
BEFORE THE ENVIRONMENT COURT

ENV AKL 2016 000

UNDER the Resource Management Act 1991

AND

**IN THE MATTER of appeals against Private Plan Change 372 to the Auckland Council
District Plan: Isthmus Section 1999**

BETWEEN NGATI TE ATA WAIOHUA & NGATI TAMAOHO TRUST

Appellants in ENV 2015 AKL 000158

**AND SOUTH EPSOM PLANNING GROUP INC & THREE KINGS UNITED GROUP
INC**

Appellants in ENV 2016 AKL000001

AND AUCKLAND COUNCIL

Respondent

AND FLETCHER RESIDENTIAL LIMITED

Private Plan Change Proponent

**Statement of Evidence of Jan McCredie for South Epsom Planning Group (Inc)
and Three Kings United Group (Inc)**

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Executive Summary

- 1.1 Auckland Council's proposed rezoning and preferred new precinct with site-specific provisions for Three Kings do not give effect to key planning and design considerations, community wellbeing and the protection of an Outstanding Natural Feature (ONF).¹
- 1.2 The quarry should not be rezoned based on the current masterplan by Fletcher as the plan does not successfully resolve the key issues related to the quarry site.

Urban Design Background | The Desired Future Character

- 1.3 All urban areas consist of a composition of land, space and buildings. Successful urban areas occur where this composition has been carefully considered relative to the desired future character of the place and the existing characteristics. (Appendix 3 Spatial Structure)
- 1.4 The masterplan derived from this process is the basis for the planning controls that need to be as specific as required to ensure the delivery of the desired outcome. Urban areas cannot be considered or delivered in the same way as suburban areas.

Urban areas require :

- precincts of sufficient size and land area and density to provide facilities and services in walking distance (public transport, shops, schools etc). Optimising the use of land enables the maximum number of people to have good accessibility.
 - a connected street pattern with relatively small street blocks; generous open space and high quality public domain.
 - considered and specified relationships between buildings because these define the spatial structure of the place relative to the land.
 - retention and enhancement of all existing important natural and manmade features. These are an essential part of higher density living.
- 1.5 Streets are the most important and permanent component of any urban area. Subdivision pattern is the next most permanent, followed by the buildings and lastly the uses. Uses are the most changeable over time in any urban area. The correct street pattern and block size is essential for any urban area.
- 1.6 It has been clearly demonstrated that cities undergoing densification and changing uses need to have a clear implementable vision if the outcome is to be successful (Appendix 3

¹ This evidence does not comment on s6(f) RMA historic heritage values (which are addressed by Graeme Lawrence).

the city reconquered) The vision must be strategic and identify parts of the existing city that are able to be reconfigured with all the characteristics and associated amenities of urban areas. Densification of Auckland should not be on the basis of developing existing sites on an ad hoc, opportunistic basis. Three Kings, the suburb, town centre and Fletcher site must be initially designed as a comprehensive whole and implemented over time. I recognise that the scope of Plan Change 372 is limited to the footprint of the plan change but it should still allow for integration.

1.6.1 It is the domain of government, not the private sector, to establish the vision for any city. The private sector is good at providing the parts of a city but there is no good city in the world, of which I am aware, that has been designed and developed by the private sector. The consent authority has to take the hard strategic decisions and must at the core consider the city for its people and not real estate. In going through this exercise the recent Paris 'super' city or the Barcelona next 30 year plan have been exemplars. (Appendix 3 Paris)

1.6.2 Auckland is just starting out on the journey of densification. It is imperative for the health of the city and its people (and economy) that densification is strategic (is a vision for the whole city), holistic (considers all uses, not just residential) and includes all the components that make urban places.

Repair the Quarry and Enhance the ONF and its Setting

- 1.7 Maintaining the natural and cultural heritage value of Big King and the landscape setting as one of the unique features of Auckland is an essential outcome for the redevelopment of the quarry. The development of three Kings must enhance the presence of the ONF. It is not simply a matter of retaining the cone.
 - 1.8 The Fletcher's master plan is not respectful of the cultural and historical significance of the area and the Maunga in particular. In contrast the Richard Reid Associates (**RRA**) proposal puts the ONF at the focus of the development. Fletcher's masterplan tolerates the ONF, RRA's proposal celebrates it.
 - 1.9 From an urban design perspective, in terms of cultural and historical importance, the Fletcher masterplan lacks:
 - an appropriate curtilage to provide for a generous setting for Big King
 - direct and meaningful views to Big King from prominent public streets and places
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- uninterrupted views from Big King to the wider landscape
- appropriate siting of buildings that clearly distinguish the mountain from the housing
- the successful resolution of the levels and roading

1.10 The Western Park, part of the original Three Kings landscape is substantially reduced and its configuration changed, the bluffs are absorbed into the development and there is no spatial link to Three Kings Domain. There is no ability to read the full setting of the ONF.

1.11 Respect for the historical significance of the area and the Maunga will come [and or not come] from how well the master plan resolves the issues related to the spatial structure of the site. The current proposal turns its back on Big King. The proposal optimises private views at the expense of public amenity, public views and the cultural relationship with the ONF.

1.12 The RRA proposal is respectful of the historical significance of the settled area and puts the Maunga at the focus of the development . From an urban design perspective the RRA proposal:

- provides a generous curtilage to provide for a setting for Big King and clear separation of housing from the mountain
- removes the haul road so that the western side of the cone can be reinstated and revealed.
- provides direct views along four public streets to Big King and additional uninterrupted views from the new edge road on the eastern side of the playing fields and from Graham Breed Drive.
- provides uninterrupted views from Big King across the open space to the bluffs and Western Park and Three Kings Domain.
- includes a new public road between the cone and the development as a clear demarcation between the ONF and the development
- faces all buildings to Big King
- lifts the base of the quarry to better reflect the original relationship and the land.

1.13 Fletcher's proposal tolerates the ONF, RRAs proposal celebrates it.

Provision of Urban Housing

1.14 The contribution to the provision of housing in the locality and the Auckland Region has to be more than numbers of dwellings. An urban project on this site has the potential to

repair the site and to reconnect Big King Volcano with the existing surrounding urban development and natural landscape, as well as provide good housing. It also provides the opportunity to do urban housing well and to exhibit all the key characteristics and requirements of urban, as opposed to suburban, housing as an exemplar of an appropriate approach for other precincts.

- 1.15 The Fletcher masterplan fails to meet these aspirations. It has a complex, land hungry street pattern that does not support good urban housing and does not connect to the existing street and open space context .
 - 1.16 The public open space is insufficient and poorly located. The proposal provides two playing fields and substantially reduces and semi-privatizes Western Park (an existing playing field). The only passive open space is the reduced Western Park and a small area to the east of the playing fields. The location of the open space ignores the importance of the north / south curtilage of the ONF and so does not enhance the spatial setting for Big King Volcano. Opportunities for important links to the parklands in the west via Smallfield Ave are unexplored.
 - 1.17 Cities all around the world are claiming back green space because of its value to the health, personal well-being and air quality. New York (High Line) (Appendix 3) , Barcelona (removing an elevated freeway to construct a park). German cities have introduced '*Frischluftschneise*' 'Fresh Air Lane' (Kassel, Frankfurt). Many cities have direct intervention policies for providing more open space within the city. It is essential that a superior public open space solution is developed for Three Kings. Even if all the open space is not required today it must be allocated in the right place and maintained in public ownership as a future asset to the city. To not do this is short sighted.
 - 1.18 The Fletcher masterplan does not use the land wisely. There is an excessive amount of land in roads (4.59ha). This is due to the level differences and the choice of building typology (the cascading apartments) and an excessive amount of land in above ground car parking located in the inefficient 20m wide plinths. (Car parking is most efficient in large floor plates with minimal ramps.)
 - 1.19 The level differences between the upper levels and quarry floor necessitate a new entrance road that is long and circuitous to traverse the levels. The existing Haul Rd (Bush Rd) is extended and widened. There are eleven 'cascading' apartment buildings, organized into groups of two or three. These double sided apartment buildings range in length from approximately 40m to 70m and are located on four / five plinths ranging in length from approximately 76m to 193m (a total of 750m) with a height of 4/5 levels. The
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plinths contain the car parking and are sleeved by single sided apartments. All of these cascading apartments have two street frontages. This is incredibly inefficient in terms of street frontage particularly as the lower 4/5 levels of the apartment blocks are one sided. The normal urban condition is one street frontage for each building. This is not a street pattern that is conducive to walkability and accessibility.

- 1.20 The above ground car parking has a footprint of approximately 750m by 20m and is 4-5 storeys high. This equates to sixteen 4/5 storey apartment buildings in terms of actual building mass. Even allowing the car parking having double sided apartments over part of their depth, there is still a car park footprint (land take) of 7,500m². In a more efficient design, the land that is used in the above ground car parking and roads could be utilised in useful and valuable open space.
- 1.21 This is a very poor urban model. It is difficult to understand the choice for the car parking given that there is no need to excavate for underground parking that could then provide large efficient floor plates. It would be inappropriate to lose quality open space in land dedicated to multi storey, above ground, car parking and unnecessary roads.
- 1.22 The current masterplan will not make a significant contribution to Auckland's housing because it is dense without being urban, uses land very inefficiently and wastes valuable opportunities for quality open space.
- 1.23 In contrast the RRA solution is very efficient. It reduces the level differences and minimises the amount of land in roads. (1.97ha) It has an efficient grid street pattern, generous communal open space and a street address for all buildings. The actual amount of building for a similar number of units (and floor space) is far less. All car parking is below ground.

