paper space

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paper space

High density housing experiments, exploring slope
and pathway, in Wellington's character suburbs

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Fig. 0.01 Prince St

abstract.

Wellington is a city defined by its hills, and the landscape and terrain have played a significant role in shaping urban growth. The steep terrain adds to Wellington's striking landscape and contributes to ensuring the city remains compact. However, the incline has often been at odds with the city grid. 'Paper roads' or unformed legal roads are an outcome of this tension and provide a residual space in some of Wellington's inner residential suburbs.

The problem of a growing population and lack of housing in Wellington is a well-documented and much discussed issue. Given this continually increasing demand for housing, the desire to conserve character suburbs often comes into conflict with desire to retain Wellington's compact city form. Wellington City Council is currently undergoing a review of the Urban Growth plan, with the intention of developing strategies for a potential 80,000 new residents in the next 30 years.

This thesis suggests a possible method of further densifying proximate Wellington suburbs by utilising residual space provided by 'paper streets'. More broadly, this thesis will develop and test a model of higher density housing in the identified residual spaces of existing suburbs. Although Wellington's paper roads have special characteristics, including the public amenity provided and the close relationship to existing built fabric, they also provide the case studies for residential intensification on steep sites.

Existing practice for hillside projects largely conforms to the strategy of small elements tumbling down the hillside. The research explores an alternative approach, questioning the negative connotations associated with existing large scale projects. An iterative design process identifies and refines a series of design criteria in order to inform the possibility for intensifying development on these hillside sites. Analysis of the work and literature of celebrated Californian firm, MLTW, informs the approach to developing these sites. The consideration of the public pathway and the experience of inhabitation for both residents and members of the public emerges as a central to the design case study, and the resulting criteria.

Fig. 0.02 Marjoribanks St

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Fig. 0.03 Lavaud St

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Fig. 1.02 Ellice St

introduction.

Wellington is a city defined by its hills, and the landscape and terrain have played a significant role in shaping urban growth. Whilst the steep terrain adds to Wellington's striking landscape and contributes to ensuring the city remains compact, the incline has often been at odds with the city grid. 'Paper roads' or unformed legal roads are an outcome of this tension and provide a residual space in some of Wellington's inner residential suburbs. They are roads which appear on maps but resemble open space reserves rather than streets.

Paper streets are shown on cadastral plans however they are only partially constructed thoroughfares. These were often established in the early days of settlement, and their ownership remains with either a territorial authority or the Crown. Causes of these roads remaining undeveloped include the site not requiring access, impractical topography, lack of funding priority or unsuitable environmental conditions (Transport Auckland, n.d.).

Paper streets are a global phenomenon but are especially prevalent in New Zealand. In Wellington, they often traverse steep sites and may also provide substantial amenity to the public. "Wellington's topography is unique with steep hills and little flat land. Its street layout was largely derived from English town planning processes. Often it did not take the steepness of the land into account. As a result ... Some of the planned roads were never formed and are still bush or small foot walkways. Other roads are

only partially formed" (Wellington City Council, 2011a).

The population of Wellington city is continually growing and an additional 21,400 dwellings are expected to be required by 2043. Wellington City Council is currently undergoing a review of the Urban Growth plan, with the intention of developing strategies for a potential 80,000 new residents in the next 30 years. In 2019, four growth scenarios were developed and presented to the public and a summary of the public submissions was presented. Many of the questions in the public consultation were focusing around a compromise being required, suggesting scenarios such as either the continued protection of the character of suburbs or more people living in risk prone areas.

Alongside this, WCC has also engaged Boffa Miskell to undergo a study of suburbs affected by the pre-1930's character protection. The direction of the study appears to indicate that the 1930's character protection areas could be reduced to particular areas of coherence rather than covering the whole suburb. Indications from the public submissions were of support of a scenario including inner city and suburban densification, with statements from the Council suggesting that this scenario is likely to impact on the pre 1930's character suburbs.

This thesis suggests a possible method of further densifying proximate Wellington suburbs by utilising residual space provided

by 'paper streets' or unformed road reserves of Wellington. More broadly, this thesis will develop and test a model of higher density housing in the identified residual spaces of existing suburbs. Although Wellington's paper roads have special characteristics, including the public amenity provided and the close relationship to existing built fabric, they also provide the case studies for residential intensification on steep sites.

This is of particular interest due to Wellington's terrain, and the nature of current models for medium density housing. These are largely focused around flat, often subdivided terrain. In order to develop a model for hillside terrain a richer compendium and vocabulary of strategies will first need to be explored. The nature of paper roads results in their orientation across the slope, as opposed to along the slope or following the contour as many building sites have been used. Sites that lie across the contours have been largely neglected. Therefore the subject of this thesis provides opportunity to study possibilities for further densification in hillside suburbs.

Moore, Lyndon, Turnbull, Whitaker (MLTW) was an architectural firm practicing in California in the 60's and 70's. The MLTW partnership between Charles Moore, Donlyn Lyndon, William Turnbull and Richard Whitaker was founded in 1962 in Berkeley, California (Johnson, 1986).

The firm is most well known for their work at Sea Ranch, including the award winning Condominium One project, described as

the "California architectural monument of the 1960s" (Waytkus & Smith, 2018). Condominium One was awarded the AIACC 25-Year Award in 1991 and was listed on the U.S. National Register of Historic Places in 2005.

The work of MLTW and at Sea Ranch have recently come back into focus, being the subject of a recent exhibition at the San Francisco Museum of Modern Art, and also the 'Journey to the Sea Ranch' project. This 12 month project has resulted in a digital interactive collection of resources relating to the development of the Sea Ranch ('Journey to the Sea Ranch', 2018). Another recently published resource is an oral history of development at The Sea Ranch by Kelsey Keith (Keith, 2019). Each of these resources highlights the impact the work of MLTW had on not only the Sea Ranch but on the wider architectural profession, and begins to offer a contemporary reflection on these works.

Not only is the timing of the renewed interest in MLTW's work relevant to this research, but the similarities between the topography and the propensity for seismic activity, provide clear links between New Zealand and California, where the large majority of MLTW's work is situated. The topography has often had an impact on MLTW's work and the relationship with site and incline is of significant interest to my research in both MLTW's writing and built work. The work at the Sea Ranch is of particular interest due to the both the challenging topography, and the discussion

around clusters and grouping, and the success of this idea in Condominium one.

MLTW also presents ideas around 'Being a good neighbour' in both their built works and their extensive publications. This concept will be especially relevant when considering the paper road sites. MLTW discussed this idea in terms of relationship between architecture and neighbouring buildings, the landscape and the public. The relationship between the design case

study and the neighbouring buildings with implications on both character and heritage will be significant given the current discussions around character relating to the WCC Urban Growth Plan. The relationship with the landscape will inherently be a challenging part of the design case study, and given the significant current public amenity of paper road sites the relationship with the public will also be hugely important.

Fig. 1.03 Venn Diagram

Given the amenity of the paper road sites this research has the intention of including the criteria of enhancing the experience of using the pathway for both the residents of the paper road and the public. Several of MLTW's larger scale projects deal with a pathway experience, and their work at Kresge College is relevant given the importance of the public experience and its interaction with a sloping site. MLTW explores the idea of the public experience through ideas of inhabitation, ownership and belonging in a collective space and celebrating the transition between public and private space. Both MLTW's work and the study of Wellington's paper roads suggested the handrail defining the interface between public and private space as a further area of investigation. These handrails are investigated via a photographic essay and the role of the kirigami modelling becomes linked with their function.

Aims and objectives:

- i. Comprehensively map Wellington's paper roads in order to understand site and context, before selecting a site and analysing qualities and identify patterns occurring across these residual spaces. Identify opportunities and constraints provided by these sites.
- ii. Investigate existing approaches to higher density housing in Wellington's character suburbs where sloping terrain is involved.
- iii. Interpret and analyse a body of work

presented by MLTW between 1960 – 1972 in order to develop a series of principles and criteria which can be utilised to inform the design case study.

- iv. Adapt and combine principles and criteria provided by both the MLTW body of work and the paper road sites in order to conduct a design case study.
- v. Develop strategies and criteria to apply more generally to higher density housing projects built across sloping terrain.

Methodology:

The discussed methodology is summarised by the process diagram opposite.

Key authors and ideas:

The Sea Ranch project is covered comprehensively through literature, and members of MLTW also published extensively. The literature review will investigate this material with a particular focus on the concept of 'Being a good neighbour' discussed throughout these texts, described by Charles Moore as "a continuing theme in all our works ... being a good neighbour to what lies around... natural world or existing buildings, or peoples memories or (especially) peoples energies" (Johnson, 1986).

Other significant concepts investigated throughout the literature review will be ideas around public and private space, and

Fig. 1.04 Methodology Diagram

ideas around movement, choreography and depth. All of these concepts have been selected as a focus due to the potentially relevance to the paper road sites, and the applicability to the design case study.

Current practice around medium density housing in New Zealand will also be investigated to provide an understanding before proposing alternative strategies for hillside sites. Key texts on this subject will include 'Growth Misconduct' discussing density in a hillside Wellington suburb (Abrahamse, Stuart, & Witten, 2011). This text is very relevant in terms of motivation to increase density, exploration of site and mindfulness of character however the outcome of infill, mostly single housing, differs from the intended design case study of this research, of a significantly larger scale project.

Matt Wenden's thesis 'Revisiting the Hillside: Organic, Aggregative Medium Density Housing in a Wellington Hillside Environment' (Wenden, 2016) will be significant given the common focus of underutilised hillside sites and the relationship with incline. Matt's thesis investigates medium density housing on hillsides in Wellington however does so via looking at Cycladic architecture and engages with a participatory process. This research will undertake a different methodology with a greater focus on the relationships of a potential hillside design case study to its neighbours and with the specific focus of working across the slope.

Further precedents essential to the Wellington context will include hillside work by both Athfield and Walker and 'Towards topographically sensitive urbanism' which discusses mechanisms for design responding to the topography (Kullmann, 2015).

Practice Review:

Wellington's hillside architecture will be analysed to provide further insight into the form and interaction with slope. This will examine how existing housing relates to paper streets looking for ways in which the sites differ from conventional city streets. As part of this survey, Wellington's paper roads will be systematically and comprehensively mapped. The intended outcome of this is a taxonomy of unformed road reserves that identifies patterns of building form and urban circulation. This will provide an informed understanding of context in order to select a specific site or sites and conduct the design case study.

Practice Review:

Existing examples of higher density projects in character suburbs of Wellington will be investigated in order to understand their relationship with terrain. An existing negative perception towards higher density in these suburbs is clear throughout Wellington City Council Design Guides and the 2019 Boffa Miskell Pre 1930

Character Area Review. A photographic essay is used to challenge this perception and to determine qualities of the buildings which provide positive contribution.

Body of Work:

The MLTW body of work will be analysed to investigate the architecture's interaction with site constraints, with a focus on the treatment of slope and the building form. The focus will begin with the Sea Ranch Condominium project which is a priority due to its larger scale. Drawing and graphic analysis will be used to describe and interpret this body of work. This will assist with comparative analysis between works and allow each work to be described and interpreted to determine relevant

Kirigami:

The analysis will also involve the use of kirigami modelling, a variation of origami where both folding and cutting of the paper is possible. This provides links to the idea of paper streets and also to the often folded form of MLTW case studies. The kirigami exercises comprise a series of design experiments which work alongside the practice reviews.

Whilst the method of kirigami modelling began from trivial links between paper modelling and paper roads, the method becomes a significant design driver. It also begins to enable the public pathway

to be prioritised, and to suggest itself as an interface between public and private space. This interface is often explored in MLTW's work providing a link to this body of work. As the kirigami models develop more principles, strategies and criteria are introduced from both the MLTW body of work and the paper road sites.

Role of design:

Lessons from the MLTW body of work, the analysis of Wellington's paper roads and the ongoing kirigami design experiments will be brought together into a set of principles strategies and criteria to inform the design case study. The case study will be used to test and refine these criteria and strategies in order to create a useable toolkit of principles for designing at higher density on hillside sites. The design case study tests the principles, strategies and criteria on a specific site, the paper roads. This creates inevitable tension between the aspiration to create a toolkit applicable to more general hillside sites, and the distinctive characteristics of the paper road sites which may not be present more generally. Despite this tension the intention to encourage the consideration of the potential use of sites that lie across steep contours in developed suburbs with existing character can be relevant across Wellington.

Proposed site:

Site analysis and selection will be a significant part of the review of current Wellington practice. More detailed site analysis into the selected paper roads will occur as part of the design exercises. It will be important to understand the amenity provided to the public by the paper roads, and their role in the pattern of housing on Wellington's hills.

Structure:

Part One

Introduction

Background

MLTW Literature Review

Part one introduces the research and explores other relevant work. It begins to investigate the work of MLTW through literature authored by both members of the firm and others, from both the firm's time practicing and more recently. The literature review focuses on principles formed by the firm that are potentially relevant to both higher density, sloping terrain and public pathways.

Part Two

Paper Roads Wellington

Existing high density

Public Pathways

Part two involves several practice reviews in order to understand the potential site and existing practice around higher density projects in character suburbs. This section involves the documentation of identified paper roads in Wellington, followed by photographic essays exploring existing high density projects and public pathways.

Part Three

MLTW body of work

Strategies discussion

Concepts around public pathways and the public-private interface are further investigated through both MLTW literature and other sources. The pre design part of the research is concluded with a graphic analysis of MLTW's body of work, in order to understand principles, strategies and criteria utilised in their work.

