WHAT NEXT?
Densifying Suburban Brooklyn

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ABSTRACT

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WHAT NEXT?
Densifying Suburban Brooklyn

Due to the historical development of South African cities during the early 1900s, a great deal of the South African city now comprises of suburban environments. For all its negative portrayal in architectural discourse, there are also significant positive attributes to suburbia.

Currently, the South African suburban condition is densifying. This process of densification means that the suburban form as we have known it is currently changing quite rapidly.

We now sit in a position where we can either allow these suburban environments to evolve without architectural consideration which may exacerbate the negative aspects of suburbia, whilst undermining its positives. Alternatively, we can unpack the characteristics of suburbia with the intent of offering architectural solutions which may facilitate responsible densification whilst preserving the positives and addressing the negatives.

Because such significant portions of our cities are suburban in character - and are experiencing pressures to densify, this project asks whether it is possible to visualise a positive, healthy and responsible future suburban form.

In the words of Robert Crumb, we ask ‘What’s Next?”

This project proposes a simple and relatively quickly implementable architectural solution to the densification of the suburban township of Brooklyn in Pretoria over the next two to three decades. The project attempts to use the opportunity (presented by the city’s need to densify) to reconfigure the future suburban form for the better. Brooklyn is used as a casestudy through which the positive and negative characteristics of suburban environments are unpacked - and possible solutions for its future densification are proposed.

Naturally, suburban environments differ from township to township. As such, this project does not look for an all-encompassing solution to the future of suburbia. Rather, it attempts to produce a critical, detailed, site-specific solution to a single suburban township. This approach acknowledges the importance of the architect in the creation of successful cities, but will hopefully stimulate the creative pursuit of solutions for - and a broader debate over the future of such enormous tracts of our South African cities - suburbia.

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INTRODUCTION

Due to the historical development of South African cities during the early 1900s, a great deal of the South African city now comprises of suburban environments. For all its negative portrayal in architectural discourse, there are also significant positive attributes to suburbia.

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THIS PROJECT

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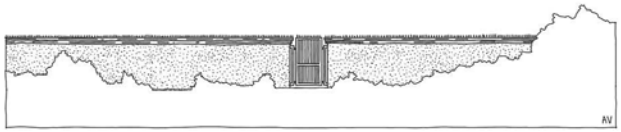
ARCHITECTURAL COMPOSITION

UNDERSTANDING THE ARCHITECTURAL MAKE-UP OF SUBURBIA



This project began with a drawing of a suburban house - and the sequential construction of the final drawing. Intially, only the house was drawn - but it soon occurred to me that the drawing was hardly complete without the vegetation added. However, even after the vegetation was accurately drawn, the drawing remained infuriatingly incomplete. Only after the perimeter wall was added to the composition was I satisfied with the drawing.

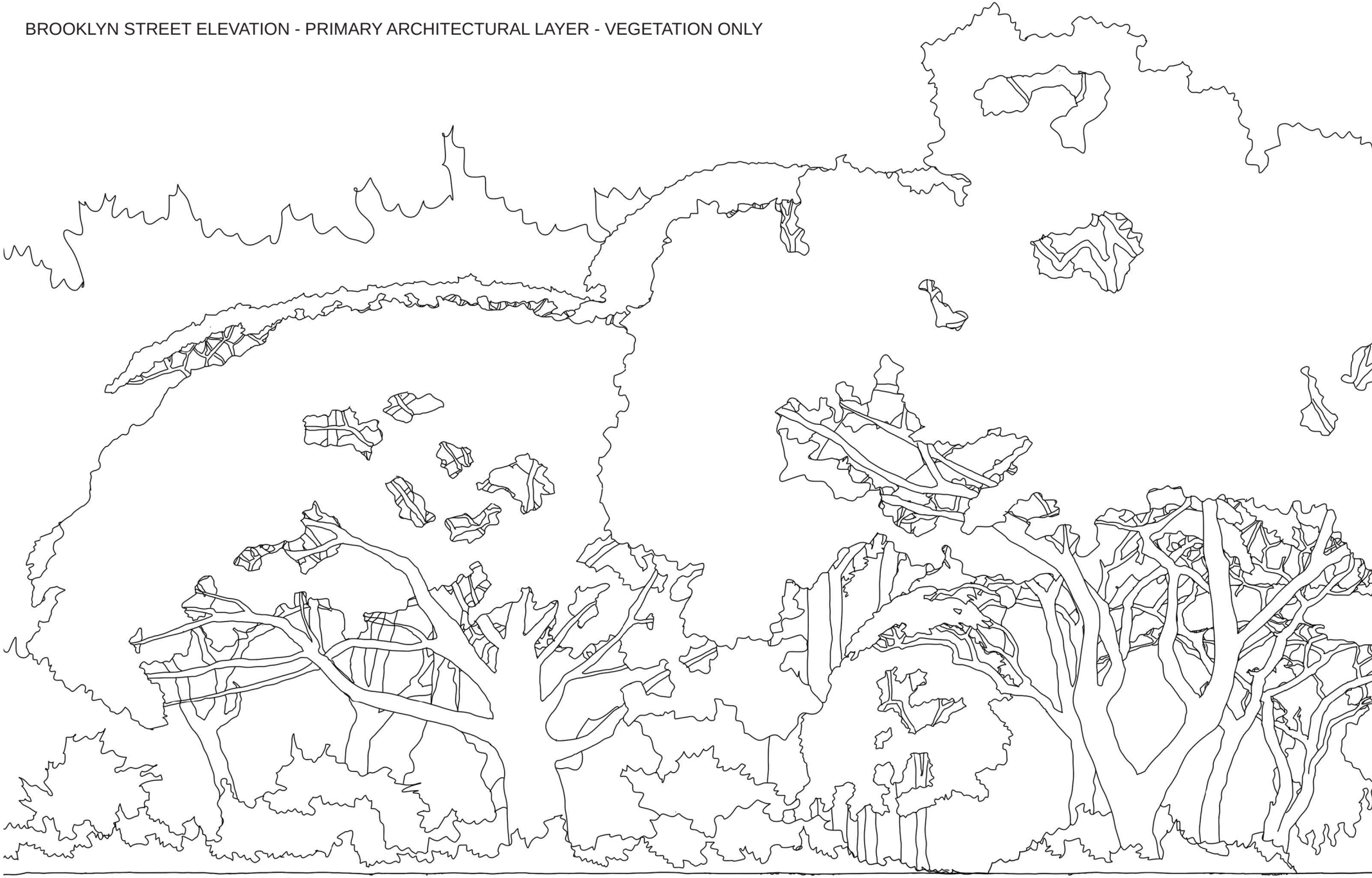
This process lead me to consider the architectural composition of suburbia. After studying the drawing, it became clear to me that I had initially misinterpreted suburbia's architectural interface with the street.

So what is the architectural hierachy of the suburban form? I believe that the archtiectural layered composition of suburbia is as follows:

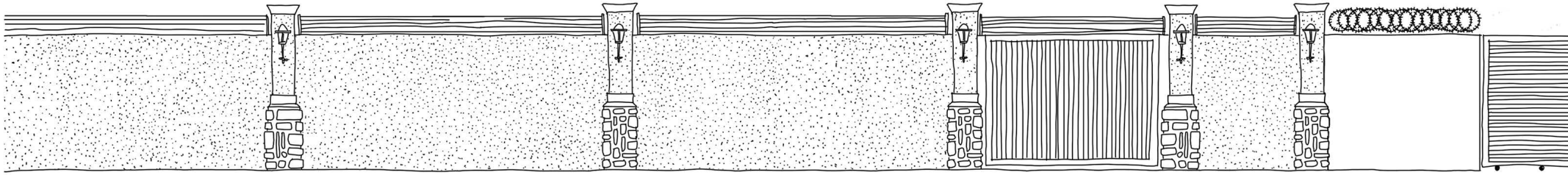
- The vegetation acts as the Primary Architecture
- The wall acts as the Secondary layer of Architecture
- Finally, the suburban building in the round contributes the Tertiary layer.

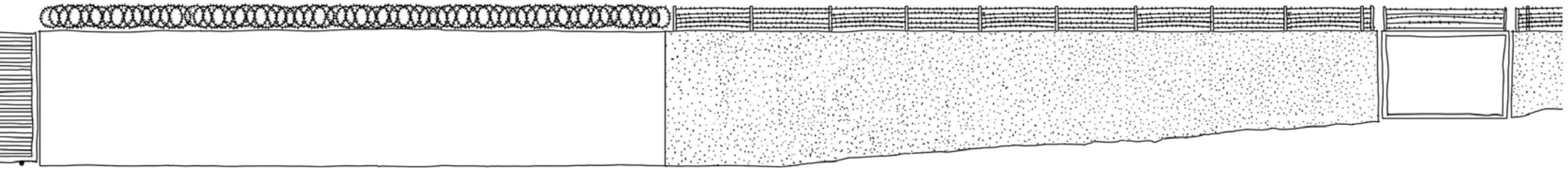
With this in mind, I drew out the visual consequences of this architectural hierachy for a suburban street in Brooklyn, Pretoria.

BROOKLYN STREET ELEVATION - PRIMARY ARCHITECTURAL LAYER - VEGETATION ONLY

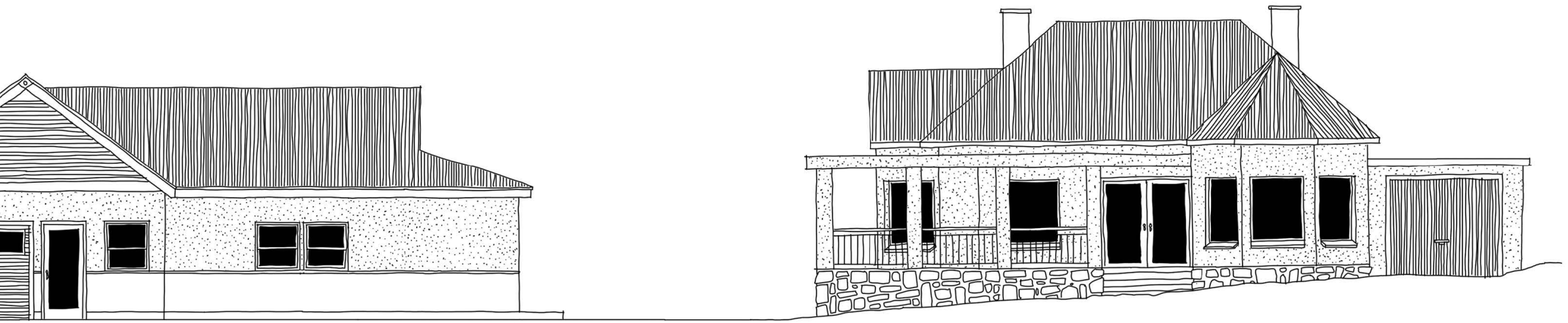


BROOKLYN STREET ELEVATION - SECONDARY ARCHITECTURAL LAYER - WALLS ONLY

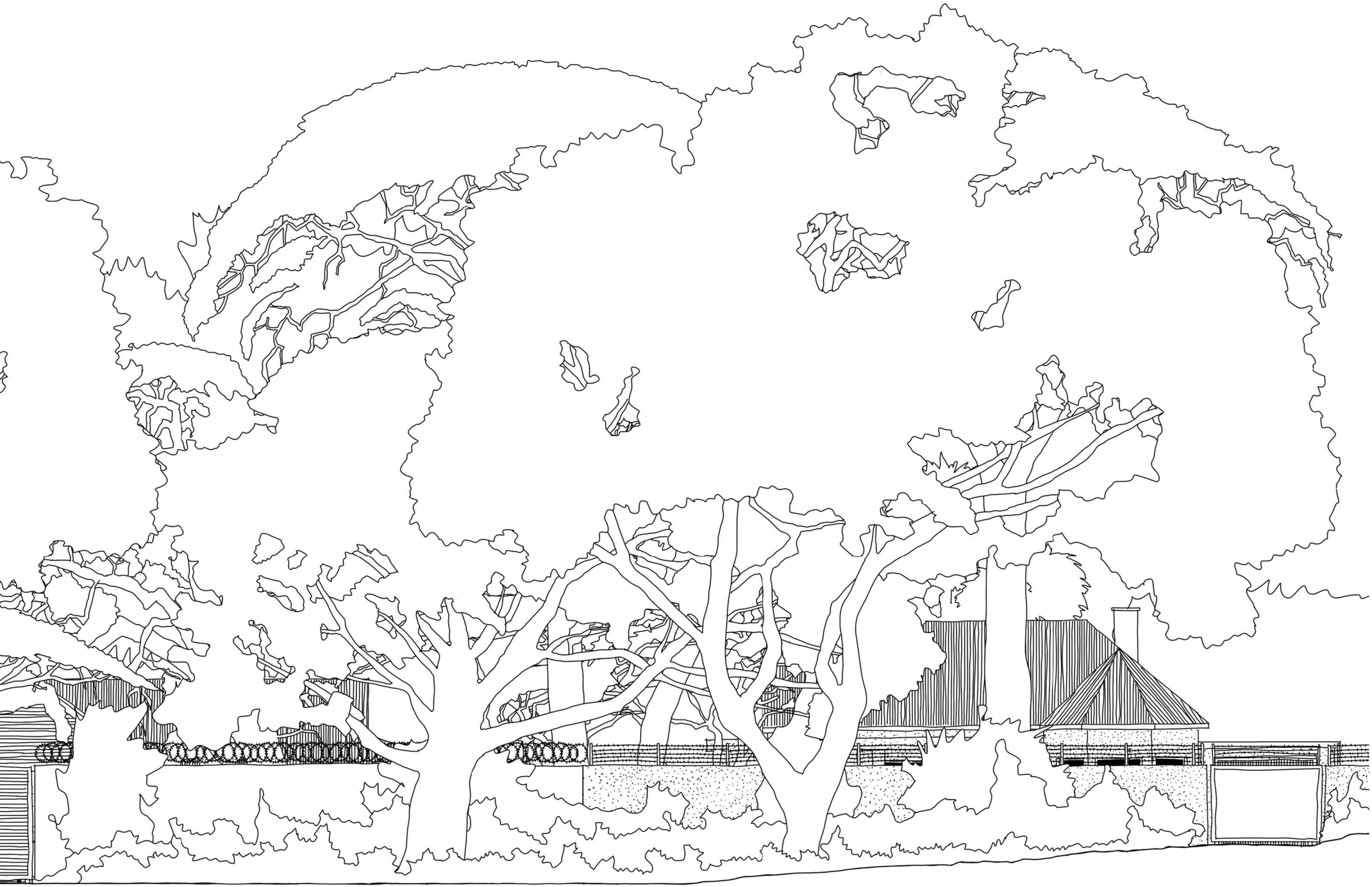




BROOKLYN STREET ELEVATION - TERTIARY ARCHITECTURAL LAYER - HOUSES ONLY



BROOKLYN STREET ELEVATION - ALL ARCHITECTURAL LAYERS - VEGETATION, WALLS AND HOUSES



The final drawing (which combines all three of the architectural layers)
especially demonstrates the hierachy of these architectural components. It shows just how dominant the vegetation and walls are in the construction of the
suburban interface with the street -
reducing the presence of the residential buildings behind to near insignificance.

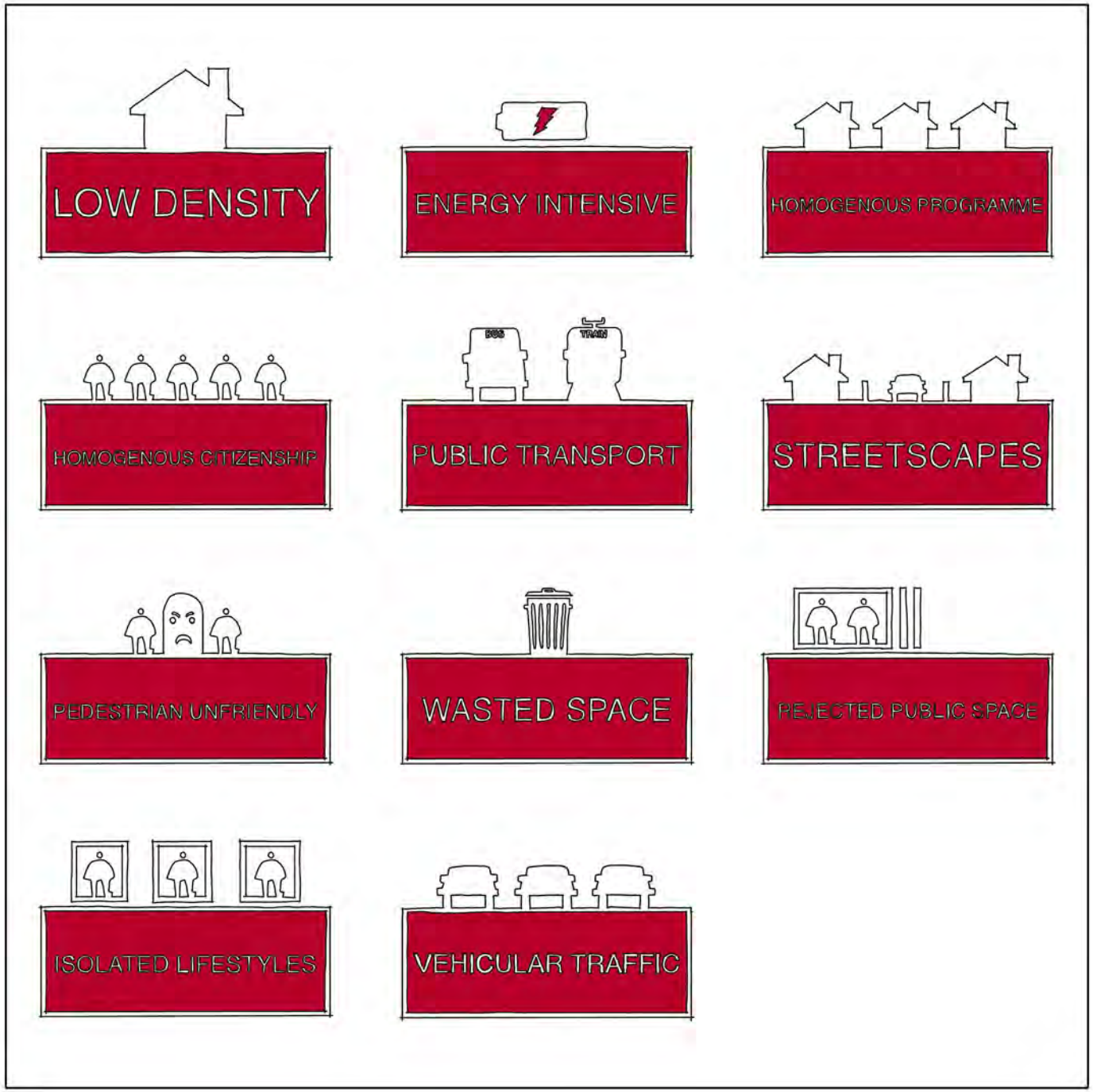
Along with these drawings, I also
compiled photographic essays
documenting the three architectural
components which comprise the
suburban form in Brooklyn.
These photographs have been compiled into three seperate booklets containing photographic essays on each suburban architectural layer ie. street vegetation, walls and residential buildings.

This process of drawing and
photographing Brooklyn and its surrounds
forced me to get to grips with the how the
suburban city works - understanding those
things which make it both wonderful and
banal.

In conclusion to this exploration, I drew up a list of what I believe to be suburbia’s positives and negatives. These pros and cons became a sounding-board against which I could test solutions for a potential future suburban form.

PROS + CONS

WHAT ARE THE POSITIVES AND NEGATIVES OF THIS SUBURBAN CITY FORM?


LOW DENSITY
ENERGY INTENSIVE
HOMOGENOUS PROGRAMME
HOMOGENOUS CITIZENSHIP
BUS
TRAIN
PUBLIC TRANSPORT
STREETSCAPES
PEDESTRIAN UNFRIENDLY
WASTED SPACE
REJECTED PUBLIC SPACE
ISOLATED LIFESTYLES
VEHICULAR TRAFFIC

NEGATIVE CHARACTERISTICS

In the current architectural discourse, the suburban city is described almost exclusively in a negative light. Arguments against suburbia as a successful city-making form are:

- Extremely Low Density

Current urban design principles push for higher density cities as they tend to be economically, socially and environmentally more sustainable.

- Energy Intensive

The low urban density often necessitates that suburban dwellers travel extensively to and from work, shops, recreation etc. This travel is almost exclusively done in an automobile.

- Homogenous in Programme

Suburban environments are typically programmatically residential. This not only produces monotonous environments - but results in a township which is largely devoid of life during work hours.

- Homogenous in Citizenship

Suburban townhips are often characterised by citizens of similar wealth brackets - resulting in communities which comprise very similar residents.

- Poor Public Transport Systems

The low density suburbs make successful public transport systems largely unviable.

- Poor Streetscapes

Due to the private nature of the walled suburban erven, the residential buildings themselves contribute very little to the character of the street. Also due to the setback nature of the buildings behind the perimeter walls, the buildings' residents can offer little to no surveillance over the street.

- Pedestrian Unfriendly

The walled nature of the streets offer very little opportunity for personal interaction between pedestrians and residents. Also, because suburban environments are generally designed for vehicular traffic, pedestrian movement routes have been given little design consideration.

- Wasteful in its Use of Space

Due to its low bulking factors, setbacks and building lines, a large proportion of useable space is left un(der)developed

- Rejected Public Spaces

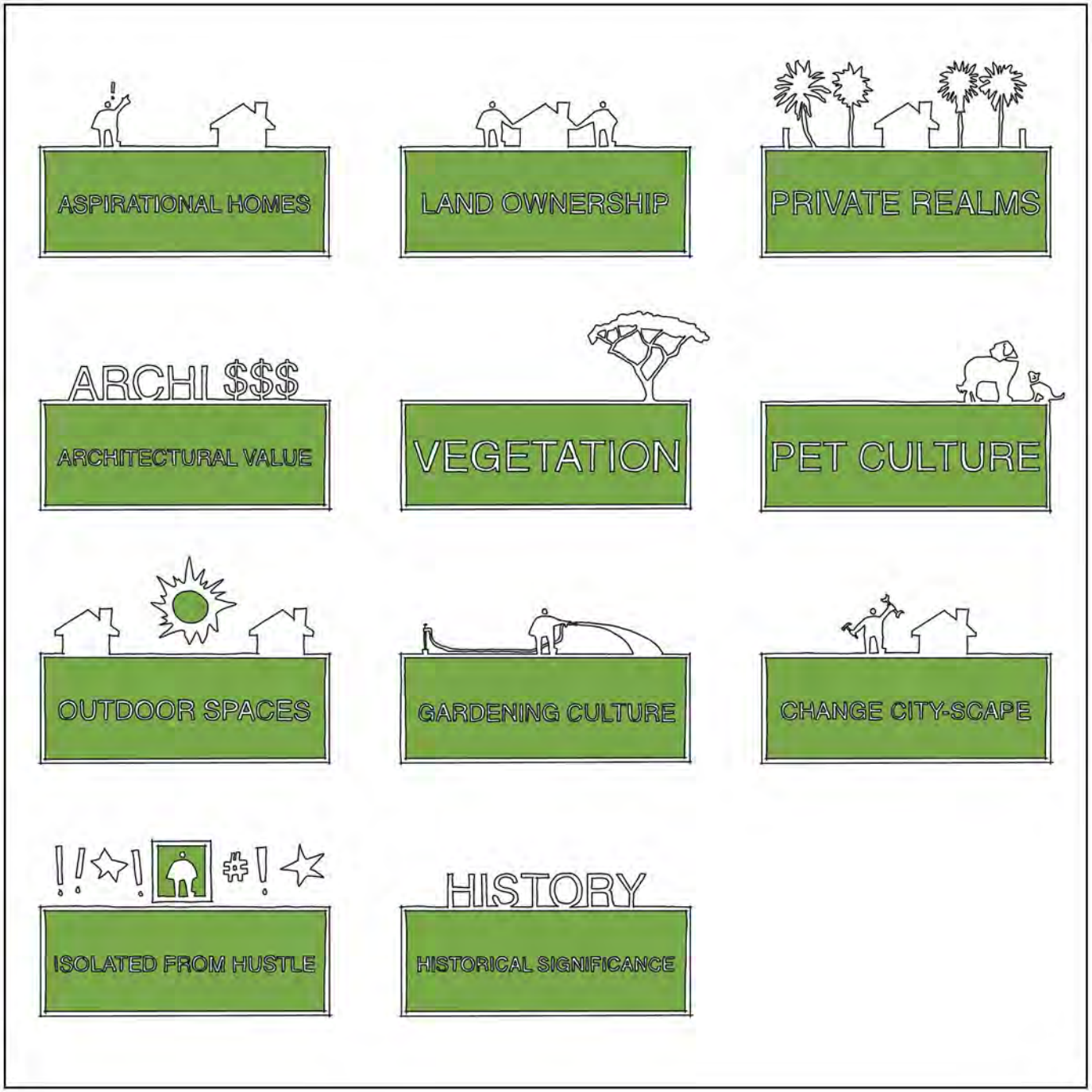
Due to the isolated, private character of the residential buildings - there exists very little ownership over the adjacent street space.

- Isolated Private Lifestyles

The secluded nature of suburban form combined with its reliance on vehicular transport results in townships with citizens who lead largely private and unintersecting lifestyles.

- Vehicular Traffic

The speed of vehicular traffic within the suburbs is regulated predominantly only by speed limits. That is to say that the very generous roadscapes provide little incentive for slower driving speeds in residential areas - creating unsafe public streetscapes.


ASPIRATIONAL HOMES
LAND OWNERSHIP
PRIVATE REALMS
ARCHI $$$
ARCHITECTURAL VALUE
VEGETATION
PET CULTURE
OUTDOOR SPACES
GARDENING CULTURE
CHANGE CITY-SCAPE
ISOLATED FROM HUSTLE
HISTORY
HISTORICAL SIGNIFICANCE

POSITIVE CHARACTERISTICS

At the same time, however, suburban environments also offfer positive attributes.
Arguments for the suburban city are:

- Residential Homes to which People Aspire

The suburban house has become an important symbol of the residential aspirations of a large proportion of South African city-dwellers. These aspirations should be respected by the architectural community.

- Ability to own Private Land

The opportunity to own private land (as opposed to sectional title) on which to develop one's residential property is a culturally important phenomenon

- Generous Private Realms

The extent of suburban private realms is hard to match with any other city-form. These private realms are fundamental to the appeal of suburbia as a city form.

- Architectural Value

Even though suburban developments may not sit favourably in contemporary architectural and urban design discourse, suburban townships and their buildings have been contributed to by the likes of such important South African architects as Sir Herbert Baker, Pius Pahl, Norman Eaton, Helmut Stauch and Jack van Rensburg. The quality and importance of their work is diminished with a diminished suburban world for which they were designed.

- Immaculate Private Outdoor Environments

The generous extent of private suburban erven allow for the creation of outdoor environments which act as extensions of the house. In fact, borrowing from Roberto Burle-Marx, an argument can be made that the suburban 'house' should be seen as the entire extent of the property - with the 'house' only ending at the perimeter walls.

- Important Gardening Culture

The desire for wondrous private outdoor environments has resulted in an important suburban culture of gardening. This culture is so fundamental to Brooklyn that home-owners will often spend upwards of R3000 on labour costs to keep their gardens. This fact becomes more interesting when one considers that the same R3000 could be spent on wages for someone to help cook, drive children around or even help run a business.

- Intensely Vegetated City-Form

This well-developed gardening culture has resulted in some of the most intensely vegetated city-forms.

- Ability to own Large Pets

The large private erven allow for residents to keep large pets. This highly developed pet-culture has meant that dogs often out-number humans in parts of suburban Pretoria.

- Home-Owners can change City-Scape

The suburban city allows for property owners to adapt and change their private buildings - something which is much less likely in highly urbanised areas where either strict urban contraints or high cost of land often prevents private household change.

- Isolation from Urban hustle-and-bustle

The intensely vegetated, private suburban erf offers residents almost complete sanctuary from the surrounding urban activity.

