Something Old: SOMETHING NEW
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A research project submitted in partial fulfilment of the requirements for the degree of
Master of Architecture (Professional)
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I have always had a passion for things old, and the amalgamation of old and new. I also have a passion for the detail and intimacy of design required for residential work. The inspiration for this particular design and research project began when I became involved in Classical Studio with Professor Dr. Branko Mitrovic, of Unitec’s Architecture School, between the years of 2007 and 2008. The plans of classical architects were filled with an efficiency, simplicity and functionality that enchanted me, and which I saw to be lacking in many modern designs.
There currently is a shortage and demand for well-designed, high quality living and working developments in Auckland City. The majority of modernistic, small open-planned apartments do not cater for the diversity and discordance of activities within family or multi-person households, who increasingly want to live close to work, transport, entertainment and amenities. This will become progressively prevalent with a raising population, and with it, the need to increase the density of our cities.

A solution can be provided with a design methodology driven by selected principles of Classicist planning and spatial composition, within a contemporary aesthetic. Three inter-related principles have been chosen explicitly for their ability to shed new light into the way modern apartments are spatially designed and planned, including: ‘volumetric spatial composition,’ ‘hierarchy of spaces,’ and ‘spatial and formal unity.’ In the Classicist mindset, a building is constructed functionally by separate spatial volumes; their position determined by the relationships required to each other; through direct connection, hierarchy, and in such a way as to form unity and balance within the whole composition.

Driven by this methodology, the project involves the design of a ten medium-to-high-density apartments within Auckland City’s ‘Victoria Quarter,’ primarily and their surrounding communal, mixed-use environment.

This project is not a debate about style, but rather a study of the formal properties of planning design. The aim is to find a solution to a modernist planning problem with design techniques developed from Classical architecture, whilst permitting a modern social lifestyle, and to provide functional, efficient and adaptable spaces for multi-person households. These techniques, applied inside and out, will facilitate the vibrant, interactive and community-oriented environments that are sought after by many who live in apartments, or wish to do so in the future.
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1. INTRODUCTION

How can an inner-city mixed-use apartment development meet the requirements of multiple-resident households and for those who seek a higher standard of living through quality design?

1.1 Project Outline

This project involves the design of a mixed-use living and working community within Auckland City’s ‘Victoria Quarter,’ an area adjacent to Victoria Park Market. The design explores and provides a solution to the growing demand and current shortage of high-quality designed apartments, especially for multi-person households. These groups, such as families, wish to be close to work, entertainment and amenities, without the need to own a suburban home.

The development, with the aid of three Classicist spatial and compositional principles, will facilitate a vibrant, interactive, human-scale environment, with a communal feeling that so many high-density apartments and left-over spaces in the inner-city lack.

The design involves two stages; the first, a larger-scale urban proposal, driven by the functional requirements of a variety of amenity and building typologies, and their surrounding communal outdoor spaces. These typologies include commercial, cuisine, leisure and retail facilities. An art gallery and conference centre have also been provided, utilising the quieter and pedestrian-friendly nature of the area, while allowing the design of public open spaces also to be utilised by these buildings. Existing offices and boutique shops have been re-introduced into the new scheme, and a day-care facility is also provided. Two apartment types have been formed to include; a dense urban community, some of which incorporate work-from-home opportunities, and smaller units located above retail facilities.

With all amenities situated within direct proximity, an efficient, sustainable and communal habitat can be created for inhabitants. This can be further enhanced with connections to Victoria Park Market, Freemans Bay and public transport routes, via a pedestrian walkway. This development also acts to create a transition between suburbia and the chaotic bustle of the inner city. The human-scale and pedestrian-friendly nature of the site encourages a medium-density design, rather than one of a high-rise, isolated nature. The project analyses and preserves many existing buildings, adapting to, and reflecting the context, rather than starting from scratch; a methodology that can aid in the gradual required intensification of our urban environment, in a natural, unobtrusive approach. The style and design of the development is contemporary, while reflecting and preserving the site’s rich history, character and identity.

The second stage of the project, involves intense and specific design of ten apartment buildings and their immediate relationships, outdoor communal context and private individual outdoor space.
1.2 Research Objectives

Objective One: To demonstrate how classically-derived compositional principles offer a real and valid alternative to modernistic apartment plan design, and composition in today’s society.

Objective Two: To revitalise the redeeming values of Classical design within a contemporary aesthetic.

Objective Three: To evaluate the merits of three Classically-derived spatial and compositional principles in their ability to; provide a functional, adaptable and flexible design, and to cater for different household types and activities, compared to that of the open-plan.

Objective Four: To demonstrate the need to look past the ‘fashions’ or ‘styles’ of architecture, and concentrate foremost on functional and spatial design, internally and externally, via an inside-out planning process.

Objective Five: To create a sustainable and communal habitat for residents, with amenities located within direct proximity to the complex.

1.3 Definitions

Victoria Park Viaduct – The northern motorway that currently runs as a bridge above Victoria Park, Auckland City.

Modern – Existing in the present or a recent time, or based on recently developed ideas, methods, or styles.

Modernism – A Twentieth Century architectural movement that sought to sunder all stylistic and historic links with the past.

Modernistic - Thought, character, or practice conforming to the movement above.

1.4.1 Definitions of Density

The expression or statistic of what defines residential units as being of high or medium density is vague, and differs according to various sources and countries. After studying the Unitec course ‘Urban Housing Design’ with lecturer, David Turner, we came to some general conclusions and definitions for density type; as specified below, and how to measure density correctly was generalised; as number of dwellings per hectare.

**Medium Density**: Medium Density housing generally does not have communal corridors for apartment entry; this is to say that each dwelling receives its own entry. Lifts are uncommon.

**High Density**: Usually incorporating enclosed public space. The development is looked after by a private body corporate or private landlord. The building incorporates lifts, and apartments enter off communal corridors or landings.

This particular development falls within the medium-to-high density bracket. The inner-city location encourages a higher density than the surrounding suburbs; however, it was not the desired intention to develop high-rise tower blocks, because they would destroy the human-scale, character and intimate feel of the area. Building in this bracket also helps to encourage the area to act as a transitory between the suburbs and the high-density, busy city core. This will attract a market who would like a balance between the city lifestyle and location, along with suburb advantages.

1.4 Justifications for Research

This project specifically aims to solve, through design, the current demand and need for apartments, suiting those who seek a higher-value lifestyle and for multiple-resident situations, as outlined further in Section 4 of this document. With the use of formal Classical principles, a functional user-controlled plan can be delivered through volumetric and relationship analysis, according to the social needs and activities to be carried out.

These principles are suitable for use within today’s contemporary society; as a formal aid to provide a solution to the design problems of circulation, discordance of activities and the lack of possible spatial division and definition, which occur largely from the open-plan. These principles, with ideas of decoration and opinion of style removed, are based on their inherent formal properties, and are therefore timeless and can be adapted to many design situations.
“The principles of composition remain unchanged even though standards of appreciation have altered”.

The project can firstly highlight the need to research various and potential clientele in regard to the planning and forming of apartment design. Rather than applying a standard across the board, apartments should be uniquely designed, offering variety of functional relationships for several user groups. Secondly, the traditional methodology of employing Classicist principles has reason to be re-visited, adapted and adjoined with contemporary design requirements to form a hybrid solution. This is described in more detail further in the document. With design becoming hi-tech and complex, this project can act to promote designers and architects to be encouraged to appreciate and explore simple geometrical form in building, as it is the keynote to expression in architecture. Understanding these principles and devices can increase a designer’s awareness of the effects of the spaces and relationships in which they are designing. With this knowledge in hand, the principles can provide a vital tool to enabling even everyday architectural spaces to be designed with the same grandeur and power of the past.

1.5 Scope and Limitations of Research Project

The ‘battle of the styles’ between classical and modern architecture has been fought for almost a century. This project does not focus on a stereotypical architectural ‘style,’ or on which visual style is appropriate to our time. “Good architecture is entirely independent of so-called ‘styles’,” and numerous examples of both modern and classical works can surely be praised and criticised. The drivers for this project are three defined principles of Classicist spatial design, which have been chosen specifically for their planning and functional merits in order to provide a remedy for problems caused by many of today’s small open-plan apartments.

The three Classicist principles were specifically chosen for their timeless, inherent, formal and spatial properties, and for these values produce the ability to re-develop an area of architecture previously dominated by developers. The distinct way of designing according to Classical compositional values can produce the relationships, hierarchies and privacy of spaces needed for a family unit to function. These methods, employed in apartment designs, will facilitate the ability for many family groups to fulfil their wish of living in the city.

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3 Ibid.
2. METHODOLOGY

2.1 Introduction

The methodological approach of this project has been rational and logical, involving an extensive analytical process in both the research and design components. Although rational, the process has also been intuitive, with the ability to adapt to changes and specify the scope in detail as the project unfolded. The method involved theory-based research and analysis, followed by a responding design process. Consistently, the project has provided new questions and challenges to the original idea and brief, which have been incorporated or re-defined.

2.1.2 Primary Research Questions

1. Is there both a need and demand to change the way in which we design apartments?
2. What are many current-inner city apartments like to live in? Who lives in them? Who does not live in them, and why?
3. Why are many current inner-city apartments not meeting the needs of residents?
4. What are the benefits of Classical design over, or compared to, Modernistic design, chiefly that of the ‘open-plan’?
5. Which client market would benefit from apartments being designed in this way?
6. Are these design strategies still appropriate to today’s society, as they were for a traditional culture?
7. How can a communal, medium-density living and working environment be incorporated into an urban environment?