Part Four

Design Exercise

Kirigami reflection

Criteria

Part four begins with kirigami design experiments and continues to more developed design exercises. This is followed by a reflection on the outcomes of the design exercise. The criteria reflect the lessons from these design exercises, alongside those from the research into MLTW's work and factors impacting the site.

Part Five

Making / Iteration

Design case study

Part five begins by discussing the process of design, and presenting this graphically. This is followed by a description of the design case study. The design case study investigates the possibility of a higher density project on a site sitting across the contours. The design endeavours to apply principles, strategies and criteria, developed through the previous section, to the selected site.

Part Six

Evaluation

Conclusion

The final section involves an evaluation of the success of the design case study, the limitations of the research and a reflection on the process. This section includes a return to the set of principles, strategies and criteria in order to evaluate the design. Suggestions for applicability of the research and future work are also discussed.

background.

Larger Scale Residential Wellington

Literature surrounding the idea of a New Zealand architectural identity has consistently focused around the stand alone house “...focus on the house continues today. The conjunction of the straightforward and the house in locally specific architectural modernism was consolidated in the architectural writings following 1940” (Wilson, 1996). This idea is prevalent through journal articles, histories and the prioritisation of the stand-alone house is expressed through current District Plan policies (Gatley, 2014). Larger or collective buildings are not celebrated in the same way as the singular house, and this speaks of the New Zealand attachment to the idea of the bach or the woolshed and the “proposition that ... New Zealand architecture had been at its best: utilitarian, simple, timber” (Wilson, 1996).

Larger scale residential projects did not appear in great numbers until the 1960's. Both steel and cement continued to be in short supply until the mid 1950's. This was followed by a “period of economic growth and prosperity that lasted until 1967-68” (Gatley, 2014) and these factors, combined to see an increase in higher density residential projects throughout the 60's. Alongside these factors during this period, the NZIA began to increase promotion of higher density living, the Council's Housing Committee focused resources towards this

style of housing and several exhibitions directed towards city living occurred.

Following this period, Athfield and Walker are celebrated for pushing boundaries and creating a new language of Wellington architecture in the 1970s. Both utilised the technique of small forms tumbling down the hillside. This continued the established idea of focusing on the detached house, which remains at the centre of New Zealand architecture.

The Mount Victoria Residents Association, along with the recent Boffa Miskell study, label many of the existing larger scale buildings as inappropriate development and detrimental to character. This research aims to present these projects in a more positive light, and question the negative connotations that tend to be associated with larger scale residential projects in traditional neighbourhoods.

Planning for Growth WCC

In 2019 Wellington City Council began the process of reviewing the district plan. The first stage of this process involved public consultation on a series of four options for the future development of Wellington. The central concern of this consultation was providing for the expected population increase in Wellington, and other issues discussed included sustainability, hazard risks and infrastructure.

The engagement documents presented by WCC as part of the public consultation concentrate largely on the idea of trade-offs, often proposing options as exclusive. The structure of the questions as trade-offs was commented on by the respondents as problematic, potentially causing bias in responses. This research is aiming to question the trade-offs suggested by this report and present an option where heritage fabric is considered and complemented, and inner residential suburbs are densified. This is not in order to suggest that this design outcome or the accompanying principles and strategies is the only solution to the issues discussed through the 'Planning for Growth' engagement document. Clearly a combination of housing typologies and ideas are required in order to tackle the larger issue of housing up to 80,000 more residents. Instead this research is aiming to provide principles and strategies for densifying inner residential suburbs in a way that does not require the loss of heritage as a trade-off, as a part of a wider strategy.

The report analysing public submissions on the scenarios proposed finds that respondents are generally opposed to greenfield development and urban sprawl and would prefer that development was concentrated in existing suburbs and the central city. Submissions illustrate significant support for medium density development in existing suburbs, and also a large number of comments addressed the issue of character protection. Scenarios one and two are focused around more

compact development, however would relax protection of character areas. Submissions suggested respondents would favour an option which promoted compact development while also retaining character area protections.

Boffa Miskell Character Suburb Study 2019

Boffa Miskell was engaged by Wellington City Council in 2019 to produce a report reviewing the six pre 1930 character areas in Wellington, including Mt Cook, Thorndon, Holloway Road, Aro Valley / The Terrace, Newtown, Berhampore and Mt Victoria. The study coincided with the beginning of the WCC 'Planning for Growth' project, working towards a review of the district plan.

The characteristics examined by Boffa Miskell largely follow the Residential Design Guides from each area studied, and this therefore does not allow for any questioning of the current guidelines.

The study also limited the investigation into post 1930 buildings to only building age and character contribution, where pre 1930 buildings were fully assessed against criteria including building age, architectural style, building type, building location / height / coverage, garage type and location, potential heritage value and character contribution (Vossler, 2019). Whilst it is understandable that the study was limited

in terms of scope, the limited investigation potentially biases the possibility of into post 1930 buildings being considered as contributing to character.

The focus on identifying areas of coherence or concentration of contributory buildings, alongside the 'Planning for Growth' public submission questionnaire suggests that WCC is considering a change to the 1930 character areas, potentially reducing to contiguous areas as opposed to the current wider definition. This research aims to identify a strategy that could be used within WCC's planning for growth schemes, to enable increased density via larger scale development, without removing the 1930's character areas.

Growth Misconduct in the Suburbs

Growth Misconduct in the Suburbs investigates the possibility of intensifying Wellington's hillside suburbs, and how the current Wellington City Council rules for infill development are restricting this possibility. The chapter proposes a strategy for "sensitive, sustainable medium density growth of the suburbs" (McIntosh & Gray, 2011).

The chapter begins by questioning the current planning areas of Wellington, and suggesting an alternative definition for 'inner residential'. Current inner residential suburbs are largely those which were

developed earliest, not as the label would suggest those which are closest to the current city centre. For the study included in this chapter, suburbs focused on are those which are within a two kilometre radius of the current city centre boundaries, and these are labelled proximate suburbs. For the purposes of my catalogue of paper roads, I have followed this model and also included proximate suburbs. The classification of a suburb as inner versus outer has ramifications for the possibility of increasing the density, as infill is further restricted in the outer suburbs.

McIntosh & Gray also discuss the steep terrain often present in proximate suburbs, and the Wellington District Plan's focus on achieving requirements suitable for a flat site, but unrealistic on a sloping site. Given the often unreasonable restrictions on sloping sites for stand-alone dwellings, and the often negative perceptions towards large scale, high density buildings, it is clear that the possibility of hillside larger scale projects have limited encouragement under the current District Plan restrictions.

The aims of McIntosh & Gray's study have many similarities with this research. Densifying whilst ensuring character is retained, utilising liminal spaces in proximate suburbs, consideration and relationship with topography, and a focus on pedestrian access all align with this research. Where the 'Growth Misconduct' study diverges is the emphasis on masking the development as opposed to the aim

of the research to create a project which is conspicuously larger yet contributes positively to local identity. Gray & McIntosh propose achieving this largely by additional stand-alone dwellings, following the aim to mask development.

Matthew Wenden “Revisiting the Hillside”

Matthew Wenden’s thesis ‘Revisiting the Hillside: Organic, Aggregative Medium Density Housing in a Wellington Hillside Environment’ also explores increased density in Wellington suburbs with a specific focus on the hillside condition. Wenden utilises the work of Lucian Kroll and Christopher Alexander’s work ‘A New Theory of Urban Design’ to inform an aggregative approach to a hillside site in Wellington. The work is also informed by a study of vernacular Cycladic architecture and of Ian Athfield’s exploration of these ideas at his home and office in Khandallah.

The intersection of these investigations facilitates Wenden’s questioning of the model of development and ownership in the New Zealand context. This model has been identified as enabling separate developments on flat sites, and encouraging the colonial prioritisation of the grid (Wenden, 2016). This questioning of current ownership patterns is a focus of this work and is significant to the intent of the design simulation in Wenden’s work.

The paper road sites and proposed increase in density in this research will clearly demand a different experience of ownership to a separate section with detached house. Despite the likely diversion from the current suburban interaction between public and private, it is likely that the ownership model could follow existing NZ models utilised for high and medium density housing.

Both Wenden and McIntosh and Gray identify the issue in Wellington of the underutilisation of hillside sites in Wellington. Wenden’s site in Khandallah provides a large area of currently undeveloped land. This allows the application of a scheme using the aggregative methodology and the research includes an investigation of the impact of the development on the hillside housing pattern as a whole.

Similarly to the Khandallah site, the paper road sites are also articulated running across the contours. The pattern of development in Khandallah sees roads fit with the contours, running along the contours, with housing developed to fit with this infrastructure. A similar pattern is identified in the Kelburn site investigated in ‘Growth Misconduct in the Suburbs’ (McIntosh & Gray, 2011). The selected paper road site, at the boundary between Mt Victoria and Oriental Bay experiences a different pattern of housing. The surrounding development largely conforms to a grid arrangement despite the difficult terrain. This grid extends from Te Aro up into Mt Victoria, and becomes more distorted moving towards Oriental

Bay and Roseneath, where steeper terrain is encountered.

Given the paper roads position as a restricted liminal space within a grid system, as opposed to the more open site in Khandallah, the significance of the relationship with the existing fabric are heightened. The proximity to surrounding buildings initiates this significance, but it is further pressured by the identification of north Mt Victoria as a character area and the considerations this incurs. Matt Wenden's research is successful in creating guidelines and protocol to deliver a strategy for building medium density on a hillside, this process may not be successful in inner residential or proximate suburbs. This research considers liminal spaces in suburbs where character and proximity are more significant issues.

Both Wenden and Gray & McIntosh follow an existing pattern of development in Wellington, where higher density developments are achieved by an array of smaller structures. Gray & McIntosh use the approach of infill developments, where Wenden follows the precedent of the work of Athfield and Walker. Both Athfield and Walker have explored larger scale development by

Fig. 1.05 Model in context - Moeller St

literature review.

The following literature review explores the written material surrounding the work of MLTW. This section identifies significant principles present in the literature, and particularly focuses on principles which have the potential to be relevant to the Wellington hillside environment. The section uses a selected series of principles to explore a range of texts. The principles discussed in this section allow a greater understanding of the purpose of strategies present in MLTW's built work through the graphic analysis later in the text.

Moore, Lyndon, Turnbull, Whitaker (MLTW) were an architecture firm formed in the 1960's in Berkeley, California. The firm existed in several iterations as members of the firm relocated and pursued other opportunities. Although the members of the firm did not practice together for a long period, continued collaboration and discussion occurred, and as a result there is an extensive body of work and accompanying literature.

Whilst the use of the MLTW body of work may at first seem distanced from the issue of density in Wellington suburbs, there are many principles and strategies which are applicable. As with much architectural research this thesis is concerned with people and their inhabitation of places. MLTW has published extensively around this idea and the links to their strong focus on residential work "to collect as much energy as we can, starting with our own care and then trying to include the energies of the site, and of

the local history as well as the spirit of the inhabitants, their dreams and images and ambitions..." (Moore, Allen, & Lyndon, 1974).

Members of MLTW have published extensively around their work alongside a huge array of literature surrounding their most famous project, Condominium One. This literature often refers to a series of principles which are discussed throughout this review. The literature is wide ranging and principles have been selected to discuss, based on the potential relevance to the wider research aim of strategies for building larger scale in hillside suburbs.

A recent resurgence of interest in both MLTW and the Sea Ranch project suggests the continuing relevance of the work of MLTW. The University of Pennsylvania and the University of California Berkeley collaborated throughout 2017 and 2018, in order to produce an interactive virtual collection, documenting the development of the Sea Ranch. Alongside this, in 2019, the San Francisco Museum of Modern Art held exhibitions on both Sea Ranch and Barbara Stauffacher Solomon, the graphic designer at Sea Ranch. Curbed also published an oral history of Sea Ranch in 2019.

With both Kresge College and Condominium One receiving AIA 25 Year Awards, the lasting influence of MLTW's work is undoubtable. Accompanying these more prominent exhibitions and awards are a host of articles discussing the work of MLTW and its members, with Sea Ranch

often in focus. Many of these articles discuss the lasting relevance of MLTW's exploration of environmentally sensitive architecture, which encourages human interaction. If architecture experiences a 50 year cycle, as is suggested by expected building lifetimes, definitions of historic buildings, and enduring architecture awards, then we are presently placed to revisit the work of MLTW.

Robert Campbell reflects on an exhibition about Charles Moore in 2002 for the *Architectural Record*, predicting a revival of post modernism, and Stan Allen, for *Places Journal*, suggests that the postmodern era was never truly over. The focus during the postmodern era on place making, environmentalism and activist culture are once again relevant with societies increased awareness of climate change and increasing global urbanization.

Principles:

Being a Good Neighbour

MLTW often refer to their projects expressing the principle of 'being a good neighbour.' Their definition of this is inclusive of the public, the landscape and surrounding buildings. This consideration of the surrounding environment, the concern for "places responsive to climate and memory and local myth" (Campbell, 2002) positions MLTW's work firmly in the realm of the postmodern.

To the Landscape

"...houses should be sited and designed in ways that enhance rather than detract from or dismiss, their surroundings" (Lyndon, Alinder, Canty, & Halprin, 2004). MLTW have several strategies for relating to the landscape, including Fitting, Surrounding, Enfronting and Claiming. Each of their projects uses one or several of these strategies, in order to create a relationship with the landscape. These strategies are discussed in more detail later in the text (see criteria discussion pg. 116).

Throughout the literature investigated, there is often reference to creating a relationship with a sloping site and how this impacts the project. This relationship is essential to the paper road sites, and works in conjunction with the strategies utilized later in this research. The discussion around incline and relationship with slope often links to MLTW's discussions around choreography and inhabitation.

