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Non-places of the ghost courier: grounding ephemeral spirits: place design for the package and food delivery motorcycle courier for community identity development in Bedfordview, Johannesburg

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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

NON-PLACE OF THE GHOST COURIER:

Grounding ephemeral spirits. Place design for the package and food delivery motorcycle courier for community identity development in Bedfordview, Johannesburg

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Johannesburg, 2023

This document is submitted in partial fulfilment for the degree: Master of Architecture (Professional) at the University of the Witwatersrand, Johannesburg, South Africa, 2022.

DECLARATION

I, Tanitha Michelle Jing Mun Yan (student number: 1690222) am a student, registered for the course; Master of Architecture (Professional) in the year 2023. I hereby declare the following: I am aware that plagiarism [the use of someone else's work without permission and/or without acknowledging the original sources] is wrong. I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I have followed the required conventions in referencing thoughts, ideas, and visual materials of others. For this purpose, I have referred to the Graduate School of Engineering and the Built Environment style guide. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of the ideas or words in my own work.

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ABSTRACT

The COVID-19 pandemic and subsequent lockdown measures taken in South Africa have made more evident who is considered an essential worker. The delivery motorcyclist began playing an important role in the maintenance of the country's lock-down rules and helped to control the spread of the pandemic. Through this new reliance on technology and delivery systems, the delivery motorcyclist has become an important member of society. They have a rapidly developing community that can be seen taking up public spaces or "Urban Lost Spaces" revealing that they need their own space within the urban environment.

The theoretical framework for this research is based upon the concepts of "Urban Lost Spaces", "Non-places" and "Place-making" for the delivery motorcyclist, and the relationship that these theories have with the public urban environment. It will specifically focus on the established community of delivery motorcyclists, their space, and place-making within the Urban Lost Space of Johannesburg city, who have not considered them previously in the spatial planning of the city.

The research is a local project, that has a site selected in Bedfordview, Johannesburg East beneath the Nicol Road overpass and next to Eastgate Shopping Centre. The purpose of the research is to look at the possibilities of revitalizing "Urban Lost Space" by raising the environmental standard of the workspace for the delivery motorcyclist. This will be done through the design of a "One-Stop mechanics workshop " (in conjunction with appropriate programs) that promotes community and questions the current design of urban public space.

ACKNOWLEDGEMENTS

I would like to acknowledge and give my warmest thanks to my colleagues, my teachers, professors, and my supervisor who have all supported me through this academic journey. Your guidance and advice have helped me put my ideas into words and focus my imagination on something tangible.

I would also like to give a special thanks to my mom, Tracey, dad, Gregory, and brother Alistair as well as, my friends for their continuous support and understanding of my dedication to my project. I would not be able to become who I have always dreamed of becoming without you. I am forever grateful for all the love, assistance, and cups of tea that I received whilst writing this report.

Finally, in loving memory of my Popo, Ellen Ho Poy who, I hope, would be proud of me.

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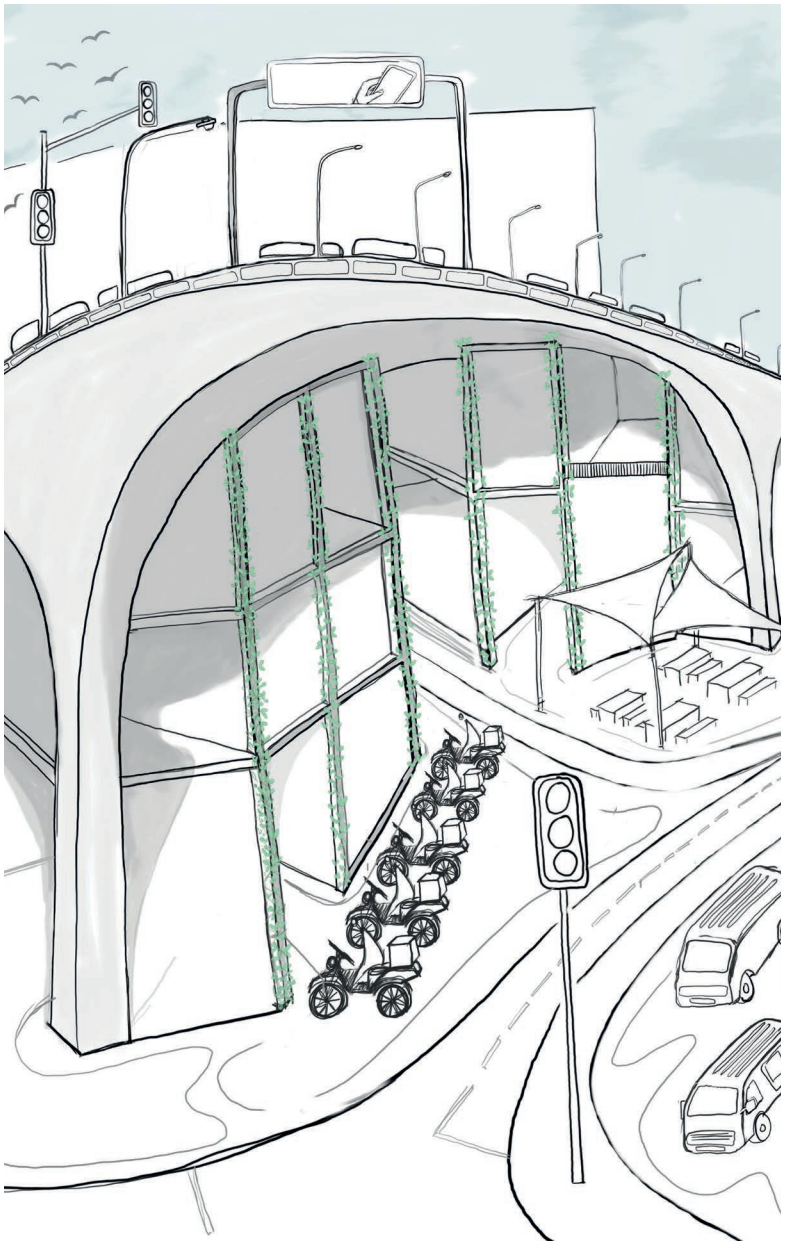


Figure1: Conceptual Sketch illustrating intent of research report. 2022. Image by author



Figure 2: Paul arrives at the shopping centre where he waits for food orders, along with many other drivers. 2021. Photograph: https://www.theguardian.com/world/2021/dec/13/ghost-riders-the-invisible-lives-of-Johannesburg-food-couriers-photo-essay

INTRODUCTION

Technology and the internet have become accessible to the public more than what has been seen historically. It strives to make the lives of humans more efficient, and in doing so, has changed the way people observe and experience the world. It has changed the way that people communicate with one another, through the convenience of instant messaging. To the way, people shop, through online e-commerce platforms. It has changed the convenience of food services through delivery systems that will be further explored in this research report.

The global use of the internet has resulted in an evolution in lifestyle and created new ideas surrounding balanced living and work patterns. Although this was a steady, but slow transition, it exponentially grew due to the South African COVID-19 regulations, which discouraged the movement of people. Examples of this change can be seen in businesses that have given employees the choice to have more flexible work hours and the option to work from home, instead of the more traditional lifestyle of commuting to a workplace and then working from 9:00 to 17:00. The restricted movement of people resulted in the more frequent use of online stores and applications. People have thus, discovered the efficiency and convenience that is associated with delivered goods and have opted to have deliveries made to them rather than going out into the public and going to commercial spaces.

The change in lifestyle has introduced delivery motorcyclists into the urban ecosystem and the group has seen noticeable global growth in numbers over the past few years.

In South Africa, e-hailing applications' popularity amongst potential employees is due to their employee ideals of self-employment and flexible working hours. This popularity resulted in the research identifying that the general "e-hailer", which includes package, food, and private transportation services, was too vast a of a group to enable an in-depth study. Therefore, for the purpose of this research paper, the demographic study will be limited to the package and food couriers on motorcycles or motorized scooters.

From an architectural perspective, it is the appropriation of space that is intriguing. The rapid increase in delivery motorcyclists has resulted in places, mostly outside of private restaurants and fast-food franchises, that have begun to become waiting and meeting places for delivery motorcyclists. This can be attributed to the functionality of the delivery application itself, as the closer you are to a restaurant the more likely you are to receive an order. However as they are prevented from gathering near private property, the only space that is open for them to congregate in is, in many cases, the unpaid parking lots and in other cases the public sidewalks. (Juana Salcedo, 2021)



Figure 3: Mande waits for an order. 2021. Photograph: https://www.theguardian.com/world/2021/dec/13/ghost-riders-the-invisible-lives-of-johannesburg-food-couriers-photo-essay

These types of public spaces can be defined as Urban Lost Spaces. In Johannesburg City, it is observed that these spaces are seen to have little to no value and have been left as undesigned, unprogrammed, and minimally maintained spaces. Despite these undesigned spaces, the delivery motorcyclists have carved out places for themselves within this particular urban landscape.

This type of appropriation is a spatial phenomenon where "lost space" is being appropriated into "Non-places/Places" and an opportunity presents itself to the architectural planner and designer for a type of architecture that:

- Improves the experiential environment of Urban Lost Space,
- Questions the boundaries and the design of privately owned, public spaces,

As well as,

- Enable potential for better spatial experiences and therefore a better quality of living.

To analyse these topics the research report has been divided into three parts.

- Part 1 investigates; the user, the delivery motorcyclist, and their relevance to "Urban Lost spaces" to navigate contextual and spatial issues. It will review the literature relevant to the theory of "Urban Lost Spaces" in architecture. This establishes a background and problem statement within which the subject of design for urban public spaces and the delivery motorcyclist can be explored.

- Part 2 will present the possibilities of what architecture can achieve regarding the problem statement by exploring "Place" and "Non-Place" theory and sustainability as well as investigate case studies that are examples of architectural practices implemented to navigate Urban Lost Spaces.

And,

- Part 3 will explore the spatial potential of Urban lost space through public place creation that considers the food delivery motorcyclist.

The intention is to create an architectural intervention that responds to researched themes of Place and Non-Place, Urban lost spaces, and spatial experience.



Figure 4: Collage illustrating the appropriation by delivery motorcyclists of urban lost space in areas around Johannesburg. 2022. Collage by Author.



RIVONIA VILLAGE



MCDONALDS PARKING LOT, CRAIGHALL



OUTSIDE FONTAINEBLEAU VILLAGE SHOPPING CENTRE



HOBART GROVE SHOPPING CENTRE, BRYANSTON



OUTSIDE THE ZONE, ROSEBANK



EASTGATE MALL, BEDFORDVIEW

PART 1
The Problem Statement:
The Ghost Rider and Urban Lost Spaces.

Architecture at its core is for utilization by humankind. The user's interaction with spaces goes beyond the physical appearance of a building. Whether it is intended or not the user will have a response to the created spaces resulting in a uniquely subjective experience.

Chapter 1: The Delivery Motorcyclist and Appropriated Spaces.

One of the major priorities for an architect (when designing any kind of project) is knowing who they will design for, and understanding the users' specific considerations. Therefore, to understand the delivery motorcyclists, investigations need to be made in several areas. Examples of such are; who the delivery motorcyclists are, their experiences, the places that they inhabit during different times of the day, as well as the reasons for their choice in certain sites to appropriate. These investigations are vital to the project.

In his article published in The Guardian, Stephen Hofstatter names the food delivery motorcyclists "Ghost Riders" as the name refers to the individuals who have made it their daily occupation to deliver food. Their job was not in high demand before the invention of the internet and applications. In the past, the delivery motorcyclist was popular and seemingly exclusive to the world of pizza and Asian-style takeaway food. The recent evolution of the delivery network with its development of multiple applications has broadened people's perspectives into new possibilities regarding the food industry and its operations that increase efficiency.

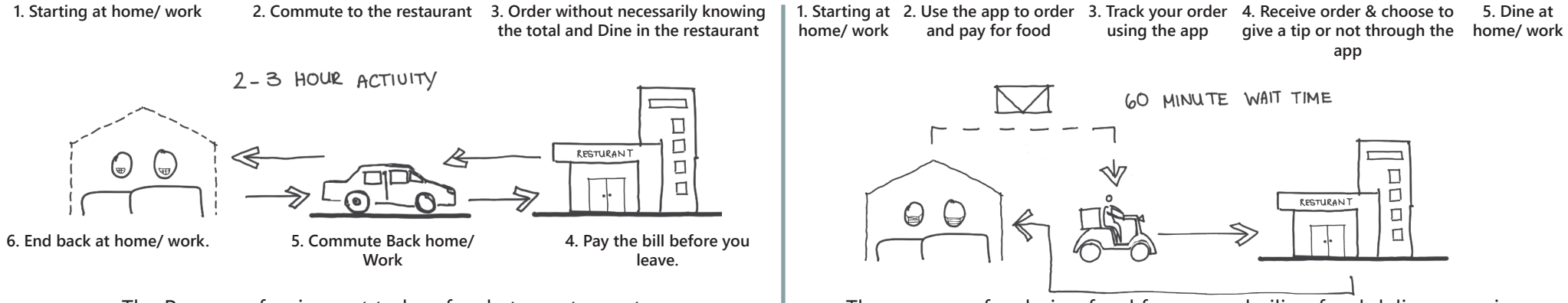
The delivery motorcyclist in South Africa is part of a gig economy that has exploded in the past few years. The gig economy is a term used to define "work in many sectors ... becoming temporary, unstable and patch-worked. It entails; workers spending less time at one job, risk of time spent without income, workers undertaking more jobs (possibly at the same time), and unpaid time spent searching for tasks or gigs." (Woodcock and Graham, 2020).

Delivery services regarding motorcyclists range from food to small package deliveries. Uber, an international company, is evidently the flagship of the food e-delivery world, but it has not stopped the concept from popping up under other names in different countries around the globe.

The delivery systems such as "Uber Eats", "Mr. D Food" and similar delivery networks, are part of an industry in the global economic world that has been slowly growing over the past few years. Their exponential growth, (due to high unemployment and the downward economic pattern, caused by the COVID-19 pandemic,) has influenced an urban spatial anomaly that has sparked research interest.

In South Africa, specifically Johannesburg, the food delivery applications that are the most popular are Uber Eats, Mr. D Food, and Orderin. (MoneyToday, 2020) These applications focus on food delivery, whilst businesses such as Takealot, a partner of Mr. D Food, focus on small package deliveries. More recently, due to the COVID-19 Pandemic, local South African grocery stores such as Checkers, Pick 'n Pay, and Spar have launched their own versions of food delivery applications and networks. Namely; Checkers Sixty, 60, Pick 'n Pay asap, and Spar Delivery. All of these rely on the delivery motorcyclist for profitable gain.

THE TIME EFFICIENCY COMPARISON BETWEEN ORDERING FOOD IN VERSUS GOING OUT.



The Process of going out to buy food at a restaurant.

The process of ordering food from an e-hailing food delivery service

Figure 5: Diagram illustrating time efficiency comparison. 2022. Diagram by Author.

Identifying the delivery motorcyclist, stereotypically, is summarized into a few key elements, based on their physical appearance.

Firstly, what many identify is the delivery box, which is big enough to comfortably fit a pizza box, and sits atop the back of the motorcycle or scooter. Next, they are identified by the helmet and, if they were lucky enough to receive one, which most are not, a reflective vest with logos and colours from the business it hails from. Last to be identified is the person that sits in front of the box and beneath the vest. The delivery motorcyclist.

The Guardian, The Sunday Times, The New York Times and The Daily Maverick, who have all done articles on delivery motorcyclists found a negative perspective on the profession and exposed the delivery motorcyclists' exploitation by the corporate conglomerates that they have chosen to work for. In the Sunday Times article; "Delivery scooters are a lifeline for SA's jobless", a motorcyclist says that "The delivery companies say [that] they have set up safety nets for [the delivery motorcyclists], but in reality, there is so much red tape that riders don't have the power to rely on it." (Farber, 2021)

The type of gig economy that food delivery companies thrive on leaves their delivery workers with "no boss hassling [them], but... a real challenge [in] having no benefits". (Farber, 2021) Furthermore, there are general road safety concerns felt by all the motorcyclists, some mentioning that "[they] need[s] the money, but [are] afraid [that they] may be [the] next [victim of a road accident]". (Greef, 2019)

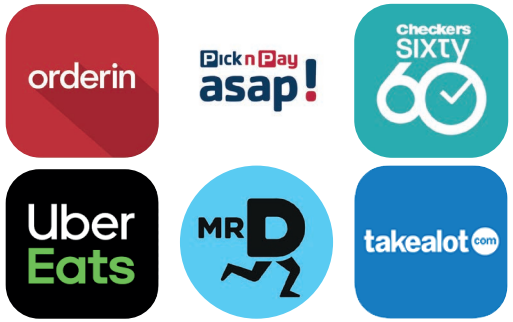


Figure 6: Application logos for popular companies that offer food e-hailing services. 2022. Collage by Author

The topic has gained global attention. Newspapers such as The Guardian (from the United Kingdom) and The New York Times (from North America) have reported on the subject. Tanya Farber, a senior science reporter from The New York Times states in her article, "There is an explosive growth of e-commerce delivery platforms that rely on scooters, but SA doesn't have a legacy or culture of scooter riding." (Farber, 2021). This lack of culture for a vital mode of transport for the delivery motorcyclist has resulted in motorcyclists carving out space for themselves wherever they can.

According to Hofstatter, "...most [of the riders] are foreigners with few prospects, eking out a meager living in straitened circumstances. " (Hofstatter, 2021) For many of the disadvantaged members of society "...food delivery is an enticing prospect, offering flexible hours and lenient background checks. People who don't meet the requirements for the job, including undocumented migrants, can easily obtain fake licenses, vehicle registration papers, and roadworthy certificates." (Greef, 2019) Says de Greef. Delivery applications have become a particularly popular form of employment due to their user-friendly application system, it's minimal documentation requirements, self-management and flexible hours.

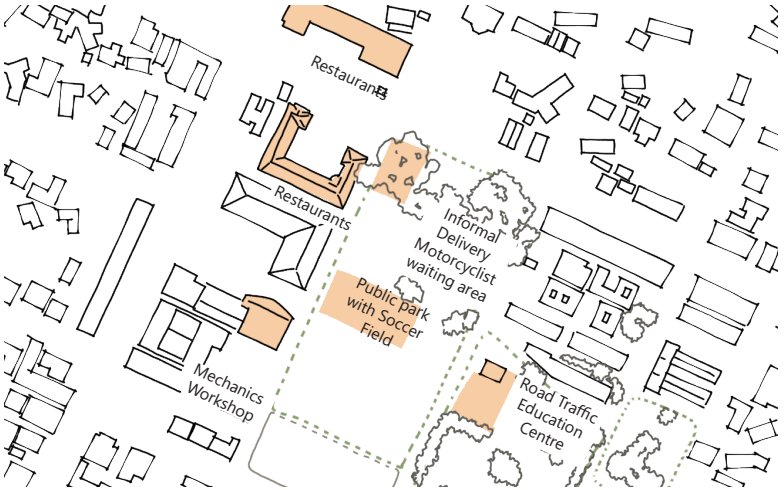


Figure 7: Mapping of Fontainebleau in Gauteng, Johannesburg illustrating programs that are related to the delivery motorcyclist and in proximity to one another. 2022. Drawing by Author.

A campaign from Mr. D was used to promote quick and hassle-free self-employment with slogans on their sign-up website page saying: "Work on your schedule. Choose your wheels. Earn good money." (Become A Driver Partner | Mr. D Food, 2022.) Despite these advantages, more disadvantages need to be considered for the delivery motorcyclist. Being a delivery motorcyclist is challenging and makes the rider highly susceptible to exploitation. Farber uncovered that "…[gig] workers were unable to access the same government assistance as other workers… [because they were] classified as independent contractors [and] were ineligible for sick pay, UIF and other forms of social security…" (Farber, 2021)

Another issue that was exposed by the protest that took place in February 2022 is the lack of input that the riders can have on their payment reductions or increases. Furthermore, they are unable to take preventative measures against potentially dangerous situations, adding unnecessary anxiety to the already stressful occupation.

In an interview with several of the riders, conducted by de Greef, it was discovered that common emotions felt by the delivery riders were fear and anxiety. A motorcyclist shared that "If [he] crashes, and call[s] Mr. D, the first thing they ask [him] is if the food is okay?" (Greef, 2019) Another rider when asked about his road accident replied that "[they] don't dress for the ride, [they] dress for the fall" (Hofstatter, 2021). These anxieties are then further heightened when other factors, such as fuel prices and motorcycle maintenance costs get added to the situation with little to no help from the application-based delivery companies.

Furthermore, South African roads are extremely dangerous. Delivery motorcyclists are more vulnerable due to drinking and driving, inadequate street illumination, poor road maintenance, and limited awareness of motorcyclists (Greef, 2019) and are vulnerable to crime, especially muggings. (Hofstatter, 2021) Some of these injuries and accident trauma experienced by delivery motorcyclists cause complications that further disadvantage their lives for the foreseeable future.

Safety for the delivery riders does not seem to be a priority for businesses. The couriers have lost faith in the companies that they work for and lost faith in the local law enforcement to protect them.

Instead, the delivery motorcyclists have learned to turn to each other for support (Hofstatter, 2021), and due to the unique circumstances that the South African delivery motorcyclist experiences, unofficial pocket communities have begun to develop. It has caused a ripple effect that has created a unique work culture and community spirit amongst the delivery motorcyclists.

The gathering of delivery motorcyclists is a choice based on the functionality of the delivery applications. The frequency of orders can be unpredictable and whilst waiting between the orders, the motorcyclists find the time to listen to music on portable radios together or play soccer in nearby public sports facilities.

> "A pan-African community spirit has spread among Joburg's food couriers. Typically, half a dozen nationalities are represented at social events. South Africans attend some, too. On public holidays, many gather for a game of five-a-side football on a field …opposite a McDonald's. Of late, South African workers at the fast-food outlet have joined in. Those not playing gather under trees to share a meal of grilled meat, pap (maize porridge), salads, and beer. Everyone contributes. Now and then a bike disappears, returning minutes later with a bag of ice or other supplies.
>
> Similar scenes play out in parks all over Johannesburg." (Hofstatter, 2021)

The community supports each other and provides safety in numbers, with some of the members even escorting each other home after a long night's worth of deliveries.

From an architectural perspective, the delivery motorcyclist is seen appropriating a variety of public spaces, such as unpaid parking lots, public parks, and even sidewalks. In an article written by Juana Salcedo et al, he recognises the connection between the rider spaces and "public space" by stating that "Delivery app[lication]s need workers to circulate through city streets and they rely on sidewalks, parks, and plazas as areas for these workers to remain on standby." (Juana Salcedo, 2021). This proves that it is not an occurrence isolated to South Africa. Many other countries are experiencing the phenomenon around the globe and from the sources quoted, there is a clear need for spatial intervention.



Figure 8: Characteristics of a space that delivery motorcyclists favour for congregation. 2022. Drawing by Author.

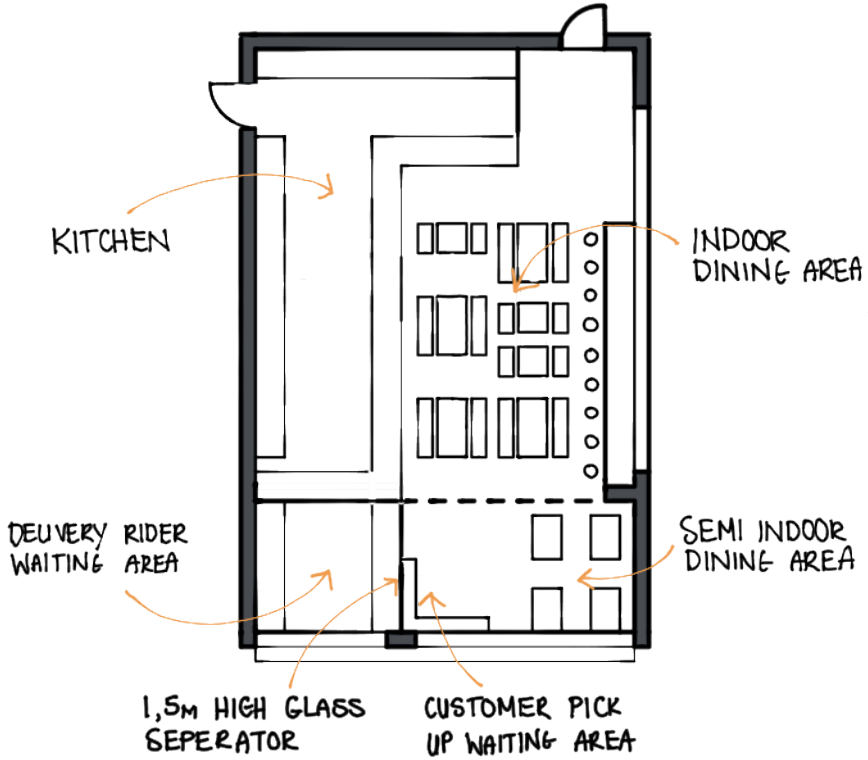


Figure 9: Diagrammatic Plan of Rocco-mamas, Randpark Ridge illustrating segregation of delivery motorcyclists. 2022. Drawing by Author.

Initial observations have shown that many delivery motorcyclists choose to congregate where they are not obliged to pay for parking near malls with a variety of restaurants or in an area where fast-food restaurants are in proximity. Hoffstatter, de Greef, and Farber all report that delivery motorcyclists tend to specifically favour shopping mall parking lots.

> "Some couriers work at shopping malls that lack adequate parking, forcing them to cram their bikes onto pavements while waiting for orders. Others complain about customers or restaurateurs who are inconsiderate or rude. An all-too-common gripe is being treated as invisible." (Hofstatter, 2021)

In cases such as the one mentioned above, the complaints are reinforced by mall management. The delivery motorcyclist is seen as a public eye sore and is urged not to congregate inside or close to the mall's spaces. Instead, they are requested to rather wait outside of the mall's establishments, which has resulted in the appropriated spaces where the delivery motorcyclists wait and can be observed presently.

Some similar qualities found between the waiting places are shaded spaces, physical protection by the placement of the motorcycles and scooters along a solid element, and due to data expenses, they favour places with the opportunity for free internet connection. In other cases, where the delivery motorcyclist is allowed into the establishment, they have been spatially separated from the customers.

The lack of space in the city is a consistent issue from an urban design perspective. The delivery motorcyclists can be seen congregating in the "Urban Lost Spaces". It is an appropriation of officially disregarded space by the city that brings a new evaluation of public city spaces and how to create a place for a group of people that the city planners could not foresee.

Chapter 2: Urban Lost Spaces

Urban Lost Spaces are the in-between unprogrammed, left-over spaces found in urban planning after development. The significance of such spaces is discussed in many fields of literature.

In Roger Trancik's book, Finding Lost Spaces: Theories of Urban Design, he defines, Urban Lost Spaces as, "…undesirable urban areas that are in need of redesign – anti-spaces, making no positive contribution to the surrounding or users. [spaces that] are ill-defined, without measurable boundaries, and fail to connect elements in a coherent way." (Trancik, 1986) Some examples that he mentions are, "the base of high-rise towers or unused sunken plazas, parking lots, the edges of [a] freeway, that nobody cares about maintaining, abandoned waterfronts, train yards, vacated military sites and industrial complexes, deteriorated parks and marginal public housing projects." (Trancik, 1986)

From his exploration of the subject, he summarized Urban Lost Spaces to be spaces that, "sever the connection between the commercial centre and the residential area … [and become] … no man's land". (Trancik, 1986)

The creation of these Urban Lost Spaces, according to Trancik's postmodern perspective, is due to the contribution of five main factors in contemporary urban design.

These factors are; increased reliance on vehicles for mobility, city zoning, and land use policies, the influence of the modern movement in architectural design, private dominance over public interests and the privatization of public spaces, and lastly, the abandonment of spaces in the inner city (Trancik, 1986). Trancik highlights how these causes contributed to the loss of values and meaning normally associated with urban open space, creating a new contemporary space.

Furthermore, Trancik's approach to redesigning Urban lost spaces to become open urban spaces is to "…design environments in which individual buildings are integrated with exterior public space so that the physical form of the city does not fall victim to separation…" (Trancik, 1986). It is agreed that these spaces need re-imagination to be able to contribute to urban public space, but how architecture approaches them is what will determine whether it is sustainable or unsuccessful.

In the context of South Africa, where security is a consistent concern and the architecture is based on Murphy's law*. The types of public spaces that have been created or are in production can be described as hard architecture. Hard architecture as defined by Robert Sommers, is" …. Surfaces that resist human imprint." (Sommer, 1974) Unlike soft architecture which is architecture of the opposite nature.

** Murphy's Law is defined as: an alleged law of nature to the effect that "anything that can go wrong, will." (Murphy's Law: Expecting the Unexpected, 2022)*

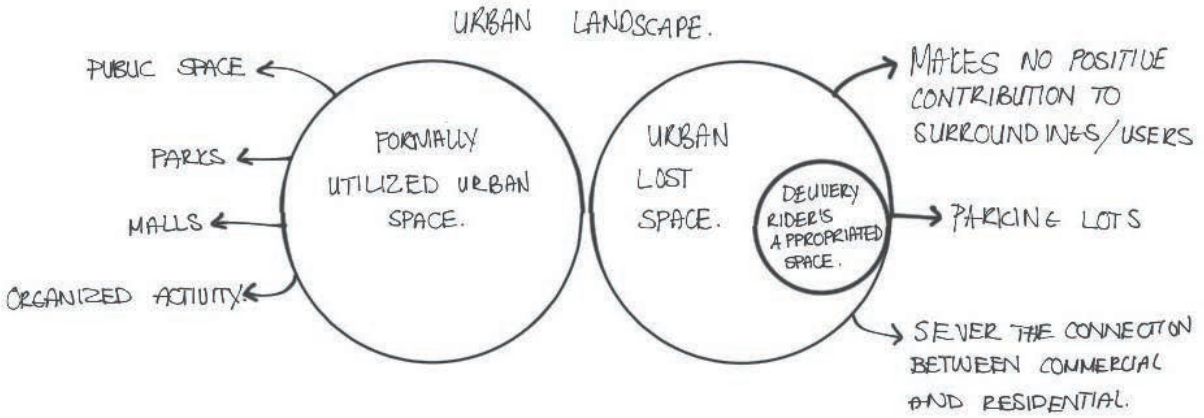


Figure 10: Conceptual understanding of Urban Lost Space. 2022. Mind map by Author.

There is a risk that the city and private organizations take when they begin allowing for soft architecture, which is what Sommer believes that the solution is and would be to," ... reverse course and make buildings more rather than less responsive to their users. Instead of hardening things to resist human imprint, [architects must] ... design buildings parks, and cities to welcome and reflect the presence of human beings." (Sommer, 1974)

Another perspective is shared by Frank and Stevens who analyse the concept of Urban Lost Space basing it on Sommer's concepts of Tight Spaces, and rather redefining it as Loose space. The curiosity about the appropriation of such spaces is prioritized. Where Trancik saw degradation in the city and the need to renew and Sommer was looking for methods in architecture for such, Frank and Stevens instead analysed the spatial and programmatic phenomena that occur already in such spaces and the need to recognize them.

> "Leftover spaces usually publicly owned but without assigned function are often located right next to spaces with fixed and delimited functions. Examples include spaces under bridges and next to highways and railway tracks. These exist beyond the boundaries of organized social space, having no intended use and often lacking conventionally appealing features. Tightness of programming suddenly unravels, heightening the contrast with adjacent space with its clearly defined function and allowing the insertion of activities in search of a home." (Karen A. Frank, 2007)

Frank and Stevens's theory of Loose spaces is based on the theory of Tight spaces formulated by Robert Sommer. Their work can be considered a progression of Sommer's concept of hard architecture in public spaces. Their interpretation of the concept introduces the social actors and potential users that suggest a reflection on human activity and what role it plays in successful public place-making. There is a risk that the city and especially private organizations are open to interpretation and appropriation by the public but there is also a particular charm that is created when they allow the spaces to be.

The approach to the theory of Urban Lost Space expands further than the subject of urban design. When the theory of "loss, or what is missing" is applied to the context of the delivery motorcyclist similarities are seen and can be translated.

The business of food delivery applications is based on an economic ecosystem that has three main contributors for it to function.

Firstly, the user interfaces with the client. This refers to the seen aspect of the ecosystem the association and the image that is displayed and marketed to the public. For many customers that use the application, this is as far as their visible interaction with the company goes. In this stage of the ecosystem, people are reduced to numbers, distances, and time frames. It is a stage that deals with the experience of the customer and the delivery of the product. It is the part of the business that is tangible and planned, much like how the buildings in the city are planned according to the town planners' drawings.

Secondly, the software side that is planned meticulously by the developers of the delivery ecosystem and the application. The software side is the network and system that the customer using the delivery application is not privy to. It refers to the intangible side of the application. For package delivery, it refers to the logistics needed to organize and courier the item efficiently from one place to another, sometimes through many different modes of transport. It includes the tasks and responsibilities given to the delivery motorcyclists through digital software.

Lastly, in between the two is the "lost space". The categorization of being "lost", in the context of this research, is related to how the delivery motorcyclist is an in-between employee of the delivery applications that links the two parts together and make the applications successful. Yet, under the impression of the food delivery companies, they take away more value than add to their economic environment. Therefore, translating from the Urban Lost Space theory, the connector/threshold in the food and package delivery economic ecosystem is the delivery motorcyclist themselves and are only visible to people when traveling to pick up the product, navigate the streets and deliver it in the best possible condition, which can be difficult to achieve, especially when having to deliver hot food.

Urban space in Johannesburg city has been planned with ideas and ideologies from eighty years past. Spaces for the waiting delivery motorcyclist were never considered in the city. Yet, despite the non-existent spatial allocation for them, it is hard not to notice how they have seemingly created places themselves within the city's Lost Spaces.



Figure 11: Delivery Motorcyclist on the Highway at night. 2021. Photograph: https://www.theguardian.com/world/2021/dec/13/ghost-riders-the-invisible-lives-of-johannesburg-food-couriers-photo-essay

The spaces the delivery riders inhabit are translated to the concept of the temporal described by Flavia de Girolamo (2013) where he analysis how "... temporariness [can] become an opportunity for the regeneration of aree intervallo." Or interval areas and how to design a temporal place that, at the same time, has a sense of identity. To answer these questions architects can look at the theories of non-place and place.

Urban Lost Spaces, in-between spaces or cracks in the city are where the majority of the delivery motorcyclists and other semi-informal practices, such as the recyclers of South African cities, tend to find refuge. The people with no place naturally adapt to the city's void spaces. Like the urban theorists, they saw an opportunity in the city that resulted in the appropriation of these spaces. This could be the very method by which these Urban Lost Spaces can be revived by taking the concepts of looseness by Frank and Stevens (that is based on Sommer's work) to develop new ideas around the way that public urban space should be designed. It should be designed in such a way that it will democratize public space with less rigid spatial control.

The delivery motorcyclists need to be in the centre of the city to be able to work successfully. Therefore, fitting and molding them into spaces in the city such as Urban Lost Space is more applicable than finding space elsewhere to place them. It is a matter of accommodating, designing for, and around appropriation rather than allocating spaces in the city that could be deemed inappropriate for their specific needs. They can be seen as the connector, or connector between people, and for architecture, the threshold between the residential and the commercial centre of which the Urban Lost Spaces split apart.

This reveals that the kind of urban public architecture that can be designed within an Urban Lost Space should be considered as a threshold space and temporal experience, much like the temporal experience of the delivery motorcyclist. The architecture would be designed to invoke memories and in doing so create an architecture of Place/Non-Place.

PART 2
The Architectural Possibilities:
Spatial Experiences and Zeitgeist

In this section, an architectural perspective is identified and explored through similar themes of belonging and identity. Identifying where or how humans create value in places inspires a theoretical approach toward design.

Chapter 1: Place and Non-place Theory

When contemplating the concept of Non-place and Place, what comes to mind for many is the association with places of the in-between. This refers to temporal spaces usually found in transport such as an airport, the train station, and on a smaller scale, the lobby of a large building. A space where the experience is intended to be the anticipation of another destination.