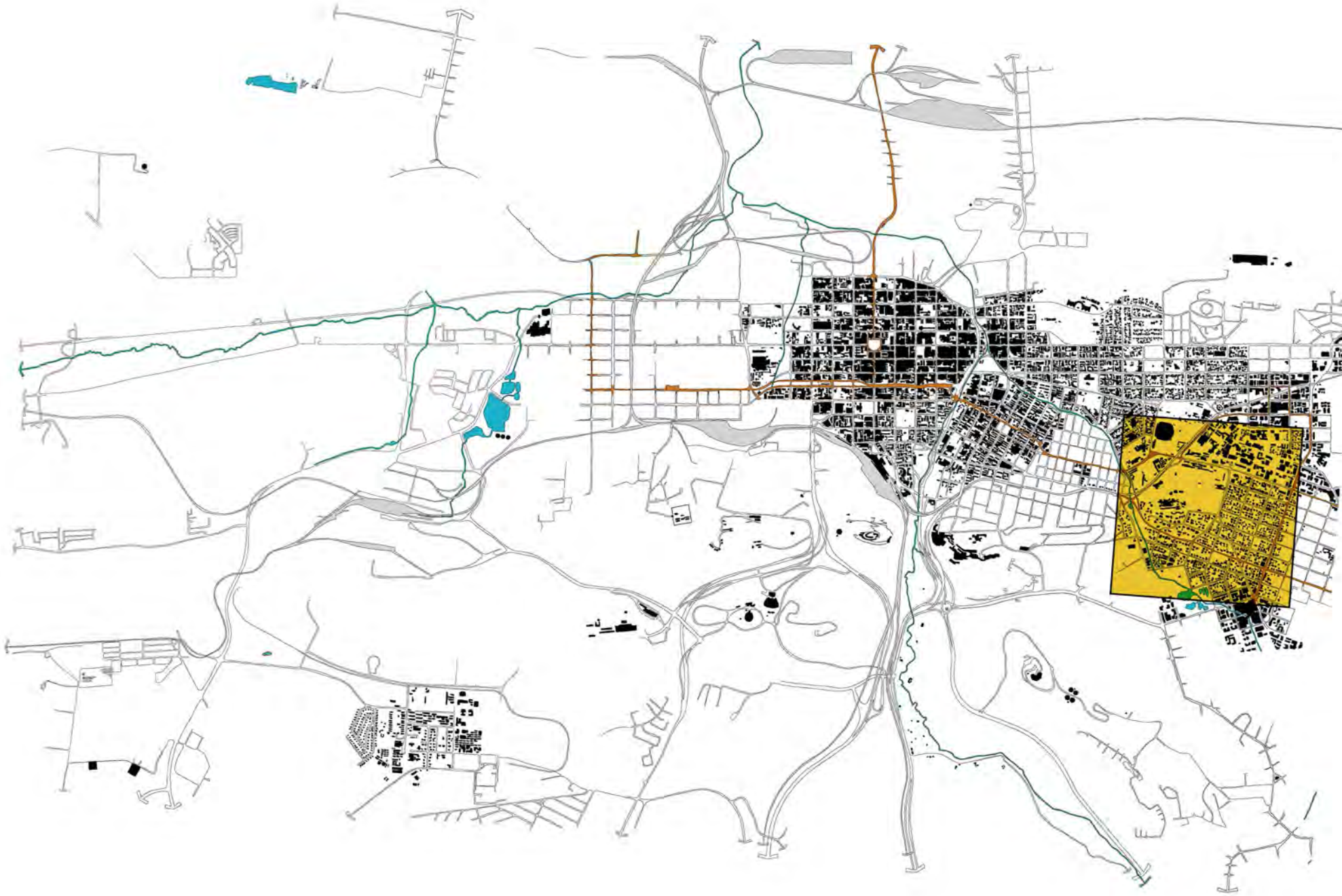
- Historical Value

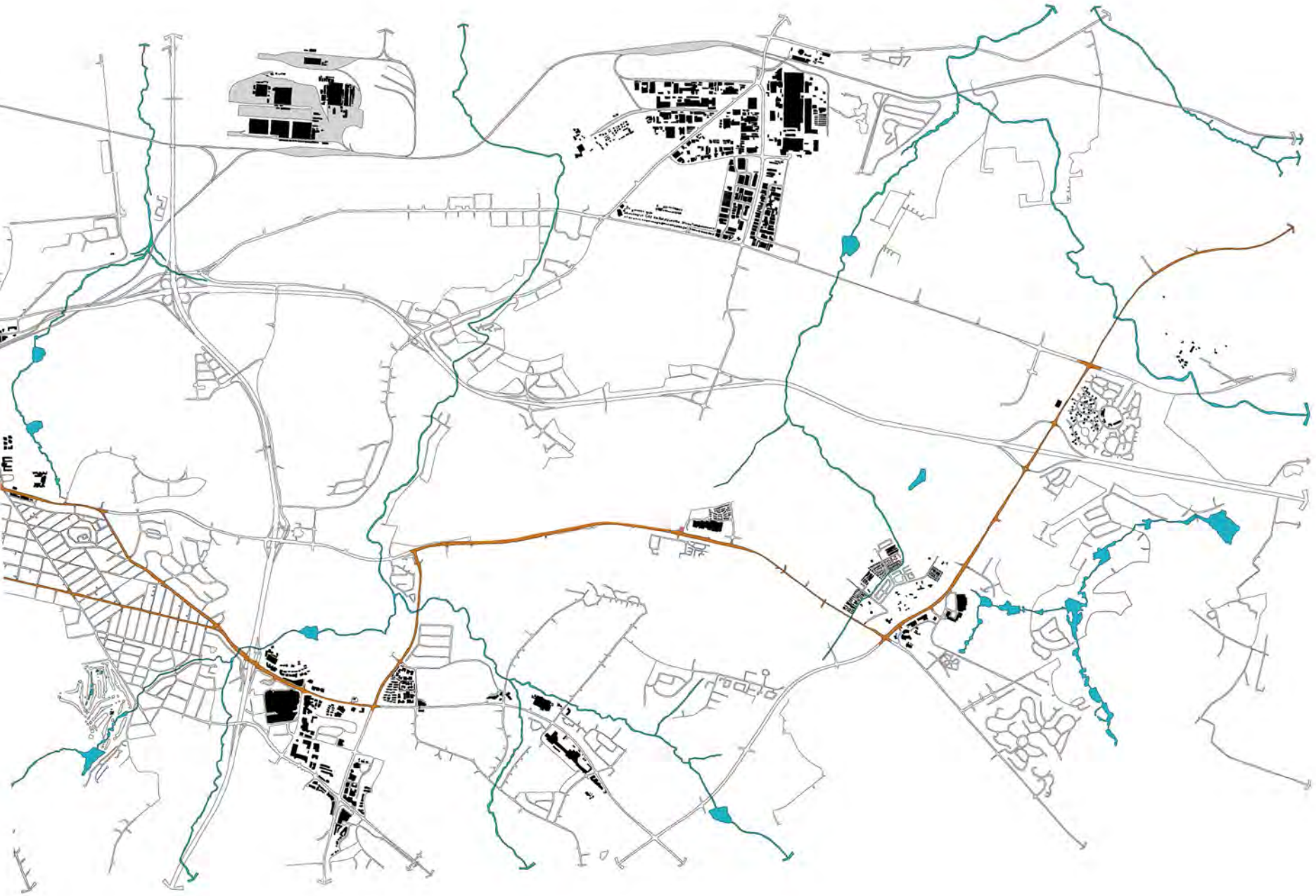
The suburban township has played a crucial role in the development of our cities - and its character an importance deserve to be preserved where possible.

Having studied Brooklyn as a suburban phenomenon, it became important to understand the role of this residential suburban township within its urban setting.

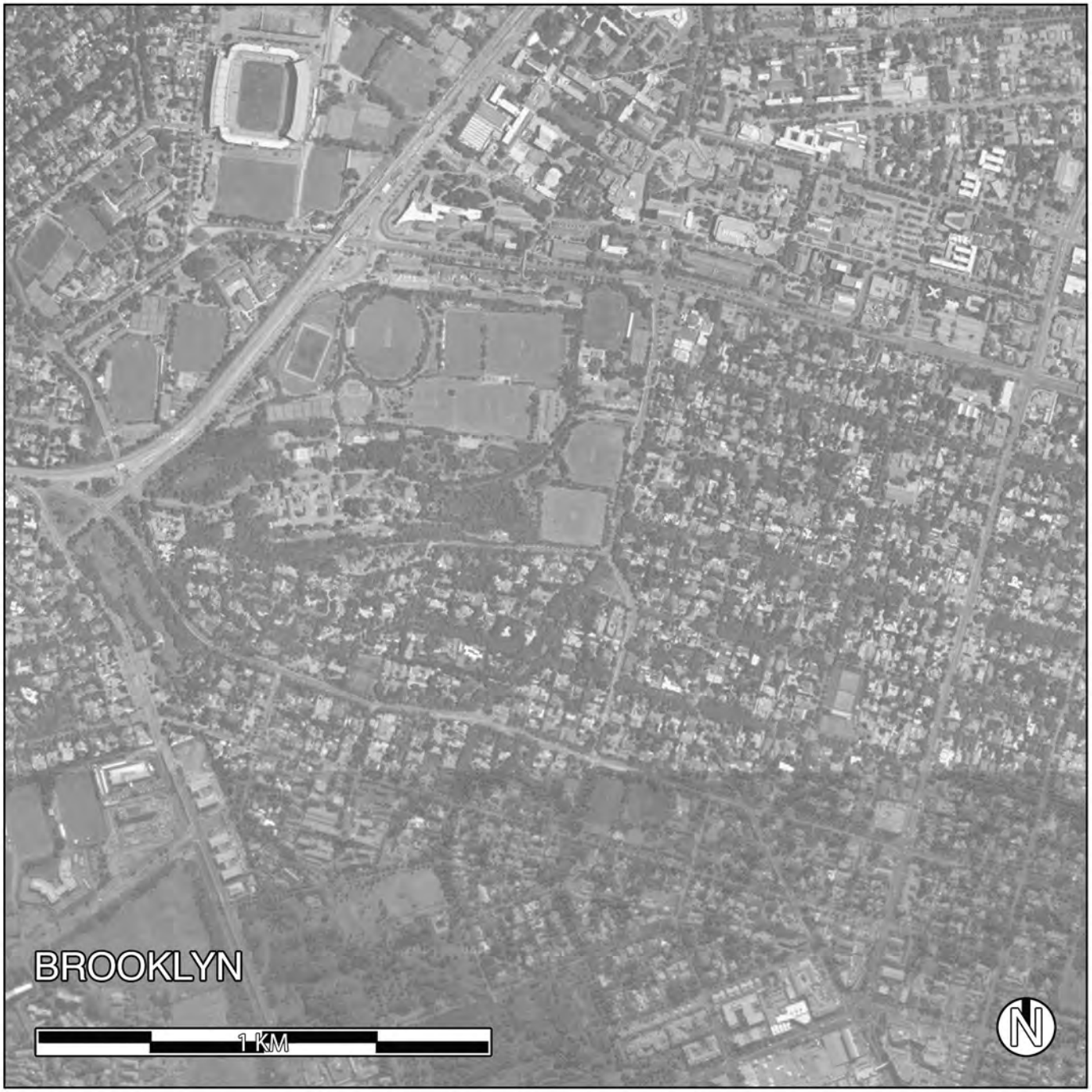
BROOKLYN'S CURRENT URBAN FORM

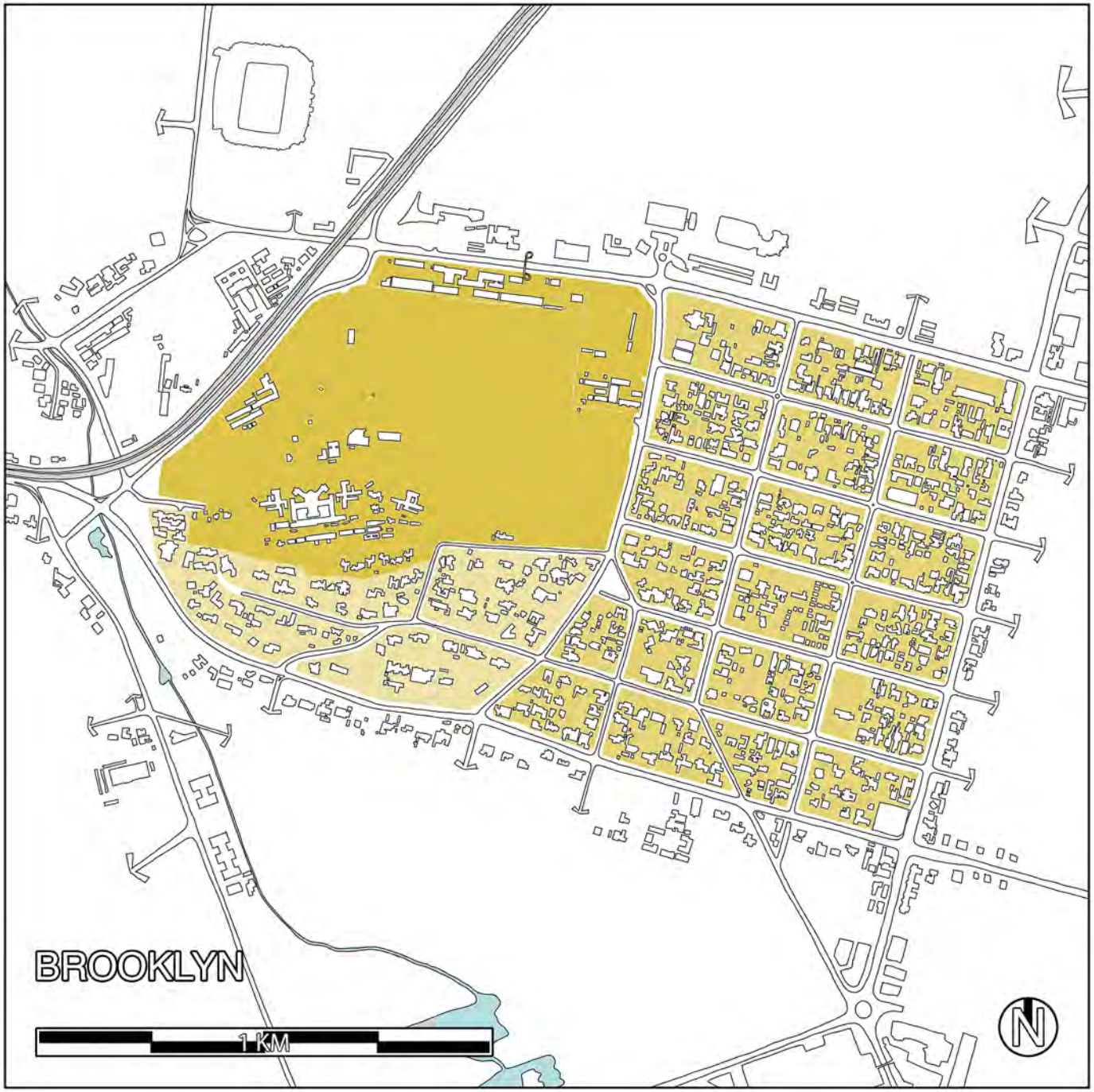
PLACING BROOKLYN IN ITS URBAN SETTING





The casestudy area is situated in the old east of Pretoria. The township was established in 1902


BROOKLYN
1 KM
N

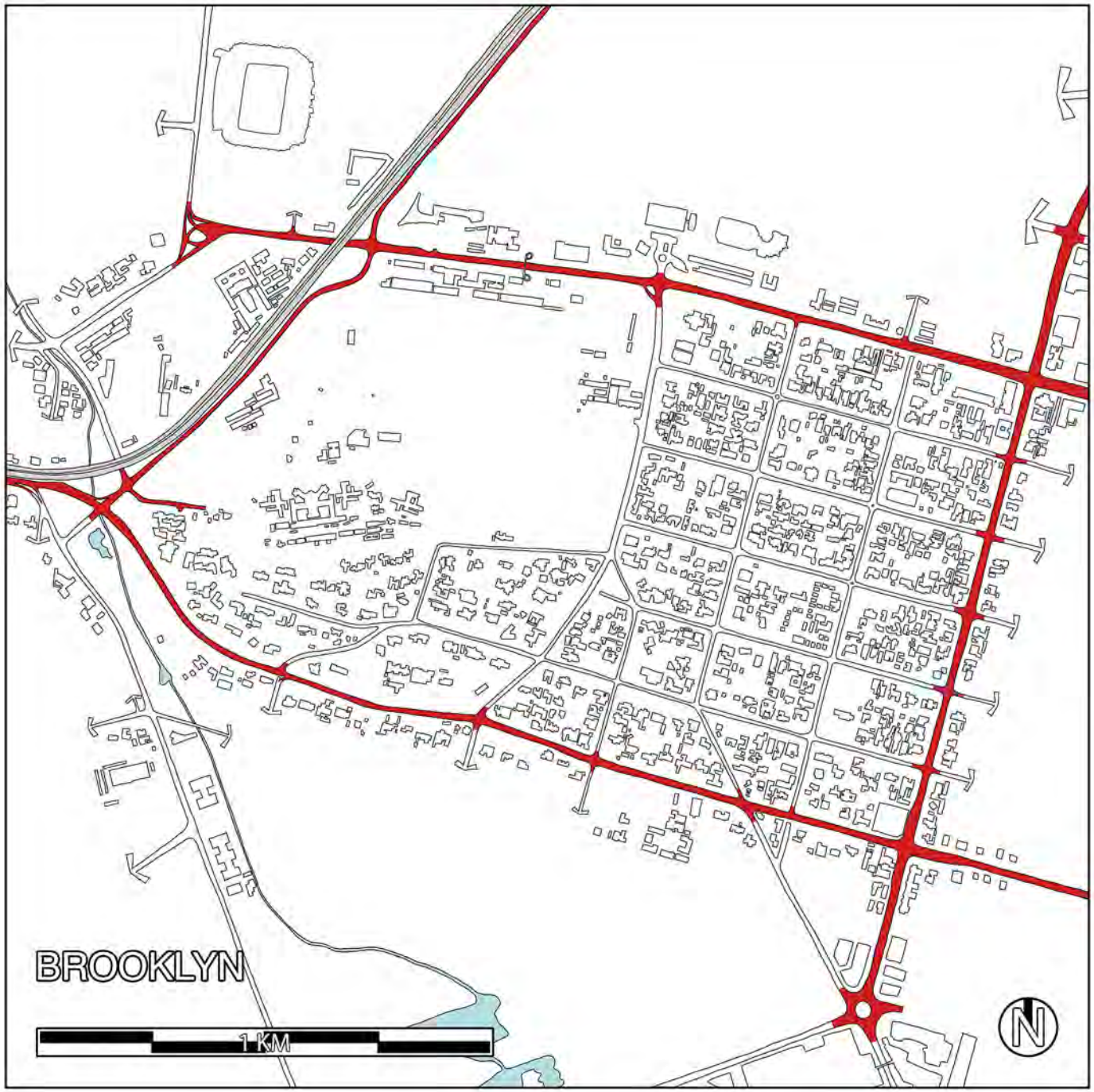


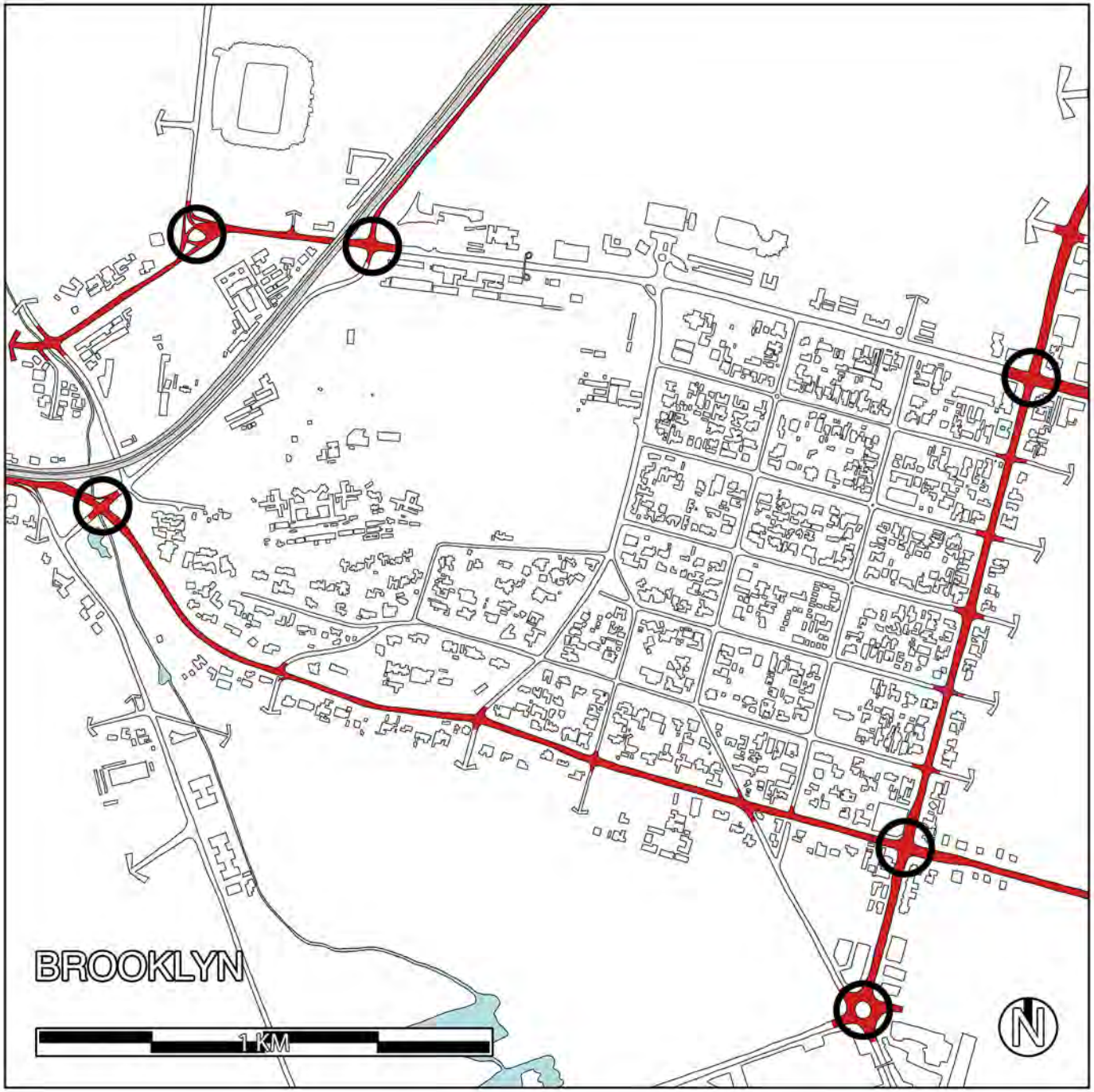
The area being studied actually comprises of the western part of Brooklyn, Nieuw Muckleneuk and Elandspoort. However, due to the organisation of the main arterial roads around this suburban area, it acts very much as a suburban entity. For simplicity's sake, the area will be referred to as 'Brooklyn' throughout this project.

This area lies between four major arterial roads:

To the North - Lynnwood Road
To the South - Justice Mohammed (previously Charles)
To the East - Jan Shoba (previously Duncan)
To the West - College Avenue, and the Gautrain line (indicated grey) which runs between the city and Hatfield

It is evident from this drawing that one is always within walking distance of an arterial road, where public transport opportunities are readily available.



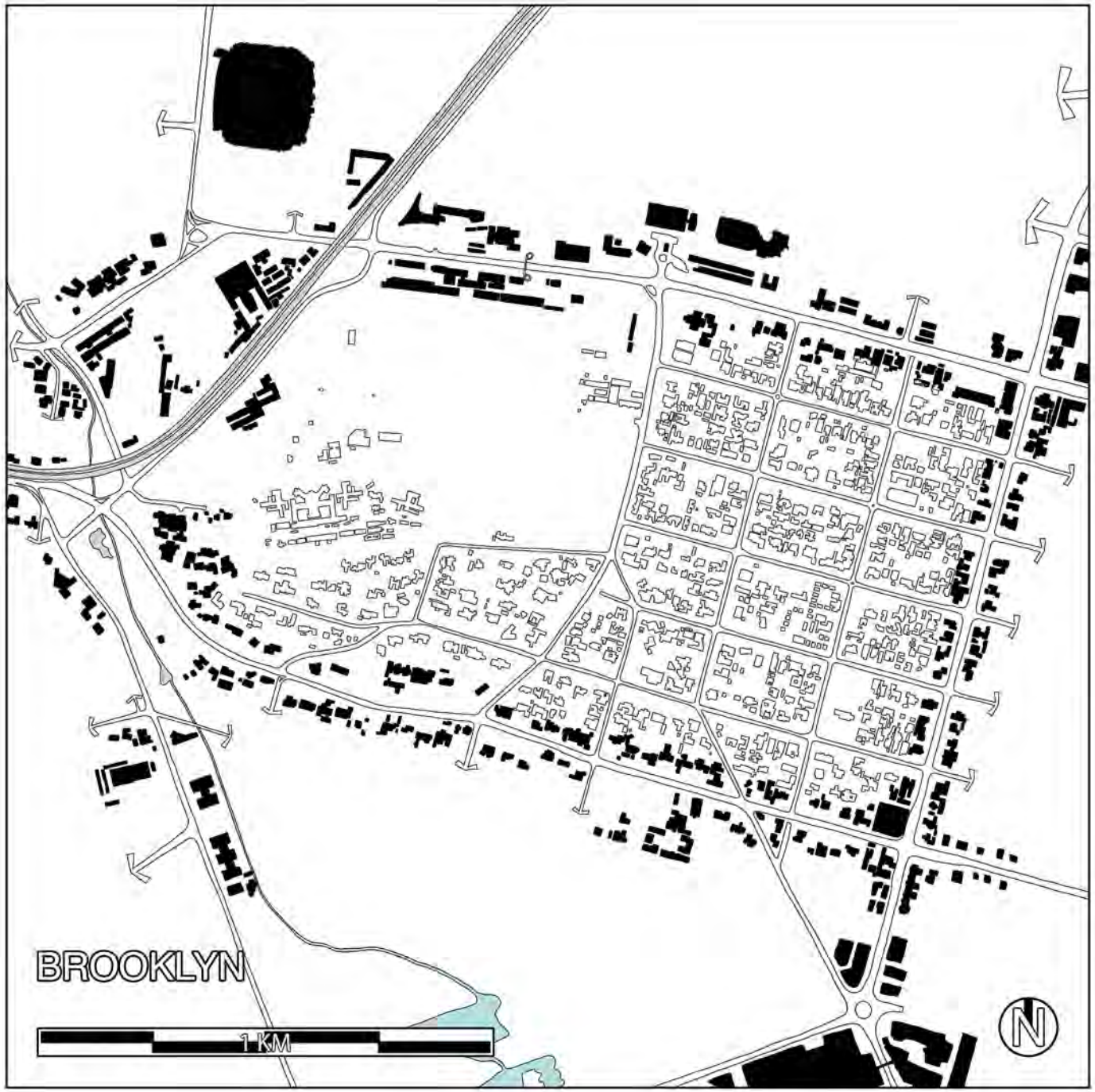


The BRT (Bus Rapid Transport) system is laid out along the major arterial routes with the positions of BRT stops indicated as black rings.

Currently, in Brooklyn the residential size buildings along these major transport corridors are almost exclusively commercial or educational. However, there are a few commercial buildings (mainly small offices, but also guest houses, a tuisnywerheid and a small tea house) in the residential interior.

The colours indicate the following programmatic uses:

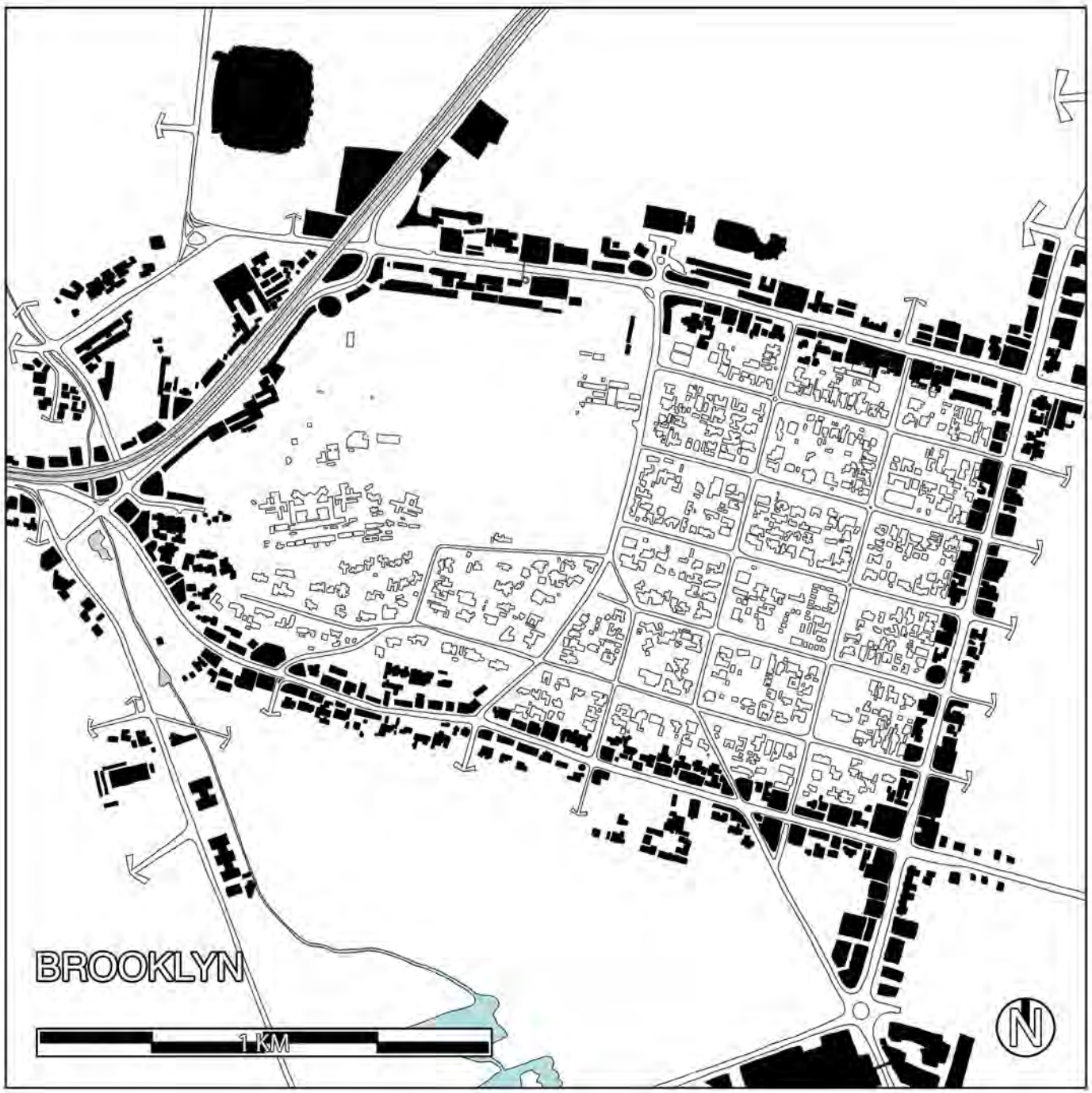
Red - Educational Opprtunities
Yellow - Commercial Opportunities
Green - Religious Opportunities
Blue - Embassies

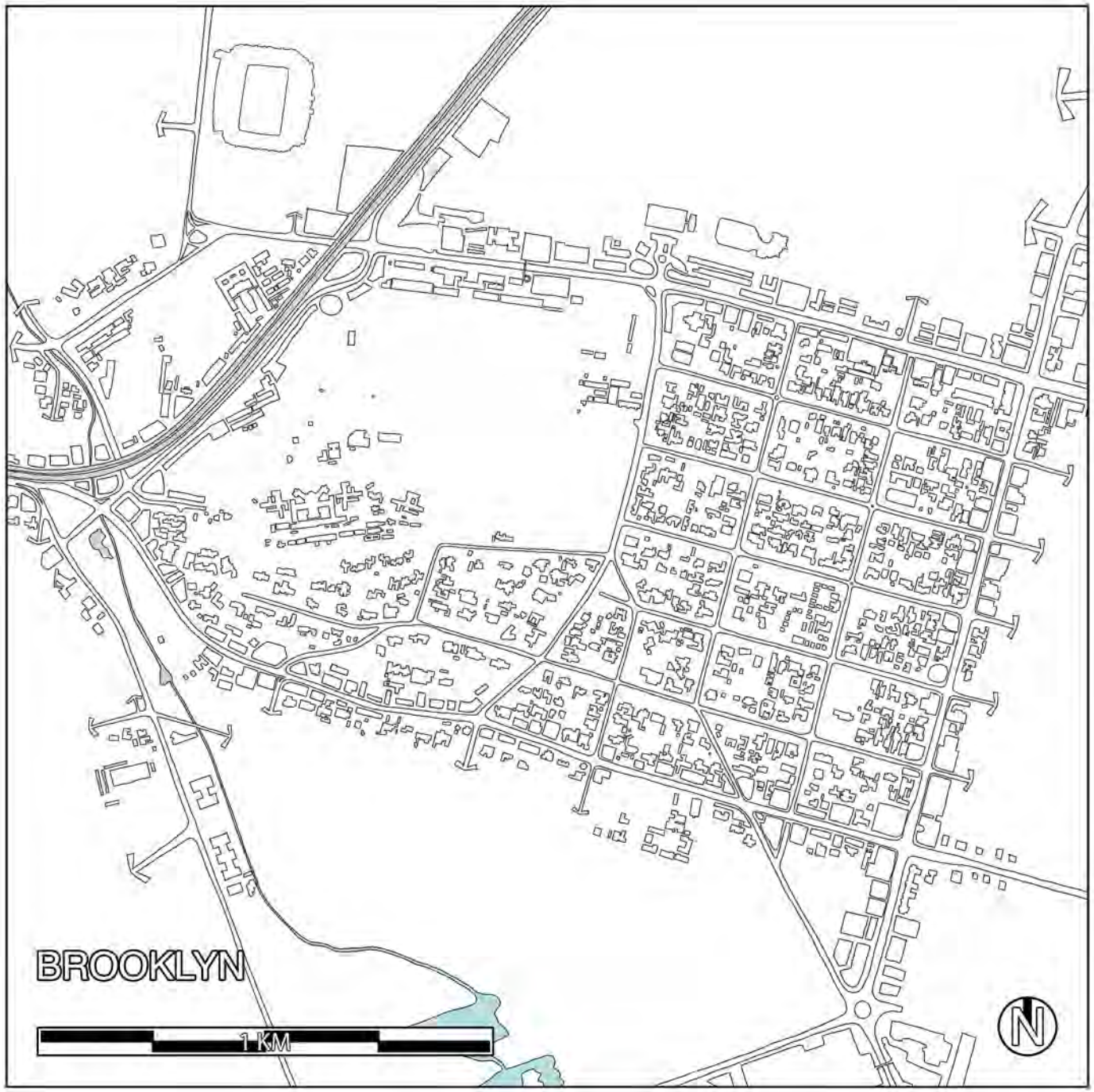


It is interesting to note that the perimeter buildings along the arterial roads still resemble the residential scale buildings of the block's interior.