2.1.3 Problems Found in the Process of Answering Questions

One of the largest perceived issues when adopting ‘Classical’ principles often begins with the formation of an opinion and argument about architectural ‘style’. There are those who may appreciate the style, and others who are totally against it, arguing for the need for a contemporary design to ‘reflect our modern society.’ This project does not attempt to persuade an audience to favour the tastes of either Classical or Modernist design style. It is important to highlight the point that the project specifically uses Classical techniques as a motive for finding functional answers to an unresolved question in apartment design. The resulting design is neither Classical nor Modernistic; it is both contemporary and suiting today’s social lifestyle. It could be interpreted as
being a hybrid of the redeeming values and elements of both styles. Opinions of taste, which usually would form an argumentative problem, do not matter for the basis of this project, as the issues raised are formal and driven by practical needs, applicable to both Classical and Modernistic designs. The project highlights an attempt to deal with the planning and relationship issues arising from the desire of multiple-resident dwellings to move into an inner-city area, where it has proven to work efficiently in many apartments designed within a Classical methodology.

Another issue realised early in the project involved the accessibility and ability to gather statistical data and support for such a scheme. Interviewing tenants would likely provide personal and emotional outcomes, and with it, the unlikelihood of finding the generalised data needed to show that there would be true support and justification for such a scheme. Research uncovered several surveys conducted by the Auckland City Council and other research groups. The results were surprising, in the way in which there was much more dissatisfaction with the current apartment options in the inner-city than originally assumed. The surveys also provided a general outline of many of reasons for why respondents felt this way, which were also in accordance with personal analysis, mainly addressing the amenities and spaces a new development could provide when compared to current apartments. Other issues, such as the desire to form a communal atmosphere, were also discovered and adapted to the design through various stages. This data source was felt to be more reliable, as it was conducted professionally and it targeted a large, anonymous market, providing an opportunity for true feelings to be revealed.

Even in the final stages of design development, and if this project were to be conceptualised in the real working world, an even larger issue would arise somewhat out of the hands of designers. The traditional housing situation in New Zealand has favoured a claim to land and ownership fixation. Even in the city, where zoning and planning rules are somewhat more flexible and accommodating to such a development, issues and complaints from neighbours would arise, the idea of removing existing buildings and businesses frustrating those who may own this land. In this day and age, it may not be felt appropriate for a development of this scale to step into an existing area, but it can be argued that plans need to be made and attitudes need to change, in order for Auckland City, and the rest of New Zealand, to intensify its urban environment in the future. This issue is further discussed in the project development section and that of the critical analysis of the project.

On another note, the apartment market is largely controlled by developers, with assumed standards put in place. This project can provide an opportunity for the design process to take precedence once again. The resulting design proposal and the questions it raises, can provide motives for architects to reconsider the way in which many apartments are planned. It may not seem acceptable at this time and under current council rulings, but here lies an opportunity to display the benefits of such a development and how we could move forward in the future.
2.2 Strategies Undertaken to Answer Research Questions

The methodological approach, in attempting to answer these questions, lay principally in the analysis of several official reports and surveys conducted by the Auckland City Council and other research groups.

The research questioned respondents, who live in inner-city apartments, on a number of important issues which are directly related to the project aims and remedies;

2.2.1 ‘Executive Summary of the Auckland Inner City Living Survey’

Two main questions from the survey, directly relating to this project, have been summarised:

1. Why do you live in an inner city apartment?
   The top responses favoured were the proximity to work or study, entertainment and with these the lower transport costs.

2. What do you dislike about inner city living?
   The main reasons were noise, lack of space within the unit, and of outdoor living. Seventy-three percent of respondents indicated that they would like a larger apartment next time. Features such as decks, separate laundries and studies were also seen as desirable.

2.2.2 ‘Downtown Dwellers 2005 : New Zealand’s CBD Residents’

This research report outlined several key issues relating to this design project, and aided to redefine the scope and desired outcomes to meet these issues, throughout development.

1. Between 1991 and 2001, the number of Aucklanders living in inner city multi-unit dwellings more than quadrupled.

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2. Thirty-two percent of multi-unit dwellers living inner city Auckland had moved there from New Zealand’s smaller cities or non-urban areas, sometime during the previous five years.

3. In 2001, sixty-five percent of inner city multi-unit dwellers had never been married.

4. Approximately half of inner city multi-unit dwellers live in family arrangements. Within this group, couple only households were the most common.

This research shows that there is an increasing demand and advantage to move into the inner-city, and this will surely continue to grow with an increase in population and rising house, petrol and living prices.

2.2.3 Conclusions from Statistical Research

The surveys were analysed within the specific guidelines and brief of this particular project, with the aim to provide a solution to the inadequacies presented by current apartments for a family or group market. It became apparent that the data provided by the surveys was incomplete or biased in the sense that a large number (67%) of the respondents for the ‘Executive Summary of the Auckland Inner City Living Survey’ were students. Similarly, the ‘Downtown Dwellers 2005’ report implied that because there were only a small number of those questioned living in family situations in the city, then perhaps it was because it was undesirable to live in an urban environment with a family. However, the large amount of students questioned largely out-weighs the data given by those with families, and so there is a bias towards the student group, who will have radically different opinions and desires for living situations.

Further, once questions arise from these reports, such as ‘why do family units only make up a small group?’ and, ‘why do most young groups, who were previously living in the city, move back to the suburbs to have children?’ These questions bring up relevant issues and potential answers, such as: ‘perhaps the housing situations in the inner-city are not currently safe, large enough or adapt to cope with children, or to provide needed outdoor space’. This raises another question, that: ‘if there were such apartments available, would these groups live in the city?’

Research and results from several sources strongly indicates that these family or multi-unit groups would like to continue to live close to work and amenities, in a low-maintenance unit, if they were family-oriented in planning and provided outdoor space and a community environment. There is certainly a desire for couples to live in the city, and many would like to continue to do so.
2.3 Method of Data Collection

The methods of data collection involved primarily:

1. Collecting statistical data. This provided a guideline for the design of a new development, based around what people, who live in this area, really want in an apartment. These desires were accommodated, rather than simply applying an assumed standard. Analysis of several apartments was also made first-hand at the start of the project.

2. Collecting formal data in the sense of Classical floor plans. These were analysed according to the volumetric, spatial and compositional ways in which a variety of social relationships had been solved in the past. Traditionally several groups could inhabit a building - such as guests at dinner parties, maids and children (who were out of sight, out of mind). These plans provided options and guidelines for how to deal with the social and discordant relationships and activities between many members of a multi-unit household in modern society.

The apartment plans chosen for analysis were primarily of the firm McKim, Mead and White, recommended by the main supervisor of this project, chiefly because they could be directly be compared with the size and layout of the intended Victoria Quarter development. These plans were of simple nature and able to be easily adapted and altered.
3. REVIEW OF CURRENT KNOWLEDGE
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3.1 Introduction

Classical literature does not generally outline spatial compositional design methodology on paper, however, these principles are clearly revealed through the visual examination of drawings. Visual analysis has helped to form a significant insight into the way Classical buildings have been planned. What has been written occurs in fragments, filtered through several sources; the majority of which are written in a different time and context, largely around the early 1900’s.

During the time when many classical plans (such as those analysed further in the Project Development section of this document) were created and many of the resources on the subject were written, classical language and design process were the architectural norm; its language was readily understood internationally and applied from the mind onto paper. The design process, occurring within the mind, was learned and taught through schools and the offices of architecture. It is a cognitive process, where the form is conceptualised and visualised in the brain, and imagined from various sides via rotation. Karl Marx describes how, “The architect builds the cell in his mind before he constructs it in wax,” and this relationship between building and human awareness, “distinguishes the worst architect from the best of bees”6. Howard Robertson also describes this ability to form conception in one’s mind in his book ‘The Principles of Architectural Composition’:

“The processes of the mind should be so trained as to enable him to form his conception, and his knowledge of the grammar and technique of abstract composition should enable his conception to be cast in such harmonious form that its realisation will satisfy certain aesthetic requirements which a consensus of enlightened opinion demands of what is termed a work of art7.”

Knowledge further came with experience, and with it the understanding of its language and methodology. This has been witnessed and discovered first-hand through Classical studio, at Unitec’s Architecture School, during the years of 2007-2008. Spatial design methodology was explained through oral methods, and this description revealed that the formalisation of these methods also occurred within the mind of the designer. This became clear with experience, discourse and drawing during the design stages, and has become a personal design methodology to this day.

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7 Robertson, The Principles of Architectural Composition, 3.
It is only through a combination of oral learning, scanning of literature and experience in this process of design that has led to an improved understanding of these principles in modern society, and of how they can be applied, adapted and shared with others. This research project attempts to provide a comprehensive investigation and recording of three principles of spatial and compositional design strategy; design through functional volume, ordering of spaces and the creation of balance and unity. For an in-depth explanation of these principles, please refer to Section 4.

3.2 Volumetric Spatial Composition

The term ‘Volumetric Spatial Composition’ has been created in this document to describe a methodology, of which there is no specific title. The process involves analysing the brief, out of which activities or functions to occur within the building are presented. These activities then form volumes or entities, geometrically sized according to the space needed for the activity to occur, to feel comfortable to the inhabitant or to create a certain effect by the designer. These volumes are then composed according to the relationships required to other volumes, forming the basis of building planning in all dimensions, including floor plans and section. In this case, the form follows the function of the building, through an inside-out process. This compositional strategy therefore receives the title of ‘Volumetric Spatial Composition.’