The concept of Non-place and Place is rooted in anthropological studies and is closely related to people; therefore, it is inevitable for it to be analysed as a key theme in architecture. Its definition has been a controversial topic for many scholars that ponder upon the definition of place. The differentiation between the two labels of Place and Non-place is mentioned by Marc Auge in his book; Non-places An Introduction to an Anthropology of Supermodernity, published in 1992, where he writes that; "If place can be defined as relational, historical and concerned with identity, then a space which cannot be defined as relational, or historical, or concerned with identity will be non-place." (Auge, 1995)

Auge's hypothesis of the concept is studied by Erdem Ungur who analyses Auge's translation of the concept by stating that Auge assumes that Non-places are created by Supermodernity, which is "characterized by three figures of excess: time (over-abundance of events), space (spatial over-abundance), and individual (the individualization of references)." (Ungur, 2015) All of which are now experiences of our daily metropolitan life. With the assistance of the internet, information is being shared at a consistently rapid, yet unpredictable rate, reinforcing Auge's negative aspects of non-place. Auge characterizes these aspects as "...non-places provid[ing] an experience of solitary individuality combined with non-human mediation between the individual and the public authority. So, while anthropological places create the organically social, non-places create solitary contractuality." (Ungur, 2015).

Although describing many negative aspects of non-place in parallel with Michel de Certau, Auge also manages to find a positive perspective of non-places. The perspective describes the contrast between the two types of spaces, creates, and what is necessary to be able to experience the space. de Certeau states that "...Returning after an hour or so to the non-place of space, escaping from the totalitarian constraints of place, will be just like a return to something resembling freedom" and Yi-Fu Tuan further emphasises the existence of both to heighten the experience of space saying that "What begins as undifferentiated space becomes place as we get to know it better and endow it with value. The ideas "space" and "place" require each other for definition.

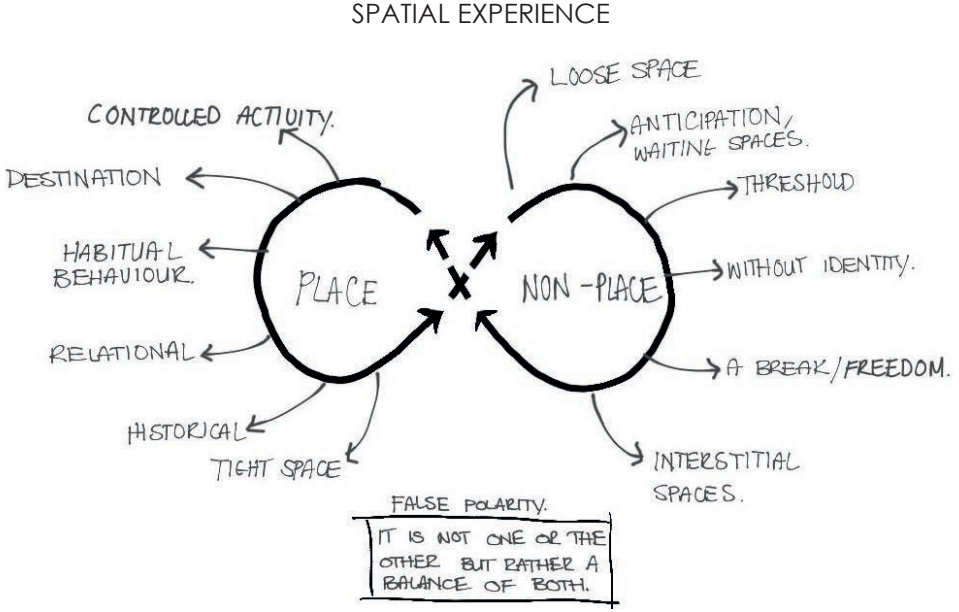


Figure 12: Conceptual Understanding of Place and Non-place theory. 2022. Mind map by Author

From the security and stability of place, we are aware of the openness, freedom, and threat of space, and vice versa. 'Normally', space is considered as a lifeless, abstract thing and it's transformed into a place through people's habitual practices." (Tuan, 1977) Tuan refers to space as Auge and de Certeau refers to non-place.

Ungur categorizes the theory into three groups of understanding. The first two are absolute meanings and refer to "...advocating place against space ...and the other one as a pioneer in the field of anthropology breaking the authority of place and showing new possibilities of space in the age of over-modernity." (Ungur, 2015) But it is the third category that is important to note. Where Ungur states that it" ... interprets non-place as a concept of transition, which is therefore ambiguous and contradictory, however open to evolv[ing]." (Ungur, 2015) therefore referring to the concepts of Urban Lost Space that were discussed previously.

Taking these definitions and translating them to architecture reveals the contradictory relationship between place and non-place and the relationship between identity and community in architecture. All of this has led to an examination of controlled planning versus appropriation in the ongoing tension between private and public space in the twenty-first century. Laura Gallardo, a professor at the University of Chile, expresses the importance of the concept of non-place in architecture "...which is associated with the materialization of spaces devoid of meaning, identity and any historical or physical relationship." (Gallardo, 2015) She goes on to quote Solà-Morales, from his book Differences Topographies of Contemporary Architecture, where he states that "in the architecture of recent years there are no places, [or] dwellings where to stop" (SOLÀ-MORALES, 1997) and presently amongst tight deadlines, hustle culture and a persistent society that suggests that one needs to constantly be on the move to become successful, many can find that Solà-Morales' statement to be applicable.

Gallardo comes from the perspective that non-place is necessary and reflects upon its balance with place in urbanism and architecture. In her article titled Non-place in Architecture she identifies the three main characteristics of non-place, which are; movement, without identity, and absence. She goes on to analyse how each plays a role in translating the theory to architectural spaces. Gallardo reviews academic work from many different fields through these different lenses and concludes that the false polarity, mentioned by Duvidnaud and Auge, reveal a close link where the two terms "do not exist in absolute terms, but one is immersed in the other." (Gallardo, 2015)

The spatial concepts of place and non-place can therefore be brought into question regarding the food and package delivery motorcyclists, who, as mentioned before, are a group of people who are working and making a living in Urban Lost Spaces. Additionally, as mentioned by Gallardo, "non-places have the common characteristic of a world where the individual, the provisional, and the ephemeral prevail." (Gallardo, 2015). The activities associated with the delivery motorcyclist's occupation are temporal. Their purpose is to always be on the move and that is why the appropriation of non-places is popular amongst the community.

> "Non-place as an exit from the place, as "going out for some fresh air" to be able to take a deep breath and return to the place again. When writing, painting, narrating... the artist enters a non-place, where he becomes aware of himself, that his essence comes from non-being, with what is from the absence with which he can get to get the presence of the place." (Gallardo, 2015)

The non-places, that the delivery motorcyclists are presently choosing, can be seen in both the positive and negative perspective, that was discussed previously in this chapter. Although leaning more toward the positive perspective non-places devoid of identity allow the possibility of imagined spaces, freedom of activity, and further imagined possibilities. It also reveals that through the contrast of the two spaces, the experience of either place or non-place can be heightened.

This reveals that a new architectural intervention for the delivery motorcyclist will be that of both place and non-place. The spaces in which they inhabit presently are referred to as Urban Lost Spaces, but it is the human associations and experience of the space that then categorizes it into Place and Non-place. The Non-place concept is a translation of the space as being a space of rest, off from the seat of the scooter or motorcycle. Whereas the space of place is felt through the sense of community mentioned by Hofstatter where he makes mention of "[a] pan-African community spirit [that] has spread among Joburg's food couriers," (Hofstatter, 2021), that has been created by similar experiences amongst the motorcyclists.

Chapter 2: Sustainability

Sustainability is a concept that has seen exponential growth in popularity over the past few years. People have become more aware of their impact on the degradation of the earth's resources and have sought out ways to try and limit the damage. One of the biggest contributors to wasted resources and pollution is the building industry with, "...as much as 30% of all building materials delivered to a typical construction site can end up as waste." (Osmani, 2011). Not only should sustainability be a serious consideration in any building project, but it should be a continuous theme that runs from inception and into the future of the project. In this project, contemplation upon the potential reuse of Urban Lost Spaces is one of the ideas that a sustainable perspective can contribute.

To understand the term sustainability, to which this research project refers, is to first define it. In the context of this project, the term sustainability is referring to "the quality of being able to continue over a long period of time". (Sustainability, no date) Using this definition, the architectural field has responded by creating new methods, found through research and experimentation, to re-evaluate the environmental impact that construction has.

The concept of densification and indirectly the consideration of alternative energy sources are some of the topics that will apply to this project. Densification is one of the ways in which cities can limit urban sprawl and therefore limit the amount of damage to the natural environment. It is a part of the global campaign to reduce, reuse and recycle materials, but this can also apply to spaces. As mentioned before, the appropriated spaces that the delivery motorcyclists use speak to the efficiency of planned urban space and question the status quo of spaces.

The existence and potential use of Urban Lost Space reinforce the need and possibilities for densification. "The growth of cities should be anticipated, and territorial extensions avoided as much as possible, in favour of densification to prevent urban sprawl that places further stress on public utility systems and services" (Yang, M. 2015). The city of Johannesburg needs to look inward to re-inhabit its reusable spaces.

The architectural intervention that is designed in this research report will be no exception to the considerations for sustainability.

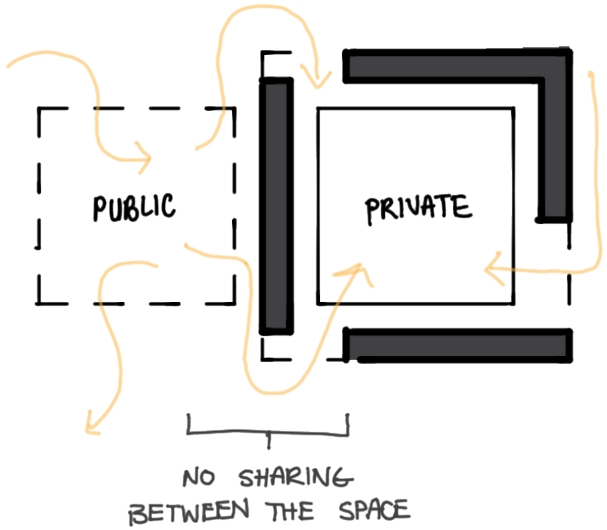


Figure 13: Diagrammatic Plan of the interaction between Public and private space in a South African context. 2022. Drawing by Author

Beyond discussing the revitalization of Urban lost spaces as a form of densification, thought must be put into the life after the project is built and how that may contribute to a more sustainable lifestyle.

The world of delivery is heavily dependent on the use of petrol and diesel-run motor vehicles, both of which are non-renewable fossil fuels. Not only that, but according to Josiah Johnston, motorcycles have a larger carbon footprint in manufacturing and emissions than that of a car. He reports that" ...motorcycles and scooters have worse pollution control standards, so even though they emit less CO2, the emissions of more potent greenhouse gases count for more than the CO2 emissions... [and that] ... 2-wheelers are better than single-driver cars in urban areas and worse in rural or highway settings." (Motorcycle pollution, 2009). He goes on further to state that regarding the emissions created in construction, "...motorcycles are worse than cars. A $15 grand car on average generates 9.41 metric tonnes of CO2 equivalent during construction. A $15 grand motorcycle generates 13.7." (Motorcycle pollution, 2009).

As a result, in parallel to the steadily decreasing prices of lithium-ion battery packs, vehicular industries have started development of electronic vehicles and the sales of such have been exponentially increasing," … to just under seven million units in 2021." (Cycles and Text, no date) and is projected that by the year 2030, "…one in four new cars sold will be battery powered." (Global market share of electric vehicles 2050, no date). The same can be said for the global electric scooter and motorcycle market, perhaps even more so due to the impact of the COVID-19 pandemic. Market statistics for two-wheel vehicles are projected at a compound annual growth rate of 7.4% and are said to produce 65 760 thousand units by the year 2030.

The growing popularity of the electronic motorcycle is currently more evident in other countries, but it is still a favourable trend that the world is moving toward. Thus, electric motorcycles in South Africa are a real consideration for future development.

Furthermore, vegetation plays an important role in sustainable practices. It has visual appeal and has a positive relationship with human health that has been researched thoroughly by many. E.O Wilson formulated a hypothesis for biophilia: "which suggests that human beings have evolved to have an affinity for nature, plants, and living things…" (James, P., Banay, R.F., Hart, J.E. et al. 2015) along with Ulrich's psychoevolutionry theory that states that "…exposure to nature may have a direct restorative effect on cognition and may decrease stress." (James, P., Banay, R.F., Hart, J.E. et al. 2015)

This theory is supported by Berkman LF, and Bedimo-Rung et al. who mention respectively that" access to green spaces may also provide opportunities for social interactions and increase social cohesion. (James, P., Banay, R.F., Hart, J.E. et al. 2015) And that "Natural environments provide locations for both routine and recreational physical activity". (James, P., Banay, R.F., Hart, J.E. et al. 2015)

Not only does it have physical health benefits for people, but it also influences the experience of an environment. According to Nowak et al, Gidlöf-Gunnarsson et al and Lafortezza et al. Respectively "vegetation may buffer exposure to air pollution, removing ozone, particulate matter, NO2, SO2, and carbon monoxide from the air. Vegetation may also reduce exposure to harmful noise, as well as alleviate thermal discomfort during heat stress." (James, P., Banay, R.F., Hart, J.E. et al. 2015)

The project, therefore, has sustainability goals that it strives toward. These goals include:

- Consideration of reusing urban lost space and how it encourages densification,
- Passive solar and temperature management incorporated into the design,
- Infrastructural design consideration for electronic motorcycle maintenance, charging, and development

And,

- The incorporation of vegetation and biophilic principles in architectural design.

Chapter 3: Theoretical precedent

The use of case studies is a part of the design process by which it explores different architectural approaches and concepts by architects or architectural firms that relate to this research thesis. The purpose is to create a foundation from which an architectural approach is formulated by studying the works of Architectural Firms: Terre Moto and NL Architects.

These architects were chosen based on the criteria of having humble and experientially driven architectural expression that is human-scaled, considerate, and appropriately responds to their context physically and within the bounds of this thesis.

To contextualize the theory, The Faraday Market and Warwick junction, which are two local projects, will also be studied.

Site Experience:

The site's current program is to be unpaid parking and has all the qualities that an unpaid parking lot can offer to its spatial experience. There is no clear direction or axis on the site. The physical buildings around the site, surfaces, and textures are hard, rough, and cold with little to no thought put into the environmental appeal of the specific place.

Yet, there is a sense of majesty brought through by the urban overpass above and the movement that takes place in and around the site. What makes the site experience pleasant is the vibrancy and energy of the different moving elements around the site. From the bustling pedestrian and shoppers to the car and the delivery motorcycles zooming in and out. Everything seems to be consistently buzzing.



Figure 14: Parking Lot Beneath Nicol road overpass. 2022. Photograph by Author



Figure 15: Parking Lot Beneath Nicol road overpass from east to west. 2022. Photograph by Author



Figure 16: View from adjacent uncovered parking lot of site. 2022. Photograph by Author



Figure 17: View from Eastgate mall entrance. 2022. Photograph by Author

Terre Moto:

Terre Moto is a landscape architecture design studio that is based on the east coast of the USA. Their design ethos follows:

> "... Ebullient exploration of form and operates under total freedom from historical form-giving systems and modes of thought. [they] gnaw on the bones of Modern and Postmodern landscapes alike; [they] consider new, inverted futures for the Baroque and the Picturesque. [they] pillage the tattered fuselage of worlds East and West. [and they] have no particular identifiable style, because [they believe that] beauty is diverse."(OFFICE | TERREMOTO.LA, 2022)

Their ethos is contextually driven and can be seen in, Platform Park, a project of theirs finished in 2019 under an overpass in Culver City, North America.

This project is an example of how Urban Lost Space can be transformed into a successful public space of non-place. The park was designed as a congregation space for the public and a non-place for the urban dweller. Their concept centred around sharing the outside as we do on social media platforms and as a juxtaposition against the hard architecture of the concrete infrastructure above and the industrial styles of the context. They follow the concept of "loose public space" that directs your movements less through the space and rather allows the user to explore it on their own.



Figure 18: Landscaped Urban space beneath the Urban overpass creates a place of peace. 2019. Photograph by Stephen Schauer found at: https://landezine.com/platform-park-by-terremoto/



Figure 19: An example of Loosely designed Architectural Public Space allows for a freedom for activity generated by it's users. 2019. Photograph by Stephen Schauer found at: https://landezine.com/platform-park-by-terremoto/

NL Architects:

Another firm NL Architects, an architectural firm based in the Netherlands in Amsterdam dealt with a similar issue of Urban lost space but takes a more programmed approach. Their design intent for the project was

> "...to restore the connection between the two sides of town and to activate the space under the elevated freeway." (Case Study: A8erna; Zaanstad, The Netherlands | Global Designing Cities Initiative, 2022)

Their approach was to create the Urban Lost Space under the freeway into a place with designated programming and spatial control. It was designed with the community in mind by placing recreational activities for both children and adults as well as a convenience store. The architectural approach to the project was to blend in and match the hard aesthetic of the infrastructure but at the same time humble it with warmer and softer materials such as wood cladding.

The project is an example of how urban lost space can be transformed into a successful public space of place. The area is designed with specific programs and activities and has a clear identity of what kind of facility it is. The project follows the architectural concepts of "hard space" in terms of its formal programming of space and leaning into the urban concrete aesthetic, only choosing to soften it through cosmetic application.



Figure 20: skate park as a part of the programmed spaces. 2003. Photograph by Joren Musch. Available at: https://www.architonic.com/en/project/nl-architects-a8erna/5100103



Figure 21: Evidently programmed spaces , such as the mini-marina beneath the overpass. 2003. Photograph by Joren Musch. Available at: https://www.architonic.com/en/project/nl-architects-a8erna/5100103

Warwick Junction

The Warwick junction is located in Durban City on a triangular piece of land between arterial roads and the railway line. Although as many Urban Lost Spaces discussed in this paper, the Warwick junction has become a hub of informal and formal economic activity.

> "...landscape and building have progressively entwined to form a symbiotic relationship, each as mutually necessary, one to each other. It creates an amazing environment where everything is interactive, each thing engaging with the next, forming a series of EVENTS rather than PLACES." (Ahsan Habib et al., 2014)

The project is an example of how local Urban Lost Space can be transformed into a space of place. The transport node is not designed by any particular person or architectural firm but rather has developed from an Urban Lost Space to a destination as more informal traders and commuters placed value in the space.



Figure 22: The Warwick Junction Market. 2014. Photograph available at: https://www.kznia.org.za/durban-city-guide/contemporary/warwick-junction



Figure 23: The Warwick Junction Market. 2014. Photograph available at: https://www.kznia.org.za/durban-city-guide/contemporary/warwick-junction

Faraday Market

Similarly, another local example that takes a more formal design approach to Urban Lost Space is that of the Faraday market in Johannesburg city. The Faraday market is a transformed transport interchange that was redesigned into a formal market by ASM Architects in collaboration with MMA Architects.

> "...they approached the design as a palimpsest and minimally intervened by integrating activities that were already on the site. The architecture also proposes new ways to conceive of activities that belong in the public versus the private domain... The appeal of the Faraday interchange is in the subtlety of the architecture and how it allows the user to take priority over the built form. The trading stalls spill onto the walkways and, by not having counters in the stalls, the hierarchy of public and semi-public is blurred." (Makhubo, 2015)

The architects prioritize the user experience of the space whilst at the same time respecting the existing site and its pre-existing programs. Their approach is humble and contextualized and It is a good example of a design approach that incorporates and integrates the concepts of appropriation in a formal design and building without dehumanizing the space for the existing inhabitants.

The project is an example of an Urban Lost Space transformed into a place through a balance of formal design practices and appropriation.

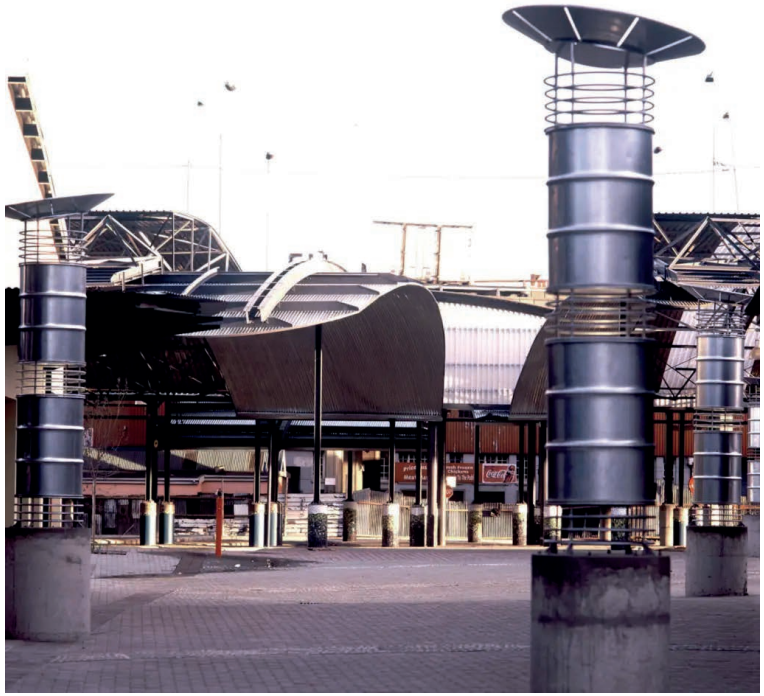


Figure 24: Photograph of the Faraday market. 2015. Photograph available at: https://ourfuturecities.co/2015/01/future-cape-town-jozis-jumble-of-buildings-defines-an-african-city/faraday-precinct01/



Figure 25: Photograph of the Faraday market. 2015. Photograph available at: https://ourfuturecities.co/2015/01/future-cape-town-jozis-jumble-of-buildings-defines-an-african-city/faraday-precinct02/

CONCLUSION



Figure 26: Under the Nicol Road urban overpass from west to east. 2022. Photograph by Author

It is evident from the research that the project deals with a conglomeration of different factors. All of these have a potential influence over the outcome of the architecture and need to be taken into consideration. Factors on the macro-scale include its physical position in its respective urban landscape, its literal position in the broader architectural theory of Urban Lost Space theory, and non-place and place theory. It also needs to consider future possibilities that the research may bring forth. On the micro-scale level, it needs to consider the site and its limitations, the human user, and the effect of the micro-climate and mini biosphere that a human intervention creates on the environment.

From the theoretical research approach and the incorporation of the physical limitations of the site. The architectural design named; The One-stop Mechanics Workshop aims to revitalize the Urban Lost Space beneath the Nicol Road overpass. The aim is to design and transform it into a sustainable pedestrian and motorized bike-friendly, usable public space. It will be utilized by the delivery motorcyclists in such a way that it improves their work environment and therefore efficiency. Additionally, it would question the static nature of South Africa's mall spaces, which are public spaces that fold in on themselves.

The architectural design will incorporate passive ventilation systems and passive solar daylighting to limit the amount of unnecessary energy that the building requires. It will be approachable, while pedestrians and bikes will be prioritized over motor vehicles. It will be human-scaled and constructed with humble materials to juxtapose the unnecessary enormity and stereotomic architectural language of the Eastgate mall as a public space. Furthermore, the architecture will include biophilic principles and vegetation that will improve the environmental appeal and contribute to human health and sustainable practices.

In conclusion, the architectural design for the One-Stop Mechanics Workshop aims to critique the disregard for Urban Lost Spaces and comment on the state of urban public space in Johannesburg South Africa. It aims to have a balance between public and private space that tests the false polarity between the spatial experience of place and non-place by exploring methods of revitalization through an exploration of the delivery rider community and in doing so realize a method of revitalization for Urban Lost Space.

PART 3
The Design:
The One-Stop-Mechanics' Workshop

The previous two parts of this report emphasise a theoretical perspective. When linking it to the physical constraints of the site to inspire a programme, whilst considering the financial and social implications of what the project may entail, begins to speak of an architectural design process.

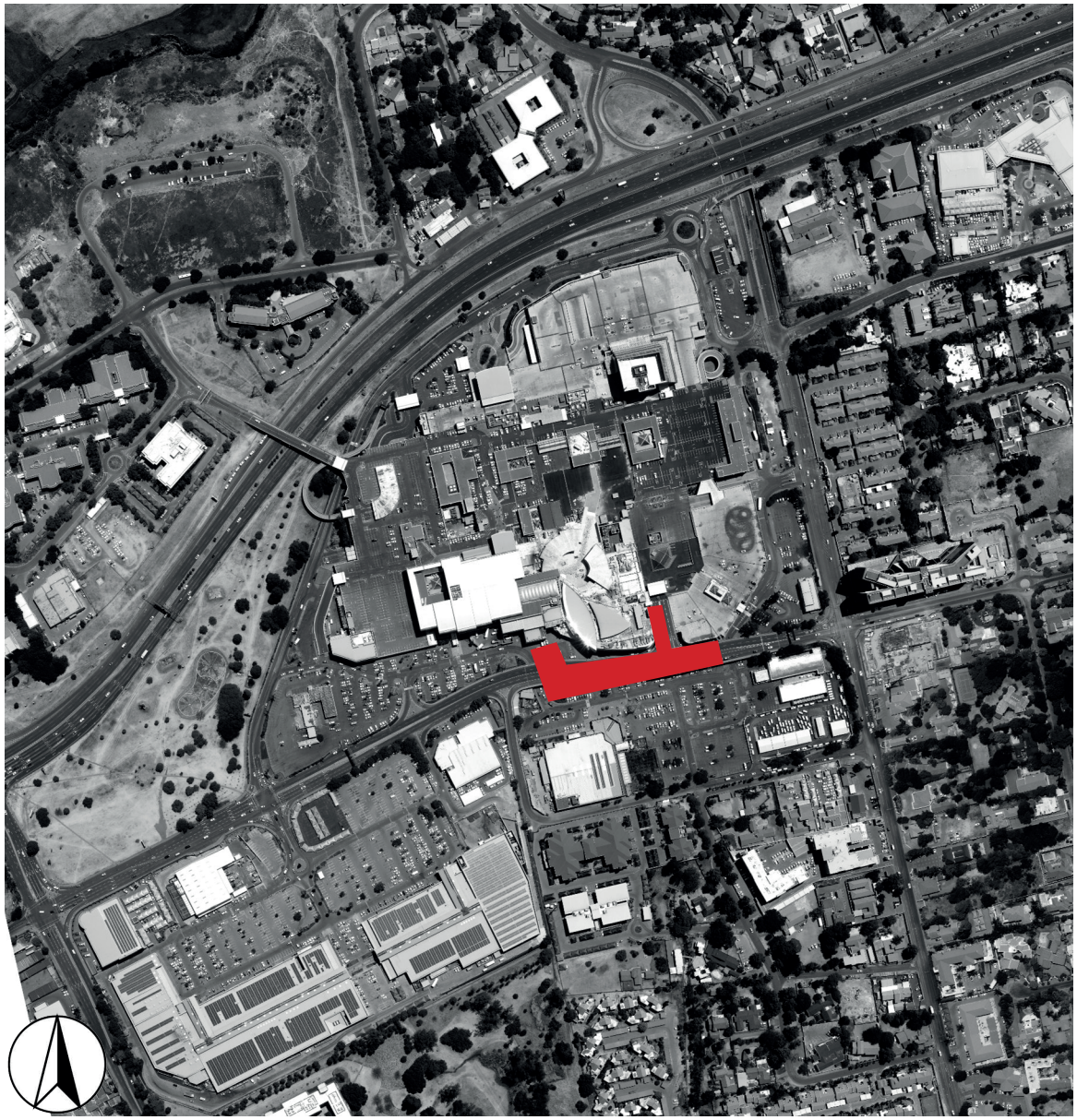


Figure 27: Aerial view of Bedfordview extension. 2022. Photograph: https://gis.ekurhuleni.gov.za/mapviewer/

Chapter 1: The Brief

The 7 000m2 project situated in Bedfordview is to propose a mechanics workshop into the master plan for the Eastgate complex and is intended to be an extension to the south side of Eastgate mall.

The One-Stop Mechanics Workshop is inspired by the exponential increase of delivery motorcyclists, after the pandemic, from the various online food delivery platforms and the need for appropriate, usable spaces for them to congregate safely.

The project aims to re-evaluate the Urban Lost Space under the Nicol Road urban overpass as usable space. It will also reconnect the Eastgate complex on an urban scale and, spatially, to the adjacent residential sectors that lie to the south of the site.

Furthermore, the project will encourage social activity on the site and into the complex through the introduction of industrial and public facilities. This will empower the community, as well as, provide services and amenities, specific to the delivery motorcyclists of packages and various food delivery applications. It will also be available to the public.

One of the ways in which this will be achieved is through the programming of the site, which will include:

1. A mechanic's workshop to empower the community of delivery motorcyclists through education and provide services to the public.
2. A retail public interface that consists of a, 24/7 convenience store with a deli, work-from-home internet café, and restaurant, as well as a small emergency clinic and pharmacy to generate income for the project and provide services to the public.
3. An urban park.

Chapter 2: Viability report

The reality of architecture is that it is an expensive practice and each decision that an architect makes could be an expense. It is necessary to consider the social, economic, and environmental viability of a project to ensure a successful execution. The following chapter investigates the viability of the mechanic's workshop.

The client for the project will be a profit company created in partnership with delivery businesses; Takealot and Uber with Liberty Two Degrees, a Real Estate Investment Trust, as a shareholder. This company will oversee the running of the project privately.

The social and environmental viability of the project will be in alignment with the Liberty Two Degrees' Good and Sustainable Spaces initiative. The project will allow for a place for the delivery motorcyclist community to establish itself professionally in South Africa. It will also provide them with the opportunity for growth through education and collaboration, not only with one another but with businesses too.

It will allow the exploration of urban densification by analysing the possibilities of developing the project in an underutilized space that speaks to a more sustainable development ethos.

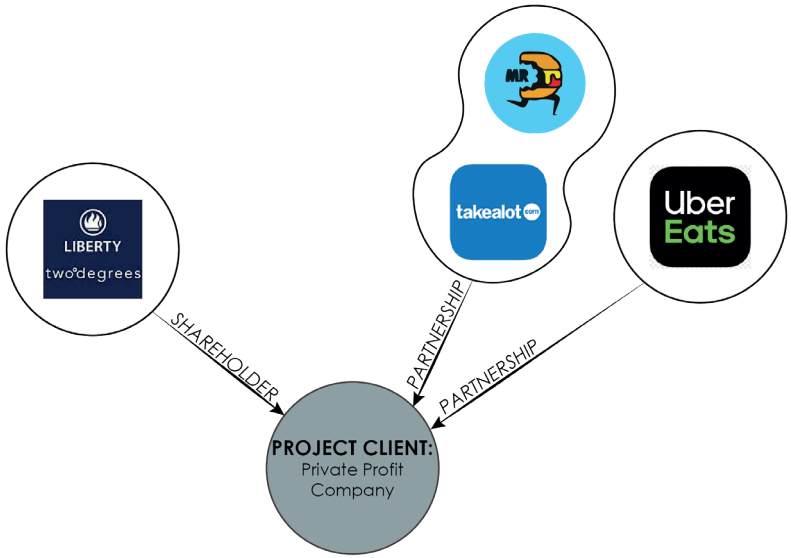


Figure 28: The Client. 2022. Diagram by Author

By providing these types of programs and spaces that are proposed, the project will in turn elevate the public spatial appeal and visual environment of the Eastgate mall, where instead of delivery motorcyclists crammed onto a small pavement or an equally sized, appropriated area in a parking lot at the entrance of the mall, they will have an official designated place that humanizes them and enables them to work more efficiently. The project will express the message of innovation and forward-thinking that will be beneficial for the Liberty Two Degrees investment brand as well as the food delivery applications' social image.

Financially, consideration will be taken regarding the project's economic viability. The project is on private property that is owned by Liberty two degrees, and since Liberty, Two Degrees is a shareholder within the client profit company, the project's initial capital will therefore be 100% financed privately by Liberty Two Degrees as an estimated investment of R6 674 per m2, therefore R467 180 000 (admin, 2017) and an extension project to the Eastgate complex master plan. Although, the master plan is done in phases and according to it the development of the workshop's erven will be one of the last stages to happen in the plan.

The project itself will have many expenses and costs, some due to design decisions and others due to site operations, that need to be taken into consideration and are discussed further in the development plan, development costs, and technical aspects later in this report.

Return on investment, economically, for the project after construction has been completed will then be through renting out spaces in the mechanic's workshop, the restaurants, the motorcycle showroom, and renting out space for the internet café.

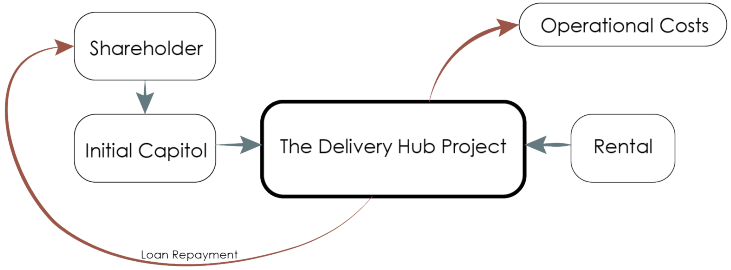


Figure 29: Cash Flows in the Project. 2022. Diagram by Author

Chapter 2.1: The Development Plan

The location of the site is based on its proximity to commercial nodes and the variety of restaurants that can be found within a 15-minute drive radius around the Bedfordview area.

These types of areas have a strong correlation with the adopted spaces used by the delivery motorcyclists currently and are therefore an appropriate site for the project to take place. The site chosen is located to the south of the Eastgate mall in Bedfordview underneath the Nicol Road urban overpass.

This site has access to restaurants that provide delivery through the food delivery applications and explores utilizing previously disregarded space, which is currently unpaid parking for Eastgate mall, for profit. The land where the site is located is also already owned privately by Liberty Two Degrees, one of the stakeholders of the project, which will allow land costs to be less.

Address: 43 Bradford Rd, Bedfordview, Germiston, 2008

Site size and Zoning Rights:
The site is 68 000m2 and is a portion of the Elandsfontein 90-IR, ERF no. 1337/90-IR, in Ekurhuleni, Johannesburg, South Africa.

Currently, the site's zoning has already been consolidated from separate ervens; 1052/90-IR, 1051/90-IR, 1053/90-IR, and 1050/90-IR to one erven; 1337/90-IR and therefore will have no need to apply to the Ekurhuleni municipality for such.

The zoning for the site, according to the Ekurhuleni municipality land use scheme for 2021, is Business 1 and Special. Therefore, most of the programs proposed for the project are within the primary zoning rights, with the exception of the car wash program, which requires written consent A from Ekurhuleni municipality, and the motor workshop which will need a submission of a special consent of municipality land use application. Both applications to the municipality will take time and should be accounted for in the project timeline to manage the project funds efficiently.

