RRA DEVELOPMENT OF THE THREE KINGS PLAN

Final Report for
Puketapapa Local Board
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1.0 BACKGROUND

In August 2014 Puketapapa Local Board published “The Three Kings Plan - Te Tātua o Riu-ki-uta” (the ‘Three Kings Plan’). The Three Kings Plan is a high-level document produced by Puketapapa Local Board through consultation with the community, iwi, major landowners and other stakeholders.

The Three Kings Plan provides a strategic focus for development occurring within the area over the next thirty years. The Plan aims to address existing challenges and set some parameters and guidance for future development. The Plan sees the potential of the area to be an:

“exciting and vibrant well-connected community for its residents. Protecting, enhancing and celebrating its unique heritage and building a strong and attractive town centre has been the focus for the consultative process that has led to the formation of this document” (page 3).

The Three Kings Plan is focused on five Key Moves:

Key Move 1  Recognise and restore the mana of Te Tatua a Riuikiuta / Big King and enhance the public open space network
Key Move 2  Revitalise the Three Kings Town Centre
Key Move 3  Encourage high quality residential development
Key Move 4  Improve connections between people and places
Key Move 5  Develop a sense of local character and identity around the presence of Te Tatua o Riu-ki-uta / Big King

In May 2015 Richard Reid provided independent professional evidence at a Private Plan Change 372 hearing on the Three Kings Quarry land redevelopment which included a review of the Three Kings Plan and its five Key Moves.

Richard Reid’s evidence provided different insights and other ways to protect and enhance the values of Te Tātua a Riuikiuta, build a strong and attractive town centre and integrate the quarry land with the maunga, town centre, council-administered reserves and surrounding community. As part of its evidence, Richard Reid & Associates prepared an alternative development plan for the Three Kings area entitled “Three Kings Town Centre, Maunga and Quarry Redevelopment Plan” (the RRA Plan).

Richard Reid & Associates was engaged by Puketapapa Local Board in June 2015 to translate the RRA Plan into five Spatial Strategy Maps modelled on the Three Kings Plan’s five Key Moves. The resolution of RRA’s five Spatial Strategy Maps was to conceptual development level only and was drawn to conform to the graphic language used by the Three Kings Plan.
2.0 BRIEF

In December 2015 Richard Reid & Associates was again engaged by Puketapapa Local Board to further develop its translation of the Three Kings Plan for the Three Kings area. This development will support the board’s engagement with a range of surrounding landowners and any subsequent Resource Consent processes.

The scope of the new work is focused upon investigating and establishing:

i) Appropriate fill levels of the quarry while staying consistent with the principles of the Three Kings Plan
ii) Consideration of the appropriate width of open space and enhancement of landscape around Te Tātua a Riu-ki-uta (Big King) including connections to surrounding neighbourhoods
iii) Appropriate layout of street blocks and building areas including within the Town Centre
iv) Estimation of the potential housing intensification and yield within the Three Kings Plan

The findings from this work are summarised in the following sections of this report. A housing yield analysis is provided in Appendix 1. A condensed record of the RRA Development of the Three Kings Plan is illustrated in Appendix 2. A third appendix, separate from this report, contains drawings which compare the fill level options RRA has investigated.

Appendix 1 Housing Yield Study
Appendix 2 Drawings illustrating the RRA Development of the Three Kings Plan
Appendix 3 Comparison of Fill Level Options

3.0 FILL LEVEL STUDY

3.1 Methodology

Establishing an appropriate final landform for the quarry is best achieved through testing the relationships the quarry could potentially create with adjacent sites.

Such a method follows Condition 77 of the 2008 Environment Court 214 decision (EC214). The Court directed the consent holder and relevant stakeholders to consider through consultation how to:

i) achieve an integrated outcome from the quarry re-development
ii) how the quarry’s final landform might “best relate to” the surrounding topography and open space network

The matters the Court directed to be considered do not appear to have been adequately investigated since the decision. Agreement on the final landform remains an unresolved and contested issue. Fletcher Residential Limited (Fletcher) has adopted a new approach to the quarry site which provides a 15-17metre level difference between adjacent sites while Puketapapa Local Board accepts the fill levels outlined in EC214 as a fundamental basis for the Three Kings Plan.
It appears no party has modelled the EC214 contour plan in three dimensions to assess the landform and the success or otherwise of its integration with the surrounding topography and open space network.

In addition, no party appears to have investigated or modelled in three dimensions raising the fill level of the council-administered reserve land south of the Fletcher quarry (the Southern Reserve) to better join all quarried land, including the Fletcher site and Western Park. Raising both the Southern Reserve and Fletcher quarry will bring their levels much closer in height to the Town Centre and Mt Eden Road, thereby improving the quarried land’s integration with the surrounding topography and open space network. The recent land swap arrangement between Fletcher and Council has created an opportunity to consider this alternative method.

Fletcher’s 17H-1 Masterplan submitted with the Private Plan Change 372 application should be modelled in the same way in order to compare as well as review its effects in relation to the surrounding topography and open space network.

The RRA Plan also needs to be investigated and modelled in three dimensions to assess the success or otherwise of its potential integration with the surrounding topography and open space network. The RRA Plan proposed a higher-filled level for the Southern Reserve (RL68 as opposed to the existing RL60) so that a significant amount of recreational open space and residential development can be accommodated around Te Tātua a Riukiuta (Big King). This needs to be tested and its final fill levels confirmed.