However, due to recent changes in the Spatial Development Framework for Pretoria East, the incentivised development is for higher-density, larger-bulk developments along the transport corridors. This is expected to lead to a higher density of commercial, educational and social opportunities along the trasport corridors - mimicking the ‘super-block’ urban strategies of Tokyo, Kyoto, Beijing, Addis-Ababa and the Spanish city of Vitoria-Gasteiz.

The character of this development is a seperate project in itself - but is important to mention in this dissertation in order to show the expected future development of the perimeter of this case-study area.





This drawing demonstrates the expected urban form, as per Pretoria East's spatial development framework.

This project, however, is concerned with the future development of the soft, suburban interior of this ‘super-block’.

Brooklyn’s current urban situation very near to schools, universities, economic opportunities, public amenities and public transport has lead to Brooklyn becoming a sought-after residential township and, therefore, acutely experiencing densification challenges. At the same time, it also experiences the prototypical successes and failures of suburban townships.
The expected increase in the character and density of the ‘super-block’s perimeter will have increased repercussions on the required density of soft residential interior to support- and tap into these high-density perimeter developments.

With this in mind, this project looks for densification strategies which address the current negative qualities of the area, whilst endeavouring to enhance its positive characteristics.

The current suburban environment of Brooklyn has been shaped by many architectural forces since its establishment as a township in 1902. From Trekboer to the British, to the Modernists, to the Regionalists, to the Brazillians, to the Philadelphians to the Tuscans - however, the guiding principle has been an adherence to the Garden-City Movement and the resulting suburban form which was developed in Britain during the late 1800s.

This suburban form (together with the pros and cons that go hand-in-hand) is largely the result of its town-planning legislation which has guided the development of the township.
This legislation has at its basis in four components:
- Programmatic constraints
- Prescribed bulking factors
- Setback conditions from adjacent residential properties
- Building line conditions from the adjacent street(s)

This legislation was designed with a specific suburban character in mind and was designed in order to:
- allow for a gardened suburban aesthetic to grow
- protect each erf's access to ventilation and sunlight from all sides
- protect the privacy of each erf
- prevent the erven from being too readily sub-divided - which in turn would prevent lower income residents moving in - which in turn would protect the area's property prices

However, the inevitable increase in land values over the years has made sub-division a viable strategy. This sub-division is ultimately leading to a suburbia comprising of more houses, more walls and fewer trees. Ironically, the very same legislation which was designed in order to protect the suburban character of Brooklyn is currently contributing to its demise.

It is my position that the current, laissez-faire style architecturally-unconsidered, sub-divison of suburbia is undermining its positive attributes whilst exacerbating its negative qualities without significant increases in overall density.

In order to demonstrate this position and posit potential solutions to Brooklyn's future suburban form, a number of hypothetical densification models were developed and tested against each other. The following section deals with these hypothetical suburban futures.

DENSIFICATION MODELS

TESTING HYPOTHETICAL MODELS FOR DENSIFICATION OF BROOKLYN INNER SUBURBAN CONDITION

(Drawings are available in the booklet titled ‘Hypothetical Suburban Futures’)


BROOKLYN
1 KM
N

In order to make the testing of these hypothetical densification strategies viable, a single suburban block was chosen. The block was chosen because its form is most typical of Brooklyn's inner residential erven.

This block was then digitally modelled - including the accurate placement of trees. The modelled block allowed for isometrics, plans and sections to be generated for each hypothetical solution. These drawings allowed for the suburban forms to be considered and compared with qualitative criteria in mind.

This rapid digital prototyping strategy also allowed for the necessary statistics of each hypothetical solution to be calculated so that quantative comparisons could be drawn between the suburban forms.

The idea behind this strategy is to provide and then test multiple solutions against one another so that a high-quality solution (in terms of both qualitative and quantative criteria) could be further developed.

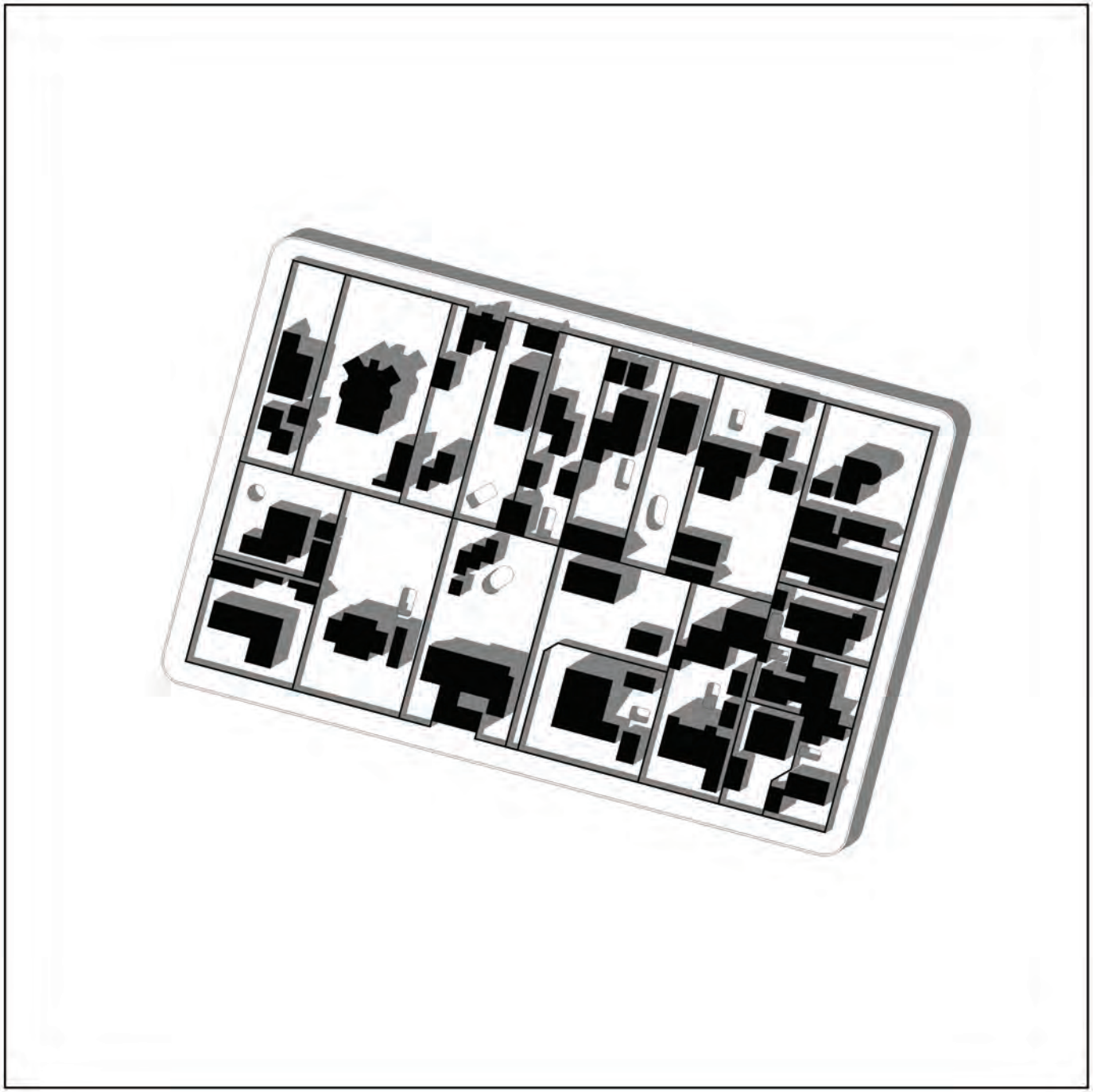


TABLE OF

CATEGORIES OF INTEREST

	1902 (I)	1950 (II)	2014 (III)	2035 (IV)
A. CURRENT TRADITION				
B. COURTYARD BUILDINGS				
C. BUILDING INVERSION				
D. INTERNAL STREET				
E. PERIMETER WALLS INLINE WITH BLDGS				
F. TOWER BLOCK				
G. PERIMETER BLOCK				
H. BUILDINGS AROUND TREES				
I. BUILDINGS AT BACK OF ERVEN				

The testing of these hypothetical solutions was done by modelling the chosen block as it would have been/will likely be at four stages in time. These periods in time are represented along the x-axis:

1902 (I)
the 'designed-for' suburban form before any construction took place.
1950 (II)
the suburban form as it was in the year 1950 (gathered from historical drawings and photographs). This decade was chosen because the buildings which existed at that period are now protected by heritage
2014 (III)
the current suburban form
2035 (IV)
the suburban form were the current tradition of sub-division to continue

8 hypothetical solutions were then applied to each case. These solutions are represented along the y-axis.

B - 4-metre deep courtyard building with erven as perimeter
C - Inverse of figure-ground
D - 5-mtetre wide internal street provided along back of erven
E - Perimeter walls brought in line with buildings
F - Tower block construction
G - Perimeter block constructed along front of erven
H - Buildings built around existing trees
I - Buildings constructed at the back of existing erven

Each of these solutions was modelled, so that the respective drawings and data could be constructed. The drawings and data were then considered and compared against one another by the criteria in the infogram to the right. All the drawings and data are available in the booklet titled ‘Hypothetical Suburban Futures’.

It is interesting to note the difference in the suburban character of this particular block from 1950 to its 2035-projection with the current tradition ofsub-division (ie. II:A, III:A, IV:A) - and to compare the respective quantative data. For instance, the single-storey FAR of IV:A is only ca. 23% higher that of III:A, but requires the demolishen of a disproportionate number of trees.

It is without question that this method proved incredibly valuable in designing a potential suburban future.

The strategy which seems most promising for the development of a future suburbia is a perimeter block adaptation of the current suburban form (III - G).

This strategy looks at the urbanisation of the street edge (perimeter block) in order to densify the suburban township as a whole, whilst maintaining the suburban character of the erven.

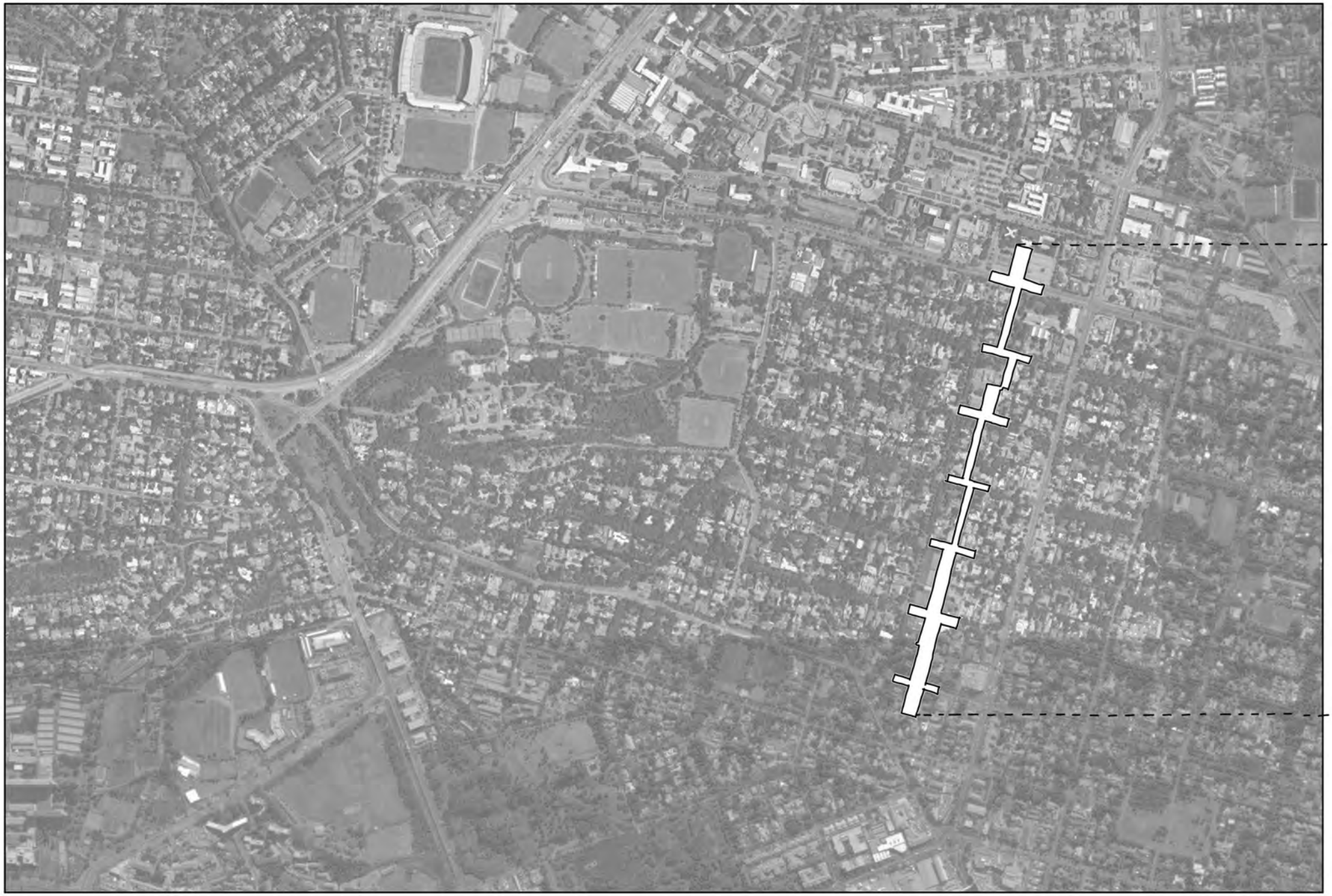
It is important to note that at the same time that these hypothetical solutions were being tested at a scale of 1:1000, I was also critically engaging with the current suburban form at a scale of 1:100.

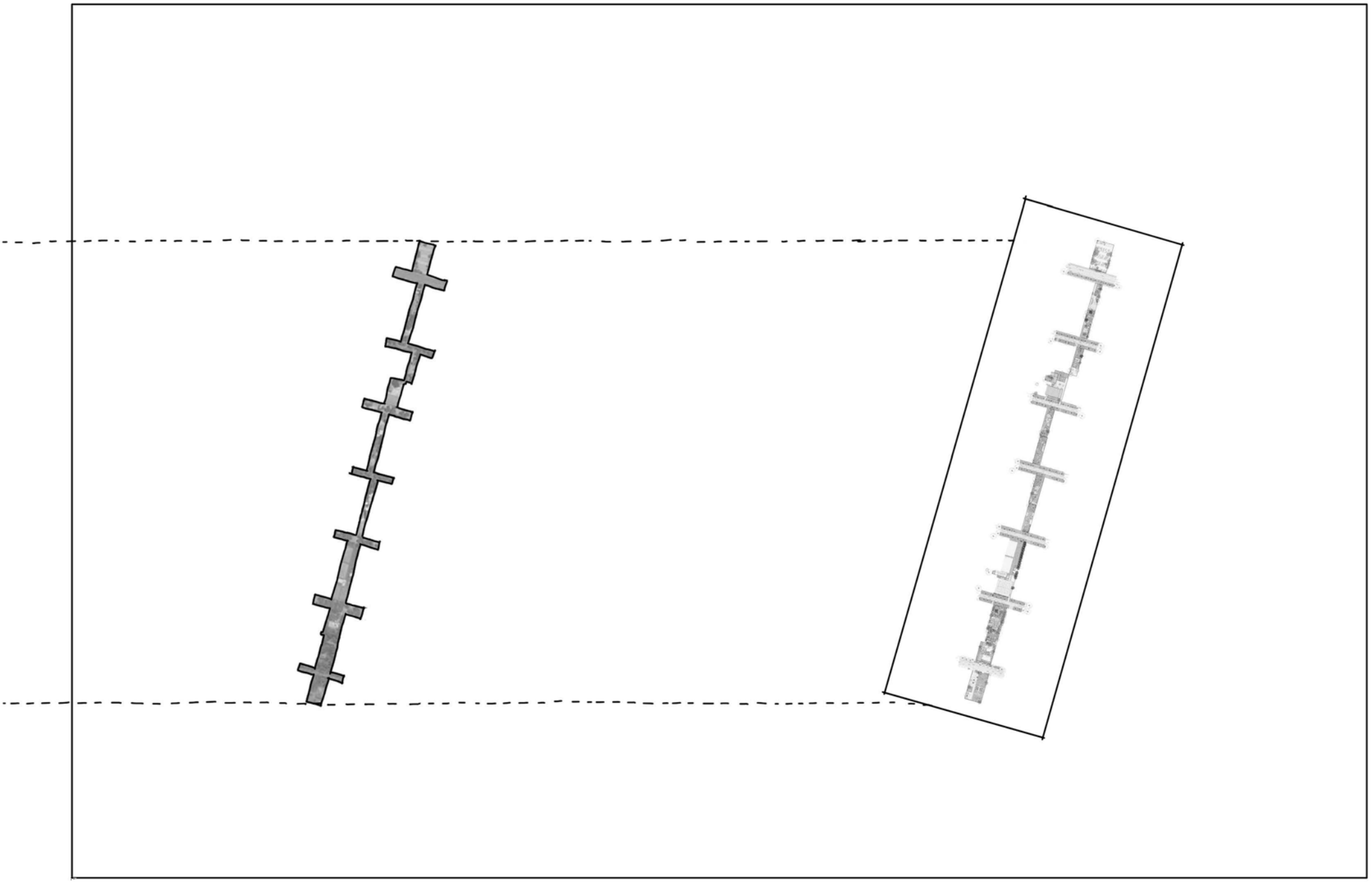
This closer-scale engagement was done by producing accurate detailed plans, sections and street elevations of suburban erven in their current conditions (these were produced through a combination of site visits and GIS imagery). A strip of a land, one Erf thick, from Justice Mohammed to Lynnwood thorugh 5 residential streets was chosen as the area with which I would further engage. This specific strip was chosen because of the variance of character, orientation, dimension and programme of the erven. The chosen strip includes communal sports grounds, a church, residential and commercial properties, as well as properties containing granny flats.

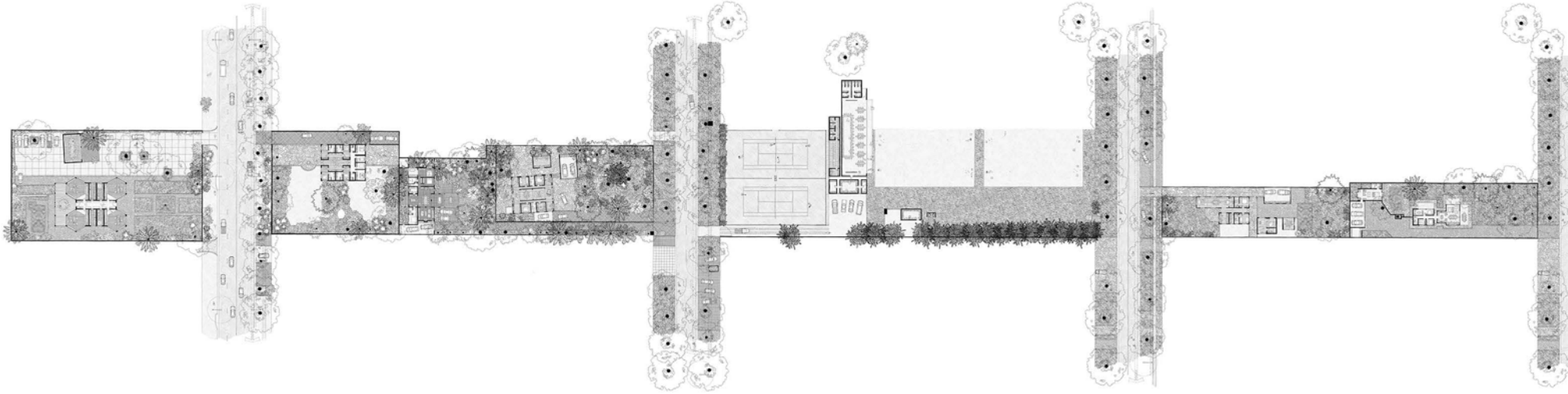
CURRENT SUBURBAN CONDITION

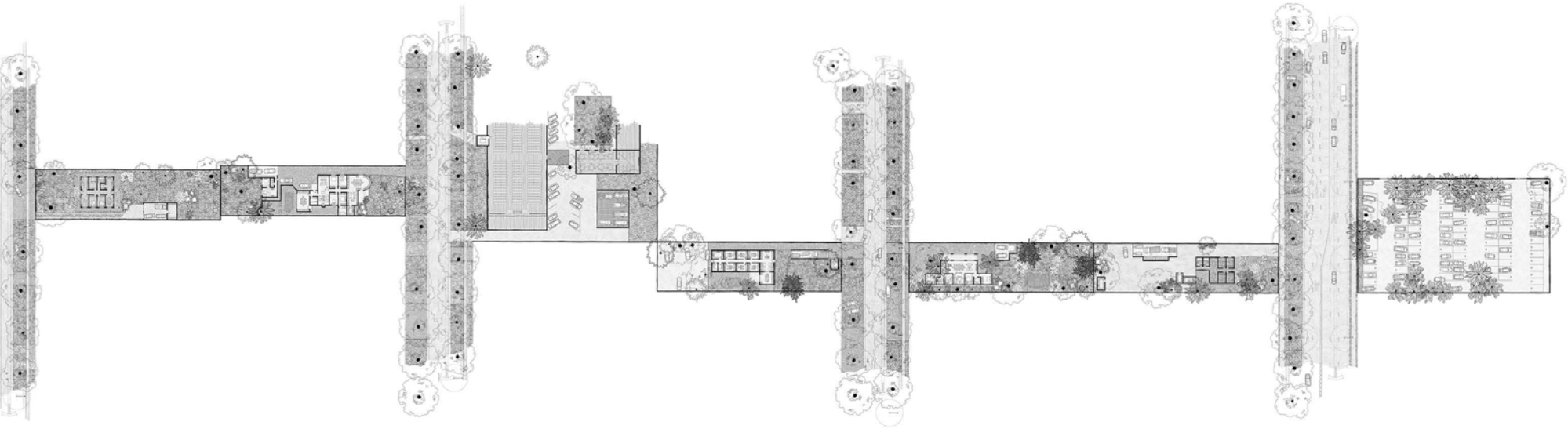
A DETAILED DRAWN ANALYSIS OF BROOKLYN'S CURRENT SUBURBAN FORM

(Drawings are available in the booklet titled 'Current Suburban Condition')









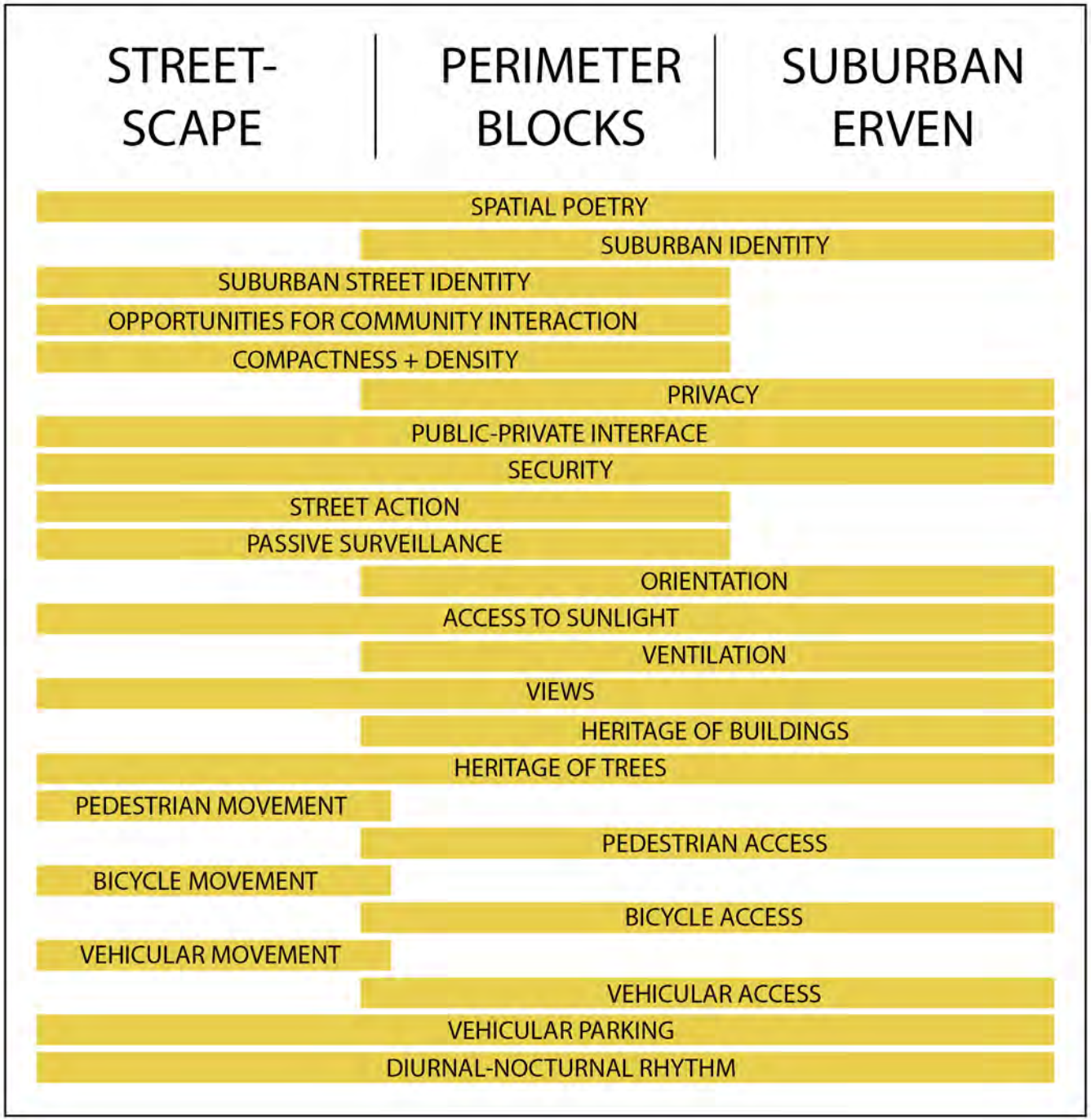
ARCHITECTURAL STRATEGY

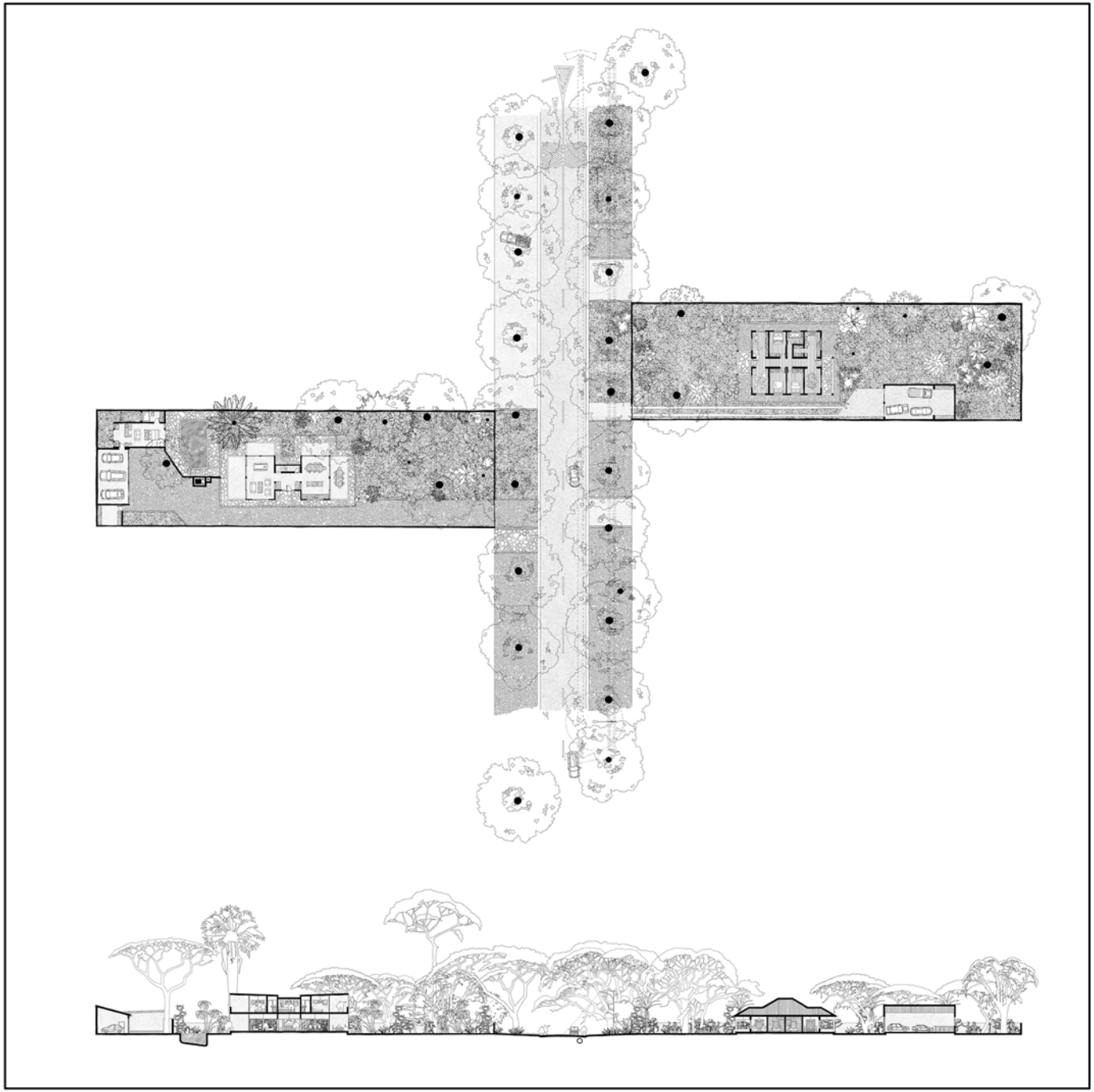
HOW TO ACHIEVE A NEW SUBURBAN FUTURE

The design of a strategy for the proposed future suburban form for Brooklyn was done by experimenting with all the hypothetical solutions on the sections, plans and elevations drawn at the 1:100 scale. Ultimately, though, the model which proved most successful was the development of the perimeter of the suburban blocks.

This strategy requires the development of very thin perimeter buildings which mediate between the public street and the very private residential urban behind. The infogram to the right was drawn as a design aid - highlighting the factors which these buildings would have to take into consideration in order to sensitively, but demonstratively contribute to a new, better, healthier suburban future.