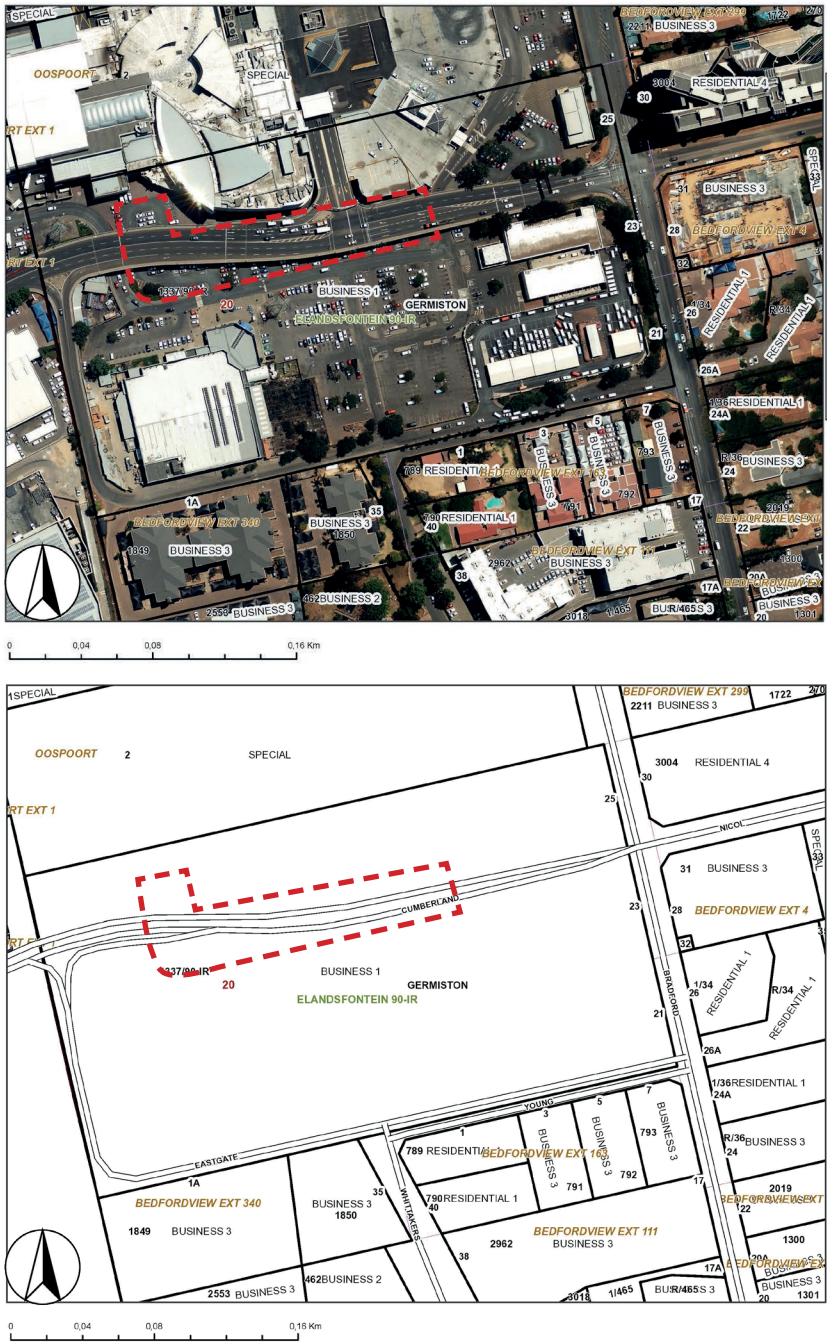


Figure 30: Municipal Zoning Maps. 2022. Diagram: https://gis.ekurhuleni.gov.za/mapviewer/

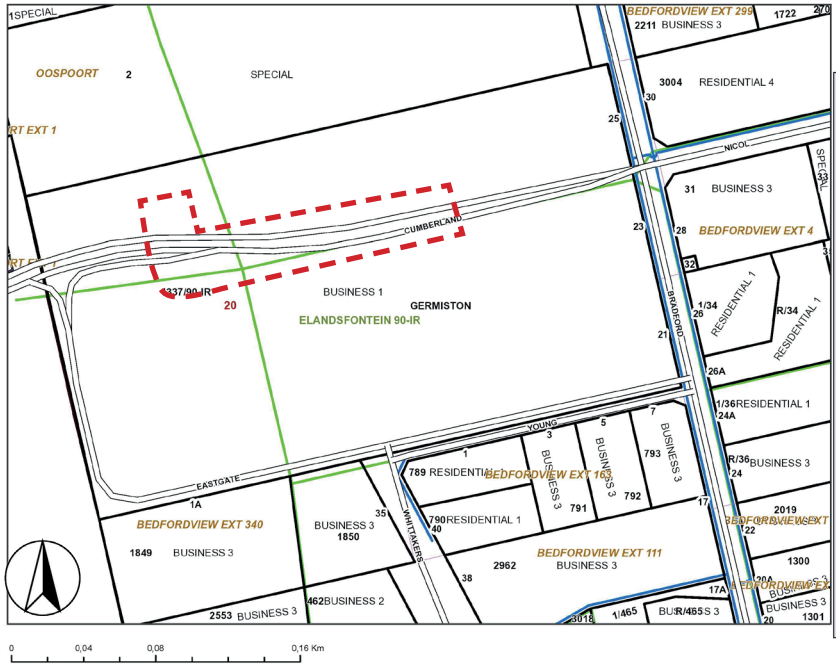


Figure 31: Water and Sewer Works Map of Site. 2022. Diagram: https://gis.ekurhuleni.gov.za/mapviewer/

Land Rights:

The site is located outside of the CBD. Thus, the Building Line will be 3 meters from the street boundary on ground level, although the roads within the site are private roads owned by Liberty Two Degrees and can be subject to change. What makes this site unique is the Nicol Road urban overpass that cuts across the site. Nicol road is not a provincial road but rather a Class 3 public road, therefore the special building line of 16m as stipulated in the Ekurhuleni land use scheme 2021 is not applicable.

Other building restrictions for the project have been tabulated and are attached in the appendix. The site is referred to in these tables as ERF 7.

Instead, because of the unique proximity of the site to the class 3 public road the accessibility to land uses associated with the project will need to be approved by the roads and storm-water department. They will then determine the restrictions and land rights associated with the urban overpass specific to the project. This process will take time and will need to be accounted for.

Project's access to Utilities:

The site is within the Ekurhuleni urban area and will therefore have the opportunity for the project's required services to be connected to and provided by the available municipal city grid for power supply and municipal water services.

Technology and Materiality

The scale of the project is large thus the technology and materiality used will be more modern using reinforced structures, steel, and new materials such as compressed, recycled plastics rather than traditional methods of brick and mortar. The choice of such is not only to respond to the context of the large commercial Eastgate complex adjacent to the project but to also be more efficient during construction.

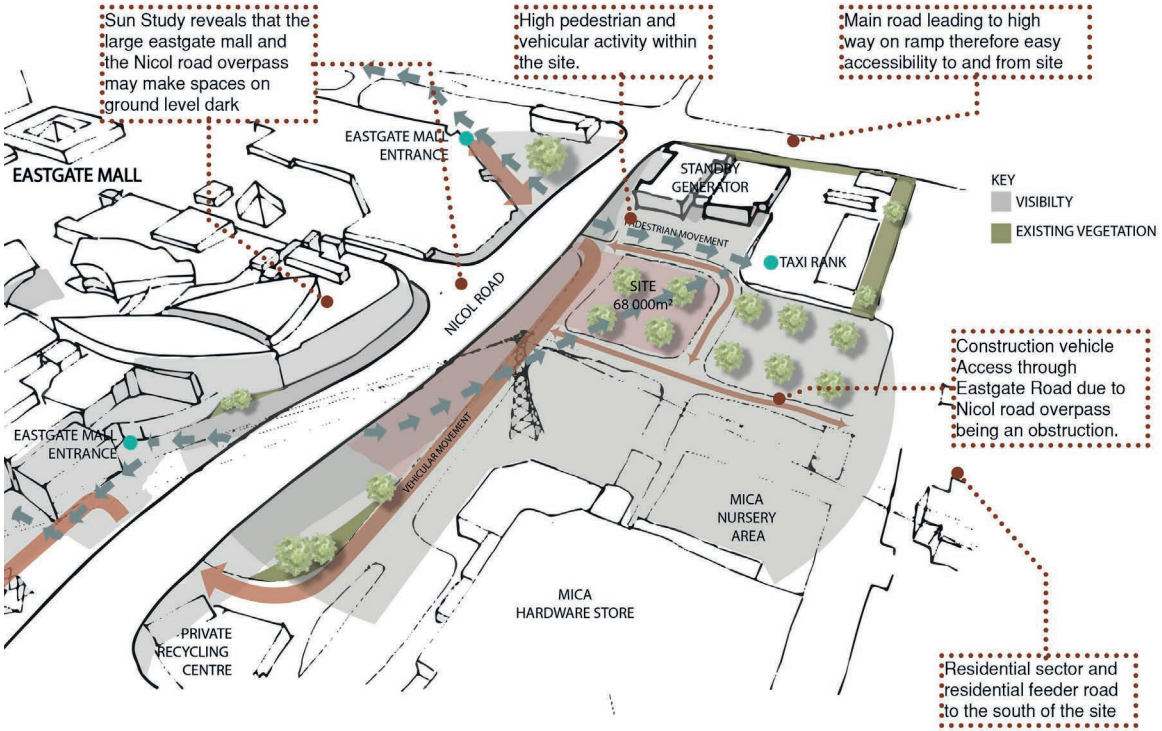


Figure 32: Diagrammatic Site Analysis. 2022. Drawing by Author

Chapter 2. 2 : Implementation

The Professional Team

For any successful and cost-effective project, hiring the correct and qualified professionals is essential. For this project in particular the hiring of several professionals is recommended and listed below.

TYPE OF CONSULTANT	SCOPE OF WORKS
1. Principal Agent	This person will act as an agent for the profit company and is necessary for clear and efficient communication between the professional team and requests from the client.
2. Architect	An architect will be needed as a consultant to design the project as well as organize and correlate the information coming from other consultants for the contractor.
3. Other Consultants: Landscape Architect, Green design Consultants.	Because the project is being designed with biophilic principles and sustainable practices in mind the expertise of a landscape architect as well as a green design consultant is recommended.
4. Engineers: Civil, Acoustic, structural, electrical, and fire.	Engineers are important to include in the professional team as they have the expertise on how to calculate designs to become successful. This project would need an acoustic engineer because of the urban overpass. The acoustic engineer will have the knowledge to provide a solution on how to dampen the noise from the busy road above. The project is looking at incorporating infrastructural elements into the design and therefore makes it necessary to have a civil engineer as a consultant and lastly for safety regulation purposes a fire, structural and electrical engineer are to be included in the professional team.
5. Quantity Surveyor	To get a calculated estimate for the cost of an architectural design, the expertise of a quantity surveyor is recommended. They will be able to determine an estimated total cost of the project and will help manage the finances regarding construction and material costs.

Table 1: Duties of the professional team. 2022. By Author

Contracting Methods

For this type of project, the use of a managed building contract would be the most applicable setup where the client appoints an independent project manager/ principal agent that coordinates the client's requirements and allows the professional team members to concentrate on their field of work. They will each be bound by different types of contracts that tie them to the project and are as follows:

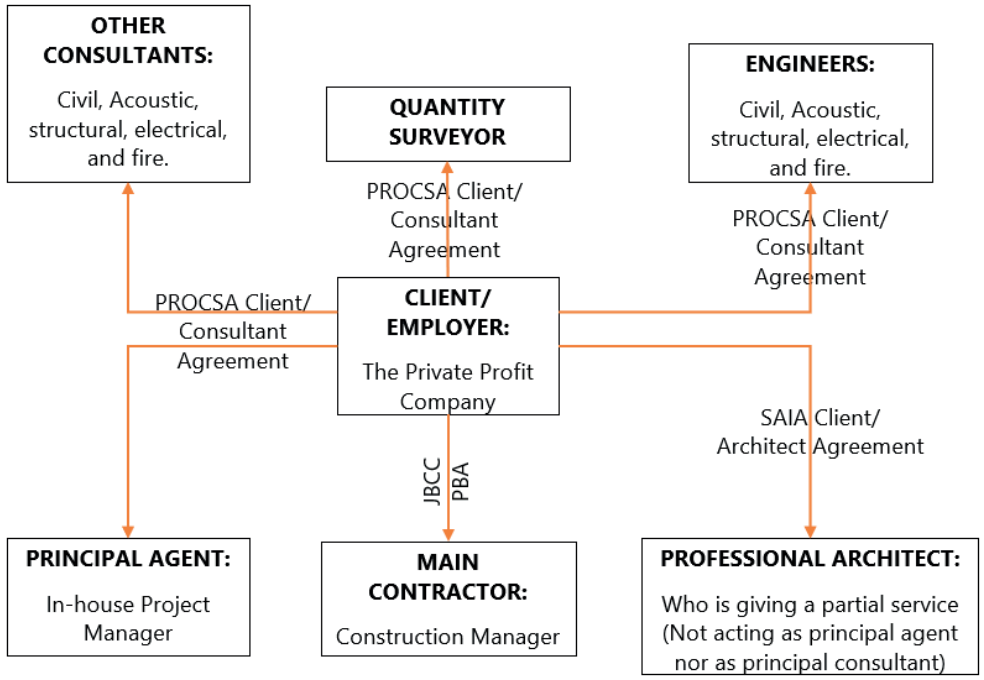


Figure 33: Contract relationships amongst the different groups in the project. 2022. Diagram by Author

Making use of this method of contracting ensures that all parties are agreeable, protected, and equally held responsible for roles stipulated in their respective contracts from an official perspective. It will minimize the possibility of disputes arising that could lead, in the worst-case scenario, to litigation which is time-consuming and expensive. Therefore, a dispute resolution clause will be included in the contracts.

Development costs
Apart from the hiring of professionals, the use of technology, the consideration for sustainability, and the types of materiality used during construction, which are mentioned above, there are additional expenses to consider. These considerations for the delivery hub are listed below.

Client overheads:
The client is expected to pay for certain aspects of the project listed below:

Planning Costs:
These costs include services that pertain to planning the project and include Surveying, Town planning Drawings, Conceptual Drawings, Working Drawings, etc.

Marketing Costs:
These refer to payments made for services of creating a brand for the client and development which could include rendering images, graphic design, etc. In some cases, the client enlists the help of the architects to produce these marketing renders instead of hiring another entity.

Construction costs
he construction cost is paid by determining the value of the building contract which is then awarded to a contractor who with other professionals such as the quantity surveyor and architect, will manage the cost, quality, and construction of the project.

Holding costs
Holding costs are the costs that are the interest associated with taking out a loan from the bank or similar costs. The longer the project takes the more the holding costs will increase until it is paid back in full.

Construction Methods:
Construction methods can have a large influence on financial aspects. The two main types of construction are on-site construction and prefabricated and each depending on the design of the project can have time and financial consequences, but the extent of these consequences can vary from project to project.

Pros and cons of:

On-site construction methods:
The site and construction have different requirements that affect time, finances, and labour. This type of construction traditionally relies on less skilled but more quantity of labour and generally will take longer that a prefabricated construction project. It can also result in more wastage of building materials which will add to the overall cost of the project.

Alternatively, on-site construction methods give the opportunity, in some projects for more unique designs. If this is the case this type of construction would be more cost-effective and can also provide the opportunity for education among construction workers.

Prefabricated construction methods:
Prefabricated construction methods are known to be quick building projects that require more skilled labour but of less quantity and rely on modularity for the specific elements of the project. Not only that, but the transportation of specific pieces and materials of the project will need to be accounted for in the development costs. Unlike on-site construction where materials can be brought in irregularly.

Along with the construction methods it is necessary to consider insurance and security costs. This will ensure that if anything outside of the control of the professional team were to happen that damages the project, the relevant parties are financially reassured.

Time frames/ project management.
One of the factors that can play a large role in the reduction or increase in development costs is time. The longer the project goes on the higher the costs will be due to inflation. Thus, staying within, or close as possible to the time frames worked out by the project manager is pertinent to the eventual financial success/ profit of the project.

Technical Aspects

Site Preparation:
The site already has an existing program of uncovered and unpaid parking that, when added to the number of required parking bays for Eastgate, is above the required number of parking bays for the shopping centre which was previously calculated. Therefore, according to SANS 10400 Part F, before construction can break ground the site can and needs to be cleared of excess parking lot tar, unwanted vegetation, and curbs and removal of the demolition waste, all of which takes time and can have financial consequences. Therefore, it will need to be accounted for in the project timeline.

Another aspect of site preparation for this project to consider is ensuring the structural integrity of the urban overpass which must be accounted for and protected. This should be done by using physical barriers and scaffolding that will need to be hired and will be used in every stage of construction until it is deemed safe by specialists or professionals to be removed.

Construction times:
Because of the nearby residential sectors to the site, the project will need to consider appropriate working hours to not cause disturbances or interfere with the neighborhood. According to SANS10400 Part F, construction using large machinery can only take place on Sundays or public holidays, between 6:00 and 17:00 on a Saturday, and lastly between 6:00 and 18:00 on weekdays. If the need arises to be working outside of these guidelines, for example working overtime to meet deadlines, authorization will need to be requested from the local authority.

Access to the site:
Nicol Road urban overpass is an obstruction for large construction vehicles therefore a safer access point to the site will be from the south via Eastgate Road. This will also be the point of access for building materials to be offloaded. Access to the site should also be controlled by hired security to ensure the safety of the public, materials, site workers, and equipment

Sanitary facilities
Sanitary facilities will need to be hired for use by site personnel as stipulated in SANS 10400 Part F. if not provided the local authority can legally halt the building process.

Building Materials and equipment:
The design and materiality of the building may need specialists for the installation of miscellaneous elements of the design, such as the installation of alternative energy sources. This choice will have economic implications

Considerations with material procurement are the transportation fees and time that it will take to deliver safely to the site. Although importing materials from other countries may seem to cost less, they may not meet the expected quality that the project requires. Additionally importing may take more time and could be unexpectedly delayed due to transportation issues.

Furthermore, these materials and the subsequent construction equipment needed are to be protected in a designated area of the site that is to be fenced off and monitored by security.

Drainage on site:
It is not news that inclement weather such as precipitation can have the potential to unfavourably delay the project timeline. Therefore, to avoid such implications, the existing stormwater will be taken note of, and drainage tunnels are to be kept unblocked and stormwater redirected away from the site to avoid water damage and/or flooding during construction.

Access and type of labour:
The project will have a mixture of unskilled and skilled labour working on-site as well as specialists for unconventional installations and materials.

The site is conveniently located close to a transport node that includes a bus route, a taxi rank, metered taxis, and e-hailing services. It is also conveniently located close to the Concord Road off-ramp from the R24 and Albertina Sisulu Road. The local labour should therefore find it easy to commute to and from the site during construction.

Climate:
The project is situated in the cold front interior climatic zone. This makes construction more favourable and should be planned to take place in the winter months when there is predicted to be less precipitation or wet weather therefore less weather-related delays should occur during construction.

It also has the potential to damage certain materials and replacing the materials may be more expensive than protecting them.

The climate will also influence design decisions around the insulation properties of materials and the way that passive heating and cooling systems will function.

Safety:

The site is adjacent to the Eastgate mall and its entrances. Taking into consideration the proximity and the pedestrian access to these entrances that cut across the site, safety measures need to be put in place to redirect the public to other mall entrances or to make it safe for them to continue to accept customers, ensuring that general members of the public are protected from the dangers that can be found on a construction site as well as protect the Eastgate building. This can be done by the hiring and use of scaffolding and fencing with adequate signage that will section off the site from vehicles and pedestrians not involved in the construction process.

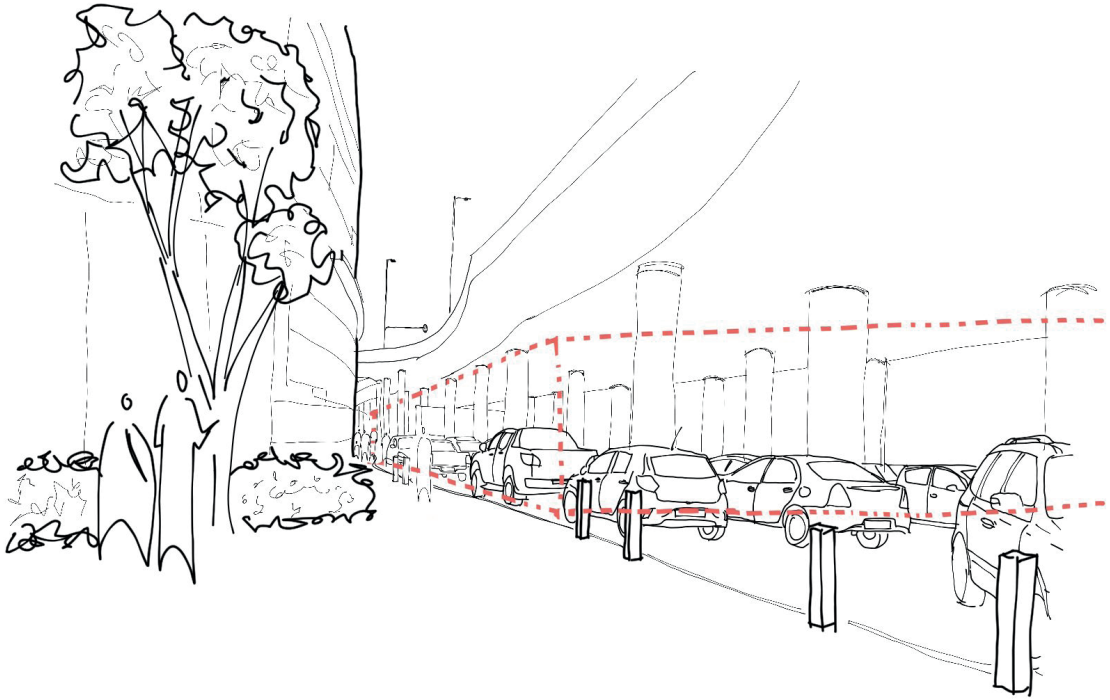


Figure 34: Sketch of site showing the proximity of the pedestrian entrance to the site. 2022. Drawing by Author.

CONCLUSION

The Viability Report is incorporated to understand the reality and business side of the architectural project. It analyses and estimates possible financial implications regarding the development and implementation of the project to make the project a reality and ultimately a success as a building as well as a project that can build value in the future.

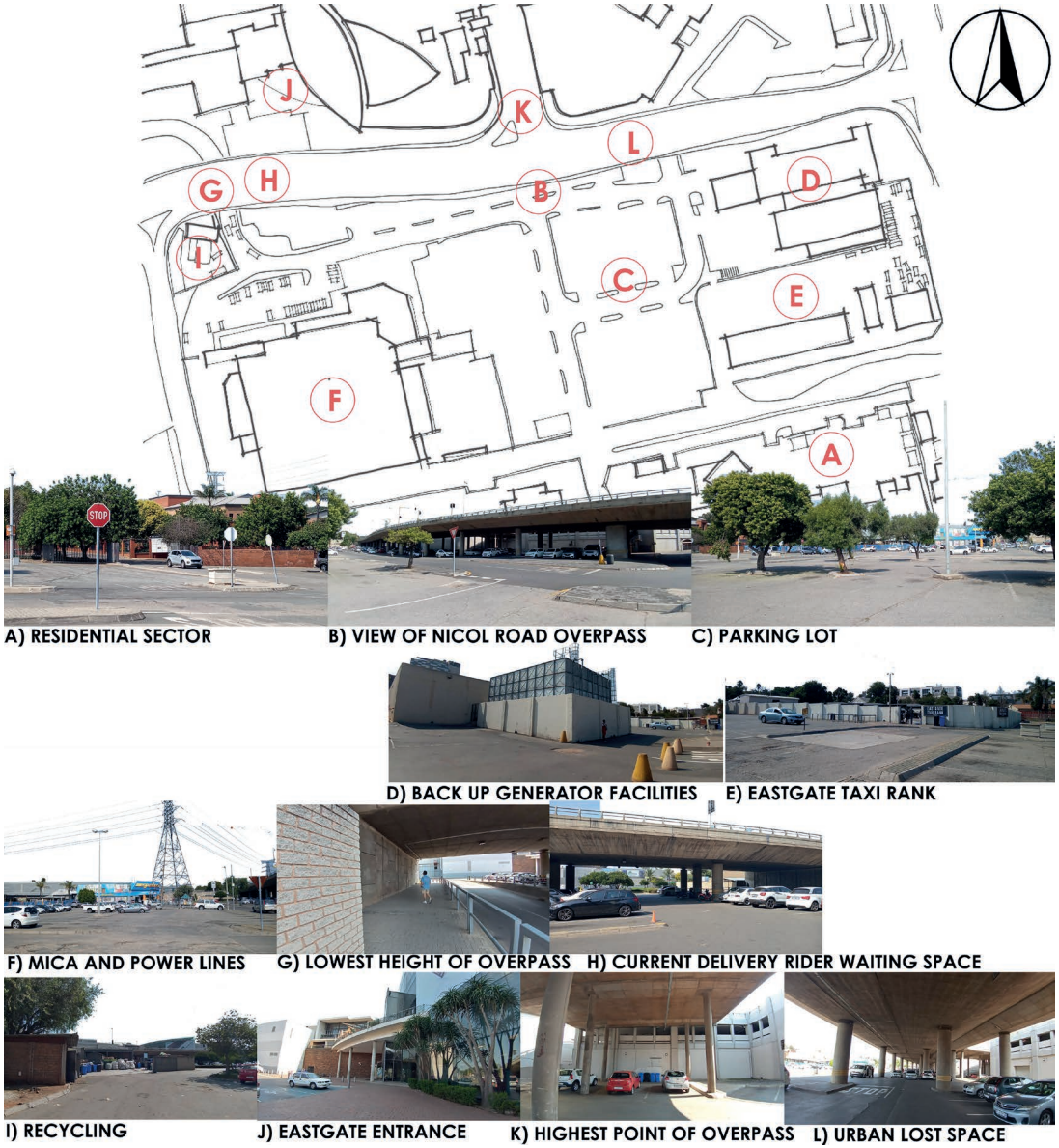


Figure 35: Analysis of existing visual context of site. 2022. Photograph by Author

Chapter 3: Site Selection

The criteria for selection were based on three elements which were Urban Lost Space, the delivery rider community, and proximity to restaurants. The site needed to have a mixture of all three to be a space that is conducive to the empowerment of a community and practical educational experience.

The search for Urban Lost Spaces was the initial guide for the site selection and where one would find the most Urban lost space is near malls such as The Eastgate Shopping Mall.

The Eastgate Mall property proves to be an appropriate site due to the Urban Lost Space that can be found to the south of the mall under the Nicol Road urban overpass. The site allows for an intervention that explores methods for the revitalization of Urban Lost Space through the delivery motorcyclists' community and urban public space.

The site selected is in the Eastgate Mall parking lot in Gauteng, Ekurhuleni.

TRANSPORT ROUTES,
The site is within proximity to the R24 Highway [DARK BLUE] to the north, which connects you to the OR Tambo Airport in the east and Johannesburg CBD to the west. Along with the Nicol Road main road [LIGHT BLUE] that runs above the site that connects the arterial roads. {GREY]lected is in the Eastgate Mall parking lot in Gauteng, Ekurhuleni.

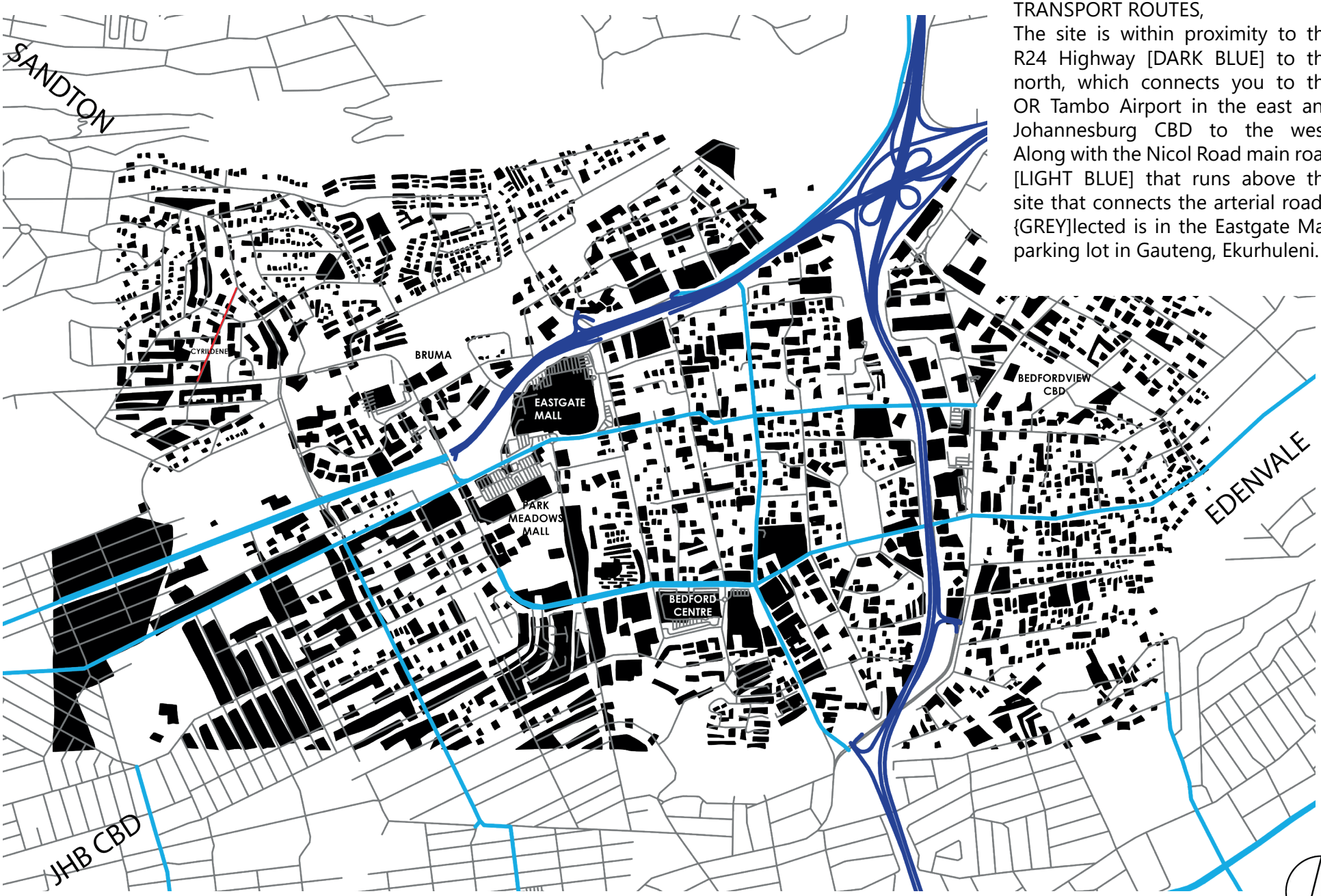


Figure 36: Mapping of Transport Routes. 2022. Drawing by Author

DRIVING RADIUS FROM SITE AND RESTAURANTS THAT OFFER APPLICATION DELIVERY SERVICES

The site is the centre of several commercial nodes found in the area and is a node itself. It has a maximum 8-minute ride from the site to Bedford centre or Bedfordview CBD. This reveals the direct relationship between these nodes and several restaurants [ORANGE DOTS] that offer application delivery services.



Figure 37: Mapping of driving radius from site and restaurants that offer application delivery services. 2022. Drawing by Author

ZONING

The site is surrounded by business [ORANGE] and residential zones [GREY] that will provide pedestrian activity onto the site. Its proximity to the taxi rank as well as the bus route and metered taxi industry will serve to encourage and increase foot traffic into and around the surrounding area.



Figure 38: Mapping of Zoning. 2022. Drawing by Author

GREEN SPACES [BROWN]
Other than the public park next to the R24 highway, there is little to no green public space available within the area. The Bedfordview area under study is found to have a high urban density and few public outdoor spaces.

URBAN LOST SPACES [BLUE]
Urban Lost Spaces can be seen sporadically scattered around the area, but are most concentrated in higher-density areas such as Bedfordview CBD and around the Eastgate Mall.



Figure 39: Mapping of Green Spaces and Urban Lost Spaces. 2022. Drawing by Author

DENSITY
Density can be seen in gradients from high to low, from the Johannesburg CBD in the south west and toward the north east with smaller nodes of commercial activity that sit amongst the urban fabric.



Figure 40: Mapping of Density. 2022. Drawing by Author



Figure 41: Riders like to hang out and play football together on public holidays. 2021. Photograph: https://www.theguardian.com/world/2021/dec/13/ghost-riders-the-invisible-lives-of-johannesburg-food-couriers-photo-essay

Chapter 4: Programme

The programming for the intervention is public yet is specified to the needs or desires of the delivery motorcyclist. Three main components make up the One-stop Mechanics Workshop: The Mechanics Workshop, the Public Interface, and the Urban Park.

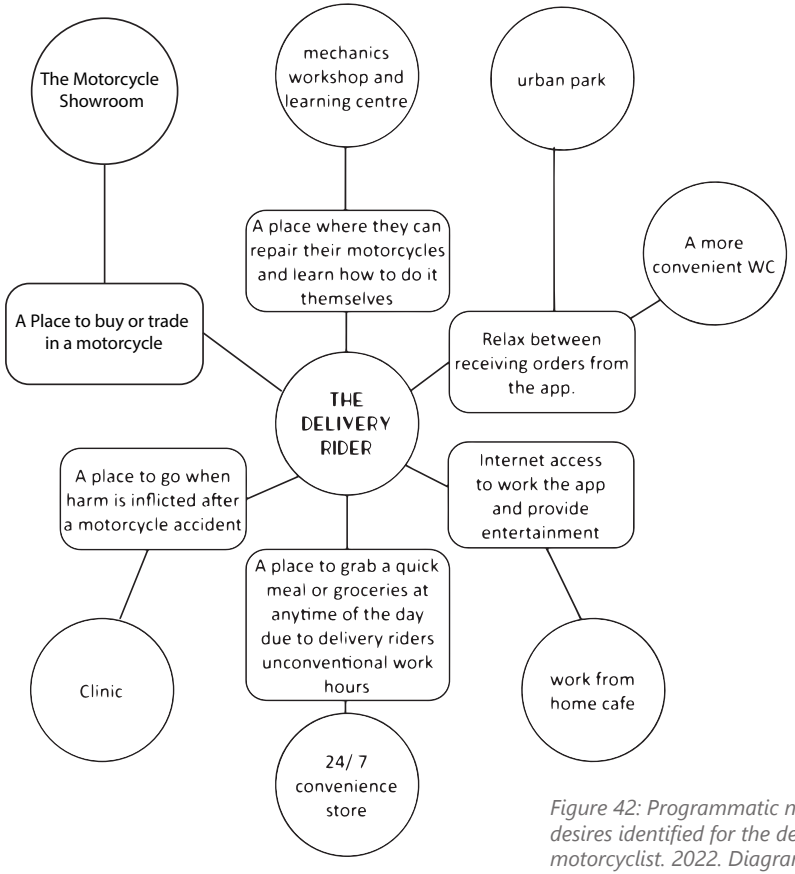


Figure 42: Programmatic needs or desires identified for the delivery motorcyclist. 2022. Diagram by Author

Mechanic's workshop: is the primary programme for the intervention and its main components will be a workshop with a car lift area, a workbench area, offices, and customer service space, a waiting space, an employee area, with a break room, a locker room and WC, warehouse for stock rotation, car wash facilities and waste storage. It is intended to be a program that allows for educating motorcyclists about safe vehicular maintenance whilst still providing services to the public.

The mechanics' workshop will be used by employees of the workshop, mechanics, administration, and sanitary staff as well as public customers and the delivery motorcyclists who will use it during off-peak hours.

The Public Interface: entices pedestrian activity and encourages movement into and around the site. The main components of the program are a motorcycle showroom, a 24/7 convenience store, a work-from-home cafe, a work-from-home restaurant, an over-the-counter pharmacy and clinic with a waiting area, a staff locker room, and a public WC.

The cafe and restaurant will have indoor and outdoor seating. The convenience store will be used by merchandisers, cashiers, managers, general practitioners, a receptionist, pharmacists, public customers, barristers, waiters, chefs/cooks/bakers, the delivery motorcyclists, and lastly the sanitation staff.

The Urban Park: reintroduces vegetation and greenery whilst blending it into the realities of an urban landscape. The urban park will include an outdoor amphitheater for temporary events. Natural elements will be emphasised by intentionally designed landscaping and indigenous planting with places to rest and enjoy the area. The urban park will be used by pedestrian customers of the public interface and Eastgate Mall, young adults, children, and delivery motorcyclists.

Additional: The site will incorporate Electronic motorcycle charging ports for use by electronic motorcycle owners.