We have investigated these different options and fill levels to help understand and assess the Court’s directions for achieving an integrated final landform, a key objective of the Three Kings Plan. The modelled options illustrate a range of relationships and degrees of integration that Condition 77 of EC214 recommended to be investigated.

The modelled landform options are:

i) The existing quarry filled to RL60 without any other modifications. The RL60 model is used as a base line for comparing ii), iii) and iv) below. RL60 is the level which EC214 used as the minimum level for the final landform in the south-west corner. Fletcher has used RL60 as the base for a large part of its proposal, with a level slightly below this for the playing fields (RL59) and slightly higher for the Riu Precinct (RL60-64). All of the RRA Plan is above RL60

ii) EC214 fill levels

iii) Fletcher 17H-1 Masterplan fill levels

iv) RRA Plan fill levels

The suite of drawings in Appendix 2: RRA Development of the Three Kings Plan illustrates RRA’s recommended final landform for the quarry and adjacent sites. The appendix contains plans and sections of the proposed fill levels and computer aided perspectives that model the final landform in three dimensions. The RRA Development of the Three Kings Plan also shows a proposed street layout for the Plan Change area and the Three Kings area with the Town Centre redeveloped. Building heights have been illustrated for the Plan Change area however the scope of work did not include the investigation and modelling of buildings in three dimensions.
The suite of drawings in Appendix 3: Fill Level Study illustrates all four fill level proposals for the quarry in two-and-three dimensions. The drawings contain plans and sections of the respective landform proposals and CAD generated perspective views of all proposals.

Cardboard models have also been made to confirm the three-dimensional landform outcomes. These models are working models and are not intended to be final presentation models.

The three-dimensional contour models show what the overall landform and level changes look like without the distraction of development. Puketapapa Local Board will be able to conclude from this work that a thorough process of investigation has been undertaken consistent with the principles of the Three Kings Plan.

Note: Auckland Council GIS information has been relied on to generate contour levels for the areas outside the Fletcher quarry site for the RL60, EC214 and RRA landforms. The contour plan and cross-sections attached to the EC214 Decision was used to generate the ERC214 model within the Fletcher quarry site. Fletcher’s contour plan for its 17H-1 Masterplan was used to generate a three-dimensional model and cross-sections of its landform proposal.

The focus of this report is on the fill levels that have been developed for the RRA Plan.

3.2 RRA Key Levels

Our fill levels are driven by the following key moves:

We have created a series of landscape terraces stepping up beside Big King starting from the Southern Reserve:

i) we have raised the level of the Southern Reserve from RL60 to RL68. The Southern Reserve forms the first terrace level below the Town Centre
ii) the second terrace is set at RL64. This terrace drops down from the Southern Reserve terrace and forms the lowest point of the new landform. It has been positioned and dimensioned to open up spatially to Western Park
iii) the third terrace is RL66.5. It has been proportioned to create a strong interface with the exposed scoriaceous face of the quarry below the Fyvie Ave bluff
iv) the RL of the final terrace is RL70.5. The last terrace is rounded off with a raised semi-circular profile which will be planted to merge the new landform with Big King and screen the Kennards storage building
v) these terraces are intended to be used as both formal and informal recreational open space with two of them dimensioned to meet playing field standards - football and cricket - with the area for cricket being much larger than what Fletcher has provided.

Western Park’s RL’s are unchanged. The predominant level is RL72.

The eastern side of the RRA landform is integrated with Mt Eden Road. From Mt Eden Road the contours fan out and gently down to the west and south to meet the new landscape terraces and Southern Reserve. This section of the landform has a subtle sense of movement. We envisage the residential buildings’ stepped heights together
with this ‘rolling’ landform will build a ‘townscape’ of buildings complementary to Big King and the Town Centre.

The terraces’ placement below the higher ground of the townscape gives the impression they have been carved into the landform. In essence, the terraces mould the EC214 engineered fill to give landscape value to the final landform.

3.3 Landform relationships and intended outcomes

The investigations we have undertaken show filling the quarried land to the RL’s in the RRA Plan helps to significantly remedy the past effects from quarrying. Quarried land includes both Fletcher and Council-owned-and-administered land and the adverse effects from quarrying have impacted upon the wider volcanic landscape of Three Kings Volcano, not just Big King.

The RRA Plan’s RL’s draw closer together the different levels of Three Kings Reserve (Western Park, Southern Reserve and Three Kings Domain), the Town Centre and Fletcher quarry site. We believe the RL’s will make these areas more accessible, usable, cohesive and better connected. All the land is joined together – the ground plane is continuous and where there are level differences, these are minor and subtle.

The central open space position of the Southern Reserve is transformed from being a weak link into the pivot point and critical join between all the open spaces. Raising its level enables unrestricted movement from the north to the south (Fletcher quarry to the Town Centre) and from west to east (Smallfield Ave to Mt Eden Road). The RL’s dissolve the historical barriers created by quarrying.