Whenever a challenging sloping site is present in an MLTW project, the nature of the site is comprehensively reflected in the project itself "We felt strongly that a house over a dramatically steep slope, with a splendid view, should capture inside some of the kinetic excitement of the site, and not just be a flat floored ranch house on stilts" (Moore et al., 1974). The 'kinetic excitement' described in "The Place of Houses" is often achieved by using variety in the change of levels, ladders and stacked spaces.

Another technique used to express the challenge and kinetic excitement of a sloping site is the use of varying views, always considered and decisively framed. Varied views add an understanding for the inhabitant of their position in relation to the outside and help create a choreography of movement inside. The possibility to frame views is enhanced by the layers of enclosure, discussed below in terms of the relationship between inside and outside or public and private (Lyndon et al., 2004).

MLTW projects involving sloped sites have a strong relationship with the site. This is seen at Kresge College where the contours guide the meandering pathway, or at Sea Ranch where each unit has a slightly different volume due to the sloping roof plane and the irregular slope of the ground below (Lyndon et al., 2004). The concept at Sea Ranch of “living lightly on the land” is clearly visible in many of their other projects where earthworks are usually kept to a minimum. These factors do not restrict the projects to entirely adhering to the topography. Forms are cut away from, added to, and diverge from the ground plane or roofline which often follows the topography. These diversions are always made with great care, and often express an important moment in the architecture.

To the Public

Pathways and stairs are explicitly focused on as a chapter in “Chambers for a Memory

Palace” and are inherently relevant to the paper road sites, given their current function as public pathways. Literature often refers to pathways or stairs in terms of the experience of the user. At the paper road sites, being a good neighbor to the public will be focused around the experience of using the pathway.

“Chambers of a Memory Palace” discuss stairs as an inherent unit of scale due to their intimate relationship with the possibilities of the body’s movement. The scope for variation is restricted by this relationship, and yet MLTW often make use of decisions around steepness, width and the relationship with platform to create expressive results. Each of these decisions changes the pattern of movement and inhabitation of the stair, and choreographs its use (Lyndon & Moore, 1994).

Decisions around steepness, width and relationship with platform will be vital for the public experience of using the paper road site. As discussed by Lyndon & Moore, a steep stair can indicate privacy where a gradual stair indicates approachability. Given the inevitable proximity between the public and private realm on the paper road sites, signals such as this are essential. Wider stairs not only allow a more relaxed pattern of movement, but also allow for inhabitation of the stair and the possibility to pause. The relationship with platform, the inclusion of landings or courtyards offer determined points of rest. These points of rest, alongside any changes of direction can

determine their views or vantage points (Lyndon & Moore, 1994). All of these elements will be significant in crafting the experience of using the pathway, and in guiding the relationship between the residents and the public.

At Kresge College the relationship between building and environment is a relaxed one, through the meandering, irregular path. The urban system and idea of the street utilize ideas from Mediterranean hill towns (Johnson, 1986). In contrast to this the paper roads provide a given boundary, and tight constraints. A relaxed relationship contradicts the steep restricted area of the site, suggesting that a more choreographed approach to moving through space will be required, without losing the positive public experience that is achieved through this public pathway.

To Surrounding Buildings

“Parallel Utopias” discuss the similarities in the relationship between the work of Christopher Alexander, exploring pattern and contribution to a whole, and that of MLTW. Both are reacting to modernist buildings. “To place anything other than nature in proximity to the Glass House is to defile it. This kind of architecture, as numerous critics have observed, exists only as a sculptural object in space” (Sexton, 1995). The work of MLTW provides a direct opposite to buildings such as Johnson’s Glass House. Their projects are always

influenced and relating to surrounding buildings and landscape, as opposed to being a sculptural object placed in space with minimal connection.

Given the existing built nature of the paper road sites, and what will be close relationships between dwellings, the connections between buildings will be vital. The work of MLTW is considerate of how it contributes to a larger pattern or whole.

Served / Servant Spaces

‘Served and Servant Spaces’ is a concept first used formally by Louis Kahn. This concept identified the ever-increasing spatial need of mechanical services and circulation, and distinguishes these spaces from those served by their functions. This concept was investigated and interpreted by MLTW. The concept provided MLTW with a clarity of planning and allowed the opportunity to move away from convention, and focus more on the acts of inhabitation (Blau, 2016). This allows consideration of the acts of inhabitation; dining, sleeping, bathing.

The concept often presents itself in MLTW’s work as a central space onto which ‘saddle bag’ spaces are appended, with specific provisions for their inhabitation. These spaces often house kitchens, dining, vertical circulation, or as in Condominium One, conservatories and bay windows. These spaces also appear in other variations, where

the concept of separating the space remains, however instead of saddle bags, a separate structure creating layers of interiority may house these functions. This is occasionally linked with the idea of the aedicule (see pg. 24), as either the central space, or in order to define the separate structure.

Transition

Inside / Outside + Public / Private

The exploration of the transition between inside and outside is often emphasized across the repertoire of MLTW. This transitional space is also often discussed in surrounding literature, and this illustrates the significance of this space to the firm. Described by Donlyn Lyndon “The distinction therefore, between an “inside” and an “outside” is the very basis of all architecture and the modulation from one to the other is and has always been one of the primary elements of the architects art” (Lyndon, 2009)

This idea of ‘saddle bags’ is clear in several projects, including Condominium One at Sea Ranch. Not only do the ‘saddle bags’ often create space projecting from the private realm towards the public, or the inside to the outside, they also reflect the inhabitation of the project. “The outer faces of the Condominium bear traces of its imagined life, like a small community”

(Lyndon, 2009).

The possibility for ‘saddle bags’ and the flexibility to explore this transitional space is created by the separation of structure and enclosure. The structure is often celebrated as its own separate element. The success of this separation is especially clear at the corner of buildings, where the corner is expanded or removed. This separation of structure and enclosure also allows for multiple layers of enclosure, literally or symbolically. The Zimmerman House literally uses two layers of enclosure, creating a space between the layers which is between inside and outside. Condominium One has more symbolic layers of enclosure with the use of the aedicule, discussed further below.

These strategies often allow the transitional space to be celebrated and instead of creating a feeling of confusion for the user, aim to “builds the opportunity for people to know where they are” (Lyndon, 2009). This idea of belonging and creating a sense of place is another principle developed through MLTW’s larger scale projects.

Whilst MLTW masterfully explores the transition between public and private, questioning of the privatization of public space at Sea Ranch arose at the time of development and in the years since. Sea Ranch is undoubtedly an exclusive environment. Establishing some kind of larger order is a difficult task, and one that potentially relies on some level of exclusivity. This concept of a larger order

has been achieved to a degree at Sea Ranch, although Lyndon notes in *Progressive Architecture* that later inhabitants and developments have a “general disinclination to become involved in common pursuits” (Lyndon, 1993). The initial sense of a larger order was possible at Sea Ranch because of the commonalities. The paper road sites currently involve a more inclusive public space. This case study must balance the sites inevitable exclusion of residents who wish to own cars, and those who are not able to access the steep site, with the inclusive nature that the current pathways hold.

Residents at the Centre of the World

Many MLTW projects are individual homes and the work “The Place of Houses” is largely aimed at the owner of a separate house. Despite this several larger scale projects of multiple dwellings explore principles of encouraging a connection to place and fostering a feeling of ownership. The tension created when creating a space to be the ‘centre of the world’ for many occupants whose identities are unknown is identified in “The Work of Charles Moore” (Moore & Nakamura, 1978). This tension is explored by MLTW at many of their larger scale projects including Condominium One and at Kresge College.

At Sea Ranch, the Condominium One project makes a conscious effort to have some presence in the vastness of the landscape,

something that could not be achieved at the scale of a single dwelling. This is achieved by using the single slope of the roof plane, unifying the project. The larger scale could become intimidating to the user, however the addition of “smaller buildings and sheds appended and clustered about” creates an understanding of the inhabitation of the space. These spaces often manifest as conservatories, pop out windows, window seats or external stairs. These not only address the transition between inside and out but also create a unique identity for each dwelling by achieving a different way of relating to the outside (Lyndon, 2009).

At Kresge College larger scale is achieved through the focus around a central street, connecting the buildings which enfront the street, and giving this outside area some qualities of an interior space. The street is 300 metres long but provides the inhabitants with a feeling of connection and ownership. This is achieved by overstating telephone boxes and street lamps, and making monuments out of the laundry and canteen, in order to provide a unique setting for each dwelling.

“In towns or large scale developments, successive demarcations of space from street to sidewalk. To lawn, to stoop, to indoors or from path to gate, under shelter to courtyard, stairs, and entry door, all serve as ... This fundamental principle is that in places where people live all space should seem to belong to someone or something; space either should seem to be

inhabited, as if it belonged to or could be claimed by particular groups of people, or should be understandable as part of a coherent larger order...” (Moore et al., 1974)

This passage suggests the link between the transition from public to private space and the connection to place or feeling of ownership. MLTW are often balancing the ideas presented here around a coherent larger order, which simultaneously provides spaces which hold the possibility of being inhabited, and therefore encourage a relationship with the user.

Kresge College references a study of Mediterranean villages, which was influenced by the work of Bernard Rudofsky’s “Architecture without Architects.” The success of the reference to the study is in the inclusiveness of the public realm created, and the involvement of the students in the configuration of their own spaces, replicating some of the process of organic growth. Although the project is undoubtedly successful, MLTW’s usual focus on sense of place and consideration of context can seem incongruous with the use of a model so ingrained in another culture. Ghenoïu questions the authenticity of the use of this reference, suggesting the outcome is a “caricature of slow growth and maturation” (Ghenoïu, 2008). This echoes criticism of New Urbanism discussed by Matthew Wenden in his thesis. Wenden argues that simulation “blurs the line between real and imaginary” and therefore

the process of simulating can create real lessons (Wenden, 2016). At Kresge College, the focus on the public realm ensures the success of the larger scale, and the inclusivity extended to the students ensures the success of the individual dwelling.

In “The Place of Houses” a chapter is dedicated to the act of ‘Collecting’. The encouragement of collecting is another strategy for fostering involvement with the dwelling. Again this is more difficult to achieve when the inhabitant is unknown. Displaying books or paintings, or specialized gardens are all considered as acts of collecting (Moore et al., 1974). Providing encouragement of the possibility of collecting is a strategy to create connection to place, and is often achieved in MLTW’s work through the inclusion or shelving or built in furniture. The home for a possible collection being part of the architecture allows the collection to also become a part of the architecture.

Aedicule

A recurring theme throughout MLTW’s work is the idea of a central aedicule providing the heart of a house. This idea is focused on in “Chambers for a Memory Palace” and also discussed across other texts by members of the firm. This concept appeared initially to have limited relevance to the focus of this research however visual analysis of MLTW projects suggested a relationship between the aedicule and an

idea of changing layers complexity. Plans of MLTW projects often reflect different levels of complexity moving through the space, often alternating more complex compositions with the simple. The aedicule provides the simplest space, as a conclusion to the movement through complexity. "The hearth is the microcosm of the aedicule, which is the microcosm of the house, which is the microcosm of Sea Ranch, which is the microcosm of the landscape itself..." (Ghenoiu, 2008)

The layers of alternating complexity not only provide legibility to the projects but also provide an opportunity to explore the movement between public and private space, another concept that is often explored by MLTW. The aedicule as a central space creates an interior within the interior "the walls of the house are a permeable barrier, while the true sense of interiority is created only symbolically by the aedicules." (Ghenoiu, 2008). This further distorts the line between inside and out and also provides another opportunity for the occupants to sense a connection to place and a feeling of ownership.

Conclusion

It is difficult to discuss the different principles and concepts present in MLTW's work and writing as separate elements. Spaces which are defined by the served / servant relationship often also help to encourage the inhabitant to feel at the

centre of the world, and may also add to the relationship with a neighboring building, or the public. This intertwining of principles adds complexity and layers to the work that may at first go undiscovered. Many of the discussions of these principles are essential to the design case study at the paper road site. The relationship between the principles discussed by MLTW and strategies utilized through their projects are clear, and highlighted through the visual analysis of their work.

Fig. 2.01 Kirigami Experiment

part two

27

Paper Roads	28
Existing High Density	34
Public Pathway	42

paper roads

Fig. 2.02 Paper Roads - Proximate suburbs Wellington

Akatea St.
Berhampore
6023 / 2°

Baden St.
Hataitai
6021 / 5°

Busaco Rd.
Hataitai
6021 / 5°

Carrington St.
Mount Cook
6021 / 8°

Dixon St.
Te Aro
6011 / 11°

Drummond St.
Mount Cook
6021 / 8°

Grass St.
Oriental Bay
6011 / 14°

Hapua St.
Hataitai
6021 / 12°

Hepara St.
Hataitai
6021 / 16°

Irvine / Thule St.

Kio Rd.

Lavaud St.

Aro Valley
6011 / 20°

Hataitai
6021 / 16°

Berhampore
6023 / 8°

Lindum Tce.
Oriental Bay
6011 / 14°

Mertoun Tce.
Kelburn
6012 / 20°

Norway St.
Kelburn
6012 / 15°

Oriental Tce.
Oriental Bay
6011 / 15°

St John St.
Aro Valley
6011 / 13°

Tanera Cres.
Brooklyn
6021 / 9°

Thorby St.
Northland
6012 / 21°

Vogel St.
Mt Victoria
6011 / 14°

Waripori St.
Berhampore
6023 / 6°

Zetland St.
Aro Valley
6012 / 19°

Fig. 2.03 Paper Roads - Incline Study

paper roads

typologies

30

Fig. 2.04

oriental tce.

