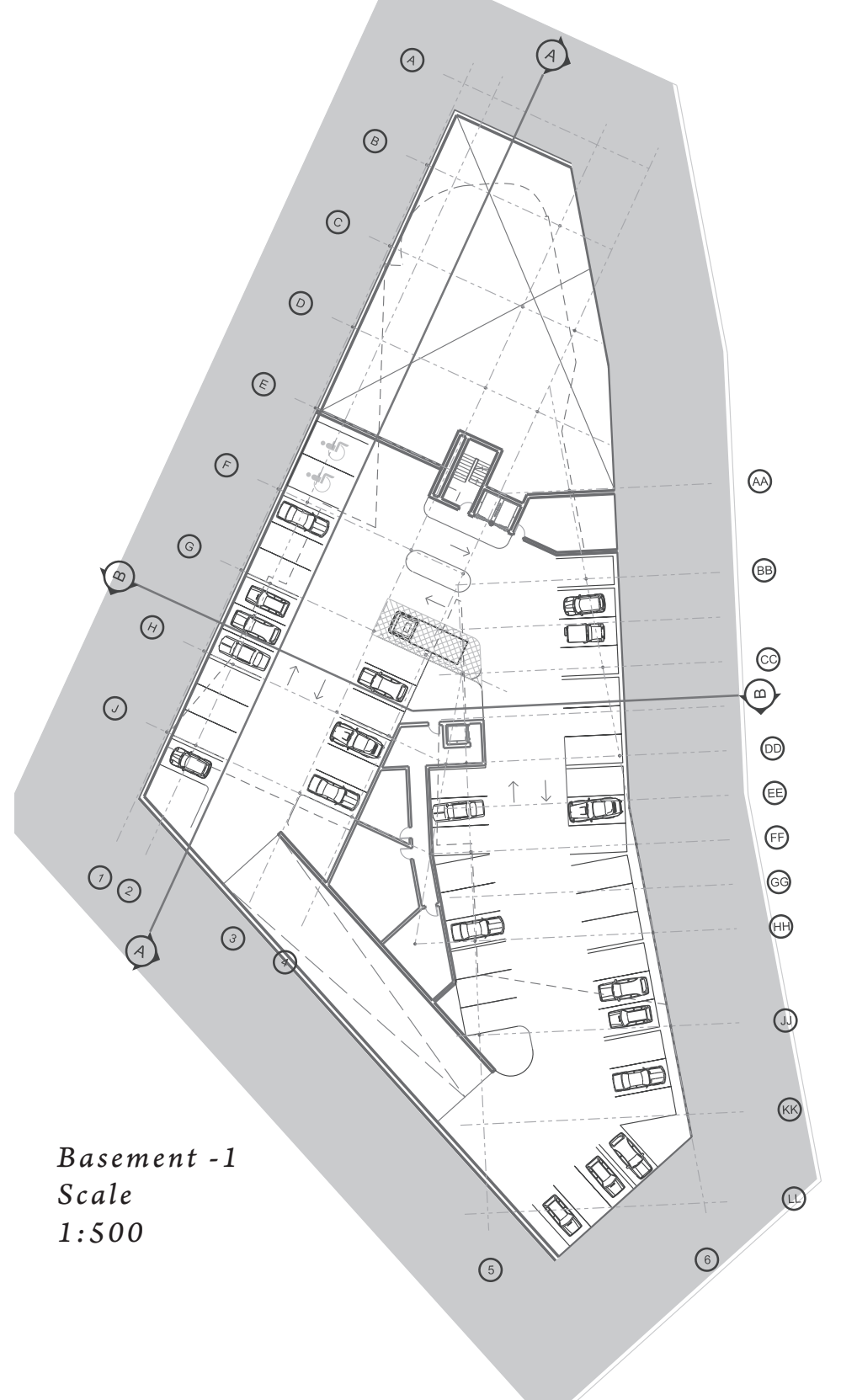
East Elevation

Scale 1:500



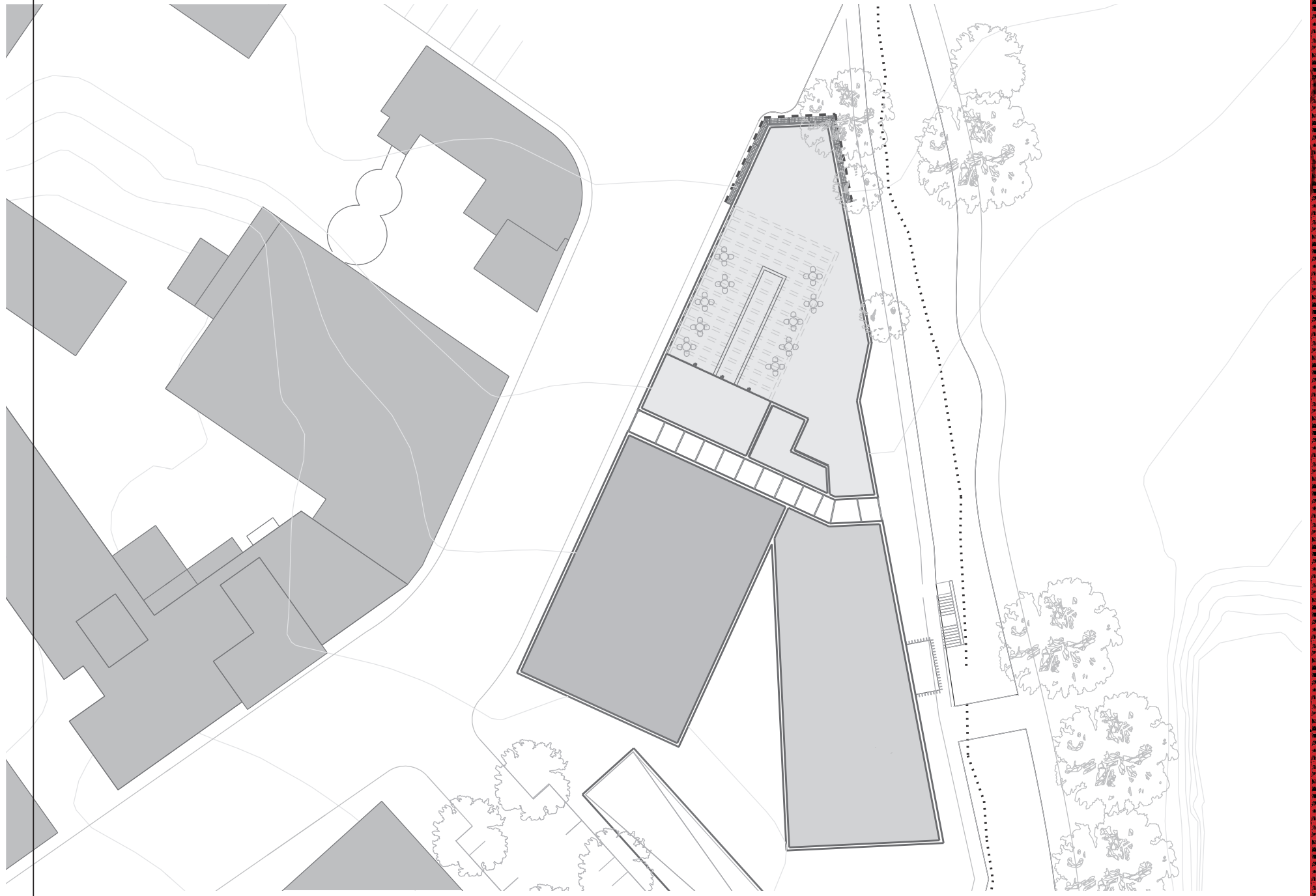


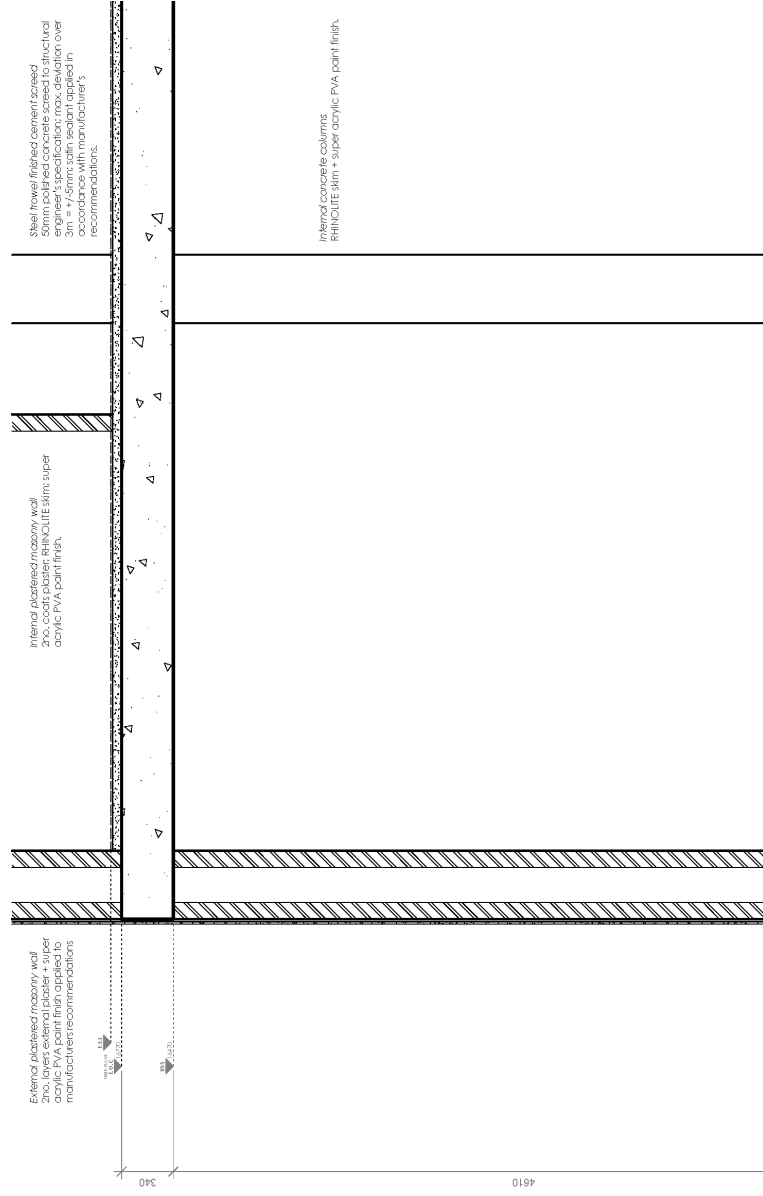
Basement -2
 Scale
 1:500

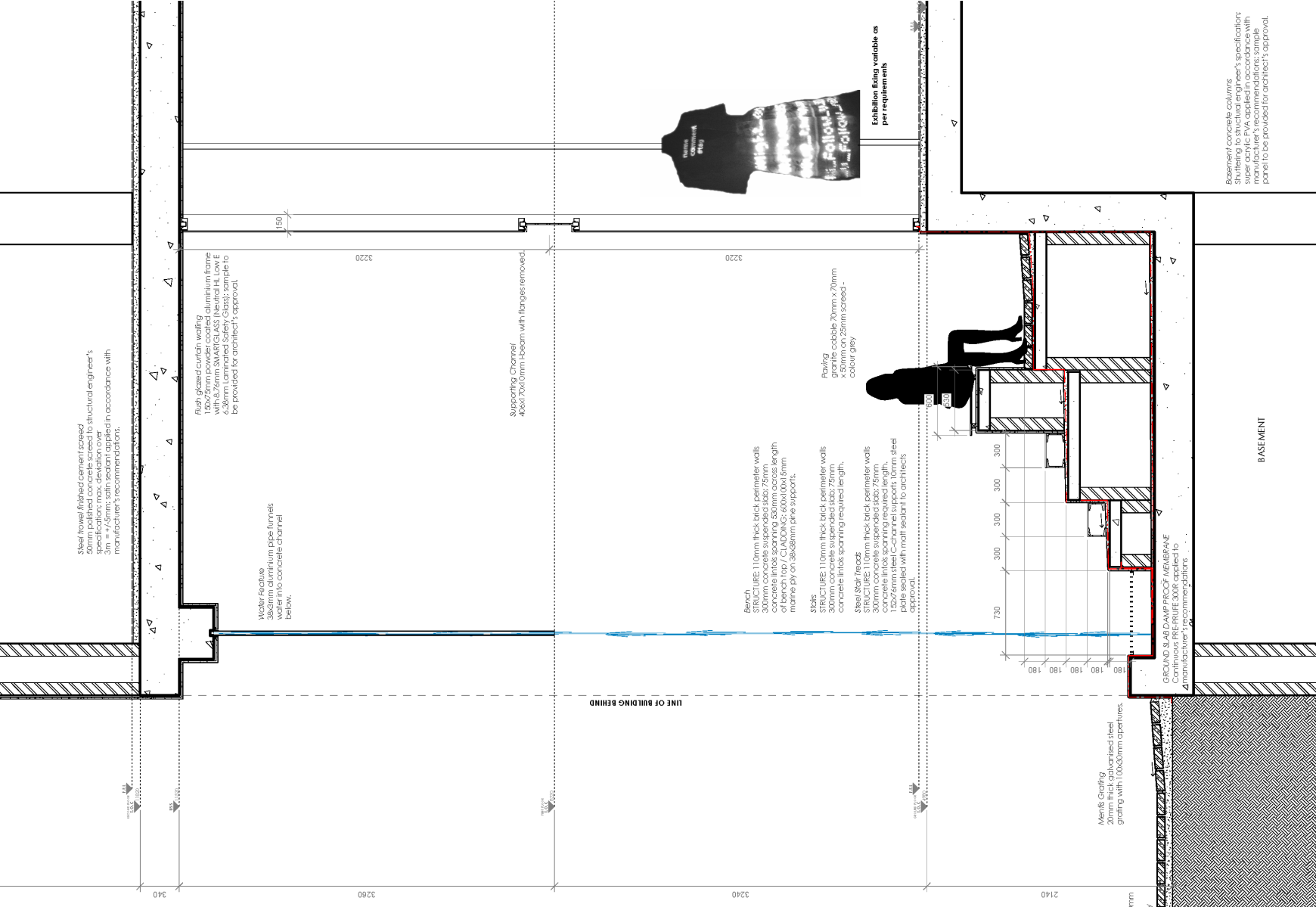


Basement -1
 Scale
 1:500









Steel trowel finished cement screed
50mm polished concrete screed to structural engineer's
specification; max. deviation over
3m max. in any direction in accordance with
manufacturer's recommendations.

Flush glazed curtain walling
130x75mm powder coated aluminium frame
in accordance with manufacturer's