The Reinvigoration of the Town Centre

- 1.24 The town centre will only be invigorated if it is easy and convenient to walk there from the apartments and the surrounding suburb. Proximity, without connections, is no guarantee of successful integration. Connections to adjacent areas in an urban environment occur through spatial linkages, primarily it is the street system and secondly it is the open space system that provides the actual and visual connections. The Fletcher masterplan:
- does not connect easily with the town centre or the existing residential areas either through the street system or the open space.
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- has a street pattern at the upper level that does not extend the existing Three Kings grid to create direct physical connections or visual connections.
- provides two streets from the quarry floor that are long and circuitous.
- has two access points via stairs or lifts from the quarry floor
- locates six of the upper level cascading apartments so that they have to go via Mt Eden Rd to access the town centre
- is designed as a discrete residential area

1.25 This means that many of the apartment dwellers do not have easy and seamless access to the town centre. It is a long uphill walk from the floor of the quarry or access by stairs or lift.

1.26 The RRA proposal uses an integrated street grid that connects directly to the town centre. The street blocks provide choice of direction from all apartment buildings and it is a short easy walk to the town centre and public transport. This is the preferred street pattern to achieve integration. It is easier to walk out the door than to get in a car.

Density and Apparent Density

1.27 From an urban design perspective, the underlying principle that guides a design solution for selecting and developing denser urban environments is to optimise actual density and minimise 'apparent' density within any particular strategic context.

1.28 The Fletcher masterplan however 'fills up' the site with buildings. Primarily this is the result of the above ground car parking, the mass and form of the cascading apartments, the difference in levels and the related amount of road required to traverse levels.

1.29 The actual mass of building in the Fletcher proposal is excessive for the number of apartments as outlined above. The car parking buildings equate to sixteen 4/5 storey apartment buildings in terms of actual building mass. The plinths are 30m deep. The fact that the plinths are sleeved is not the issue. The issue is that the buildings take a large land area (that could be used for better uses) and they contribute to the actual high building mass and apparent high density.

1.30 The streets and the dwellings are also organised in a way that does not minimise 'apparent' density. None of the valuable traditional techniques for reducing apparent density are used to reduce visual impacts even on the quarry floor. The apparent density in the Fletcher masterplan is very high as a result of the short streets, the curvilinear streets, the lack of view shafts and the number of views into buildings. The curving eleven

nine storey apartment buildings extending for approximately 560m on a plinth of 750m are a hugely dominant and highly visible building form, particularly from the quarry floor and in views from Big King.

- 1.31 The apparent density is far less in the RRA scheme because of the underground car parking, the urban building typology and because buildings are organised along straight streets within well-proportioned street blocks. There are also numerous open views at the end of streets and on entering the precinct from Mt Eden Rd the outlook is immediately to the ONF.

High Quality Urban Design and the Role of the Masterplan

- 1.32 A satisfactory design outcome must be resolved at the masterplan stage where the basic structure of the site is determined. The reason that a good master plan is so critical is because it is the only process that can deal with all the components that make up an urban area. Urban areas must be considered as three-dimensional spatial entities as this is how they are experienced by people.
- 1.33 Street layout and public views are issues that can only be resolved in the master planning process through a detailed interrogation of a site. If they are not successfully resolved in the iterative design process that produces the master plan, they are not matters that can be solved by relying on the quality of the architecture. International best practice devotes most time and resources in ensuring that the master plan process resolves the structural issues in every urban project. (Appendix 3 Berlin Precinct masterplans)
- 1.34 If all the key issues associated with an urban project have not been resolved in the masterplan they cannot be resolved through the architecture resolution or design codes. Key areas where the masterplan for the quarry is deficient are the response to context and absence of any real spatial connections to this existing part of Auckland.
- 1.35 The Fletcher masterplan fails to solve the relationship with the volcano and Western Park and it fails to integrate the new precinct with the existing residential precinct or the town centre. It does not successfully address the shape and level of the ground plane and the spatial structure (street pattern and public open space) and it uses land very inefficiently at the cost of public benefit.
- 1.36 High quality urban design should set stated principles based on the seven principles in the New Zealand Urban Design Protocol. Designs should be assessed against these.
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Plan Change Provisions

- 1.37 The provisions in the Plan Change cannot adequately ensure the intended outcomes can be achieved. However the intended outcomes are unclear. This is because there are no accurate dimensioned drawings that set out and test what is proposed. There are no 'stated principles' against which to test the design.
- 1.38 The plan change controls requested lock in a poor outcome based on insufficient information as there are discrepancies between the drawings and the words. Some of the plan change controls requested do not relate to the typologies suggested e.g. the additional height required on the floor of the quarry (14.5 metres) and terrace houses (9 metres) proposed.

Residential Design Guide

- 1.39 The masterplan is the design process that shapes the urban area and that needs to address all the issues related to the site. Currently the masterplan does not do this. The resolution of the architecture cannot overcome any failures with the masterplan. The Residential Design guide is about the resolution of the architecture. This is a distinctly separate, but related, design process. The Resource Consent process cannot solve fundamental flaws in the masterplan. This is one of the fundamental differences between the suburban approach to development (usually lower density, land subdivision) and an appropriate response for an urban area.
- 1.40 In an urban, denser environment, the actual footprint, height, alignment and relationships of buildings need to be determined holistically and established in the masterplan.

Zoning

- 1.41 The Fletcher masterplan does not provide well-documented, accurate and tested information that gives confidence of a successful outcome and yet requires very specific zoning outcomes based on an inadequate plan that locks in a poor outcome. The current master plan is flawed at a fundamental level. It's implementation will mean 'death by stealth' of Big King and the surrounding landscape setting and without the real benefits of town centre living.
- 1.42 This is not to say that the site does not offer the potential for high quality housing with good amenity, it does, but the masterplan has to be resolved to meet the qualities of the site before zoning changes can be implemented in the knowledge that there will be a satisfactory outcome on the quarry site.
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- 1.43 The zoning is also specific to the Fletcher outcome which for all the above reasons will entrench the poor outcomes described.
- 1.44 There is no economic or social value in destroying the very things that make a city special. In this case Big King is one of an amazing suite of volcanic cones across Auckland. Development on the quarry site should be an exemplar of how to retrofit an historic and cultural part of Auckland in a sensitive, integrated way. The outcome will be on view to many thousands of visitors to and residents of New Zealand. It must be special.
- 1.45 The current master plan is very 'non-specific' about what it is intending and very 'specific' about what zoning it requests. This is an inappropriate approach.
- 1.46 There is certainly a wonderful opportunity to redevelop this sensitive and historic site but this work needs to be addressed through the zoning provisions, as recommended by Graeme Lawrence. The solutions should also build on what is known about good urban areas. The Fletcher proposal will otherwise result in actual and potential significant adverse urban design and master planning effects on the ONF values. It also reflects an inefficient design, and creates adverse amenity and quality of environment effects.
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Introduction

- 2.1 My full name is Elizabeth Jan McCredie. I am an architect and urban designer with the qualifications and experience stated in Appendix 1.
- 2.2 My evidence is given on behalf of the South Epsom Planning Group (Inc) and Three Kings United Group (Inc) ("**The Societies**").
- 2.3 I have been asked by the Societies to review the Private Plan Change 372 provisions and the decision of Auckland Council's Commissioners in relation to proposed rezoning, and site-specific provisions for the Three Kings proposal.
- 2.4 For the purpose of preparing this evidence, I have undertaken recent site visits to Auckland including visiting the volcanic cones of Three Kings, Mt Wellington, The Domain and One Tree Hill. I have also visited new residential developments at Stonefields and Hobsonville. I have reviewed the various proposal documents, visuals and technical reports relevant to Fletcher's proposed Three Kings development. Appendix 2 is a list of some of the relevant documents reviewed.

Code of Compliance

- 2.5 I have read and am familiar with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note (2014), have complied with it, and will follow the Code when presenting evidence to the Hearing. I also confirm that the matters addressed in this Statement of Evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.
- 2.6 I further acknowledge that in the provision of expert evidence and, in appearing as an expert witness, I am not acting as an advocate for "the Societies" (the submitter for whom I am appearing). I am engaged as an independent expert.
- 2.7 In preparing this evidence I have had regard to the proposed expert evidence of Graeme Lawrence, Assoc Professor Jan Lindsay and Richard Reid prepared on behalf of the Societies for Topic 081.

Key Issues

2.8 I believe that there are key issues that need to be more fully considered in relation to Plan Change 372 for the Three Kings Quarry site if the objectives for the site are to be met.

2.9 These objectives are to :

- repair the quarry and enhance the ONF and its setting
- to contribute to the Councils Growth Strategy by developing the site to provide quality **urban** housing that is needed in Auckland
- provide a generous and integrated open space system
- integrate the new development with the town centre and suburb of Three Kings
- optimise density and use land efficiently
- resolve the fundamental issues in the masterplan stage

3.0 *Urban Design Background |The Desired Future Character*

3.1 All urban areas consist of a composition of land, space and buildings. Successful urban areas occur where this composition has been carefully considered relative to the desired future character of the place and existing characteristics. Currently the accepted best practice when making interventions and changes to urban areas is to 'design' the urban structure ie the combination of space (streets + parks) buildings and land. This means that a detailed design process is undertaken prior to setting the planning controls. This design process will establish the built form (building envelopes and relationships), streets and open space relative to context. The process required for an urban precinct is different from that required for a suburban precinct.

3.2 The Desired Future Character can be established through a range of design processes but ultimately there should be some master plan or precinct plan which establishes and defines the spatial structure relative to the land and its history, not just a general concept.

3.3 The key primary components of an urban area are:

- The Land
- The Spatial Structure
- The Built Form

3.4 The Land is the topography, the watercourses, vegetation, geology and history etc. The base on which the urban area sits. It is different in every city and at every place in the city. Revealing the land and its history is a key to establishing variety, identity and legibility, a

sense of place.

- 3.5 Space within an urban area is the primary organising element and is structured into a three dimensional system by the streets, open space and buildings relative to the land. The public space consists of the street system (about 80%) and open space. City design starts with the street, block and open space layout ie the public domain.
- 3.6 The built form consists of the buildings existing and proposed, and other major structures that sit on the land. The buildings are the elements that actually structure the space in plan and section relative to the street pattern. This may be by defining a 'tight' spatial structure as in an urban street where buildings are closer together or a 'loose' spatial structure where buildings are set apart from each other, suburban.
- 3.7 Because urban character is made up of a combination of the land, streets, open space and the built form, in any particular area, each of these components will have a lesser or greater role depending on the context. The Desired Future Character process consciously 'designs' the street pattern, open space and proposed built form to shape the city in plan and section. In this way the existing and proposed character including natural features, street and block pattern; topography; subdivision pattern; heritage and building type can be interwoven into a cohesive whole. If this is not done successfully and tested against the objectives for a place the resulting outcome will not be satisfactory.

4.0 *Repair the Quarry and Enhance the ONF and its Setting*

- 4.1 Maintaining the natural heritage value of Big King and the landscape setting as one of the unique features of Auckland is an essential outcome for redevelopment of the quarry
 - 4.2 Most cities have some key identifying natural features such as rivers, harbours or mountains. As well as its amazing quality of light, Auckland is blessed with the Hauraki Gulf, Waitakere Ranges and Auckland volcanic field but it is Big King Volcano at Three Kings that is under threat with this particular housing proposal.
 - 4.3 Auckland is the only city in the world that is built within a volcanic field. These unique features gift the city a special physical, cultural and symbolic beauty all of its own. It is for this reason any new urban development must retain, repair and enhance the Big King Volcano that is recognised as an outstanding natural feature (ONF).
 - 4.4 The Three Kings Volcano of which the Big King volcanic cone is a part, has suffered decades of quarrying and poor development around and on it. Fletcher's major urban renewal project offers the opportunity to repair the quarry, enhance the ONF and provide significant housing intensification within the Three Kings area.
 - 4.5 The design outcome for this major urban renewal project should relate to the land and our
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experience of it. The outcome should be sensitive to the qualities of the particular feature, the history of the place and the existing urban fabric.

4.6 From an urban design perspective, the underlying principles that should guide a design solution for repair and enhancement are to:

- establish an appropriate curtilage¹ for the feature
- ensure that the feature is the focus of any new street pattern
- locate a public road between the feature and any buildings
- face the fronts of buildings to the feature

4.7 The above four principles to enhance a natural setting are demonstrated in the current design for the Wynyard Quarter.

4.8 At Three Kings the Fletcher masterplan fails to meet all four of these principles. The RRA proposal meets all four principles

Establishing an appropriate curtilage¹ for the feature

4.9 ¹ *In Australia, the Department of Urban Affairs and Planning of New South Wales defines heritage curtilage as ‘an area of land surrounding an item or area of heritage significance which is essential for retaining and interpreting its heritage significance. It can apply to either land which is integral to the heritage significance of items of the built heritage; or a precinct which includes buildings, works, relics, trees or places and their setting’.*

4.10 The curtilage includes the area around the cone, the broader setting of the bluffs and Western Park and the level of the quarry floor. The curtilage in this case is the three dimensional setting of Big King, the remaining of the three cones.

4.11 The curtilage must be generous enough and in the right relationship to the cone so that the views to and from the mountain enable the reading of the whole setting. These views must include the two bluffs to the south of the ONF and to Western Park.

4.12 The curtilage also includes the level of the quarry floor relative to the ONF. The level differences are part of the three dimensional setting and also part of the requirement to repair the setting that has been removed by the quarrying and to establish a new and enhanced landscape for the ONF. It is not simply about retaining the ONF.

4.13 The Fletcher masterplan does not provide an appropriate curtilage to the ONF. It destroys the immediate surroundings of the ONF. On the southern side, this includes the loss of Western Park’s unique shape and contiguous relationship with the ONF and the introduction of buildings against the adjacent volcanic bluffs (the original slope of one of the removed volcanic cones). On the eastern side of the ONF, the haul road is retained

even though it has created significant adverse effects and its widening will create even more adverse effects. I understand that Auckland Transport standards suggest that it may require significant widening in the future to comply with NZ standards. Four apartment buildings are also located hard up against the ONF.

- 4.14 The 'slither' of open space indicated to the eastern side of the Big King is essentially the steep lower slope of the volcano, as opposed to recommendations from the community and options developed by the developer that a substantial north/south open space could be provided along the eastern side of the cone. (See Options 3 and 4 / The Draft Three Kings Precinct Plan Auckland Council, 23 April 2013). The interface with this side of the volcano is particularly poor.
- 4.15 The combination of the organisation of buildings across the site, around Western Park, and the bluffs, and the proximity of roads to the cone itself site in the Fletcher proposal does not provide sufficient or well located curtilage for the ONF. The retention of the quarry floor at a much lower level distorts the relationship of the ONF to its setting.
- 4.16 The RRA proposal provides a generous curtilage so that within the whole topographical setting of the ONF is unmistakably the unique focus of the development.
- 4.17 The haul road is removed, the open space extends around the lower levels of the slope of the ONF on the east and southern sides of the cone, and the two bluffs retain their prominent positions unencumbered by development. Western Park is retained and its link to the east strengthened by the adjusting the quarry floor to an appropriate level.

Ensuring that the feature is the focus of the existing and new street pattern

- 4.18 A key way of giving value to a natural or manmade feature is by organising the street pattern so that the feature terminates the view at the end of the street. By doing this that feature will always be dominant and appear important eg Buckingham Palace, Trinita dei Monti Spanish Steps Rome (Appendix 3) By contrast if something of little value to an urban environment such as an abattoir, a waste collection facility, is located at the end of a street it will have value beyond what may be desirable. Whatever terminates the view at the end of a street is visually the most important feature in that street because of its high visibility. This is why for centuries palaces, town halls, churches and important civic and cultural buildings have been located at the ends of streets and often on high topographical points.
 - 4.19 Direct and meaningful views to Big King are therefore critical to reaffirming the role of the
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ONF. The street pattern should therefore be structured to provide direct sightlines that reveal the ONF within the broader topography. This will also assist legibility and reinforce identity of Three Kings generally as the view shafts assist legibility in views to and from the cone. Views from the public domain to and from Big King therefore should not be compromised.

- 4.20 At the upper level in the Fletcher proposal, the only street in which the cone actually terminates the view is at the end of the haul road where it enters the site from Mt Eden Rd.
 - 4.21 There are only two other views from the upper level. One is a view between buildings from Mt Eden Road from the east at the point of the pedestrian/cycle access and the other is a view from the town plaza (a private but publically accessible place) on the southern end of the precinct.
 - 4.22 Because the view from the east is located between buildings and because the view from the plaza is only evident after one goes into the plaza as a destination they are far less relevant and less powerful than views that occur at the end of a street and that are built into the overall urban structure. There are no views from the town centre and there are no views along streets from within the town centre.
 - 4.23 At the lower level in the Fletcher proposal, one minor road is aligned with the cone but this is not a continuous shaft of space that continues to the ONF. At the end of the street, at ground level, there are entrances to apartment blocks and car parking .The sight line of the view is not continuous as it is also crossed by the haul road.
 - 4.24 At the lower level there are views from the extension of Graham Breed Drive and from the ring road at the base of the quarry. The latter view is across the playing fields. Both these are partially interrupted by the development in the quarry floor. Most views at the quarry floor are blocked or interrupted by development.
 - 4.25 The RR proposal has extensive views to the ONF. The street pattern is structured to provide direct sightlines that reveal the ONF within the broader topography. These occur along the four streets that are located at right angles to Mt Eden Rd. All four terminate on the ONF and provide unobstructed views across open space.
 - 4.26 The RRA proposal proposes a new street that runs north / south along the edge of the new open space and playing fields and parallel to Mt Eden Rd for the full length of the development. This provides uninterrupted views of the ONF across the open space to the
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cone, to the bluffs, to Western Park and to the town centre.

- 4.27 From the southern end of the precinct there are direct views to the ONF from Graham Breed Drive where it traverses between the eastern bluff and Three Kings Domain. There are also direct views from Graham Breed Drive between the proposed new buildings on the edge of the town centre and down the pedestrian stair access. From the town centre there are potentially three streets that are directly aligned to the open space from Mt Albert Road, the most westerly one focussing directly on the ONF.

Reinforcing the role of the feature by edging it with a public road.

- 4.28 One technique for confirming the importance of a place is by edging it with a public road. This also reinforces the public nature of a place. This can be seen in the Georgian Squares of London, the Domain Auckland (part of)(Appendix 3). Using a public street as an edge enhances the volcanic reserves in Auckland.
- 4.29 In the Fletcher proposal there is no public road that directly relates to the ONF. The haul road cuts through the side of the cone. It is not an edge road. All the other roads in the Fletcher proposal are designed purely to traverse the level differences and to service the housing. They do not form a public edge to the ONF.
- 4.30 The most prominent space in the Fletcher proposal by contrast, is the soccer fields / storm detention basin. This space is given higher priority within the road layout than the ONF.
- 4.31 The RRA proposal reinforces the ONF by locating the north /south edge road parallel to Mt Eden Rd along the open space and playing fields and forming an edge to the open space network sweeping around the ONF.
- 4.32 Graham Breed Drive is extended to form an edge around the eastern bluff and town centre. This further reinforces the ONF and its topographical setting.

Facing the fronts of buildings to the ONF.

- 4.33 When buildings face a space / plaza park or street they give value to that place. Where buildings turn their back to a street, park etc that place loses value. This is evident in cities all around the world. One only has to look at the main streets, avenues and parks of any city – Queen Street Auckland, Central Park in New York - to understand that buildings need to face what has the most important value to that city or place. In this case it is Big King Volcano.
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- 4.34 In the Fletcher's master plan four apartment buildings on the western side of quarry floor have their backs to the mountain. This immediately indicates that what is behind them is of less value than what is in front. These buildings should be relocated to the east and that the Haul Rd should be repositioned between them and the Big King.
- 4.35 In the RRA proposal there are no buildings with their back to the ONF and all buildings located on the streets edging the ONF have buildings facing the street and the ONF.
- 4.36 The Fletcher proposal maximises private views but minimises public views. From the eastern side of the precinct there will be uninterrupted views from the upper 5 levels of the cascading apartments. From the southern side of the precinct there will be uninterrupted views from the cascading apartments and Super Lot G from all levels of apartments. Views from the private domain are important but in the Fletcher proposal they come at the cost of the views from the public domain. They also come at the cost of inefficient use of land and a huge loss of public benefit.
- 4.37** This is in stark contrast to the RRA proposal. It has fewer apartments with direct private views but a substantial number of direct views of Big King from public places.
- 4.38 For the above reasons I do not believe that the conclusion of the Commissioners that *"the proposal will be respectful of the historical significance of the area and the Maunga in particular"*. (Auckland Council Decision 8.3.2 b 3) is correct.
- 4.39 From an urban design perspective, the Fletcher masterplan is not respectful of the historical significance of the settled area and the Maunga. This is evident in:
- The lack of an appropriate curtilage to provide for a generous setting for Big King.
 - The lack of an appropriate curtilage that distinguishes the mountain from the housing
 - The retention and widening of the haul road located so tightly against the side of Big King.
 - The lack of direct and meaningful views to Big King from prominent public streets and places.
 - The lack of a public road between the cone and the development
 - The siting of four buildings with their backs turned to Big King.
- 4.40 The RR proposal is respectful of the historical significance of the settled area and puts
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the Maunga at the focus of the development . This is evident in:

- provision of a generous curtilage to provide for a setting for Big King.
- clear separation of housing from the mountain
- removal of the haul road so that the western side of the cone can be revealed.
- provision of direct views along four public streets to Big King.
- Additional uninterrupted views from the new edge road on the eastern side of the playing fields.
- Additional uninterrupted views from Graham Breed Drive.
- inclusion of a new public road between the cone and the development.
- siting of all buildings literally with fronts to Big King.

4.41 In conclusion, the Fletcher's master plan is not respectful of the cultural and historical significance of the area and the Maunga in particular. In contrast the RRA proposal puts the ONF at the focus of the development.

4.42 Fletchers proposal tolerates the ONF, RRAs proposal celebrates it.

5.0 Provision of Urban Housing

To develop the site to provide quality urban housing that is needed in Auckland

5.1 *I disagree that the current master plan would make a significant contribution to the provision of housing in the locality and Auckland region P 29 8.3.2(v)*

5.2 I agree that housing is needed in Auckland and I agree that this is an excellent site but I think that rehabilitation of the quarry site offers more. It offers an opportunity to contribute to the Auckland Growth Strategy, to provide unique urban housing that celebrates the ONF and enhances and extends the open space network.

5.3 The current masterplan will not make a significant contribution to Auckland's housing because it is dense without being urban, uses land very inefficiently and wastes valuable opportunities for quality open space.

5.4 The site is to be developed mostly with apartments. This is an urban housing form and as such requires street patterns, open space and facilities that are not necessarily required in suburban housing.

5.5 This unique opportunity, however, is more than just being a place in which housing can be accommodated. The opportunity is also about the special characteristics of the site that

can be highlighted and enhanced by a sensitively handled urban project.

- 5.6 The contribution to the provision of housing in the locality and the Auckland Region has to be more than numbers of dwellings. In this important site, any intervention must firstly respect the context of Three Kings, the unique landform and history. An urban project on this site has the potential to repair the site and to reconnect Big King Volcano with the existing surrounding urban development and natural landscape, as well as provide a model of denser housing.
- 5.7 It therefore provides the opportunity to do urban housing well and to exhibit all the key requirements of urban, as opposed to suburban housing, as an exemplar of an appropriate approach and potential outcome for other sites
- 5.8 From an urban design perspective, the underlying principles that should guide a design solution for good urban housing are to:
- provide a well-connected efficient street pattern that provides choice of direction from the front door as well as direct connections to transport and facilities (see integration); defines block sizes that are ideally about 90 by 90 m (100m by 70m) depending of the preferred building typology; has building fronts facing the street and backs of buildings facing backs of buildings at the rear; adequate rear separation and a street frontage for every building.
 - have easily accessible and sufficient public, communal and private open space.
 - have appropriate separation distances between buildings and good internal amenity
 - optimise (maximise) density but minimise 'apparent' density relative to the context.

The Street Pattern

- 5.9 The street pattern in denser urban environments is critical to the success or otherwise of that environment. Urban housing requires a contiguous connected street pattern. Streets need to be organised to facilitate walkability and accessibility, to provide addresses for all buildings and provide choice of movement. Streets also need to be arranged to enable 'apparent' density to be minimised. (Wellington, Melbourne Appendix3)
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- 5.10 The Fletcher proposal does not have a connected or an efficient street pattern. The proposed street and block layout in the masterplan is confused and fragmented and isolate the housing into what is effectively a gated estate.
- 5.11 Apartment blocks 9,10,11 are completely separate; apartment blocks 7,8,9 are accessed from Mt Eden Rd but there is no new internal connected street pattern. There are two access roads to the quarry floor but because of the level differences these streets are long and circuitous. Super Lot G is isolated and has no street frontage, a must for an urban building.
- 5.12 There is an excessive amount of land in roads. (4.59 ha) This is the result of the two long roads required to access the site, the cascade apartment building form in which many of the buildings have two street frontages and the number of streets that only have development of one side. This is costly, inefficient and land hungry. It is not good use of land.
- 5.13 Compounding the effects of the large amount of land in roads, is an excessively complex street pattern and numerous street typologies. This is demonstrated by the following roads that all have a different section profile:
- The haul road
 - The entrance road from the Town Centre
 - The 17 metre wide gridded short streets in the floor of the quarry
 - The short gridded laneways in the floor of the quarry
 - The curving edge street with wetlands (drainage corridor).
 - The 'split' road between Western Park and the floor of the quarry, located in a curve across the direction of slope.
 - The large roundabout
- 5.14 The proposed street pattern and multiple street widths and sections confuse rather than clarify the reading of the land and are far too complex for the topography of the quarry and Big King. On complex terrain a simple street pattern with some consistency in section provides greater legibility, less 'apparent' density and a greater sense of place. This is because it is possible for the human eye to read the landform through straight connected long streets (Auckland,San Francisco,Sydney) and because a straight connected street grid is the most walkable.
- 5.15 The RRA street pattern provides a connected efficient street pattern. It uses the traditional grid layout with a street block size that is linked to the building typology and height. This
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provides street address for all buildings, choice of direction when leaving the building, (passing the 'taxi drop off', 'pizza delivery test') extensive views and the ability to minimise the visual impact of buildings.

Public, Communal and Private Open Space

- 5.16 Urban housing is an essential asset in a growing city and especially so adjacent to an emerging town centre, however, intensification requires a range of accessible quality open spaces that are clearly public. The public nature is usually achieved by edging the open space with a road. At Three Kings, good public, communal and private open spaces are essential but the Fletcher masterplan fails to deliver adequate and quality public and communal open space.

Public Open Space

- 5.17 Firstly the public open space is insufficient in quantity for both active and passive uses. It does not address an increased and growing population on and around the site and does not strengthen the potential to create an important link to Western Park and the parklands beyond.
- 5.18 The Fletcher master plan provides the basic minimum of public open space. Two playing fields replace one existing and provide some active open space but the increase on population on this site is projected to be 1500 dwellings (3500-4000 residents) The surrounding area will also be subject to increased densities as many of the adjacent sites are in government ownership and the town centre itself has the potential over time to be developed with more retail and housing. The public open space will need to fulfill a wider role as the centre develops. Additional active open space may also be required for the neighbouring school. Precincts in Sydney that have been densified have found to be totally inadequate in open space provision .
- 5.19 There is very little passive open space on the site for activities such as a picnic, barbeque, reading a book etc. There is a small area to the east of and adjoining the playing fields that can be used as passive recreation. Some of the land between the main access road (from the extension of Graham Breed Drive), the playing fields and Western Park may be suitable for passive public open space but given the slope of the land and the road it may not be conducive. Western Park may also provide some opportunities. This area however is quite a distance from the majority of the apartments.
- 5.20 The current proposal provides a substantially reduced Western Park that:
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- fails to fulfill its potential as a link to the existing open space network to the west. This is a potentially important linkage as in denser areas linkages provide greater opportunities walking, cycling, different experiences and 'green' relief .
- is effectively privatized by the proposed development on the southern side, Super Lot G. Here there is no public road separating Western Park from the private development. The open space then becomes an 'unclear no-man's land' that is a forecourt for the proposed development. A public street should almost always be located between public open space and private development. This not only provides clarity of the public nature of the open space, it also provides clarity to the entrance of the private development. The removal of any development to the northern side of Western Park is an improvement however the proposed building on the southern side is problematic because it does not edge the park, but rather sits in the park.
- is separated from the north-south axis of the overall precinct by the extensive amount of land in roading on the eastern edge of Western Park. This roadway link spatially severs the eastern and western open space areas of the reserve.
- may not be suitable for active uses because of its reduced size, relationship to Super Lot G and the intervening access road.

5.21 There are poor links to the parklands in the west. Better links assist greatly in providing more recreational opportunities for all residents, but they would also assist in integration of the new residential development with the existing neighbourhood and possibly in the creation of 'a green web' for Auckland.

5.22 Many of the areas indicated as green on the plan are not able to be used a passive recreation such as the slopes of the cone on the east. The potential of the wetlands as open space is unclear and the land on the east of Western Park that is flanked by roads may not be conducive to passive recreation as discussed.

5.23 The RRA proposal provides substantially more open space. It extends and links the open space north / south on the east of the cone as per Options 3 and 4 / The Draft Three Kings Precinct Plan Auckland Council, 23 April 2013. This not only provides a generous

setting for the cone but it provides open space that can facilitate 3 more active sports grounds and additional passive open space as is required over time.

- 5.24 The new north / south open space links directly to Three Kings Domain and the existing school to the south east further increasing the visual and cultural benefits and the sense of nature in an urban environment. The open space is edged by a public road so that its' public role is clearly identified.
- 5.25 The RRA proposal retains Western Park and links the new north / south open space directly to Western Park on the west. This open and clearly public area has the potential to create better linkages to the park system to the west. The lowest topographical point in the north / west is the suggested new connection to Smallfields Avenue.

Communal Open Space

- 5.26 The Fletcher master plan does not provide any communal open space.
- 5.27 Fletcher state there will be 1500 dwellings in the proposed precinct. Conservatively, this means 3500 - 4000 residents yet there is no communal open space. Communal open space plays a very different and important role to public open space (reserves) and private open space (balconies and rear gardens).
- 5.28 Communal open space is owned and managed by the residents. It provides meeting places, semi-secure places for children to play, foreground view from apartments and opportunities for communal gardens. The NSW Apartment Design Guidelines (ADG) recommends 25% of a site area should be communal open space. In my opinion, Auckland Council's decision to waive a communal open space requirement is a serious shortcoming in a precinct of this size.
- 5.29 The RR proposal provides communal open space for all apartments. These spaces are located above the car parking at ground level in the centre of the apartment sites. Large scale planting is achievable in selected deep soil areas and can be augmented by planting on the basement structure. Depending on which site the area of communal open space varies from 8.6m² to 18.2m² per apartment based on an average apartment size of 75m².

Private Open Space

- 5.30 The Fletcher master plan appears to provide adequate private open space as the size of the proposed balconies is considered generous by Council. The amount and configuration of the private open space for the terraces and town houses however is not clear from the drawings. The introduction of lanes (although common) on such short streets and relatively low densities can often eat up valuable open space. Small lot housing sites at Hobsonville without rear lanes provide substantially more amenity in terms of open space than those with rear lanes.
- 5.31 The RRA proposal provides building envelopes (and the capacity estimates of the building envelopes take balconies into consideration) that enable buildings to have balconies as required by the Auckland Design Code. The terrace dwellings have 42 m² of north facing private open space per dwelling.
- 5.32 My conclusion is therefore that the Fletcher masterplan does not provide good 'urban' housing. This is because of the inefficient use of land, the poor organisation of streets and buildings, the lack of communal open space, and the insufficient amount and inappropriate disposition of the public open space. The poor accessibility between the lower and upper levels, and the town centre is discussed later in this evidence but it also contributes to this not being good urban housing.
- 5.33 Choice is also about the character of an area. Alternative quarry levels, street layouts, heights and forms would produce a very different character for the overall precinct . The key issue is that the design scenarios should be drawn accurately and tested against a set of principles prior to creating a specific zoning based on a concept master plan that has not demonstrated that all the issues have been resolved.

6.0 The Reinvigoration of the Town Centre

- 6.1 The decision under appeal states that *"there will be positive benefits to the community of Three Kings through the provision of a quality open space network and the reinvigoration of the town centre"* (Auckland Council Plan Change Decision, para 8.3.2 b 4).
- 6.2 There would be positive benefits from a quality open space network and the reinvigoration of the town centre if the Fletcher proposal was delivering that. The master plan however does not deliver either of these desired outcomes. It does not provide a quality open space network, as discussed above, and much of the proposed residential development is disconnected from the town centre and the surrounding existing
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development so that the normal benefits that can accrue from an integrated urban fabric are unlikely to develop. Higher density living should offer clear benefits.

Integration with the Neighbourhood and Town Centre

- 6.3 Establishing a good relationship between a new urban area and an existing one has been the focus of cities for centuries. Fine examples at a larger scale of integration are Edinburgh New Town and Cerda's plan for Barcelona (Appendix 3).
- 6.4 Integration relies primarily on the relationship between existing and new street patterns and require one of the following:
- a contiguous street pattern;
 - new street patterns that relate to a different topography and support new building typologies but that have multiple direct physical connections (streets, paths, walkways) to the existing streets; and
 - repetition of an existing related street pattern but with some direct connections.
- 6.5 Connections to adjacent areas in an urban environment occur through spatial linkages, primarily it is the street system and secondly it is the open space system that provides the actual and visual connections. The Fletcher master plan :
- does not connect with the existing residential areas surrounding the site either through the street system or the open space
 - has a street pattern at the upper level that does not extend the existing town centre grid to create direct physical connections or visual connection of spaces
 - has a street pattern on the quarry floor that uses a completely different street pattern and street typologies from any of the surrounding residential areas. It reflects new subdivisions everywhere.
 - is designed as a discrete residential area
- 6.6 Walking accessibility to the town centre is not easy from the dwellings in the quarry floor because of the difference in levels from the town centre to the quarry floor. The study on the lengths of stairs in the masterplan is not relevant. Certainly those from Sydney are taken out of context. In the examples given the stairs create an 'additional' access, not the only direct pedestrian access. All the examples in Sydney are accessible to shops and public transport etc. by walking out the door and along an interconnected street system. In the Three Kings quarry site, the only street walking access is a long circuitous walk or the stairs/lifts.
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- 6.7 Even the apartment blocks with access to the upper level are not well connected. Residents in apartment blocks 9,10 and 11 have to walk out along the haul road to Mt Eden Rd and along Mt Eden Rd to Graham Breed Drive and back to the town centre. Residents in apartment blocks 6,7 and 8 have to walk along Mt Eden Road to Graham Breed Drive and back to the town centre. This is poor accessibility because it is not direct and because it offers no choice in which way to go. There is also no opportunity for residents from Mt Eden Rd to walk through the precinct as part of a contiguous urban fabric.
- 6.8 It is appropriate to locate buildings facing Mount Eden Road. This completes the west side of the street and addresses the buildings on the east side of the street but greater attention needed to be given to how these buildings might be connected to the town centre.
- 6.9 The cul de sac around the SHA housing is an unfortunate addition. It does not connect to another street and is more like a driveway than a street frontage, not at all appropriate for the proposed density and type of housing.
- 6.10 The beginning of the haul road is appropriate as part of a new street pattern because it creates a frontage and although the resulting site is not deep it enables buildings to be located here that can back onto the existing neighbouring development to complete the street block. It is however unconnected in the Fletcher proposal to an internal street pattern at this higher level.
- 6.11 Overall, because the Fletcher masterplan lacks these direct walking connections, the proposed development may or may not assist in 'the reinvigoration of the town centre' and given that many of the dwellings are most easily accessed by car, evidence suggests, that once in a car the closest centre may not be the centre of choice.
- 6.12 The Fletcher masterplan also does not provide any sense that there is a relationship to an existing neighbourhood. The street and block configuration does not reflect or reference the street blocks that exist in the neighbourhood. The street pattern on the floor of the quarry does not respond to the adjacent grid pattern to the east or the topographical relationship of curved streets to the west. The street pattern to and on the quarry floor:
- is 'stand-alone' and does not reference the adjacent areas;
 - has very short streets that do not reveal the landform or history of the site;
 - relates to the organisation of cars and level changes rather than revealing of the landscape setting;
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- references to a new urbanist (American) approach, not a New Zealand approach; and
- provides no evidence (from the reading of the plans and sections) that it is adjacent to one of the premier natural and cultural features in Auckland, rather it could be located anywhere in any new subdivision.

6.13 Because of the difference in levels, there is poor accessibility and not what would be expected from a connected street and block pattern eg Auckland City, Wellington, Melbourne, Sydney. Apart from the two stairs and lift points, access to the upper level, transport and town centre, is by either of the two long circuitous walks.

6.14 This lack of rigour in not stating and addressing this basic urban design principle of street connectivity, impacts negatively on the ability of the new precinct to support the town centre and integrate with the wider context.

6.15 Urban spaces such as plazas, overly generous footpaths etc are important places in town centres and more densely populated areas. New York City and Barcelona have recently introduced policies of reclaiming road lanes for pedestrian activities. (Times Square was the first in NY). To work successfully however plazas and town squares have to be public and to be integrated into the urban fabric as a place that you go 'through' rather than a 'destination'. In urban design terms plazas require:

- public ownership;
- multiple frontages with publically accessible uses e.g. shops, and typically four retail frontages. Multiple entrances from the surrounding street system if they are to work successfully (The Campo in Sienna has 13 entrances Appendix3);
- to be located within a street system that is embedded in a larger connected street system so that it is almost always necessary to pass through the plaza when in that particular area; and
- a long angle of the view into the space can also affect the use and attraction of the space.

6.16 In the Fletcher proposal there is an area on Graham Breed Drive at the top of the stair from the quarry floor to the town centre nominated as a plaza. It is not public space but is privately owned and publically accessible. This means that it can be used for private events and access denied if required . It cannot be used as a rallying point for events, protests etc as can a normal public street . Any nominated plaza or town square has to be public space.

- 6.17 Apart from the ownership, the plaza area in the Fletcher master plan will not work as a plaza . It is more of a viewing platform. It is not embedded in the street system. The access to the quarry floor is located beside it and doesn't pass through it. There is only one short building frontage that could potentially have active uses at ground, (not four frontages) and even that frontage is angled away from the town centre so it will be difficult to see any shop frontages.
- 6.18 The RRA proposal uses an integrated street grid that connects directly to the town centre. The street blocks provide choice of direction from all apartment buildings and it is a short easy walk to the town centre and public transport. This is the preferred street pattern to achieve integration. It is easier to walk out the door than to get in a car. The RRA proposal presents a much greater opportunity of invigorating the town centre and if the connection to the streets and neighbourhood to the west ultimately comes to fruition then the town centre will be invigorated and become a successful, vibrant meeting place.

7.0 Density and Apparent Density

- 7.1 The decision under appeal states that *“the Concept and Master Plan enable residential development of a design and intensity that could be appropriately serviced and accommodated within the surrounding environment”*. (Auckland Council Plan Change Decision, para 8.3.16)
- 7.2 Land is a precious resource. Where density is to be located there needs to be sufficient area in reasonable densities to support a range of walkable facilities and services. Optimising the use of land enables the maximum number of people to have good accessibility and amenity.
- 7.3 From an urban design perspective, the underlying principles that should guide a design solution for selecting particular densities and building forms relative to context are to:
- use efficient building forms and street blocks ; and
 - optimise density and minimise ‘apparent’ density.
- 7.4 Efficient apartment buildings are approximately 20m deep. Ideally apartment buildings, up to eight storeys, should be located on streets with one street frontage for every building and semi-private space behind. (Tower forms may have a different set-back configuration.) This street block model optimises overlooking of and frontage to streets and it optimises the amount of green space, outlook and separation distances behind a building. It uses
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land efficiently while providing the best outcome and amenity for the residents. It also reflects but adapts the existing suburban model of Auckland.

- 7.5 Minimising the apparent density in urban areas is critical for two reasons. Firstly the amenity of the residents and secondly the perception, particularly in countries that have traditionally been low density, that urban areas that are more dense are not congested slums but are precincts that offer an equal and often better lifestyle. It is a noticeable trend around the world that the younger generations are not aspiring for a car but rather to live in a place that has high accessibility.
- 7.6 People living in urban environments must not feel as if they are in a maze. As densities in NZ cities increase it is important to ensure that the precincts that have higher residential densities employ all avenues to ensure high levels of amenity and that those precincts do not appear like a concrete jungle. One of the reasons that New York is liveable is because of the long straight streets (and wide footpaths), the street blocks and that all the streets around Central Park terminate in the Park so that despite some of the highest densities in the world the place does not feel overwhelming. Similar principles are used in Barcelona, Paris etc
- 7.7 Cities have employed tested techniques for centuries to ensure that apparent density is minimised. These techniques relate to how people see and experience an area from without and within.
- 7.8 Using these particular techniques a precinct that has the appropriate street pattern, street blocks, view shafts, building forms and massing can accommodate more density with less visual impact and better amenity than one that does not employ these techniques.
- 7.9 'Actual' density is the number of dwellings per hectare or the amount of floor space ratio (or plot ratio) the numeric figure. 'Apparent' density is how that actual density appears to the human eye from the ground, or from a viewpoint. Apparent density also impacts either positively or negatively on views from inside dwellings looking out.
- 7.10 Apparent density is intrinsically related to sight lines and can be drawn and tested. The key factors that affect the apparent density are:
- actual number and size of buildings (the actual mass);
 - street layout;
 - relationship of the buildings to the street alignment; and
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- Topography.

As a general rule apparent density appears less with:

- a smaller number of smaller buildings (subject to street layout);
- straight streets;
- open views at the end of streets;
- some long streets (so the landform can be understood); and
- buildings aligning with the streets.

- 7.11 Street layout and landform are critical elements in handling density. Given a consistent amount of building and subject to landform, apparent density is greater in curved streets on the concave side, it is greater if the larger buildings are sited at the ends of streets and not along the sides of streets, it is greater if the buildings do not align with the street and it is greater where buildings are viewed as an elevation (the view of the cascading apartments from the cone) and where they do not align with the street. It is least on long straight streets.
- 7.12 The view at the ends of streets also impacts on apparent density. There is a significant difference between a building closing off a street (more apparent density) or an open space or skyline (less apparent density).
- 7.13 The topography of the quarry site is such that density cannot be 'hidden'. The open shape and low level of the quarry floor means that the site is highly visible from everywhere except the east. There are views from above and across the quarry from the north, south and west. It is more difficult to 'hide' the impact of density in this context than with 'hiding' the impacts of density in an urban street e.g. Auckland CBD. The only side of the quarry site with restricted views is Mount Eden Rd. Here the impacts can be more easily managed.
- 7.14 To mitigate the impacts of the density and to ensure the role of Big King within its topographical setting, views should be kept and / or introduced 'through' the site to Big King from outside of the site. Views from within the site should be to Big King, the bluffs, Western Park, open space and the Town Centre rather than into buildings. This approach reduces the visual impacts, improve the sense of place but still enables compact settlement patterns.
- 7.15 As well as long views into the site, there are views within the site from the public and private domain. These are the views along streets, towards the development on the floor of the quarry, from the playing fields open space and from the apartments.
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7.16 The Fletcher proposal has an extremely high apparent density. This is due to:

- The actual mass of building (which is excessive);
- The street and building layout; and
- The amount of land in streets.

Mass of Building

7.17 In the Fletcher master plan there is an overly large mass of building for the number of apartments. This is the result of all the above ground car parking and the inefficient and bulky building form of the cascading apartment buildings

7.18 Firstly the above ground car parking. The car parking is contained the plinths of the cascading apartments and contributes to the building mass. The site area for the car parking is approximately 750m by 20m and the height is 4/5 levels. The plinths are sleeved by apartments but this does not reduce their land take or lessen their impact. As the car parking is 20m deep, a similar depth to an apartment building, this is 15,000m² in footprint and equates to approximately sixteen 4-5 storey apartment buildings. This is additional mass that has to be accommodated on the site and so has huge implications for the actual site density of building and the apparent density. Even if one accepts that part of the car parking is under a 20m deep apartment building the additional land take for car parking is 750m by 10m = 7500 m².

7.19 The cascading building form is particularly inefficient. This is because half of each building at the lower level is single sided with these lower level apartments sleeving the car parking. It also means that a 9 storey cascading building with four storeys of double sided apartments and five of single sided equates to a normal 6/7 storey of double sided apartments.

7.20 The depth of the apartment buildings on the lower levels is also a major concern. The NSW recommended depth of an apartment building is 18 / 20m (State Environmental Planning Policy 65 NSW, SEPP 65) Apartment Design Guidelines (ADG). 18m is primarily to ensure that the internal depth of apartments is not deeper than 8 - 9m from the external wall but it is also used as a control of a building to minimise building bulk externally.

7.21 The depth of the interior on the lower level apartments at Three Kings appears to be about 9m so this is not an issue but with car parking behind these and an extension above towards Mt Eden Rd and Grahame Breed Drive, the eleven apartment blocks will

be excessively bulky. 750 metres of nine storey buildings with an excessive depth in the plinth is a massive built form.

- 7.22 The upper levels of the cascading apartments sit on a plinth. The plinths are 30m deep and form a connected base so that two or three of the double-sided upper apartment buildings sit on one plinth. The problem of the excessive depth of the plinth is in the view from the quarry floor along the ring road towards the lower levels. This is because the view of the side of the buildings cannot be 'hidden' the way it can in an urban street wall e.g Auckland CBD. The ends of these buildings will be highly visible in the sightlines along the street. How are they to be treated? Will the quarry wall be visible? Will the car parking be visible? Do the apartments turn the corner?
- 7.23 In the Fletcher master plan the nine storey wall of apartments extends approximately 750m around the edge of the quarry from the west (Barrister Ave) to the SHA well north of Kingsway. The double sided apartment buildings are 40m to 70m long and organised in separate groups of two or three on the plinths. These extend for approximately 750m. The impact of this wall of apartment buildings is particularly high. It will be hugely dominant from inside the quarry but also in the views from Big King and Western Park. The dominance of the wall will have far more impact than a nine storey wall of building within an urban street. This is due to a combination of length, the depth on the five lower levels, the curve of the street and the predominately 'elevational' views of the buildings, particularly from Big King.
- 7.24 The 'wall' of apartment buildings is curved, predominately concave with some convex sections. The sight lines from the street at the base of these buildings are predominately terminated by a view of the buildings wherever the curve is concave. This is a very different and a more dominant view than if the buildings were located on a straight street.
- 7.25 Apart from the 'wall' of apartments, the current master plan does not have adequate or well-placed view shafts from inside the site to minimise the impact of the density. This is partly because five of the streets are short and the views of four are terminated by buildings at the ends of streets in either one or both directions. The view from Graham Breed Drive into the precinct from Mt Eden Rd terminates in the side of an apartment building. The view along the new road to the quarry floor is into the side of the apartment building on Super Lot G, the next view is of the industrial estate at the northern end of the site.
- 7.26 The view along the haul road from the north is into the side of an apartment block and the view back out to the junction of the haul road from the internal street also terminates in
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the side of an apartment block. All these views terminated by large buildings at angles to the line of sight contribute to an overwhelming sense of buildings and no space.

- 7.27 The concept master plan could be designed to have far less actual building and less visual impact. A better approach to intensification may be to provide more density in the town centre and to the west (where permitted) rather than filling up the quarry floor. A more generous spatial setting to the reserve and Big King may assist in reducing the visual impact (to paraphrase the Spanish urbanist Manuel de Sola-Morales: *'keep the open spaces open and tighten the development don't fill it all up evenly...'*).
- 7.28 The quarry depth and shape as currently indicated in the masterplan is therefore not ideal for a very high density. The precinct provides an excellent opportunity for urban housing but not if it located on the quarry floor. The dislocation from the surrounding precincts, high visibility from most of the surrounding area and the inability to introduce long urban streets limits its capability to successfully 'absorb' density.
- 7.29 The built form and spatial organisation should be tested related to 'real' views and not looking down on a model. The numbers of apartments and population density should be determined from the desired future character and how well the masterplan balances all the objectives.
- 7.30 The amount of land in streets and above ground car parking in the Fletcher masterplan is excessive and takes up valuable land that could be used for open space. The excessive land requirements are firstly because of the length of road required to get down to the level of the quarry floor, secondly because the cascading building typologies are very inefficient and thirdly because of the car parking solution. The Fletcher proposal has 4.59ha in roads. The RRA proposal has 1.97ha.
- 7.31 There are two roads accessing the quarry floor. The haul road and the main access road from the town centre. To reach the quarry floor, the haul road is widened and extended. The new road from Graham Breed Drive is designed to be fully accessible and curves down in a wide circle to the lower level. It is long and wide, is located across the section of the land and so has a high and low side, takes up a large amount of land and severs Western Park from a potential east west open space connection
- 7.32 All but one of the eleven cascading apartments have dual street frontages, one at the top and at the base so that every one building has two street frontages. As well as this the lower levels of these buildings contain only single sided apartments. This makes the
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amount of street frontage excessively high for the number of apartments

- 7.33 The Fletcher master plan organises the site in a way that does not optimise density or minimise the visual dominance of the buildings but rather the proposal 'fills up' the site with buildings. Many of the buildings are poorly related to one another and to the natural features. Primarily this is the result of the above ground car parking, the mass and form of the cascading apartments, the difference in levels and amount of road required to traverse levels and the resulting street layout.
- 7.34 The actual number of apartments on Fletcher land is similar in both proposals (around 1100) but the actual building mass and apparent density in the RRA proposal is far less than in the Fletcher proposal. This is because the RRA proposal has underground car parking, an efficient street layout and an efficient building form. It also provides substantial communal open space.
- 7.35 The car parking in the RRA proposal uses the quarry levels effectively. There is not the need or expense of excavating for car parking and yet the optimum outcome is achieved by locating car parking in large efficient floor plates underground, thereby not contributing to either the mass of building or the apparent density. The RRA proposal is designed around an efficient street grid that provides open views at each end of almost all the streets. This reduces visual impacts of density. In the RRA proposal :
- The four streets directly connected to Mt Eden Rd have no buildings at the end and look straight to the open space; in the alternate direction one is visually connected to the street on the opposite side of Mt Eden Rd;
 - The view along the new north / south edge road is open ended to the south with longer views to the town centre . The view is terminated by town houses in the northerly direction;
 - The extension of Graham Breed Drive to the south terminates in Three Kings Domain, so a park view. The view north terminates in the level edge change at the SH housing and then town houses; and
 - The view along the proposed entrance road from Mt Eden Rd into the precinct is terminated by a view of the eastern Bluff and open space.
- 7.36 In the views of the RR development from the ONF the actual density and apparent density development will appear far less. This is because the view is not of 750m of eleven 9 storey apartment buildings but of four apartment buildings ranging in height (but with a level datum for the top) from 3 to 6 storeys.
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- 7.37 Apparent density is also reduced by using buildings of similar height. This can be of assistance on flat ground because one building will cut off the views of another building and provide a clear skyline to the eye. So the apparent density is far less in the RRA scheme because there is underground car parking, a much smaller amount of building, efficient building forms and because buildings are organised along straight streets within well-proportioned street blocks.

8.0 High Quality Urban Design + the Role of the Masterplan

- 8.1 The decision under appeal states that *“the Concept and Master Plan achieves a high quality urban design which will ensure the creation of a quality built environment and high amenity neighbourhoods”* (Auckland Council Decision 8.3.2 b).
- 8.2 In any major urban renewal project, the master plan is the single most important process to achieve a successful outcome. This is why most European countries use a detailed three-dimensional master planning approach for all interventions in their cities. The master plan is critical because it is the only process that can deal holistically with all the components that make up an urban area, that is, the land, the street pattern, access and the building form.
- 8.3 European examples: Emscher Park, Rhur Valley Germany; the re-building of Berlin both after World War 2 and the fall of the Berlin Wall; the brown fields intervention at Bercy in Paris. The current and largest urban project in Europe is Hafen City Hamburg, a rebuilding of the port area. The 30 year plan for Barcelona. (Appendix 3)
- 8.4 On a site such as the quarry one would expect to see a brief; a detailed drawn analysis including street typology studies and cross-sectional landform studies; tested building typologies and related capacities; comparative assessments of the land take in roads and open space; opportunities and constraints; and three dimensional options outlining the benefits and issues associated with each option.
- 8.5 Fletcher argues that their Masterplan is just a ‘concept’ and is indicative only and any problematic issues will be resolved in the following design stages. This ignores the fundamental nature of the problems. The ONF is compromised, the difference in levels is too great, the streets are in the wrong place, there is insufficient open space and there is a poor fit with the neighbourhood. No amount of tweaking at later stages can rescue this poor outcome.
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- 8.6 In fact, the proposed zoning locks in and will amplify all the problems in the masterplan without providing any real certainty of the outcome.
- 8.7 If all the key issues associated with an urban project have not been resolved in the master plan they cannot be resolved through the architecture resolution or design codes.
- 8.8 The key issues at Three Kings are the shape and level of the ground plane; the spatial structure (street pattern and public open space), the inefficient use of land, the use of above ground car parking and the building envelopes to provide definition to the spatial structure. These are currently not sufficiently well resolved in the master plan to support a rezoning at this time.
- 8.9 There is also the lack of certainty as to what the master plan is offering. The bulk of the housing is apartments. The cascading buildings are all apartments, there are apartment buildings indicated on Super Lot G and in the quarry floor. The drawings provided in Council evidence however indicate terrace housing on the quarry floor but the height limit requested is 14.5m, suggesting buildings of 4-5 storeys. A building of 4-5 storeys would be apartments, not terrace housing. It is not clear therefore what range of housing types is being proposed.
- 8.10 Alternative scenarios may or may not be appropriate in terms of housing quality and choices but the proposal should indicate clearly the proposed outcome and this should inform the rezoning process.
- 8.11 The master plan is referred to as a concept plan and a master plan. Which is it? If it is a 'Concept Plan' then it is not a well enough considered basis for a plan change that locks in specific areas of open space, densities and heights. If it is a 'Masterplan' then it does not address in a satisfactory way all the issues raised in early documents, namely the relationship to Big King; the open space network; and the integration of new residential areas with existing residential areas and the town centre. It is effectively a 'gated estate'. The current documentation appears to request locked in provisions for a 'free reign' to alter the outcome at will.
- 8.12 The current 'Concept Plan and Masterplan' will not achieve 'high quality urban design which will ensure the creation of a quality built environment and high amenity neighbourhoods.' High quality urban design must be judged against a set of objectives and principles. The NZ Urban Design Protocol identifies seven essential qualities that create quality urban outcomes. These are:
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- Context;
- Character;
- Choice;
- Connections;
- Creativity;
- Custodianship; and
- Collaboration.

- 8.13 Against each one of these qualities the principles for the proposal should be stated. The design outcome can then be assessed against those stated principles. In this case there are no 'stated principles'. These qualities will have differing levels of importance with every different project. In some projects, 'Custodianship' may be a key issue, in others 'Choice'.
- 8.14 Key areas where the master plan for the quarry is deficient are the response to context and absence of any real spatial connections to this existing part of Auckland. The masterplan fails to solve the contextual relationship with the volcano and Western Park and it fails to integrate the new precinct with the existing residential precinct or the Town Centre.
- 8.15 Specifically it does not provide a generous spatial setting for Big King, particularly along the eastern face, and it does not adequately provide appropriate view shafts to Big King or address views from Big King. The short streets and the alignment of the buildings 'across' the direction of view from Big King coupled with the nine storey wall of apartments result in a dominance of buildings over a clear spatial structure that relates to the existing street pattern in the surrounding areas or view lines from the Volcano.
- 8.16 The proposal also fails to provide a network of open space that capitalises on the opportunities to the west. Effectively the master plan is a stand-alone estate that does not relate to the existing residential development or the Town Centre through the continuation of streets and view shafts, street block patterns or street widths, street typologies or profiles.
- 8.17 The absence of stated principles means that there is no basis for assessment. Detailed principles relating to the quality of the built environment and the amenity of the neighbourhoods would consider both the existing residential precincts and the proposed development.

9.0 Plan Change Provisions

9.1 The decision under appeal states that *“the provisions of the Plan Change are worded to ensure the intended outcomes can be achieved”* (Auckland Council Decision 8.3.16)

9.2 The provisions in the Plan Change cannot adequately ensure the intended outcomes can be achieved. This is because:

- There are no accurate dimensioned drawings that set out and tests what is proposed. There are 'sections' and perspectives of the proposal. Before locking in the very specific controls that have been requested it is essential that the overall scheme is drawn and tested at a range of scales;
- There are many discrepancies between the drawings and the words;
- There are no 'stated principles' against which the design can be assessed;
- The plan change controls requested lock in a poor outcome based on insufficient information; and
- Some of the plan change controls requested do not relate to the typologies suggested e.g. the additional height required on the floor of the quarry (14.5 metres) and terrace houses (9 metres) proposed.