Mt Victoria
6011

Fig. 2.05

st johns st.

Aro Valley
6011

32

Fig. 2.06

norway st.

Kelburn

6012

Fig. 2.07

existing high density

photographic essay - mt victoria

34

The images capture the positive attributes of multi storey apartment buildings in Wellington's older suburbs. These buildings are often condemned as detrimental to character, a definition based on traditional housing types. The photographs portray the relationship between the scale and form of a selection of larger buildings in Mt Victoria and the smaller scale villas and cottages, which are considered essential to the character of the suburb. Both Wellington City Council Residential Design Guides and the 2019 Pre - 1930 Character Area Review, conducted by Boffa Miskell for WCC, disregard many of these larger scale buildings.

The 1930's saw the beginning of an increase in residential construction in New Zealand and an increase in options outside the separate home. A large proportion of the higher density projects in Mt Victoria were constructed during the 1960's. Many of these projects and those constructed during the 70's and 80's are labelled by the Mount Victoria Residents Association as inappropriate development, causing "wholesale destruction of Mt Victoria's heritage" (Mt Victoria Residents

Association', n.d.). Whilst this period included innovative work by Athfield and Walker, more typical modernist blocks of flats were also being constructed. These were often constructed cheaply and rapidly, and it is these buildings which often retain negative connotation (McCarthy, 2016). Many of the buildings stereotyped into this negative category are built prior to this period and display significant architectural features. This photographic essay invites the viewer to reconsider their perception of existing higher density projects and to understand these buildings as a distinctive yet positive contribution to neighbourhood character.

The success of the buildings comes from the variety and rhythm they provide for both the streetscape and when considering the view of the area as a whole. While it is clear that not all blocks of flats were a success, there appears to be public opinion that buildings at a larger scale in character areas are inherently detrimental (Desmarais, 2019). The essay exhibits that architectural success and being a larger scale building in a character area are not mutually exclusive.

Architectural elements of many of the selected buildings have been carefully considered to express inhabitation and allow a complementary relationship with smaller scale dwellings. These elements exhibit a clear relationship with MLTW's discussion around expression of inhabitation, and not only allow the relationship with other buildings but also making the large scale relatable to the public. These strategies fit with MLTW's principle of 'being a good neighbour'.

Many of the larger scale buildings also explore the transition between inside and outside or public and private, as does the work of MLTW. These buildings often use balconies and external circulation to explore this transition where MLTW utilises a much broader range of strategies.

Fig. 2.08

Fig. 2.09

Fig. 2.10
Relationship between large and small scale, old and new. Expressions of inhabitation and rhythm provide connection - Oriental Tce, Mt Victoria

Fig. 2.11
Existing large scale projects explore a range of strategies for expressing inhabitation and relating to the human scale

Fig. 2.12

Two examples of strategies on providing identity to units within a larger scheme. Unique identity provided by cladding changes on the left, and variety of smaller elements and openings provide identity on the right - Stafford St, Mt Victoria

Fig. 2.13

Balconies and windows provide glimpses of the inhabitable interior space and dictate the relationship between private and public, inside and outside.

Fig. 2.14
Form, scale and materiality reflect surrounding built fabric. Small elements disguise the scale, however the building clearly differentiates itself as something new - Brougham St, Mt Victoria

Fig. 2.15

Apartment blocks, often constructed during the 1960's, relate to the character fabric without superficially mimicking their appearance. The rhythm and variety created by their scale complements the small scale 'character' buildings.

public pathway

photographic essay - wcc public handrails

These photographs explore Wellington City Council handrails and express their relationship with both public and private space. These handrails provide a reassuring indicator of public space, and provide a clear coherency and language across Wellington. This is enabled by WCC's Standard Handrail Detail provided by the Code of Practice for Land Development (Wellington City Council, 2012).

Interesting observations included the treatments of the junction between elements belonging to the private space and the public handrail, and instances where a private crossing through the public handrail was required. These often caused deviations from the standard and this creates variety and interest in the handrail whilst maintaining the coherent language.

At these junctions of space there was often additional elements, which enhance the understanding of inhabitation of the space. The handrail itself provides a relatable human scale element, clearly indicating inhabitation. The addition of small gardens, shelves, handles, latches and post boxes to the handrail add another layer of

understanding. These speak to MLTW's strategy of using "trivial monuments" at Kresge College to provide the inhabitants with a sense of ownership and attachment to place, a strategy which is explored through the idea of 'Memory Palaces' at Sea Ranch and throughout other projects (Moore, 1978).

MLTW often discusses the understanding of inhabitation created by stairs, given the strong link between the dimensions of a stair and the human body. Similarities can be drawn between this and the handrails own relationship with the body and movement. Even without the presence of inhabitants an understanding of the use of the space is clear.

Where the pathways use switch backs to traverse a site a clear visual link between the handrail as the element defining public space, and the kirigami's potential to provide this indicator. This links to MLTW's discussions around the transition between public and private space. This photographic essay guides the intention of the kirigami structure and enables further explorations of kirigami as the public private interface.

Fig. 2.16

Fig. 2.17
Meeting of elements and finishes at the threshold of public and private - Prince St, Mt Victoria

Fig. 2.18
Handles, hinges and mailboxes inhabit the threshold of public and private. These create 'trivial monuments' and express the unique entrance sequence of each dwelling.

Fig. 2.19
The handrail provides a clear visual edge between public and private space, creating legibility for the user - McIntyres Ave, Mt Victoria

Fig. 2.20

The handrail has similarities to a stair, in that its relationship to human scale is integral to its function. This leaves traces of inhabitation even when humans are not present.

Fig. 2.21

Again, the rail provides an indicator of the boundary between public and private space whilst also framing the users view of inhabitable space - McIntyres Ave, Mt Victoria

Fig. 2.22
The handrail provides certainty of the public's right to inhabit the space, and guides the pedestrian experience.

Fig. 3.01

part three

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MLTW Practice Review 52

MLTW Strategies 86

mltw practice review

52

Fig. 3.02

While MLTW often discuss more abstract principles throughout their writings, the success of many of their projects lies in the more tangible strategies which enable the principles to be expressed and guide physical manifestations of these principles. The following analysis endeavours to understand a selection of the strategies used, often which appear again and again across the work and continue developing. Strategies are focused on given their potential relevance to hillside higher density sites in Wellington.

unbuilt.		built.
West Plaza Condominium / Charles Moore, Donlyn Lyndon, William Turnbull Jr. Cortese House / MLTW	1962.	
Turner Hall House / MLTW	1963.	Fremont Professional Centre / MLTW Jewell House / MLTW Monte Vista Apartments / MLTW Jenkins House II / MLTW
Cudaback Remodelling / MLTW	1964.	Sea Ranch Condominium 1 / MLTW Slater House / MLTW Talbert House / MLTW Seaside Professional Housing / MLTW
Alcoa Pre-Fab Housing / MLTW - Moore Turnbull Carmel Knolls / MLTW - Moore Turnbull	1965.	Johnson House / MLTW Karas House / MLTW - Moore Turnbull Lawrence House / MLTW <i>Lovejoy Fountain</i> / MLTW - Moore Turnbull Kresge College / MLTW - Moore Turnbull
Harrison House / MLTW - Moore Turnbull <i>Savin Rock Urban Renewal</i> / MLTW - Moore Turnbull Bransten House Remodelling / MLTW - Moore Turnbull Sea Ranch Hillside Condominium / MLTW - Moore Turnbull Akron Cascade Urban Renewal / MLTW - Moore Turnbull	1966.	Sea Ranch Moonraker Athletic Club / MLTW - Moore Turnbull Thomasian House / MLTW - Moore Turnbull Sea Ranch Corporation Yard / MLTW - Moore Turnbull <i>Moore House</i> / MLTW - Moore Turnbull Faculty Club UC Santa Barbara / MLTW - Moore Turnbull Boas House / MLTW - Moore Turnbull Budge House / MLTW - Moore Turnbull Halprin House / MLTW - Moore Turnbull Knutsen House / MLTW - Moore Turnbull Saltzman House / MLTW - Moore Turnbull <i>Church Street South</i> / MLTW - Moore Turnbull
<i>Bankes House</i> / MLTW - Moore Turnbull Pirofski House / MLTW - Moore Turnbull	1967.	Seaside Elderly Housing / MLTW - Moore Turnbull Sea Ranch Barn Houses / MLTW - Moore Turnbull <i>Jewish Community Council</i> / MLTW - Moore Turnbull <i>Klotz House</i> / MLTW - Moore Turnbull Rush Residence / MLTW
<i>Tri Pac Housing</i> / MLTW - Moore Turnbull <i>Navy Lodge Officers Housing</i> / MLTW - Moore Turnbull <i>New Haven College Student Housing</i> / MLTW - Moore Turnbull <i>University of Connecticut Staff Housing</i> / MLTW - Moore Turnbull <i>Wooster St Housing and Commercial</i> / MLTW - Moore Turnbull Sea Ranch House Spec House II / MLTW - Moore Turnbull <i>Cornuelle House</i> / MLTW - Moore Turnbull <i>American Shakespeare Theatre</i> / MLTW - Moore Turnbull <i>Eastern Kentucky Housing Development Corporation</i> / MLTW - Moore Turnbull <i>Essex Point Scheme I</i> / MLTW - Moore Turnbull <i>Schub House</i> / MLTW - Moore Turnbull	1968.	<i>Pearson Addition</i> / MLTW <i>Tempchin House</i> / MLTW <i>Robert T Wolfe Elderly Housing</i> / MLTW <i>Psychoanalytic Associates Office Building</i> / MLTW <i>Weyerhaeuser Demonstration House</i> / MLTW
	1969.	<i>Garagin House</i> / MLTW <i>Koizim House</i> / MLTW Sea Ranch Athletic Club Ohlsen / MLTW - Moore Turnbull
	1970.	Hines Residence / MLTW - Moore Turnbull
Owen Brown Village / MLTW - Moore Turnbull	1974.	
	1975.	Zimmerman Residence / MLTW - Moore Turnbull
<i>Kuhio Shores Mauka</i> / MLTW - Moore Turnbull	1976.	

mltw.

Sea Ranch Condominium One

Condominium One was built between 1963 and 1965 for Oceanic Properties Inc. as one of the original buildings on site at Sea Ranch. Lawrence Halprin & Associates were involved as the landscape architects for the project and it was built by Matthew Sylvia ('Journey to the Sea Ranch', 2018). The project comprises of 10 units arrayed across the landscape including a common courtyard and car court. The ten units are encompassed by a unifying roof form and are offset from one another according to outlooks and responding to the landscape. Unit 9 was originally Charles Moore's and is the most well-known and documented of the units (Lyndon, 2004).

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Fig. 3.04

Fig. 3.05

mltw.

Sea Ranch Condominium 1

1. Staggered Floor Levels

2. Terrain Amplification

3. Public / Private Interface

4. Slope / Platform

5. Roofline

6. Start / Finish

7. Dimensions

Fig. 3.06

1. Modulation

2. Inside / Outside interface

3. Pathways

4. Aedicules

5. Internal Circulation

6. Points / posts

7. Complexity

8. Displacement

Fig. 3.07

mltw.

Sea Ranch

Hillside Condominium

The Hillside Condominium drawings are an unbuilt project intended to create additional condominiums, after Condominium One, at Sea Ranch. MLTW was disappointed that further opportunities for exploring this scale of building at the site were lost, as they felt the scale allowed a successful relationship with the landscape. The downfall of the intended condominium units was the profitability of the single family home, and the move back towards more typical property division and ownership (Keith, 2019). The possibility of further condominiums were discussed in 1965 and the drawings by MLTW are dated 1966, again for Oceanic Properties as the client ('Journey to the Sea Ranch', 2018).

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Fig. 3.08

Fig. 3.09

mltw.

Sea Ranch Hillside Condominium

1. Staggered Floor Levels

2. Terrain Amplification

3. Public / Private Interface

4. Slope / Platform

5. Start / Finish

6. Dimensions

Fig. 3.10

Fig. 3.11

mltw.

Sea Ranch

Moonraker Athletic Club One

Moonraker followed immediately after Condominium One and was built between 1964 and 1966, again by Matthew Sylvia. Lawrence Halprin was also involved with this project, as was Barbara Stauffaucher who was engaged to explore the possibilities of extending the small space through the use of what would come to be called 'supergraphics.' The building consciously becomes a part of the sweep of the landscape and provides a sheltered communal area ('Journey to the Sea Ranch', 2018). Despite the tight constraints of both budget and area the building was, and continues to be celebrated (Lyndon, 2004).

Fig. 3.12

Fig. 3.13

mltw.

Sea Ranch Athletic Club 1 Moonraker

1. Staggered Floor Levels

2. Dimensions

3. Inside / Outside

4. Slope / Platform

5. Roof Datum

6. Start / Finish

7. Angles

Fig. 3.15

Fig.3.16

66

Fig.3.17

mltw.

Sea Ranch Ohlson Recreation Center

The second recreation center was built by Matthew Sylvia in 1969 for Oceanic Properties ('Journey to the Sea Ranch', 2018). At this stage MLTW was working as MLTW / Moore Turnbull but continued to collaborate with Donlyn Lyndon on this project. This recreation centre references the first, and again is carefully considered in conjunction with the landscape. It again uses bold colours however without the deliberate and intricate nature of Stauffacher's work in the previous project (Lyndon, 2004).

mltw.