We have shaped the RL’s to respond to and enhance the area’s volcanic and quarrying origins, spatial qualities and landscape character. The proposed landform terraces recognise and build upon the powerful horizontal lines already evident in the volcanic landscape:

i) the eastern profile of Big King including Fyvie Ave bluff
ii) Western Park
iii) the levelled car parking area above the Southern Reserve between Grahame Breed Drive and Barrister Ave bluffs

Other local reference points for shaping the land and open space are Pukekawa Volcano Auckland Domain and the quarried land around Maungawhau. These are also culturally layered and modified landscapes.

Pukekawa shares many similarities with Three Kings Volcano in its volcanic origins and cultural uses over time. It consists of a large explosion crater surrounded by a tuff ring with a small scoria cone in the centre of the crater (Pukekaroro). The crater floor was filled with a lava lake which later became a swamp. Pukekawa was settled and cultivated by Maori with Pukekaroro the site of an important pā and meeting place. More recently, Europeans drained the wetland for playing fields and parkland. The terracing of the playing fields is beautifully related to the scoria cone and explosion crater depression through their gentle rise and softened profile. We have interpreted the depression as a both a recreation and wetland terrace.
The various quarries around Maungawhau are also instructive in how they have been reshaped and landscaped since quarrying. The Auckland Grammar lower playing field creates a very powerful relationship with the cut face of the volcano. The basalt wall presents an uncompromising face to the playing field; the playing field’s horizontal plane provides a simple yet strong foreground to the volcanic feature. Both are enhanced by their relationship. Other former quarried reserves around Maungawhau will provide guidance (especially for planting) if and when we progress our design.

We have also been influenced by the ceremonial landscapes of ancient Greece which are often located beside an important mountain. Our shaping of the overall landform of the plan change area, including residential development, recalls the earth-shaped hollow of the Olympia stadium at the base of Mt Kronos.

We have extended this classical influence to ‘round off’ the new landscape terraces at the northern end to mirror Western Park which has been shaped into an amphitheatre space from quarrying.

The rounded end of the northern-most landscape terrace will be planted with native forest and groundcovers to connect with Big King. This will also conceal a slumped section of the maunga. We believe the exposed cut faces further south should remain unplanted to highlight their sculptural form.

We have chosen not to erase evidence of the quarry around the site. In fact, in the RRA Plan, unlike Fletcher’s proposal, most of the exposed quarry walls remain on show including below the SHA area where the quarry wall is slowly revealed with the fall of land. There will however be no trace left of the haul road.

4.0 OPEN SPACE STUDY

Puketapapa Local Board has also asked us to consider the appropriate width of open space around Te Tātua a Riukiuta and improvement of open space connections to surrounding neighbourhoods.

4.1 Introduction

Open space provides the best setting for Auckland’s volcanic features. The city’s volcanic reserves have generally been planned so that open space is integral to the protection and enhancement of the volcanic features and the public’s enjoyment and appreciation of their multiple values. Auckland Domain and Cornwall Park are the most well-known examples.

The RRA Plan provides an appropriate amount of open space around Big King to achieve the best setting for it. The built environment’s distance from Big King sets up a respectful yet strong interface and enables sufficient room between for formal and informal recreational activities that will amplify the community’s associations with the volcanic landscape over time.

Establishing the appropriate relationship of open space to the built environment and Big King is a necessary precursor to addressing the specific character of open space that will require design development and the involvement of mana whenua and community groups in particular.
4.2 Consideration of Open Space surrounding Big King

Most of the volcanic features in Auckland are recognised as Outstanding Natural Features (ONF’s). Our review of these concludes that additional open space around Big King will rectify the significantly undersized area of Three Kings Volcano currently mapped as an ONF in comparison with other volcanic reserves in Auckland.

Locating new open space adjacent to Big King Reserve and joining this with the open space of Western Park significantly enhances the Three Kings Volcano’s multiple values as well as maximises Three Kings Reserve’s potential values.

The Operative Three Kings Reserve Management Plan (RMP) and the Three Kings Plan give guidance on the desirability of public open space as part of the rehabilitation of the quarry.

The Reserve Management Plan envisaged this scenario many years ago (in 1981) when it identified its four key objectives in Section II as:

i) To maintain the reserve as a significant community focal point providing for civic, cultural and recreational and sporting uses

ii) To maintain the reserve as open space and minimize further encroachment of buildings, roading and parking

iii) To ensure that the quarries are developed to their maximum long term potential as a major sporting or recreational venue complementary to the Civic Centre

iv) To develop and maintain the reserve as a place of character and beauty, and encourage its fullest use by the general public.

The Three Kings Plan (August 2014) echoes this need and vision when it stated its first key principle (p9) as:

• Increase the total amount of quality public open space, including playing fields and informal recreation spaces

The potential to create open space from development of the quarry site is significant and should be future-proofed so that it satisfies long term community needs and provides sufficient amenity in the face of population growth and residential intensification, not just on this site but in the Three Kings area and adjacent wards.

The Fletcher quarry site offers unique opportunities that should be taken advantage of, including the need to maximise the community outcomes from any public land exchange with other parties. Western Park’s location offers the unique opportunity to join public open space adjacent to Big King with existing open space surrounding it and provide an ideal long-term outcome for the Three Kings Volcano and community.