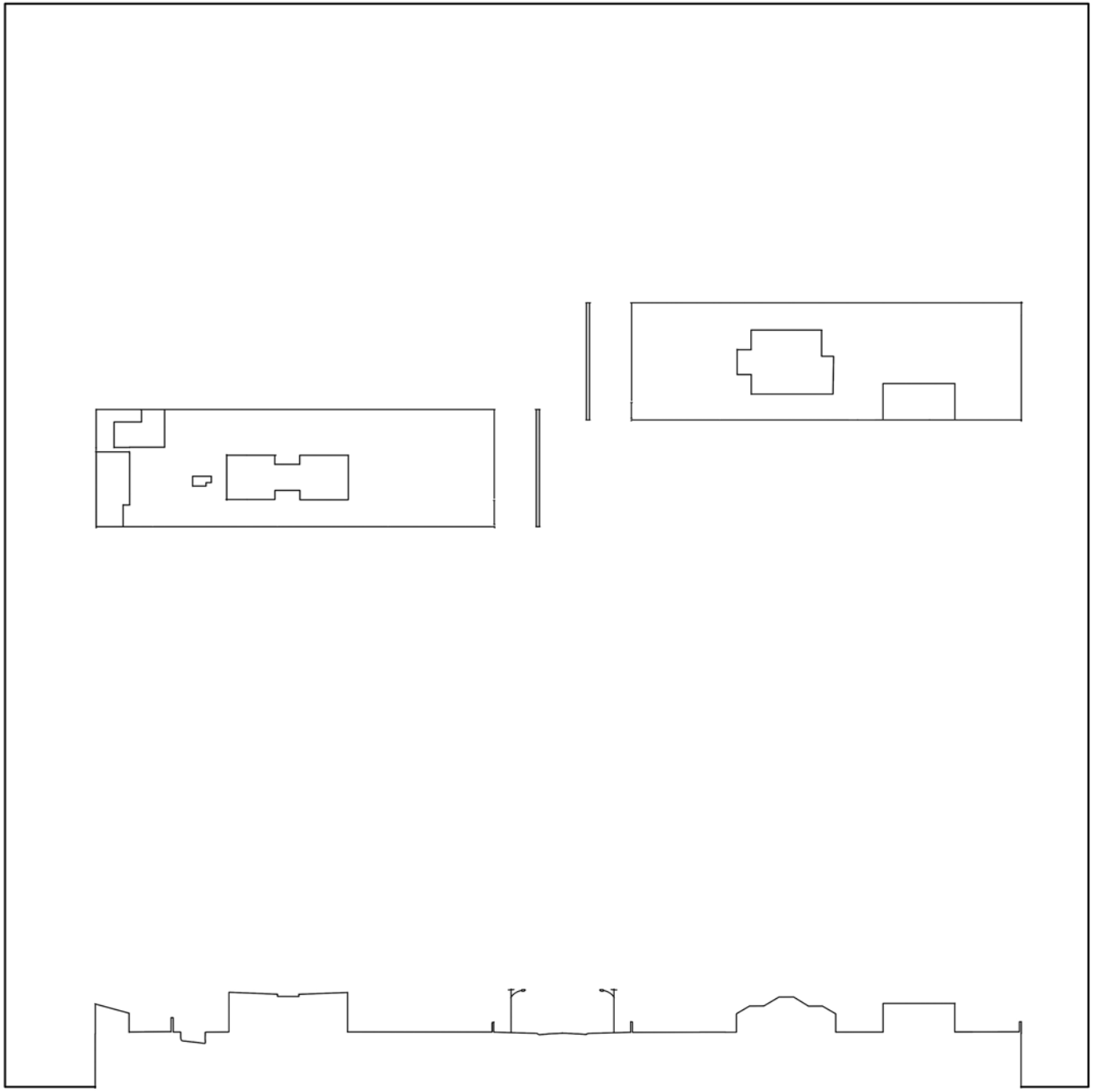
In order to explain the strategy in detail, the two erven along Murray Street are used as an example of how this densification model would take place.

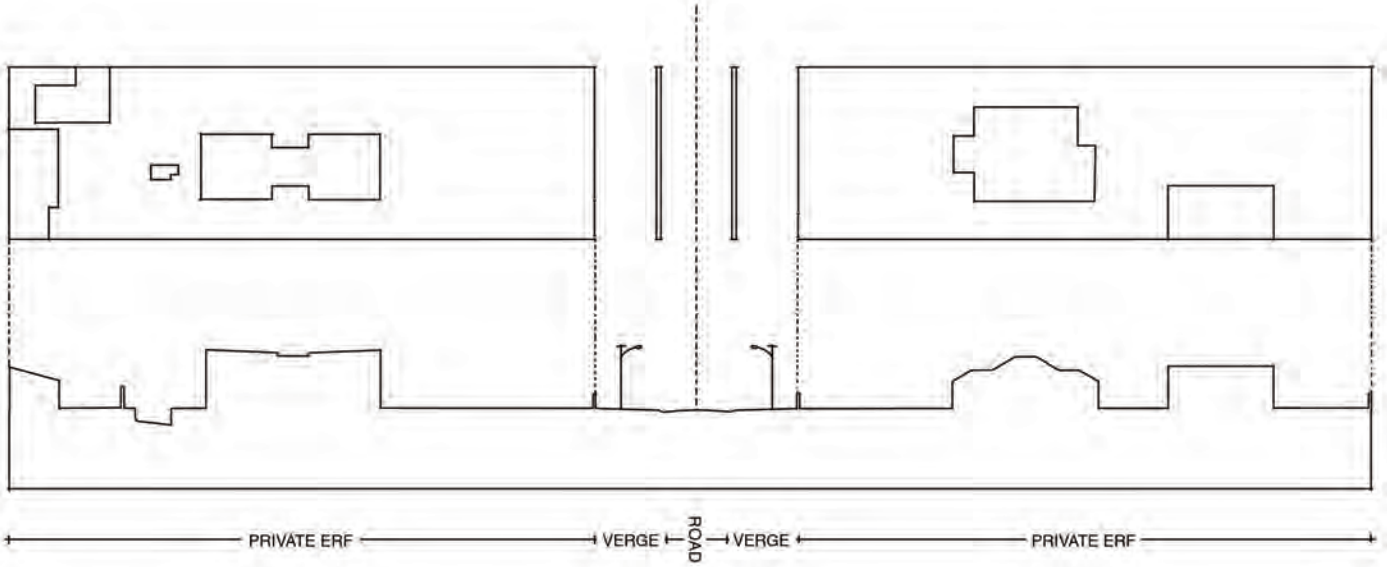




The current suburban form of the two suburban erven on Murray Street.

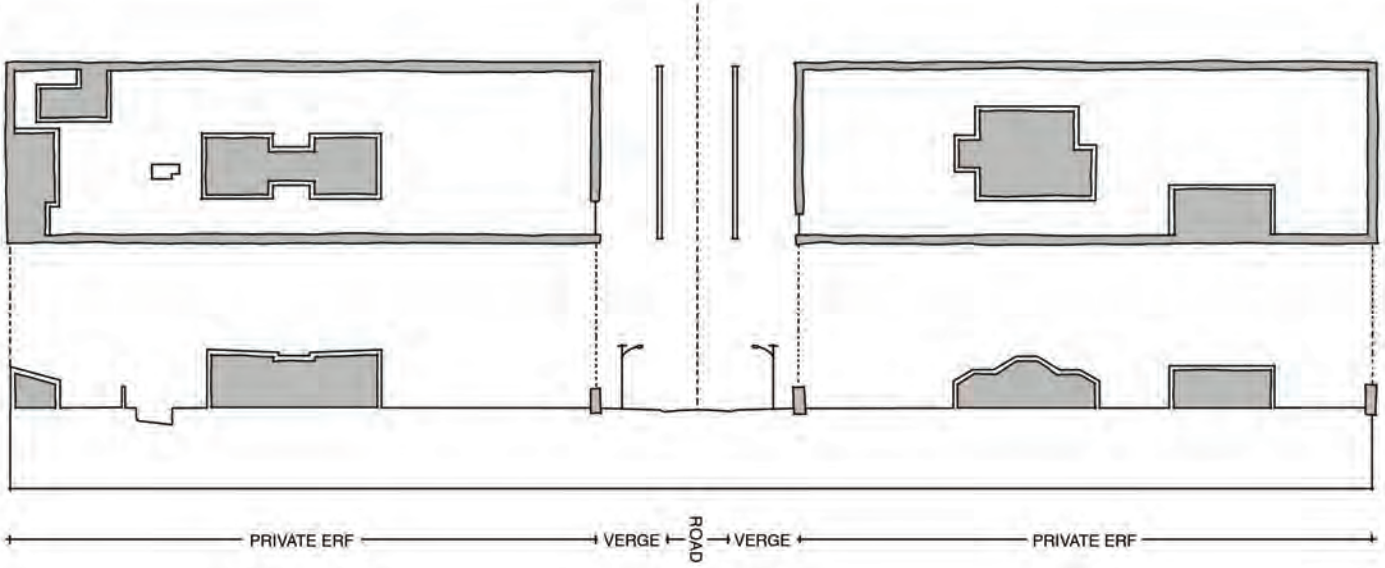
A simplified version of this same drawing.





01

The current suburban residential form.

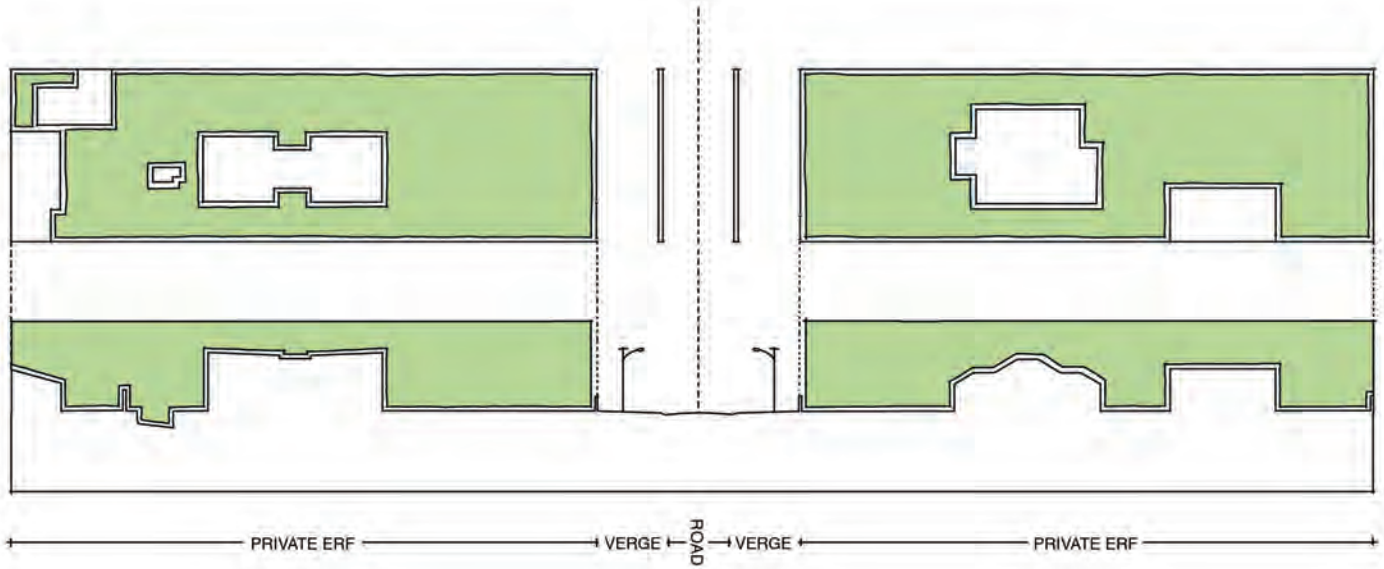


02

The residential buildings, perimeter walls and garages combine to form the suburban ‘house’.

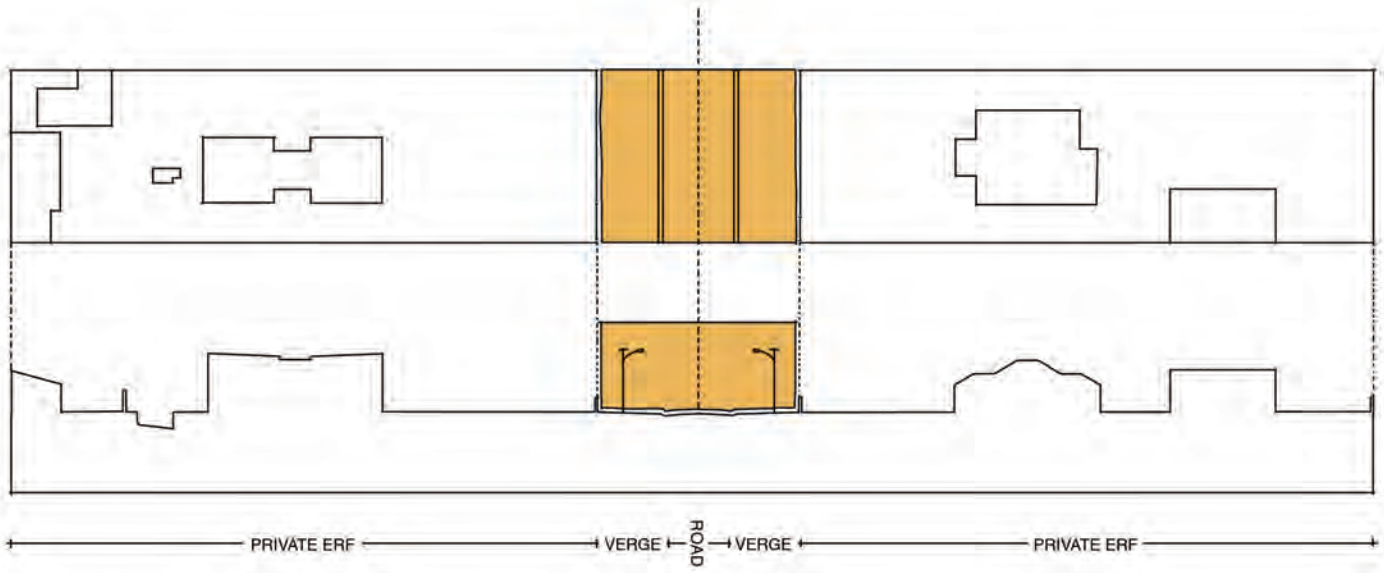
03

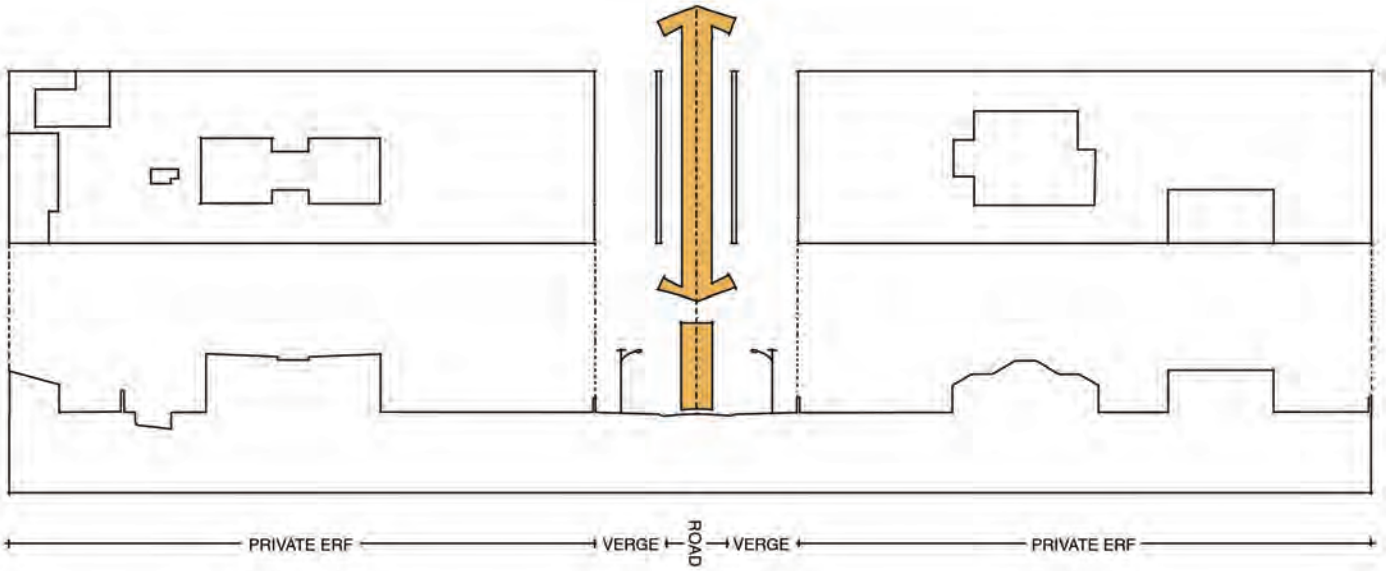
These elements combine to create very private gardened realms.



04

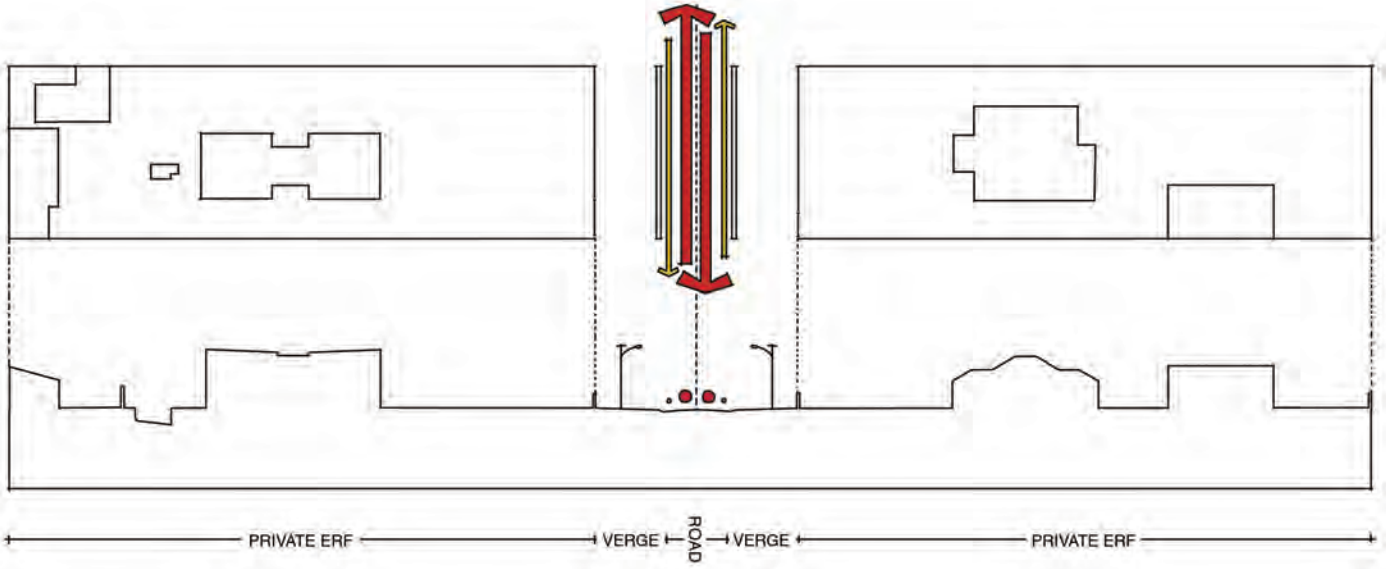
These private suburban realms are often created at the expense of the public street-space.





05

The streetspace, therefore, acts merely as a movement corridor as opposed to a potential public/social streetscape.

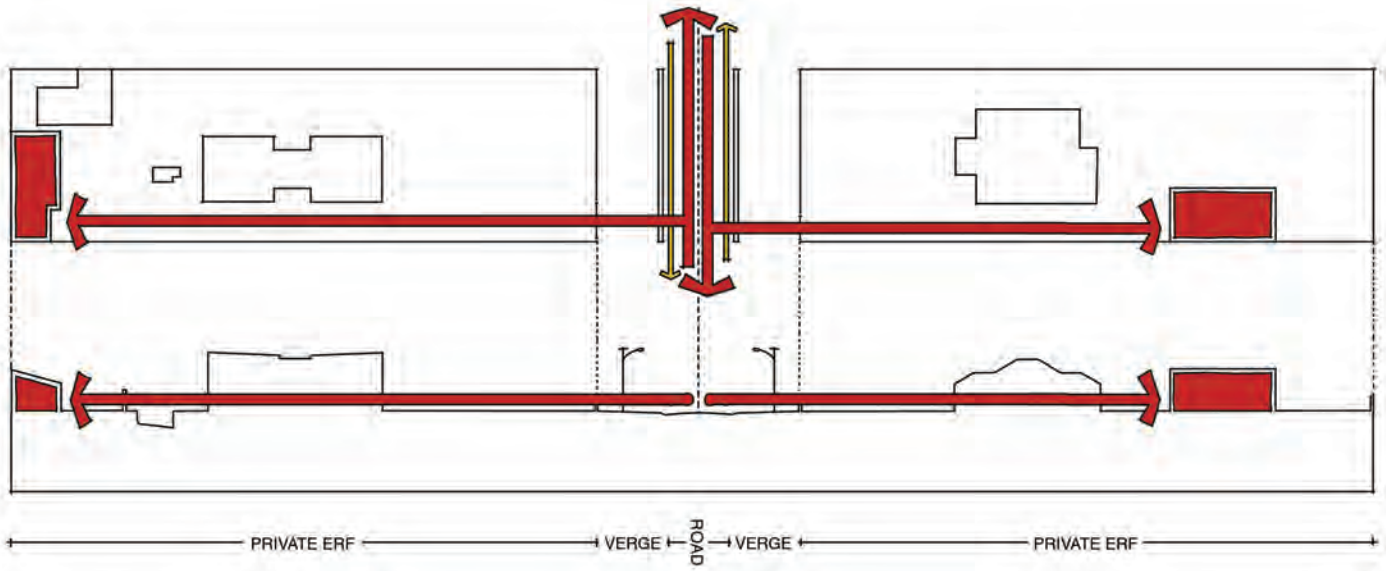


06

Currently, pedestrians, bicyclists and vehicles generally use the same roadspace.

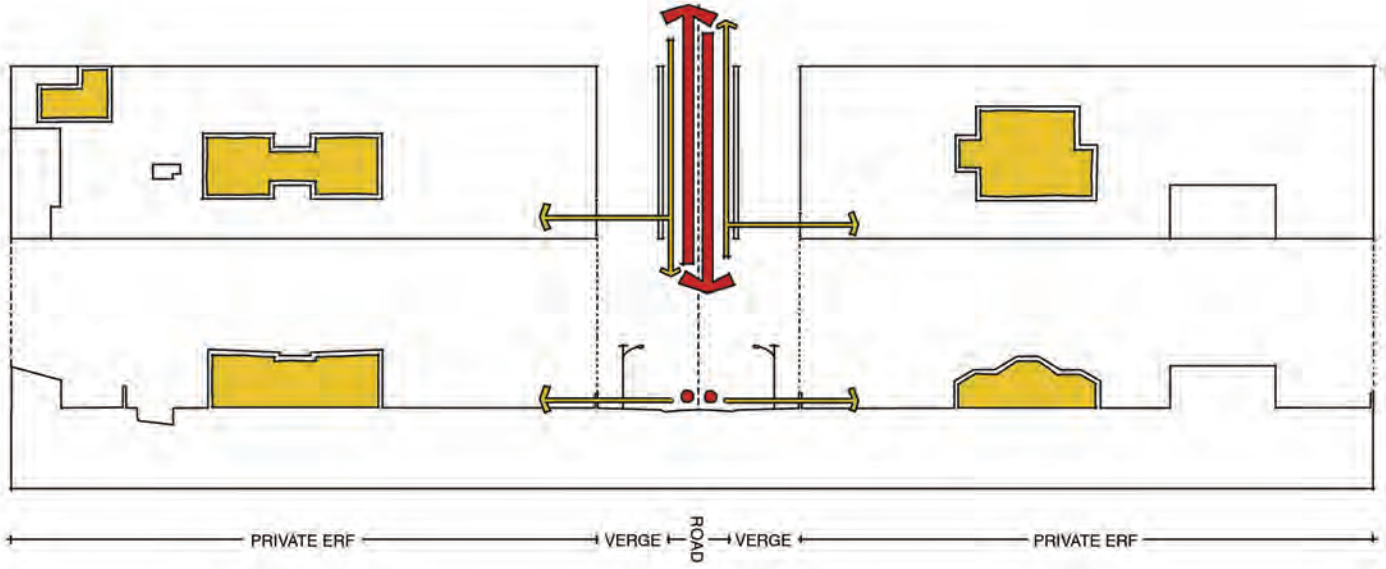
07

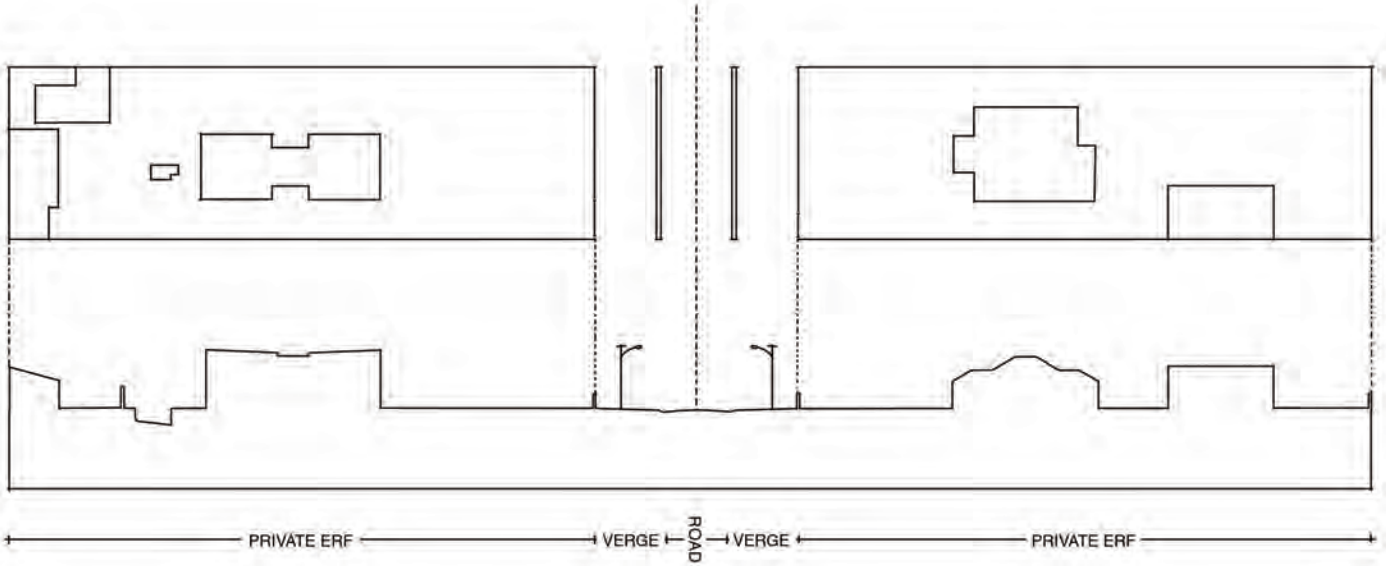
Vehicular access to the suburban erven is through the gate in the front perimeter wall with the parking most often at the back of the site



08

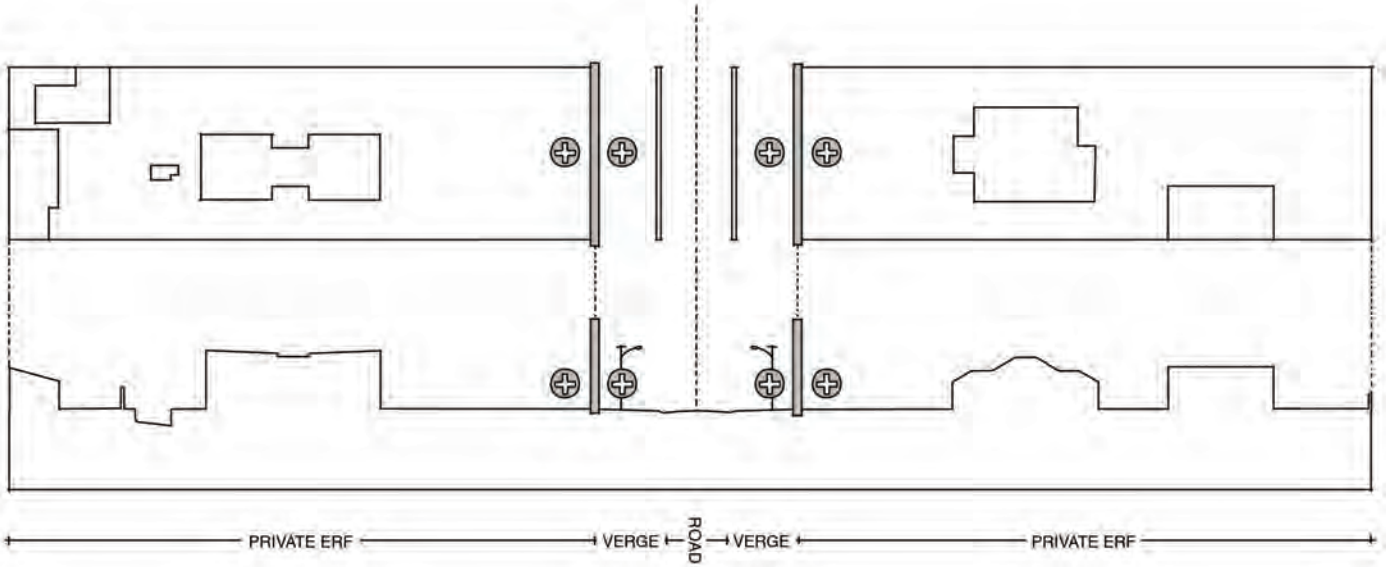
Pedestrian access is through the same vehicular gate.





09

Again, the current suburban form.