specification; max. deviation over
3m max. in any direction in accordance with
manufacturer's recommendations.

Water Feature
38x2mm aluminium pipe funnels
water into concrete channel
below.

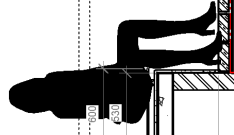
Supporting Channel
40x170x10mm I-beam with fasteners removed.

Bench
STRUCTURE: 110mm thick brick perimeter walls
300mm concrete suspended slab; 75mm
concrete in-lot spanning 50mm across length
of bench top / CLADDING: 600x100x15mm
marine ply on 60x60mm joist supports.

Slab
STRUCTURE: 110mm thick brick perimeter walls
300mm concrete suspended slab; 75mm
concrete in-lot spanning required length.

Steel Slab Frame
STRUCTURE: 110mm thick brick perimeter walls
300mm concrete suspended slab; 75mm
concrete in-lot spanning required length.
150x25mm steel C-channel supports 10mm steel
panels with mortar bedded to architect's
approval.

Paving
paving granite cobble 70mm x 70mm
x 25mm on 25mm screed -
colour grey



Exhibition filing variable as
per requirements

Aluminium Grating
20mm thick galvanneal steel
grating with 100x60mm apertures.

Paving
paving granite cobble 70mm x 70mm
x 25mm on 25mm sand
bedding layer - colour grey

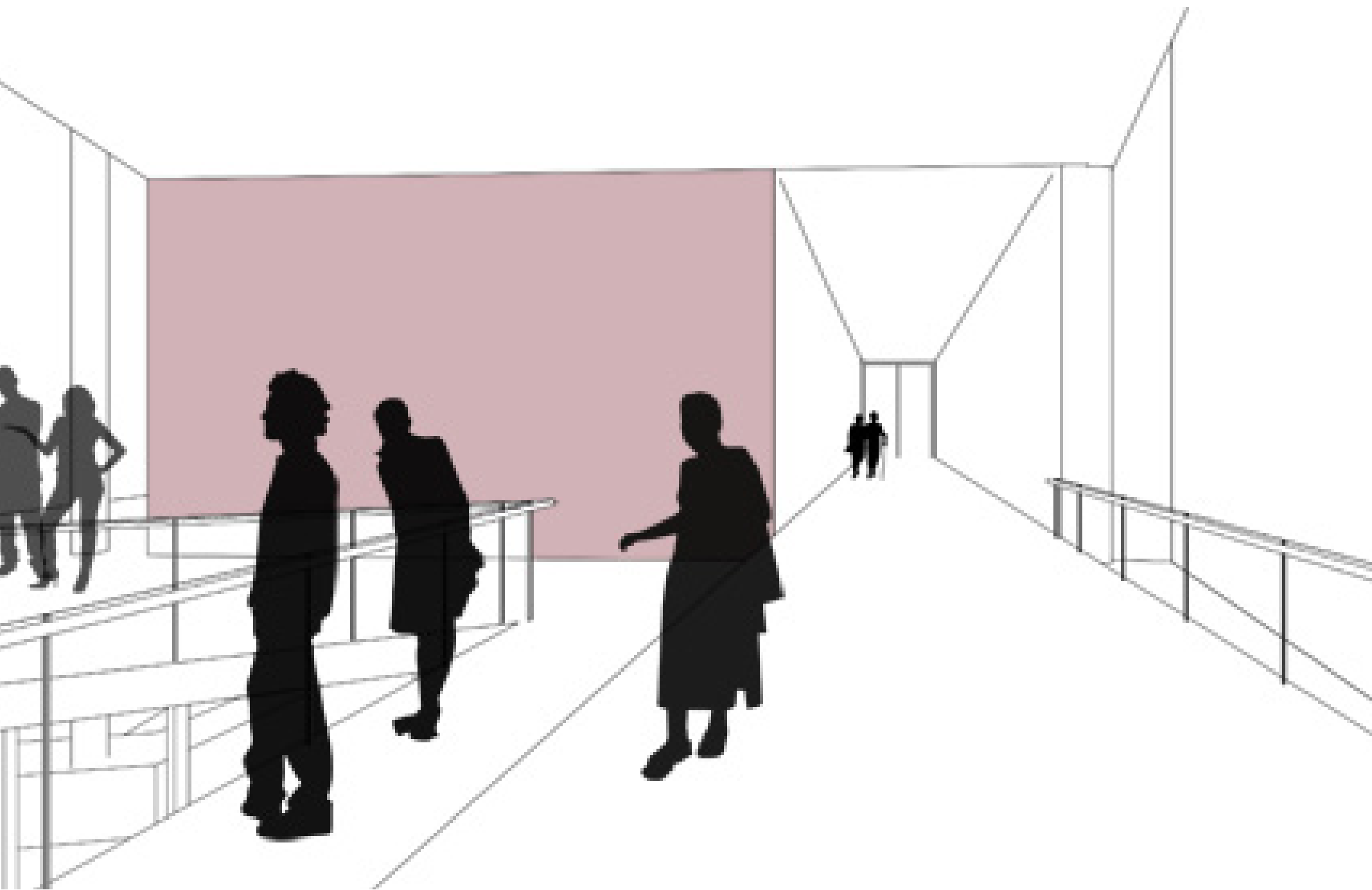
GROUND SLAB RE-ROOF: RE-ROOF
Continuous PRE-CAST CONCRETE
applied to
manufacturer's recommendations.

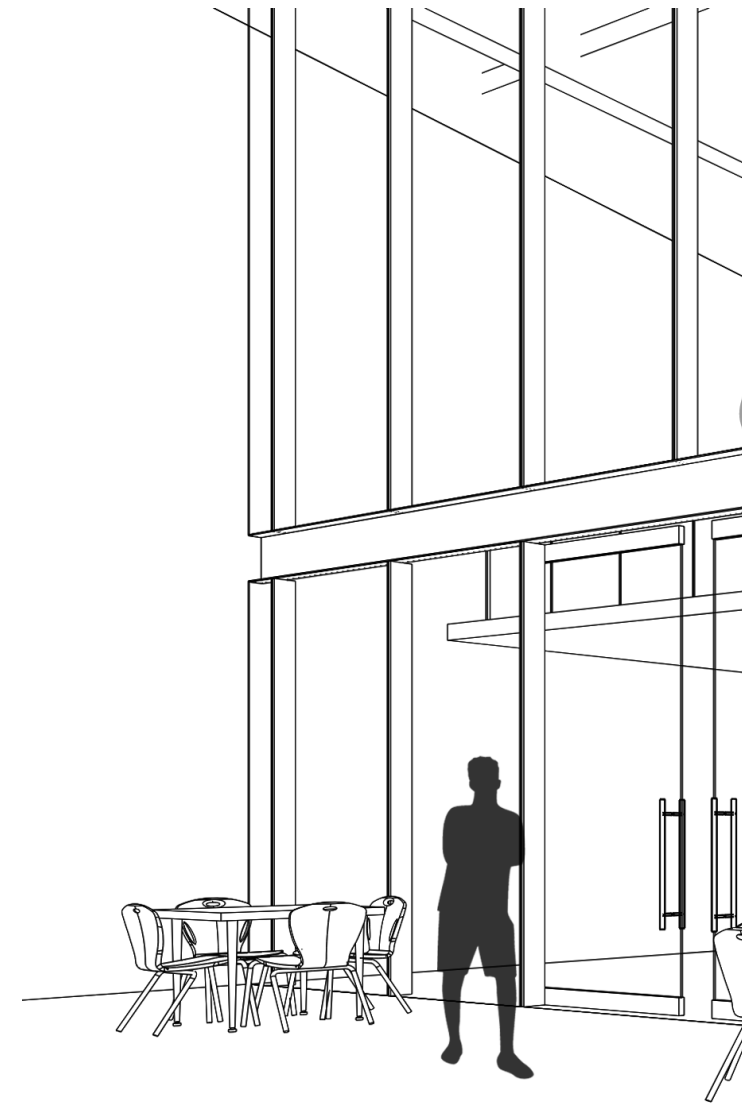
BASEMENT

Basement concrete columns
to be cast in accordance with
specification; max. deviation over
3m max. in any direction in accordance with
manufacturer's recommendations; sample
panels to be provided for architect's approval.

*Perspective of the ramp entering the
main auditorium with views into
the shop below.*

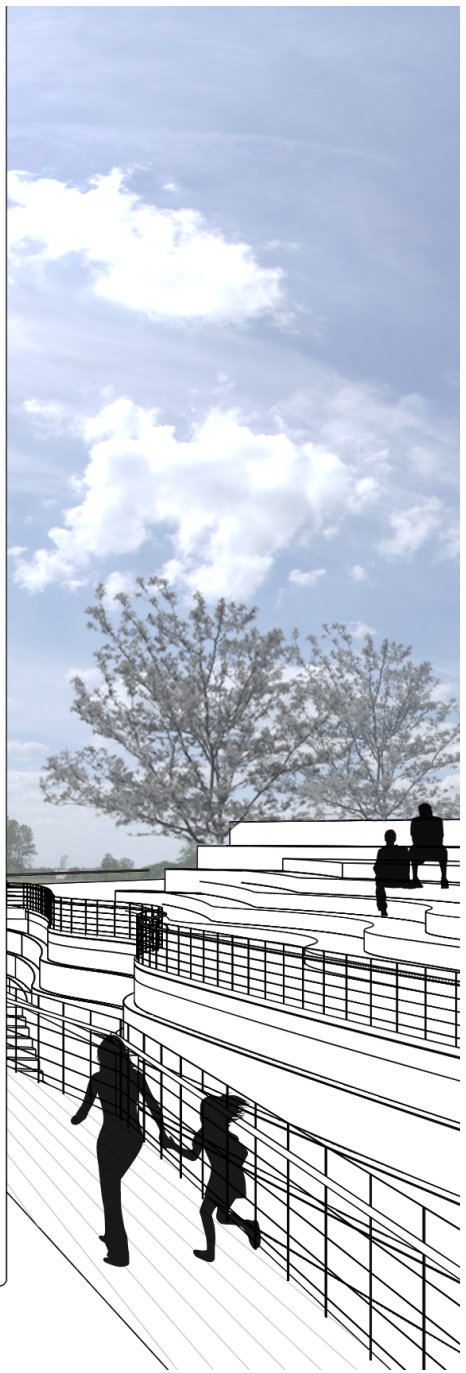






Perspective of the double height restaurant and mezzanine bar looking out to the east and the Braamfontein Spruit pedestrian route with the outdoor auditorium