Arthur Stratton’s ‘Form and Design in Classic Architecture,’ is a strong advocate for the compositional technique of a building through volumetric ordering and relationships. His work mainly describes the effects of particular volumetric forms when utilised in a design, thus helping a designer to select and understand the selection process of a volumetric shape, and its outcomes upon the experience gained by an observer of the building. This is a useful tool when the concept of ‘volumetric spatial composition’ itself is grasped, and the designer can be then be also aware of how to compose these volumes for different effects. He argues, in line with others who write on this same subject, that observance of geometry underlies the grammar of the art of architecture and provides the basis of design. He further describes the importance in elementary forms, which often produce the most expressive results, “when adequate to its purpose, the simplest expression is always the best, the qualities of simplicity and dignity being pre-eminently the attributes of greatness.” He goes on to say that the study of these first simple geometries alone will give a designer a starting point from which he can proceed with confidence, and a repertory these geometries are essential as a basis upon which to formulate a standard whereby modern design can be gauged.

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9 Ibid.
Like Stratton, Howard Robertson expresses the importance for a designer first to appreciate the composition of single forms, so that they are then able to correctly handle complex architectural elements. The process is about building the design out of separate volumes, which form natural relationships, becoming more complex with as the design progresses. Usually, complexity can be understood by an analysis and break-up of a design into regular geometric forms. Robertson argues that the chief failure of architectural design occurs when the architect fails to handle simple forms, their relationships to one another and within the building as a complete unit.

### 3.3 The Compositional Hierarchy of Spaces

Michael Pearson and Colin Richard’s ‘Architecture & Order: Approaches to Social Space,’ discusses spatial hierarchy within a house as traditionally organised as a *“gradient or hierarchy of rooms,”* where “one moves along a ‘privacy gradient’ from the most public to most private spaces”\(^{10}\).”

In general, it is largely agreed by all sources that hierarchy of space is formed through the nomination of a dominant room or focal point within the composition. Public spaces are then revealed to the visitor of the house, and emphasised often through an increased build-up of intensity of spaces, as one makes a journey through the building and eventually arrives at the main dominant space. The resources studied talk largely about the importance of creating spatial hierarchy in a composition; to nominate a major space that will avoid competition within the design and therefore maintain compositional unity and balance, and to reveal the public and private areas of a building to guests, which therefore also act as a method for distributing, breaking up and planning the composition.

Pearson and Richard’s book describes in detail the history and origin of this compositional principle. Traditionally, spatial hierarchy was an important aspect in the running of a family or multi-person dwelling to function, entertain and to illustrate and divide social classes.

\(^{10}\) Pearson and Richards, "Ordering the World: Perceptions of Architecture, Space and Time," 8.
3.4 Spatial and Formal Unity and Balance

Howard Robertson describes in detail the importance of formal unity and balance within a composition. This is always a crucial element, because if a design does not feel unified, it represents diffusion and a weak and incomplete idea. This is, of course, unless the architect intentionally seeks diffusion and chaos for the reasons of emotion and reaction. In order for unity in a composition to be maintained, he says it is, “necessary that some central or focal idea in the composition should be clearly apparent and should dominate the conception. We will call it, for convenience, the ‘dominant’.” A building needs not be symmetrical to feel unified; it merely needs to feel balanced, with competition between elements avoided, because they cause conflict and introduce disharmony, which vitally weakens the composition. The work briefly talks about the way in which the eye prefers to see a balanced, rational design, where one can feel at ease within a building. This focal idea also links to the previously discussed principle of ‘Hierarchy of Spaces’, as these three principles are inter-related. Author, François Gabriel, agrees, that “harmony is the state in which we prefer to see things around us.”

Arthur Stratton, in ‘Form and Design in Classic Architecture,’ agrees in the principles of completeness and unity. He argues that these expressions can only be developed from the ordered arrangement of plan and section, once again linking this principle to the volumetric compositional principle above.

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12 Ibid., 7.
4. PROJECT DEVELOPMENT
4. PROJECT DEVELOPMENT

4.1 Site Selection, Definition and Analysis

The site is located within an area described as ‘Victoria Quarter,’ by the Auckland City Council. Specifically, the perimeter is defined by Wellesley Street West, Union, Sale, and Drake Street, shown by the red outline below in Figure 1. A larger urban scheme has been proposed for the whole site, with a further focus in detail on the design of apartment, communal and mixed-use spaces, proposed for the left-hand block of the site, highlighted below in blue. The site was principally selected because of its ideal location; it is in close proximity to the City’s amenities, public transport, a supermarket and motorway links [Figure 2], while being separated enough to function successfully as its own development and preserving a unique identity. The intense crowding and hectic lifestyle of the inner-city can be avoided; the largely under-developed area of the site provides the space and opportunity to design public and private communal spaces, which will provide a haven in the heart of an urban environment.

Figure 1: Site Location, indicated by the red elliptical outline.
Chapter Four: Project Development

The complex enables a link to be established with Victoria Park Market, supplying shopping opportunities as well as services for complex inhabitants and encouraging a sustainable lifestyle through local shopping and trade. The design development provides cafes, boutique shops and office spaces, and additionally presents a further intensification of living quarters, and a function and conference centre.

‘Victoria Quarter’ is an area of unrealised potential and also presents an opportunity for a design to relate and act as a model for further development of surrounding areas. The site needs to be actively and carefully developed before the area is lost to high-rise developments and poor design; occurring in nearby areas, especially Nelson Street. As one of the last sites in the City to be developed, here lies the opportunity for a different approach. The Auckland City Council has expressed interest in many of the aims this project seeks to undertake, including; creating a mixed-use, self-serviced, and successful, vibrant area; but work has not yet been undertaken to achieve this.

Figure 2: Site Analysis showing Location of Amenities and Entertainment
4.1.2 Site Analysis

Analysis of the immediate site and surrounding area resulted in;

- A realisation that the area had a character and identity that would be destroyed if key buildings were not preserved. Further, any new development to the site should be complementary to the existing architectural language, and adapt to the area rather than control it. This would not only preserve the identity of the area, but would make such a large-scale development feel natural and comfortable against the historic environment. To establish a link and bond with the existing context, the design presents solutions of infilling vacant sites, removing industrial or temporary-natured buildings and preserving key structures. The new elements would reflect the scale, massing and rhythm of the old.

- An awareness that much of the southern portion of the site is filled with industrial warehouses and open parking spaces, creating an undesirable, repelling area.

- An awareness of the amenities and entertainment opportunities in which the area currently provided, and of those in which the site presently had a shortage of and could be provided in a new design. The location of current elements and the strategic positioning of new amenities gave an idea for the best placement of buildings, which started to form a larger urban-proposal for the site.

- The development of sun-path diagrams, public transport routes, pedestrian and movement flows, and analysis of contour slope further aiding in developing the relationships and planning of new buildings, especially of apartments and adjacent outdoor spaces.
The development of figure-ground drawings of various scales, to show the massing of both built form and space, shown in Figure 5. These figure-ground drawings were adapted throughout the project to outline the formal relationships presented once selected buildings were 'removed' from the site [Figure 5]. Analysis of the buildings to be preserved on site is further shown in Appendix B.

Figure 5: Figure-Ground Site Studies, showing the formation and weight of both built and spatial form before and after removal of industrial or temporary buildings. Immediate site outlined faintly in red.
4.2 Site Precedents

The project aims at preserving architectural works of quality and character, which add to the identity of the site and keep a record of heritage and memory. The existing buildings and surrounding historical environment, chiefly Victoria Park Market [Figure 4], provide the inspiration and driver for new modern interventions into the site. Elements of the old are incorporated into a contemporary aesthetic in such a way as to complement and respect the traditional styles and to form a dialogue between old and new. New buildings are designed in and around the existing context, providing an interesting and challenging scheme.

A comprehensive study was made of all buildings on site, and it was decided, along with supervisor advice, that the buildings to be removed were those of industrial nature, particularly of one-storey and of temporary materials; and those set-back from the site boundary and therefore disrupting connection with other buildings and the formation of the street. The buildings preserved were those of good quality materials, height, of vitality and human-scale [Figure 7], which helped to create an urban feel to the area. A key well-known building to be conserved on site is the Drake restaurant and bar, an intimately detailed Classical building, as illustrated in Figure 3.

The common use of brick [Figure 6] was especially a reflection of the Victoria Park Market buildings, originally the, “Auckland Municipal Destructor and Depot... linked with sanitation, [rubbish disposal] and energy production in the early twentieth-century... constructed... from 1905 to 1918.”14 This material is used throughout the design, providing a connection to site history and context and forming a conversation between old and new.

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4.2.1 Rhubarb Lane

Adjacent to the site lies a block of land, bounded by Wellesley Street West, Nelson and Cook Streets, The site, formerly a courier depot, was purchased by development company Pelago Ltd and remains the largest piece of land in Auckland City to be privately owned. Plans for a mixed-use development on this site, the ‘Rhubarb Lane’ project, would include living, shops and commercial units, and was planned in 2006, but has not yet been built. The apartments would range in price from around $370,000 to $2,800,000 and in size from 47m² to 374m². The site area, shown in Figure 8, is currently serving as a car park for Les Mills Gym.

This research and design project presents an opportunity for this type of development to link to ‘Rhubarb Lane,’ or other schemes to be built in the future. Forming relationships to other projects of higher density, created by different designers, can provide a method for a master-plan strategy for the intensification Auckland City. This will create a vibrant collage of intense design, desperately needed to house an ever-growing population, increasingly wanting to live in an inner-city location. This project may seem ‘ideal’ but act as an example of what could happen in such an area, and how parts of the city could continue to develop in the future, with further realisation of these and other schemes.

Figure 8: Location of ‘Rhubarb Lane’ Development, highlighted by the orange elliptical outline

Figure 9: Drawing of ‘Rhubarb Lane’ Development

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4.3 The Need for Innovative Higher-Density Design in Auckland City

There currently is both a lack of and demand for well-designed, high quality living and working developments in Auckland City, especially by multiple-resident tenants who seek a better lifestyle through quality design, spatial planning and the provision of private and public outdoor space. With a continual rise of population in Auckland, and the desire to live in the city, this is increasingly becoming an issue.