Programme Area Schedule			
One Stop Mechanics Workshop			
Programme	Area (m^2)	Times of Occupation	Occupany
MECHANIC WORKSHOP AREA	**1417.2**		
Auto repair area	396	9:00 - 22:00	8
Car workshop area	256		
Motorcycle workshop Area	140		
Employee spaces	164	7:00 - 22:00	14
Changing rooms, WC, showers	109.4		
Lunch break room	54.6		
Warehouse	323	7:00 - 18:00	5
Spare parts and tyres warehouse	323		
Waste storage	100	7:00 - 18:00	3
Hazardous waste storage	50		
Non-hazardous waste storage	50		
Offices/ Customer Service area	434.2		24
Reception	140.6	7:00 - 18:00	
Offices	140.6	7:00 - 18:00	
Customer waiting area	128		
WC	25	00:00 -00:00	
PUBLIC INTERFACE	1492		
Work from home internet café	216	7:00 - 18:00	50
Pharmacy w/ clinic	224	00:00 -00:00	60
Work from home restuarant	288	10:00 - 21:00	80
24/7 convenience Store	320	00:00 -00:00	75
Motorcycle showroom and offices	444	8:30 - 17:30	100
THE URBAN PARK	1134	00:00 - 00:00	
Public WC	110		8
Landscaped zones	1024		200
TOTALS	4043.2		627

Table 2: Programme Area Schedule. 2022. By Author

USERS

Private

Mechanic's workshop staff: The mechanic's workshop staff will be running the everyday business element of the shop during the week, serving the usual customers but on weekends and after hours the mechanics' workshop will be an education facility that will train the delivery riders how to maintain and fix their bikes if they need immediate help.

The public interface staff: will be working 24/7 on a rotating shift basis for the convenience store pharmacy and clinic. This will allow those who have unconventional working hours such as the delivery riders to be able to shop for goods whenever they are able to or receive medical attention as quickly as possible when they must.

Public

The customers: there will be customers using the mechanics' workshop and the public interface of the facility. This is to ensure activity is maintained on the site as the delivery motorcyclists arrive and leave at an inconsistent rate

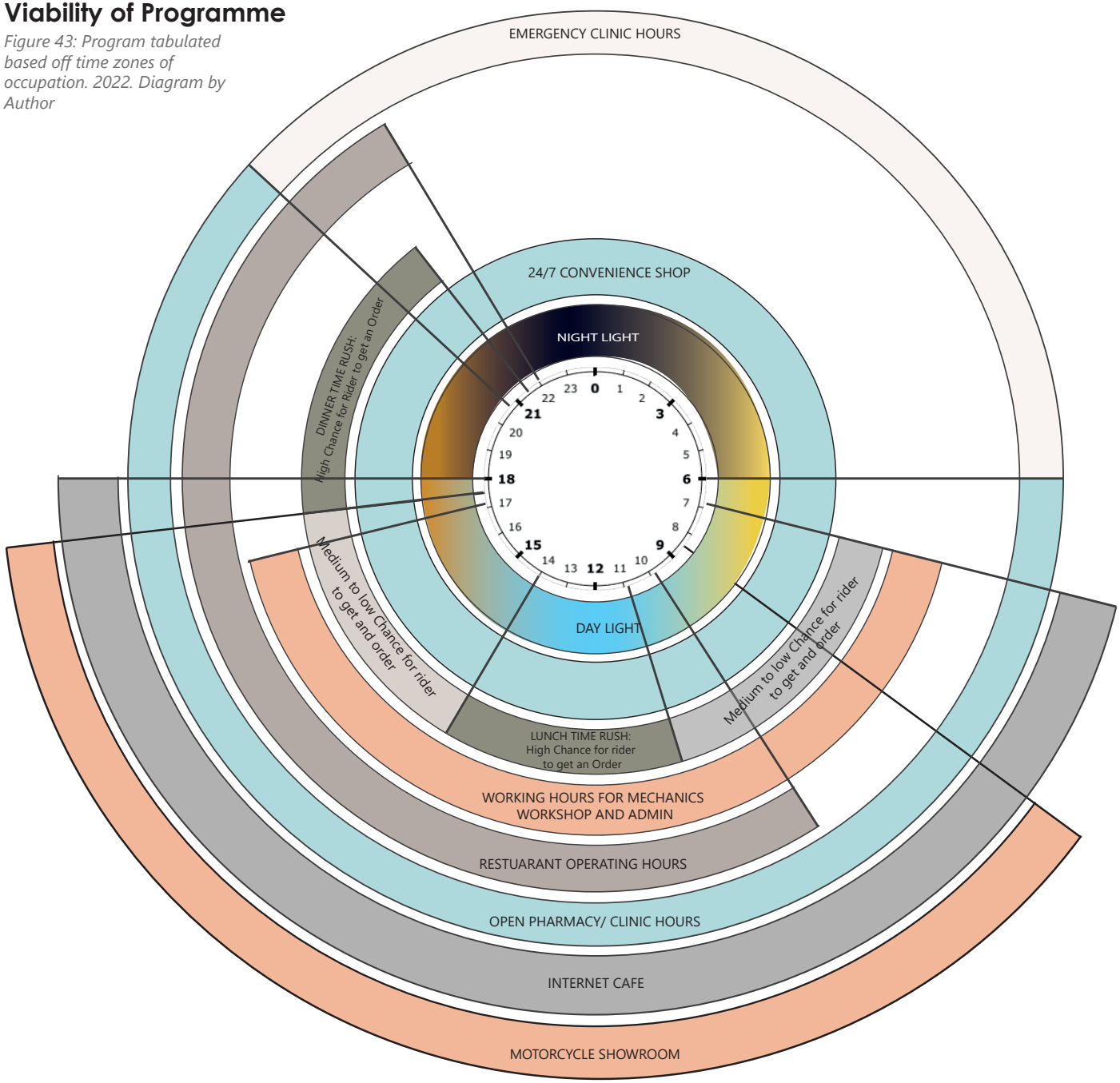
The delivery motorcyclist; is the original appropriator of the lost space and is welcome to use the space as their own. They will be allowed to use the cafés' internet as well as attend the mechanics' workshop to learn about their motorcycles or scooters.

Security

Eastgate mall is known to be a high-risk mall and private security will be used to monitor the safety of the users.

Viability of Programme

Figure 43: Program tabulated based off time zones of occupation. 2022. Diagram by Author



Chapter 5: Design Development

Following the theory and research conducted. The design of the One-stop Mechanic Workshop is an iterative process that follows a logical pattern.

The process alternates between an abstract approach, several site analyses, architectural principles, massing and program organization, planning and form finding, and a technical and material analysis. Each creates a base from which design decisions are made.

Chapter 5.1: An Abstract Approach

An abstract approach was conducted to realise a design potential that is derived from the architectural theory of Place and Non-place relating to Urban Lost Space that was previously discussed. This was done through a poem. The poem is an abstract exploration and a metaphor for a plastic bag in the wind as the delivery motorcyclists experience in the urban environment. It can then be translated into the concepts of place-making for the motorcyclist and their experience of space on and off the road.

The poetic exploration was then translated into form exploration through model making created in different material mediums to express experiences of pressure, tranquillity, fragility, and light. Each iteration leads the design development to materials and expression of concept through organic bubble technologies and shapes that have been layered with movement patterns. All of which contribute to the architectural design within the Urban Lost Space.

Beginning with words:
A poem...

Current in the times...



floats

The plastic bag
where the wind wills them to be.

Struggling against gusts
that's always
pulling it
backwards

Mulling over the management.
How Much More?!

and Pivoting the Pikes
that threaten to
Poke Puffed uP Pride

but to settle in the unseen
can be some comfort.

No city sweepers
where there is nothing to sweep.

Amongst similar experiences
the Plastic Bag sleeps.

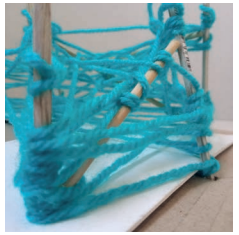
Charrette Exploration

A Taking The site and exploring routes and ramps



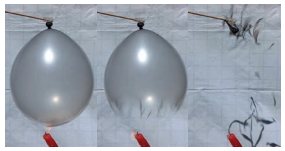
B Thinking inside of the box...

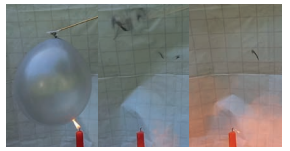




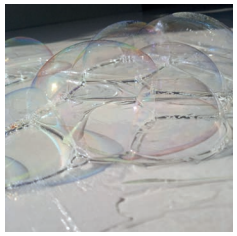
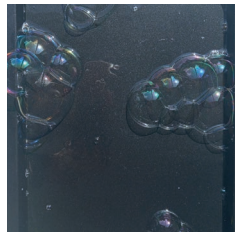
C Exploring the possibilities of air...






D Creating mass out of air (Part 1) - Bubbles



E Creating mass out of air (Part 2) - Bubble's Structural system materialized and layered with movement

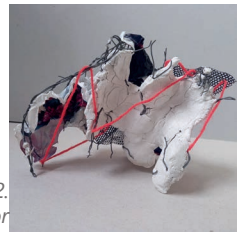





Figure 44: Documented Charrette Exercise. 2022. Photographs and Collage by Author

Chapter 5.2: Site Analysis

An analysis of the site reveals several physical constraints that must be considered to create an appropriate architecture. As mentioned before the site is an example of an Urban Lost Space and was chosen for this attribute, but like most lost spaces there are several physical challenges that were observed. Some of these challenges include:

- Limited amount of direct sunlight on the site.
- Existing pedestrian routes from the public taxi rank to the mall entrances.
- The metered taxi rotating parking
- The Nicol Road Urban Overpass
- Drainage due to the nature of the site's contours.
- The architectural language of the adjacent Eastgate mall.

The design intention is to take the physical implications listed above and create an architecture that is human-scaled, and humble and comments on the state of designed public space in South Africa and where the appropriation of that space falls by juxtaposing itself against the Eastgate Mall.

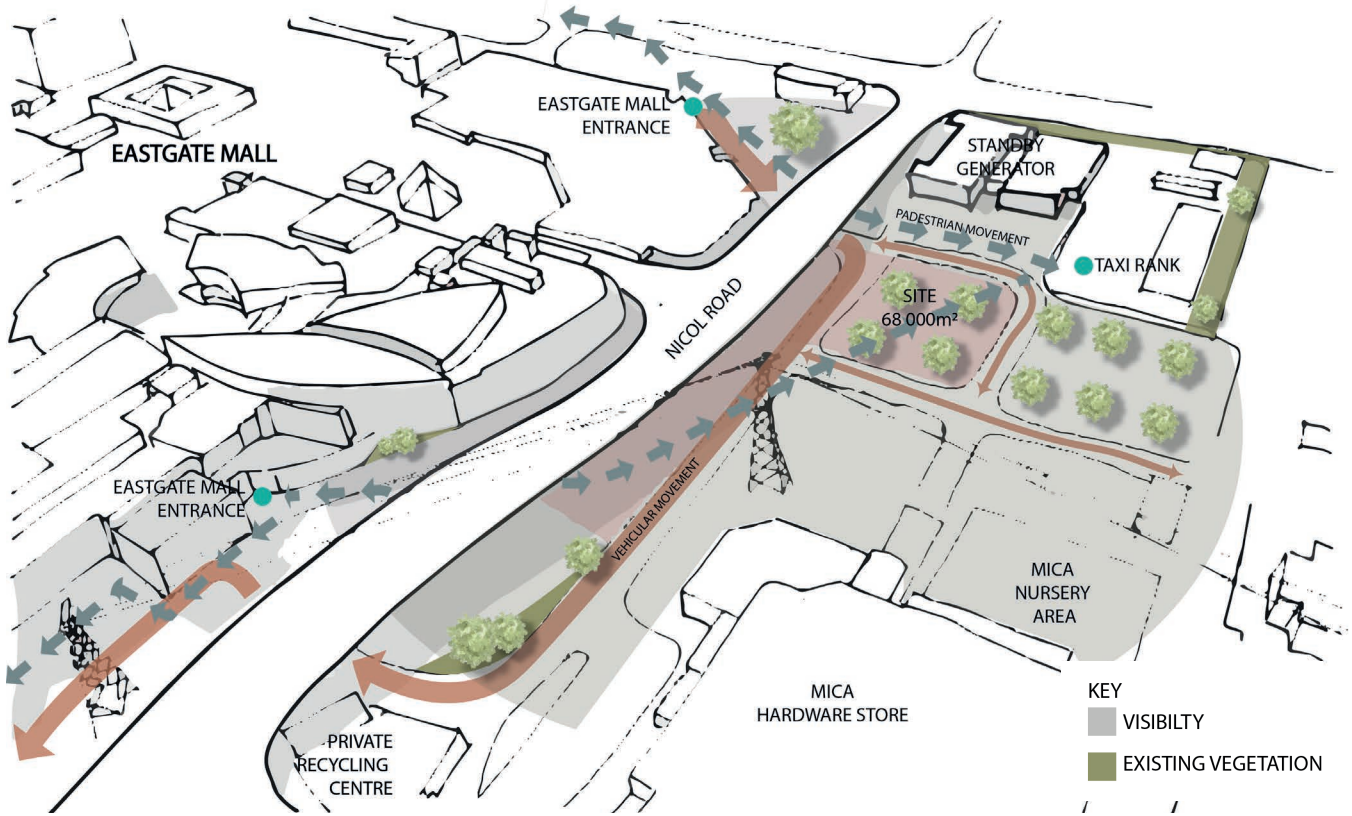


Figure 45: (Above) Orthographic Site Analysis Sketch showing movement of people and vehicles. 2022. Drawing by Author

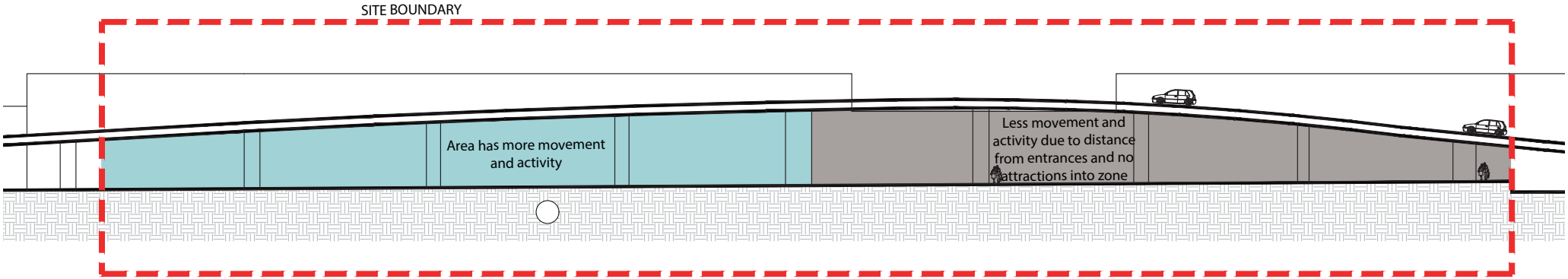


Figure 46: Longitudinal Section through Site showing activity zones and the relative height of the urban overpass. 2022. Drawing by Author

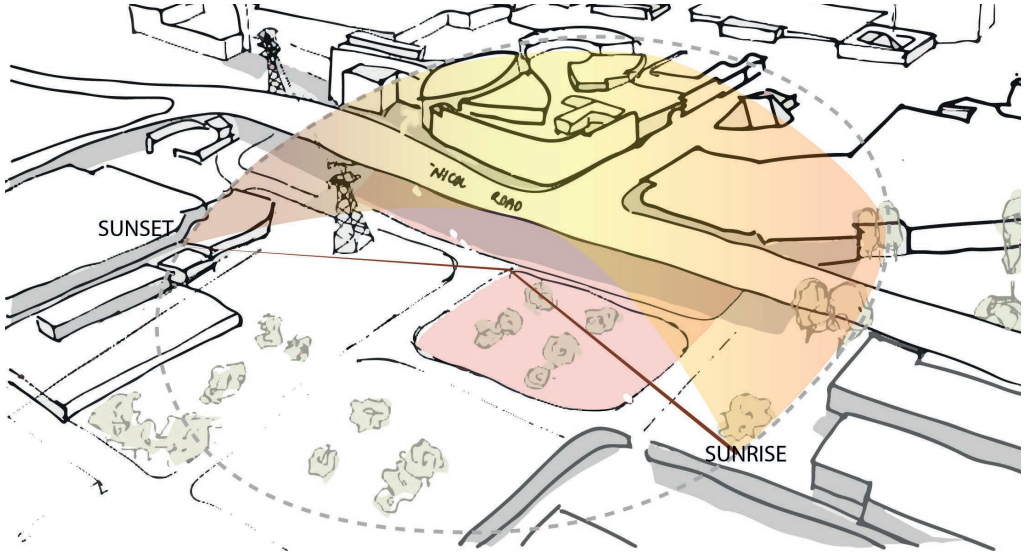


Figure 47: (Above) Sunstudy done around the selected site. 2022. Drawing by Author

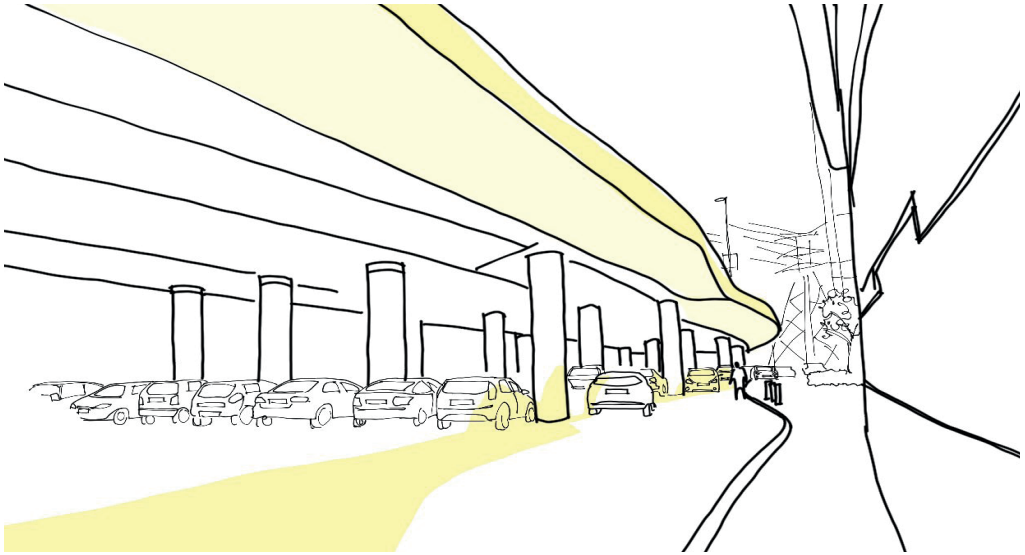


Figure 48: (Above) The amount of sun that the northern elevation of site receives on a summer afternoon. 2022. Drawing by Author

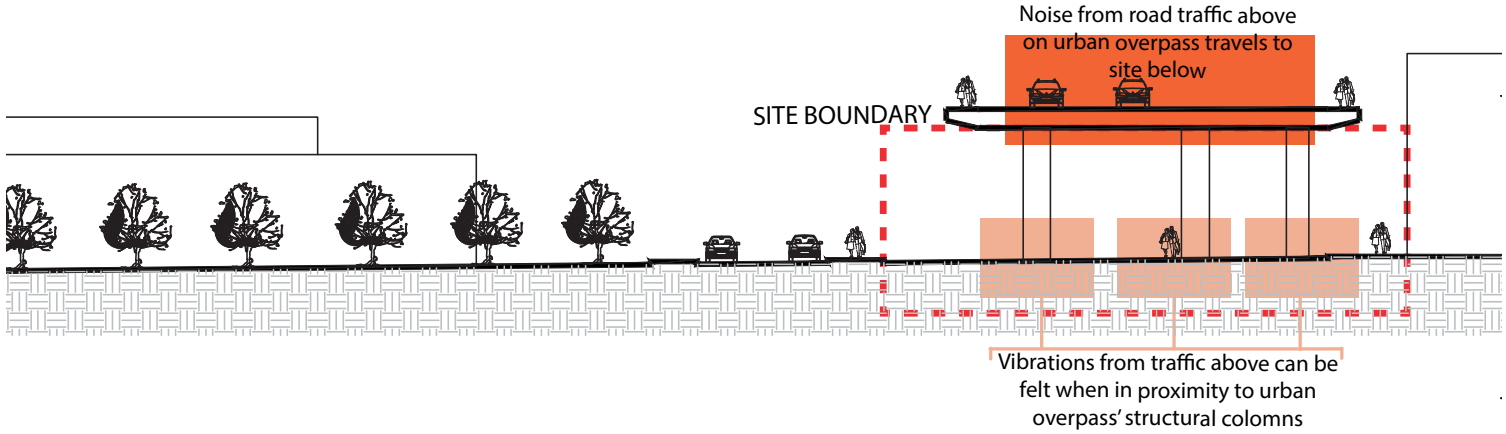


Figure 49: Cross section through site showing gradient of the site, vibrations and noise impacts. 2022. Drawing by Author

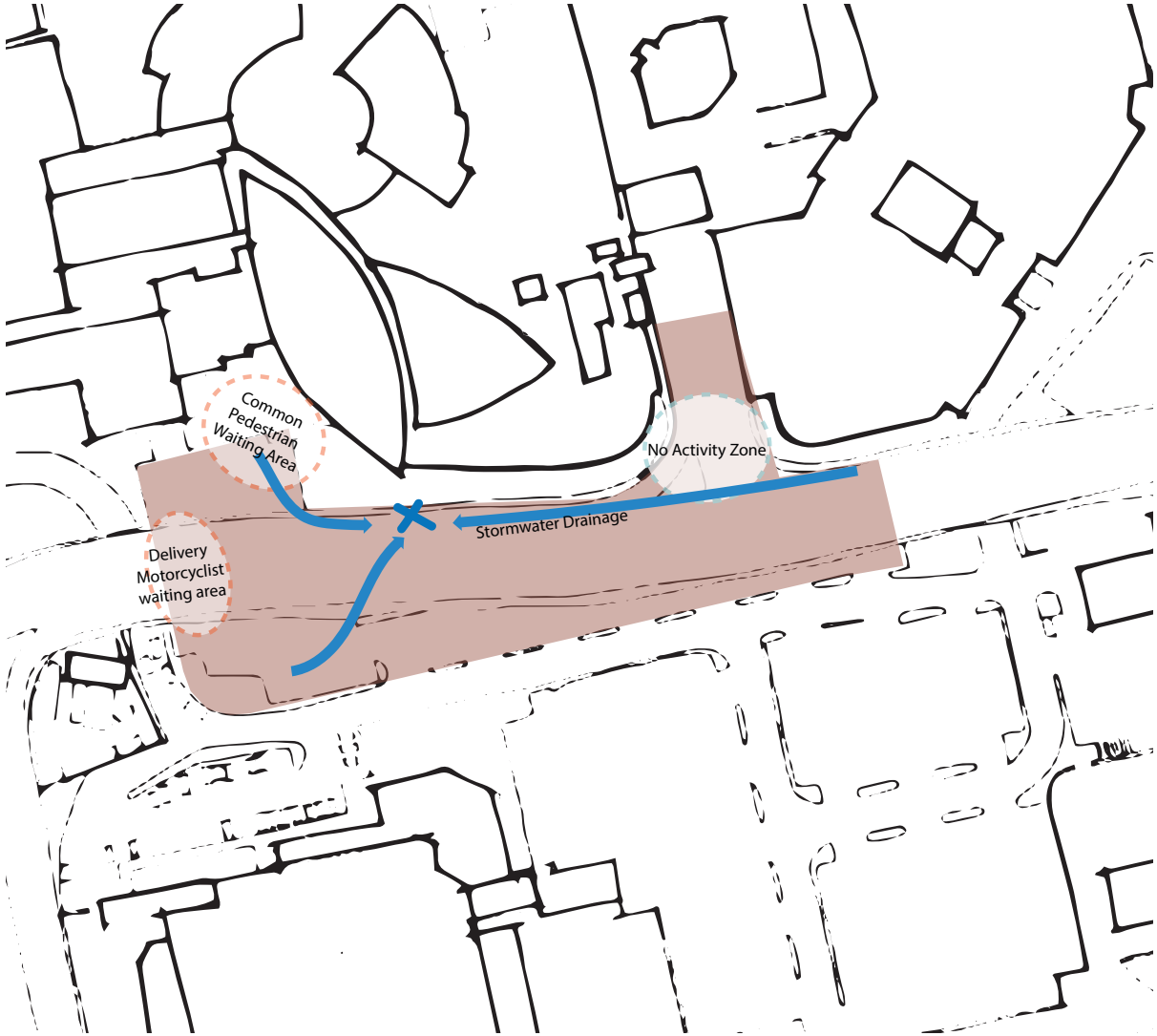


Figure 50: Plan of site analysis showing storm water drainage, common waiting areas for pedestrians and delivery motorcyclists. 2022. Drawing by Author

Chapter 5.3: Massing and Program Organization Development

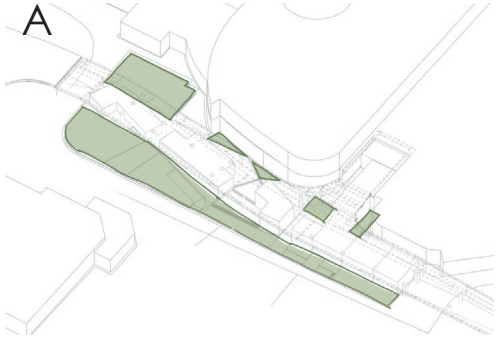
The massing for the One-stop Mechanics Workshop responds to the existing physical site conditions from the site analysis.

Pedestrian permeability and existing movement patterns, thresholds, natural daylighting, and motorcycle accessibility are each of the informants that contribute to the placement of the massing and the organization of the program. Together these informants complement the context.

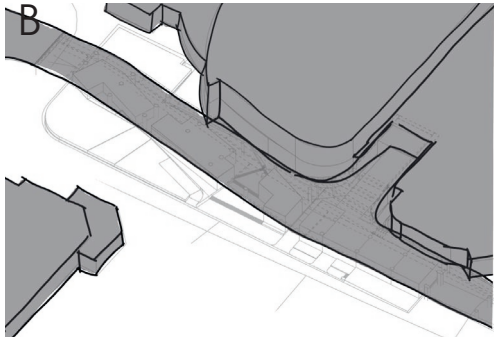
The programmes that require more public interaction are placed adjacent to the identified main pedestrian route, which is separated from motorcycle spaces by varying levels.

Consideration is taken for the urban overpass, which obstructs natural sunlight, and restricts the building height beneath it and the challenges of its structure.

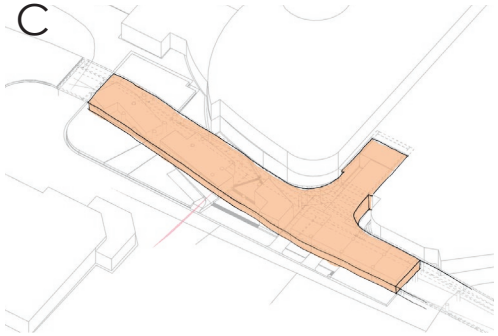
The images to the right represent the development of massing as a work in progress.



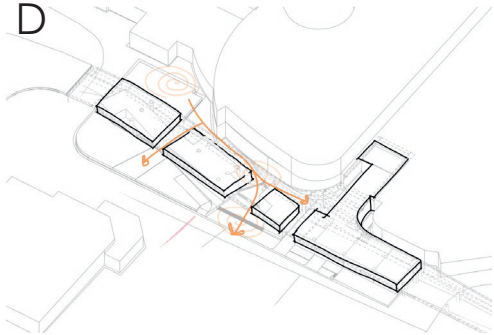
Opportunities for Vegetation, Natural Daylighting and green spaces.



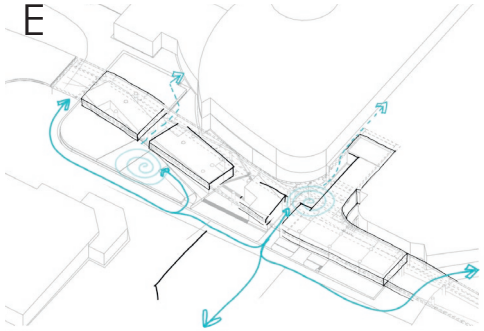
Adjacent Massing and Shaded Spaces.



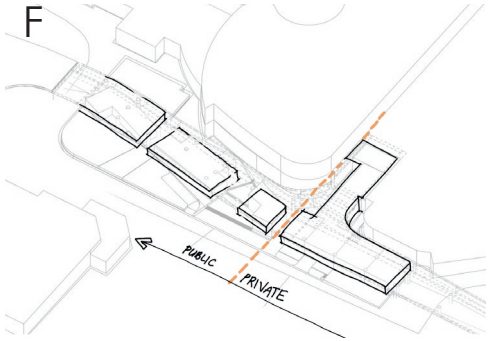
The Urban Lost Space beneath the urban overpass



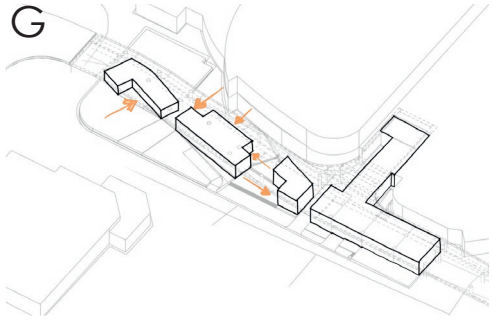
Existing pedestrian permeability on site cuts through massing to allow easy access



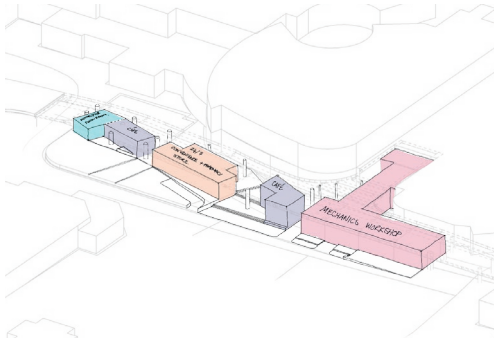
Ensure Motorcycle movement and spaces that are separated by level changes.



Private and public organization of the programs from the more private mechanics workshop to the public interface programs



Thresholds are created my pushing and pulling the massing.



Organization of programs based off of the existing interactions in and around the site.

Figure 51 : Development of Massing as a work in progress. 2022. Drawings by Author

Chapter 5.4: Iterative design stages

The iterative process on a time-line depicting the design development through the year.

JUNE

The design process followed a spatial understanding of the site by first creating scaled bubble diagrams that aided the relationships between certain spaces and programs.

Secondly, the design process followed an investigation into the challenges of the site itself and how a massing could respond to such challenges.

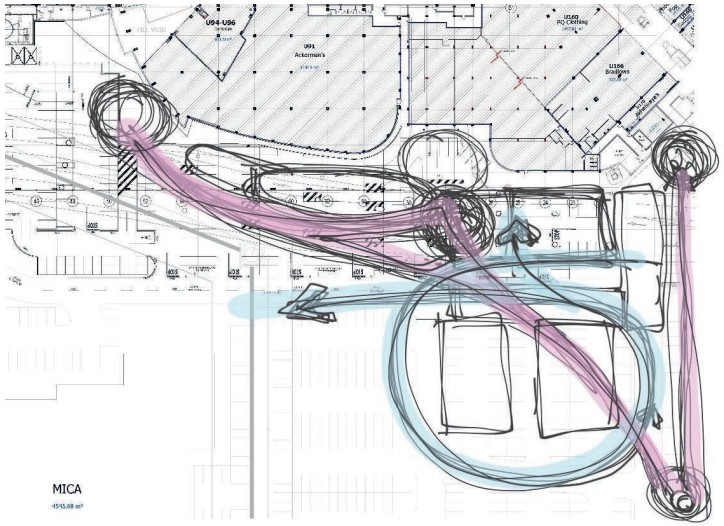


Figure 52: Iterative Design in plan: recognizing the existing movement patterns of users on site. 2022. Drawing by Author



Figure 53: Iterative Design in plan: observing the possibilities of program on the site. 2022. Drawing by Author

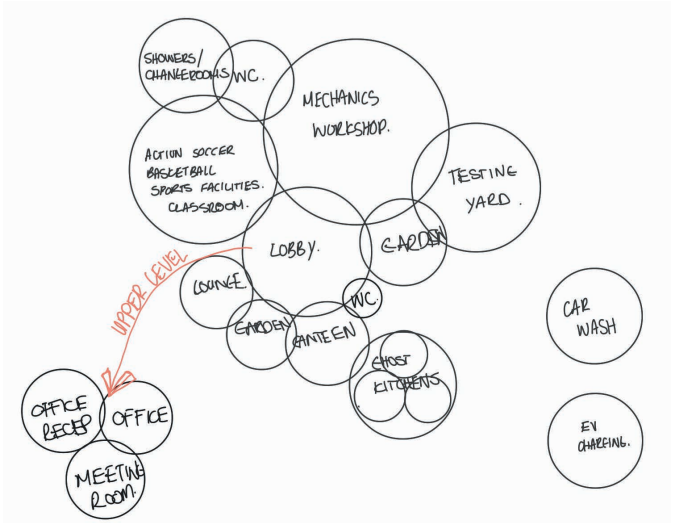


Figure 54: Area bubble diagram to understand relationships between programs and consequent spaces. 2022. Drawing by Author

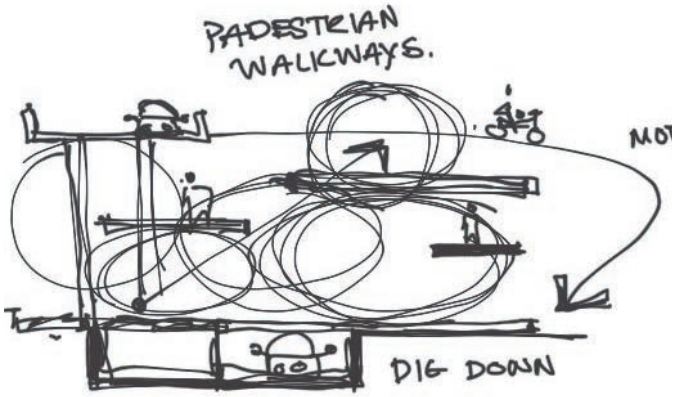


Figure 55: Exploring the possible relationships between program and circulation in section. 2022. Drawing by Author

JULY

Form finding for the intervention at this stage is inspired by the charrette exercise and translates the spherical bubble shapes into an organic spatial experience.