This amount of open space would be able to accommodate additional playing fields and passive recreation uses so that there is flexibility for a diverse range of users and uses including informal recreation, cultural and civic activities.
4.3 Consideration of Open Space adjacent to Big King

We have investigated different sized areas of open space adjacent to Big King in order to establish an appropriate width of open space in relationship to the future built environment and volcanic landscape.

An “integrated comprehensive development” should create a complementary relationship between Big King, open space and the built environment. If one of these is more dominant than the others, then the relationships will not be complementary and the overall outcome will not be integrated. The challenge is to try to find the right balance between them.

For example, if a very large open space is provided adjacent to Big King, such as the size of the current quarry, then the open space will be too expansive. The scale of the space will overwhelm the built environment and distance Big King. Focus will be drawn inwards, to the interior of the open space and away from Western Park and an interface with Big King. The amount of open space will be excessive in relationship to Big King and the built environment.

If only a narrow “corridor” of open space is provided adjacent to Big King then the built environment will come too close and be too large in scale in relation to both Big King and the open space (given Fletcher’s proposed zoning). The shape of the open space will be very restrictive in use and will only allow a side-on view of Big King along its quarried face. The narrow space would also contrast unfavourably with the deeper and larger open space of Western Park to its side. In this outcome, the built environment would form a confrontational relationship with Big King and overwhelm the open space. The outcome would be comprehensive development at the expense of Big King and open space.

The new open space should therefore have a dimension and shape that works with the scale and form of the volcanic landscape and built environment. The open space must set the place for buildings and people to stand in front of Te Tātua a Riu kiuta. The dimensions must enable room for the maunga to feel grounded within the open space. The open space’s width must be balanced with the depth of the open space of Western Park on the southern side. The width should also be sufficient to accommodate the standard dimensions for formal recreational activities (cricket, football, rugby).

We believe we have achieved the right balance between Big King, open space and the built environment. The open space achieves all of the above criteria and provides for the long-term needs of the wider community. It forms an appropriate distance for viewing this outstanding natural feature.

In recognition of this we have designed a recreation infrastructure zone between the new landscape terraces and residential apartment buildings. This interstitial space has a long public terrace for walking and appreciating views of the volcanic landscape as well as ramps and stairs for accessing the recreational areas. Underneath the terrace can be changing facilities and toilets etc. The long terrace wall is faced with basalt to complement the volcanic landscape opposite.

The line of the residential apartment buildings define the appropriate area and edge of open space rather than fill the open space of the quarry, as the Fletcher proposal
does. A zoning plan submitted to the Proposed Auckland Unitary Plan process illustrates the RRA Plan’s built form relationship to open space (included in Appendix 2).

4.4 Improved open space connections

The RRA Plan follows the Three Kings Plan initiative by extending the neighbourhood street pattern into the site from Mt Eden Road. This is one of the most effective ways of improving connections between and across the quarry and surrounding land uses.

The RRA Plan has a clear and simple grid pattern, maintains a limited number of road typologies and repeats the neighbourhood urban block-to-street proportions. This iteration of the RRA Plan has actually removed roads within the Fletcher site. This achieves a greater simplicity for both the street network and apartment block arrangement and has enabled more generous provision of communal open space for residents.

Our recommended public access improvement to Western Park can be achieved without wholesale change to the volcanic landscape. Re-shaping the north-west corner for an access ramp will allow maintenance and emergency vehicle access, an easier connection to Smallfield Ave for pedestrians and makes best use of the existing topography which is at its lowest point here. The intervention is small-scale and non-intrusive and directly connects Western Park with the open space network to its west. We note there are a number of potential Council-owned or administered sites which can be exchanged with Housing New Zealand for the property needed.

We have also designed a staircase and wide, gentle ramp to manage the 8.5-9m height difference between the Southern Reserve’s new level and the Town Centre. The staircase is aligned with the strong north-south axis between the supermarket entrance road and Maungawhau to the north whilst the east-west ramp draws people from Grahame Breed Drive down to the open space and volcanic landscape below. This ramp is engineered to accommodate maintenance and emergency vehicles.

Overall, the RRA Plan’s connections are:

i) Simple, clear and direct
ii) All pathways are legible and wayfinding is easy
iii) Pathways follow and are embedded in existing desire lines
iv) All pathways are within the recreational open space; there is no interference or conflict with roads and traffic except at reserve boundaries
v) There are no constraints to straying from pathways – the generous provision of open space and gentle gradients offer maximum flexibility of movement
vi) There are no vertical constraints except for the ladder staircase from Western Park to Big King Reserve. In this situation, I recommend a much improved staircase be built and the Fyvie Ave public access way be reopened or alternative access from Fyvie Ave be provided
vii) Pedestrian connections beyond the site, particularly to the west, are also improved – new internal pathways coincide with external open spaces. The open space network is much better connected as a result.
5.0 REPORT ON HOUSING YIELDS: THREE KINGS PLAN AREA

5.1 Planning of the residential area and Town Centre

The RRA Plan proposes that development should become part of the volcanic landscape instead of replacing it. The location of residential and other buildings in the areas shown in the RRA Plan clarifies and distinguishes the surrounding volcanic landforms and their mutually reinforcing relationships:

i) Big King's landform connection and landscape relationship with Western Park and the Barrister Ave promontory or 'bluff'

ii) Barrister Ave bluff's landform connection and landscape relationship with Fyvie Ave and Grahame Breed Drive bluffs

iii) Big King's visual relationship with the Three Kings Volcano tuff ring to the north-east

The proposed RL's for the residential area create a ‘townscape’ of buildings which ‘move’ with the new landform rather than reinforce the shape and depth of the quarry. The planning layout enables the remnant landforms from the Three Kings Volcano (Fyvie Ave, Grahame Breed Drive and Barrister Ave ‘bluffs’) to form an integral part of the development.