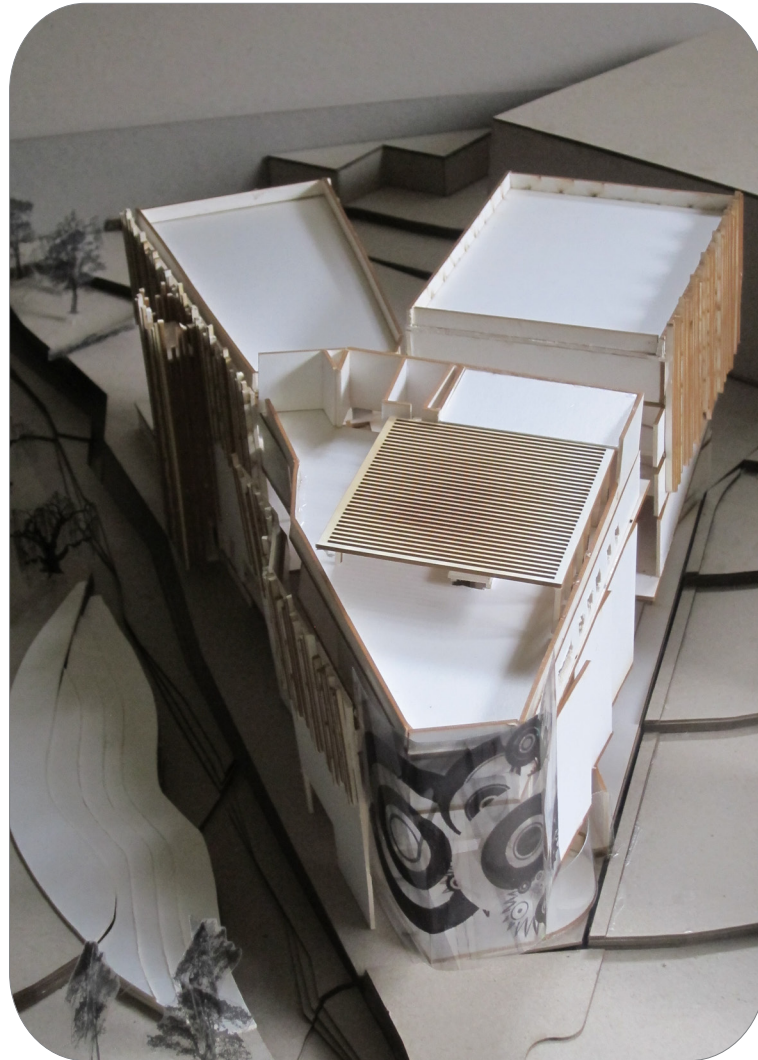
Model of Ground and First floor



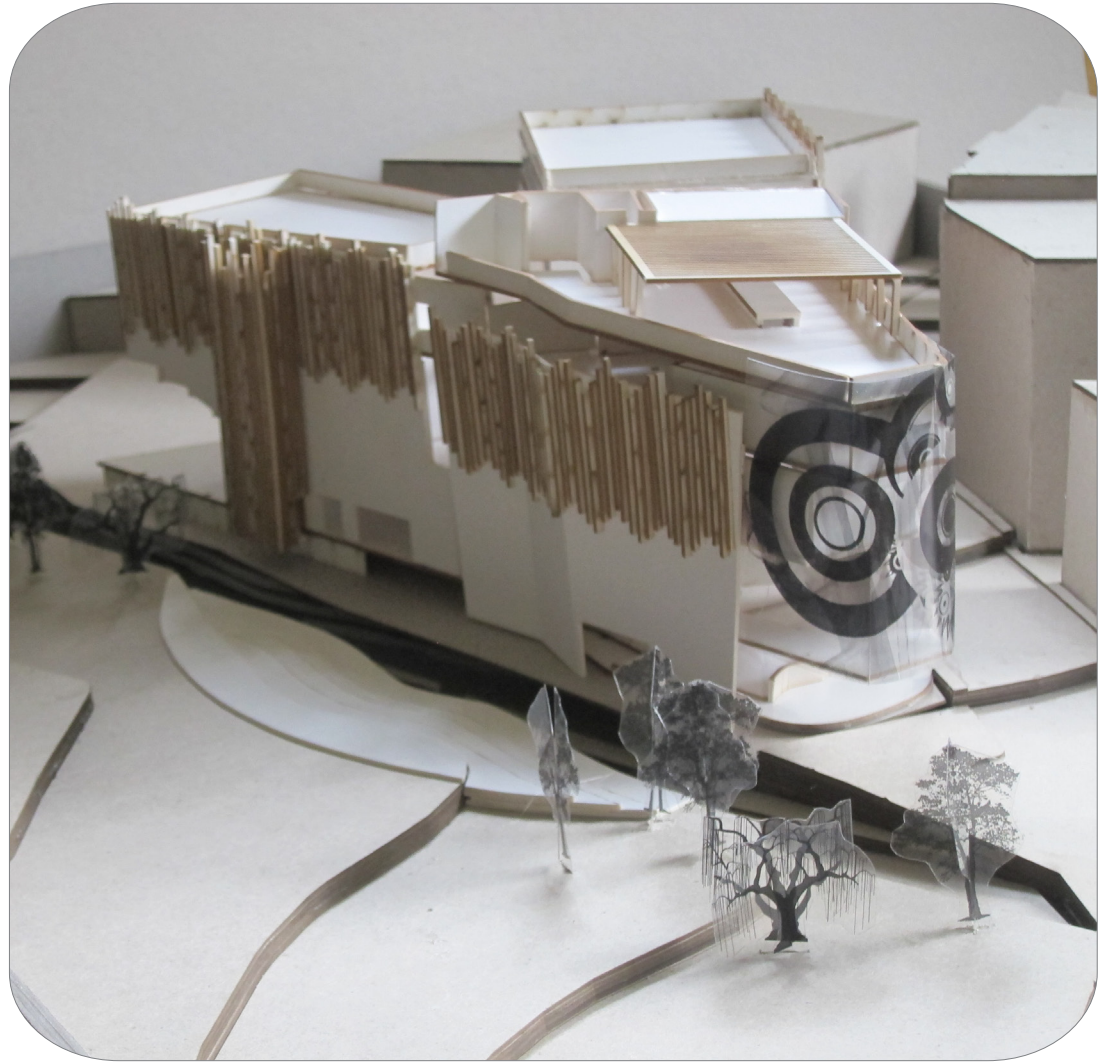
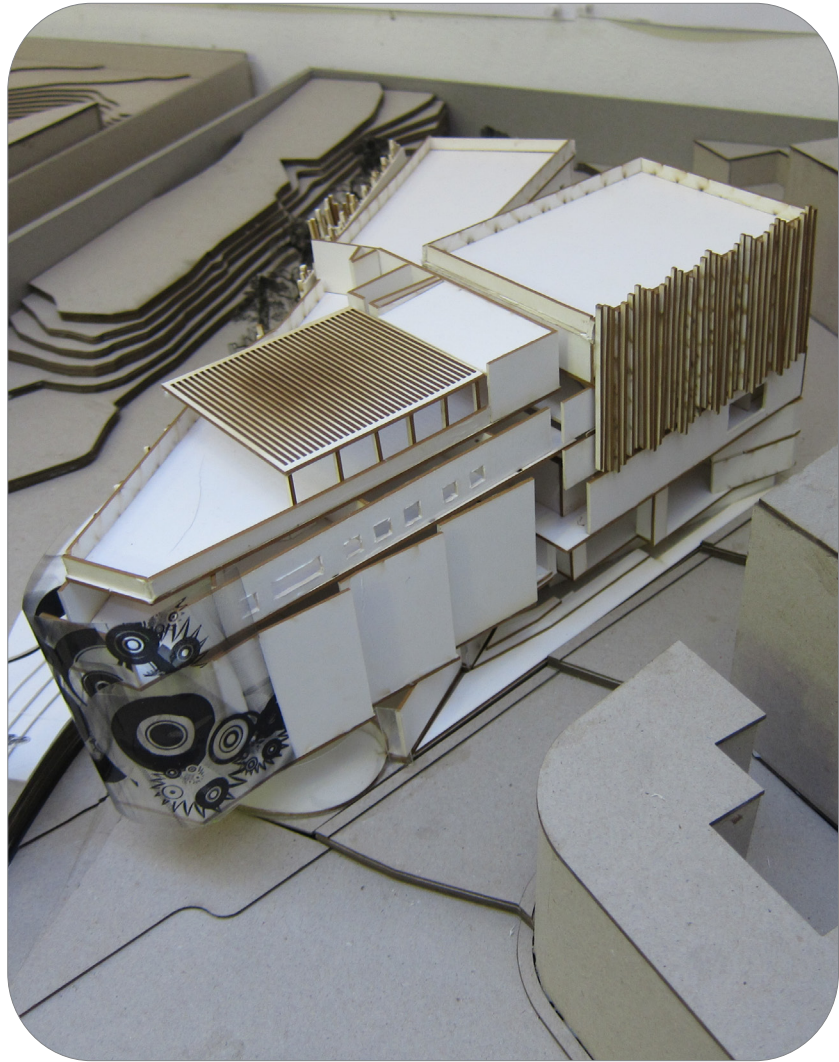
Model of Second Floor - Auditoriums



Model of Third floor



Model of Roof and garden





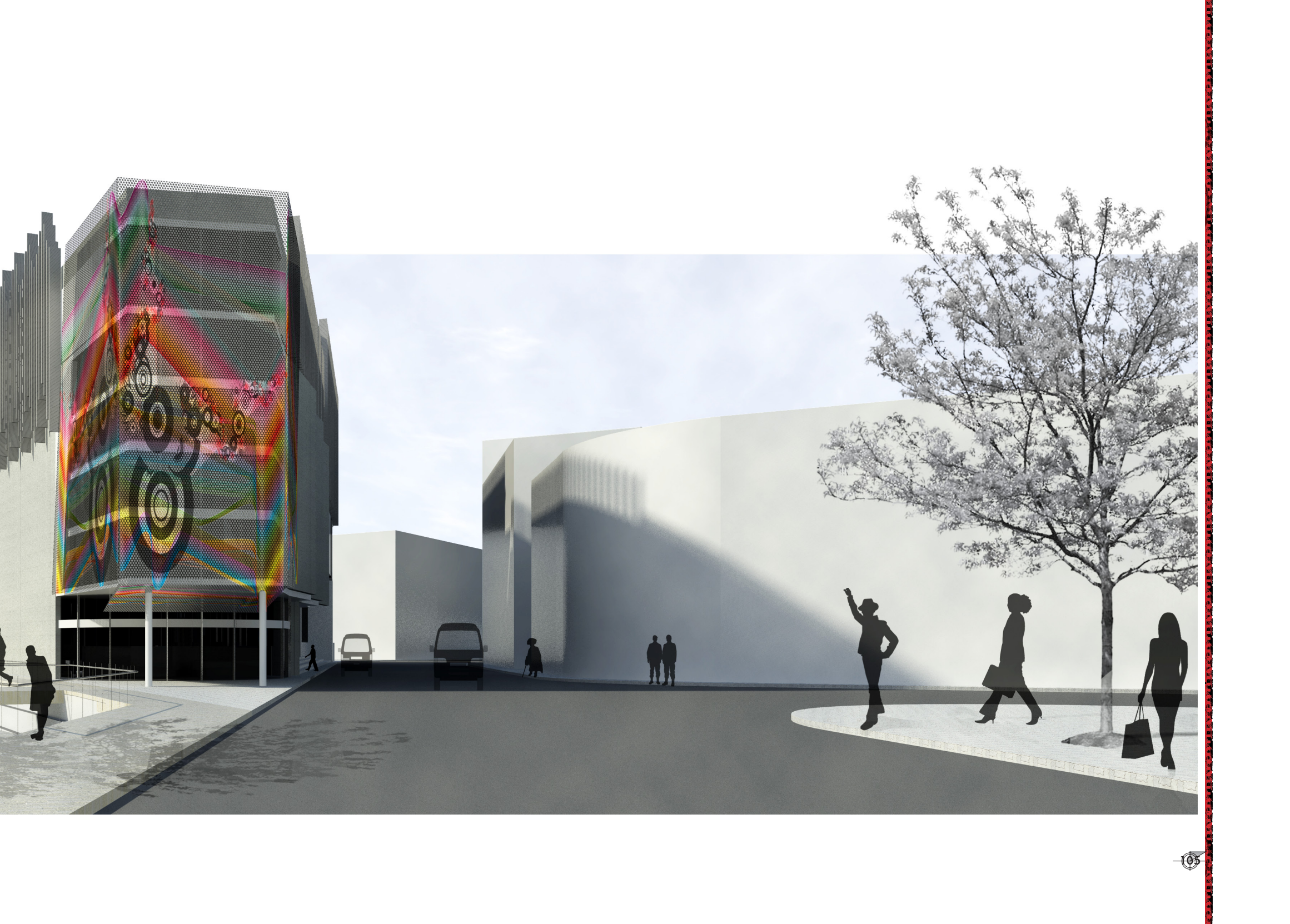


*View of Western entrance from
the south of Owl Street*



*View of shop entrance with
media screen above from the
north of the building.*





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- Figure 1. Number of Films created (Sources: Dubai International Film Festival, Screen Digest)
- Figure 2. Admissions into Cinemas (Sources: Dubai International Film Festival, Screen Digest)
- Fig 3. Film Poster - Lord of War (Source: www.imdb.org)
- Fig 4. Film Poster – Tsotsi (Source: www.imdb.org)
- Fig 5. Film Poster – Skoonheid (Source: www.nfvf.co.za)
- Fig 6 - 10. Captured frames of Eisenstein's Strike (Source: <http://www.youtube.com/watch?v=sZaL9wvyv1E&feature=related>)
- Fig 11. Musical Proportion as notated by Greeks (Source: Ching, 1996; 298)
- Fig 12. Alberti: S. Maria Novella Florence (Source: Ching, 1996; 298)
- Fig 13. La Tourette, Notation used in facade (Leopald 2005)
- Fig 14. Notation used for Metastis (Leopald 2005)
- Fig 15. Philips Pavilion geomatry (Source: <http://music.columbia.edu/masterpieces/notes>)
- Fig 16. Philips Pavilion under construction (Source: <http://panathinaeos.wordpress.com/tag/phillips-pavilion>)
- Fig 17. Philips Pavilion (Source: <http://designwire.interiordesign.net/>)
- Fig 18. The Willowtwist (Source: <http://gerryco23.wordpress.com/page/7/>)
- Fig 19 -20. Stadsmuziek (Source: www.designboom.com)
- Fig 21. City of God Poster (Source: www.imdb.org)
- Fig 22. KillBill Poster (Source: www.imdb.org)
- Fig23. Holl Stretto House (Source www.steven holl.com)
- Fig 24 -25. Holl DE Shaw Office (Source www.steven holl.com)
- Fig 26 -27. The Soundbarrier Houses (Source: www.archrecord.com)
- Fig 28. Organisation of linear space (Source: Ching, 1996)
- Fig 29. McKinsey & Company Hong Kong Office (Source: <http://www.archdaily.com/141823/mckinsey-company-hong-kong-office-oma/>)
- Fig 30-31 Velocity Film Studios Interior Corridor and Axonometric (Sorrel, 2009; 61)
- Fig 32. Tschumi's Manhattan Transcripts (Source: Tschumi, 1994)
- Fig 33. Tschumi's Le Fresnoy National Studio for Contemporary Dance
- Fig 34. The Kunsthal Entrance (Source: www.oma.eu)
- Fig 35. Section of the Kunsthal, highlighting the ramps (after Balmond 2002: 10)
- Fig 36. The Kunsthal Ramps (Balmond, 2002: 110)
- Fig 37. Slope of Auditorium with restaurant below to the right of the image and to the left the ramp to the entrance of the building (Source: www.archdaily.com)
- Fig 38. Ramp divided by glass (Source: www.oma.eu)
- Fig 39. In elevation can see the dynamic nature of the ramps and the service road that cuts east west axis (Source: www.oma.eu)
- Fig 40. The Highway (Source: <http://landscapeisdeb.blogspot.com/2010/03/focus-seouls-cheonggyecheon-stream.html>)
- Fig 41 -48. The River after renewal (Source: <http://landscapeisdeb.blogspot.com/2010/03/focus-seouls-cheonggyecheon-stream.html>)
- Fig 49. Map of film and music within a kilometre radius of SABC (Source: Map from www.joburg.org.za Mapping author's own)