10.0 Residential Design Guide

10.1 The decision under appeal states that *“the Proposed Residential Design Guide will ensure the creation of a high quality urban design and built environment and high amenity neighbourhood”* (Auckland Council Decision 8.3.2.8)

10.2 As outlined above, the masterplan is the design process that shapes the urban area and that needs to address all the issues related to the site. Currently the masterplan does not do this. The resolution of the architecture cannot overcome any failures with the masterplan. The residential design guide is about the resolution of the architecture.

For example:

- The town plaza is not embedded in the street network so active uses, while advantageous, do not overcome the lack of integration that is required to make a town square work successfully
 - Good architectural resolution will not overcome:
 - a fundamentally flawed street pattern
-

- the visual dominance of the 'cascading' apartments particularly in the views from Big King.
- the lack and poor disposition of open space
- the excessive amount of land in car parking

10.3 The design controls are not controls but rather general aspirations. They are far too general to ensure a high level of amenity within the dwellings or within the development. There should be specific standards for private open space (terraces and apartments); communal open space; deep soil planting; solar access; cross ventilation (in rooms, especially bedrooms essential in a location on a quarry floor in a humid climate); privacy; floor to ceiling heights (2.7m linked with taller head heights of windows would enable high quality amenity within the apartments whilst 2.4m will not); minimum rear set-backs and separation distances between apartments (essential).

10.4 The specific controls listed relate to street presentation not amenity. The State Environmental Planning Policy 65 NSW SEPP 65 Apartment Design Guidelines could be a guide for the apartments.

11.0 Zoning

11.1 The current master plan is flawed at a fundamental level. It's implementation will mean *death by stealth* of Big King and the surrounding landscape setting and without the real benefits of town centre living. A superior outcome will be compromised by Council's proposed rezoning.

11.2 This is not to say that the site does not offer the potential for high quality housing with good amenity, it does, but the master plan has to be resolved to meet the qualities of the site before zoning changes can be contemplated in the knowledge that there will be a satisfactory outcome on the quarry site.

11.3 The zoning is specific to the Fletcher outcome which for all the above reasons will entrench the poor outcomes described.

11.4 The zoning also locks in Super Lots without 'build to' lines so there is no definition of the size, shape and alignment of the apartments / terraces on the quarry floor. Given the curvilinear street pattern this would further exacerbate the apparent density.

11.5 There is no economic or social value in destroying the very things that make a city special. In this case Big King is one of the amazing suite of volcanic cones. Development on the quarry site should be an exemplar of how to retrofit an historic and cultural part of Auckland in a sensitive, integrated way. The outcome will be on view to many thousands of visitors to and residents of New Zealand. It must be special.

11.6 The current master plan is very 'non-specific' about what it is intending and very 'specific' about what zoning it requests. This will result in inappropriate outcomes.

12.0 ***Conclusion and Recommendations***

12.1 I have raised issues that can only be resolved in the master planning process through a detailed interrogation of the site. If they are not successfully resolved in the iterative design process that produces the master plan, they are not matters that can be solved by relying on the quality of the architecture. International best practice devotes most time and resources in ensuring that the master plan process resolves the structural issues in every urban project.

12.2 Specifically the masterplan does not respect and enhance Big King. It wastes land in above ground car parking and a multiplicity of streets. The 560m / 750m long wall of 9 storey apartment buildings and the cluster of buildings in the base of the quarry result in a dominance of buildings over a clear spatial structure that relates to the existing street pattern in the surrounding areas or view lines from the Volcano. The proposal fails to provide a network of open space that capitalises on the opportunities to the west and the need for generous open space in denser cities.

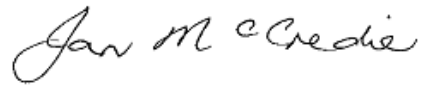
12.3 The Fletcher masterplan does not provide good urban housing because of the fragmented and disconnected street pattern. This is directly related to the level differences. Effectively the master plan is a stand-alone estate. It is an incredibly inefficient use of valuable land because of the above ground car parking and the length and configuration of the roads.

12.4 On the Three Kings quarry site those key issues have to be resolved by the appropriate resolution of levels, organisation of the streets, the size, shape and disposition of the open space and the buildings, the provision of views and view shafts relative to the complex ground plan and the unnecessary inefficient use of land. The master plan fails to do this.

12.5 There is certainly a wonderful opportunity to redevelop this sensitive and historic site but

more work is required to successfully solve the complexity of issues within context of the zoning provisions, as addressed by Graeme Lawrence.

Signed

A handwritten signature in cursive script that reads "Jan McCredie". The signature is written in black ink and is positioned below the word "Signed".

Elizabeth Jan McCredie

May 2016

Appendix 1

Qualifications and experience

I hold the following tertiary qualifications:

- Master of Urban Design, University of Sydney, NSW Australia
- Diploma of Town and Country Planning, University of Sydney, NSW Australia
- Master of Architecture, University of Sydney, NSW Australia
- Bachelor of Architecture, University of Sydney, NSW Australia

The area of expertise upon which I have drawn for the preparation of this evidence is strategic urban design. This is the area in which I have focused in my career including my teaching. It is particularly relevant to the redevelopment of the former quarry site and council-administered land at Three Kings.

I am a Life Fellow of Australian Institute of Architecture (AIA) 2010; and a Member Planning Institute of Australia (PIA), 2003 – present.

I am the recipient of numerous urban design awards including:

- 2010 The Marion Mahoney Griffin Award Australian Institute of Architects
- 2005 PIA Strategic Urban Design National Award, *Coastal Design Guidelines*
- 2006 Australian Institute of Landscape Architects *Auburn Public Domain Framework*
- 2001 RAPI Planning Scholarship Research *Mixed Use and Residential Subdivision*
- 2001 RAPI Presidents Award *Safer by Design*
- 2001 RAPI *Town Beach DCP* - Port Macquarie
- 2000 Australian Property Industry (API) Award *Public Practice*
- 2000 RAPI Gold Medal Award *Can You Legislate for Good Urban Outcomes?*
- 1998 IMM The SMH Management Excellence Awards *Focussing on Customer Service*
- 1997 Australian Council of Building Design Prof. Urban Design in Australia *Pymont Point*
- PIA National Urban Design Award *Pymont Point Urban Design Strategy and Master Plan*

I am currently City Architect at Liverpool City Council in NSW. I also provide design expertise to Local Government Planning Design Panels in Parramatta City Council and Waverly Council, NSW, Australia. I am a guest lecturer at the Urban and Regional Urban Design Course at the University of New South Wales [UNSW] and The Urban Design Course at the University of Sydney and a Land and Environment Court Expert.

Key relevant highlights of my career are:

**Wellington | Manager City Strategy + Urban Design, Wellington City Council
[September 2009 – October 2010]**

I was responsible for:

- The Wellington 2040 Spatial Structure Plan [SSP], the predecessor of Wellington Towards 2040: Smart Capital. The SSP linked the design process to the Space Syntax “City Centre Movement Infrastructure Analysis”, 2011. The objective was to establish the direction for the built form of the city centre and integrate the built form with a movement strategy including the location of public transport
- Public Domain Manual and Lighting Strategy

**Manukau | Group Manager Urban Design, Manukau City Council, Auckland
[April 2007 – September 2009]**

I was responsible for:

- Manukau City CBD Spatial Structure Plan and Built Form Controls
- Manukau City CBD Public Domain and Technical Manual
- Flat Bush Master Plan.
- Mangere Town Centre Plan
- Introduction of Cultural Mapping
- Wiri Spatial Structure Plan (under development)
- Residential Apartment Design Guidelines
- Manukau CBD Health Impact Assessment
- Liaison with the Community; Transport and Traffic Authorities; Rail + Airport Authorities
- Manukau Design Group: Urban Design Panel, June 2007-2009

Director, Urban Design Advisory Service, Planning NSW, Sydney, Australia

I was responsible for:

- Implemented the N.S.W Premier's Design Quality Program including SEPP 65
 - The Residential Flat Design Pattern Book
 - Prepared final draft of the Residential Flat Design Code [RFDC]
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- Completed 150 urban design projects; Development Control Plans [DCPs]; master plans; urban design reviews

Publications

UDAS

- The Residential Flat Design Pattern Book
- The Residential Flat Design Code (Now the Apartment Design Guidelines, ADG)
- Mixed Use in Urban Centres: Guidelines for Mixed Use Development
- Residential Subdivision: A handbook for the design and planning of new neighbourhoods.
- The NSW Coastal Design Guidelines

OTHER

- The Design Dividend [with Prof Peter Droege]
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Appendix 2

Relevant reference reviewed

The data, information and facts and assumptions that I have considered in forming my opinions are set out in that part of the evidence in which the opinions are expressed. The land areas I have used are approximate and are scaled from drawings.

The literature or other material on which I have relied upon in support of my opinions is referenced in the body of my evidence.

In reviewing these documents, I have also reviewed relevant evidence and reports for the hearing before Commissioners (detailed below). This is a non-exclusive list of material reviewed.

- i) 'Three Kings Concept Plan' (19 May 2015) / 'Three Kings Renewal Master Plan' (August 2014) by Fletcher Residential Ltd
 - ii) Plan Change 372 decision, with final modifications (November 2015)
 - iii) Puketapapa Local Board 'Three Kings Plan'
 - iv) Notified PAUP September 2013 Ch B: 2.1 - 2.6 and Ch 4.3.2
 - v) Auckland Council 081e Evidence of M. Reeve (Urban Design)
-