Sea Ranch Athletic Club 2 Ohlsen

1. Horizontal Datum

2. Start / Finish

3. Dimensions

4. Roof Datum

Fig. 3.19

mltw.

UC Santa Cruz

Kresge College

Kresge College was designed by MLTW / Moore Turnbull with Marvin Buchanan, Robert Calderwood and Robert Simpson. The project was a college for 650 students at the University of California Santa Cruz. The first site plans date from 1966, but the building was not completed until 1974. Undoubtedly, the Architecture without Architects exhibition of 1965 played a role in the concept of an irregular meandering hill town street, however the concept used at UC Santa Cruz does not limit itself to this (Johnson, 1986). Extensive involvement of the student body was included in the design process and this guided a focus on the extension of familiar places and the creation of the public realm (Ghenoiu, 2008).

Fig. 3.20

Fig. 3.21

mltw.

UC Santa Cruz Kresge College

1. Start / Finish

2. Terrain Relationship

3. Public / Private

4. Roof Datum

5. Circulation

6. Dimensions

Fig. 3.22

1. Modulation

2. Pathways

3. Screens

4. Angles

Fig. 3.23

mltw.

UC Santa Barbara UC Santa Barbara Faculty Club

The Faculty Club was designed by MLTW / Moore Turnbull with Donlyn Lyndon, Marvin Buchanan and Bruce Beebe in 1966 and constructed in 1968 (Johnson, 1986). The project provides dining, guest rooms, pool, sauna, squash courts, meeting facilities and a roof terrace. Within a rigorous budget the project speaks to the language of white stuccoed, Spanish colonial revival buildings, consistently employed in Santa Barbara at the time (Moore, 1978). Dramatic contrasts in scale were utilised to evoke the vivacity of style of the city at the time, and inspiration is taken from the County Courthouse (Johnson, 1986), discussed further in 'Dimensions' by Moore and Allen (Moore, 1976).

Fig. 3.24

Fig. 3.25

mltw.

UC Santa Barbara Faculty Club

1. Levels

2. Circulation

3. Inside / Outside

4. Roofline

5. Start / Finish

6. Dimensions

Fig. 3.26

Fig. 3.27

mltw.

Sea Ranch Lawrence House

The Lawrence House was constructed in 1966 for Beverly Lawrence by MLTW. The site is at the edge of the forest above the coastal meadows (Moore, 1974). It is noted several times through the writing of Francis Ching for the use of floor and ceiling level changes, and quality of light and view to define spaces as opposed to the use of partition walls (Ching & Eckler, 2012). The changing floor levels create possibilities of inhabiting the ground plane as furniture. As in other projects an expansive bay window is utilised to capture the view and create an interaction between inside and out.

78

Fig. 3.28

Fig. 3.29

1. Modulation

2. Inside / Outside Interface

3. Levels

4. Roofline

Fig. 3.30

Fig. 3.31

mltw. Sea Ranch Rush Residence

The residence was designed in 1970 for the Rush family by MLTW / Moore Turnbull and built by Matthew Sylvia. The dwelling is centred around a distinct chimney, from which the roof form is derived. The chimney sets a tone of verticality which distinguishes the house from the landscape. Its small scale ensures the building observes MLTW's strategy at Sea Ranch of sitting lightly on the landscape, and the balance between this and its distinction from the landscape result in a "diminutive landmark." An expansive bay window and a fenced courtyard explore the space between inside and outside. The original ladder and a fireman's pole explore MLTW's concepts of movement and choreography and the fireplace includes chambers for mementos and books, as are often included in MLTW projects (Lyndon, 2004).

Fig. 3.32

1. Modulation

2. Inside / Outside Interface

3. Start / Finish

4. Roofline

Fig. 3.33

mltw.

Sea Ranch

Hines House

The Hines residence was built in 1970 for Gerald and Barbara Hines. It was designed by MLTW, however worked on primarily by William Turnbull, and he continued to be involved in alterations and expansions to the project throughout his life (Keeling, 2018). The residence has two structures, a main house and a bunk house. The two structures speak to the sloping site and the resulting circulation and courtyard space explore the inside outside transition. Specific living spaces are defined by shed roofs stemming from the central spine, reflecting the concept of 'saddle bags' discussed throughout literature by MLTW. The project prefaces sense of place and privacy for the occupants whilst also endeavouring to sit lightly on the landscape ('Journey to the Sea Ranch', 2018).

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Fig. 3.34

Fig. 3.35

1. Modulation

2. Pathways

3. Start / Finish

4. Floor Levels

Fig. 3.36

mltw.

Virginia

Zimmerman Residence

The Zimmerman Residence in Virginia was designed by MLTW / Turnbull Associates in 1975. The project explores the transition between inside and out through the use of porches. A trellis like outer sheath creates a surrounding space enclosing the inner house. The porch space is enclosed by a giant skylight, and a light tower centres the inner house, suggesting an iteration on the concept of MLTW concept of aedicules, utilised at Condominium One.

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Fig. 3.37

Fig. 3.38

1. Modulation

2. Public / Private

3. Floor Levels

4. Inside / Outside

Fig. 3.39

mltw strategies

The graphic analysis of MLTW's body of work identifies a series of recurring design strategies. The focus through the graphic analysis and the following discussion is on those strategies which have potential for application to the paper road case studies. This discussion begins to link these strategies to other guidelines, including the WCC Design Guide, and features of the site which impact the design case study.

Modulation

A regular repeating unit is often utilised in these projects, creating rhythm and understanding in complex spaces. This strategy will be especially important when introducing the kirigami element to the design case study, as this adds a layer of complexity, and retaining legibility will affect the user's experience. The use of repeating modular units also allows the contrast between these elements and more complex or unique elements. This contrast allows the implementation of the principle of creating a sense of ownership and individuality when considering a larger scale project with multiple dwellings and many occupants. The dominant contrasting relationship is often between the module and another space creating interaction between inside and outside or as a threshold between public and private. Given the proximity of public and private space on the paper road sites the emphasis on this transitional space between modules is significant.

Transitional Space

A variety of strategies, such as bay windows, conservatories, pathways and enclosed courtyards are used throughout these projects to create a relationship between inside and outside and public and private. The principle of 'saddle bag' spaces discussed through the MLTW literature can also be used as a strategy to create transitional space. These spaces translate ideas of inhabitation and transitions physically and create an understanding of the space. The comprehension of inhabitation was noted as an important strategy for the success of existing higher density projects in character suburbs. The relationship is also discussed in the WCC Residential Design Guide, suggesting projects should "give a sense of human scale at the publicly occupied edges of buildings" (Wellington City Council, 2014). The relationship between public and private space is enhanced by an external understanding of the inhabitation of the building, and the scale of higher density buildings demands an increased focus on achieving this as a relationship with human scale elements of the building can be lost when working at a larger scale.

Roofline

Visually providing a unified aesthetic this also can help to create a feeling of collectivism when discussing larger groupings of dwellings. MLTW's projects often explore complex geometry and utilising a consistent roofline creates a

coherent whole out of what could become a disparate collection of elements. The use of a unifying element is significant in order for the project to read as conspicuously larger. It also provides a link to the existing language of hillside residential explored by Athfield and Walker. Whilst the roof element did not provide this unifying element for either's work, this strategy was explored extensively via consistent materiality or a consistent language of openings. The MLTW unified roofline works alongside the use of the saddle bag spaces, and balances the complexity these spaces can add. In other instances the roofline can be used to create definition by highlighting the saddle bag space. Contrasting rooflines are also used through several projects to define the start and end of the building by introducing a counter slope, or a tower form. Towers are occasionally used to highlight a primary element of the building around which other elements are organised. These deliberate moves to emphasise the start and finish of the building define the public and private space. This contrast is enabled by the rhythm created by modulation throughout the remainder of the project.

Pathways

Pathways often traverse through the building which creates a more involved relationship with the public realm. This strongly mirrors the conditions of the paper road sites where the public and private realms are intimately linked. This relationship to the building also often causes a narrowing of the pathway,

which is also explored in other manners through other projects, and directs the user in a definitive way. The pathways as routes of circulation often involve a few steps. Stairs are discussed in Chambers for a Memory Palace as choreographing our movements "They make us especially aware of our own presence, as we move up or down or pause for breath. Because they fit our feet, they provide a reliable gauge of the size of the whole place" (Lyndon, 1994). The tight constraints of the paper road sites currently express a highly choreographed pedestrian experience and this will continue to impact built additions to the site. Given the relationship with the human body stairs and pathways provide a clear indication of inhabitation. Pathways and stairways are also used in conjunction with Barbara Stauffacher Solomon's 'Supergraphics' to create movement and the illusion of depth and space in projects where the footprint was restricted.

Displacement

Displacement is often used in conjunction with the regular modules to create rhythm, and also further enabling a sense of identity and ownership when considering a singular dwelling within a larger complex. Usually in MLTW's work, the displacement is limited to one plane of movement, often originating from a central spine. This potentially conflicts with the nature of the kirigami models, which move more fluidly across planes and involve a much wider variety of angles. The success of the

displacement is the movement between the private and public space created and the further understanding of inhabitation. The spaces created by the displacement could be replicated by spaces created by folds and extrusions in the kirigami.

Complexity

Strategies of modulation, the encompassing roof form, displacement and a central aedicule come together in several projects. The relationship between these elements creates a changing complexity through layers, beginning with an often complex site plan and culminating in the central aedicule. The movement between layers of complexity allows a comprehension of public private interface and ensures a balance between complexity and simplicity. The layers further celebrate the transition between inside and outside space and public and private space. The exploration of complexity on the paper road sites is intrinsically linked with the choreography demanded by the site. Although the current experience is tightly choreographed, this is not a carefully considered pattern of movement and there is minimal shift in complexity throughout the current experience.

Terrain Relationship

Multiple strategies are used across projects reflecting MLTW's intention to always be a good neighbour to the landscape. At

Kresge College the project meanders down the contour of the site in the manner of a small European village through a fluid pathway. Instead of being governed by a grid, the landscape dictates the relationship and 'trivial monuments' are used to provide indicators of the public pathway. Both Athletic Club projects at Sea Ranch endeavour to work in conjunction with the landscape, and this is achieved by cutting into the ground plane to site the projects. Other projects use the building form to amplify the nature of the terrain. Another strategy utilised involves the project stepping up where the terrain steps down. This creates an unexpected relationship between the two and allow the building to both settle into and inhabit the landscape at once. It is clear that a 'meandering' relationship will not be possible with the paper road sites, and this relationship will be a much more formal one. Despite this it is important to employ MLTW's attitude of carefully considering the relationship to the landscape and to explore ideas of amplifying the terrain and inhabiting the landscape.

Conclusion

It is obvious that MLTW's strategies around the use of pathways and the relationship to the terrain will be significant when considering the paper road sites, however often the larger scale residential MLTW projects use a relatively relaxed relationship with the landscape. The tight constraints of the paper road site will demand a

more rigorous relationship and therefore also require consideration of complexity, modulation and displacement. There is a potential conflict between the use of small modules and transitional spaces and the desire to ensure a unifying built element is present. Whilst this may create tension between modulating and unifying, this may be helpful in exploring variety in complexity throughout the project. Transitional space is not only a strategy in its own right, but also appears often in discussion around the other strategies. Transitional space is linked to modulation, choreography and pathway and complexity. Given these links, and the important relationship between public and private space on the paper road sites, the consideration of transitional space is essential in moving towards the design case study. As suggested in the earlier literature review, this discussion makes it clear that the strategies explored are often linked and work cohesively in MLTW's projects. When utilising these strategies in the design case study, it will be important to consider the relationship between strategies.

Fig. 4.01

part four

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design exercise

The following section documents four sequential exercises exploring the practice of kirigami, a paper folding technique which also allows for cuts in the paper. Each exercise increases the amount of detail applied and introduces a sloping condition.

Ultimately the exercises introduce actual site constraints and explore multiple paper road sites including St Johns St in Aro Valley, Plunket St in Kelburn and Oriental Terrace in Mt Victoria. This moves the project towards selecting a site as a testing ground for the design case study.

Fig. 4.02

1. Kirigami Flat Plane

94

Fig. 4.03

Kirigami Techniques

The following compilation aims to identify strategies and attributes from the previous exercise. This identification allowed the selection of strategies which may enhance or work with MLTW strategies and sloping site to inform the following exercise.

Fig. 4.04

edge project

offset cut

converging
folds

angled cut

compress in

project out

project + pop
out

multiple cut /
fold

grouping
models

plan / section

multiple
techniques

parallel angled
folds

Fig. 4.05

2. Kirigami Slope

test one
separate

98

additional techniques used:

exc. one techniques used:

Fig. 4.06

test two
multiple

99

additional techniques used:

exc. one techniques used:

Fig. 4.07

test three
start / finish

100

additional techniques used:

exc. one techniques used:

Fig. 4.08

test four
start / finish

101

additional techniques used:

exc. one techniques used:

Fig. 4.09

test five
roof datum

102

additional techniques used:

exc. one techniques used:

Fig. 4.10

test six
finish only

103

additional techniques used:

exc. one techniques used:

Fig. 4.11

test seven
multiple +
start / finish

104

additional techniques used:

exc. one techniques used:

Fig. 4.12

3. Kirigami Site

oriental tce.

Fig. 4.13

norway st.

Fig. 4.14

st johns tce.

Fig. 4.15

oriental tce.

Fig. 4.16

norway st.

Fig. 4.17

st johns st.

Fig. 4.18

4. Kirigami x MLTW

Fig. 4.19

Fig. 4.20

Fig. 4.21

Fig. 4.22

Fig. 4.23

Fig. 4.24

Fig. 4.25

kirigami reflections

Exercise One: Exploring Kirigami Techniques on a Flat Plane

The 'constructedness' of the kirigami as self-supporting structures give a feeling of groundedness and suggest the possibility of an actual built form. By grouping multiple models, it was possible to create a relationship between models in terms of alternating scale and also to provide space between them allowing for a suggestion of pathways.

Observations include the models being viewed in both plan and section with consequent changes in form and relationship. When viewed in the plan orientation, the models spoke to existing Wellington typology of stepping down the hillside, especially prevalent in Oriental Bay and Roseneath. This type is viewed as unsuccessful given the lack of relationship to the existing patterns of inhabitation of the

hillside, although it could be argued that it relates to the topography. The stepped down large block also does not relate to or engage with the public, having large faces and often being positioned for a commanding view.

Exercise Two: Exploring Kirigami Techniques on a Sloping Plane

The initial success of the constructedness of the kirigami models was lessened by the introduction of the sloping form. More consideration of the placement of cuts and techniques used is required to ensure the model sits well on the site and connects with views. The introduction of the vertical elements added an element of tension which enabled stability to be regained.

The vertical elements also highlight significant changes in direction in the model and appear most successful when

visible on both sides of the model due to a cut. Continued questioning of whether they are truly part of the form or only present in the model to stabilise the kirigami element.

Elements from the MLTW body of work analysis are included in this exercise. The inclusion of a selection of these strategies informs further decisions where the kirigami and MLTW strategies either create successful additional outcomes or conflict each other.

Several kirigami strategies made use of cuts and folds that were angled. The angled cuts in a horizontal plane are successful when considering MLTW strategies as they often suggest the principle of space between the inside and outside zones, and this is used to further explore the relationship between public and private. Where vertical folds were angled, this lessened the stability of the models and also began to conflict with the MLTW strategy of offsetting in a singular direction from a central plane.

Also explored at this stage is the strategy of emphasizing the start and end of the building. Through MLTW projects this is often introduced by utilizing a raised part of the form or by introducing a counter slope. Observations include that raising the form was more successful at the starting narrower end of the building, where the introduction of a counter slope was effective at the finish. The narrower, shorter end of the building potentially does not allow for enough scale for the counter slope to provide a definitive enough change. The counter slope can also be expressed through a kirigami counter cut.

113

Exercise 3: Exploring Kirigami Techniques on Site

The third iteration of design exercises involved the introduction of a third more solid element. This is initially achieved by introducing a form which exclusively followed the form of the site, however, did not add significantly to the model. This highlights the tension between responding to the site in an effective way and attempting to avoid a traditional approach of constructing a flat building platform and therefore rejecting the slope of the hillside.

Initial solid element explorations also began to explore the MLTW strategy of spreading the form down the slope. This is most effective when utilizing multiple sections of kirigami, however must be balanced with the possibility of over complicating the models and losing legibility. This could be explored further by including the MLTW strategy of alternating complexity and simplicity.

Further solid element explorations utilize a more substantial form, which begins to necessitate the utilization of both platform and slope. These also begin to suggest that more than one section of kirigami is appropriate, or alternatively creating a non-continuous line as the base of the model.

This exercise began suggesting movement towards a more formal built form. *Questions moving forward are:*

- i. How will the addition of formal building elements change the kirigami form, and how can these be included without losing the initial effectiveness of the model? Especially when considering a roof form or element as the kirigami provides a predominant wall structure.
- ii. Does the kirigami provide the public

interface of the building or has this defined the public path through the building? In either circumstance how can more traditional forms be drawn back from this edge whilst still contemplating relationship with other buildings, the terrain and the public.

- iii. Should the kirigami remain as one element or continue introducing multiple sections? Can the MLTW strategy of one encompassing roof form help multiple elements to be cohesive and does this contradict with the kirigami as a wall element. Or is the kirigami itself the encompassing component.
- iv. How can influences from site, surrounding buildings and the public begin to influence the cut and folds of the kirigami.

Exercise 4: MLTW x Kirigami

Exercise 4 explores the possibilities of superimposing kirigami techniques onto MLTW projects in order to test the relationship between the two streams of inquiry. This pushed the kirigami further towards a built form and begins to consider the inhabitation of the models.

The MLTW projects are always carefully considering and testing the tension between the idea or the concept and the circumstantial demands from the site and brief. The addition of the kirigami creates another layer of tension, where the public pathway function adds to the brief and site and the kirigami itself is an additional design idea. The added tension has the potentially creates excessive complexity. However, since the 1960's, architecture has developed in complexity and a more visually intricate formal and spatial outcome is both more achievable and more widely accepted. This strategy allows MLTW's work to be explored and reworked in a more modern idiom.

Learning from this exercise further emphasized the notion that the kirigami indicates and creates the experience of

the public pathway. This was suggested by the success of the superimposed kirigami on plans of the projects, where a public pathway or movement through the building was already indicated. The exercise was less successful where the kirigami was imposed on a section or elevation. The outcome of these tests resulted in a feeling of superficially applying the kirigami, and the absence of the kirigami motif which comes through strongly in plan.

Conclusion

Several important lessons have emerged from these exercises which will guide the design case study going forward. The most significant of these are often where a strategy that has emerged from the kirigami exercises has aligned with a strategy employed by MLTW throughout their work. The possibility of exploring the kirigami as a wall element which guides the public private interface will be significant to the design case study and this begins to suggest a link to MLTW's strategies for this transitional space, such as doorways and bay windows. Further exploration of the tension created between the function of the pathway and the design of the idea of the kirigami will be important throughout the case study. Use of MLTW strategies of modulation, to provide order where the design could become overly complex, and strong indications of the start and finish to contain the complexity will be important to create balance.

criteria.

1. Respond to the topography

The paper roads sites are almost always across the slope, and this has been identified as a type of site which is currently underused in regard to larger scale buildings. Current strategies for creating a relationship between a sloping site and a larger scale building include stepping down the hillside. The benefits of this strategy include highlighting the relationship with the topography, separated levels creating privacy for residents and limiting the amount of excavation required. The major conflict of this strategy with the paper road sites is the lack of relationship with the public. The relationship with existing 'character' buildings is also limited due to the lack of elements with a sense of intricacy.

Fig. 4.26

This strategy also attempts to disguise the

scale, by repeating identical modules which can result in a sense of monotony. Through the earlier photographic essays, buildings which provide some variety and rhythm to the streetscape were found to be successful.

The WCC Residential Design guide does not have a clear counterpart to this criterion. MLTW's strategies are focused around the project's relationship with the site and the impact these strategies will have on this relationship. The design guide discusses landform in relation to avoidance of large scale engineering of the site, with a strong emphasis on the impact on the streetscape and neighbouring properties.

This research aims to provide strategies for creating a relationship with the topography and looks for alternatives to the existing simple stepped model. Utilising multiple strategies for relating to the landscape and anchoring the project will help to provide different formal relationships between site and building. This promotes variety and flexibility throughout the project. Across literature by members of MLTW, four strategies for relating to the landscape are discussed; fitting, claiming, surrounding and enfronting.

Fitting is also often referred to by MLTW as merging, and this strategy was often utilised throughout their practice by siting the project in relation to existing vegetation or features of the terrain in order to allow a building to become part of, and prioritise, the landscape (Moore, Allen, & Lyndon, 1974). Throughout this research this strategy has been interpreted

to fit with the paper road site. The approach to achieve 'fitting' are structures that follow along the contours or sit on pads that are dug into the site. The MLTW concept of fitting exhibits strong links to the existing model of stepping down the slope. Where the existing model uses a singular strategy, MLTW often employs more than one. The existing model of stepping down never allows for the complementary strategy of claiming. This restricts the variety and flexibility of the scheme.

Fig. 4.27

Claiming is described by MLTW as the opposite of merging, where the project deliberately differentiates itself from the landscape. This allows the project to be the focal point and gives it a sense of ownership over the surrounding landscape (Moore et al., 1974). Investigating this in terms of the paper road site has led to an approach of verticality and strong forms, to express the idea of claiming.

Fig. 4.28

Surrounding is a strategy used to encourage a private or sheltered domain outdoors. This

strategy clearly links to further discussion by MLTW around the differentiation between inside and out, and the blurring of these spaces often explored through their work. The strategy is described by MLTW as an "intensified version of claiming, where the act of claiming is turned inwards" (Moore et al., 1974). The act of surrounding enables the possibility of creating a shared space at the boundary of inside and out and public and private.

Fig. 4.29

The final strategy is enfronting, "using the building forms to focus attention on the space in front of a building or entrance" (William Turnbull, 2000). This strategy was used with vigour at Kresge College, in order to focus and prioritise the sense of a meandering street, allowing for informal meeting places and celebrating the interaction between the public and private (Moore et al., 1974). Given the intended emphasis of the public experience within the design case study, the enfronting technique is likely to be considered where public space meets the built form.

Fig. 4.30

2. Feeling of ownership and connection to place for residents

MLTW discuss the principle of ensuring residents feel at “the centre of the world” (Johnson, 1986) and the additional challenge of achieving this in a larger scale project where the occupants may be unknown.

“A dwelling should be the centre of the universe for the people who share it. To puzzle out a shape for the centre of the universe with one interested family is a complex task. But to place dozens or even hundreds of these centres together, for inhabitation by people whose identities are generally not even known to the designer approaches the hopeless. Much of our practice has been in this tenuous realm, trying to discover the extent to which physical shapes and spaces can impart a sense of place, and trying to develop a framework in which the inhabitants provide (as we believe they must) most of the energy for the act of dwelling” (Moore, 1978).

MLTW uses strategies including rhythm and displacement to create a sense of address and ownership. This is alongside a constantly discussed focus on spaces which create an understanding of their inhabitation, and encourage residents to provide “the energy for the act of dwelling” (Moore, 1978). At Kresge College this is achieved via a series of “trivial monuments” including post boxes and street lamps, creating inhabitation in the public realm

and unique context for each dwelling.

The WCC Residential Design Guide also concerns itself with a sense of address and achieving individuality for the unit within a larger scale of development. The guide focused on strategies to achieve this, and suggests expressing the individual unit through articulating the façade (Wellington City Council, 2014). Zavos Corner in Mt Victoria has been documented as an exemplar for medium density housing and utilises this suggestion from the Design Guide. It also provides a unique entrance sequence for each dwelling, whilst aiming to read as a whole (Auckland Council, n.d.).

3. Include existing buildings into new scheme and minimise negative impact

The design case study is likely to challenge current rules within the district plan. Where possible, it is important to ensure that the existing buildings are not negatively impacted by the design case study, and the experience of accessing their property is improved. It is also important to ensure these properties benefit from created open spaces. Where it is required that a building be removed, it should be justified by a significant increase in density.

4. Enhance the public experience

The paper road sites currently provide public amenity, especially clear at Oriental Terrace where a path is provided between Hawker St and the waterfront. This is a unique feature of these sites, linked to their movement across the slope. Given the frequent use of the site as a pathway, it is important to retain this amenity through the proposed design case study.

The current public experience is largely separated from the dwellings adjacent to the paper road and does not appear to have been designed with the public's experience in mind. It will be important to not only ensure that public amenity is enhanced through improved pedestrian experience. The design case study will aim to improve the public experience and integrate the pathway with the project.

5. Foreground the public / private interface

As previously discussed, much of the work of MLTW celebrates the transition between inside and outside or public and private.

This space is explored extensively through courtyards, conservatories, balconies and pathways at Sea Ranch. Its use is perhaps most relevant at Kresge College where a pathway throughout is bordered by the built form of the project, and this along with the 'trivial monuments' create an external enclosed space with interior qualities.

The WCC residential design guide also focuses on the street front façade as the interface between public and private. The guide suggests articulating the façade in order to provide "visual relief" and create hierarchy and also concerns itself with the quality of the street edge and creating a visual identity and sense of address when considering a unit within a larger scale project (Wellington City Council, 2014).

Physical spaces expressing the possibility of inhabitation, as focused on by MLTW, are often present at the public private interface, and could be utilised to achieve the intentions set out in the design guide. These spaces could include stairways, window seats and "trivial monuments" such as letterboxes or street lamps.

Interaction v. Disengagement **Rhythm v. Monotony** **Complementing v. Disguising** **Framing v. Dominating**

Fig. 4.31

6. Relationship with the existing built fabric including heritage buildings

Much of the WCC Residential Design Guide focuses on fitting in with the existing 'character' fabric. Observations of existing larger scale buildings in Mt Victoria via a photographic essay concluded with a series of propositions which assist in considering the success of larger scale projects.

Framing v. Dominating

Interaction v. Disengagement

Complementing v. Disguising

Rhythm v. Monotony

Observations from this study suggest that larger scale buildings can be successful additions to the built fabric without conforming to all aspects of the design guide.

Park Mews, in Hataitai utilise repeating elements to collect an eclectic cluster of roof forms into a cohesive whole.

This research acknowledges the success of this strategy but suggests that this has been thoroughly explored and is reasonably well accepted. To develop strategies for projects that are unapologetic in their larger scale and increased density, is a further challenge. The project will aim to question the intentions of the residential design guide to promote homogeneity, and disguise larger scale as something it is not. The intention is to create something that is truthful to its programme and intention whilst also creating a successful relationship with existing character buildings.

The propositions discussed above are intended to assist in moving towards larger scale which relates to heritage fabric, by understanding the success of existing larger scale buildings of Mt Victoria.

7. Increase in scale and density

Both Athfield and Walker have found inspiration in Wellington's steep terrain, by assembling architecture from smaller elements. Athfield utilises a common material in order to collect what could become disparate elements, in both his home and office in Khandallah and in the Mt Victoria Pearce Apartments. Walker's

Principles

Criteria

MLTW

- › Being a good neighbour
- › Residents at the centre of the world
- › Served / Servant spaces
- › Transitions

- › Public
- › Landscape
- › Neighbouring Buildings

Context Analysis

Kirigami

WCC Design Guide

- › To facilitate new residential development that is of good design, and responds to its neighbours and local context as well as to the needs of people who live in it.

1. Respond to / Relate to topography

2. Feeling of ownership / connection to place for residents

3. Include existing buildings in new scheme and minimise negative impact

4. Enhance the public realm

5. Foreground the public interface

6. Respond to existing context including heritage buildings

7. Increase in scale and density

Strategy

Fig. 5.01

part five

125

Design Iterations 127

Design Case Study 139

Fig. 5.02

design iterations

iterative making process

As a result of the kirigami design experiments, physical model making became essential to the design methodology. Drawing over images of the models is also integral to the process. This combination of models and images allowed the exploration of form, pathway and relationship through an iterative process. This process requires continuous analysis and revision through both modelling and drawing.

The following images illustrate some of the design process and describe some key

points, however given the constant editing definitive stages of iteration did not occur. The model making process shifted scales, largely increasing in scale as the models demanded an increased level of resolution. The physical process ensured that concepts and strategies were implemented with clarity, and then detail added through the layering process. As the case study became more resolved, the process reversed, and by drawing over digital images detail was edited out again to clarify the intentions and concepts.

Fig. 5.03

The outcome of the design experiments confirm the kirigami as a wall element, at the boundary of public and private. The initial stages of modelling step away from the last stage of kirigami experimentation by including a stronger suggestion of built form, however these remain relatively unresolved. The applied layers experiment with enclosing the spaces

suggested in the model. It was observed that a return to the formula of small fragments tumbling down the hillside was occurring in some of the layered images. The arrangement in plan of two definite axis was determined. The use of MLTW's strategies for relating to the topography is beginning to be considered.

Fig. 5.04

Fig. 5.05

This stage of modelling is at an increased scale to begin to reach a higher level of resolution. The inhabitable spaces remain ambiguous in the model but become more defined with the layer of drawing. The pathway is more of a priority and the images begin to suggest a concern for the experience of using the pathway. The

kirigami is acting as the unifying element and at this stage there is a sense of conformity to the current model. This observation alongside the inclusion of the existing buildings instigated an increase in scale of some elements in following stages.

Fig. 5.06

Fig. 5.07

The increase in scale is especially prominent at the start and finish of the scheme, to provide definition. This also creates a stronger relationship with the larger scale of St Gerard's, the apartment block at 2 Oriental Terrace and Clifton Towers at 202 Oriental Parade. This series of models and images tests the roof form as the unifying element. It also reduces

the scale of the kirigami element, to explore its relationship with the human scale. This series also begins to explore some elements of materiality. The public pathway is focused on. Its relationship with the associated public domain in the form of courtyards and landings is also explored.

Fig. 5.08

Fig. 5.09

The drawing process is applied to the digital model in a reverse of the previous process. The layering allows some of the detail to be edited out in order to focus on achieving clarity with the idea and coherence of the project as a whole. Shifting between physical modelling, drawing and digital modelling is utilised to refine each of the buildings individually, where the model

achieved this for the scheme as a whole. A difficulty with the modelling process is the early prioritisation of the form and resulting issues around unit planning and the experience of the internal spaces. The inclusion of the digital floor plans addressed this issue and increased the resolution of the model.

Fig. 5.10

Fig. 5.11

Fig. 5.12

Fig. 5.13

“In towns or large scale developments, successive demarcations of space from street to sidewalk. To lawn, to stoop, to indoors or from path to gate, under shelter to courtyard, stairs, and entry door, all serve as guides to psychic orientation much as contours on a surveyors map help us to visualize and understand landscapes that otherwise escape our grasp...”

(Moore et al., 1974)

These images explore the development of the public pathway and the associated public space. The choreography of movement is developed, and especial consideration is placed on the opportunities for views and the interaction of the public space with the pathway. The result is that the pathway always traverses the courtyard spaces, creating more interaction with this domain between public and private space.

Moments where a pause to take in the view is encouraged are accentuated by contrasting moments where the pathway goes under the building. The aim was initially for the path to become more complex through the middle section and the start and finish be emphasised by a simpler arrangement, this concept has been diluted somewhat with other aspects prioritised.

design case study

Fig. 5.14

Fig. 5.15

Fig. 5.16

moeller st.

st gerard's monastery

moeller st tower

north building

claiming tower

hillside building

enfroting tower

oriental tce.

site plan.

1:1000 @ A3

oriental pde.

oriental tce.

all buildings section.

1:500 @ A3

part plan.

150

north.

part three

part one plan.

i. moeller st tower & ii. north building

1:100 @ A3

152

part one section.

i. moeller st tower & ii. north building

1:100 @ A3

154

part two plan.

iii. courtyard building & iv. claiming tower

1:100 @ A3

156

157

part two section.

iii. courtyard building & iv. claiming tower

1:100 @ A3

158

part two.

iii. Courtyard Building

Three buildings have been selected to present, via axonometric drawing, the strategies used to relate to the hillside. These strategies are informed by MLTW's discussion around being a good neighbor to the landscape.

The first of these, the Courtyard Building, represents the use of MLTW's strategy of 'surrounding.' This strategy is used to create a sheltered domain outdoors, and this links to the previously discussed concept of celebrating the transition between inside and out. The courtyard space creates a domain between the pathway and the interior space. This allows for interaction between the public and private realms and has qualities of both interior and exterior space. This also creates the possibility for members of the public to inhabit the space and pause between moving up or down stairs.

MLTW discusses surrounding as an act of claiming which is turned inwards. While the building does not make a claim on the topography in terms of the form, it claims the space within the built form. The kirigami wall defines the edge of the courtyard space and allows for an emphasis on the entrances of the dwellings. The siting of this building in relation to the existing built fabric limits the possibility for harbor views which are so essential to some of the other buildings. The act of claiming the space within shifts the focus from the views inwards towards the courtyard and prioritises the relationship with the public realm and the inhabitable exterior space.

part two.

iii. Courtyard Building

The built-in furniture (Fig. 5.18) is concerned with creating “chambers for memory palace” a concept discussed by MLTW. This intends to create a sense of ownership and encourage the possibility of a connection to place for unknown potential residents. In this interior elevation view the furniture is used as an element to define space as opposed to using walls to separate rooms.

These three-dimensional section views are influenced by MLTW’s representation of their own projects in this manner. These views express an understanding of the interior experience of the kirigami wall and therefore the relationship between inside and out. This view (Fig. 5.19) highlights the bay window, creating a domain between inside and out and express inhabitation.

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Fig. 5.17 Interior Elevation A.

Fig. 5.18 View A.

part three plan.

v. hillside building & vi. enfronting tower

1:100 @ A3

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part three section.

v. hillside building &
vi. enfronting tower

part three.

v. Hillside Building

The Hillside Building follows the form of the topography and expresses the MLTW strategy of 'fitting' or 'merging'. The roof has been developed to strongly articulate this form. Again, this building is less focused on the views due to the siting. It provides rhythm and variation given its position between two more vertical elements. This change in scale allows the Hillside Building to relate to the scale of the existing character fabric.

168 The roof form has a strong relationship with the angle of the kirigami wall. The heavy form of the kirigami wall provides interior spaces of comfort and grounding. This contrasts with the lighter spaces enclosed by the roof form. The relationship with the public space is less physical than the Courtyard Building. This more pronounced contrast between public and private space is due to the private pathway diverging.

The Hillside Building provides an alternate strategy for fitting with the landscape to the 'stepping down' strategy which has been previously discussed. The Hillside building retains a representation of inhabitation and some interaction with the public realm, both which are lacking in the existing 'stepping down' strategy.

part three.

v. Hillside Building

As discussed previously, the customised interior space aims to create a sense of ownership. It also helps to use smaller spaces efficiently. This strategy also encourages the act of collecting, which is dedicated a chapter in *The Place of Houses* (Moore et al., 1974). These spaces prompt the resident to collect items which are meaningful to them and display them in a manner which expresses their inhabitation of the space.

This three-dimensional view again explores the experience of the kirigami from the interior of the space. The heavy materiality of the kirigami and the associated interior space is contrasted with the lightweight space above, enclosed by the roof form. On this occasion the kirigami creates a solid boundary between inside and out and where it influences the interior the result space is undisturbed and inwards looking.

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Fig. 5.19 Interior Elevation B.

Fig. 5.20 View B.

part three.

vi. Enfronting Tower

MLTW often discusses the strategy of enfronting in relation to the interface between public and private. This strategy is employed by the kirigami wall throughout the project, following the pathway. The Enfronting Tower also employs this strategy to create a relationship with the street. Enfronting the street also results in the north and east facing views being prioritised. This is achieved by projecting the windows which also allows an understanding of the units as individual elements and the inhabitation of these spaces. The expression of the circulation as a projection from the building further encourages an understanding of inhabitation.

The enfronting strategy creates an emphasis of the end of the project, which is also reflected on the top of the hill at the start. The counter sloping roofline helps to achieve this definition and also reinforces the idea of enfronting the street.

The verticality of the building creates a relationship with other apartment blocks in the vicinity. This verticality allows the Enfronting Tower to also express the last MLTW strategy of 'claiming.' Claiming buildings create a focal point and create a contrast with the strategy of 'fitting'. This idea allows the design case study to achieve the intention of increasing the scale in a deliberate manner, without disguising it.

part three.

vi. Enfronting Tower

As in the previous buildings the central focus of the built-in furniture is to foster a sense of ownership. In the Enfronting Tower the built-in furniture also creates a sense of continuity through the space (Fig. 5.22).

The interior view expresses the changing of floor levels (Fig 5.23), used by MLTW in the Lawrence House (see Fig. 3.28 & 3.29), to create different spaces without using walls

to separate rooms. This helps to create a cosy living space and a contrasting, more open living space. In this instance the kirigami wall also provides an opportunity for collecting. This use of the kirigami wall creates an awareness of the boundary between inside and out from the interior.

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Fig. 5.21 Interior Elevation C.

Fig. 5.22 View C.

pathway

current

proposed

The following images are influenced by Gordon Cullen's Serial Vision, and explore the inhabitation of the pathway. Whilst the model making process as a form making tool it is difficult to explore the experience of moving through the pathway in this manner. This has been explored via plan through the development of the design case study, however by utilising a 'Serial Vision' sequence this allows the possibility to explore inhabitation of the space.

As the pathway emerged as a key element to enhancing the experience for both residents

and members of the public, this exploration became vital. This method captures the ideas, discussed through MLTW's work, of choreography and legibility of inhabitation. Where the model is concerned with the project as a whole, the images capture the experience of being in the domain between public and private.

As in Gordon Cullen's work, each arrow on the plan diagram represents a drawing. The pathway is depicted from bottom (Oriental Terrace) to top (Hawker St).

pathway

proposed

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Fig. 6.01

part six

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mltw strategies

Fig. 6.02

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Fig. 6.03

north. ↗

mltw strategies

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Fig. 6.04

1. floor levels

2. inside / outside

3. slope / platform

4. roofline

5. start / finish

6. dimensions

Fig. 6.05

evaluation

The following evaluation revisits the criteria discussed at the conclusion of the pre design chapter. The method of graphic analysis of the MLTW built projects is also applied to the design case study. This provides an understanding of the outcomes of the use of these strategies, and their relationship with the criteria.

In the previous discussion of the criteria, they are listed in an arbitrary fashion, however through the design process it became clear that some of these criteria are more central to the case study than others. This evaluation aims to provide a more structured prioritisation of these criteria, and also to examine tensions and connections between criteria:

- i. Enhance the public experience
- ii. Increase in scale and density
- iii. Feeling of ownership and connection to place for residents
- iv. Respond to / relationship with topography
- v. Include existing buildings into new scheme and minimise negative impact
- vi. Respond to existing built fabric including heritage buildings
- vii. Foreground the public - private interface

Enhance the Public Experience

This criterion emerged as essential because it addresses the needs of the public utilising the route, the potential residents, and the existing residents. Returning to the initial Venn diagram, the public experience addresses the concept of pedestrian pathways, the relationship with the slope, and is strongly informed by the MLTW strategies.

Pathway is often discussed by MLTW in relation to choreography of movement. This consideration of how the pedestrian will move through the space creates a connection for not only the residents but also members of the public. A feeling of connection or ownership of the space is essential for the residents as is fostering this relationship with the public. Given that the design case study diverges from

the current design guidelines so extensively and questions current attitudes to large scale buildings, a positive improvement to the public experience would be essential in minimising opposition.

The current public pathway is well used and provides significant amenity, however does not enhance the experience of using the space. The current experience is repetitive and moments for rest are not encouraged. The new arrangement aims to provide more opportunity for pause and prescribed views, and contrast between spaces of movement and spaces of rest. The possibility for this increase in variety and complexity is discussed in relation to the topography below. This variety not only creates rhythm and interest in terms of the overall built form but also allows the pathway to create a more diverse pattern of movement (see Diagram 3, Fig 6.04). The variety of public space created by the pathway not only adds value for the public but also for the residents. This links to criterion 3, creating a feeling of ownership and connection to place for residents. MLTW discusses the impact of varied public space on the sense of ownership “A diverse set of public spaces... give at least a memorable address to each of the identical apartments” (Johnson, 1986). The design case study successfully provides a variety of public space (see Diagram 2, Fig 6.04) and this emphasises the pathway, and associated domain, as the essential link between public and private experience.

Increase in Scale and Density

Obviously the increase in scale and density is a significant criteria from a practical point of view, given the requirements to house 80,000 more residents in Wellington as outlined in the “Planning for Growth” material. This need for intensification is well documented and strategies for medium density housing extensively researched.

This constantly increasing demand for housing creates a conflict between the desire to conserve character suburbs and the desire to retain Wellington’s compact city form. Despite this conflict, the results of the Planning for Growth submissions suggest that many residents are simultaneously concerned with both issues. This research suggests a model which does not disguise the scale or modernity but endeavours to create a relationship with the existing built fabric. The use of the residual paper road sites minimises the loss of existing character buildings whilst increasing the density.

The exploration of the negative perception around larger scale buildings through the WCC Design Guides and Boffa Miskell study begins to touch on a larger debate around how ‘heritage’ and ‘character’ are defined. This research begins to question the classification of identified large scale apartment blocks and suggests that further investigation and alternative approaches to classification would be pertinent research.

Feeling of Ownership and Connection to Place for Residents

Fostering a feeling of connection to place and ownership for the residents is often approached by the use of human scale elements or those that reflect inhabitation. This is expressed through the literature explored, MLTW's built work and also the design case study. Initially this may seem to cause a conflict with the idea around explicitly expressing an increase in overall size of the development. However, many large scale buildings elegantly balance their own size with elements reflecting a human or pedestrian scale. This is seen in the first photographic essay (Pg. 34).

As discussed by MLTW, creating a feeling of ownership becomes more difficult when there are many future inhabitants and their identities are unknown. Strategies to achieve this in the WCC Design Guide include emphasising entrances, providing transition between inside and out (Diagram 2, Fig. 6. 04) and expressing each unit individually. These strategies largely fit well with similar concepts employed by MLTW and are explored through the design case study. The expression of the individual unit discussed by WCC returns to the existing model of small aggregated elements forming a larger scale project. The expressed units create a conflict with the "increase in scale and density" criterion, aiming to achieve a conspicuously larger, and therefore

unified, whole. The WCC design guide is less concerned with a unifying element than MLTW. How this unifying element is expressed has been a point of tension throughout the project. The roof form is currently providing this element, as in many MLTW projects, although this gesture feels like it may need to be stronger to achieve this more successfully (see Diagram 4, Fig 6.05). The kirigami, functioning as a wall element, also helps to unify the design and at the same time provides a more human scale.

The concern with creating a feeling of ownership for the residents resulted in the dilution of the modulation strategy presented by MLTW. This is clear in diagram 1 of the preceding graphic evaluation (see Fig. 6.04). Modulation is religiously used by MLTW through their work. The lack of this has practical implications, limiting the possibility to repeat planning modules. Conforming to more definite modules may also have created more legibility and expressed the contrast more effectively between the regularity of the modules and the variation and displacement employed.

Respond to / Relationship with topography

Through the exploration of existing high density residential buildings, it is identified that these often avoid a challenging and

expressive relationship with topography. Many of these buildings utilise ridges or valleys to exploit flat areas in what are otherwise steep suburbs. Alternatively many of these buildings run along the contour, also limiting how the topography is experienced by the buildings user. These projects are often limited by a single approach to the relationship with the landscape. Given the paper roads trait of running across the contours, the relationship with the topography is much more apparent, and this also means the site interacts with many neighbouring buildings, and often has two street fronts. This calls for the use of multiple design strategies. MLTW projects often use several different approaches and these have been defined through the first criteria discussion (page 117).

The use of multiple design strategies allows for rhythm and variation, adding to the public experience, and helping to create a relationship with the existing fabric. The use of the strategy of “Claiming” the site both expresses the challenging topography and works with the “Enfronting” strategy to address the street. This also encourages the project to clearly express the increase in scale. “Fitting” and “Surrounding” are both strategies which more comfortably fit with the current expectations to align with surrounding scale and the practice of running along the contour.

The use of multiple design strategies for dealing with terrain potentially creates a conflict with the research intention to

avoid the somewhat clichéd solution of small elements tumbling down the hillside. Throughout the research there has been a constant tension with this current practice, as the use of small fragmented parts is appealing in that it avoids the negative connotations associated with larger buildings.

The public pathway experience is closely linked to the buildings relationship to the topography. The tight choreography of the design case study is caused by both the site constraints and the relationship with the existing city grid which stretches onto Mt Victoria. This restriction provides a point of difference from the public experience at MLTW projects such as Kresge College where the pathway is often described as meandering. The public experience aims to be similarly well-considered. However, site elements shape the choreography more directly. The existing pathway at Oriental Terrace, and across the collection of paper roads, already dictates a strong pattern of movement. The new arrangement retains this strong choreography, but also considers opportunities to pause, the possibility of views and the interaction between the public and private sphere. These qualities are all integral in ensuring the public experience is enhanced as discussed above. The concern for choreography of movement provides an intimate connection between the topography and the public pathway.

Include Existing Buildings into New Scheme and Minimise Negative Impact

Through the design case study it became clear that the link between the existing buildings and the proposed project will largely be explored by the public pathway. This provides a link to the first criteria of enhancing the public experience. The improved experience will not only provide increased amenity for the public but also create a unique entrance sequence for existing dwellings. The new pathway arrangement provides an increased variety of experiences, helping to provide a sense of address, and therefore fostering a feeling of ownership. This applies to both new and existing residents. The inclusion of the existing dwellings as part of the public pathway places further emphasis on the first criteria (Enhance the public experience) as a priority.

Some negative impact is inevitable given the tight site constraints and the increase in density. Certainly, there is a closer relationship than currently exists between neighbouring buildings. This causes a change in privacy for some existing dwellings, however the relationship between public and private space on the paper road sites is already a unique one, and the MLTW work is constantly questioning the desire to have these two realms so strictly divided.

The use of courtyards and pathways allows the inclusion of the existing buildings into the new scheme. Gaps in the kirigami wall allow this inclusion, and existing buildings are utilised to frame the edges of public outdoor space. This also allows a significant

increase in the amount of inhabitable outdoor space, positively impacting the existing dwellings. Removing one of the existing dwellings was necessary to achieve the desired increase in scale and density as a prioritised criteria. This would likely be necessary on other paper road sites, especially those with even tighter constraints. The decision to remove a dwelling at Oriental Terrace was also impacted by the negative impact the new project would have caused for the existing dwelling, in terms of shading and views.

Respond to existing built fabric including heritage buildings

A relationship with the built environment is often expressed through mimicry of heritage and disguising the scale of larger buildings. Whilst this can be successful, the photographic essay of existing larger buildings (page 34) exhibits how buildings can provide rhythm and variety to the streetscape without conforming to the style. The variation in scale throughout the project reflects the observations of successful relationships between 1960's apartment blocks and smaller scale character dwellings.

The relationship with the human scale is clear in many character buildings, through intricate timber work. This consideration of human scale links this criterion with

the aims to improve the public experience (criteria 1) and connection to place for residents (criteria 2). This connection allows these criteria to work in tandem, and without this responding to the built fabric would likely need to be prioritised more in terms of the criteria.

Foreground the public-private interface

Perhaps this no longer needs to remain as its own criterion as the relationship to other criteria becomes so intimate. Foregrounding the public private interface is an essential part of creating a feeling of ownership and this is considered under both criteria of “Connection to Place” and also “Enhancing the public experience.” Strategies exploring this interface including bay windows, courtyards and balconies have been essential in working towards these other criteria.

The kirigami wall follows the public pathway and often provides a firm divide between public and private. The depth of the wall provides a clear definition and a solid boundary. However, where cut-outs are made for openings, the depth of the wall emphasises the threshold between inside and out.

conclusion

limitations + applicability

As discussed above, the criteria developed include many points which are successful in informing the development of hillside higher density projects in character suburbs. However, due to the timeline and format of the research there are several assumptions and limitations which would require further research in order to address.

If time allowed, applying the process and criteria to other paper road sites would be valuable. This would help to further refine the criteria and identify any aspects that may be unique to the Oriental Terrace site, in order to ensure the conclusions drawn are widely applicable. The Oriental Terrace site has an outlook which is unique in Wellington and among the paper road sites. The consideration of the views available to the site is potentially less critical on other sites and therefore may impact both the dwellings and the pedestrian experience. If the research were to be informative to the process of redeveloping the district plan, it would be essential for the criteria to be applicable more widely to developments in character suburbs.

The site at Oriental Terrace is also significantly impacted by the existing city grid which dictates the pattern of building in Mt Victoria. The consideration of the existing grid provided a link between the existing built fabric and the design case

study. On other paper road sites, where the pattern of building does not conform to a grid, alternative connections to the existing may be necessary. The existing grid also created a baseline for applying the MLTW strategies, especially the use of displacement. Different sites may also therefore require different applications of these strategies.

The public amenity of the pathway at Oriental Terrace is undoubtable, given the proximity to the waterfront, town belt, public transport and the established pedestrian space. Given the outcome of the research suggests that the pedestrian experience is a priority, investigating the pedestrian experience on paper road sites where the public amenity is less obvious would be interesting.

The nature of the paper road sites creates an exclusive group of potential users. Potential residents would have to be comfortable accessing the sites, and also not own a vehicle. The limited accessibility and the focus of the project on the experience of the pedestrian makes assumptions about the user. Increasing accessibility would likely change the nature of the pathway and its associated domain. Providing for residents where more accessibility is required and achieving a relationship between the public and private realm with this in mind is outside the scope of this research. If the criteria were to be applied more generally to developing hillside sites providing accessibility would be an important further

advancement of the research.

The lack of vehicle access and storage may appear to be a very significant issue currently, however this research assumes that it is likely the use of cars will significantly reduce in the future. This does limit the applicability of the research to only those locations where relying on other means of transport is viable.

The research assumes that the criteria could help to inform the development of the district plan to encourage more intensification of character suburbs. Many of the criteria could not be achieved under the current WCC Design Guide. These criteria largely explore the physical impact on experience and inhabitation of a new approach to intensifying hillside suburbs where the work of Gray & McIntosh explores in more depth the planning implications. Investigating the impacts of the planning rules on the scheme and criteria through a similar methodology as Gray & McIntosh would advance the research. This would provide an opportunity for the criteria to influence the district plan. The developed criteria could also be useful for architects developing projects of this nature.

The applicability of the criteria is likely to be largely limited to Wellington, given the unique topography and compact city form. Despite this, NZ as a whole has a significant proportion of land which is not considered occupiable due to the topography and, as the population increases, the research may contribute to a shifting attitude towards this

space. The work investigating the strategies of MLTW is more widely relevant. The range of work by MLTW demonstrates that these strategies can be successfully implemented across an extensive variety of sites and scales.

findings

Creating a positive pedestrian experience for both residents and members of the public is essential to ensuring a new scheme can fit into the tight constraints provided by residual space in an existing neighbourhood. Adding amenity and considering the everyday experience of the space is important in creating a connection to place. The emergence of the significance of the public experience of the pathway possibly limits the initial intention to provide criteria which is generally applicable to hillside sites in Wellington. Despite this, even on sites which provide less public amenity many of the criteria will be applicable and this could provide potential for more instances of public pathway in these suburbs.

The methodology utilising the process of modelling and drawing over was successful in the process of creating the form and relating to existing built fabric. However, the pedestrian experience could not have been developed through this method alone. The use of plans and the 'Serial Vision' approach worked in tandem with the model to achieve the criteria of enhancing the

public experience.

The proposal to create a scheme which is conspicuously larger provides a definitive contrast to the current model. This challenges current negative connotations towards larger buildings and suggests that current practices in categorising contribution to character could be questioned further. Expression of inhabitation is essential to achieving a positive pedestrian experience and ensuring the success of a conspicuously larger model.

increase in scale, whilst remaining relatable to the human scale. The research has achieved the intention to create criteria which encourage a different approach to density in character suburbs.

It is clear that developing paper road sites alone will not fulfil the requirements to house Wellington's potential 80,000 new residents. However, the findings of the research suggest a new approach to developments in character suburbs. This allows the possibility of conserving heritage fabric and densifying character suburbs simultaneously. The criteria and the indicative implication through the design case study illustrates this possibility and approaching other developments with the potential to achieve both in mind.

From the outset the intended outcome of the research was to create principles, criteria and strategies for intensifying hillside sites in Wellington's character suburbs. The paper road sites provided a testing ground for the design case study, allowing the implementation and refinement of the criteria. The design case study provides a high level of amenity to both the public and its proposed residents. It achieves the intention of a significant and unapologetic

Fig. 6.06

part seven

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akatea st.

Berhampore

6023

209

baden rd.

Hataitai
6021

210

busaco rd.

Hataitai

6021

211

carrington st.

Mt Cook

6021

212

dixon st.

Te Aro
6011

213

drummond st.

Mount Cook
6021

214

grass st.

Oriental Bay
6011

215

hapua st.

Hataitai
6021

216

hepara st.

Hataitai
6021

217

irvine st.

Aro Valley
6012

218

kio rd.

Hataitai
6021

219

lavaud st.

Berhampore
6023

220

lindum st.

Roseneath

6011

221

mertoun tce.

Highbury
6012

222

norway st.

Kelburn
6012

223

Mt Victoria 6011

Mt Victoria 6011

st johns st.

Aro Valley
6011

225

tanera cres.

Brooklyn
6021

226

thorby st.

Northland 6012

227

vogel st.

Mt Victoria
6011

228

waripori st.

Berhampore
6023

229

zetland st.

Aro Valley
6012

230