- Fig 50 - 57. The materials of some of the surrounding buildings (Source: author's own)
- Fig 58. Map of immediate functions in area of chosen site (Source: author's own)
- Fig 59. Urban Framework for Egoli Site by GAPP Architects and Urban Designers (Source: Egoli Gas Precinct Plan for Mixed Use Development 2010)
- Fig 60. Figure Ground
- Fig 61. Heights
- Fig 62 - 65. Movement routes (Source: Map from www.googlemaps.com)

Fig 66- 68. Photos of the considered site (Source: author's own)
Fig 70. Map exploring sounds experienced (Source: author's own)
Fig 71- 73. Photos of the considered site (Source: author's own)
Fig 74. Map exploring sounds experienced (Source: author's own)
Fig 75. Map exploring sounds experienced (Source: author's own)
Fig 76. Site photo (Source: author's own)
Fig 77. Site photo looking north east (Source: author's own)
Fig 78. Site photo looking south (Source: author's own)
Fig 79. Solar Study (Source: author's own)
Fig 80. Sketches of the programme overlapping (Source: author's own)
Fig 81. Warwick Junction. Infrastructure movement layers framing the distant city.(Source: author's own)
Fig 82. The beachfront, city meets land edge: a long path broken by the rhythm and repetition of the piers and the street blocks.
(Source: author's own)
Fig 83 - 85. Photos edited to highlight the framing device that was seen. (Source: author's own)
Fig 86. A section through the pier with a framing device attached, it would move with the flow of the ocean(Source: author's own)
Fig 87. A view is isolated when sitting in the floating frame, it enhances the experience by removing distractions and focusing and filtering the phenomenon. (Source: author's own)
Fig 88. A shadow of a frame creates a different space that changes with the movement of the sun whilst the structure could potentially be something one can interact with. (Source: author's own)
Fig 89 -90.Frames focusing attention on to specific activities or views. (Source: author's own)
Fig 90 - 100. Photos of process model explorations (Source: author's own)
Fig 101. Sound installations and explorations (Source: www.archdaily.com)
Fig 102 - 104. The Cylindre Sonore. (Source: www.archdaily.com)
Fig 105. Movement of sound and the ability to reflect or be absorbed (Source: after Moore 1967)
Fig 106. High Frequency - travel less Low Frequency - travels far
Fig 107. The reflection off a flat surface a convex surface and a concave surface (Source: after Moore 1967: 21)
Fig 108. The reflection off a planar surface relies heavily on the angles of the surfaces to each other. (Source: after Moore 1967: 23)
Fig 109. The difference in materials and their ability to absorb or reflect sound (Source: Martin 2005)
Fig 110 – 113 Dominique Coulon's Montreuil Theatre (Source: Architecture and Urbanism)
Fig 114 MediaMesh (Haeusler, 2009; pg146)
Fig 115 MediaMesh
(Source: Haeusler, 2009; pg146)
Fig 116 - 118 Palazzo dell' Arengario by ag4 media facade GmbH (Source: Haeusler, 2009; pg146)
Fig 119 Design intentions and massing of programme (Source: Author's Own)