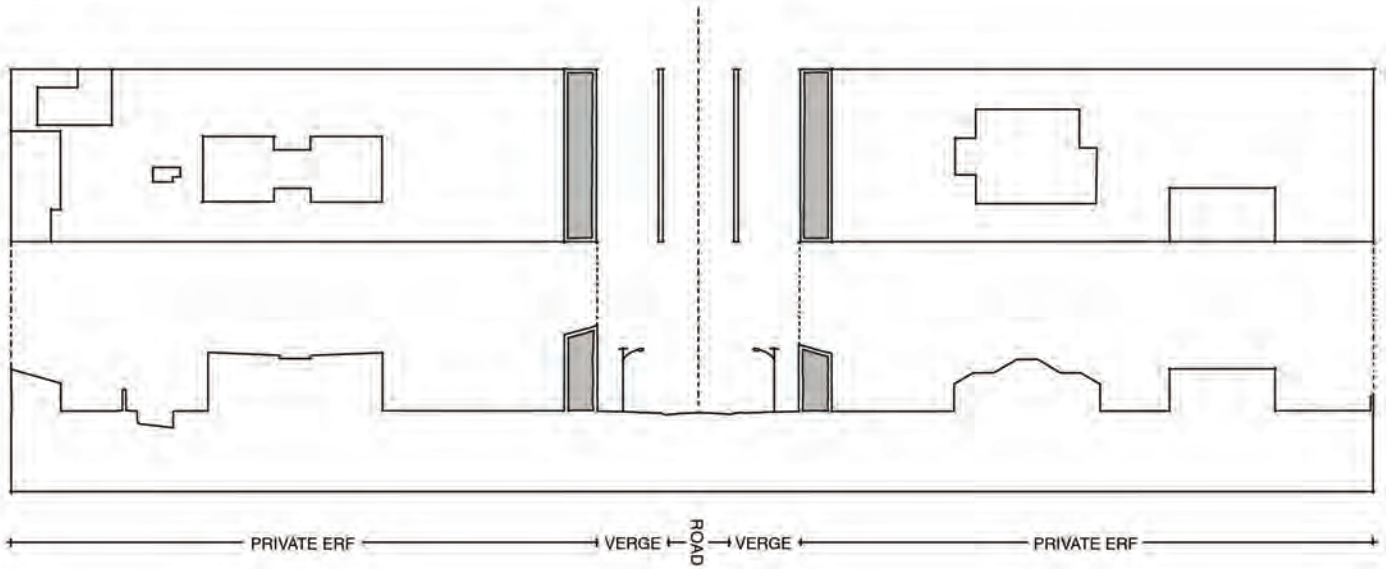


10

The perimeter block densification strategy looks at the activation of the street edge of the suburban erf.

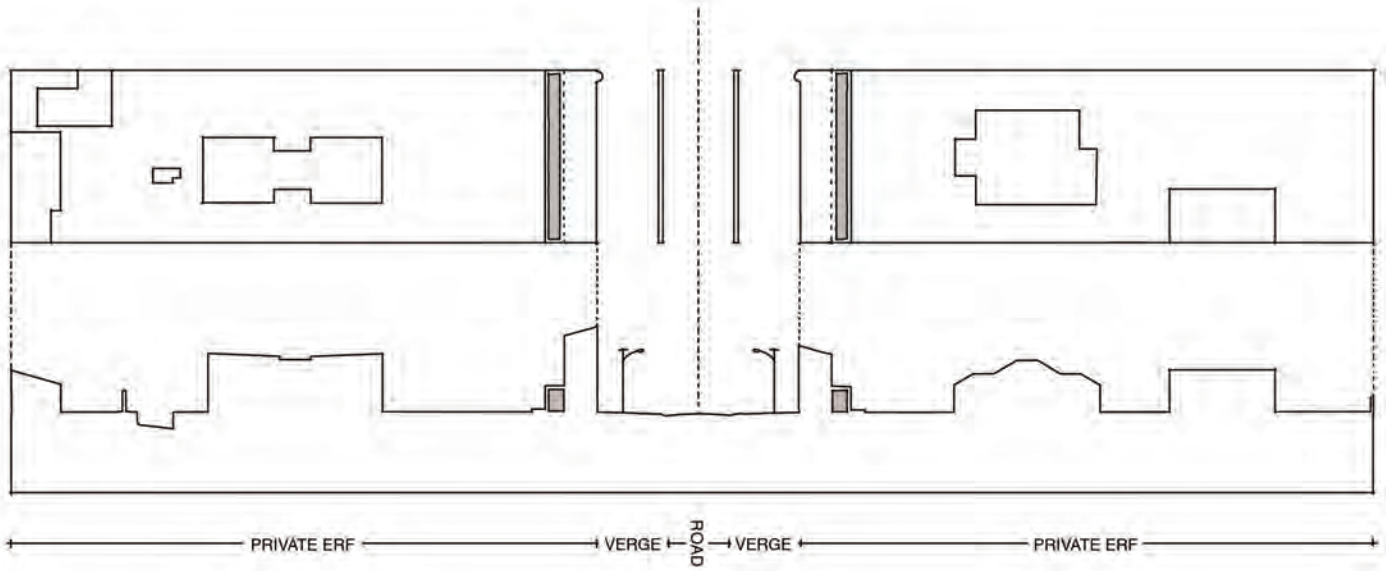
11

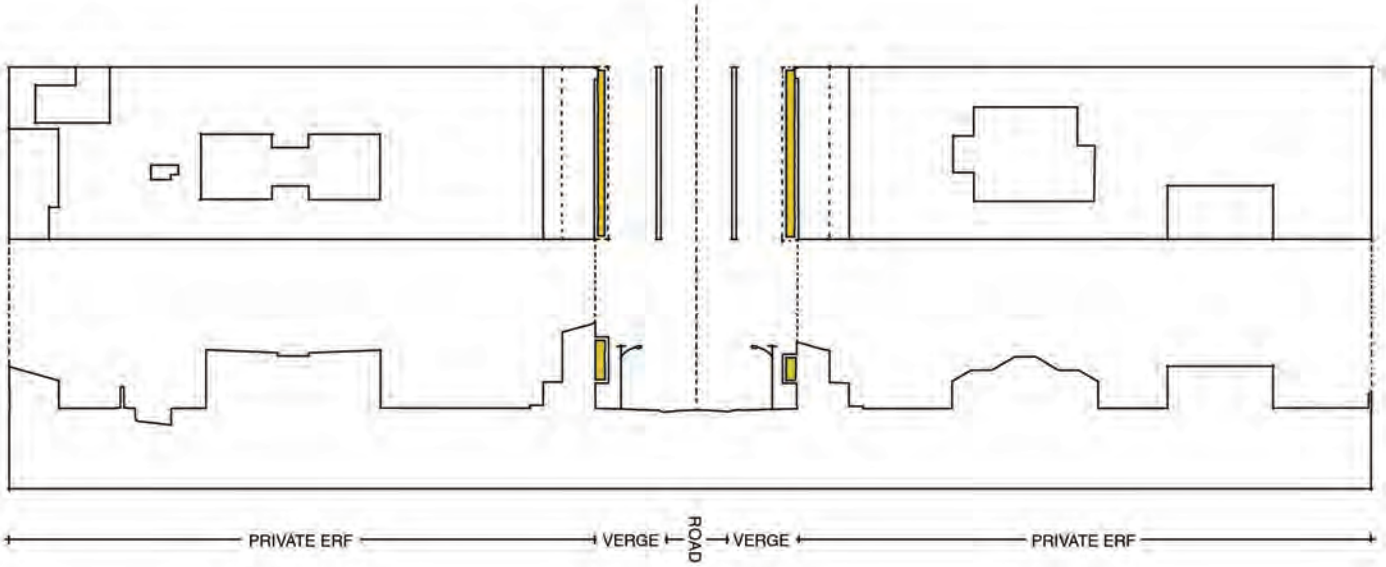
3-storey buildings can be built on the front edge of the site to a depth of 4 metres. The current building line is 4 metres from the front edge of the site: the buildings, therefore, occupy the area in which no building work can currently take place. The height of the buildings is dictated by solar considerations and proximity to nearby buildings.



12

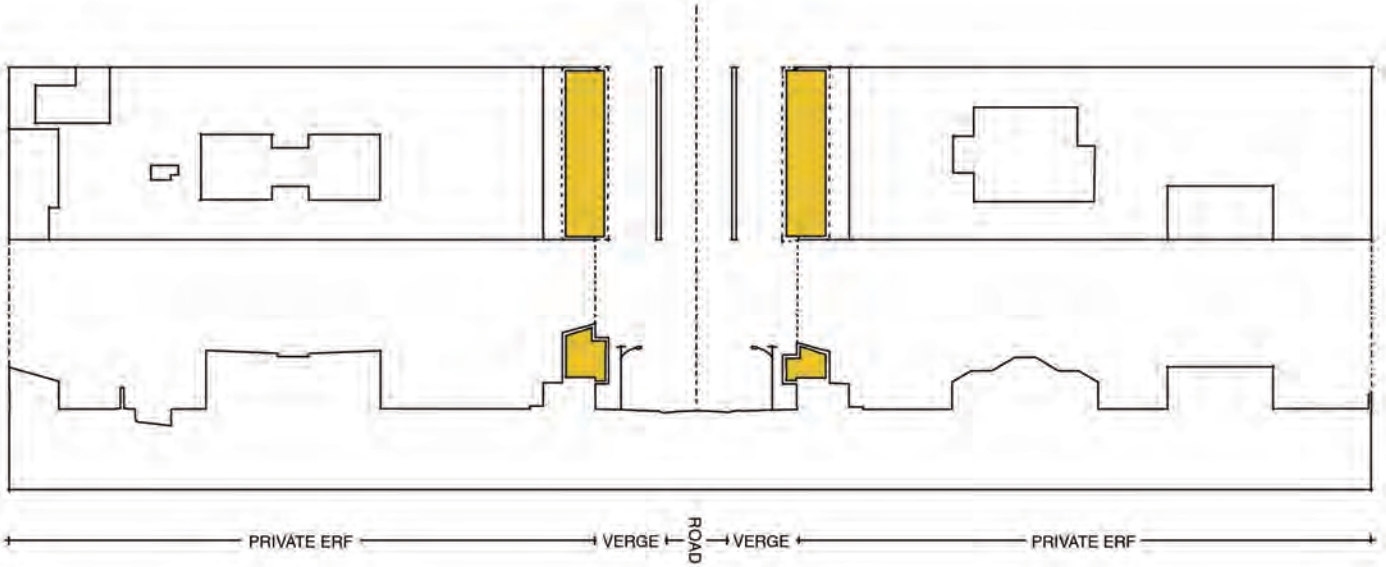
Ground floor service space can be added to the back of the new buildings.





13

Residential circulation hangs over the entrance of the ground floor, forming a sheltered ‘stoep’.

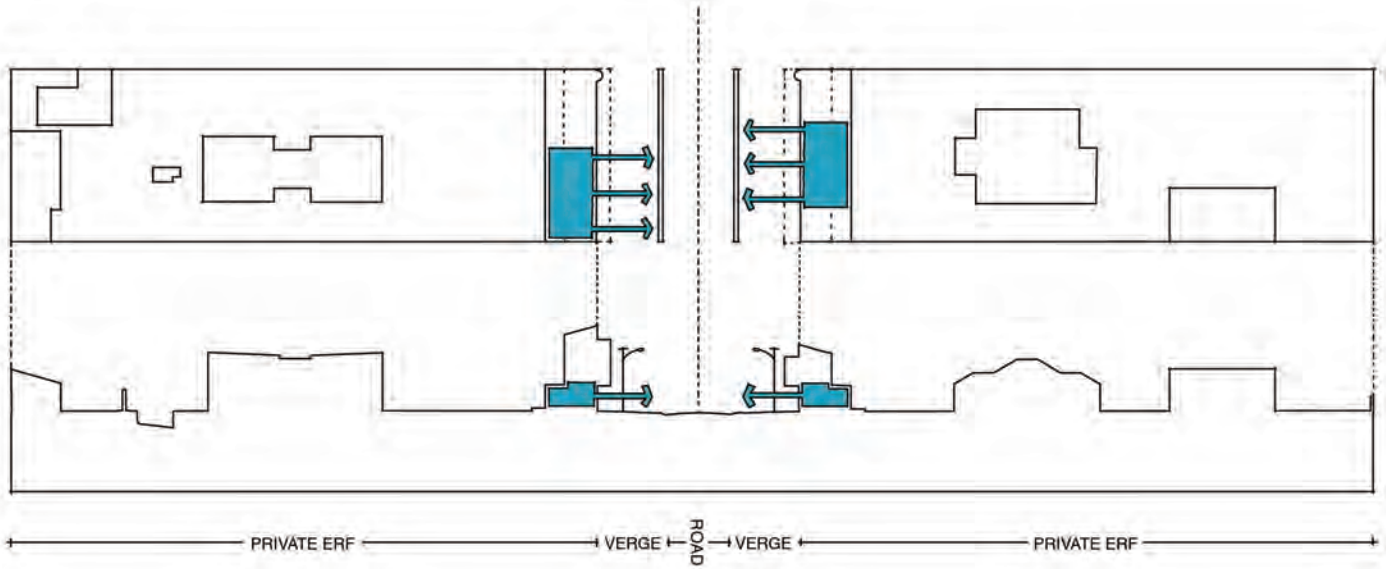


14

The upper floors can be given over to residential activity. These residential units look over- and are accessed from the street.

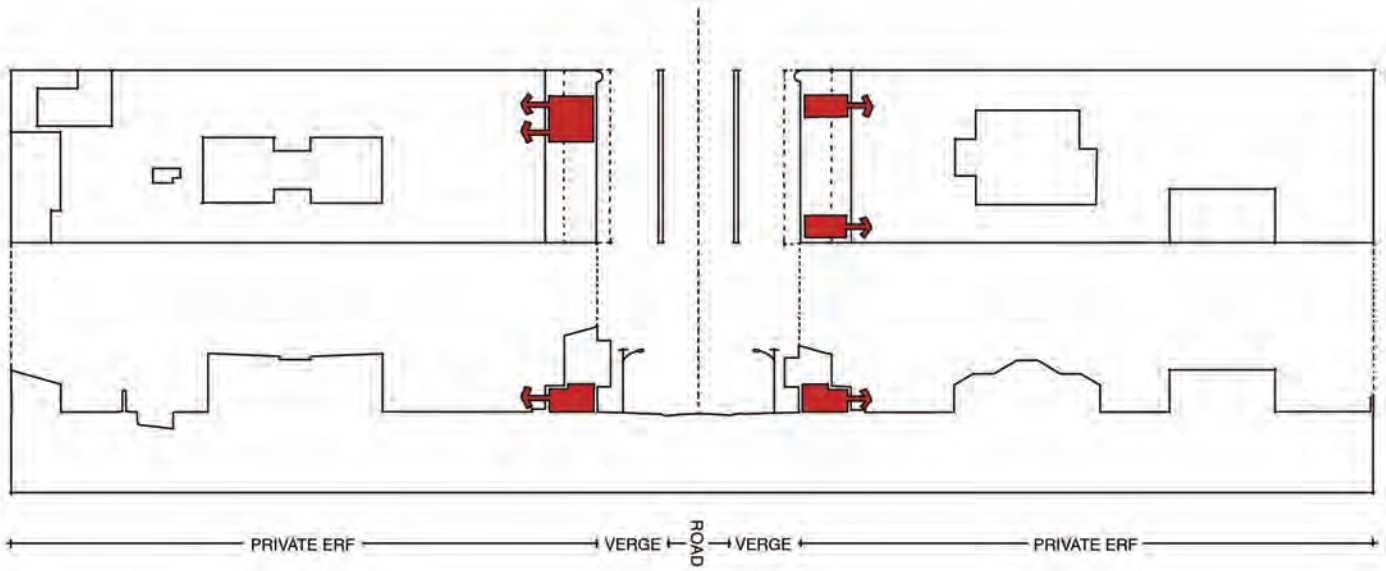
15

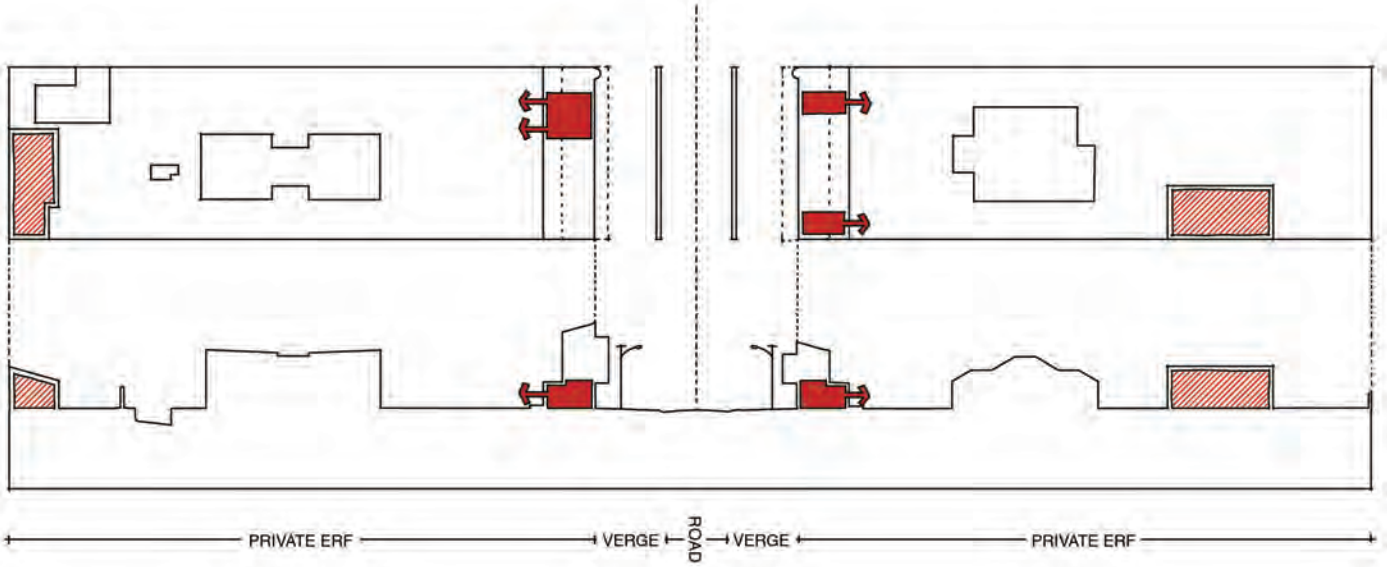
The ground floor allows for small-scale commercial/office space to serve/activate the streetscape. The ground floor is not not programmatically restricted to commerce/ office. If there was strong desire for further residential space - this could be accommodated for.



16

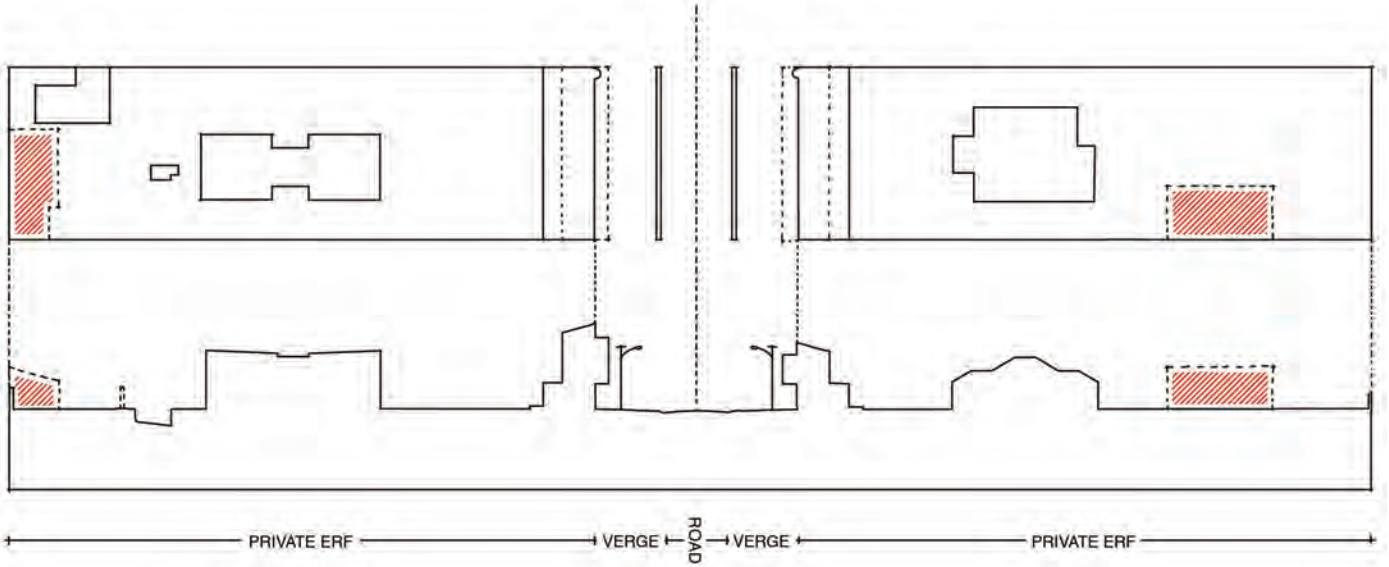
The ground floor can also accomodate parking to service the suburban residential lot behind.





17

The suburban parking can be accommodated at the front of the erf. This renders the original suburban parking redundant.

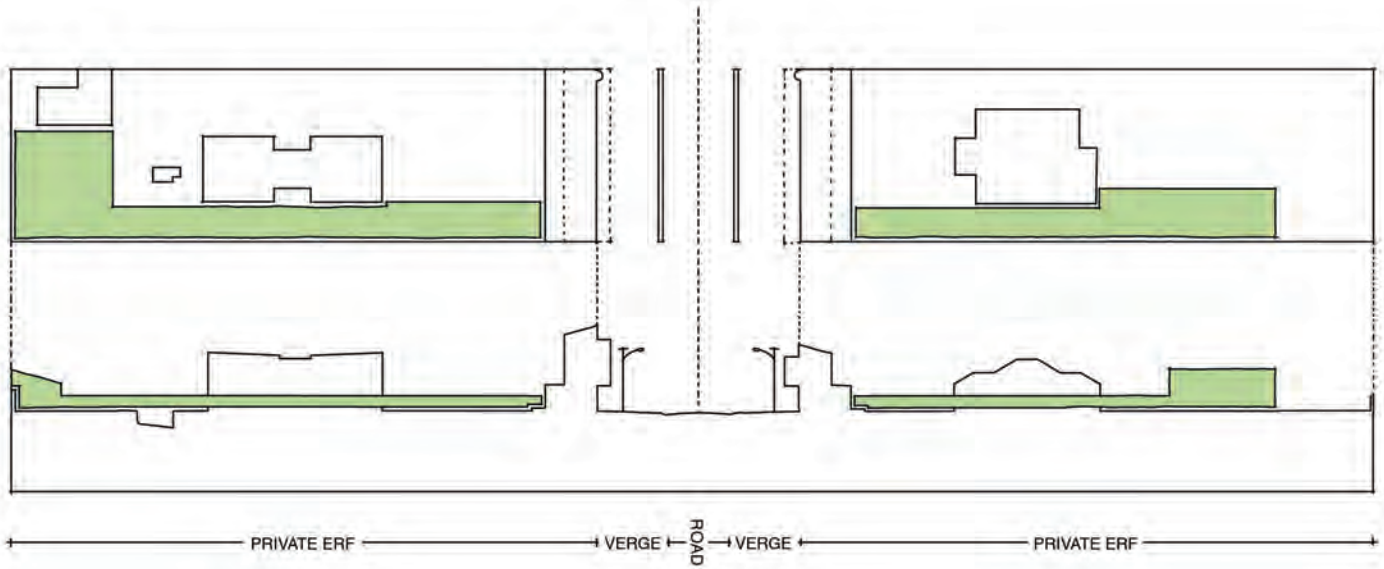


18

The original parking can, therefore, be demolished.

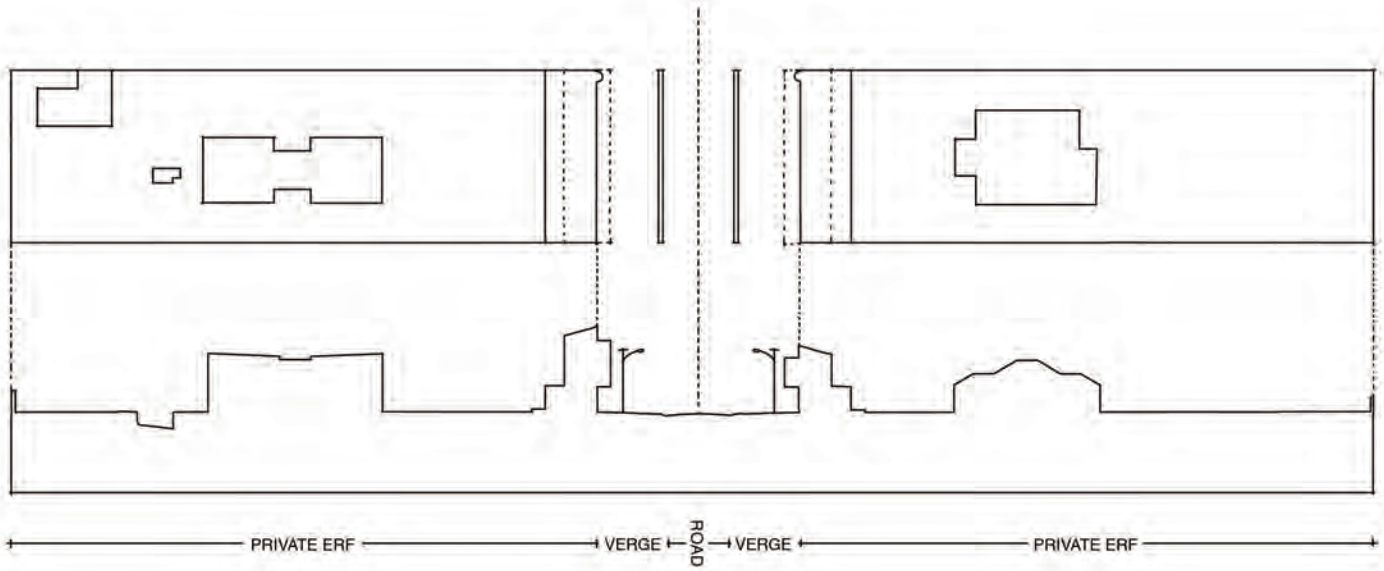
19

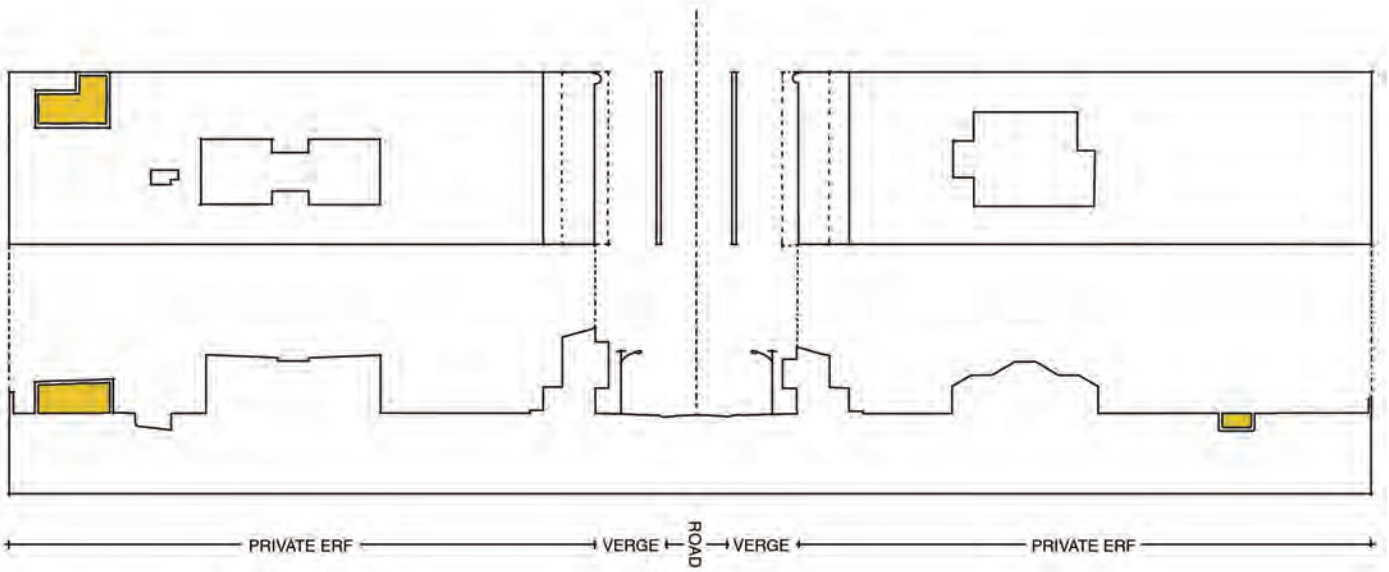
This allows the garages and driveways to be re-greened. The total area of land dedicated to cars is suprisingly substantial - with the driveways and garages comprising 22% of total erf size. This number is often far higher in the rest of the suburb.



20

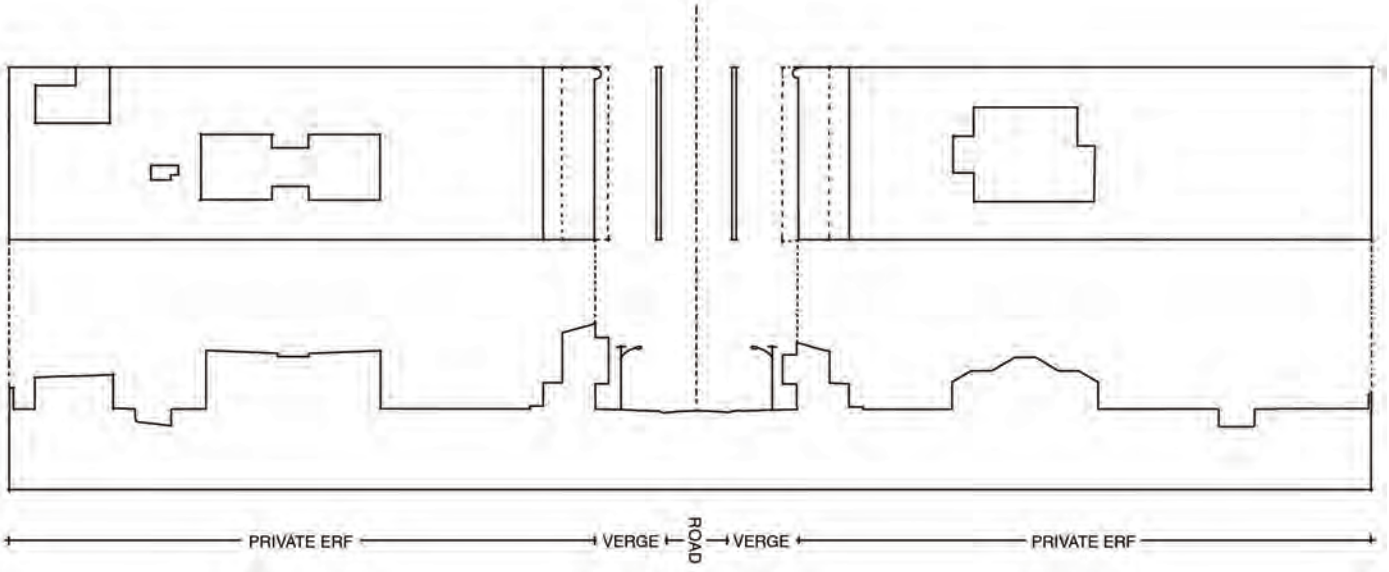
The suburban form after demolition of the current garages.





21

Naturally, granny flats, swimming pools and the like can still be constructed on the suburban erven to accomodate for the residents' needs and wants.