“A rise in the popularity of inner city apartment living marks an important shift in New Zealanders’ traditional housing preferences.”

Between the years of 1991 and 2001, the popularity of multi-unit dwellings in the inner city more than quadrupled, with approximately half those dwellers living in family arrangements; both of which are continually increasing. However, although more people from different backgrounds and household types want the ability to live in the city, this is not always an option. According to the ‘Downtown Dwellers 2005 : New Zealand’s CBD Residents’ Report, carried out by Statistics New Zealand, “inner city apartments are smaller than the dwellings found in non-inner city areas,” and while this may make them, “an appropriate size for smaller households,” “for people [who] delay or forgo childrearing and marriage,” and for both New Zealand and international university students, it does not accommodate those who want to continue to work and live in the city, but may have a change in lifestyle, such as developing a family unit. It is assumed, in agreement with Brian Pink’s ‘Downtown Dwellers’ report, that having children is a major catalyst for inner city dwellers to move to the suburbs.

These apartments simply are not flexible and adaptable to changing needs and living habits, and this means that the majority of family households must continue to move, along with tradition, to the suburbs. This is then met with arduous traffic en-route to work, and with the need to purchase two cars to handle the sprawl of amenities and daily commutes. Many people increasingly do not seek to own the ‘quarter acre’ section, due to busy schedules, and therefore prefer to live in a low-maintenance unit close to work, transport, amenities and entertainment. The benefits of inner-city living should not have to be short-lived, but able to be a real lifestyle choice.

17 Ibid., 2.
18 Ibid.
19 Ibid., 15.
With a changing family lifestyle, an ever increasing focus on sustainability, and with population expected to double within the next fifty years, New Zealand needs to intensify existing land, rather than develop urban-sprawl. The Auckland City Council has recognised this, and through the Regional Growth Strategy, has placed emphasis on intensifying the existing urban area. However, the rapid increase in high-rise apartment buildings in the last decade was largely, according to Bayleys Research, to meet an influx of foreign students around 2005. Developers jumped at this opportunity and built swarms of inner city apartment complexes that catered largely to investors, and relied on the burgeoning foreign student market to sustain their growth. However, with a reducing pool of foreign students, who will live in these apartments?

“Several phenomenologists have remarked on the problems of modern living, where architectural trends are towards a placeless geography, a meaningless pattern of similar buildings, a ‘flatscape’.

Many complexes built in the apartment boom of 2005 contained one hundred or more apartments, typically with little or no outdoor space, no communal public space, and often only with a window on one end of the building. This ‘shoe-box’ plan is a large contributor to unhealthy conditions; making natural lighting and ventilation inadequate. The compact size, inflexibility of space and inability to adapt to other household types discourages people to move into the city, and additionally, makes these apartments harder to sell, increasing further with more identical unit construction. We need to start thinking about other ways in which apartments can be designed.

The current strategy will never help to encourage more people to live in higher-density situations. The lack-of-encouragement by many to adopt an inner-city lifestyle is also illustrated in DTZ Research’s report, “Executive Summary of the Auckland Inner City Living Survey,” where respondents considered that small units, with little or no public or private space and with no sense of community were the negative aspects of inner-city living, as compared with suburbia. This was also common feedback from respondents in a survey conducted by Mark Lyne, of the School of Population Health at the University of Auckland, where the perception of outdoor space was cramped, with a lack of privacy and with little or no protection from the weather.

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23 Bayleys Research, "Auckland CBD Apartment : 2005 Surge Signals End of Construction Boom."
24 DTZ Research, "Executive Summary of the Auckland Inner City Living Survey."
25 Lyne, "The Potential Health Impacts of Residential Intensification in Auckland City."
These apartments do not have a spatial and planning layout design that caters for multi-member groups, nor for privacy or entertaining. The open plan apartment, as described by Jean-François Gabriel in his work, ‘Classical Architecture for the 21st Century: An Introduction to Design’\(^{26}\), is a leaking space, which fails to feel inhabitable or cosy to residents. The Modernist created ‘open-plan’ also inhibits a mix of activities, mostly via noise and smell. Constant clashes occur between the activities of sleeping, eating, office or study space and entertaining, which is enhanced when several residents occupy this space. These issues are directly resulting from all spaces opening into one another because of a general lack of space to carry-out activities. For example, in a typical open-plan of the ‘Aura Apartment Complex,’ shown in Figure 10, the ‘living’ area is far too small to arrange a group of couches for conversation or even to have friends for company. There is limited room for a table and cooking facilities, and no real implication for facilities for a study space, possibly to be situated within the small bedroom, which may likely be shared with a partner. The private terrace space provided is severely undersized, making it unusable, except to supply ventilation.

These conditions certainly do not interact favourably with a family unit, let alone guests or even for flatmate groups at times. While these spaces may be suitable for students, single people or couples, they may only provide temporary accommodation as lifestyle situations change, and this is reflected in the quick turnover of those living in apartments, with eighty-nine percent being rented in the ‘Auckland Inner City Living Survey’\(^{27}\). This is largely because the apartments were not adaptable or flexible to suit inhabitants for a sustained period, and this needs to change if more people are obligated to live this way, especially with increasing house-prices.

It is in these aspects that the principles of Classicist spatial composition; establishing a hierarchy of space and designing spaces and plans foremost as separate volumes and relationships, come into effect to provide a solution.

\(^{26}\) Gabriel, Classical Architecture for the Twenty-First Century : An Introduction to Design.
\(^{27}\) DTZ Research, "Executive Summary of the Auckland Inner City Living Survey."
4.4 Solution: Classicist Principles of Spatial Composition

4.4.1 Introduction

The three Classicist principles of spatial composition; ‘Volumetric Spatial Composition,’ ‘Hierarchy of Spaces,’ and ‘Unity and Balance of Design,’ are inter-related and in this project jointly produce a methodology for the design of a group of buildings. These processes are formal and logical, where the external form of the building follows the functional requirements within.

The project began with the general idea of generally applying classical design principles to create a new type of apartment plan. Through refinement and definition, the three principles above were chosen explicitly for their ability to create a design that is radically different to that of Modernist conception, and suitable for apartment design, especially for multiple resident dwellings.

The larger urban proposal of the design, and a then more in-depth detailing of ten apartments and their relative context, have both been designed according to the same three principles. It is an inherent Classical philosophy that all elements, physical and space, inside and out, are designed and thought of in the same way; with the same applied methodology. These compositional methodologies are evident in the analysis of several domestic Classical floor plans, as is discussed further in Section 4.

Out of the first two principles, of volumetric composition and forming a hierarchy of spaces, there is often no clear distinction of which process is to occur first, in fact, they usually occur in synchrony. While the activities of a plan may dominate the placement of certain rooms, there will usually be a central focal space, in which other spaces are likely to be subsidiary in importance, therefore immediately suggesting the elements of a grouping[28]. Creating unity and balance within a building occurs throughout the design process.

4.4.2 Volumetric Spatial Composition

Space is what human beings inhabit, and carry out functions of everyday life; therefore it should be individually designed whilst also relating to other spatial units to create a whole composition. The design begins to be about how spaces join, separate, and how we move through them.

In the Classical mindset, a building is seen to be made up of separate volumes or entities, which are composed according to their importance and desired relationship to one another. Through ‘Volumetric Spatial Composition,’ a rational and logical method, the process of design firstly involves analysing the brief, out of which activities or functions to occur within the building are presented; “the purpose of the building has dictated our elements.” These activities then form whole volumes or entities, geometrically sized according to the space needed for the activity to occur, to feel comfortable to the inhabitant or to create a certain effect by the designer or to the best architectural advantage.

These ‘volumes’ can be associated with the common terminology of a ‘room,’ where a certain activity, for example the act of eating around a table, requires a specific space and volume to carry out this task, and this becomes the ‘dining room’ volume. The defined volumes are then composed according to the relationships required to other volumes, and this begins to create the architectural ‘plan’ in all aspects, including floor plans and section. The volumes will naturally create changes in level and ceiling height to accommodate indented activities and produce certain effects; radically different to the task of simply applying a standard-height ceiling within an open-plan form. This compositional strategy involves an inside-out design process, where the forms follow the function of the building, and the overall design of building is constructed by these forms. The physical process of this methodology can be understood through diagrams provided in the diagram below [Figure 12] and also in Section 4.

It is in the modern age that this principle has largely been disregarded; it has come to be about the ‘object in space’ rather than forming space itself, and functions and room units accommodate themselves inside a foreseeable object or unfinished, non-composed ‘leaking space,’ rather than define it. In Classical architecture, “a reason can be given for every decision made by a designer familiar with the language;” each space is defined and intensely designed. It is important that the space feels defined, as this implies the usability of a space to its inhabitants, however, the process of defining space does not mean that volumes must be entirely separated and only accessible to one another through physical doors. It is accepted that the

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29 Ibid., 110.
30 Ibid.
31 Gabriel, Classical Architecture for the Twenty-First Century: An Introduction to Design, 10.
32 Ibid., 9.
open-plan offers opportunities for socialisation through the un-interrupted flow through kitchen, dining and entertaining spaces, and that this is an important and preferred way of life for many.

This project therefore acknowledges this, and explores ways in which architectural elements and the user can determine the definition of open and closed space. Defining a space certainly can occur on a visual level, and through employing various architectural methods and devices such; as raising or lowering a volume’s ceiling or floor level, using stairs, columns or screens to define or break-up space, and by creating thresholds to provide emphasis or subsidence. These methods can also be applied to the techniques of creating spaces of determined hierarchies. In the same way, outdoor spaces are also thought of as ‘rooms’ or volumes, and are designed in the same way. These are just some of the techniques used in classical design, as is outlined largely in Arthur Stratton’s book, “Form and Design in Classic Architecture,” written originally in 1925, but still in publication, reflecting the growing interest in such knowledge.

The project acknowledges the advantages the open-plan presents, however, the main argument is directed mostly against the fact that this space is always, and must always be open. There are no choices for the ability of the spaces to be broken up and formed in different ways through the opening and closing of volumes’ relationships to one another, to suit a variety of events and situations in everyday life. The traditional plan, contrasting greatly to that of Figure 11, consists of separate rooms, allowing the ability to close off the lounge space for entertaining guests and for heating. This ‘closing-off’ also means that such spaces are not disrupted by those coming and going from the premises, provided that other circulation patterns are possible. These circulation spaces then become formed into their own volumes.

This is exceptionally applicable for multi-resident dwellings, where activities of members are often discordant; audibly, visually, socially or by smell. When no alternative to the open-plan is provided, the living situation can prove to be difficult because there is a lack of space which can be provided or created, to act as a retreat, apart from the private bedroom. When functions are primarily acknowledged and spaces for these activities are provided and specifically designed, discordance can be avoided. For example, if the act of entering an apartment is given its own visually defined space (a foyer or entrance hall), and this space is accessible directly to other frequently used rooms, interruption and intersection can be avoided and the activity of watching television or entertaining guests in the living room can occur in peace. This is true of many open-planned apartments, where one enters straight into a communal lounge area.
Design in accordance with this volumetric and logical architectural language can allow the apartment market to be widened to include families, multiple residents and to make these spaces suitable for social gatherings. A new hybrid floor plan will occur, where certain relationships are made flexible to cater to the social desire for the open-plan, coupled with the ability to close of individual volumes in other conditions, using visual and physical separation methods.

Figure 12: Typical Volumetric Relationship Diagram : One Bedroom Apartment on a Single Level, showing the composition of volumes beginning to form a three-dimensional architectural design.
4.4.3 Hierarchy of Space

As previously discussed, establishing hierarchies of space within a design involves the organisation of spaces within such a way so that one or more ‘dominant’ space will obtain focus, while others become subsidiary. This applies to both inside and outside spaces, and throughout the project this principle helped to provide a design strategy for large communal urban spaces and apartments within the complex. “The plan, whether it be of a single building, or a group of buildings, requires the same series of Dominants [and] Climaxes (focal points) as is the case with the elevation. In the same way must the idea of unity in composition be maintained[33].”

In relation to the design aspect of this project, the living room formed the internal main public space of the apartment, oriented towards the sun and with other rooms and spaces attached, according to required association. This volume reveals itself as the ‘heart’ of the apartment, where social activities occur, imposing a larger volume than other rooms. Its significance is further emphasised through the amplification of smaller adjacent public spaces upon approach; the entry foyer and main hall of the apartment.

Rooms traditionally were physically separated from each other [Figure 13] in many Classical plans, revealing classifications of public and private spaces to guests and servants, and to provide other circulation methods so that socialisation within one area would not be disturbed.

“Mircea Eliade[34] considered that human dwelling required the revelation of a sacred space to obtain a fixed point and hence acquire orientation in the chaos of homogeneity. By ‘founding the world’ we fix the limits and establish order. He noted that in many societies there is a tradition that a particular place is considered to be the centre of the world, or axis mundi. The centre of the world might be replicated in temples or even in domestic dwellings... In these and many other cases the hearth of the dwelling is considered to be a pivotal point, literally a focus[35].”

With our modern lifestyle comes preference for the ability to share and open up spaces to one another in a social fashion, including those external to the building. Because this ‘openness was desired, the method of applying hierarchies of spaces were created through methods other than simply of separate walls and doors; these included steps, sliding doors, half-height walls, separating columns and higher ceilings in

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33 Robertson, The Principles of Architectural Composition, 105.
34 Romanian historian of religion, fiction writer, philosopher, and professor (1907-1986)
important volumes. With the use of sliding doors, the users of the apartment can also decide on the definition and publicity or privacy of spaces, creating individual hierarchies to suit a range of functions and activities. “As cultural gastropods we should be very much in control of our domestic domains, particularly when many feel that it is the one setting for relationships that we feel we can manipulate\textsuperscript{36}. Although spaces are more open to one another than they were traditionally, the house nevertheless “embodies personal meanings, but also expresses and maintains the ideology of prevailing social orders\textsuperscript{37}”. This explains the need to preserve areas such as the entry foyer, which mark a point where visitors or strangers can see into, and enter into the apartment, without facing abruptness and a breach of privacy; which occurs when entering directly into the living room.

\textsuperscript{36} Ibid., 9.
\textsuperscript{37} Ibid., 6.
4.4.4 Spatial and Formal Unity

As discussed in the ‘Review of Current Knowledge’ section above, an important act of making a building feel and look harmonious to the viewer is to follow compositional guidelines and spatial and formal unity. This unity is about creating balance in the whole design, whether it be plan, section, or elevation, mass or void. This balance need not be a forced symmetry; it is more about creating hierarchies of elements that do not compete with one another and feel comfortable and harmonious. It is usually not the intention of a designer to produce the feelings of discomfort or clumsiness through injudicious disposition. The avoidance of competition can be relieved through creating hierarchy of spaces, as discussed above, and by creating a main focal space, commanding element or form. Howard Robertson expands on this principle in detail, and provides a comprehensive analysis of how to achieve formal and spatial unity in his book ‘The Principles of Architectural Composition.’

4.5 Critique of Classical Planning Based on the Three Principles

Because there is little written knowledge written about the actual process of Classical design, physical built form and plans had to be analysed. With the ideologies behind the principles fully grasped, the floor plans could easily be abstracted and analysed geometrically and spatially, with inter-linking relationships and methods of achieving these becoming clear. These plans were critiqued and analysed in their appropriateness and adaptability for suit today’s living conditions and to their applicability for a medium-to-high-density apartment complex. This stage occurred both prior to, and in accordance with the development of the design project.

“The insight into the qualities of a building is to be gained, not by enquiring about its historical associations, wealth of materials or variety of detail, but by investigation into the abstract form of its structure and selection and grouping of the masses of which it is composed.”

38 Stratton, Form and Design in Classic Architecture, 2.
Figure 14: Dimensions, relationship and hierarchy of space analysis: Geo. A. Nickerson Residence, Boston, Massachusetts, USA, 1897. Geometries and efficient ways of producing links between forms become clear.
In the plan above, hierarchy of spaces, between private and public, are clearly illustrated and defined through the employment of a corridor space. Public space within the apartment (shown in orange) seems to work efficiently with regards to connections from room to room.
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Figure 16: Dimensions, relationship and hierarchy of space analysis : apartment of C.A Whittier, Boston, Massachusetts, by McKim, Mead and White, 1880-1883.

Analysis of this plan in relation to the types of apartments to be provided in Victoria Quarter reveals:

1. A deck would ideally be added to enable connection to outside public space
2. The ‘hall’ seems too large to be justified in today’s society. It has adopted a different function in the Victoria Quarter apartment plans, providing a circulation corridor and extension of the entry hall; but is not an occupied room for extended periods of time as it was traditionally.
3. The hierarchy of space is achieved by splitting private rooms onto upper floors.
4. The number of public rooms exceeds our social formal requirements, especially in a compact residential unit. The dining and living room are to be maintained.
5. Connections between rooms are clear; guests can enter into the living room without disrupting other areas of the residence. Access to the kitchen and service spaces are direct, avoiding disruption of social spaces.
4.6 Establishing a Brief

The project began with the intention to propose a master-plan scheme for two blocks of the Victoria Quarter site, as indicated previously in Figure 1. After analysis of the built context, revealing the buildings that were to be preserved on site, figure-ground drawings were constructed, and the shape of the clean ground space ready for new design was evident. The arrangement of conserved buildings, illustrated in grey fill in Figure 18, and the desire to create a link with Freeman’s bay, Victoria Park, the CBD and public transport, situated on Victoria and Wellesley Street West, produced a curved pedestrian walkway throughout from one end of the site to the other [Figure 18].

The three classicist composition principles would be applied to both indoor and outdoor spaces in apartment design and the urban proposal, and the pedestrian walkway would help to link the blocks together and form a united and communal relationship; indicated as important by the respondents of the surveys.
Initial critique of the project by supervisors and out-of-school critics revealed that excessive emphasis had been placed on the urban proposal scheme, and that the detail originally intended to be of focus; the internal planning of apartments in an intimate scale, and immediate context, had been lost. A memorable comment made was that this course is about the discipline and design primarily of architecture, not urban planning. The ‘master-planning’ stage had dominated, and while this was important to the success of the whole scheme, the scale of the project needed to establish concentration and re-discovery of the combination of a small number of human-scale, community-based medium and high-density apartments, to be built within an intimate, historic area, and with a character and charm to be promoted.

The project then focused on detailing one block, situated on the left-hand side of the site, bound by Union Street, Drake Street, Centre Street and Sale Street, as previously illustrated in blue fill in Figure 1. Further site analysis revealed, as shown in Figure 20, a considerable amount of people both living and working on the site, and a further increase in living and working quarters would then provide the need for day-care facility, a Laundromat, corner square and common green spaces. Current facilities, such as a cafe, boutique shops and hair salon, would be retained, and given space within the development, as would many commercial businesses.
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Each facility, green or communal space, and dwelling complex, was then formed into a generalised volume of between two and four stories, and placed on a scale sketch of the site plan according to the relationships required to other volumes and the external context. This was by no means to be taken as a method for producing a final shape or form of a building as yet. This process merely started to map out the locations of important amenities and units on site, shown in Figure 19, in order to provide an impetus to focus on detailed relationships and planning, which would radically alter the shape and form of these blocks through developing stages. The general geometry of these individual volumes began establish required space on the site, and were therefore arranged according to available space and relationships required to; other volumes, the main public space and the pedestrian walkway. It was also important that the apartments would be oriented towards north, as they would then receive natural sunlight within living rooms and communal areas.

Figure 19: Primary Volumetric Relationship Diagram for Level One of Site [For diagrams of other levels, see Appendix D].
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Figure 20: Table Showing the Amenities Needed and Provided within the Immediate Area (ten-minute walk) of the Site

<table>
<thead>
<tr>
<th>HAS</th>
<th>NEEDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Food &amp; drink: cafes, restaurants, liquor store, bars, Victoria Park Market, New World Supermarket</td>
<td>- Studios – Dance, artist</td>
</tr>
<tr>
<td>- Entertainment: Lounge bars, Victoria Park Market, Victoria Park</td>
<td>- Work-from-home opportunities</td>
</tr>
<tr>
<td>- Services: hairdresser, ATM</td>
<td>- Apartments and townhouses</td>
</tr>
<tr>
<td>- Business firms: business centre, film &amp; television,</td>
<td>- Conference Centre</td>
</tr>
<tr>
<td>- Industrial firms: engineering,</td>
<td>- Offices</td>
</tr>
<tr>
<td>- Retail: fashion, footwear, home wares, Victoria Park Markets</td>
<td>- Childcare</td>
</tr>
<tr>
<td>- Design: architects &amp; designers, sculpture gallery</td>
<td>- Gallery</td>
</tr>
<tr>
<td>- Living – apartments, townhouses</td>
<td>- Laundromat</td>
</tr>
<tr>
<td></td>
<td>- Parking</td>
</tr>
<tr>
<td></td>
<td>- Public transport links/stop</td>
</tr>
<tr>
<td></td>
<td>- Pedestrian walkways</td>
</tr>
<tr>
<td></td>
<td>- Green space</td>
</tr>
<tr>
<td></td>
<td>- Public space/courtyards/gardens</td>
</tr>
<tr>
<td></td>
<td>- Private space/courtyards/gardens</td>
</tr>
<tr>
<td></td>
<td>- Private residences</td>
</tr>
<tr>
<td></td>
<td>- Retail</td>
</tr>
<tr>
<td></td>
<td>- Corner Dairy/Four Square</td>
</tr>
<tr>
<td></td>
<td>- Links/access to city/waterfront</td>
</tr>
<tr>
<td></td>
<td>- Link to supermarket</td>
</tr>
</tbody>
</table>

The location of amenities to be provided on site, such as conference centre, corner store, retail and art gallery, were determined by their desired relationships to the main public space and to quieter areas. For example, the art gallery was placed on the street front to take advantage of public view, while placed adjacent to the apartments because it would not prove to be totally disrupting. Further process outlining the placements of spatial forms and amenities according to required relationships is shown in Figure 21.

The pedestrian walkway was developed to feature a primary public space, and other smaller, semi-private spaces were to be designed for the apartments, commercial units and shops, to create a structure and hierarchy of spaces within. This would be important to allow visitors to the site to sense the degrees of privacy and security for residents of the complex. Hierarchy of space was explored through design elements such as changes in level (such as steps), screens and thresholds; where a pedestrian would move into a private space, the buildings forming a cocoon around them. Physical elements, such as gates and columns, also helped to define and imply spatial boundary. The shape of the walkway developed from a curve, suitable for efficiently navigating through the space left-over by removed buildings, into a journey involving its own hierarchies of spaces and vistas, which would be revealed to the observer.

The definition of the pedestrian walkway slowly changed into becoming and forming part of the main communal space, and began to be actively designed, rather than act as a ‘motorway’ through the site. A focal ‘dominant’ space began to be created, to help form a centre or hub of the site, aligning to axes of main pedestrian flow and to the conference centre, which would provide a lot of pedestrian occupation and activity on site. The direct connection to the communal space would allow the centre the ability to open its doors and expand outside, and to utilise the facilities of the adjacent cafe.
### Table: Activity/Volume and Relationship to Other Activities/Volumes

<table>
<thead>
<tr>
<th>Activity/Volume</th>
<th>Relationship required to other activities/volumes</th>
<th>Justification for this Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Walkway</td>
<td>Main public outdoor space, links to Freemans Bay, public transport and Victoria Park Market.</td>
<td>To form part of the main public space for residents living on the site and those who work in adjacent buildings. To open up the site to those who are coming from the suburban areas to work on site, to provide easy and direct access to public transport and shops and trade in the markets.</td>
</tr>
<tr>
<td>Main Public Outdoor Space</td>
<td>Able to be accessed and used by all who live and work on site. Playground, barbeque area, seating, walkways and gardens.</td>
<td>Complex-dwellers and workers can have the ability to take a walk, relax in the cafe or admire the garden spaces provided by the design.</td>
</tr>
<tr>
<td>Retail Shops</td>
<td>Pedestrian Walkway, Main Public Outdoor Space, Streets and surrounding areas off-site.</td>
<td>To draw in visitors from off-site, and those walking through the pedestrian walkway.</td>
</tr>
<tr>
<td>Offices</td>
<td>Cafe, main public space.</td>
<td>The space can provide an outlook to those in the offices.</td>
</tr>
<tr>
<td>Cafe</td>
<td>Main Public Outdoor Space, Pedestrian Walkway.</td>
<td>The cafe will draw in visitors. The on-site cafe has been busy on all site visits. Positioning it here allows it to expand eating areas into the main public space.</td>
</tr>
<tr>
<td>Art Gallery</td>
<td>Street, Apartments.</td>
<td>To gain interest and ability to display to those on the street, drawing them into the site. This quieter activity is suitably placed next to the apartments.</td>
</tr>
<tr>
<td>Conference Centre</td>
<td>Main Public Outdoor Space.</td>
<td>To form ability to open up centre into this main space and access the cafe. Access to a street for services such as food delivery and rubbish extraction.</td>
</tr>
<tr>
<td>Day-care Centre</td>
<td>Apartments, easily accessible for those in close proximity to the site.</td>
<td>To provide childcare facilities to families on site. Its proximity will avoid the need to commute, and will foster relationships with neighbours, encouraging community.</td>
</tr>
<tr>
<td>Apartments</td>
<td>Apartment Communal Outdoor Space, day-care centre.</td>
<td>Links to communal outdoor space will provide socialisation and opportunities for inhabitants, and for bonds to be made with other residents. This can provide a secure and supervised play area for children if situated where it can be overlooked by many apartments. Possibly a courtyard or ‘U’ shape formation.</td>
</tr>
<tr>
<td>Apartment Communal Outdoor Space</td>
<td>Apartments, ties to main communal space though able to maintain privacy.</td>
<td>Allows the ability for the residents of the complex to utilise the larger common space for leisure activities, while areas are also available to each apartment for private use.</td>
</tr>
<tr>
<td>Car park</td>
<td>Apartments, within a short (i.e. two minute) walking distance.</td>
<td>The apartments possibly will have to access the car park situated underground via a main access shaft, as individual shafts within the apartments would create too much disruption to the parking structure below.</td>
</tr>
<tr>
<td>Laundromat</td>
<td>Anyone working or living on site.</td>
<td></td>
</tr>
<tr>
<td>Service Lane</td>
<td>Conference Centre.</td>
<td>To deliver food to kitchen and gather refuse.</td>
</tr>
</tbody>
</table>

**Figure 21: Volume, Size and Relationship Table for Main Elements of Larger Urban Proposal**
A similar logical and rational pattern of realising required volumes and relationship occurring in Figure 21 continued into the development of detailed apartment plans. Comprehensive analysis and the development of a relative brief determined the requirements of several rooms, which would, when composed according to their required functional associations, provide the spatial adaptability and permit the multiple occurrences of activities to occur within a multiple-resident household. This rational process is shown in Figure 22.

<table>
<thead>
<tr>
<th>Activity/Volume</th>
<th>Minimum General Space Needed for Activity to Occur</th>
<th>Justification for This Size of Space</th>
<th>Relationship required to other activities/volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Foyer</td>
<td>1500x1500mm</td>
<td>Enough room to enter, take off shoes/coats, and greet guests. Guests do not enter abruptly into living space of apartment. Activity receives own space.</td>
<td>Outside, Hall</td>
</tr>
<tr>
<td>Hall</td>
<td>Length prescribed by plan, but 1500mm wide</td>
<td>Able to feel like a well-defined, proper space, not just a narrow hallway. Allows two people to pass each other.</td>
<td>Entry, Living Room, Kitchen, Bedroom, Bathroom, Toilet</td>
</tr>
<tr>
<td>Living Room</td>
<td>4500x4500mm</td>
<td>Enough room to compose two two-seater couches in a group conversational setting (an L shape usually).</td>
<td>Hall, Dining Room, Kitchen, Terrace</td>
</tr>
<tr>
<td>Terrace/Deck</td>
<td>2000mm wide</td>
<td>Enough to fit a small table and a barbeque.</td>
<td>Living Room, Bedroom? Dining Room? Outside Communal Space</td>
</tr>
<tr>
<td>Dining Room</td>
<td>4000x2800mm</td>
<td>Enough room to fit a six-seater table and walk around with the seats partially out.</td>
<td>Kitchen, Living Room, Terrace? Hall?</td>
</tr>
<tr>
<td>Kitchen</td>
<td>3500x2500mm</td>
<td>Providing adequate bench space to prepare a family meal. Direct and easy access from hall while carrying groceries to prevent disruption to the rest of the apartment.</td>
<td>Hall, Dining Room, Living Room</td>
</tr>
<tr>
<td>Bedroom</td>
<td>2700mx2700mm</td>
<td>Space prescribed by size of queen bed (1500mmx2000mm) and approx 600mm room needed to walk around each side of the bed. Direct access off hall and to toilet without disrupting living and entertaining spaces.</td>
<td>Bathroom, Hall, Terrace?</td>
</tr>
<tr>
<td>Bathroom</td>
<td>2000x2000mm</td>
<td>Enough room for a toilet, shower and basin.</td>
<td>Bedroom, Hall</td>
</tr>
<tr>
<td>Toilet</td>
<td>2000x1000mm</td>
<td>Enough room for a guest toilet with a small basin.</td>
<td>Hall</td>
</tr>
</tbody>
</table>

Figure 22: Volume, Size and Relationship Table
Chapter Four: Project Development

The brief began to develop and comprise of two stages:

1. **Stage One**: A conceptual plan for a mixed-use development to cover the whole site, between the Victoria Park Viaduct and Wellesley Street West.
   a. Living quarters and accommodation at various unit densities (medium to high density)
   b. Commercial Units
   c. Retail
   d. Services
      i. Corner store, day-care
   e. Art Gallery
   f. Conference Centre
   g. Outdoor public space
   h. Re-design of existing Adelaide Street to provide an axis with Victoria Park Market
   i. Links to public transport
   j. Pedestrian connection links through site

2. **Stage Two**: Detailed design of one block of the site, involving ten apartments and their relative communal context.
   a. Design of pedestrian walkway and public space using three principles of composition:
      ‘volumetric spatial composition,’ ‘hierarchy of spaces,’ and ‘spatial and formal unity.’
      i. Communal outdoor space including access to underground car park
      ii. Playground, gardens, seating
   b. Detailed apartment design utilising aforementioned principles.
      i. Orientation to sun
      ii. Private outdoor space

Note: For an extended brief, please refer to **Appendix C**.

The brief and ideal placement for main facilities and units were now roughly established, but would continue to intuitively grow and change in accordance with, and with response to, further design and research, and with supervisor advice. The rational process recently described, to provide inclinations of room sizes and their relationships, was then developed through a refinement and drawing process, where volumetric diagrams were transformed into plans through endless transparency drawing. A large amount of sketch-plan alternatives were produced for several apartment typologies, not only because the number of storeys, rooms and location on site determined individuality, but because it crucially was important to produce variety into the design of each apartment. Examples of these ‘Volumetric Relationship Diagrams,’ are shown in **Figure 23** and **Figure 24**, and at a later stage, developed into sketch plans, as in **Figure 26**. The sketches involved roughly tracing over several patterns and possibilities for movement within the design, and of relationships,
hierarchies, form and space. At the same time, these developed into sections and elevations in accordance with the same principles. These smaller plans form part of the larger curved apartment block, as shaded in pink in Figure 25. The individual apartment plans and the overall form of the building were refined and developed at the same time, according to desired changes to be made to either the internal plan, or the social space formed by the building. It was always important that the plans showed unity and balance of composition, and that built form and space existed in harmony. This was made possible through active design of both the buildings and communal spaces; the space was not left over because the buildings were not thought of as an ‘object in space,’ but rather of forming and defining that space and of holding equal importance it, the edges of both form and space would define each other. This was aided with further figure-ground diagrams, equally highlighting the definition of space and form.
Figure 24: Volumetric Relationship Diagram: One Bedroom Apartment, Double Level
**Figure 25:** Volumetric Relationship Developed Diagram for Level One of Site
Figure 26: Developed plans arising from Volumetric Diagrams. Hierarchies of space are evident through the application of elements such as steps, sliding doors, columns and ceiling heights.

The form of the passage way and circulation space should have its own definition; while being open to other spaces.

Sliding doors and half-height wall in kitchen to close-off kitchen mess/smell to guests while allowing it to be opened for social reasons.
The design process, as described previously, was always a back-and-forth ‘checking’ and altering process between designing surrounding spatial and built context and detailed planning design. Both received equal weight, and had to work both together and also on their own to command presence as their own space. Space and built form was shifted, squeezed and adjusted to form the right balance; where neither was competing nor deficient in the ability to be noticed as a product of an active design process. It was important that the form of the buildings would feel united, rather than simply clutters of infill placed on their site. The development needed to create its own language and identity and form an evident master plan, while respecting existing forms on site. Urban planning and detailed planning developed together, while at the same time further theoretical research and studies of classical floor plans revealed secrets or new ways of solving an issue or improving the design. Figure 25 helps to show the process of refinement and detailed design and that of larger-scale massing occurring in synchrony.

The images below show further refinement of the plan, and some elevation work, designed within the guidelines of the same three principles.
5. CRITICAL APPRAISAL OF FINISHED WORK
5. CRITICAL APPRAISAL OF FINISHED WORK

The overall scheme demonstrates a new way of thinking; or correctly speaking, a new way of looking at the application of old principles many have disregarded. The principles, based on their intrinsic compositional, geometric and spatial values, are entirely valid when used in contemporary society. The classical plans and process work well for a project of this nature, where living arrangements, activities and social relationships of multiple residents are similar to those of the past, and where a current design solution has failed to be satisfactory.

This project certainly could developed further and form other projects; the principles could be used on a range of sites and serve a variety of architectural briefs because of their adaptability, simplicity and functional derivation. A project of this scale and nature may seem idealistic, with the act of the removal of buildings and with the application of master-plan scheme, quite alien to the current city area, where blocks are developed as they become available. However, here lies the opportunity for this project to take advantage of the ability for ‘free design,’ somewhat removed from the constraints and zoning rules of the real world.

This project presents proof that there is a demand for change in the apartment market, and these resources are readily available. The existing research is not presently being utilised by designers, but they are instead re-creating the mistakes of previous schemes. It can be argued that this occurs because the market is largely controlled by developers, but this highlights the need for architects more than ever to show their skills in designing for a better lifestyle, and that better opportunities are available. It will not be until then that people will start becoming interested in possible alternatives on offer.

This project does, however, bring up issue of high property ownership in New Zealand, especially when compared to other countries. The irony is that our traditional claim to owning land will now always provide a battle in the efforts to change and intensity Auckland City. With individual ownership, and the attitudes of ‘rights’ to this ownership, an obvious way forward towards the development of Auckland City in the future is unknown. We need to address urban sprawl and provide intense developments such as these, with the city being an ideal location, but this will not happen unless our attitudes change, and if they fail to do so, the Council will be almost powerless to provide new rules unless they are ‘forced’ to. This highlights an important issue that needs to be addressed, and in which the council will be well aware of.
6. CONCLUSION

Overall, the design scheme can show the benefits and validity of employing Classically-derived principles within in a contemporary context. The desired outcome is to show that these functional principles can provide great spaces and a solution for families and groups, who wish to live apartments within the inner-city. Refinement of previously described apartments occurred on a greater scale than that of the urban proposal. The urban proposal could be further developed in a later stage, but it is clear for the intentions of designated spaces, and the main public space has received considerable work. It is implied that such refinement in the design of the apartment plans could easily be applied to the other areas, especially to the right-hand side of the site, which was left much in conceptual stages. The ideas and principles developed by this project could further branch out to other city areas in the future. It was more important to show how a process of refinement and beauty in design out of simple geometric forms could be applied within apartment plans, to meet the volumetric and relationship requirements of multiple-resident tenants. The plans could act to provide inspiration to others interested in the same questions.

Overall, the design scheme and research aims to further the understanding of the methodology of classical composition, and show the benefits and validity of employing Classically-derived principles within in a contemporary context. “The principles of composition remain unchanged even though standards of appreciation have altered”. The desired outcome is to show that these functional principles can provide great spaces and a solution for families and groups, who wish to live apartments within the inner-city, irrespective of the associated implications in relation to style.

The project highlights the ability to deal with intrinsic formal properties, and challenges architects to contemplate buildings and design work within the guidelines of these simple, geometric and spatial principles, as use these formal principles alone as an analytical method to judge architecture, irrespective of style or decoration. “It is the reasonableness, the rationalism of classical architecture that is its greatest asset, and its power to move us is principally derived from harmony and clarity.”

This design scheme can be seen to display something new, a way forward, and can act as a physical example in the ways in which providing a new methodology of designing a variety of spaces, especially within the domestic sector can create high-class, quality functional and adaptable hybrid architecture.

BIBLIOGRAPHY & REFERENCES


TABLES AND FIGURES

Figure 1-2: Digitally altered map image, by author of research project, using Adobe Photoshop. Image originally from [http://www.wises.co.nz](http://www.wises.co.nz), or from council aerial photographs.

Figure 3: The ‘Drake,’ Drake Street, Victoria Quarter, photograph taken and edited by author of research project.


Figure 5: Digitally altered map image, by author of research project, using Adobe Photoshop. Image originally from [http://www.wises.co.nz](http://www.wises.co.nz), or from council aerial photographs.

Figure 6: Photograph taken on Drake Street, Victoria Quarter. Captured and edited by author of research project.

Figure 7: Photograph captured and edited by author of research project.

Figure 8: Digitally altered map image, by author of research project, using Adobe Photoshop. Image originally from [http://www.wises.co.nz](http://www.wises.co.nz).


Figure 10: Typical open-plan of ‘Aura’ Apartment, Cook Street, Auckland City. [http://cityrentals.co.nz/images/aura/Aura-Unfurnished-Lounge.jpg](http://cityrentals.co.nz/images/aura/Aura-Unfurnished-Lounge.jpg)

Figure 11: Federal City Apartment – Federal Street, Auckland City
[http://images.google.co.nz/imgres?imgurl=http://www.apartments.co.nz/_buildings/Y/YS1155/YS1155-0003-L.jpg&imgrefurl=http://www.apartments.co.nz/buildings/detail.lsd%3Fref%3DYS1155&usg=_QPh2SFcVvTk1_WTtK8a_zc-i0=&h=270&w=360&sz=28&hl=en&start=55&um=1&tbnid=DArMk4eHOsx80M:&tbnh=91&tbnw=121&prev=/images%3Fq%3Daucora%2Bapartment%26ndsp%3D21%26hl%3Den%26cr%3DcountryNZ%26sa%3DN%26start%3D42%26um%3D1](http://images.google.co.nz/imgres?imgurl=http://www.apartments.co.nz/_buildings/Y/YS1155/YS1155-0003-L.jpg&imgrefurl=http://www.apartments.co.nz/buildings/detail.lsd%3Fref%3DYS1155&usg=_QPh2SFcVvTk1_WTtK8a_zc-i0=&h=270&w=360&sz=28&hl=en&start=55&um=1&tbnid=DArMk4eHOsx80M:&tbnh=91&tbnw=121&prev=/images%3Fq%3Daucora%2Bapartment%26ndsp%3D21%26hl%3Den%26cr%3DcountryNZ%26sa%3DN%26start%3D42%26um%3D1)

Figure 12: Created in Microsoft Word 2007 by author of research project.


Appendix A: Extended Commentary and Analysis of Rhubarb Lane Development

- Auckland’s up and coming apartment complex, Rhubarb Lane, is designed to wow inner-city residents.
- 2.9ha former Auckland City Council works depot between Wellesley, Sack and Cook Sts
- Contains just under 148,000m² - the same amount of new space as is being built on the 23ha Sylvie Park site at Mt Wellington by 2010.
- 20 buildings with six designed by acclaimed Auckland architects.
  - Pip Cheshire from Cheshire Architects, Christopher Kelly from the Architecture Workshop and Patrick Gifford from Architectus.
- Basement parking & loading areas for occupants, tenants & visitors
  - 1384 residential units
  - 360 residential/office spaces
  - 3700m² of retail, food & beverage and service activities
  - 2530 ancillary & 540 public short-term parking spaces.
- Creative and offers many features that other apartment buildings don’t have.
  - Fruit, vegetable and fish markets, bars and restaurants, bakeries and delicatessens, and hair and beauty shops beneath the residential apartments. Gardens and tree plantings will add greenery.
- Apartments for residential and space on the ground floor for business use. Special apartment type: the aPod, not just apartments or commercial loft studios - they’re both. They are designed to be something that resembles a loft studio apartment, but the zoning permits a residential use, or a commercial use, or both.
- “An aPod can be a working space and for living place, a city pad or a perfect production base. It could also be an investment with a commercial income potential.”
- “The aPods differ materially from building to building. They are different sizes, they have differing bathrooms, bars and kitchens, and each building has its own architectural signature.”
- Each building will have a different design and feature apartments ranging in size and style from loft studios to double storey two-bedroom units.
- Positive, sustainable design approach and the plans are “open, diverse and creative.”
- The apartments range in price from $374,000 to $2,800,000 plus GST and in size from 47m² to 73m².
- The whole development has a 10-year timeframe and a potential end value exceeding $1 billion.
- Pelago Ltd (Duncan Bull & Douglas Flikkert, Bell, Sydney)
- All facilities are to be located in accordance with a comprehensive site structure plan for the total site, including through-site pedestrian links, internal roadways, landscaping & open spaces available for public use.
- The credit crunch has turned that dream into a nightmare, and the bank wants its money back quickly. “Taking it to auction rather than selling by tender sends a very definite sign to the market. They want it sold.”
Appendix B: Site Analysis

Figure 27: Figure-Ground Site Studies, showing the formation and weight of both built and spatial form after removal of industrial or temporary buildings. Immediate site outlined in red.

BUILDINGS TO BE RETAINED

The buildings to be retained below have the character and human-scale that adds to the community feeling and uniqueness of the area. Destroying these character buildings would lose the identity of the area.

A. This corner building is solid and related well in scale to adjacent buildings. It could benefit from development into the future to mark the corner, and removal of the advertising would create a tidier appearance.

B. This building is quite quirky and unique, with the architectural language having been built up through renovation. The eclectic mix of this building tells a story of the history of the site.

C. This contemporary design has materials, rhythm, detail and scale that give it a human-scale, character and community that the traditional buildings on the site possess. It does not feel like a harsh industrial building because of the layering and detail in the facade, and because it is broken up with different materials, textures and colours.
D. 81 UNION STREET – Fudge Hair Products

E. 22-24 DRAKE STREET – Zimba Home ware

F. 33-35 SALE STREET

G. 31 SALE STREET – Admire by Amanda Hookham – Interior Design

H. 20 DRAKE STREET – The PR Shop, Architect’s Office.

I. 18 DRAKE STREET – Superette – Designer clothing store.

J. 3 CENTRE STREET – Design services

K. 14 DRAKE STREET

L. 1-3 ADELAIDE STREET – Old workshop buildings. Andrew Lister Architects currently occupies this building.
Appendix C: Extended Version of Project Brief

Project Brief Stage One: Conceptual Mixed-use Urban Proposal for Two Blocks of Victoria Quarter

- Living quarters and accommodation, medium and high density apartments in several different typologies and buildings across the site.
  - Apartments, units, own-entry residences: of various sizes and levels.
- Commercial units
  - Offices of both public and private nature including work-from home studios
- Retail units and Services
  - Boutique shops, small local stores, convenience store, hairdresser, day-care facility, Laundromat – all within walking distance.
- Art Gallery
- Conference Centre
  - There is opportunity to introduce a building of this nature to the site, as it will benefit from the use of outside public space, and vice versa, and will not inadequately disturb the development’s residents, such as occurs in the heart of the CBD. Some of the high-density apartments could be serviced, to provide accommodation for conference visitors. Centre would provide seminars, meeting spaces for surrounding businesses, exhibitions, and conference facilities for corporate events.

- Outdoor Space: gardens, courtyards, communal and private area for each resident. Outdoor spaces for cafes and for the general public, to facilitate community, vibrancy and bring interest to the site.
- Re-design of the existing streets penetrating the site, to allow for an intimate, pedestrian-friendly nature, and a human-scale community.
  - Building out to or enclosing the line of the street to define the space of the street and give it a more urban feel.
- Links to public transport systems for less reliance on cars and a more sustainable approach.
Garages not to dominate the street-front, car-parks to be left for business and site visitors. Service lanes provided for hospitality businesses and waste disposal. Underground car park to accommodate residence vehicles.

- Connection links through site to create a unified design and form a network of walkways, providing linkage to services and locations, such as Freeman’s Bay School, public transport, Victoria Park Market.

**Project Brief Stage Two: Detailed Design Apartments and their Relative Communal Context**

- Detailed design, especially involved with planning, of ten apartments, of various sizes and levels.
- Detailed design of the apartments’ relationships to each other and to the communal space. Each apartment to have relationship to communal space. Orientation to sun.
  - Outdoor spaces to incorporate playground, grassed area, gardens and seating.
- Design to involve the extensive planning of both indoor and outdoor spaces using three Classicist spatial and compositional principles, of ‘volumetric spatial composition,’ ‘hierarchy of spaces,’ and ‘spatial and formal unity.’
  - Private (bedroom) and public spaces and the hierarchy of these are clear to those entering the apartment.
  - Importance in hierarchy of entry and living spaces – entry and hall spaces build up in intensity to unveil the living room as the most public and dominant space.
- Privacy issues such as over-looking prevented.
- Approximation of 50 underground car parks provided (including two for each residence).
- Service access for deliveries to hospitality sectors and for waste management.

**Individual Apartment Requirements:**

- External entrance foyer, covered from the weather, to provide protection for guests.
- Entrance hall, to allow guests and residents to enter the apartment whilst avoiding disruption. This also gives room to take off shoes and coats.
Hall, this allows direct access to rooms without disturbing those using the living areas. Those entering the apartment can directly access bedroom and bathroom areas. This hall also provides a much-needed circulation space, especially for the staircase.

One to three double bedrooms, may also include a flexible space acting as a study, workspace, sunroom and guest room.

A range of single and multi-level apartments.

At least one work-from-home apartment, however the studies or even bedrooms in many of the apartments should also allow for this flexibility.

Orientation of apartments’ living spaces and terraces to the sun.

Terraces able to be closed-off by shutters to enable use in several weather conditions.

Kitchen – able to be separated from the dining and living room, for visual, such as dirty dishes, and smell purposes. This should be directly accessed from the hall to allow easy access for shopping without disruption of the living room.

Separate dining room space to provide enough room for gatherings and for family use.

Large living room
  - This room should be voluminous, as it is the largest public space of the apartment, and the most dominant.
  - To accommodate a group of couches and coffee table for socialising
  - With direct access to entry hall so that guests can be directed in without disruption or invasion of privacy of the rest of the apartment.
  - Connected to outside terrace.
  - Direct connection to dining and kitchen areas, with the ability to be opened to each other, to create social connection, required in the modern age. This openness is controlled by the user by doors and sliders, and may be visually controlled by the designer by columns, steps and ceiling heights for the same effect.
  - Able to be physically separated so that it can be efficiently heated in winter.

Separate toilet accessible for guests, located on the same floor as the living room.
Appendix D: Volumetric Relationship Diagrams for Various Levels of Urban Proposal

Primary Volumetric Relationship Diagram for Level Zero of Site
Primary Volumetric Relationship Diagram for Level One of Site
Primary Volumetric Relationship Diagram for Level Three of Site
EXAMPLES OF FINISHED PRESENTATION DRAWINGS