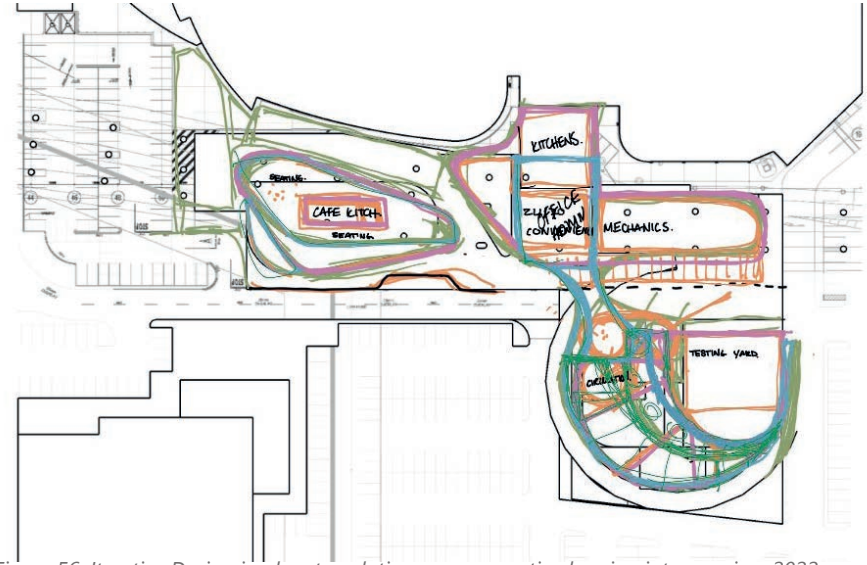


Figure 56: Iterative Design in plan: translating programmatic planning into massing. 2022. Drawing by Author

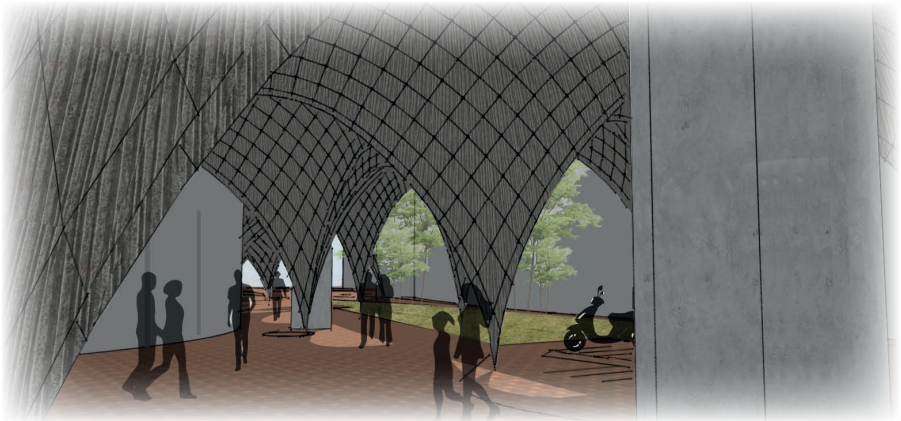


Figure 57: Perspective of an atrium space in an Initial exploration of massing in 3D. 2022. Drawing by Author

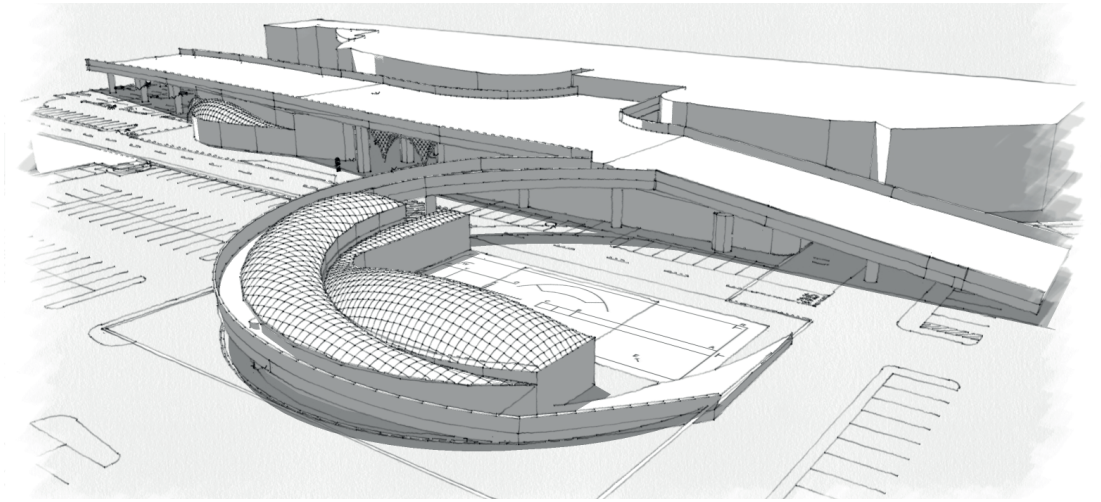


Figure 58: 3D view of first revision of massing. 2022. Drawing by Author

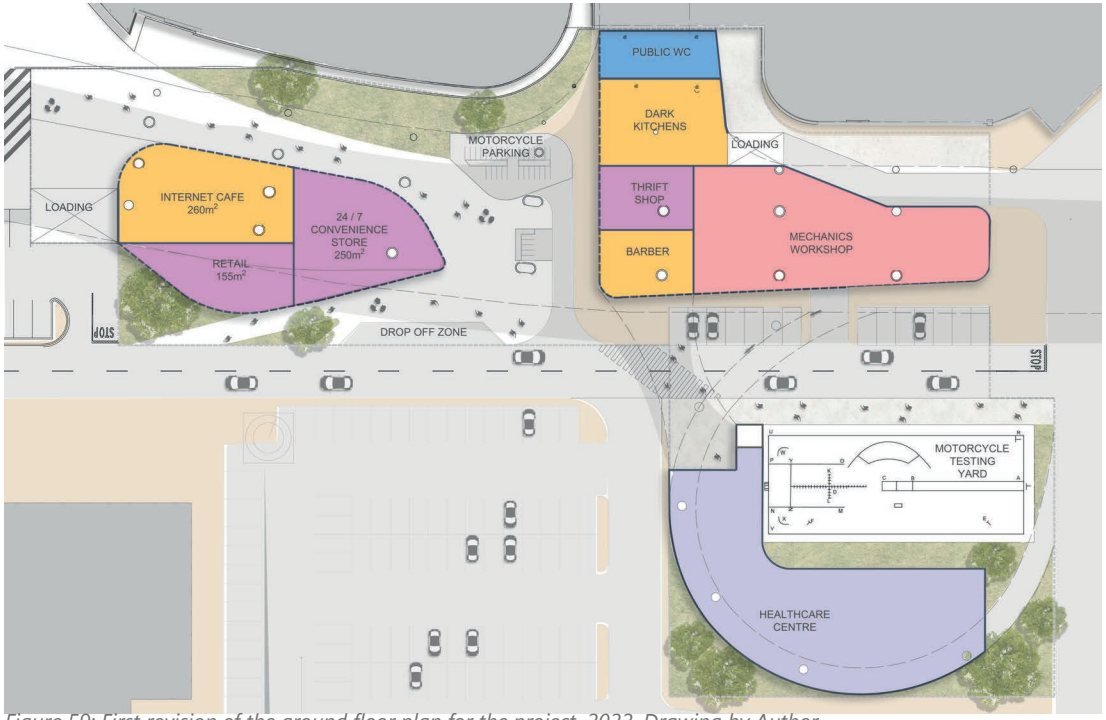


Figure 59: First revision of the ground floor plan for the project. 2022. Drawing by Author

JULY

A notable design decision was made to focus the site on the area under the overpass moving some of it away from the unpaid uncovered parking lot adjacent.

This led to new possibilities of pushing and pulling the massing from beneath the urban overpass to capture natural sunlight and draw it into the shaded spaces.

Initial exploration into possible materials was also conducted through conceptual sketches.

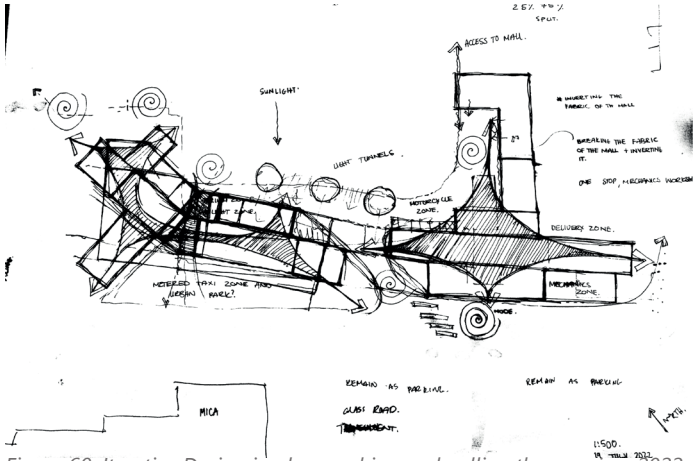


Figure 60: Iterative Design in plan: pushing and pulling the massing. 2022. Drawing by Author

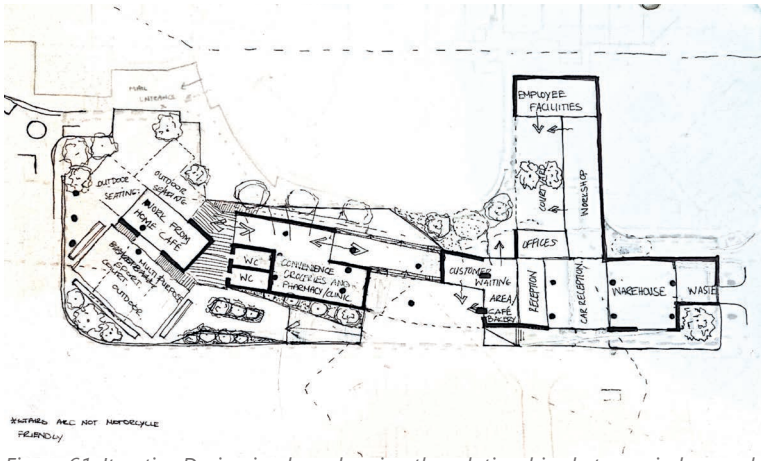


Figure 61: Iterative Design in plan: planning the relationships between indoor and outdoor spaces. 2022. Drawing by Author



Figure 62: Exploration perspectives into materiality and ambience of spaces. 2022. Drawing by Author

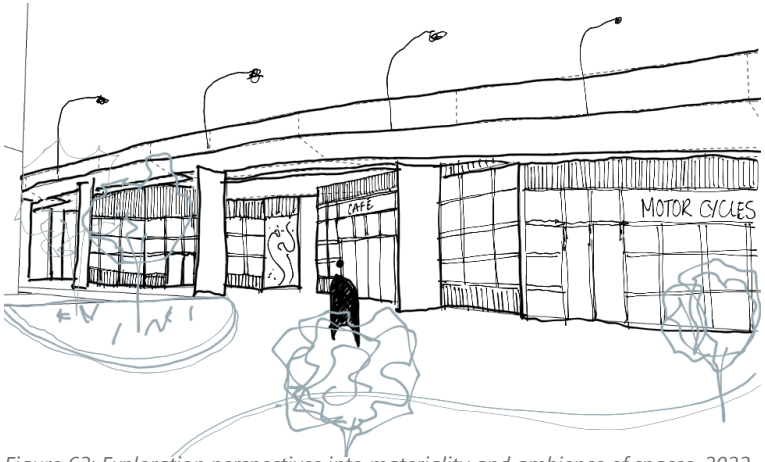


Figure 63: Exploration perspectives into materiality and ambience of spaces. 2022. Drawing by Author

AUGUST

An exploration of form through iterative sectional drawings was conducted to explore the spatial constraints and possibilities for a form to take place beneath the urban overpass in conjunction with the plan designs.

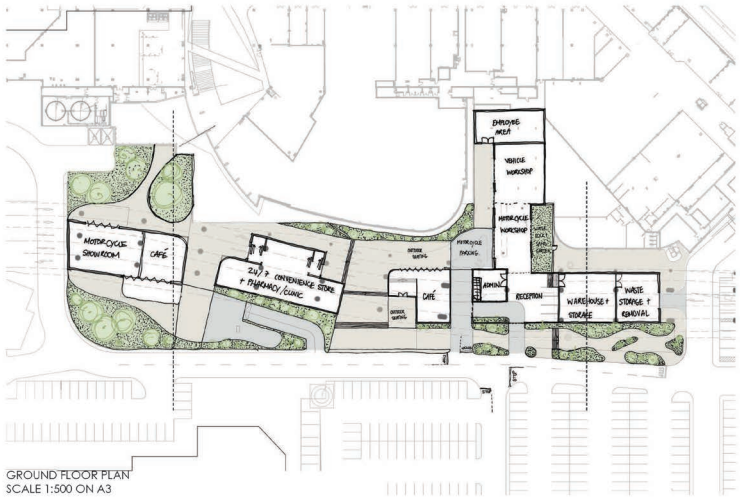


Figure 64: Iterative Design in plan: planning landscaping and massing with the addition of programs. 2022. Drawing by Author

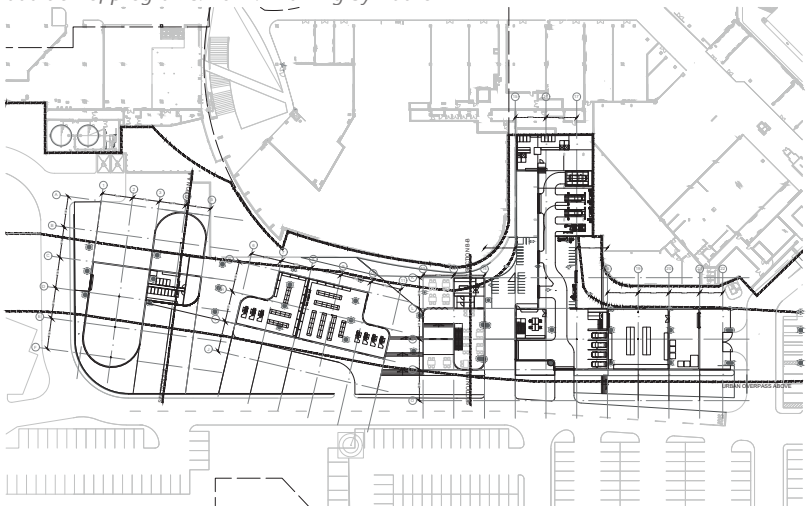


Figure 65: Iterative Design in plan: creating a structure grid system for the plan. 2022. Drawing by Author

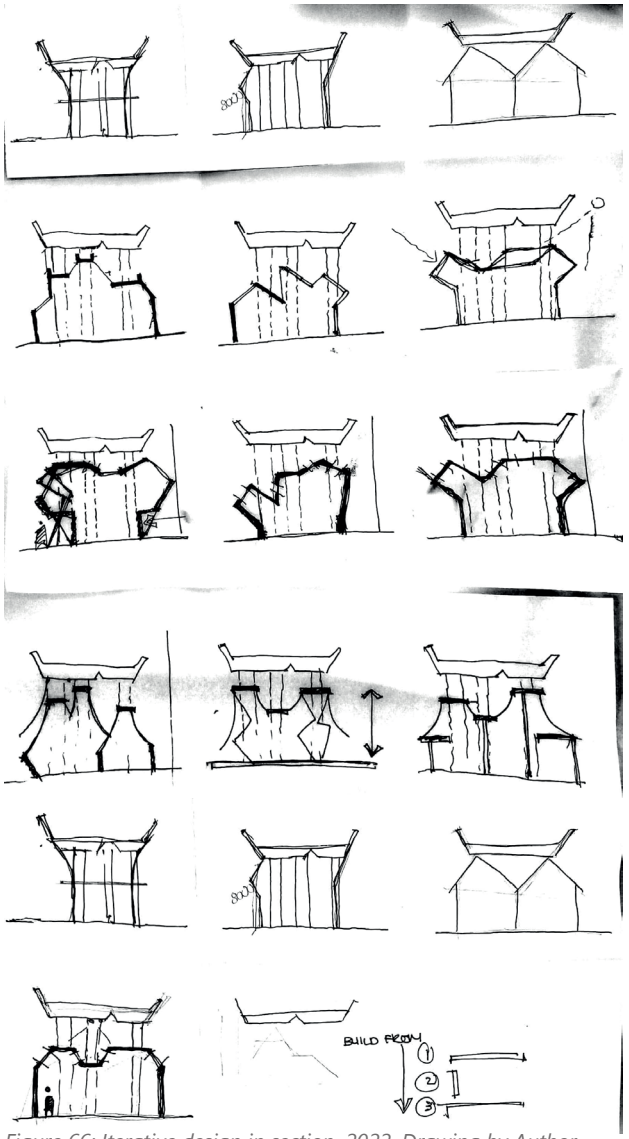


Figure 66: Iterative design in section. 2022. Drawing by Author.

SEPTEMBER

Following the sectional explorations, a more organic architectural language is explored through a scaled Marquette of the site and its immediate surroundings. The exploration resulted in a spiral-like structural system that pushed and pulled itself from beneath the urban overpass and juxtaposed itself to the stereotomic language of the Eastgate mall that is located adjacent to the site.

The more organic language found with the charette exercise is then translated into plan and elevation.



Figure 67: Scaled Marquette Exploring organic Language. 2022. Photograph by Author

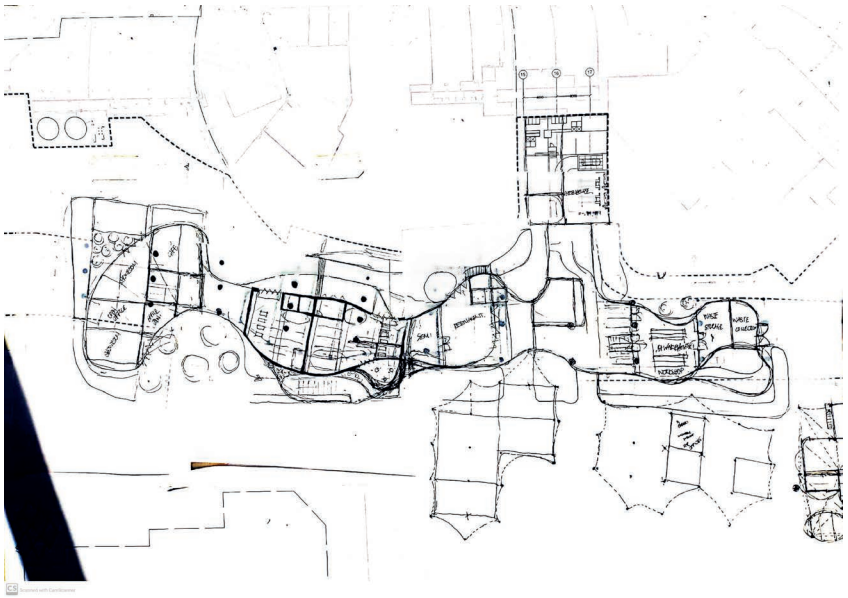


Figure 68: Translating the organic language into plan. 2022. Drawing by Author

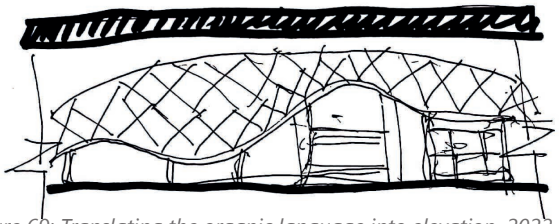


Figure 69: Translating the organic language into elevation. 2022. Drawing by Author

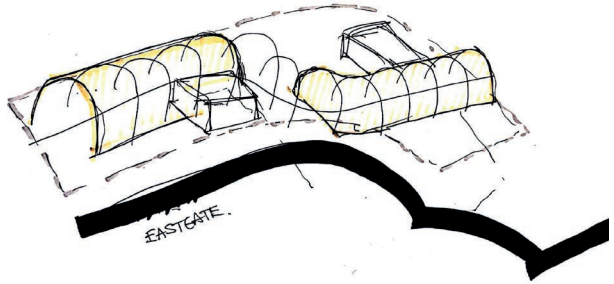


Figure 70: Translating the organic language into technical form. 2022. Drawing by Author

Chapter 5.5: Technical and Material Analysis, Design Development and Exploration

STAGE 1

The nature of the project and the site that is selected possess an interesting construction question: How to build in the space?

The urban overpass and the landscaping itself restrict the height of the design beneath it and it encourages alternate methods of capturing natural sunlight and redirecting it into the space, due to the orientation and positioning of the site in relation to the Eastgate Mall.

One of the materials that are considered a possibility to achieve natural daylighting within a building is Ethylene tetrafluoroethylene (ETFE).

The use of ETFE in conjunction with a steel super-structure and masonry brick infill will make up the materiality of the architecture.

Images shown to the right represent the design process where the architecture's materiality and main structural components are explored.

The space beneath the urban overpass is, at its highest point, 8 metres, and at its lowest, 3 meters. Stage one of this process explored the height restrictions and if there is a possibility of multiple levels at its highest point.

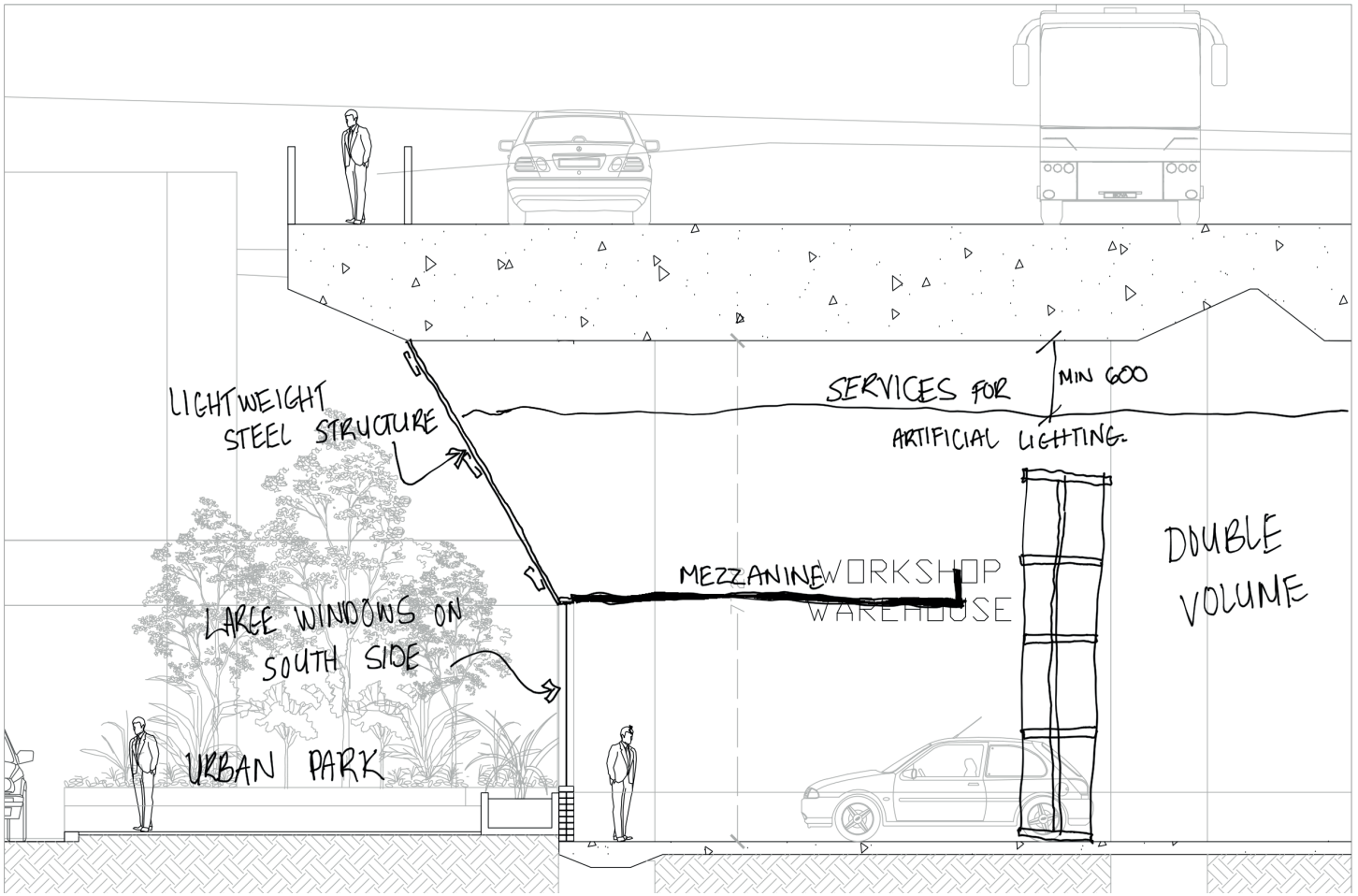


Figure 71: Exploration Section 1 - Stage 1. 2022. Drawings by Author

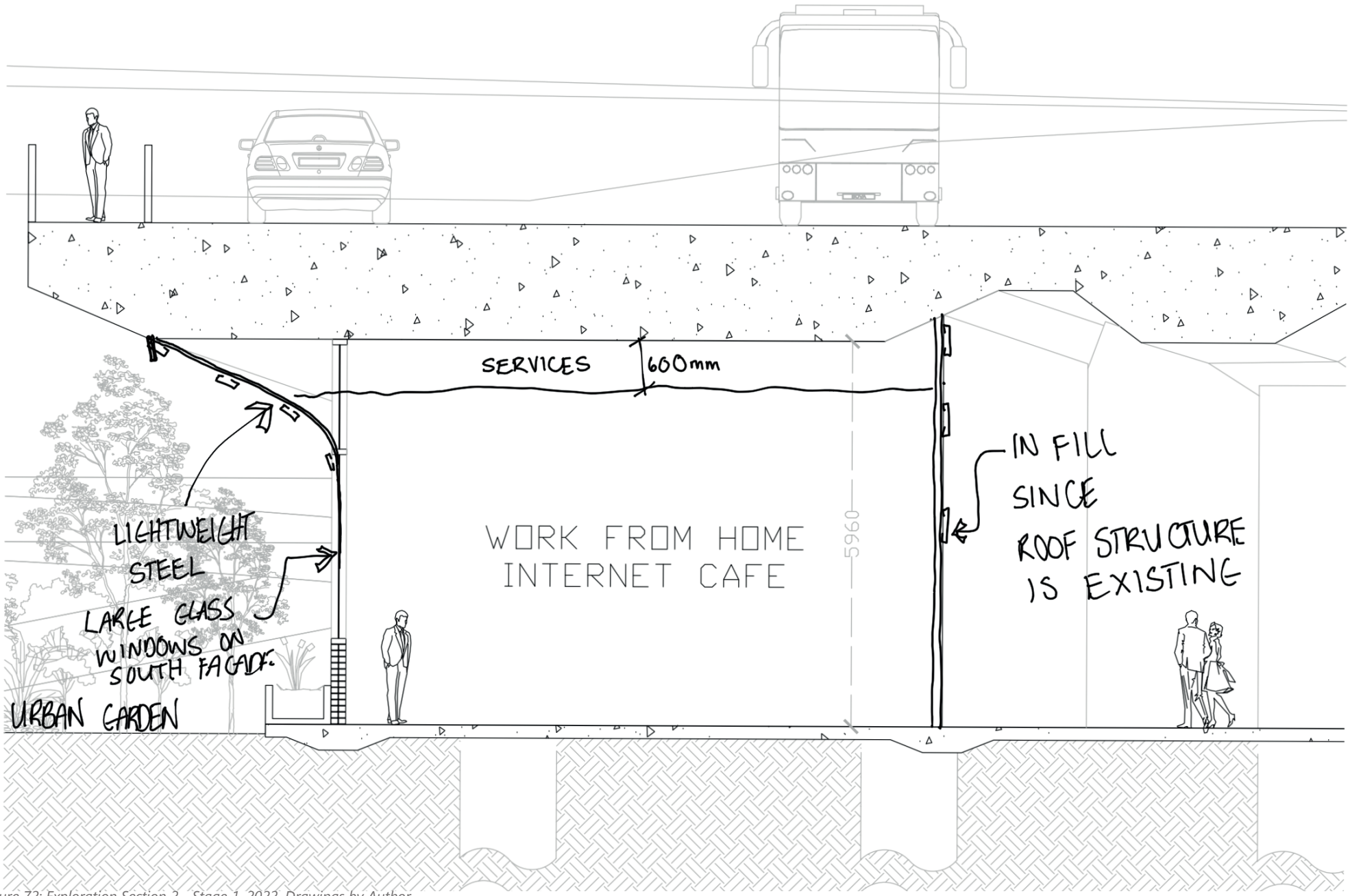


Figure 72: Exploration Section 2 - Stage 1. 2022. Drawings by Author

STAGE 2

The lightweight steel framing structure was implemented on section and explored as a possibility for the architecture's materiality due to the existing overpass's physical constraints. From this exploration, it was discovered that the space between the underside of the urban overpass and the chosen roof structure would be insufficient for successful construction. Therefore, the building will be a maximum of one level with mezzanine levels where possible.

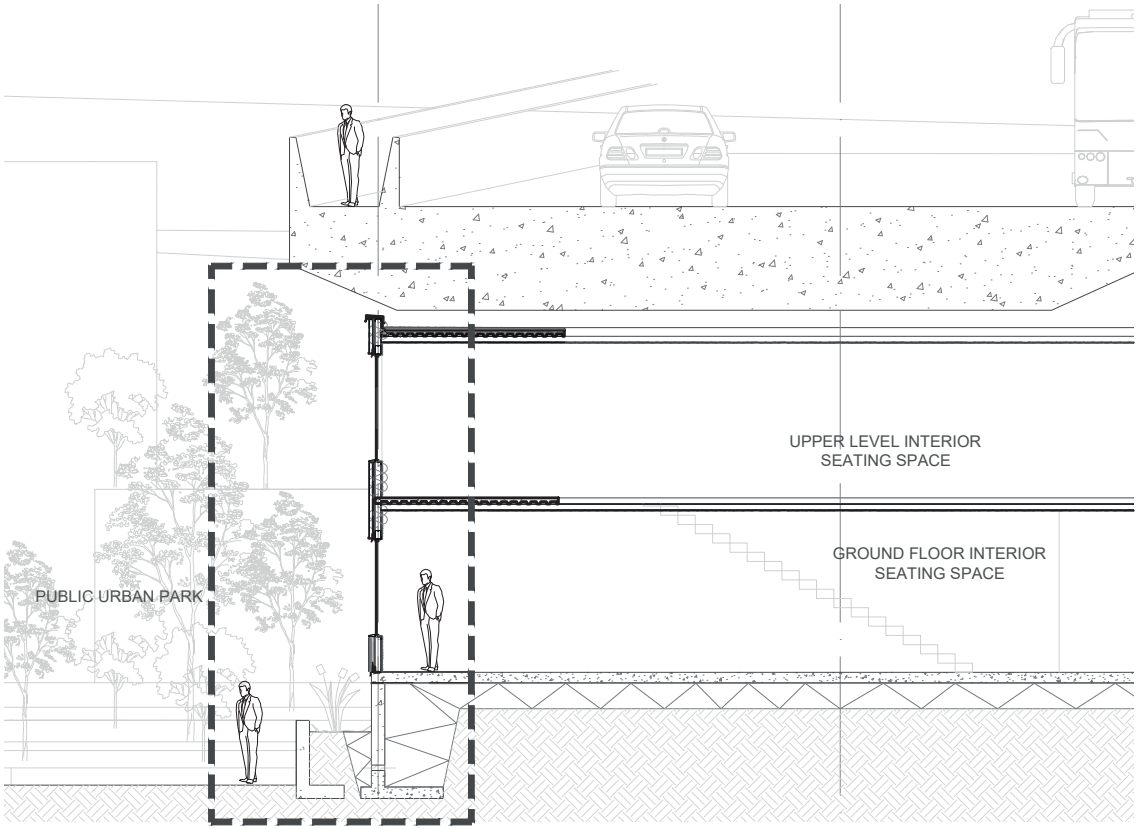


Figure 73: Exploration Section 1 - Stage 2. 2022. Drawings by Author

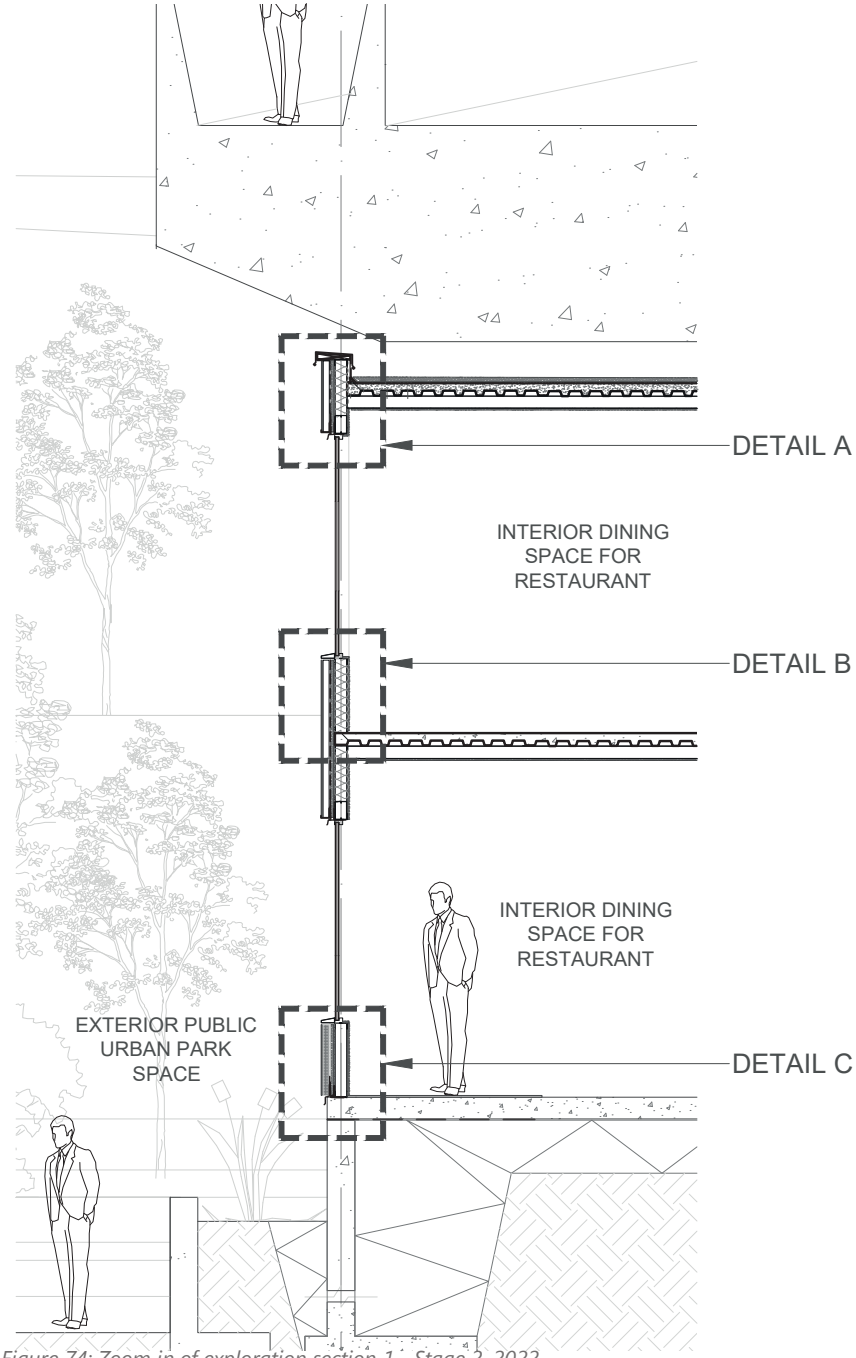


Figure 74: Zoom in of exploration section 1 - Stage 2. 2022. Drawings by Author

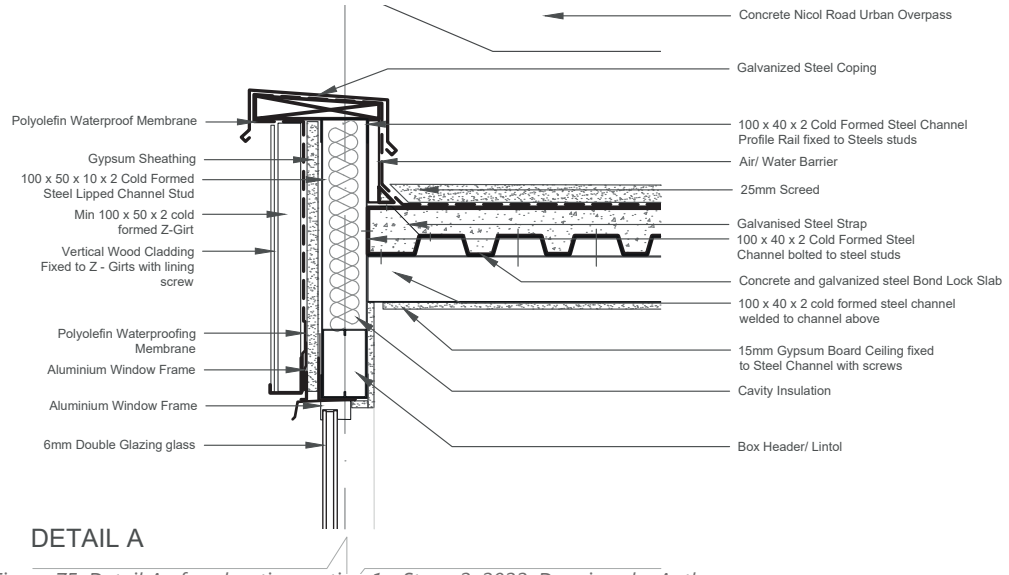


Figure 75: Detail A of exploration section 1 - Stage 2. 2022. Drawings by Author

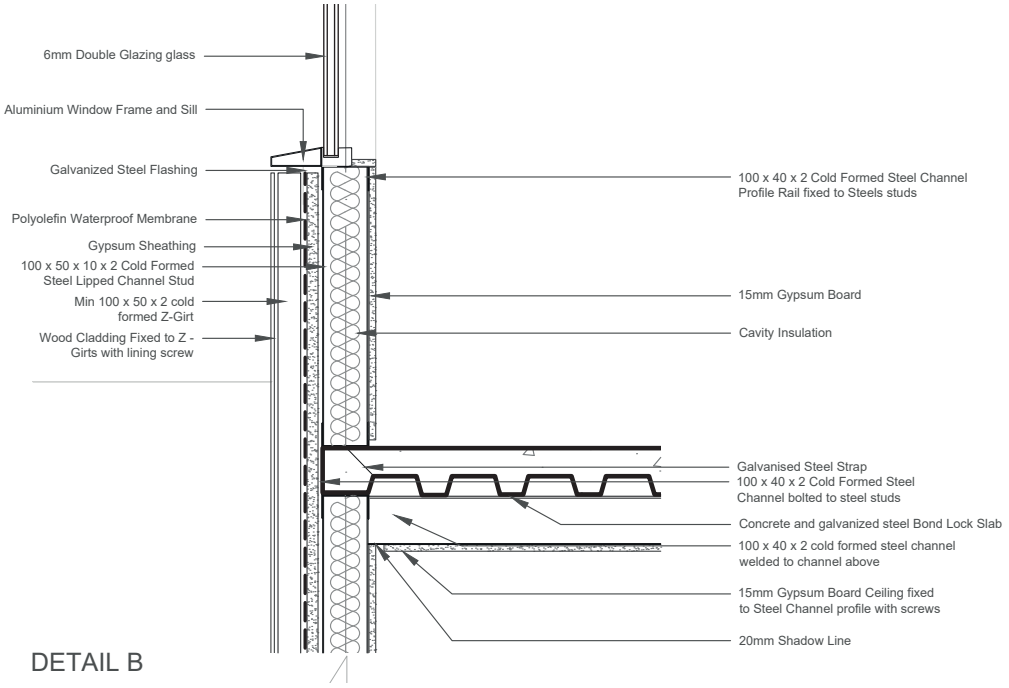


Figure 76: Detail B of exploration section 1 - Stage 2. 2022. Drawings by Author

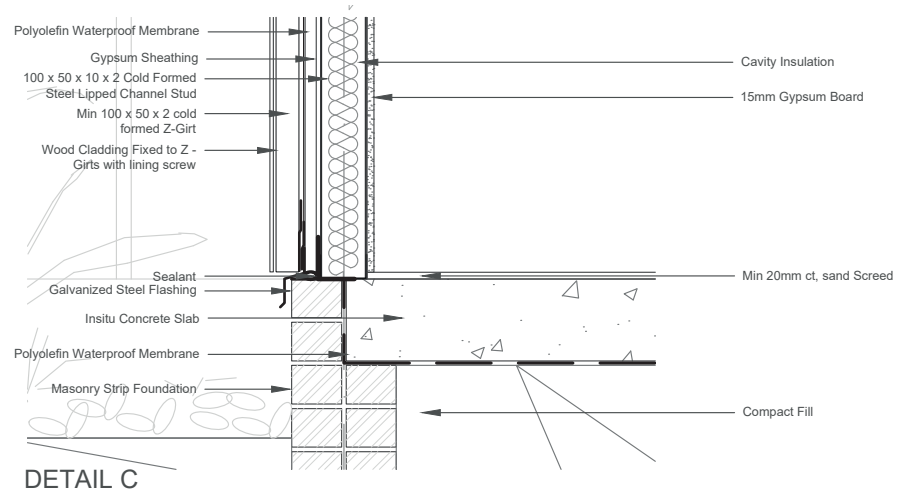


Figure 77: Detail C of exploration section 1 - Stage 2. 2022. Drawings by Author

STAGE 3

Taking into consideration the findings of the previous stage, a tensile technology was explored to find the possibilities of creating the form through the roof structure. Materials such as polycarbonate sheeting are considered as a method of allowing as much natural light as possible into the shaded spaces, while the tensile structure mitigated the solar heat gain factor.