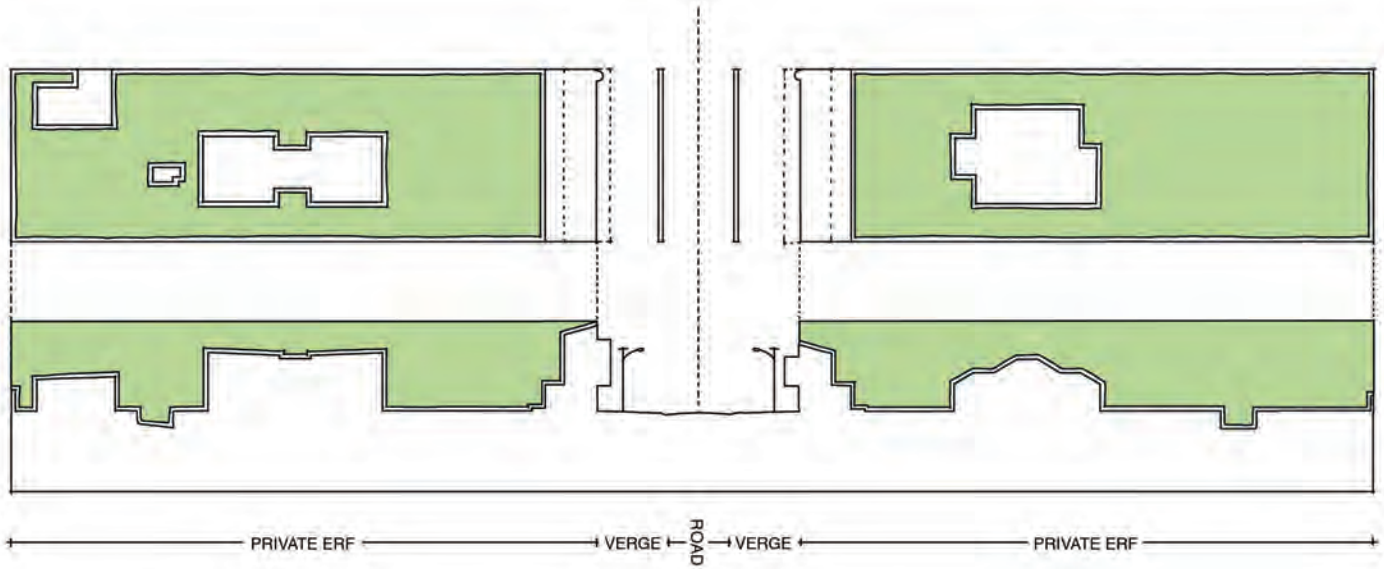


22

The suburban form after granny flats and swimming pools are added.

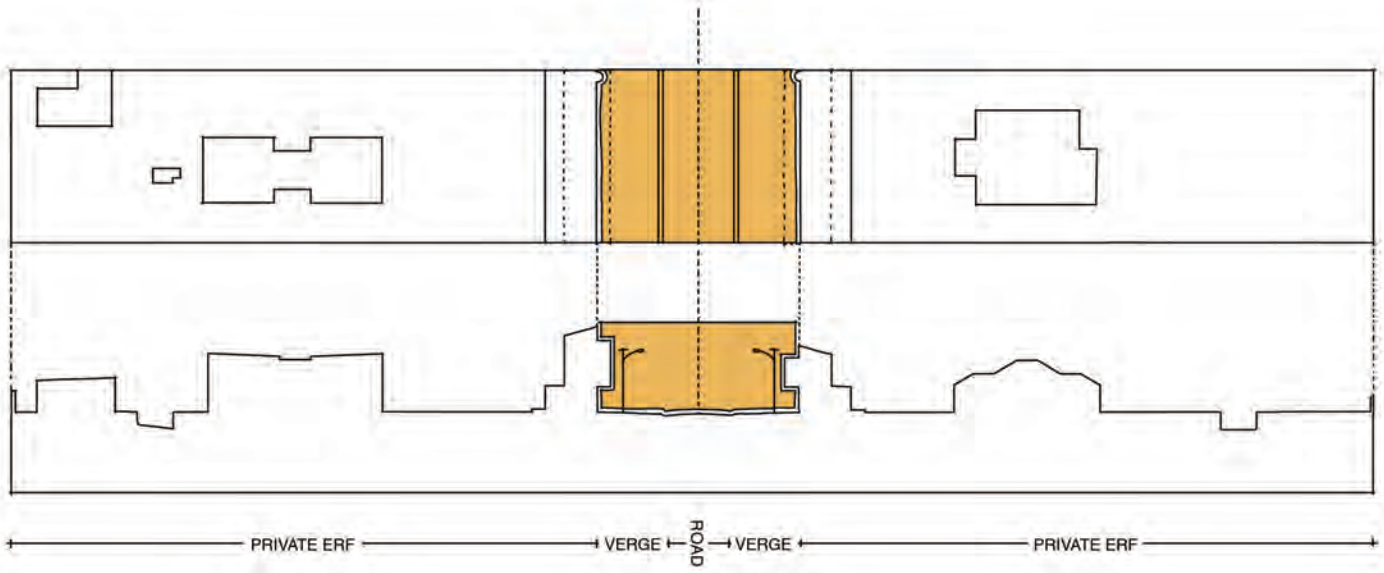
23

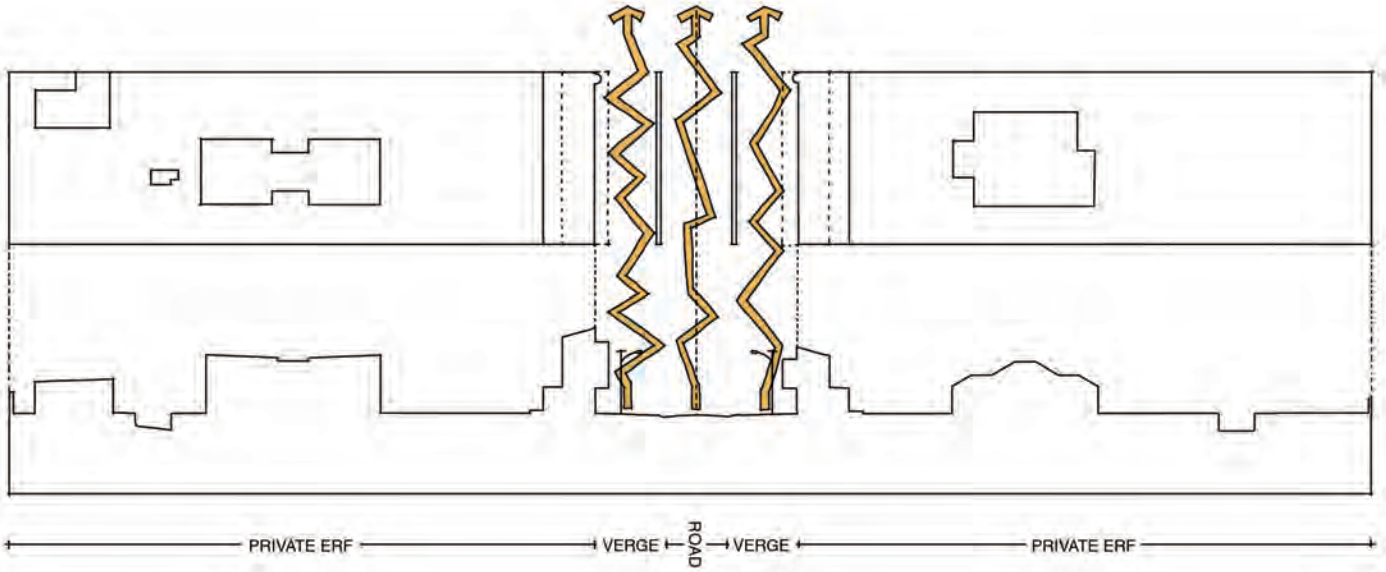
The strategy secures - and even exaggerates - the private character of the suburban erven.



24

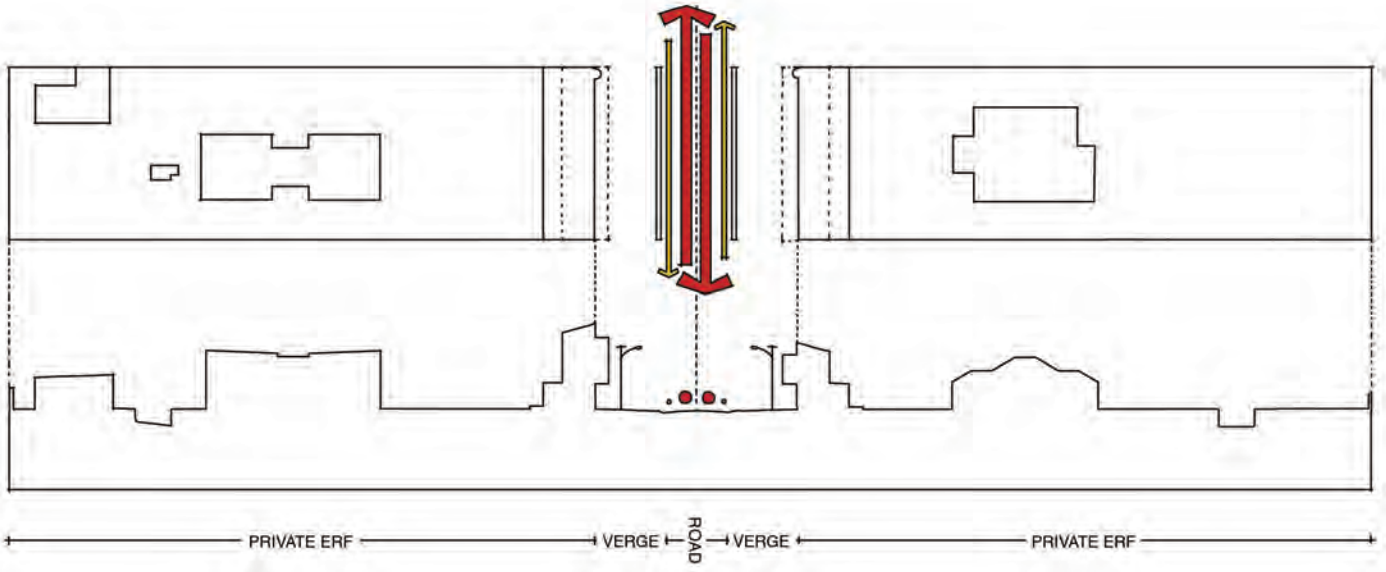
The streetscape, however, is now held by the new perimeter block buildings and is activated by their front edges...





25

...creating an urbanised streetscape.



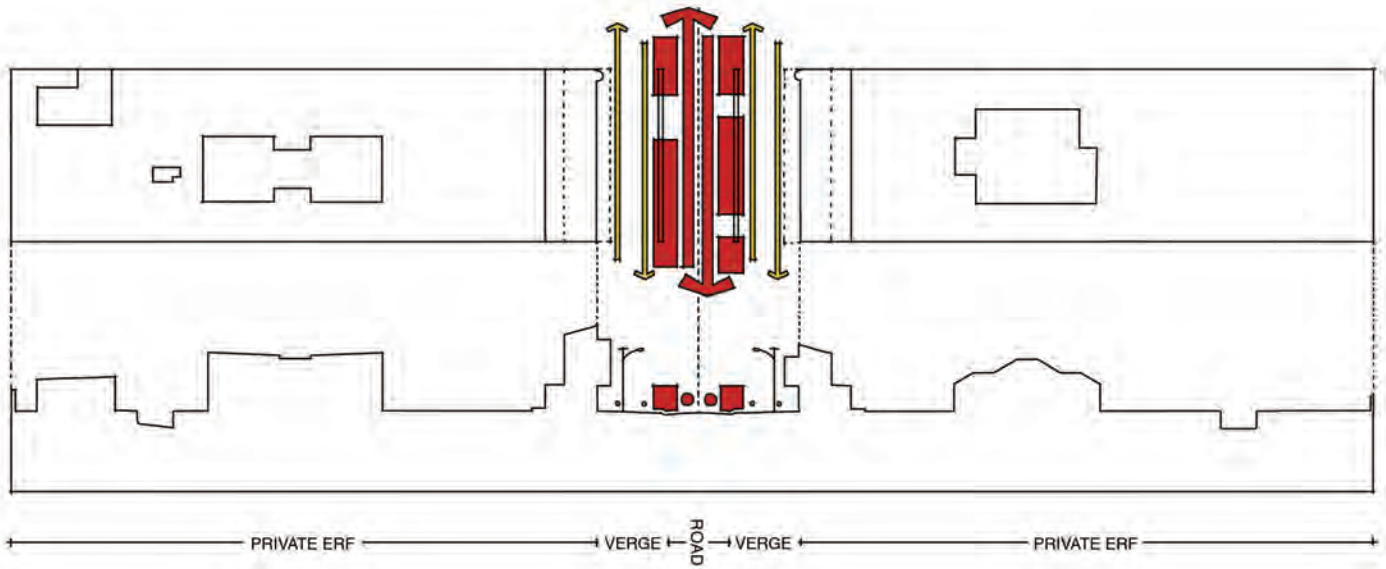
26

With an active streetscape, though, the current vehicular and pedestrian movement strategy is no longer relevant and requires revision.

27

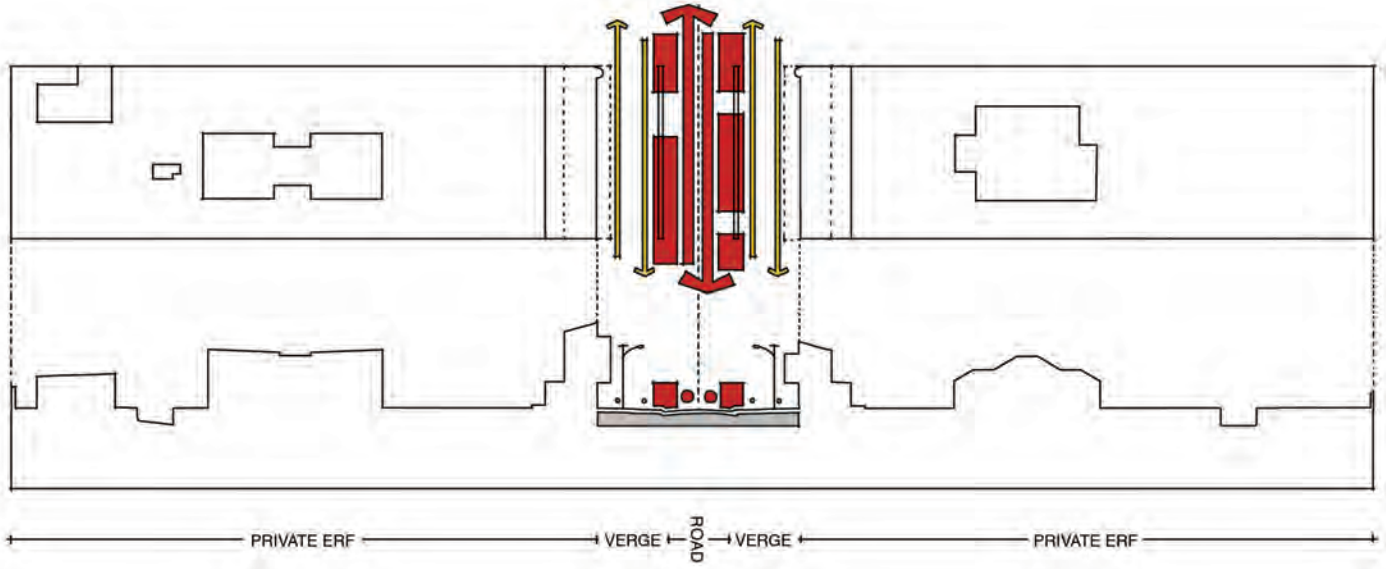
The pedestrian and bicycle movement can be accomodated more generously on the verges.

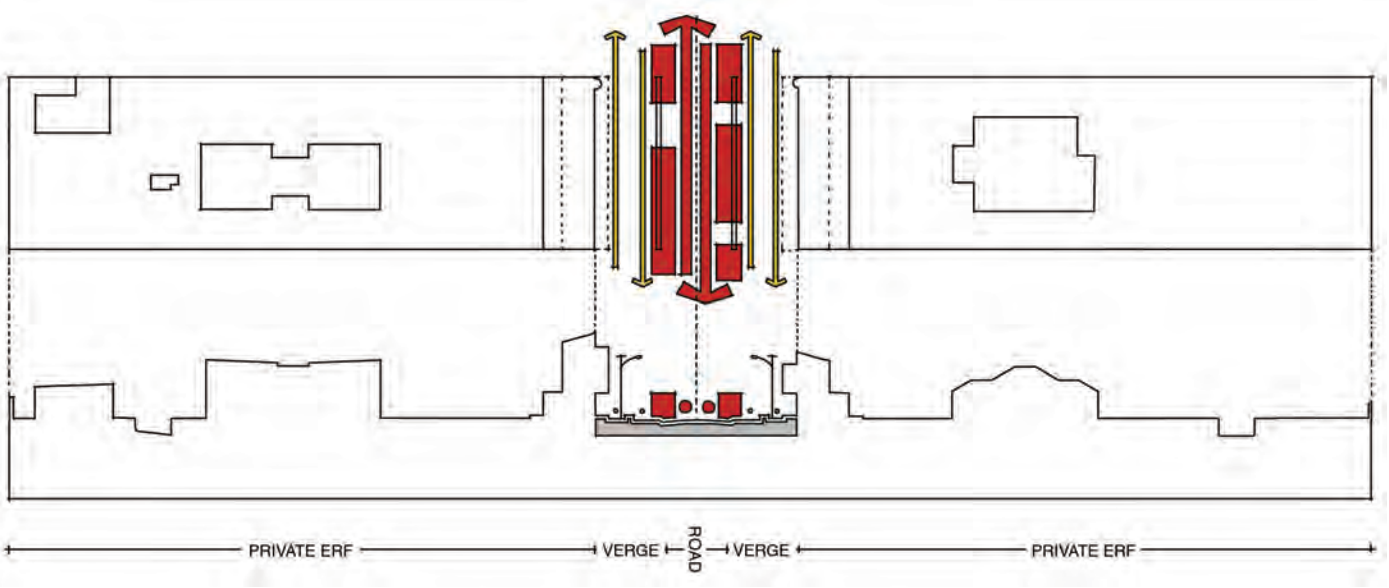
The streetscape is wide enough to accomodate parallel parking on the road. This decision plays a part in slowing vehicular traffic along the residential streets as well as creating a buffer between the vehicular movement and the bicycle and pedestrian areas.



28

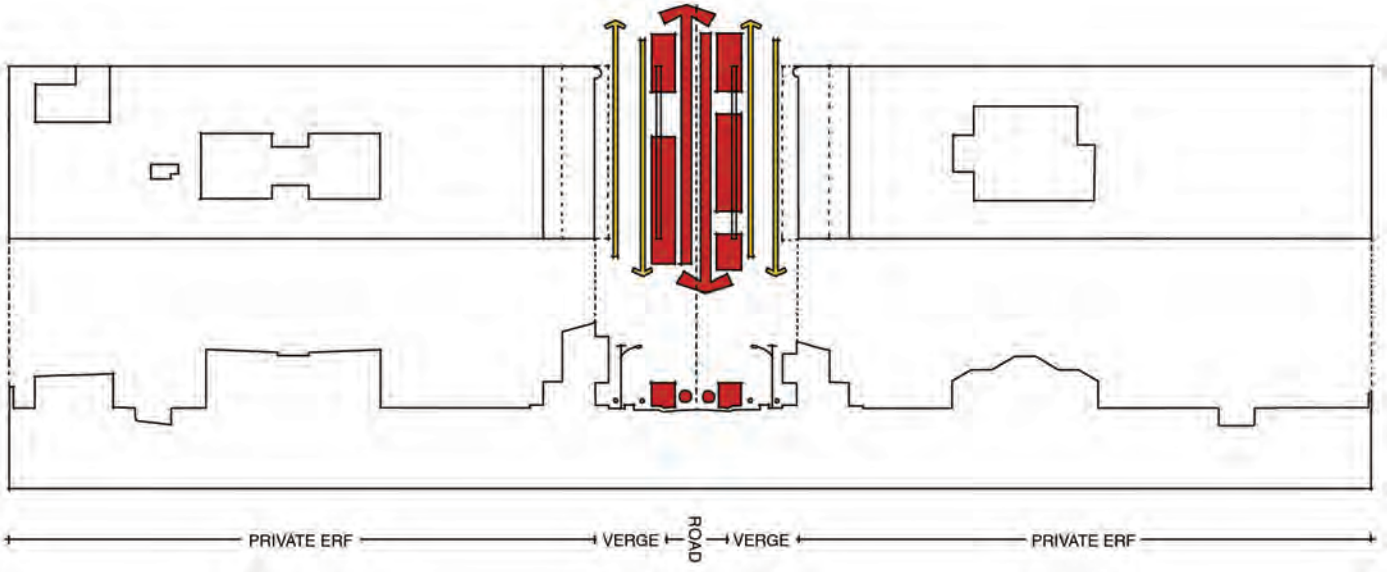
The floor of the streetscape - which is currently rather unconsidered - can be re-imagined...





29

...and manipulated in order to create a more livable public space.

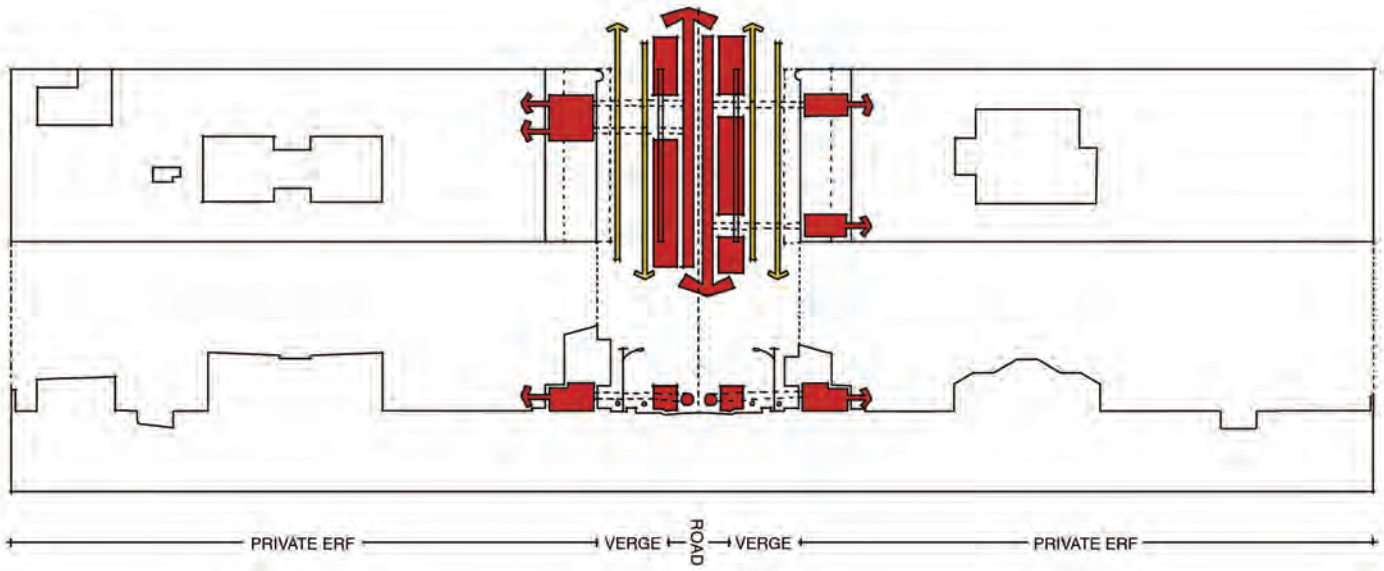


30

The current movement strategy, therefore, sits in this urban setting...

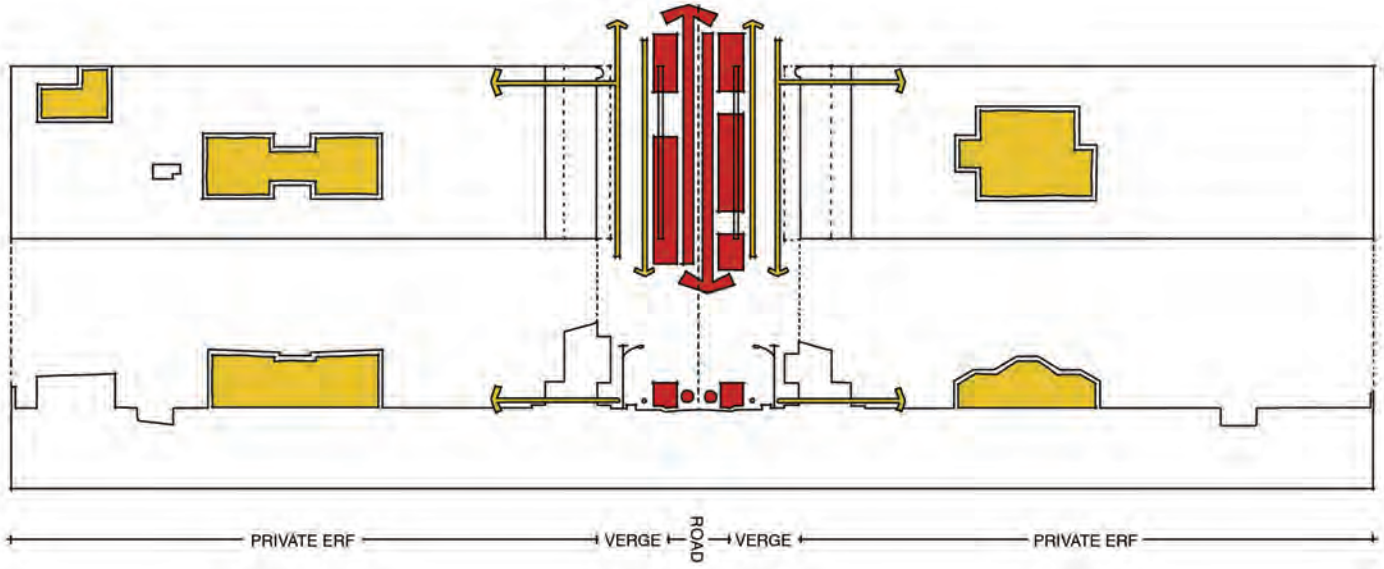
27

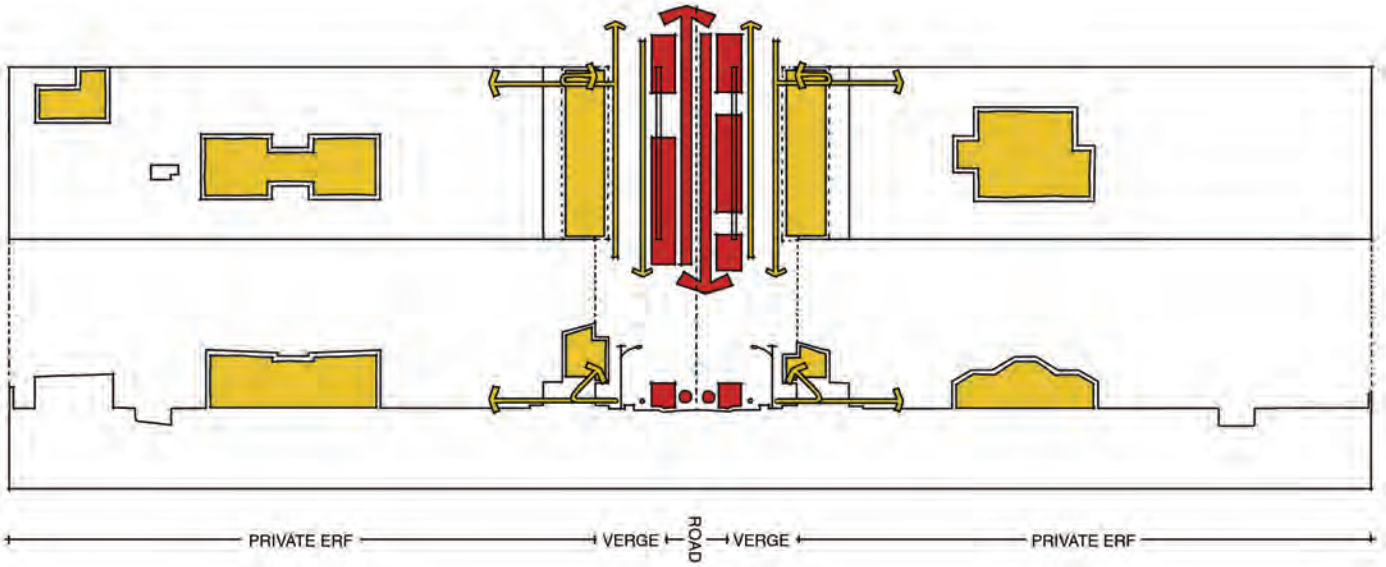
which allows for residential vehicles to access their private parking,...



28

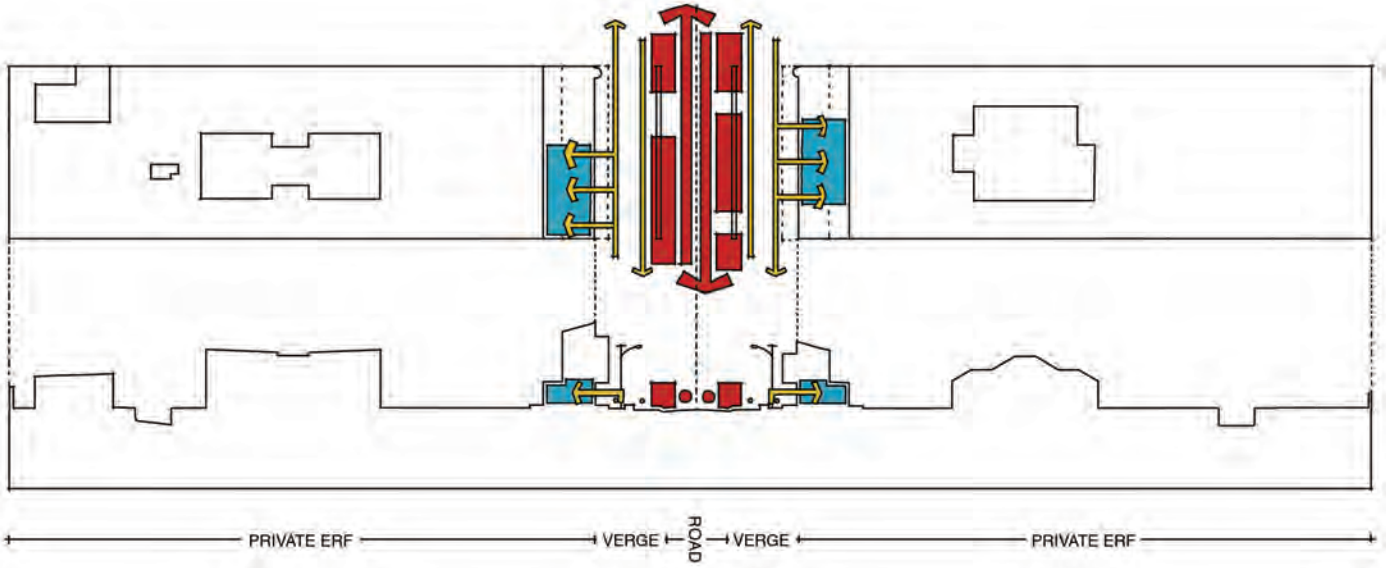
...and pedestrians to access the both the suburban erven behind...





29

...and the residential spaces on the upper floors of the perimeter buildings...