The arrangement of residential development within Fletcher-owned land has a compact urban form that is appropriate to being located adjacent to an emerging town centre and regional public transport network. It is also a more efficient way of protecting and managing the area’s unique natural and physical resources.

The Three Kings Plan recognises that the current mix of housing types in the Three Kings area will change over time with intensification. New development will diversify the mix and likely increase the scale of housing. Housing New Zealand has signalled plans to develop its properties on the western side of the Town Centre and Plan Change area, Antipodean or a future landowner is likely to redevelop the emerging Town Centre, and properties along the eastern side of Mt Eden Road and the southern side of Mt Albert Road will likely be rezoned and/or redeveloped in time. Other areas not so directly connected to the Plan Change area will undergo significant redevelopment as well (e.g. Carr Road).

As a consequence, Puketapapa Local Board has not requested that the RRA Plan provide a mixture of housing types in the Plan Change area as these will be well provided for in the wider area. Puketapapa Local Board is more concerned that the RRA Plan provides a mixture of affordable residential living arrangements (one-two-three-bedroom units) with access to generous communal and public open space, and produces an appropriate residential density close to the Town Centre.

The RRA Plan consolidates this mixture of residential living arrangements within a compact urban area. The apartment buildings add a different typology to the predominantly detached housing area. This is a very efficient use of the site and adopts an appropriate relationship to the volcanic landscape. The provision of communal open space is generous and direct access to open space is excellent.

Relevant to the Three Kings Plan (although outside the scope of the Fletcher Plan Change), the RRA Plan continues to propose that Smallfield Avenue connect with
Grahame Breed Drive. This joins the western and eastern sides of Three Kings together and offers the most efficient and effective form of integration for all components of the Three Kings area, including the Town Centre. The new road link will strengthen the town centre’s relationship with these areas and maximise business opportunities for and from them.

Given that the Three Kings Plan seeks to provide a strategic focus for development within the area over a thirty-year period, the RRA Plan proposes a new urban structure with a much finer grain for the Town Centre. This will improve connections and increase dispersal points to Mt Eden Road and Mt Albert Road. It will also provide better access through the Town Centre for pedestrians and residents living to the west and south. New north-south streets are aligned with the new open space adjacent to Te Tātua a Riukiuta. New east-west streets are aligned with Smallfield Ave and McCullough Ave. The street pattern and open space network is highly legible and permeable.

The RRA Plan proposes a street block ratio that accommodates the current size of the supermarket and has sufficient flexibility to enable its expansion in the future. The RRA Plan envisages a five storey building height over the Town Centre area in order to achieve a coherent and compact centre and development that is consistent with and sensitive to the volcanic landform.

A high residential population and viable commercial centre should be planned holistically rather than left unplanned with adhoc, piecemeal and individualistic approaches. The medium density Vinegar Lane / Cider development in Ponsonby illustrates that a progressive vision and marriage between commercial and community interests can work well. High-rise buildings and standalone blocks are not needed or desired for the Three Kings Town Centre. Buildings that are eight storeys high will absorb most of the development interest and opportunities at any one time and leave barren the land around them.

The RRA Plan has reduced the number of buildings north of the Town Centre and Grahame Breed Drive. Our housing yield analysis indicates that development of the Fletcher-owned land alone may generate an appropriate yield to not need Council land for this purpose. We have also become more aware of the geological and scientific value of the volcanic landform ‘bluff’ or knoll in front of Grahame Breed Drive to the south-east and have decided to retain as much of this as possible.

The buildings we have proposed immediately north of Grahame Breed Drive are purposefully low in relation to Grahame Breed Drive. These could have a retail focus on the ground floor facing the road and a civic/cultural/educational focus facing the open space. We have dimensioned these buildings to accommodate residential living if required in the medium-to-long term. A small café building on the terrace enjoys the fine aspect and views to Te Tātua a Riu-ki-uta (Big King).

The new building proposed to stand at the head of the Southern Reserve between the Barrister Ave and Grahame Breed Drive volcanic landforms (or ‘bluffs’) is envisaged to house community and educational facilities to reflect its prominent public position. The new public building reinforces the strong symmetry created by the adjacent volcanic landforms. Their symmetry and prominent position give potential guidance on how the emerging town centre may be planned and developed in relation to the wider Three Kings Volcano.
This is the key difference with the RRA Plan design approach – it plans development to fit within the remnant volcanic landscape.

Further investigation may establish whether it is possible to retain car parking on most of Grahame Breed Drive in the vicinity of the Town Centre. The advantage of this is that it enables car parking close to the Three Kings Domain for sporting events. Street parking should be discontinued near the ‘bluff’ opposite the Three Kings Domain so that any cutting of it for road widening is minimised. The car parking area should be retained until an integrated plan – such as a developed and refined Three Kings Plan - is agreed by stakeholders.

The Spatial Strategy Maps that RRA developed in May 2015 envisaged the potential redevelopment of the Housing New Zealand area between Smallfield Ave and McCullough Ave. Further investigation has revealed how complex and delicate the volcanic landform is (the 4-5 metre rise is the cooled lip of the lava lake). As a result, we have held off outlining how this area could undergo change. It may be that no great change is sensible so that the unique remnant of Three Kings Volcano is retained.

Our recommendation to develop housing on Smallfield Reserve in exchange for significant open space gains adjacent to Te Tātua a Riu-ki-uta (Big King) still stands. It should be considered as part of a land exchange with Housing New Zealand if the proposed open space gains there are achieved.

5.2 Housing Yield

We have prepared a comparative analysis of the potential housing yields and related measurements for housing intensification of the Three Kings Plan area. We have estimated and compared elements such as:

Housing Yield
Site Coverage
Proposed Zoning Areas
Site Connections

Potential housing yields have been estimated for the RRA Plan from development of the Fletcher-owned site as well as intensification of the wider Three Kings Plan area. The wider yield is an initial estimate until further information is gathered on planned development for the Three Kings Plan area. The number cited (min. 3000 dwellings) is likely to be a conservative figure.

The RRA analysis suggests the RRA Plan will be a more efficient development plan than the Fletcher proposal:

i) The RRA Plan provides 70% of FRL’s nominated yield of 1500 dwelling units within Fletcher’s site alone, using 75sq.m for the average unit size. Our calculations show Fletcher can provide 950 dwelling units against our yield of at least 1025 units in the same area. Fletcher’s site includes the SHA; Cascading Apartments A-06-A-10; Apartment Building A-11; the Riu Precinct of 400 apartments and terrace houses on the quarry floor and Superlot G

ii) provides generous communal open space for residents living in the apartment blocks and a significantly larger area of public open space than Fletcher; and
iii) creates more street and site connections to the surrounding community and arterial roads

The RRA Plan achieves its numbers without needing to use public land to generate its yield or creating adverse effects on the ONF and surrounding community. Fletcher’s proposal is reliant on using public land to make up its nominated yield and creates adverse effects across the whole area. As a consequence, the RRA Plan’s compact urban form will deliver better social and environmental outcomes.

Our analysis of the potential housing yield from the Fletcher site suggests there may be no need for Auckland Council to undertake a land exchange agreement with FRL in order to achieve the significant intensification that FRL and Council aim for. Long term, the public reserve land may be better used to provide additional open space and community facilities to serve the growing population from intensification expected for the Three Kings Plan area.

6.0 Conclusion

The RRA Plan builds upon the Three Kings Plan. It works with the underlying urban structure of the city and protects and enhances the unique remnant volcanic landscape. The RRA Plan forms an integrated development of the quarry with its surrounds.

The RRA Plan gives the Puketapapa Local Board directions for achieving an integrated outcome for redevelopment of the whole area including the Town Centre, Three Kings Volcano and residential neighbourhoods.

The RRA Plan builds upon the principles, objectives and key moves of the Three Kings Plan. The RRA Plan:

i) creates an appropriate relationship with the Three Kings Volcano and avoids adverse effects on Te Tātua a Riukiuta
ii) protects and enhances Big King Reserve’s relationships with the wider volcanic landscape features associated with the Three Kings Volcano
iii) enhance the Three Kings Volcano’s multiple values by providing significant open space opportunities and an efficient and effective open space network
iv) builds upon the underlying structure of the volcanic landscape and city plan in an integrated development of the quarry with its surrounds
v) provide significant residential intensification efficiently and effectively
vi) supports Te Aranga Māori Design Principles
vii) future-proofs the potential requirement for additional recreational and community activities through residential intensification of the Three Kings area

The key theme of the RRA Plan (2015) is “People around the Maunga”. Residential development, roading and open space are planned around the maunga with the focus on the maunga rather than the space of the quarry. This reflects Key Move 5 from the Three Kings Plan: “Develop a sense of local character and identity around the presence of Te Tātua a Riukiuta”.

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APPENDIX 1

HOUSING YIELD TABLE
<table>
<thead>
<tr>
<th>No.</th>
<th>ELEMENT</th>
<th>FRL MASTER PLAN (18H-1)</th>
<th>RRA Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>HOUSING YIELD (dwellings)</td>
<td>up to 1500 dwellings¹</td>
<td>up to 1250 dwellingsⁿ</td>
</tr>
<tr>
<td>1.1</td>
<td>Catchment area</td>
<td>FRL owned land and Auckland Council owned and/or administered public land, including: i) SHA: (99 dwellings)² ii) Riu Precinct: 400 dwellings³ iii) A-11 apartment building north of SHA iv) Quarry edge apartment blocks A06-10 within FRL land v) Quarry edge apartment blocks A-01-05 within council-owned and/or administered public land vi) Superlot G in Western Park (unknown) iii), iv), v) and vi) are presumed to add up to 1000 dwellings ¹²³ Dwelling yield number supplied by FRL Based upon measurement of building footprints, the Fletcher yield is: • For an average unit size of 60 sq.m = 1193 units • For an average unit size of 70 sq.m = 1050 units • For an average unit size of 75 sq.m = 994 units</td>
<td>Housing only within FRL owned land. Includes 99 dwellings in SHA. No housing is proposed within Council owned and/or administered public land (Southern Reserve and Western Park) although allowance for residential living has been provided in the dimensions of three new buildings immediately north of Grahame Breed Drive ⁿ The yield number allows for a range of dwellings within apartment blocks including studios and 1-2-3 bedroom apartments for an average size unit which includes a balcony: • For an average unit size of 60 sq. m = 1240 dwellings (includes 24 terrace houses) • For an average unit size of 70 sq. m = 1092 dwellings (includes 24 terrace houses) • For an average unit size of 75 sq. m = 1025 dwellings (includes 24 terrace houses)</td>
</tr>
<tr>
<td>1.2</td>
<td>Potential housing yield from intensification within the Three Kings Plan area (including Fletcher site, Town Centre, HNZ land, potential yield from PAUP rezoning)</td>
<td>Not investigated by Auckland Council</td>
<td>min. 3000¹ (including dwellings in 1.1 above)</td>
</tr>
<tr>
<td>2.0</td>
<td>HOUSING MIX</td>
<td>up to 1500 dwellings</td>
<td>up to 1250 dwellings</td>
</tr>
<tr>
<td>2.1</td>
<td>Mixture includes:</td>
<td>i) 99 dwellings in 3-4 storey terrace house / apartments within SHA ii) 400 dwellings of 3-5 storey terrace house / apartment blocks on quarry floor within Riu Precinct iii) up to 1000 dwellings in ten apartment blocks of 9-10 storeys around quarry edge, one 4 storey apartment block north of SHA and one 5 storey apartment block in Western Park</td>
<td>i) 99 dwellings in 3-4 storey terrace house/apartments within SHA ii) - iii) up to 1150 dwellings in 4 storey terrace houses and 4-5 storey apartment blocks within FRL-owned land. Apartment buildings add a different typology in a predominantly detached housing area</td>
</tr>
</tbody>
</table>

¹ This number is an initial measurement. We expect it could be considerably higher after further analysis. We are mindful of balancing intensification needs vs protecting the wider landscape values associated with Three Kings Volcano. It may be that property owners in the vicinity could take a less conservative position.
## Comparison of Yields

### FRL vs RRA Proposals

| Date: 06/06/16 |

### Proposed Zoning, RL’s & Building Heights

#### THREE KINGS

<table>
<thead>
<tr>
<th>3.0</th>
<th>SITE COVERAGE (indicative only)</th>
<th>FRL MASTER PLAN 18H-1</th>
<th>RRA PLAN (Indicative only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Building footprint (m²) excludes SHA</td>
<td>4.49 ha</td>
<td>c. 2.9 ha</td>
</tr>
<tr>
<td>3.2</td>
<td>Communal open space</td>
<td>0m² per dwelling (none provided by FRL and none required by Auckland Council)</td>
<td>Generally 1000m² per apartment building</td>
</tr>
<tr>
<td>3.3</td>
<td>Car parking within dwellings</td>
<td>i) Sleeved parking behind quarry edge apartment blocks, equivalent to a 5-storey, 20 metre deep building circumnavigating over 700 metres around the site; ii) external at-grade and/or basement parking behind Riu Precinct apartments</td>
<td>Basement parking</td>
</tr>
<tr>
<td>3.4</td>
<td>External at-grade car parking within lots (excludes SHA)</td>
<td>0.61 ha</td>
<td>n/a</td>
</tr>
<tr>
<td>3.5</td>
<td>Road reserve area* (excluding Grahame Breed Drive)</td>
<td>4.59 ha</td>
<td>1.97 ha</td>
</tr>
<tr>
<td></td>
<td>*These measurements are based upon the 18H-1 Masterplan. Auckland Transport’s road dimensions are based upon earlier plans and appear to be different. The areas measured do not include laneways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>Playing fields (incl. Three Kings Park)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>i) Western Park (1 existing)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ii) Open space north of Town Centre (0 existing)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>iii) Three Kings Park (1 existing)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3.7</td>
<td>Whare manaaki</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

FRL PPC372 Master Plan 17H-1: Whare manaaki drawn with 140m² building footprint inside 310m² site area located within FRL-owned land

FRL PAUP Zoning Application (Duthie): No building footprint shown. Proposed 1000m² site area for flexible location within either FRL owned land or public land of Western Park (which was not approved in land exchange between AC + FRL)

Can be sited within PPC372 area. Puketapapa Local Board has instructed RRA to not show a building footprint or site area as PLB has not been consulted and potential location of whare manaaki within public land will be subject to Reserves Act process.
<table>
<thead>
<tr>
<th>4.0</th>
<th>PROPOSED ZONING</th>
<th>FRL ZONING / AREA</th>
<th>RRA ZONING / AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(as per FRL Zoning application)</td>
<td>(Indicative)</td>
</tr>
<tr>
<td>4.1</td>
<td>THAB (Terrace houses + apartments)</td>
<td>Up to 1500 dwellings within 13.25 ha</td>
<td>Up to 1250 dwellings within 7.27 ha</td>
</tr>
<tr>
<td>4.2</td>
<td>Total Open Space (m²): Combined Informal Recreation + Sport and Active Recreation</td>
<td>7.83 ha</td>
<td>13.30 ha</td>
</tr>
<tr>
<td>4.3</td>
<td>Town Centre</td>
<td>0.60 ha</td>
<td>0.39 ha</td>
</tr>
<tr>
<td>4.4</td>
<td>Special Purpose</td>
<td>-</td>
<td>0.16 ha</td>
</tr>
<tr>
<td>4.5</td>
<td>New road links between Smallfield Ave and Grahame Breed Drive and Grahame Breed Drive northward to FRL site</td>
<td>-</td>
<td>0.20 ha</td>
</tr>
<tr>
<td>5.0</td>
<td>SITE CONNECTIONS</td>
<td>FRL MASTER PLAN 18H-1</td>
<td>RRA PLAN</td>
</tr>
<tr>
<td>5.1</td>
<td>Number of vehicle dispersal points connected with bounding arterial roads</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>5.2</td>
<td>Dedicated cycleways</td>
<td>1 (part)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Dedicated cycleway on part of Grahame Breed Drive. No continuous dedicated on-road cycleway from Grahame Breed Drive to Mt Eden Road through site</td>
<td>1: Continuous dedicated cycleway from Smallfield Ave along Grahame Breed Drive northwards through FRL site to Mt Eden Road / Kingsway intersection 2: East-west off-road route through open space network</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Footpath access points to/from Open Space to/from bounding streets</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>6.0</td>
<td>FILL / EXCAVATION VOLUMES AND TIMES</td>
<td>FRL PLAN</td>
<td>RRA PLAN</td>
</tr>
<tr>
<td>6.1</td>
<td>Fill volume / time</td>
<td>Measurements to be provided by Fletcher</td>
<td>Measurements provided by others</td>
</tr>
<tr>
<td>6.2</td>
<td>Excavation volume / time</td>
<td>Measurements to be provided by Fletcher</td>
<td>Measurements provided by others</td>
</tr>
</tbody>
</table>

FRL = Fletcher Residential Ltd  
RRA = Richard Reid & Associates  
PPC372 = Private Plan Change 372  
PAUP = Proposed Auckland Unitary Plan  
SHA = Special Housing Area
APPENDIX 2

RRA DEVELOPMENT OF THE THREE KINGS PLAN

THREE KINGS TOWN CENTRE, MAUNGA
& QUARRY REDEVELOPMENT PLAN
THREE KINGS TOWN CENTRE, MAUNGA
& QUARRY REDEVELOPMENT PLAN

CAD model of RRA Plan with contours
Camera 13
Date: 26/04/2016
DWG RR3K134
THREE KINGS QUARRY & RESERVE
FILL LEVEL STUDY

100m x 64m FOOTBALL FIELD  FUTURE POTENTIAL FOOTBALL FIELD  142m² CRICKET FIELD

RRA Playing Fields
Three Kings Area
Date: 29/04/2016
DWG RRSK162
THREE KINGS QUARRY & RESERVE
FILL LEVEL STUDY

Comparison of Fill Levels
Date: 03/05/2016

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Comparison of Zoning Plans
Fletcher & RRA Proposals
Date: 23/03/2016
DWG RR3K43

PROPOSED ZONING, RL'S & BUILDING HEIGHTS
THREE KINGS
New Landform for Residential Area

Three Kings Town Centre, Maungatautari & Quarry Redevelopment Plan
Disclaimer: These site sections have been prepared based upon information available from Auckland Council GIS.

THREE KINGS TOWN CENTRE, MAUNGA & QUARRY REDEVELOPMENT PLAN

Western Park, Open Space & Residential area

Date: 03/05/2016

RRA Site Section

Rev. A

RRA Special Purpose building incorrectly titled Fletcher Proposed Whare Manaaki Area. Date: 23/05/2016
THREE KINGS TOWN CENTRE, MAUNGA
& QUARRY REDEVELOPMENT PLAN
EXCESSIVE OPEN SPACE
Open Space is too dominant in relation to Big King and Built Environment

CORRIDOR OF OPEN SPACE
Built Environment is too dominant in relation to the Open Space and Big King

COMPLEMENTARY OPEN SPACE
Balance between Big King, Open Space and Built Environment

Te Tatu a Rukiuta
Built Environment

Three Kings Reserve
Additional Open Space

1. Three Kings Domain
2. Southern Reserve
3. Western Park
4. Big King Reserve
5. Robinson Reserve
6. Smallfield Reserve

Fletcher Quarry

THREE KINGS TOWN CENTRE, MAUNGA & QUARRY REDEVELOPMENT PLAN

Relationship of Open Space to Big King and the Built Environment
Date: 01/06/2016
DWG RR3K22
THREE KINGS RESERVE
Envisages rehabilitation of quarry as a major recreational open space opportunity

RRA PLAN
Joins Three Kings Reserve to Big King Reserve

FLETCHER 19H-1 MASTERPLAN
Creates an East-West axis of open space distant from Big King Reserve

Comparison of Recreational Open Space
Date: 26/05/2016
DWG RR3K21 Rev. A