Figure 78: Collage of materials for consideration for architectural design from left to right:
Lightweight steel structural system. 2022. Photograph: https://qdjiahexin.en.made-in-china.com/product/UBzmipeyglRc/China-Light-Gauge-Steel-Structure-Framing-Truss.html
Tensile Structure. 2022. Photograph: https://parametrichouse.com/tensile-structures/
Polycarbonate sheeting. 2022. Photograph: https://ibrworld.co.za/products/polycarbonate-roof-sheeting/

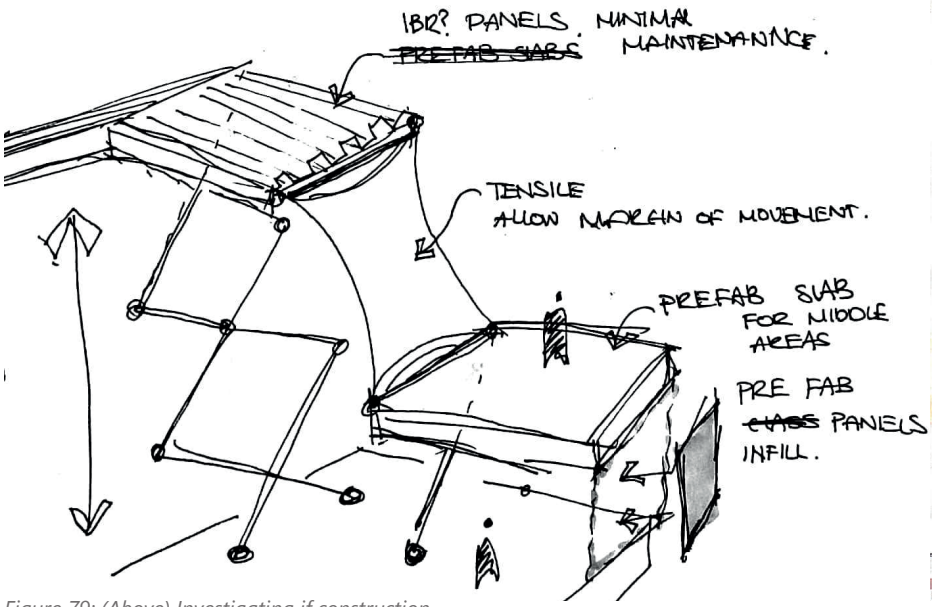


Figure 79: (Above) Investigating if construction of the roof structure first is possible. 2022. Drawings by Author

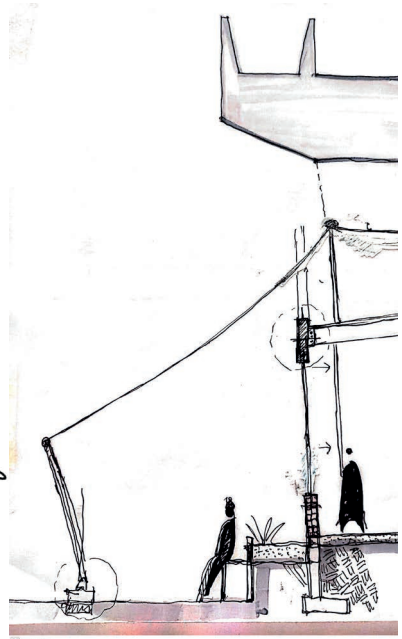


Figure 80: Tensile Structure Section explorations. 2022. Drawings by Author

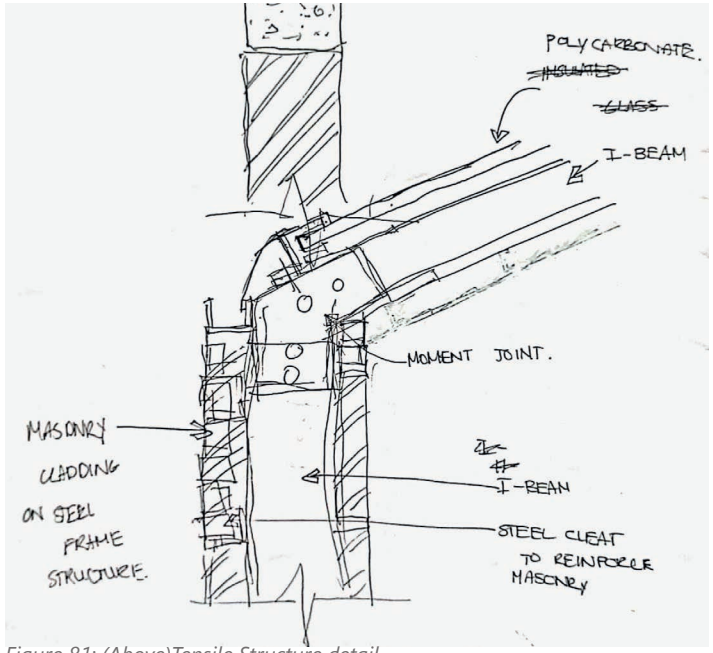
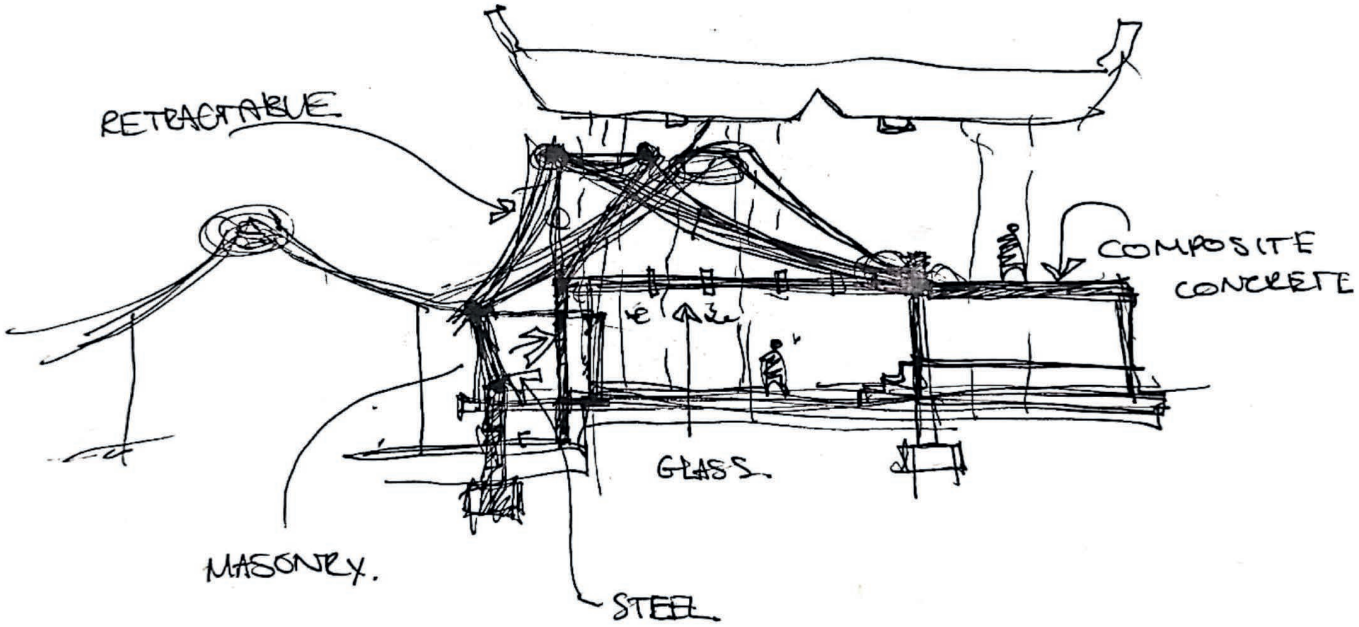
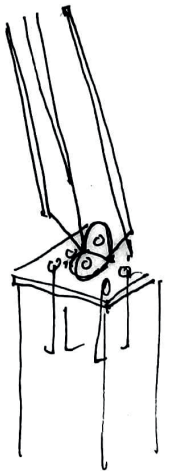


Figure 81: (Above)Tensile Structure detail explorations with polycarbonate sheeting. 2022. Drawings by Author





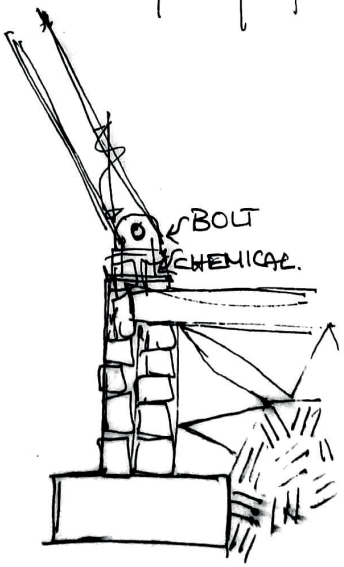
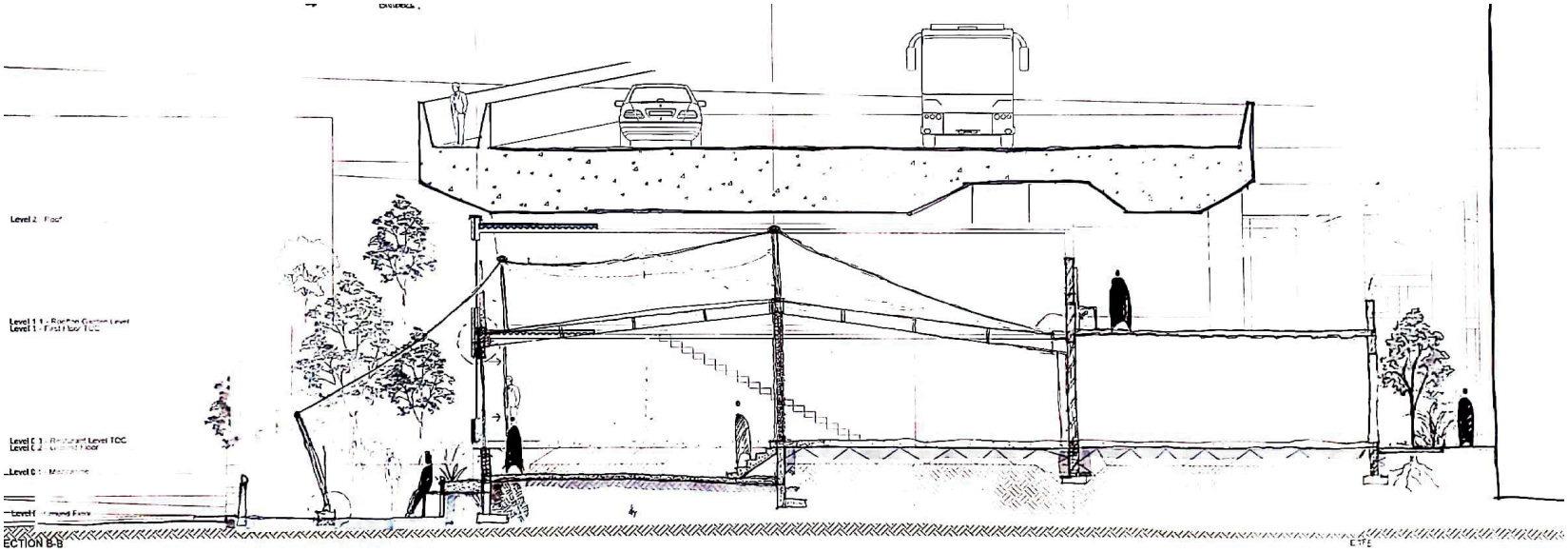


Figure 82: (Above)Tensile Structure section explorations with polycarbonate sheeting. 2022. Drawings by Author



Scanned with CamScanner

Figure 83: (Above)Tensile Structure section explorations with polycarbonate sheeting to scale on site 1:200 @A1. 2022. Drawings by Author

STAGE 4

A second exploration into another material and architectural language was conducted by drawing inspiration from the original abstract design approach and charette exercise. For this exploration, the use of a structural steel construction system with an ETFE roofing system and masonry brick cladding and infill is used. This type of construction system achieves the building's goals of having natural daylighting and a unique spacial experience that invokes memory.



Figure 84: Collage of materials for consideration for architectural design from left to right:
ETFE. 2022 Photograph: https://www.e-architect.com/beijing/watercube-beijing
Clay Brick. 2022. Photograph: clayvillebrick.co.za/product/clay-bricks/
Mild Steel Structural System. 2022. Photograph https://www.indiamart.com/proddetail/mild-steel-roofing-structure-7596685788.html

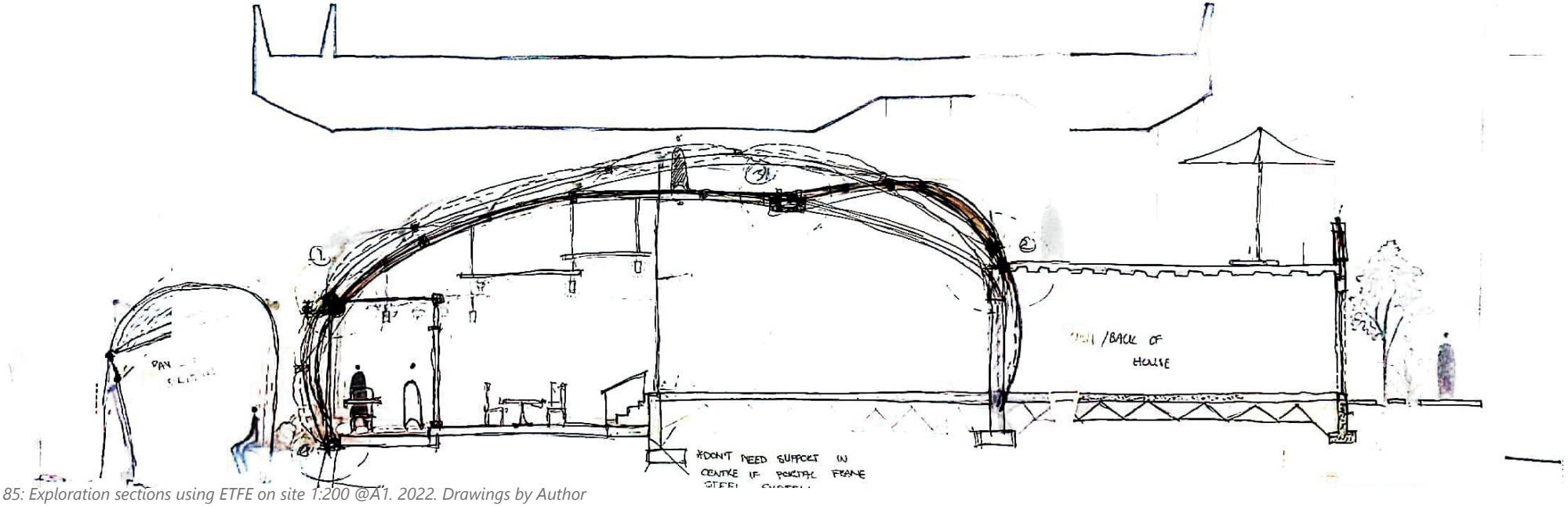


Figure 85: Exploration sections using ETFE on site 1:200 @A1. 2022. Drawings by Author

Properties of ETFE

thylenetetrafluoroethylene (ETFE) foils are a material designed in the 1970s for the aerospace industry (#ETFE - The Magical #Facade Material | Surfaces Reporter Exclusive video, 2020). But since its invention, it has become a popular choice for building facade design, as an alternative to glass. Its pillow-like shape and properties allow for flexibility and sufficient insulation, and with modifications, it has solar control and acoustic control. The material is said to have a ten-year life span after which it will be able to be recycled and replaced. (Robinson-Gayle.S. 2001)

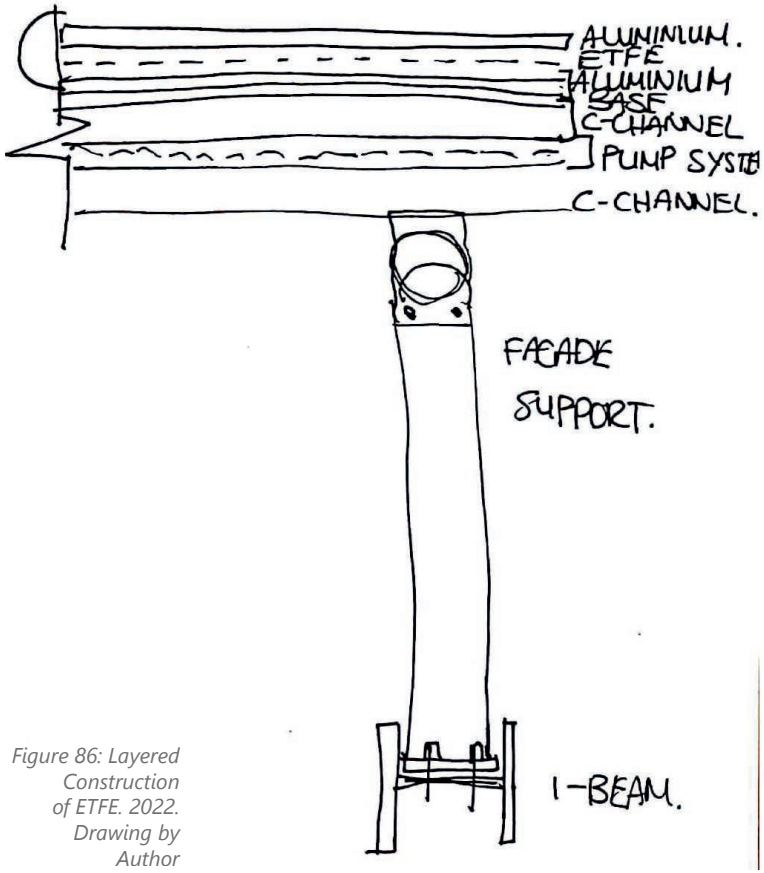


Figure 86: Layered Construction of ETFE. 2022. Drawing by Author

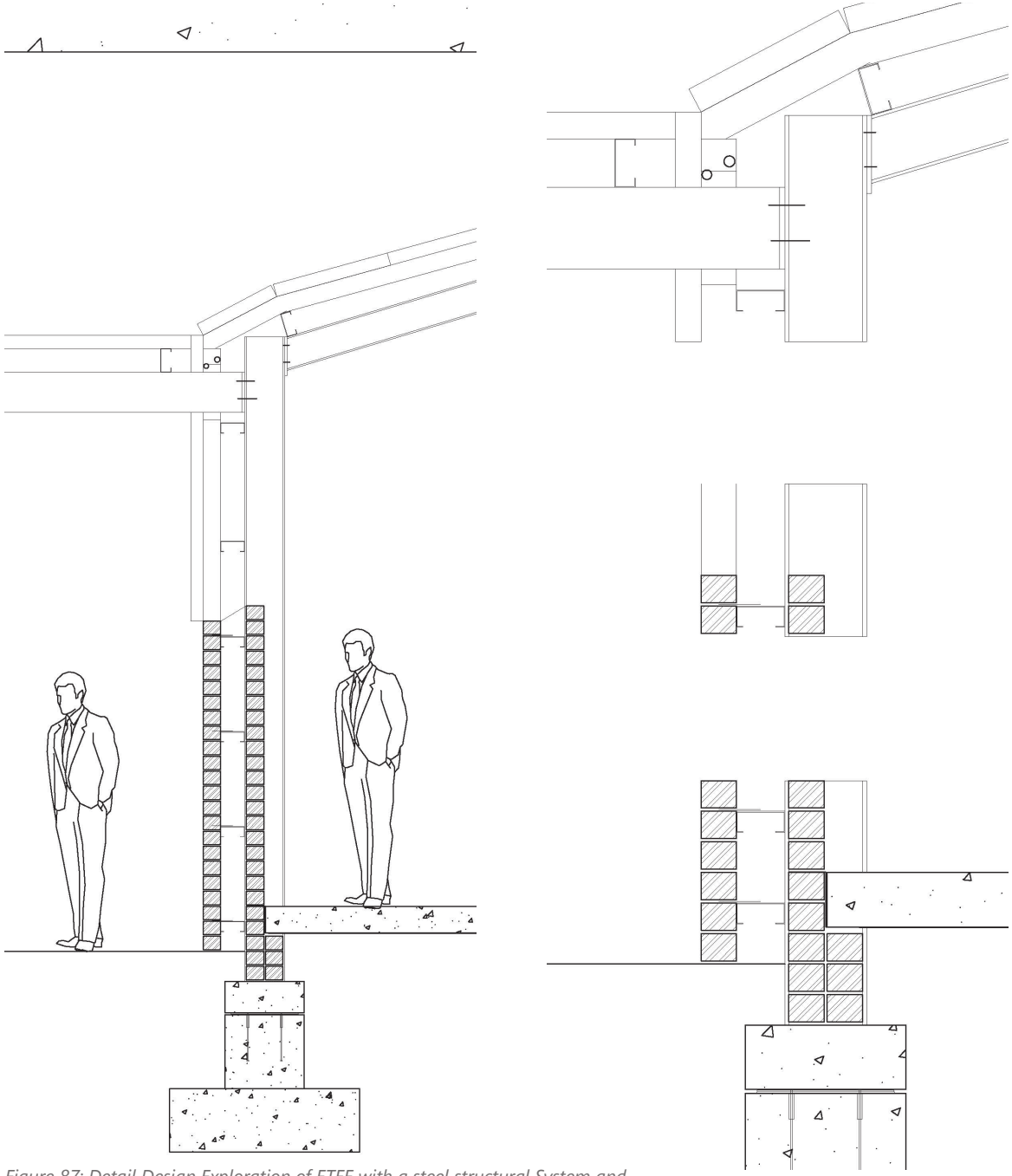


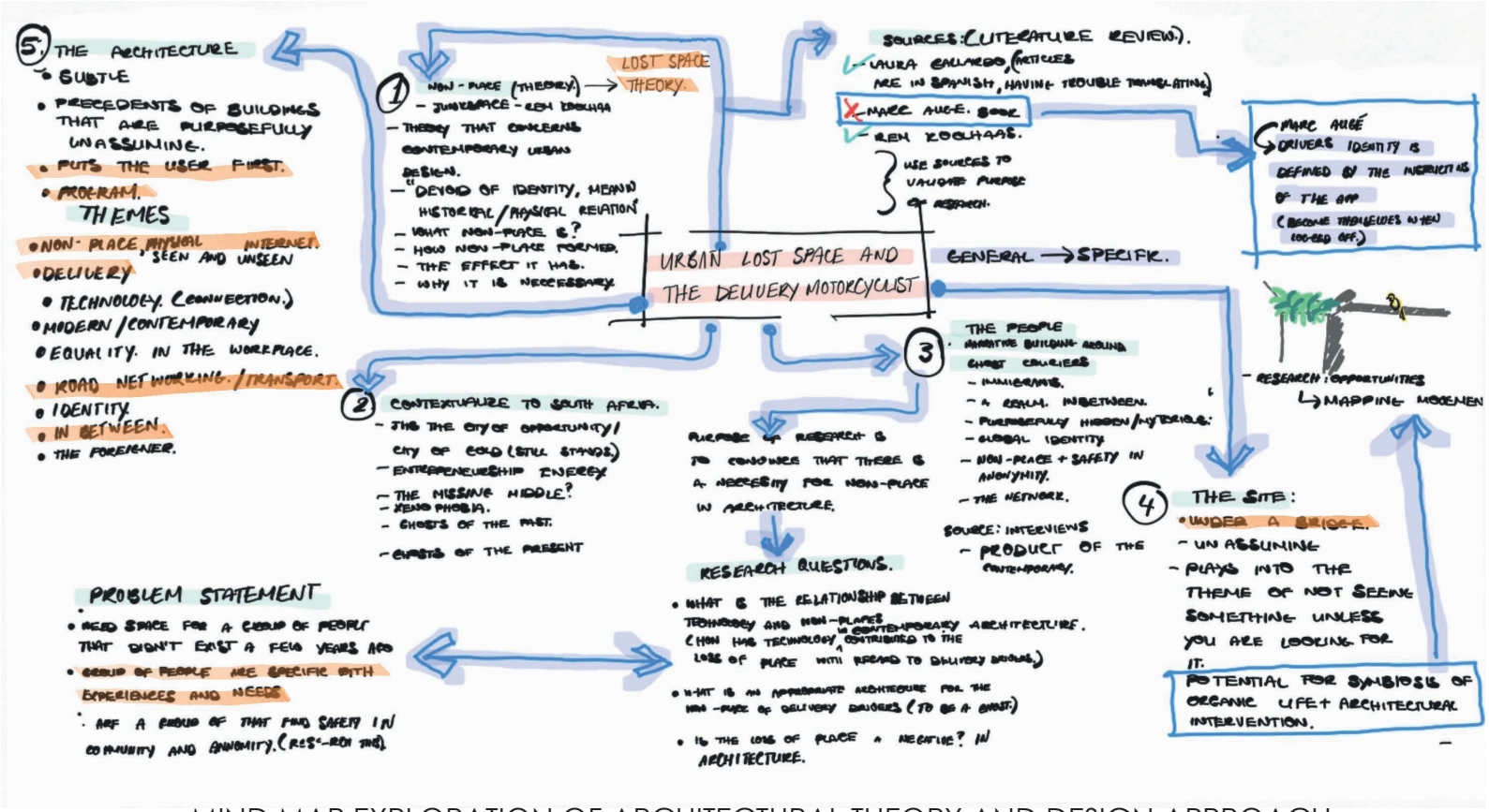
Figure 87: Detail Design Exploration of ETFE with a steel structural System and Masonry Cladding. 2022. Drawing by Author



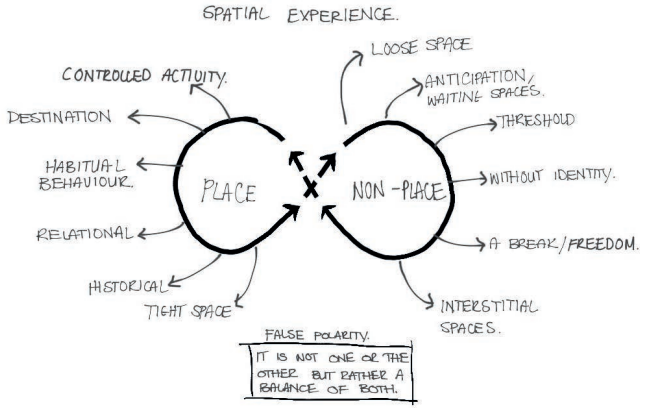
FINAL DESIGN

The One - Stop - Mechanic's Workshop

Re-evaluating the potential for development in Urban Lost Spaces by recognizing the value in appropriation, and creating spatial experiences for the delivery motorcyclist and the local community.

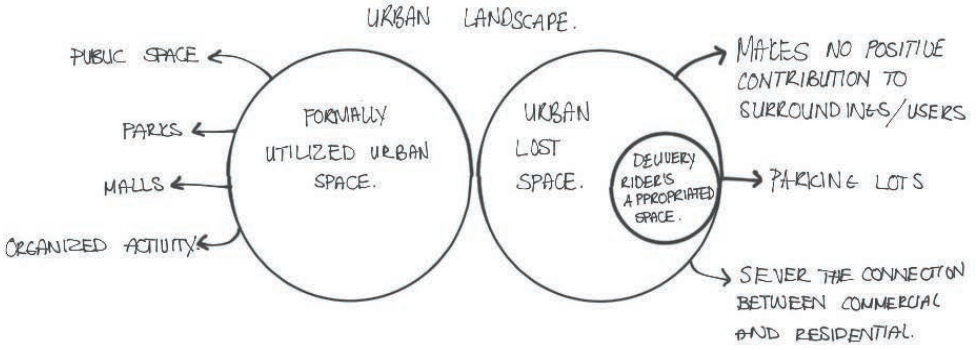


MIND MAP EXPLORATION OF ARCHITECTURAL THEORY AND DESIGN APPROACH



PLACE AND NON-PLACE THEORY

Figure 12: Conceptual Understanding of Place and Non-place theory. 2022. Mind map by Author

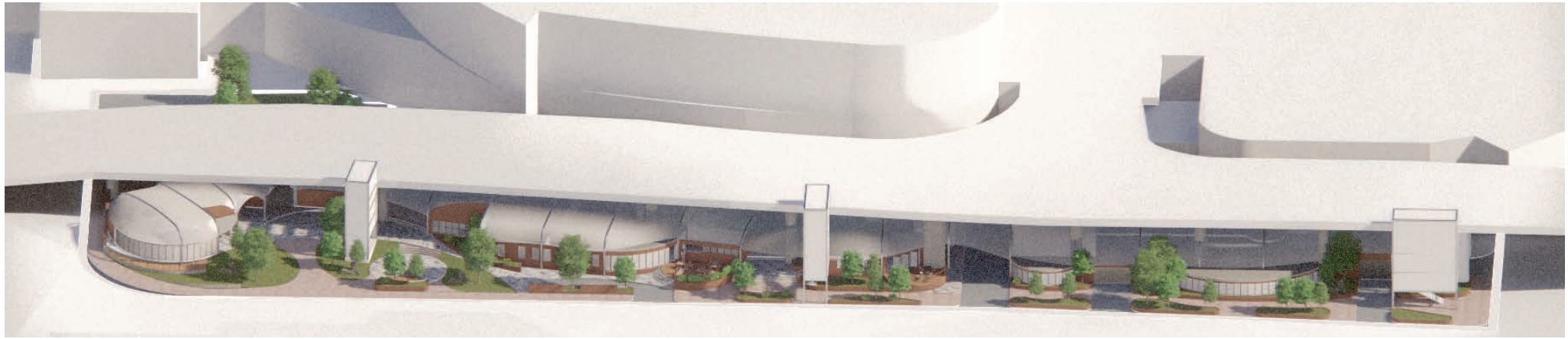


URBAN LOST SPACE THEORY

Figure 10: Conceptual understanding of Urban Lost Space. 2022. Mind map by Author.

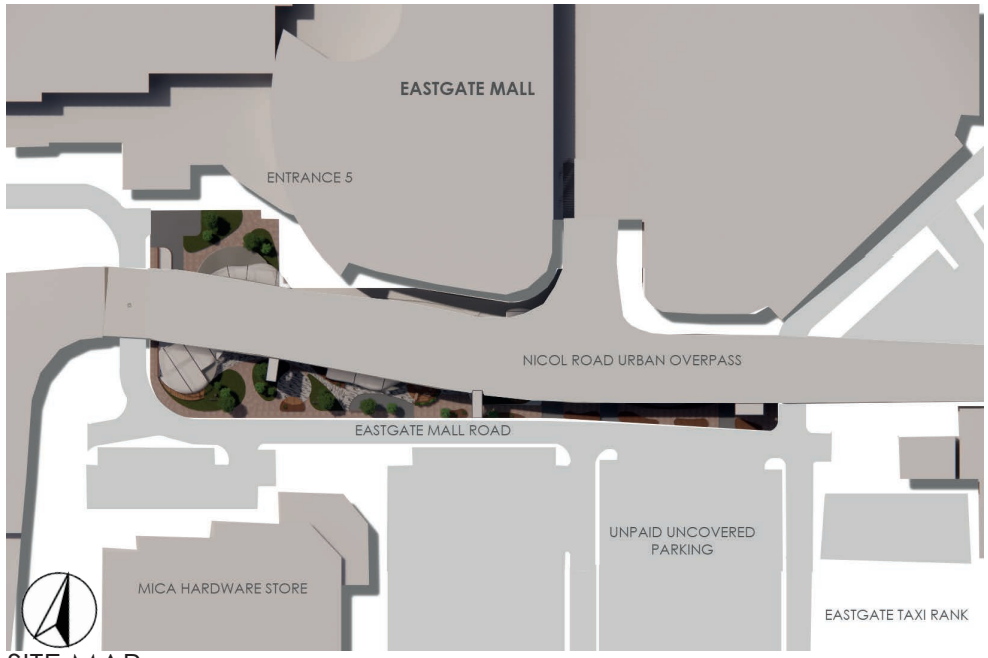


SITE CONTEXT MAP



THE CONCEPT:

The concept for the project is to re-evaluate the potential for development in urban lost spaces by recognizing the value in appropriation and creating spatial experiences for the delivery motorcycle community and the public.



SITE MAP

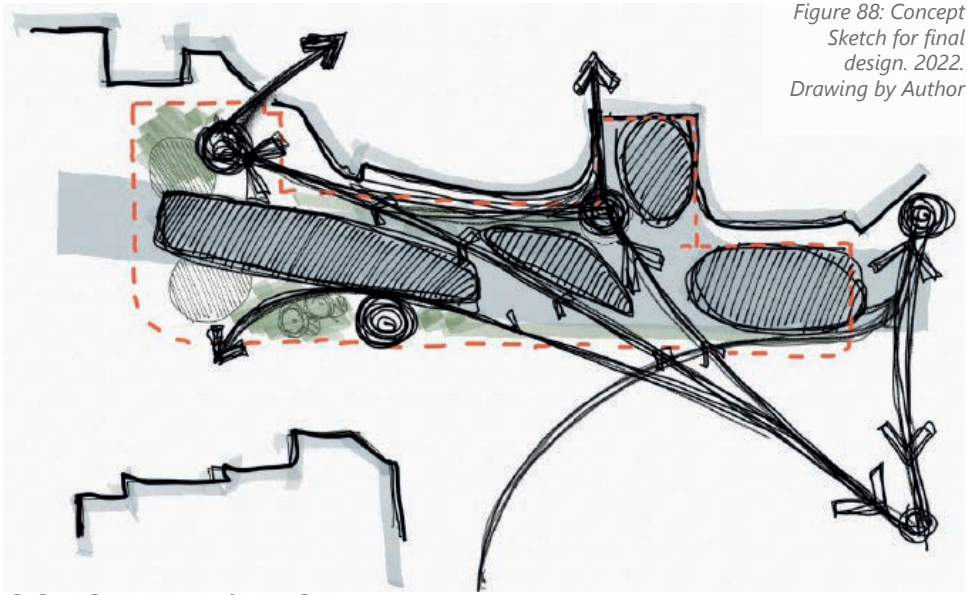


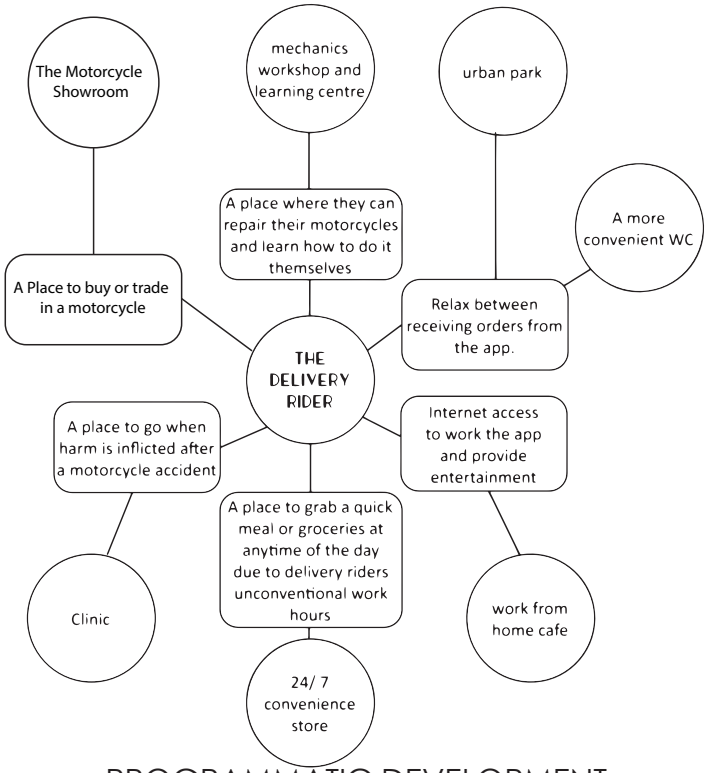
Figure 88: Concept Sketch for final design. 2022. Drawing by Author

CONCEPTUAL SKETCH

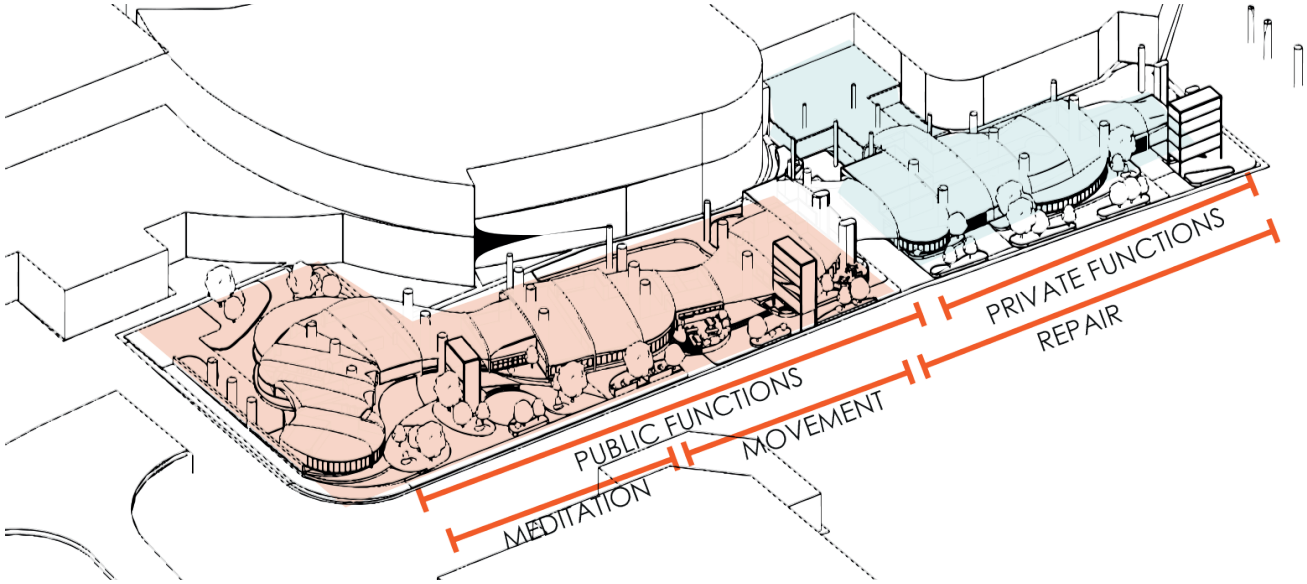
APPLICABLE CHARACTERISTICS OF AN URBAN LOST SPACE:

An example of urban lost space which is based off of Trancik's theories where he defines lost space as "...undesirable urban areas that are in need of redesign – anti-spaces, making no positive contribution to the surrounding or users. [spaces that] are ill-defined, without measurable boundaries, and fail to connect elements in a coherent way." (Trancik, 1986)

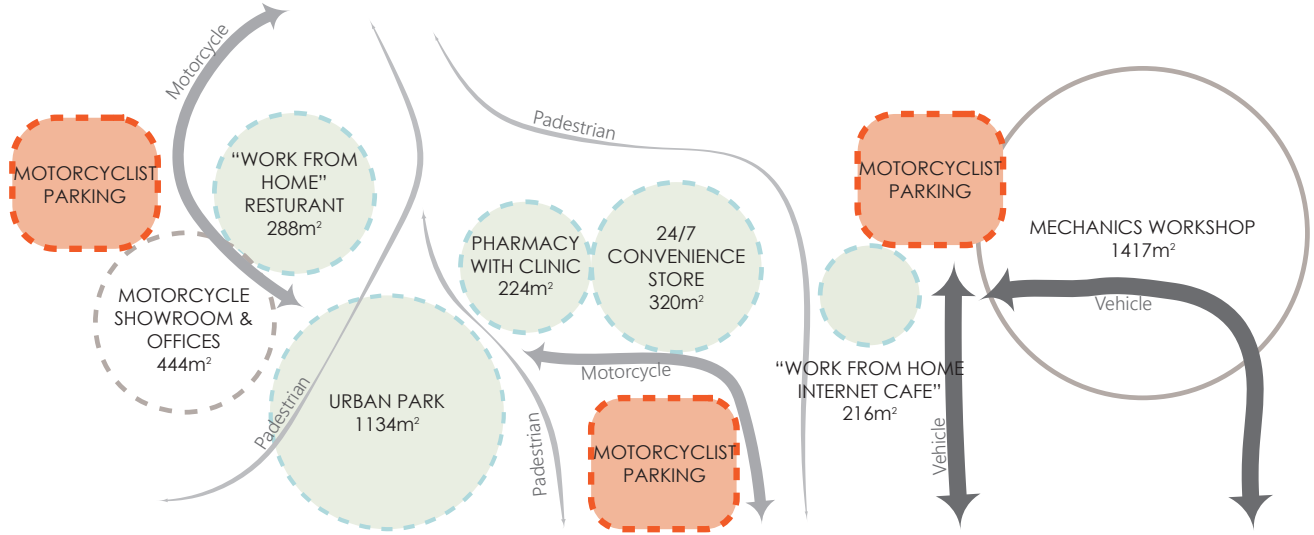
Figure 42: Programmatic needs or desires identified for the delivery motorcyclist. 2022. Diagram by Author



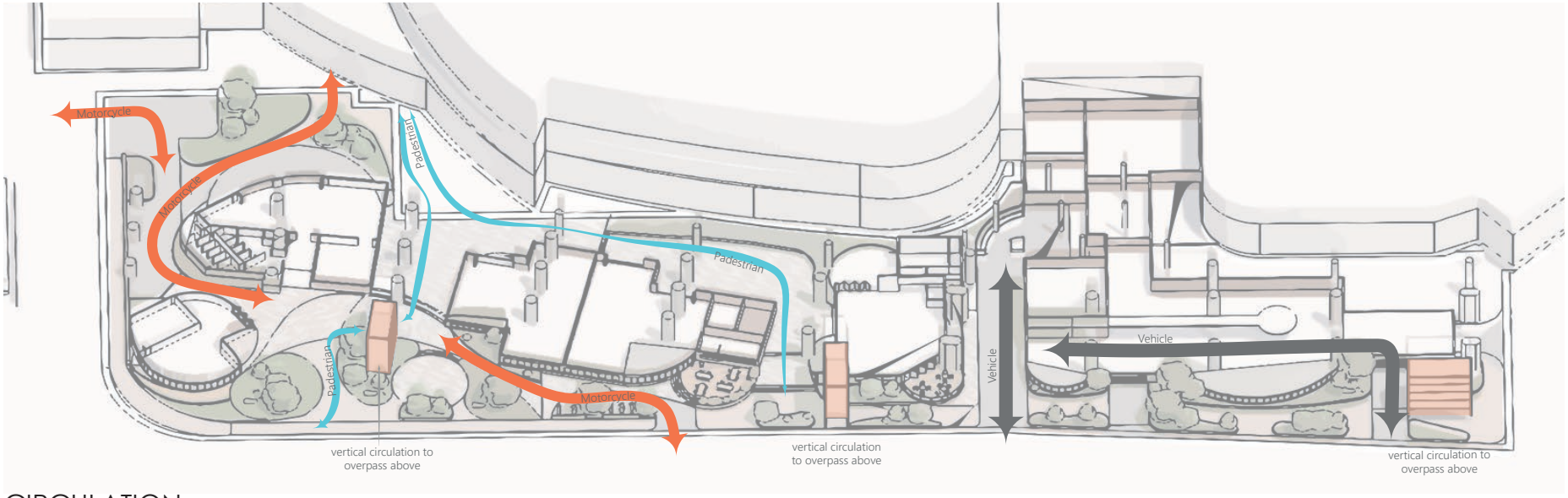
PROGRAMMATIC DEVELOPMENT



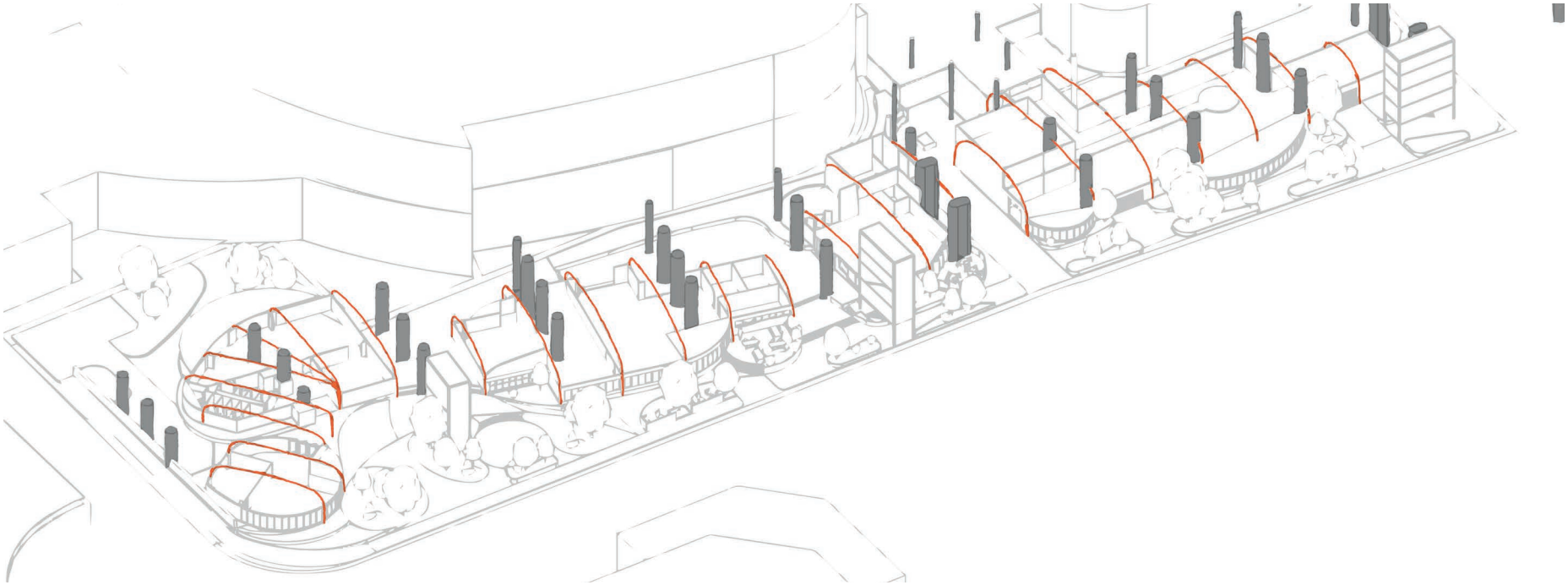
RELATIONSHIPS BETWEEN PUBLIC AND PRIVATE PROGRAMS



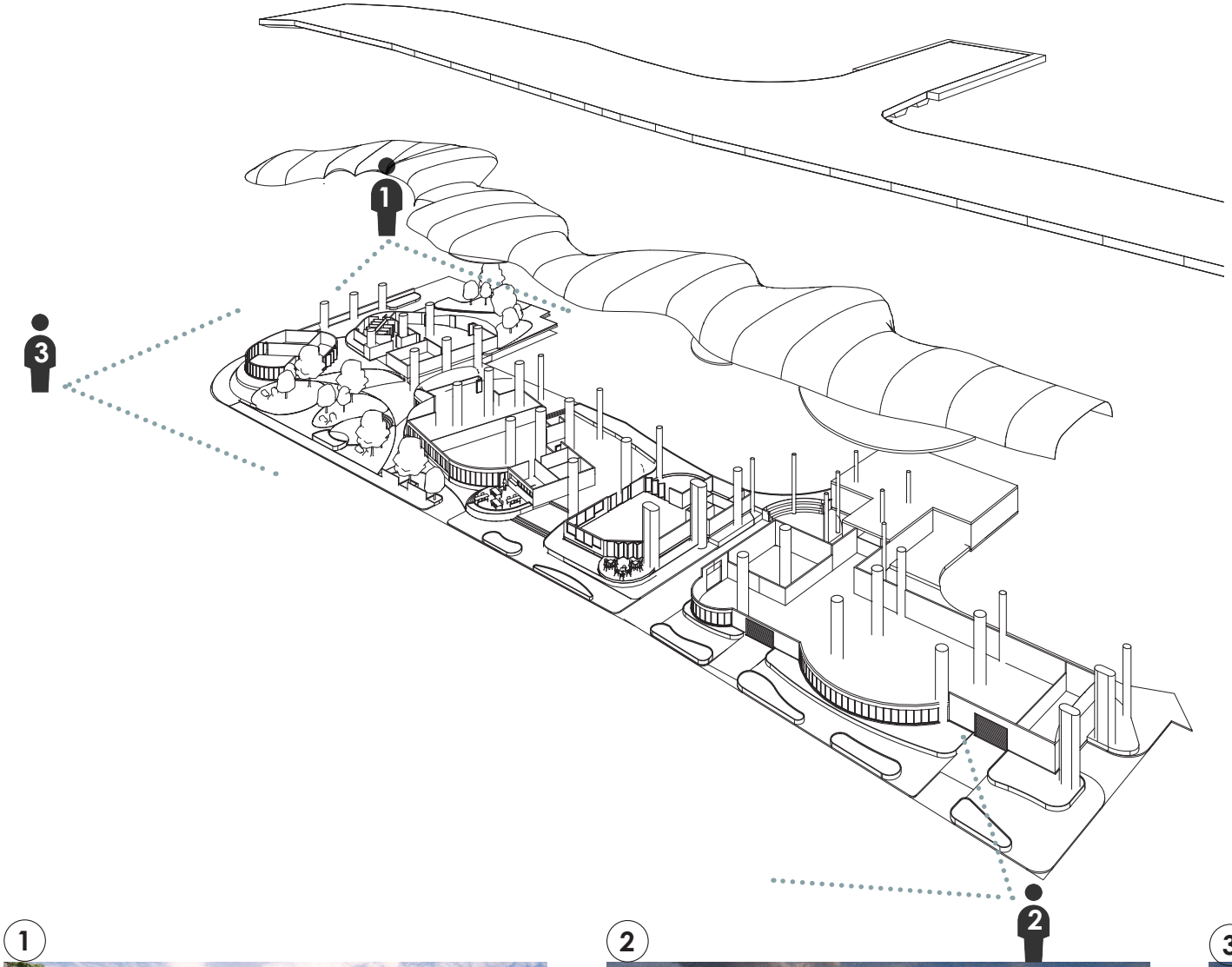
ACCOMMODATION SCHEDULE



CIRCULATION

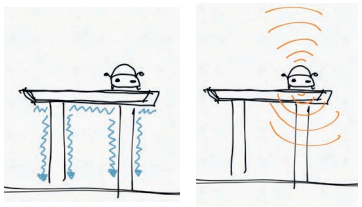


STRUCTURAL SYSTEMS



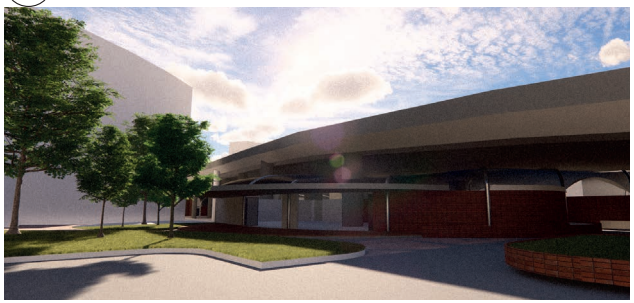
Nicol road urban overpass

Vibrations and acoustic considerations for the urban over pass resulted in ETFE roofing system separate from the urban over pass above



Architectural intervention in the urban lost space

1



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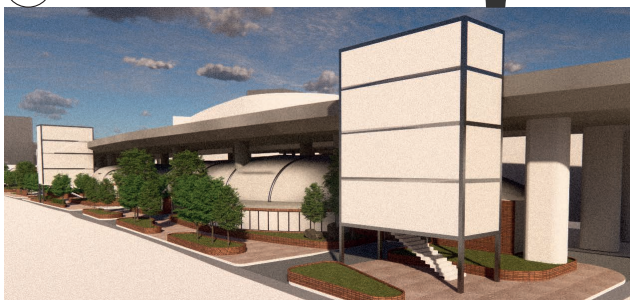

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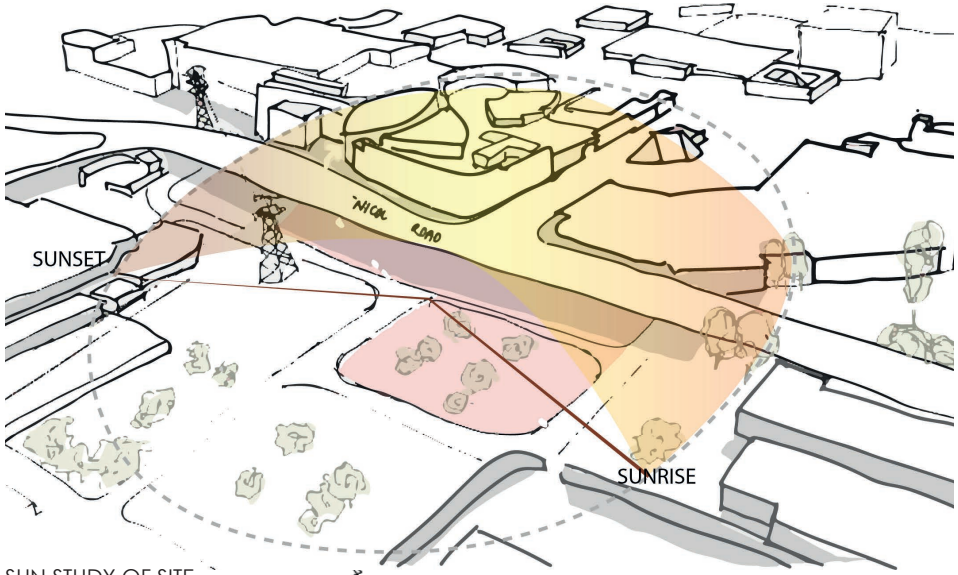


SUN STUDY OF SITE

EASTGATE MALL:
One of the oldest and most popular malls in Johannesburg. It has recently undergone renovations. Security is high due to the mall being a target risk

ENTRANCE 6 :
Pedestrians from Bradford road and the Eastgate taxi rank favour this entrance when looking to purchase apparel.

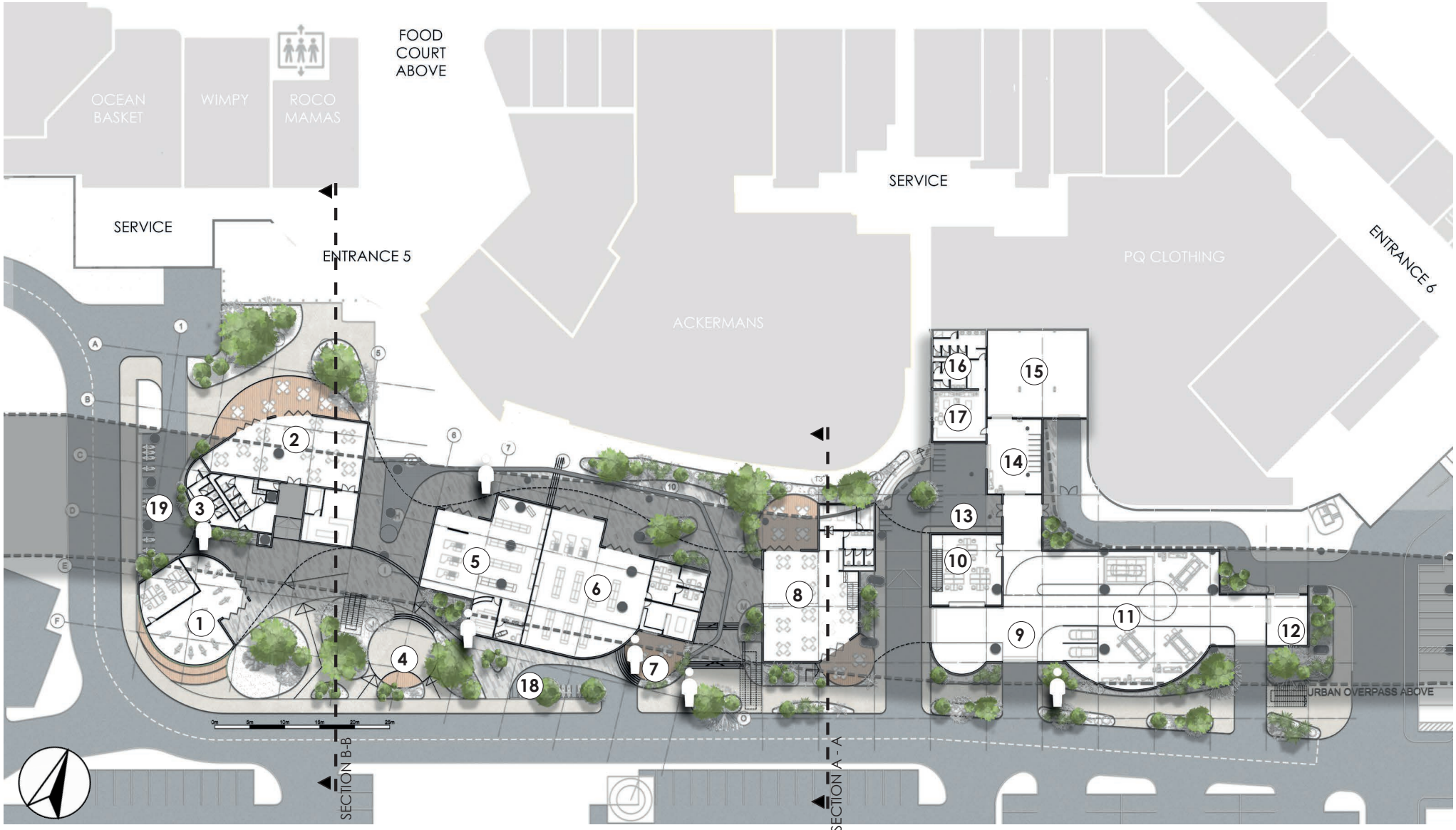
TAXI RANK:
A Main Transport hub that influences the amount of pedestrians that move through the site

ENTRANCE 5 :
Pedestrians from Nicol Road, metered taxi transport, e-hailing services and private transportation as well as pedestrians from the taxi rank favour this entrance due to it's proximity to the food court.

SITE SITS ON THE SOUTH SIDE OF THE MALL BENEATH THE NICOL ROAD URBAN OVERPASS

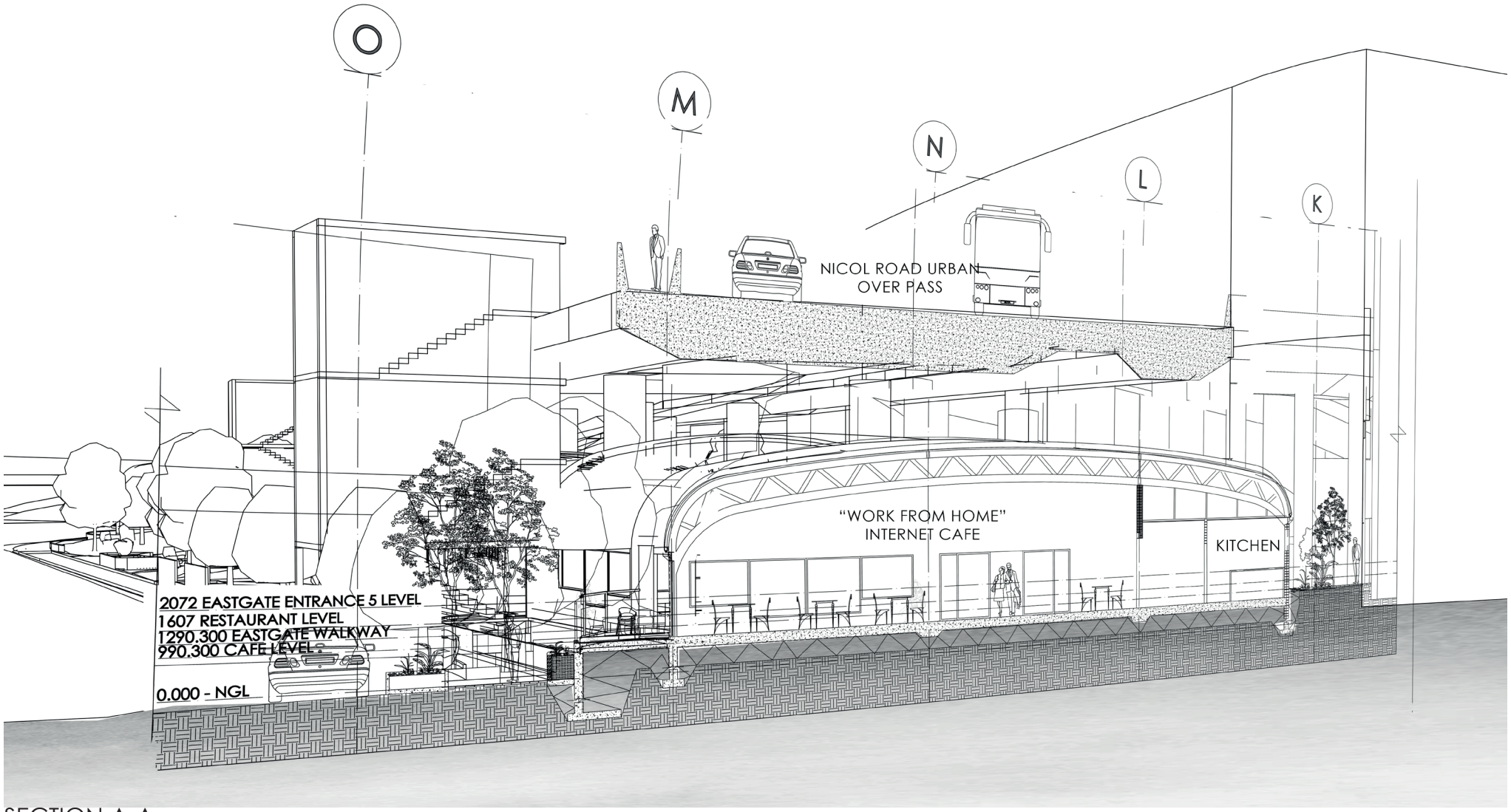
UNCOVERED, UNPAID PARKING:
Although apart of the Eastgate complex. It is ill-maintained but is a highly popular place to park since it is unpaid.

MOTORCYCLIST AREA :
Currently the motorcyclists are designated a small area beneath the overpass in the unpaid parking.

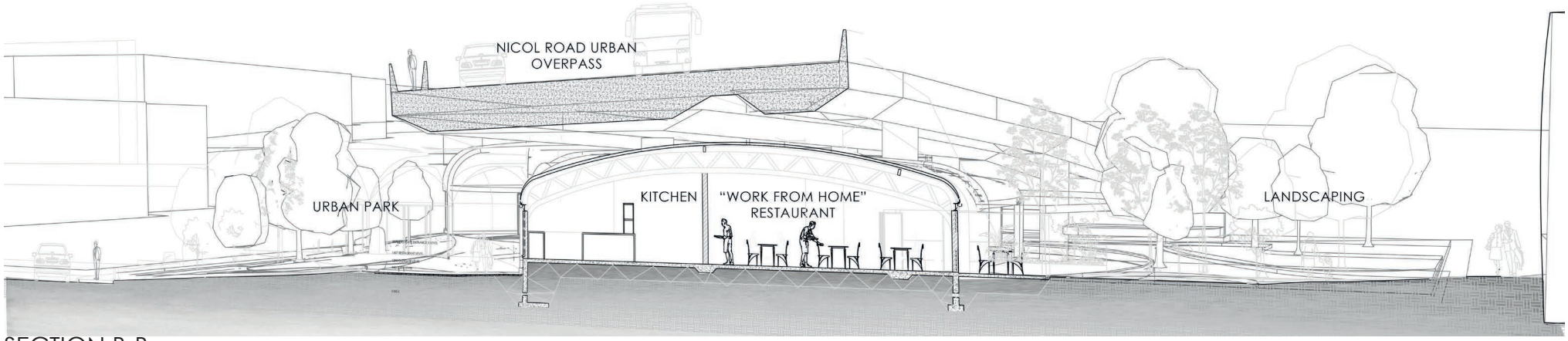


GROUND FLOOR PLAN | SCALE 1:250 @ A1

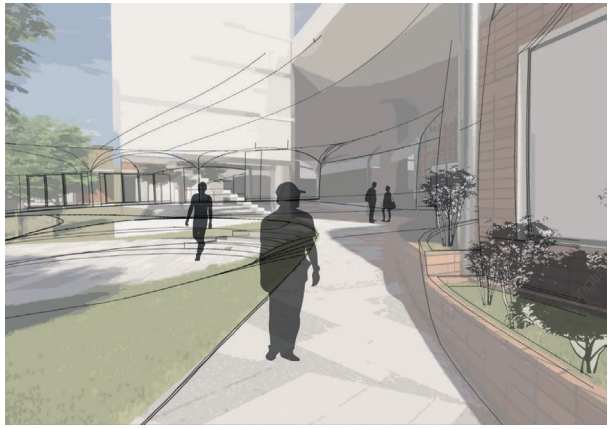
1. New and Second-hand Motorcycle Showroom.
2. Work from home restaurant
3. Public WC
4. Urban Park and Pavilion
5. Pharmacy and Clinic
6. 24/7 Convenience store
7. Ghost Kitchen takeaway
8. Work From Home Cafe
9. Mechanics Workshop reception
10. Mechanics workshop Offices
11. Vehicle Workshop
12. Waste Storage
13. Motorcyclists courtyard
14.Motorcyclists workshop
15. Warehouse
16. Mechanic workshop Locker rooms, Showers and WC
17. Employee lounge and kitchen
18. Southern Motorcyclist parking
19. Western Motorcyclist parking


O
M
N
L
K
NICOL ROAD URBAN
OVER PASS
"WORK FROM HOME"
INTERNET CAFE
KITCHEN
2072 EASTGATE ENTRANCE 5 LEVEL
1607 RESTAURANT LEVEL
1290.300 EASTGATE WALKWAY
990.300 CAFE LEVEL
0.000 - NGL

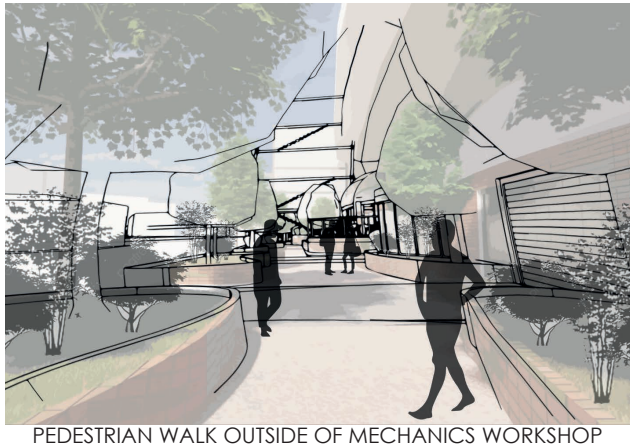
SECTION A-A



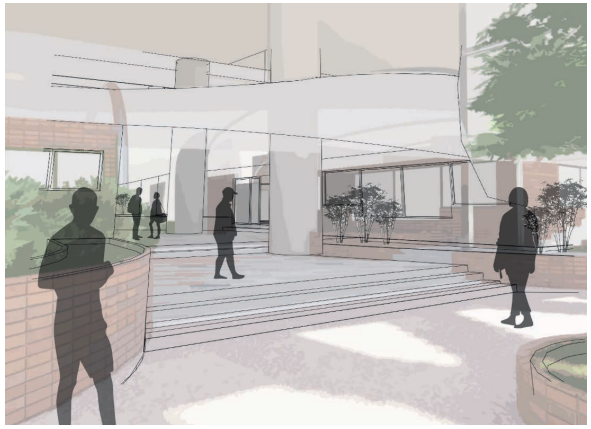
SECTION B-B



URBAN PARK ENTRANCE



PEDESTRIAN WALK OUTSIDE OF MECHANICS WORKSHOP



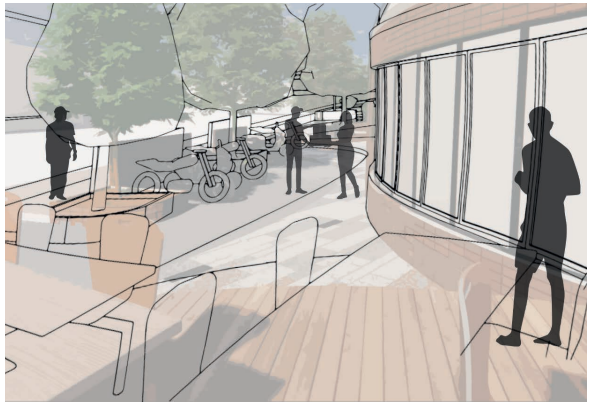
MAIN PEDESTRIAN ENTRANCE FROM SOUTH



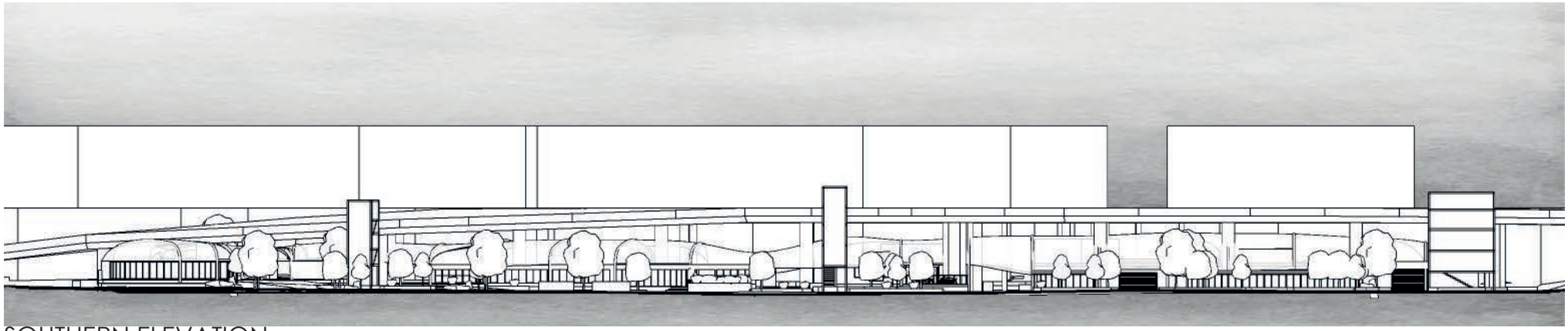
PEDESTRIAN WALKWAY BETWEEN MALL AND INTERVENTION



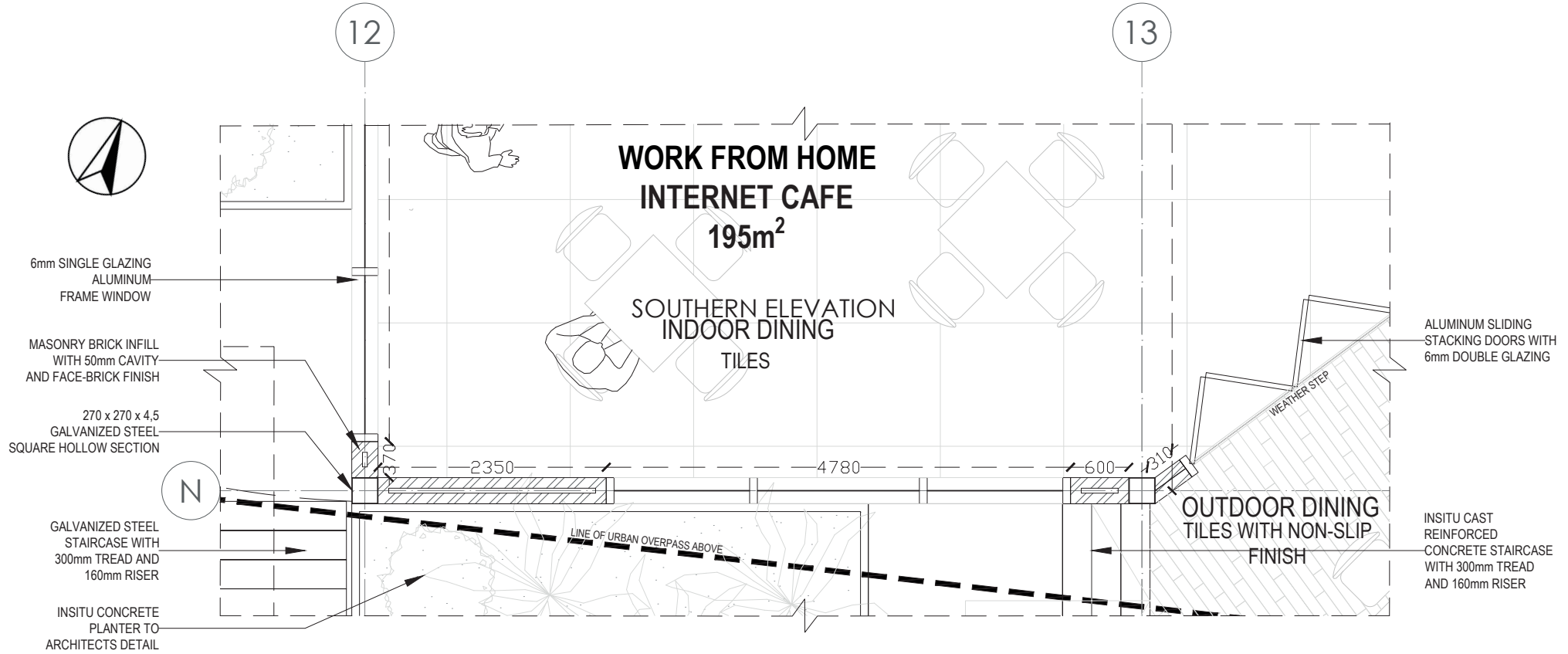
WEST ENTRANCE TO URBAN PARK FROM DELIVERY MOTORCYCLIST PARKING



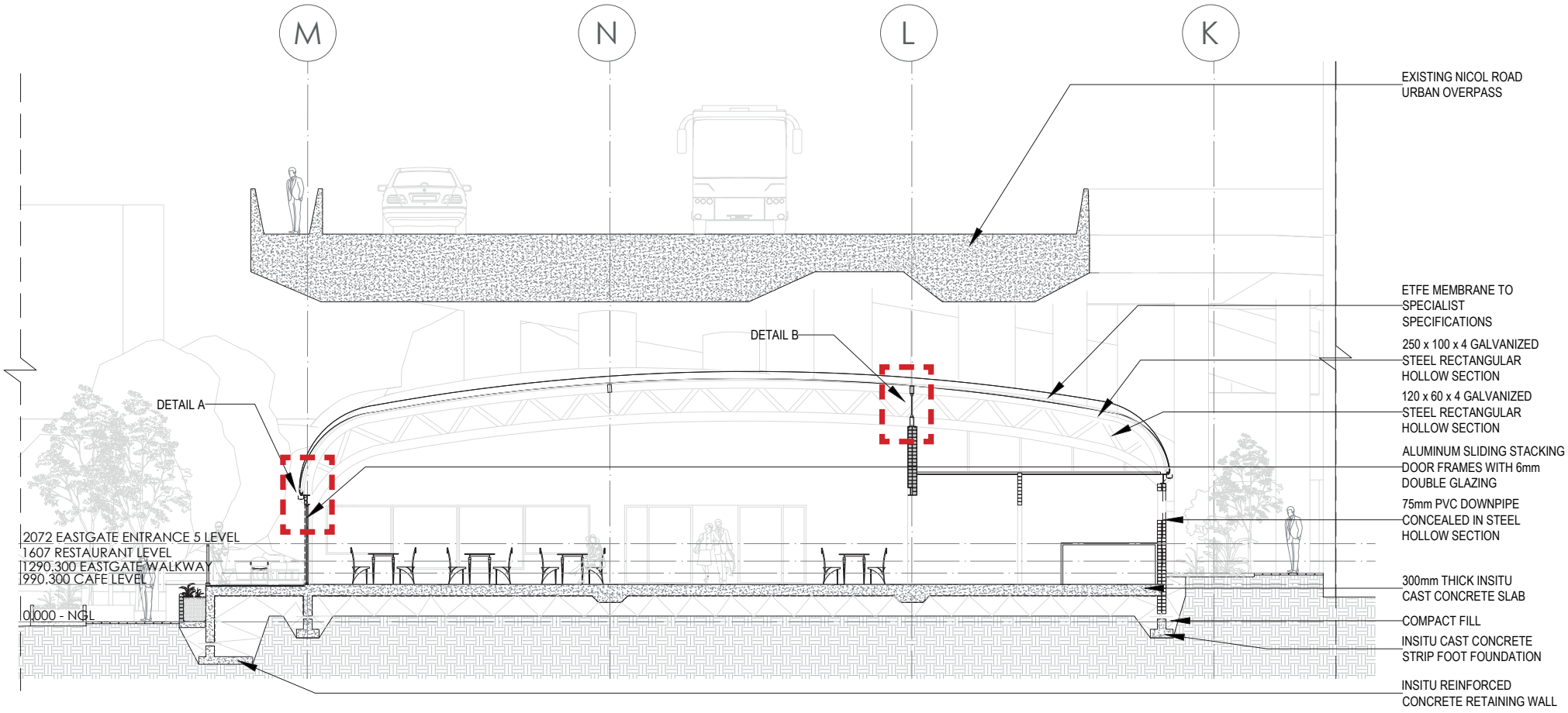
MOTORCYCLE WAITING/ PARKING AREA ON SOUTH SIDE



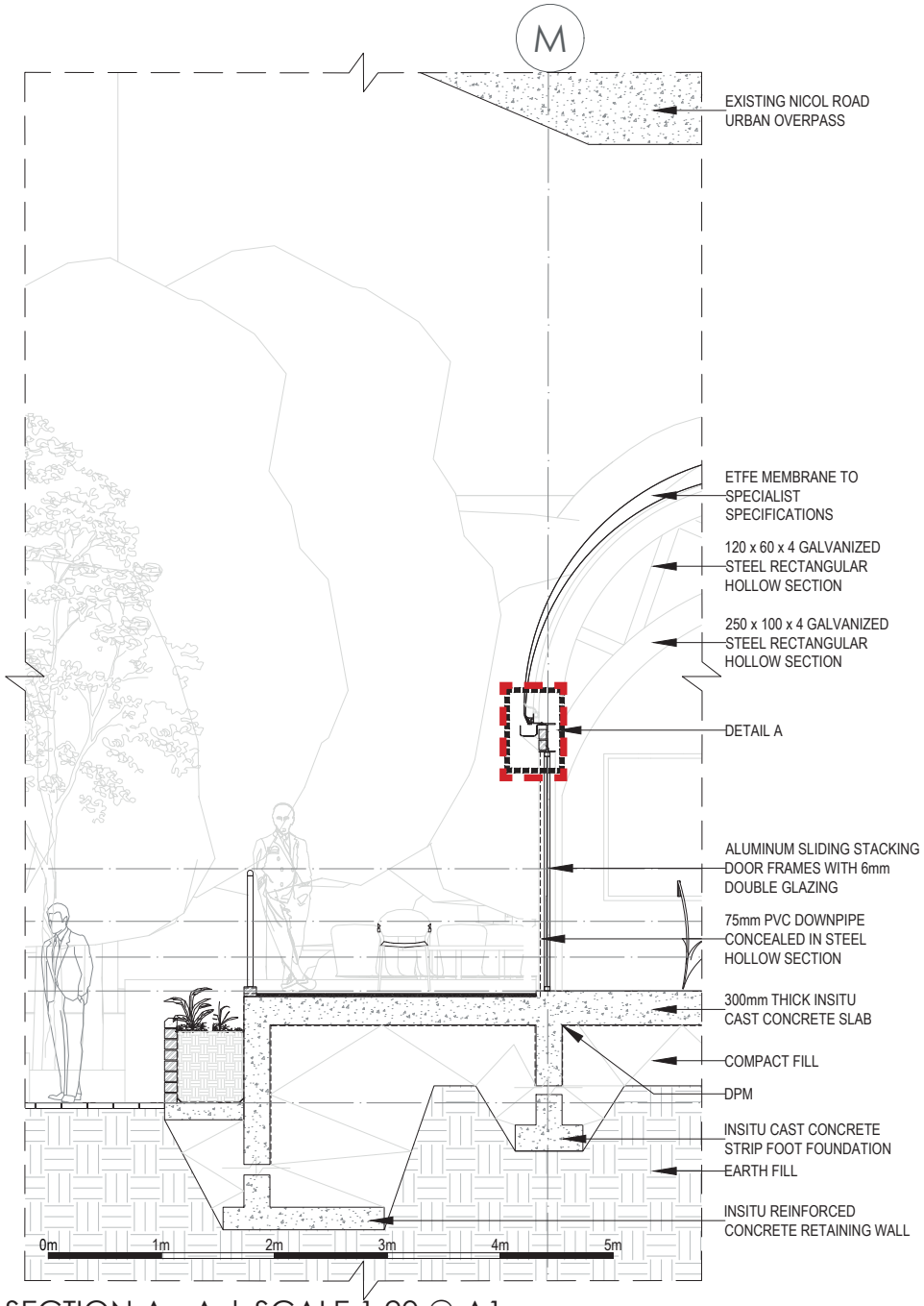
SOUTHERN ELEVATION



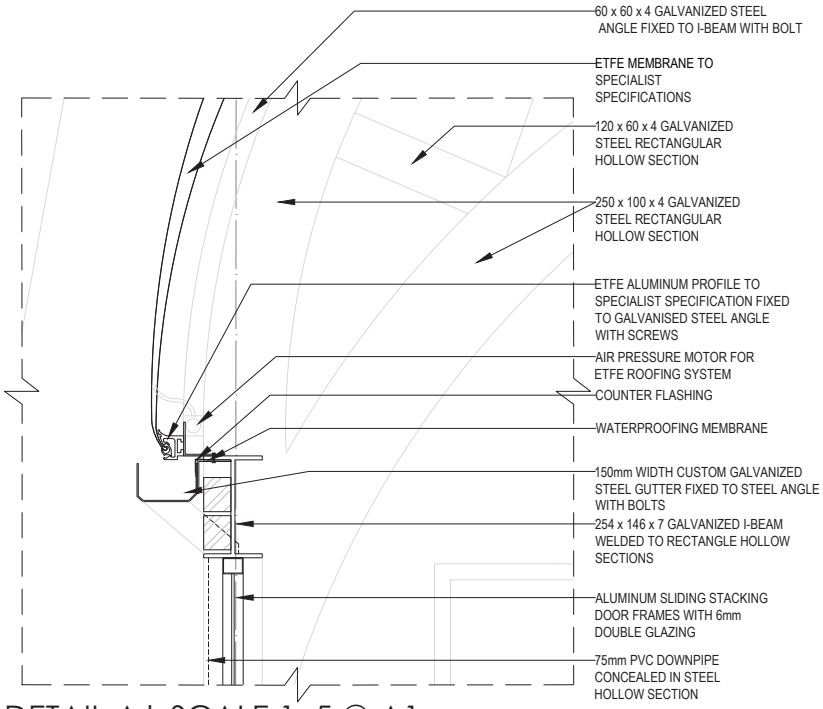
DETAIL PLAN | SCALE 1:50 @ A1



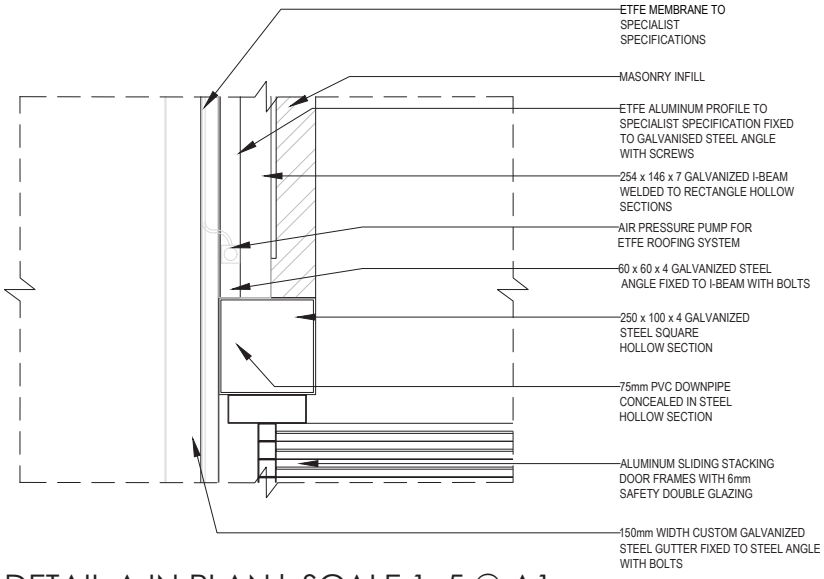
SECTION A - A | SCALE 1:50 @ A1



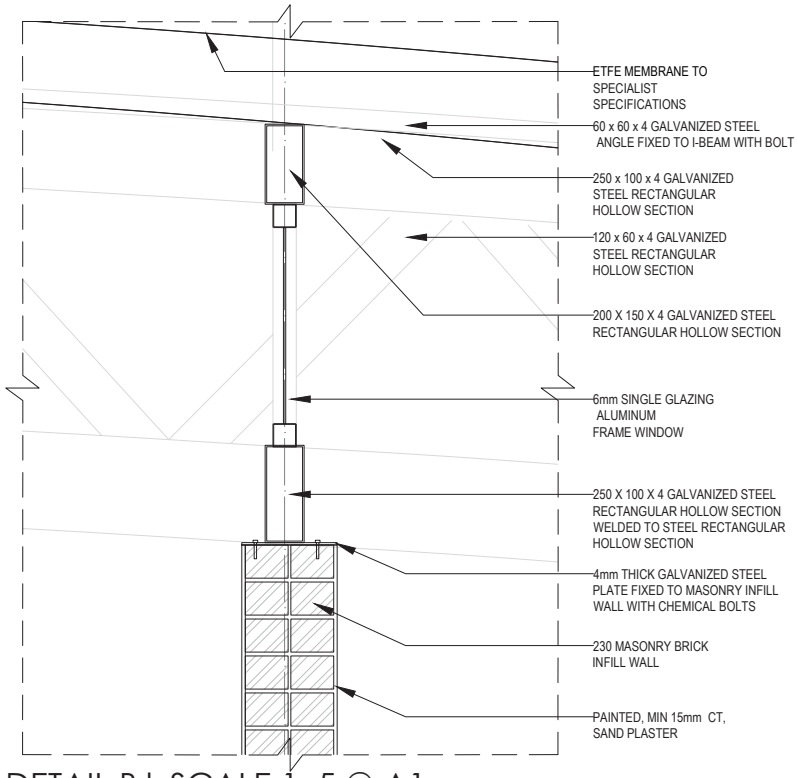
SECTION A - A | SCALE 1:20 @ A1



DETAIL A | SCALE 1: 5 @ A1



DETAIL A IN PLAN | SCALE 1: 5 @ A1



DETAIL B| SCALE 1: 5 @ A1

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Appendix

A. Interview questions participation sheets and consent forms for research purposes.
B. Master plan documents for ERF no. 1337/90-IR, in Ekurhuleni, Johannesburg, South Africa. Showing phases for the Eastgate Complex
C. Master plan documents for ERF no. 1337/90-IR, in Ekurhuleni, Johannesburg, South Africa. Showing Area Schedule for the Eastgate complex
D. Site Plan of site with land rights and restrictions tabulated
E. Ethics Clearance Certificate

A. Interview Questions Participation Sheets and Consent Forms for research purposes.

- Professional journalist participant interviews were unresponsive to the official request for an interview via email. No responses were recorded.
- Eastgate Mall management refused a verbal interview and opted for a written response to the interview questions. Unfortunately, the professional participant became unresponsive. No responses were recorded.

Interview Questions:

For the Journalists and photographers of

The Guardian article:

Ghost riders: the invisible lives of Johannesburg food couriers – photo essay, December 2021

Contact details:
Photographer James Oatway: james.oatway@gmail.com
Author: Stephen Hoffstatter: hofstatters@gmail.com

The Groundup article:

Immigrant food couriers risk death on South African roads, July 2019

Contact Details**:**
Author: Kimon de Greef, kimondg@gmail.com / kimondegreef@protonmail.com
Photographer: Ashraf Hendricks, info@ashrafhendricks.com

The Thomas Reuters Foundation article:

Risks for South Africa's food couriers surge during the pandemic, April 2021

Contact Details:
Author: Kim Harrisberg, kim.harrisberg@tr.com

The Sunday Times article:

Delivery scooters are lifeline for SA's jobless: One organisation is doing its bit to propel South Africans out of unemployment and onto delivery bikes, March 2021

Contact details:
Author: Tanya Farber, FarberT@sundaytimes.co.za

1. What were the Main concerns felt by the Delivery motorcyclists?
2. Did you find a strong sense of community?
    a. If yes, could you please describe?
    b. If no, could you please describe what made you think this?
3. What are the struggles faced by the delivery motorcyclists? And could you describe who or what they involve?
4. What are the most profitable times of day for the delivery motorcyclist?
5. From your research what type of people are most likely to be a delivery motorcyclist? (Nationality, income group, education status.)
6. How has your perspective changed from before the article to after the article was published?
7. Where there any places you found that the delivery motor cyclists would often frequent when waiting for an order?
    a. Could you describe similarities that you observed and your experience of the space?

8. What future do you see with the industry?
9. Could you describe a normal working week for a delivery motorcyclist?
10. What Frustrations do they have with their respective employer companies?
11. Do they face discrimination?
    a. If yes, could you describe what kind and how often?
12. Do they have an official community?
    a. If no, do you think that you would benefit from one?
    b. If yes, how was it formed and how does it help you?
13. During the day where would they most likely use the bathroom or have something to eat?
14. How do you think the strike in March 2022 affect them? During and after?
15. On average, how much does a delivery motorcyclist make within a week?
16. What attracted them to this line of work?
17. Do they ever feel unsafe?
    a. If yes, could you describe when, where and why?
18. What are the current needs for them to be able to work?
19. What does the company provide for them and what is expected for them to provide for themselves?
20. Do they consider being a delivery motorcyclist as a career?

For the Mall Manager and Architects at Eastgate:

1. Do you have policies regarding the online package and food delivery motorcyclists?
    a. If yes, what are they?
2. What are your views of the motorcyclist with regards to the mall image?
3. Has the e-delivery food and package businesses effected the use of spaces in and around the mall?
4. What future do you see in the industry regarding the mall?

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG | SCHOOL OF ARCHITECTURE PLANNING

Good day sir/Ma'am

My name is Tanitha Yan, and I am a master's student in Architecture at the University of the Witwatersrand, Johannesburg.

This year I am conducting research titled: **Non – Place of the Ghost Courier:** Grounding ephemeral spirits: Place design for the package and food delivery motorcycle courier for community identity development in Bedfordview, Johannesburg.
The research will investigate lost spaces found in Johannesburg city in relation with package and food delivery couriers on motorcycles in Johannesburg city under the supervision of Sundeep Jivan.

I am inviting you to take part in an interview, where you will answer some questions. The interview will take an estimated 30 to 45 minutes of your time. If you do decide to take part, the interview will be scheduled online on Microsoft Teams following Covid 19 regulations and during work hours.

With your permission I would like to video and/or audio record the interview. The data will be stored in a password protected computer. During the interview I may need to ask for some personal data including your name and qualifications. Only myself and my supervisor will have access to this data.

If you would like to remain anonymous, the interview will be confidential. When I share the results of the research, I will not include your name or anything else that will identify you without your permission.

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits, or rights you would normally have if you decided not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study.

The risks for this research study are no more than what happens in everyday life.

This research study will be written up as a research report. If you would like to receive a summary of this report, I will be happy to send it to you.

If you have any questions during or afterwards about this research study, feel free to contact me on the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Yours Sincerely,
Tanitha Yan

Researcher:
Tanitha Michelle Jing Mun Yan, 1690222@students.wits.ac.za, 082 325 8644

Supervisor:
Sundeep Jivan, Sundeep.jivan@wits.co.za

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG | SCHOOL OF ARCHITECTURE PLANNING

CONSENT FORM

Research Title: Non – Place of the Ghost Courier
Name of Researcher: Tanitha Yan

I, _____ (please provide name), agree to participate in this research project.

I agree to the following:

The research study was explained to me. I understand what this study is all about	YES	NO
I agree that my participation will remain anonymous (my name will not be used)	YES	NO
I agree that direct quotations from my interview may be used by the researcher in their research report	YES	NO
I agree that the interview may be audio recorded.	YES	NO
I agree that the interview may be video recorded	YES	NO
I agree that other researchers may use the information I provide in my interview. (Depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on	YES	NO

..... (signature)

..... (name of participant)

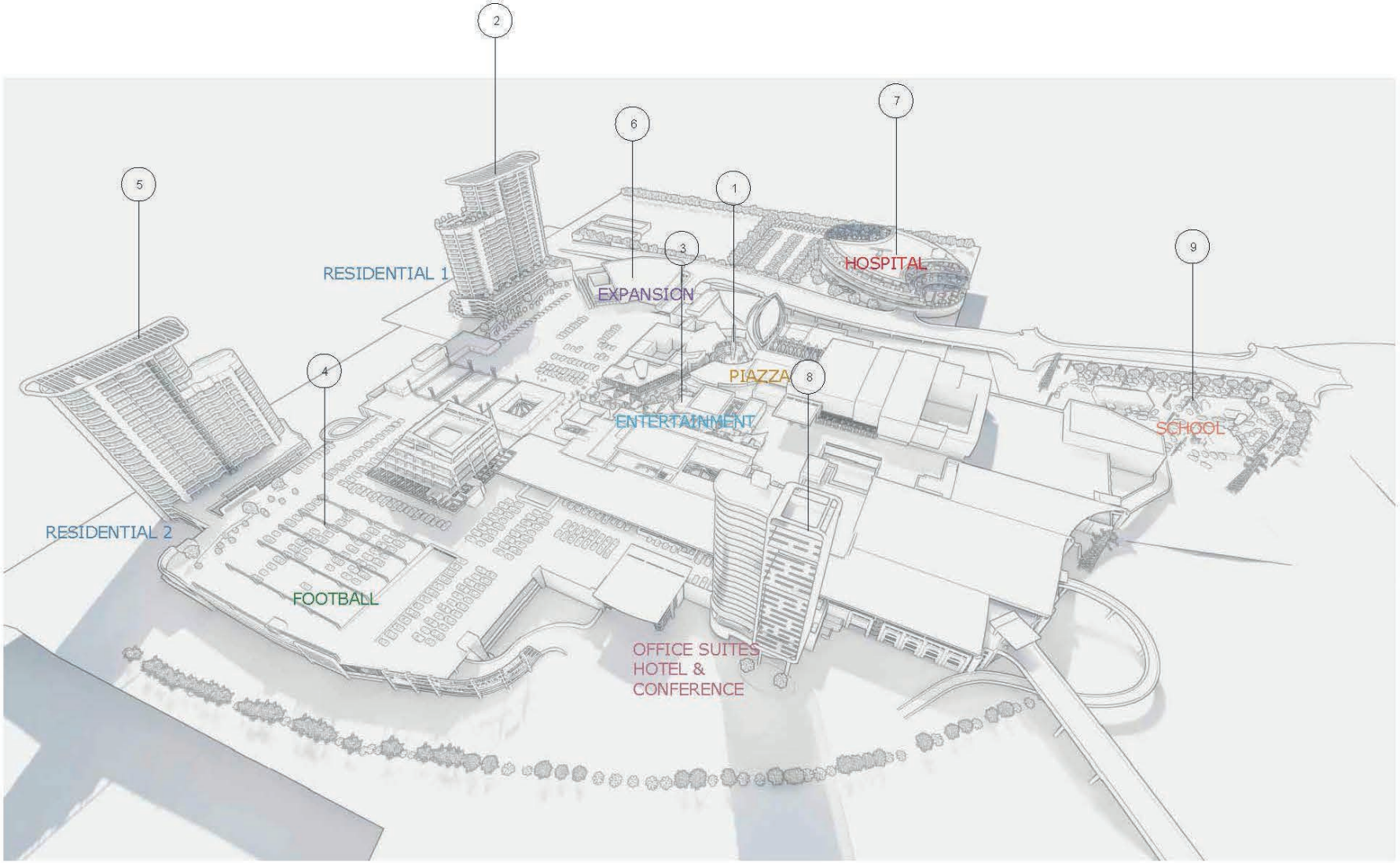
..... (date)

..... (signature)

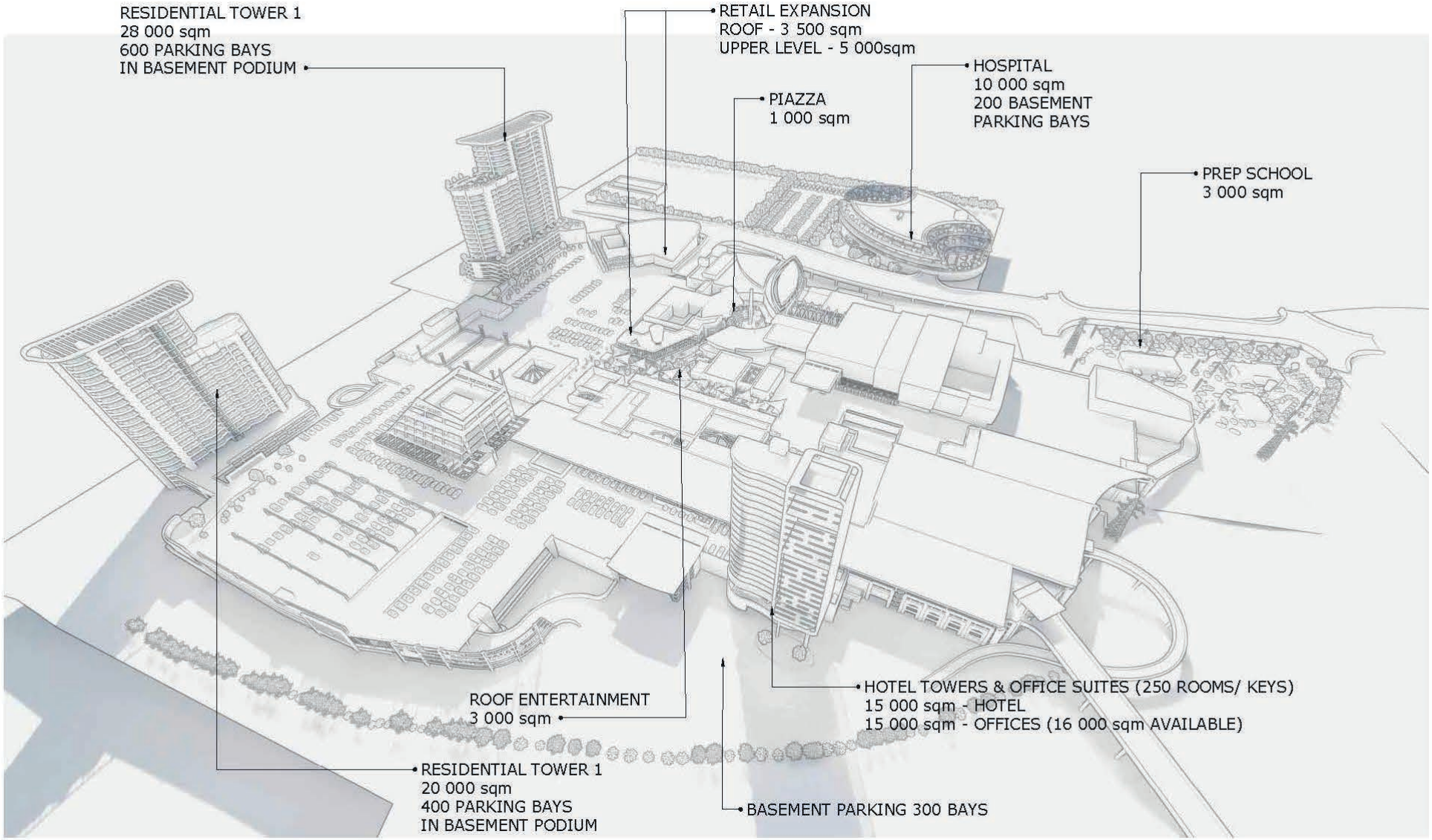
Tanitha Michelle Jing Mun Yan

..... (date)

B Master Plan documents for ERF no. 1337/90-IR, in Ekurhuleni, Johannesburg, South Africa. Showing phases for the Eastgate complex.



C Master plan documents for ERF no. 1337/90-IR, in Ekurhuleni, Johannesburg, South Africa. Showing area schedule for the Eastgate complex



D Site Plan of site with land rights and restrictions tabulated


X 96800
Y 88400
X 96800
Y 88000
X 97200
Y 88400
X 97200
Y 88000
MUNICIPAL DISTRIBUTION
CITY OF JOHANNESBURG
OOSPOORT EXT.1 ERF 3, 4 & 5
MUNICIPAL DISTRIBUTION
EKURHULENI PORTION
OOSPOORT EXT.2 ERF 1, 2, 6, 7
ERF 3
OOSPOORT EXT.1
14 503 ,5 m²
ERF 1
OOSPOORT EXT.2
73 997 ,5 m²
ERF 4
OOSPOORT EXT.1
27 450 ,78 m²
ERF 2
OOSPOORT EXT.2
29 885 ,2 m²
ERF 5
OOSPOORT EXT.1
1 020,7 m²
ERF 6
OOSPOORT EXT.2
14 071,6 m²
ERF 7
OOSPOORT EXT.2
46 079 m²
PORTION 1056
PORTION 1050
PORTION 1051
ELANDSFONTEIN No. 90-IR
NEW PARKADES
3325,6m²
NEW PARKING DECK
1014m²
NEW CINEMAS
NEW SKYLIGHT
EXIST. FOOD COURT
EXISTING SHOPPING CENTRE
OFFICE BLOCK REFURBISHMENT
DOWN PIPES TO BE RAISED TO NEW PARKING LEVEL
DEMOLISH EXIST. TAXI RANK
EXIST. GARAGE 225 m²
EXIST. GARAGE 361 m²
EXIST. SUBSTATION 461 m²
EXIST. STANDBY GENERATOR 2 208 m²
EXIST. TAXI RANK 1 411 m²
EXISTING MICA 4 500 m²
WOOLWORTHS EXT.
CONCORDE ROAD
COUNTY ROAD
CUMBERLAND ROAD 4m
BRADFORD ROAD
YOUNG AVENUE
BEDFORDVIEW EXTENSION 340 TOWNSHIP
BEDFORDVIEW EXTENSION 163 TOWNSHIP
KENSINGTON EXTENSION 3 TOWNSHIP
BEDFORDVIEW EXTENSION 209 TOWNSHIP
GELDENHUIS ESTATE SMALL HOLDINGS
EDENDALE ROAD
NEW TRAFFIC CIRCLE
EXISTING BOUNDARY
20m Building line
10m Building line
RIDE FACILITY ROUTE
PARK AND RIDE FACILITY ROUTE
MAIN PEDESTRIAN ACCESS
ENTRANCE
EXIT
SERVITUDE
EX. SEWER
EX. WATER MAIN
WATER CONNECTION POINT
SERVITUDE VIDE DIAGRAM SG No. A 4336/1989
SERVITUDE VIDE DIAGRAM SG No. A 4340/1989
CENTRE LINE OF SERVITUDE 5m WIDE VIDE DIAGRAM SG No. 6462/2001
CENTRE LINE OF SERVITUDE 22m WIDE VIDE DIAGRAM SG No. 4136/1995
SERVITUDE VIDE DIAGRAM SG No. A 4127/1995
SERVITUDE VIDE DIAGRAM SG No. A 3866/1992
SERVITUDE VIDE DIAGRAM SG No. A 4336/1989
LEASE AREA AND SERVITUDE AREA, VIDE DIAGRAM SG No's A 6425/1994 A-6426/1994
LEASE AREA AND SERVITUDE AREA, VIDE DIAGRAM SG No.s A 6803/1994 A 6801/1994
1000 RWP (TYPICAL)
TAXI RANK
SERVICE DOOR
SERVICE DOOR OF EXIT 1.5 M WIDE OVER 1.4 M EXIT

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL ARCHITECTURE PLANNING

13 June 2022

Faculty of Engineering and the Built Environment:

Ethics clearance letter:

Dear Tanitha Yan

Student number (1690222), this letter confirms that your ethics application has been cleared. Your clearance/protocol number: SOAP037/03/2022

Yours sincerely

Lerato Nkosi

School of Architecture and Planning, Faculty of Engineering and the Built Environment, John Moffat Building, Wits, 2050, South Africa
Tel: +27 11 717- 7692| Email: lerato.nkosi@wits.ac.za | **www.wits.ac.za**