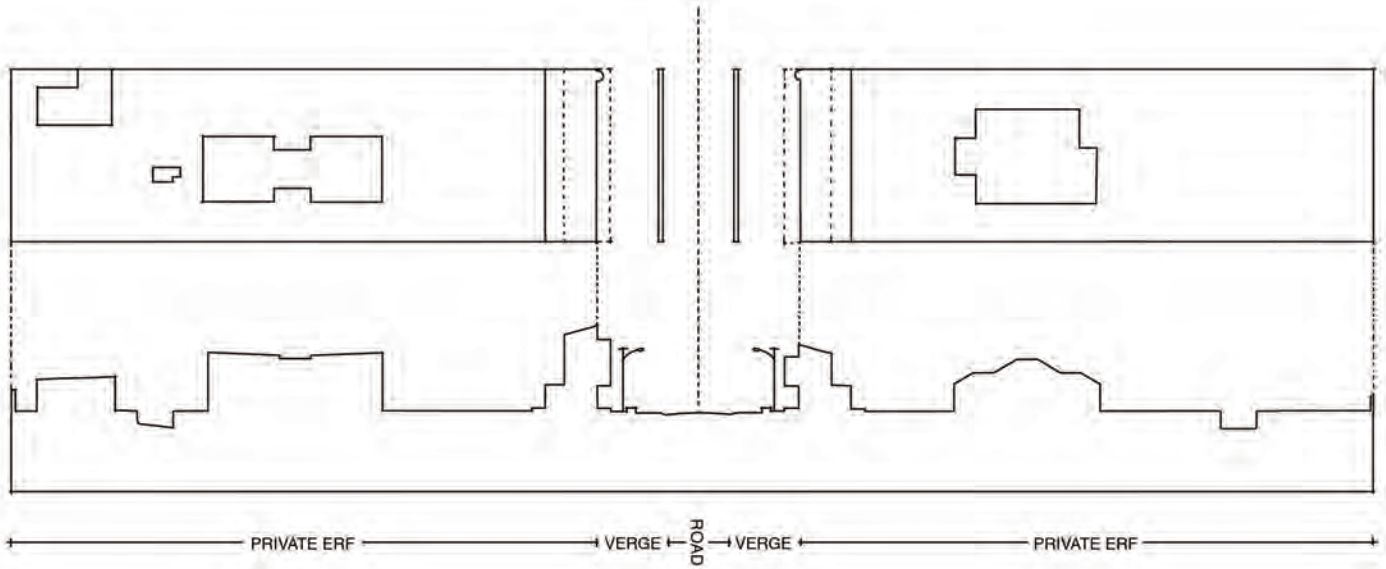


30

...as well as the office and commercial spaces on ground floor.

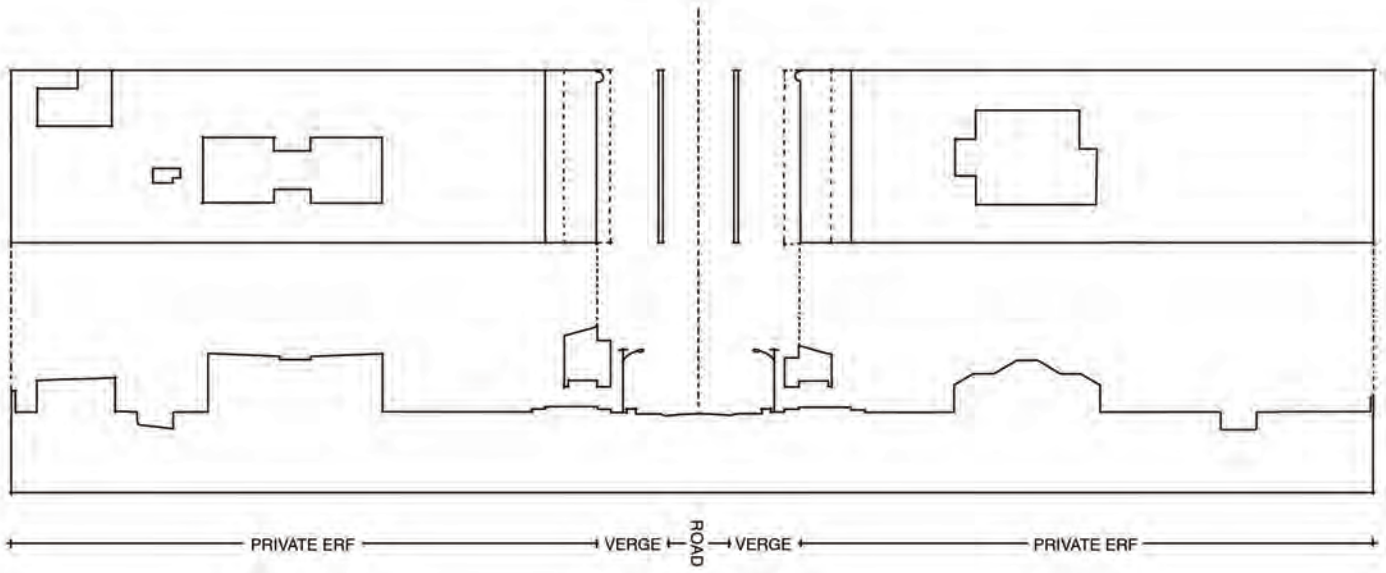
31

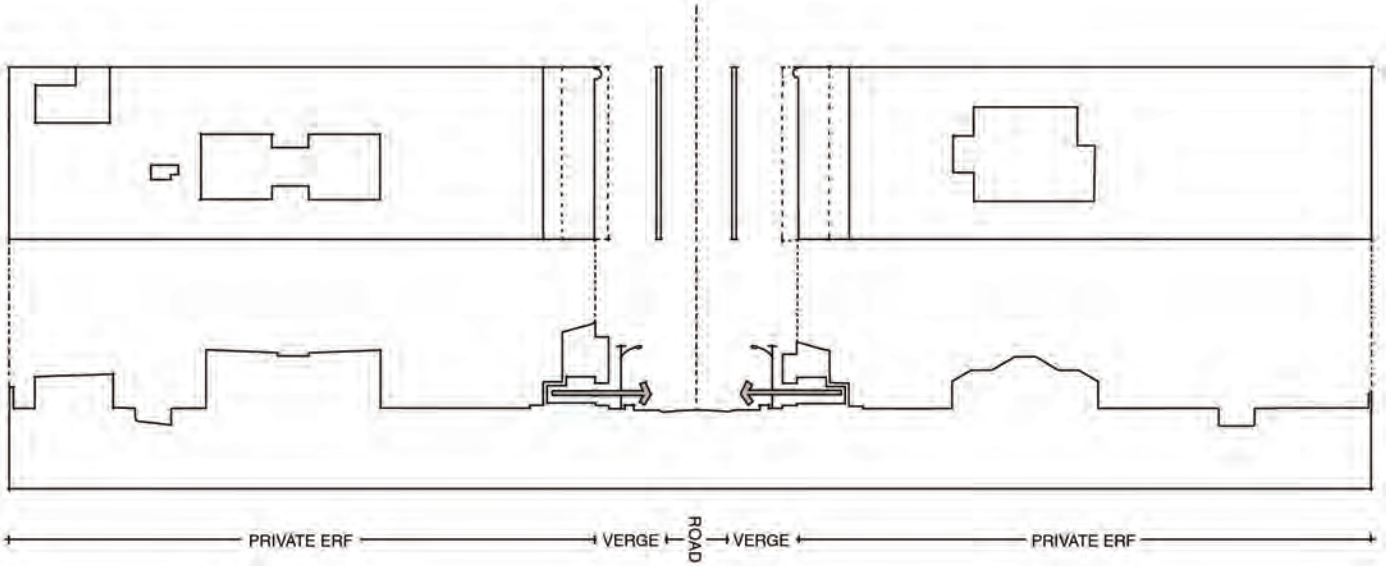
The simplified version of the proposed suburban form.



32

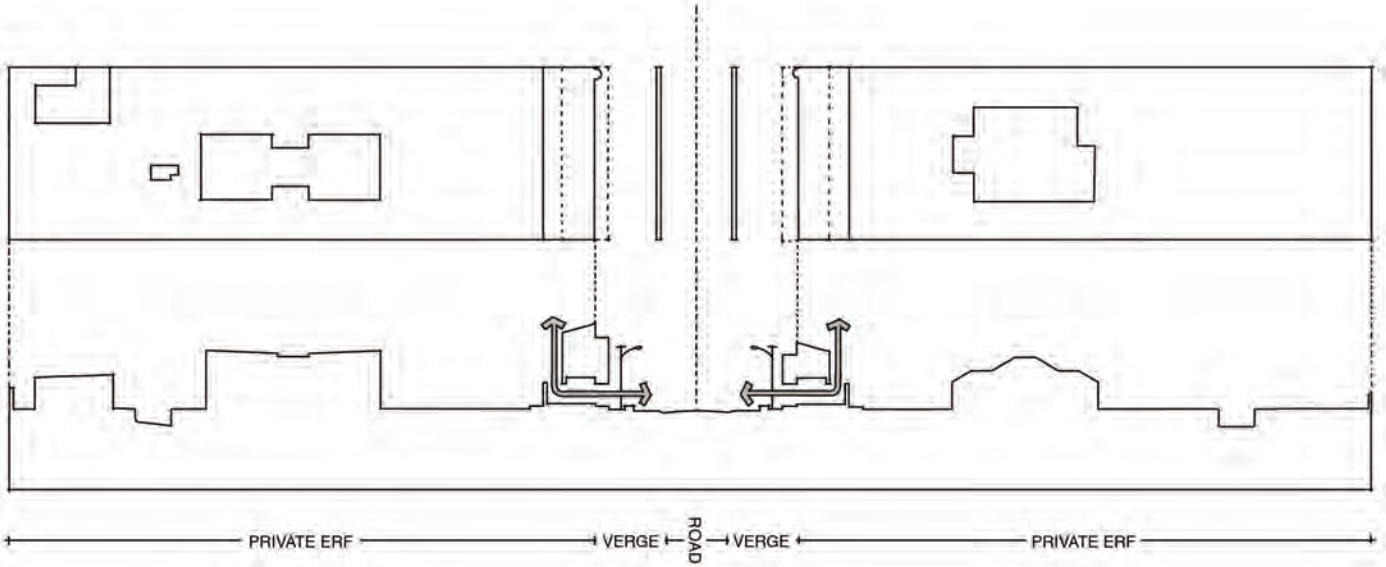
The ground floor of the perimeter buildings can be designed for the different needs and circumstances of particular erven.





33

The ground floor can orient itself to the street,...

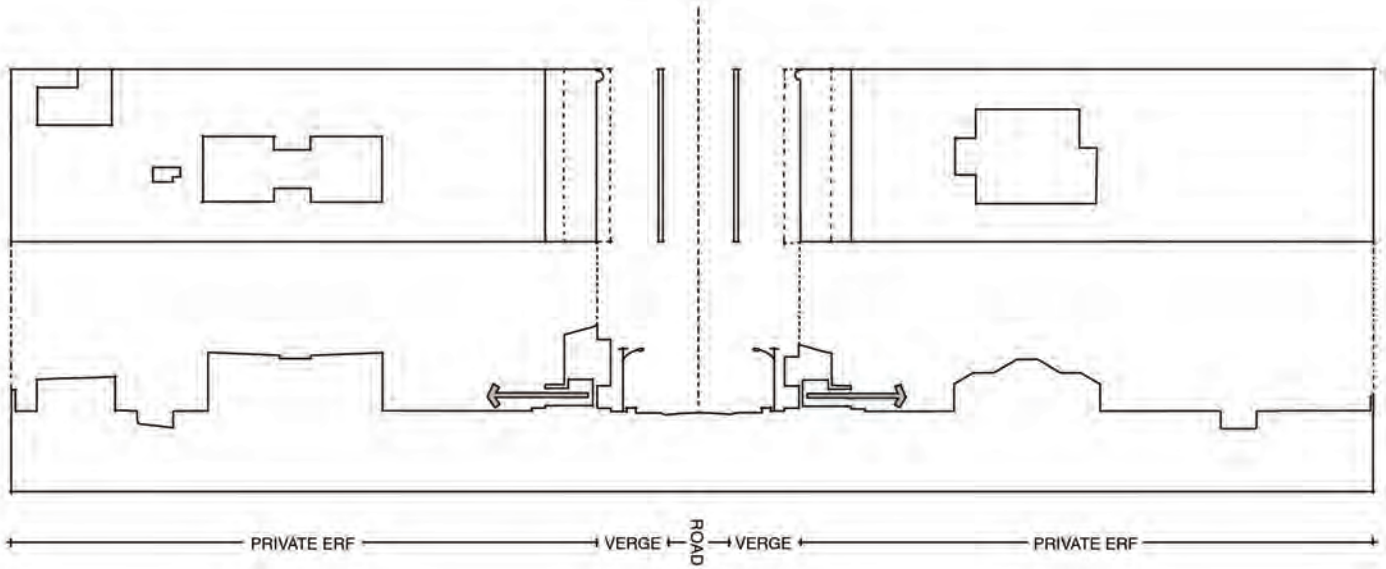


34

...open up to a courtyard in the rear to share the amenity of the suburban garden,...

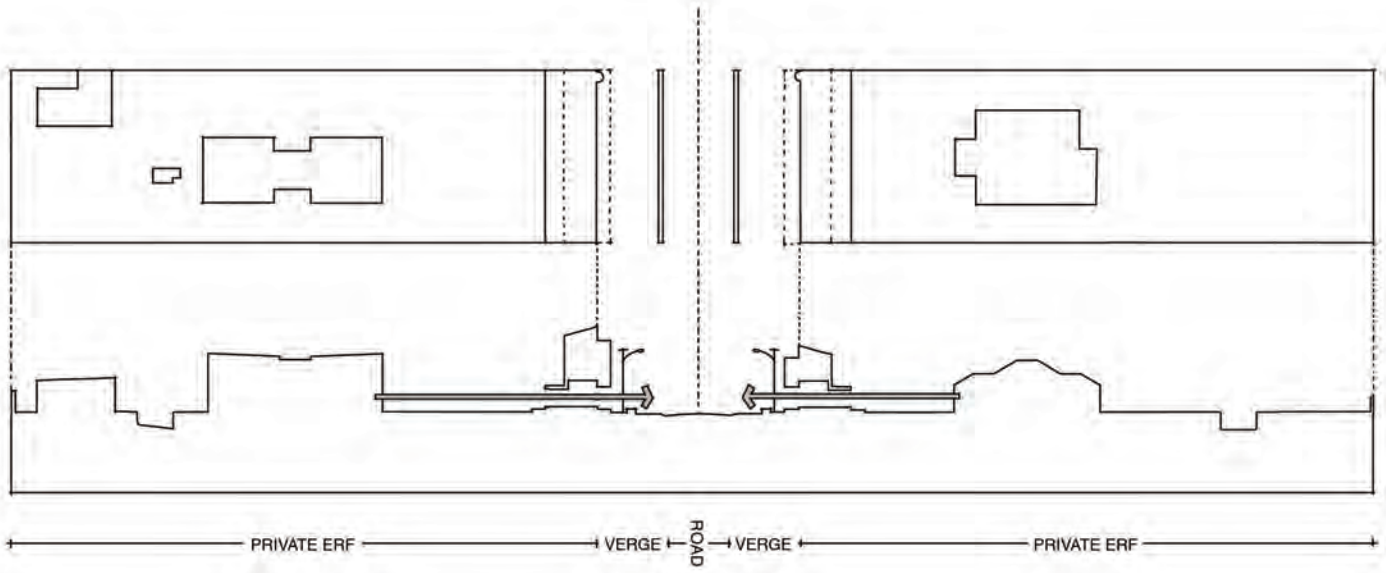
35

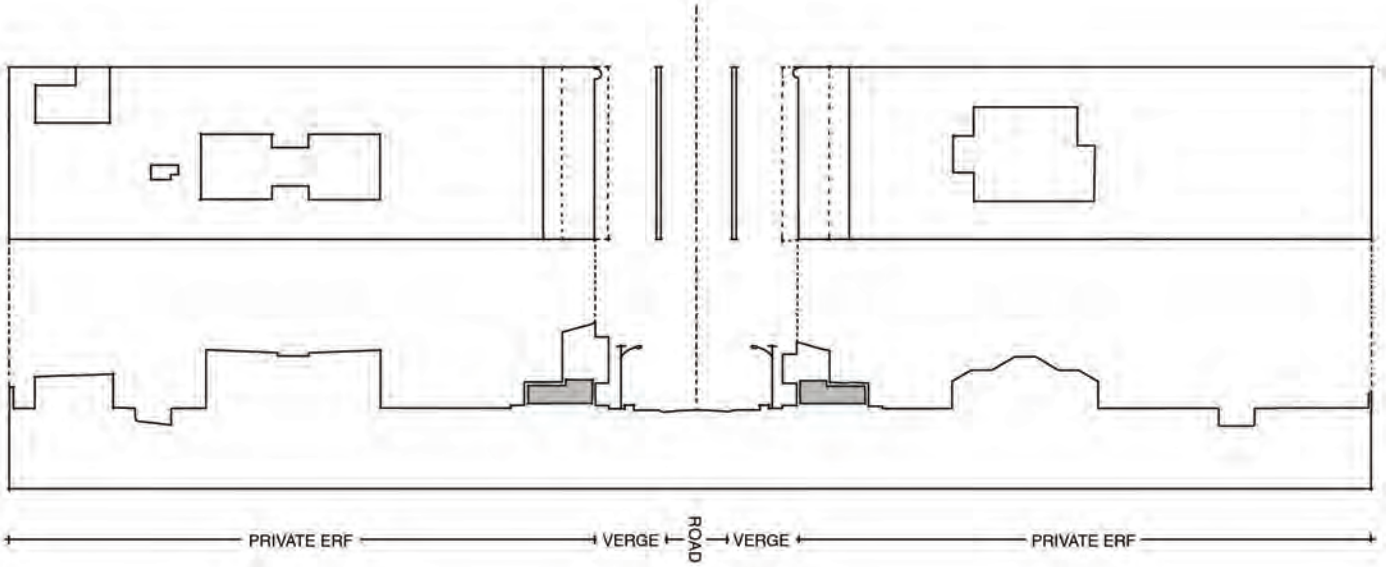
...open up to the rear in order to create additional space for the suburban erf, or...



36

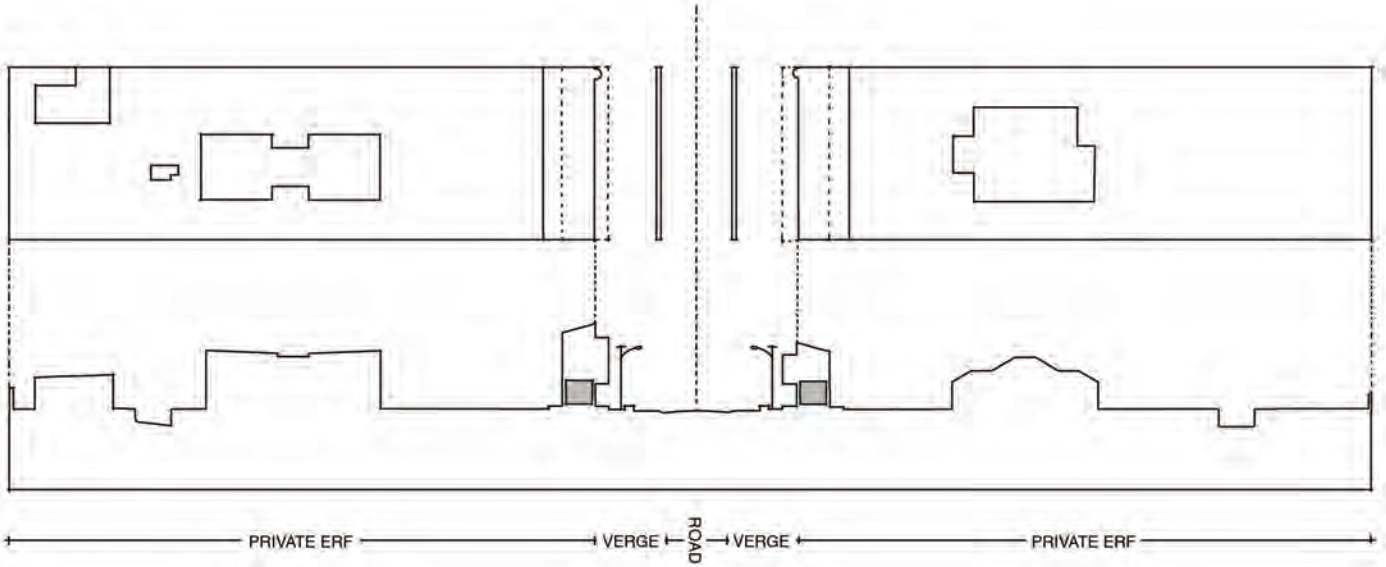
...act as an extension of the current suburban erf (most likely in the case of established small business on the erf looking to expand their work space).





37

The ground floor can also be extended, or...

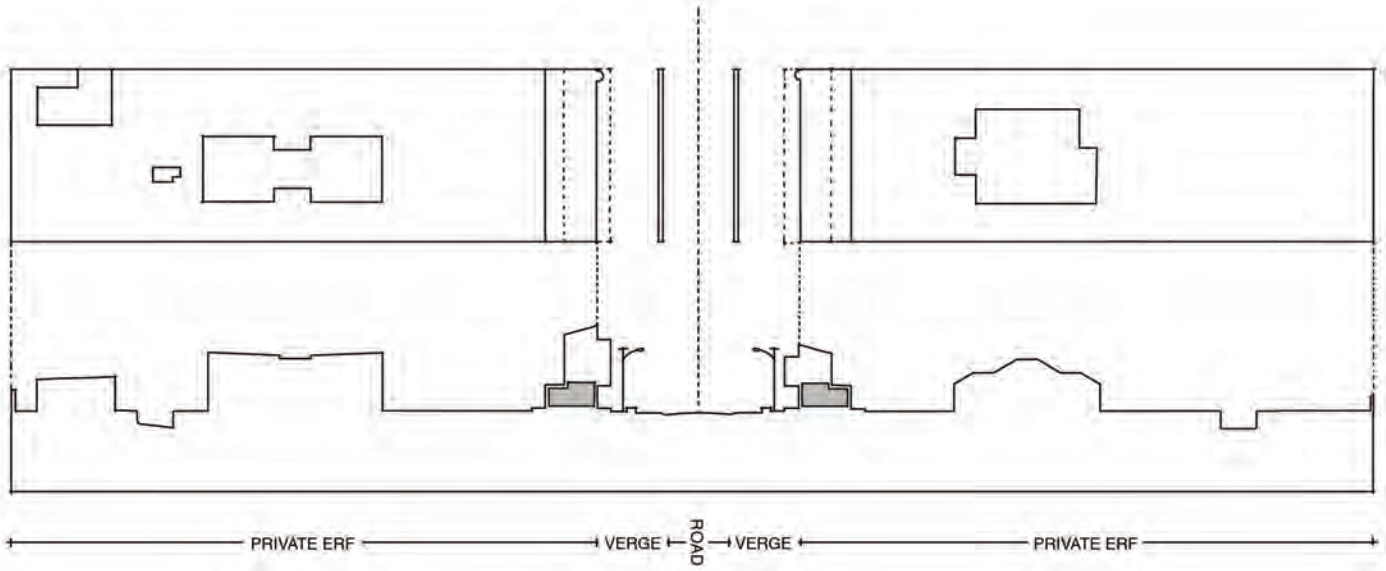


38

...reduced in order to accommodate for the needs of the erf.

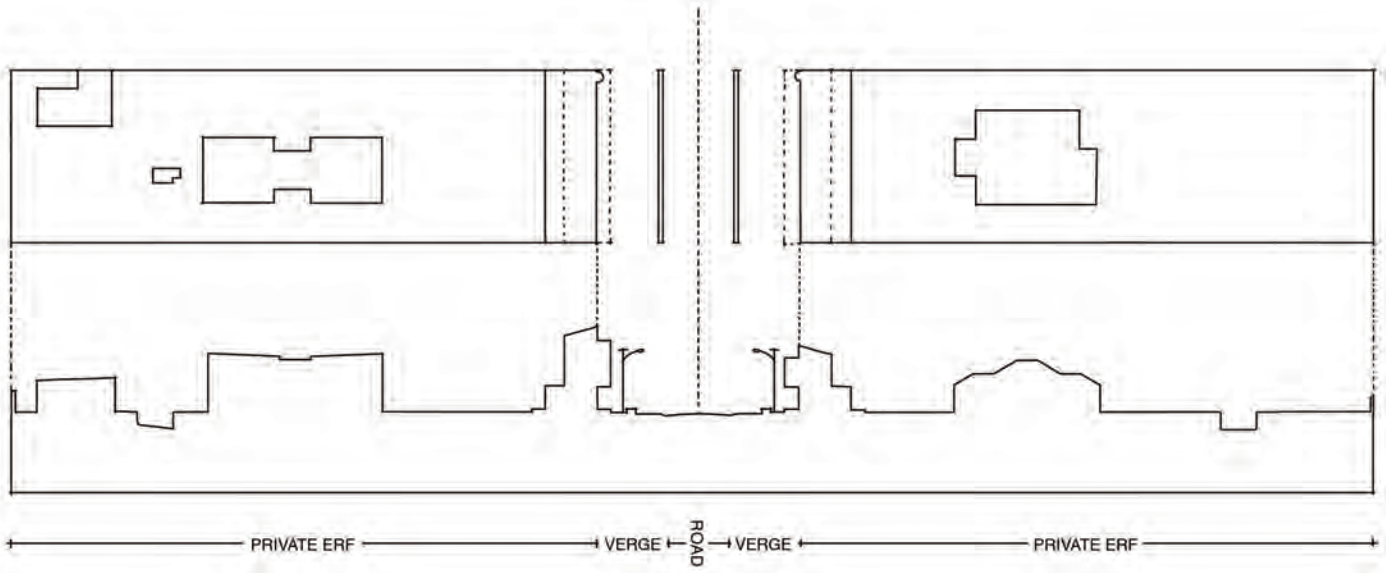
39

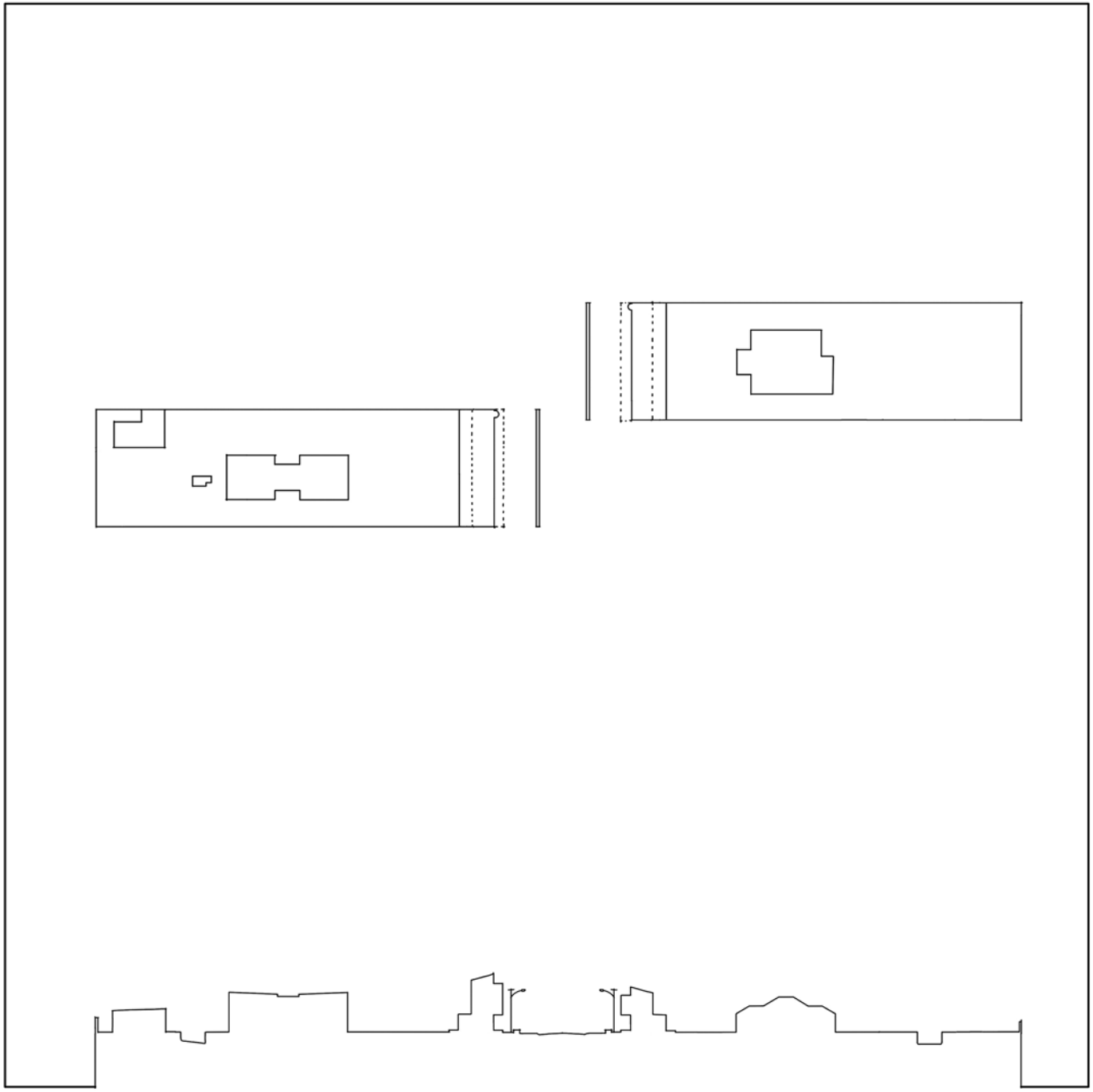
In this example, the ground floor is designed as drawn...



28

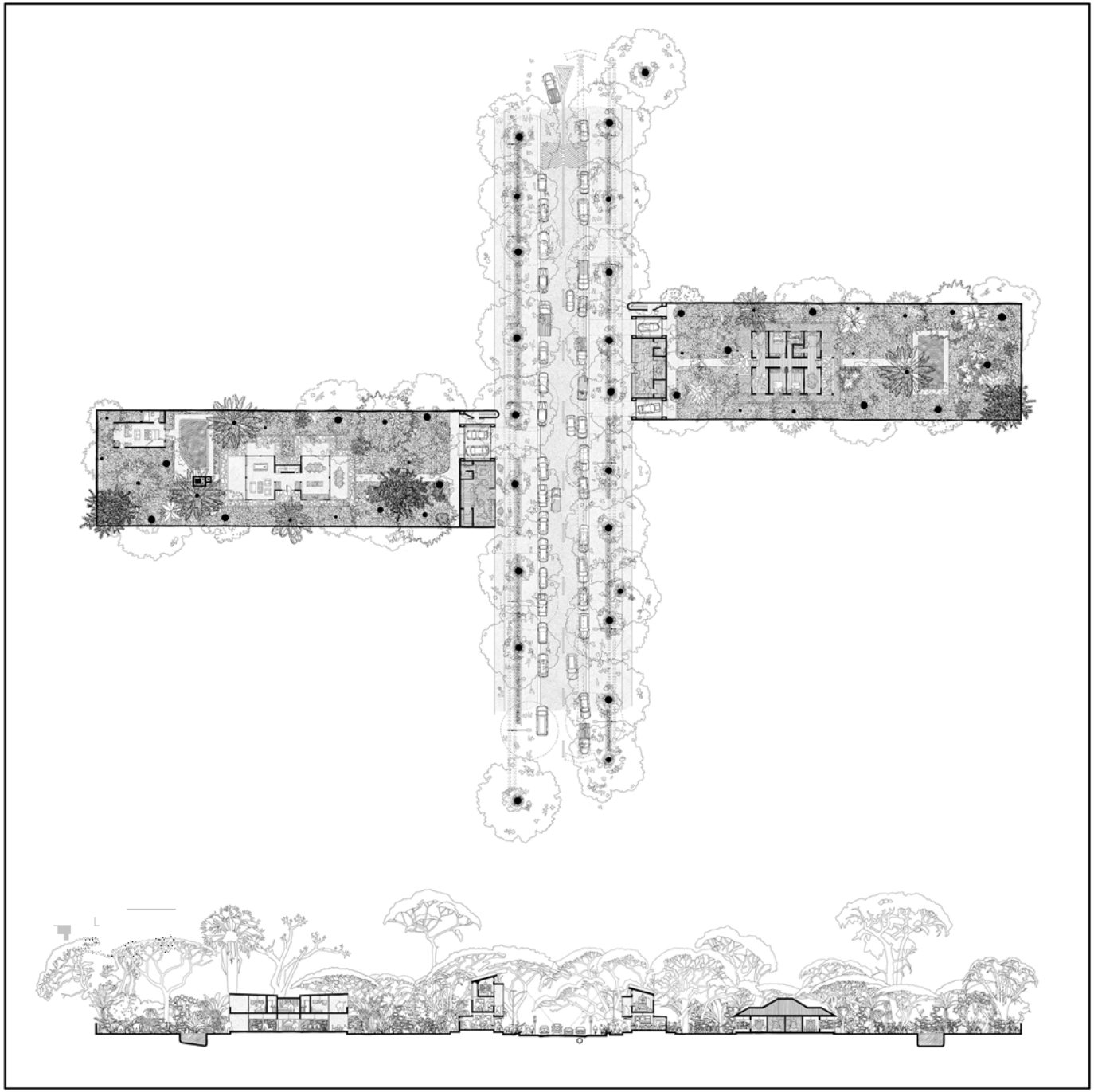
...and results in this proposed suburban form.





The simplified version of the proposed subburban form.

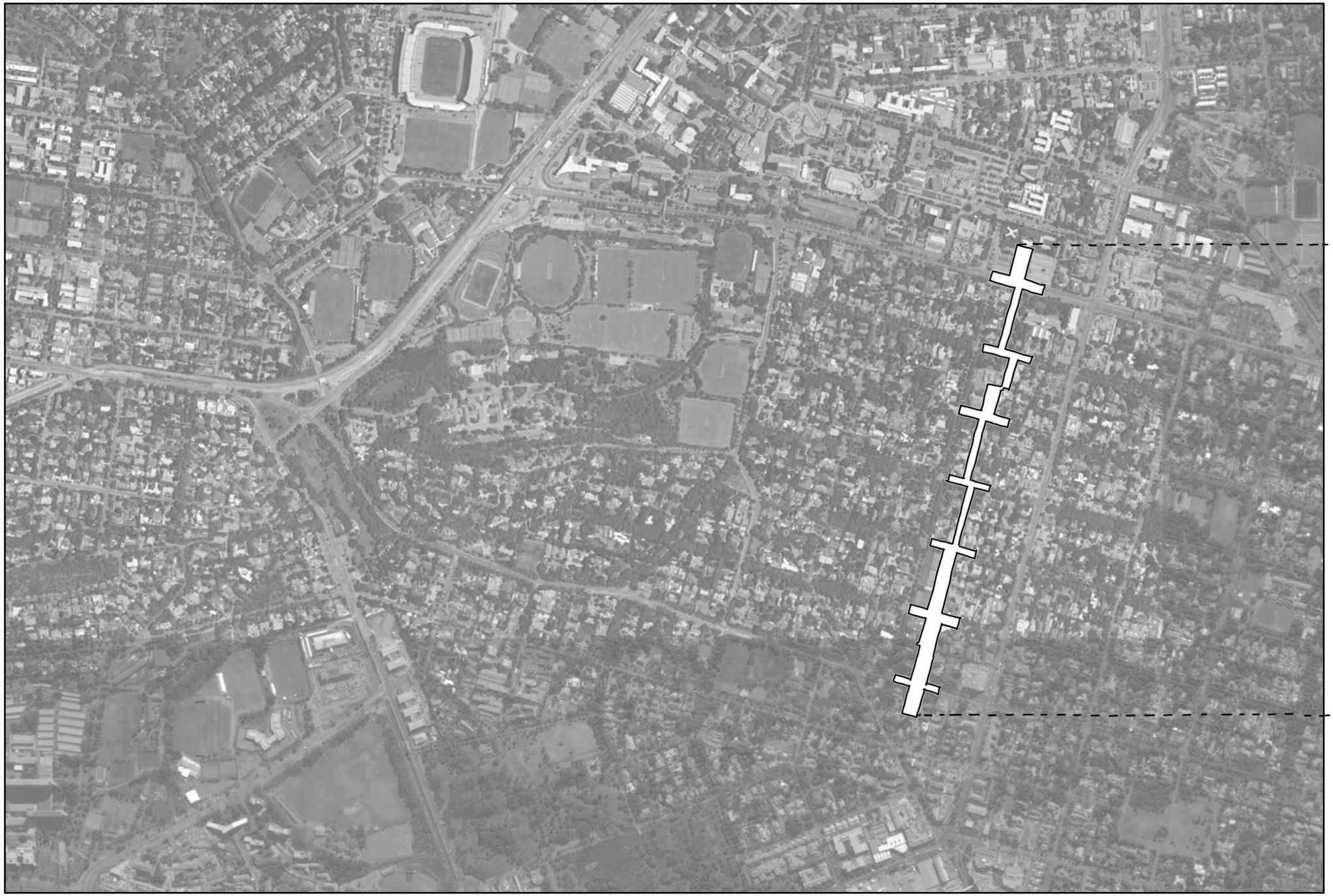
The proposed suburban form.

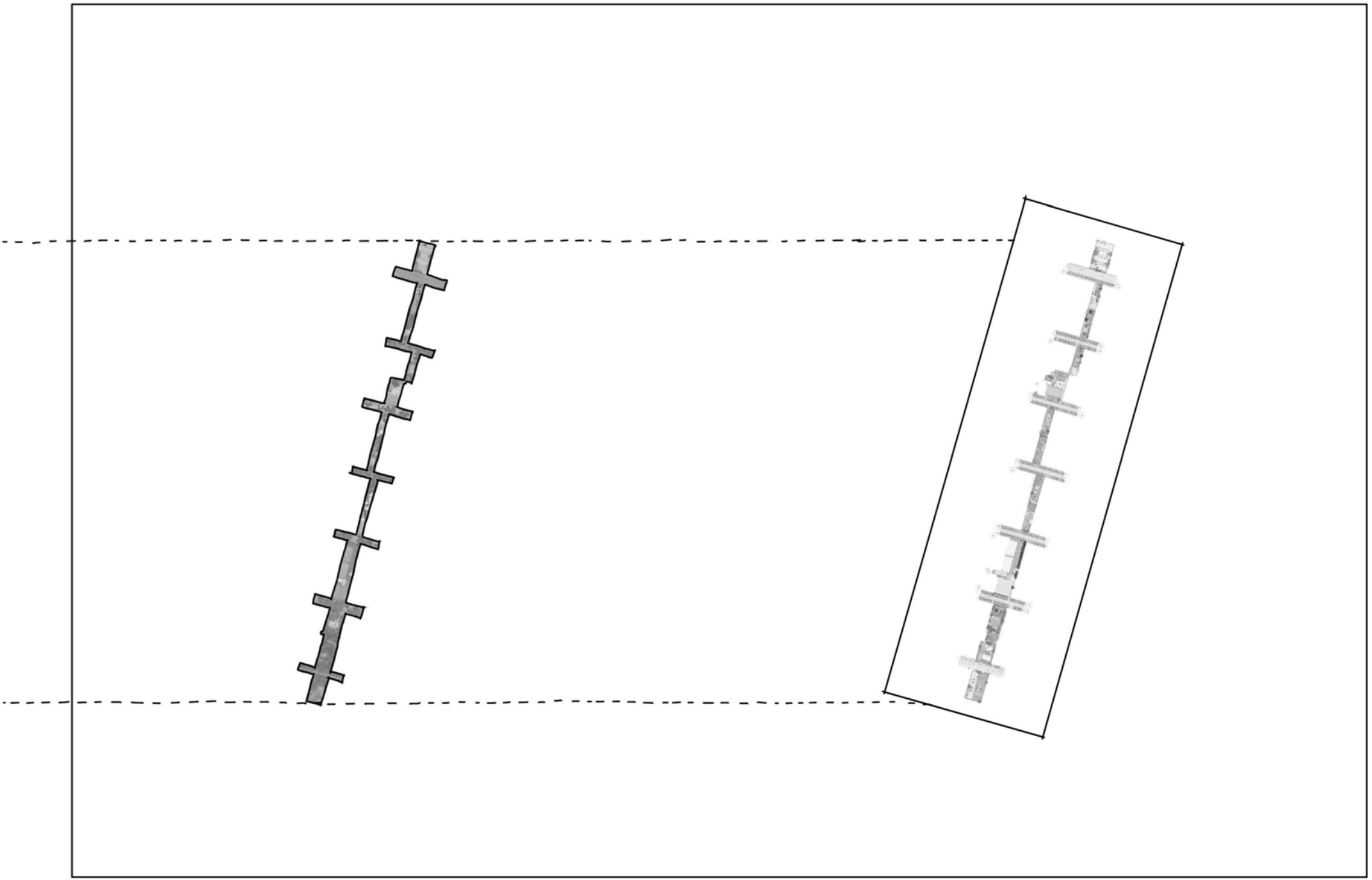


PROPOSED SUBURBAN CONDITION

A DETAILED DRAWN ANALYSIS OF BROOKLYN'S FUTURE SUBURBAN FORM

(Drawings are available in the booklet titled 'Future Suburban Condition')



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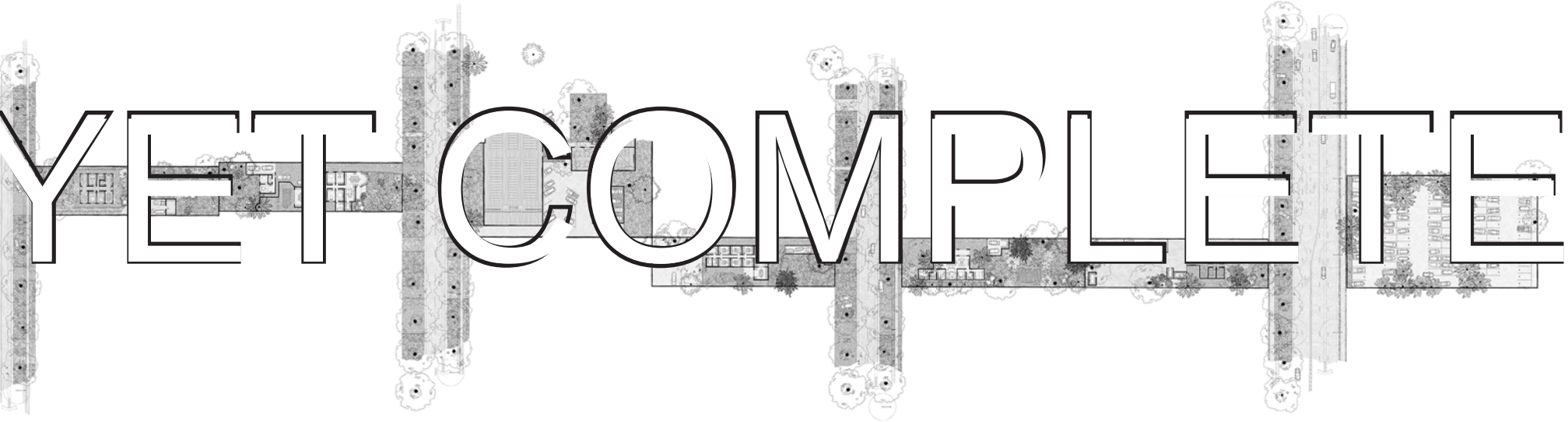
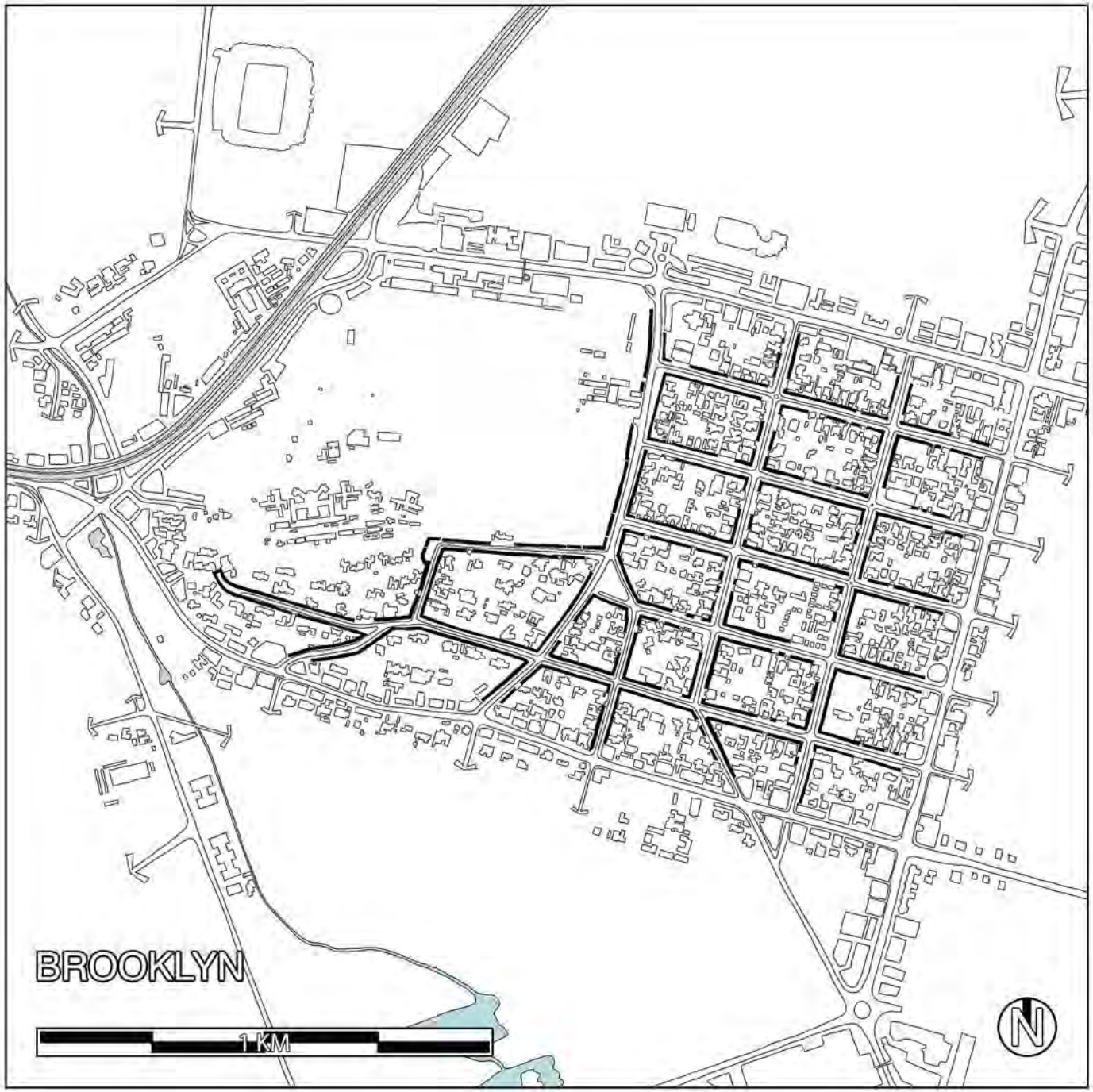

YET COMPLETE

The proposed development of Brooklyn's interior suburban condition naturally has an effect on the urban form of the 'super-block'.

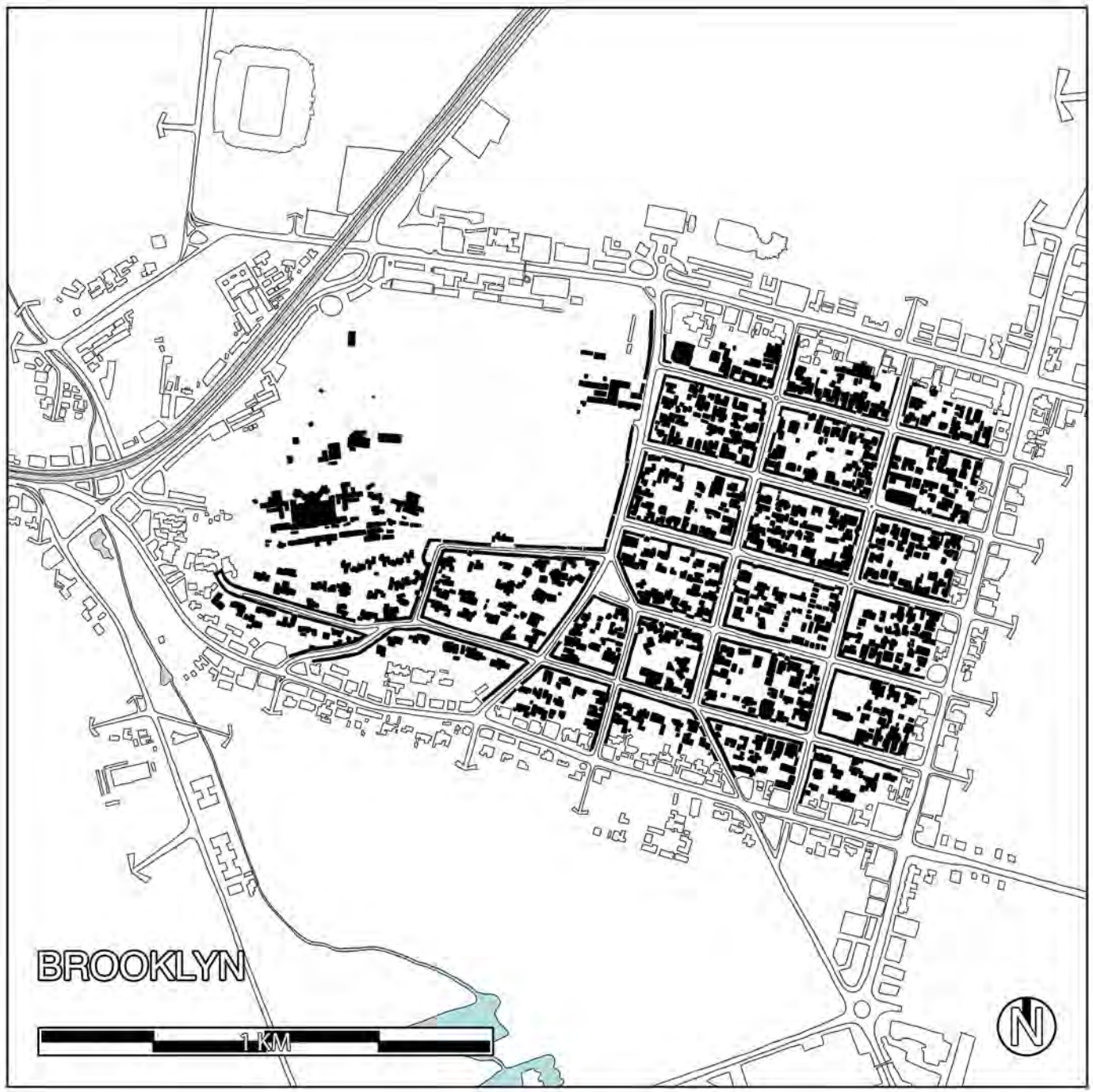
BROOKLYN'S PROPOSED URBAN FORM

PLACING BROOKLYN IN ITS URBAN SETTING

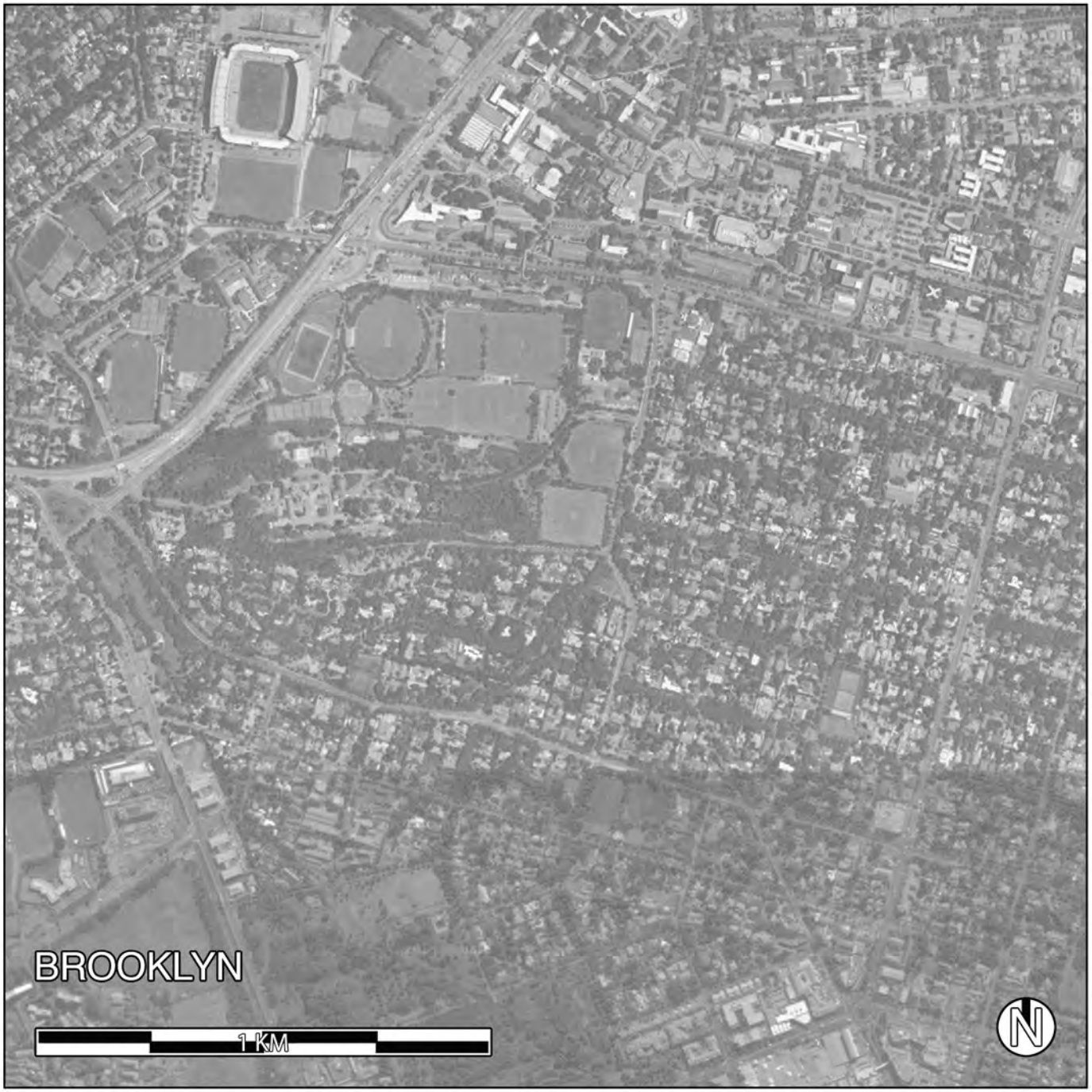


This project promotes the development of the street edges of the interior residential blocks.

This strategy creates a residential urban form which would read similar to the drawing on the right.



The expected urban form for the Brooklyn ‘super-block’.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CONCLUSION

REMARKS ON THE PROJECT

This project is concerned with developing an architectural strategy for the future suburban form for the township of Brooklyn in Pretoria.

Not being satisfied with the current model of development (ie. subdivision) which exacerbates the negative qualities of suburbia whilst undermining its positive attributes, without achieving substantial increases in overall density - I was intent on finding a solution to the architectural future of this township, over the next two to three decades, which would address the negative and positive qualities of the suburban form, whilst looking for a viable densification model.

The proposed architectural strategy has tried to address a number of issues simultaneously in order to achieve a succesful suburban future.

From an architectural standpoint, this project looks at densifying and activating the streetscape in order to create viable public streets, whilst enhacing and securing the suburban character of the erven behind the perimeter blocks.

From a social standpoint, ths strategy creates smaller rentable apartments along the street. This decision allows for lower income citizens to move into the area - something which is at the moment not possible due to the homogenous character of single-stand houses available to citizens. Diversifying the types of dwelling units available in the area will play a part in diversifying the citizenship of the township.

From an environmental standpoint, a denser, less car-centric city form creates a less energy intesive township.

From an economic standpoint, the development of properties along the front edge of the suburban erven not only protects the property prices and character of the suburban properties behind, but also creates opportunities for the erf owner to generate a passive income by letting out the front buildings.

This project presents a viable and easy-to-implement development strategy for the future of Brooklyn’s suburban form. This strategy is not only also viable in a great number of South African suburbs which possess a similar character to that of Brooklyn, but hopefully acts as a resource for the discourse on the future of the suburban city.

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EBE Faculty: Assessment of Ethics in Research Projects (Rev2)

Any person planning to undertake research in the Faculty of Engineering and the Built Environment at the University of Cape Town is required to complete this form before collecting or analysing data. When completed it should be submitted to the supervisor (where applicable) and from there to the Head of Department. If any of the questions below have been answered YES, and the applicant is NOT a fourth year student, the Head should forward this form for approval by the Faculty EIR committee: submit to Ms Zulpha Geyer (Zulpha.Geyer@uct.ac.za; Chem Eng Building, Ph 021 650 4791).
NB: A copy of this signed form must be included with the thesis/dissertation/report when it is submitted for examination

This form must only be completed once the most recent revision EBE EiR Handbook has been read.

Name of Principal Researcher/Student: Art Vervoort Department: Architecture

Preferred email address of the applicant: vervoort.a@gmail.com

If a Student: Degree: M. Arch. Supervisor: Prof. Nic Coetzer.

If a Research Contract indicate source of funding/sponsorship:

Research Project Title: What's Next? Densifying Suburban Brooklyn.

Overview of ethics issues in your research project:

Question 1: Is there a possibility that your research could cause harm to a third party (i.e. a person not involved in your project)?	YES	
Question 2: Is your research making use of human subjects as sources of data? If your answer is YES, please complete Addendum 2.	YES	
Question 3: Does your research involve the participation of or provision of services to communities? If your answer is YES, please complete Addendum 3.	YES	NO
Question 4: If your research is sponsored, is there any potential for conflicts of interest? If your answer is YES, please complete Addendum 4.	YES	NO

If you have answered YES to any of the above questions, please append a copy of your research proposal, as well as any interview schedules or questionnaires (Addendum 1) and please complete further addenda as appropriate. Ensure that you refer to the EiR Handbook to assist you in completing the documentation requirements for this form.

I hereby undertake to carry out my research in such a way that

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would nstitute plagiarism.

Signed by: Signed by candidate

Signature Removed

Date

Principal Researcher/Student: 11-10-2016.

This application is approved by:

Supervisor (if applicable):	
HOD (or delegated nominee): *Final authority for all assessments with NO to all questions and for all undergraduate research.*	

Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions.		

ADDENDUM 1:
Please append a copy of the research proposal here, as well as any interview schedules or questionnaires:

ABSTRACT

Ant Vervoort
5 Highstead Road, Rondebosch, Cape Town

WHAT NEXT?
Densifying Suburban Brooklyn

Due to the historical development of South African cities during the early 1900s, a great deal of the South African city now comprises of suburban environments. For all its negative portrayal in architectural discourse, there are also significant positive attributes to suburbia.

Currently, the South African suburban condition is densifying. This process of densification means that the suburban form as we have known it is currently changing quite rapidly.

We now sit in a position where we can either allow these suburban environments to evolve without architectural consideration which may exacerbate the negative aspects of suburbia, whilst undermining its positives. Alternatively, we can unpack the characteristics of suburbia with the intent of offering architectural solutions which may facilitate r esponsible densification whilst preserving the positives and addressing the negatives.

Because such significant portions of our cities are suburban in character - and are experiencing pressures to densify, this project asks whether it is possible to visualise a positive, healthy and responsible future suburban form.

In the words of Robert Crumb, we ask 'What's Next?"

This project proposes a simple and relatively quickly implementable architectural solution to the densification of the suburban township of Brooklyn in Pretoria over the next two to three decades. The project attempts to use the opportunity (presented by the city's need to densify) to reconfigure the future suburban form for the better. Brooklyn is used as a casestudy through which the positive and negative characteristics of suburban environments are unpacked - and possible solutions for its future densification are proposed.

Naturally, suburban environments differ from township to township. As such, this project does not look for an all-encompassing solution to the future of suburbia. Rather, it attempts to produce a critical, detailed, site-specific solution to a single suburban township. This approach acknowledges the importance of the architect in the creation of successful cities, but will hopefully stimulate the creative pursuit of solutions for - and a broader debate over the future of such enormous tracts of our South African cities - suburbia.

ADDENDUM 2: To be completed if you answered YES to Question 2:

It is assumed that you have read the UCT Code for Research involving Human Subjects (available at http://web.uct.ac.za/depts/educate/download/uctcodeforresearchinvolvinghumansubjects.pdf) in order to be able to answer the questions in this addendum.

2.1 Does the research discriminate against participation by individuals, or differentiate between participants, on the grounds of gender, race or ethnic group, age range, religion, income, handicap, illness or any similar classification?	YES	NO
2.2 Does the research require the participation of socially or physically vulnerable people (children, aged, disabled, etc) or legally restricted groups?	YES	NO
2.3 Will you not be able to secure the informed consent of all participants in the research? (In the case of children, will you not be able to obtain the consent of their guardians or parents?)	YES	NO
2.4 Will any confidential data be collected or will identifiable records of individuals be kept?	YES	NO
2.5 In reporting on this research is there any possibility that you will not be able to keep the identities of the individuals involved anonymous?	YES	NO
2.6 Are there any foreseeable risks of physical, psychological or social harm to participants that might occur in the course of the research?	YES	NO
2.7 Does the research include making payments or giving gifts to any participants?	YES	NO

If you have answered YES to any of these questions, please describe below how you plan to address these issues:

ADDENDUM 3: To be completed if you answered YES to Question 3:

3.1 Is the community expected to make decisions for, during or based on the research?	YES	NO
3.2 At the end of the research will any economic or social process be terminated or left unsupported, or equipment or facilities used in the research be recovered from the participants or community?	YES	NO
3.3 Will any service be provided at a level below the generally accepted standards?	YES	NO

If you have answered YES to any of these questions, please describe below how you plan to address these issues:

ADDENDUM 4: To be completed if you answered YES to Question 4

4.1 Is there any existing or potential conflict of interest between a research sponsor, academic supervisor, other researchers or participants?	YES	NO
4.2 Will information that reveals the identity of participants be supplied to a research sponsor, other than with the permission of the individuals?	YES	NO
4.3 Does the proposed research potentially conflict with the research of any other individual or group within the University?	YES	NO

If you have answered YES to any of these questions, please describe below how you plan to address these issues: