

# Maungawhau Planting Plan – Batger Rd to Owens Rd area

<b>Maunga Name:</b> Maungawhau	<b>Site Location:</b> Batger Rd to Owens Rd
<b>Date plan prepared:</b> October 2016 - 1 <sup>st</sup> draft. Final January 2017	<b>Prepared by:</b> Rob Mouldey
<b>Park Classification:</b> Volcanic Cones – Ngā Tūpuna Maunga	<b>Type of planting:</b> Revegetation: Planting Program ★
<p><b>Ngā Tūpuna maunga o Tāmaki Makaurau Authority:</b> Tūpuna Maunga (TM) Operational Plan 2016/17 <u>Prioritised Projects</u> (p13) Mauri Pūnaha Hauropi/Ecology and Biodiversity: Vegetation Management, including removal of harmful exotic species <u>Maungawhau: Mt Eden</u> (p35) Mauri Pūnaha Hauropi/Ecology and Biodiversity: Vegetation Management – Support the Friends of Maungawhau (FOM) planting program by funding nursery supplies. Mana Hononga Tangata/Living Connection: Volunteers and Partners – Continue to build strong working relationships with the Friends of Maungawhau and locals on the maunga.</p>	
<p><b>Site description:</b> The southern lower slopes of Maungawhau between Batger Rd and Owens Rd. Part of the area was planted with native vegetation under guidance on an archaeological report prepared in 2009 by FoM. The consent we understand was approved by the legacy Auckland City Council and also the Auckland Council. The proposed planting area extends approximately 50m from the legal boundary and is mostly below the existing walking tracks. <b>Size of Area:</b> Approx. 3ha total area <b>Topography:</b> Moderate to steep slopes above private property boundaries <b>Existing Vegetation:</b> Mix of planted and regenerating secondary native scoria forest, with invasive tree and plant species (Monkey apple, Pine, Privet, Montpellier broom, mistflower, kikuyu, veldt grass, ivy-leaved toadflax etc). The nearest mature native vegetation similar to the original climax-forest of this site: remnant native scoria forest exists 900m east of this secondary growth area, at Withiel Thomas Reserve, Withiel Drive, Epsom.</p>	
<p><b>Describe vegetation of similar sites locally:</b> Mature scoria forest growing on lava-flow slopes in a similar situation include: <i>Griselinia lucida</i>, mahoe (<i>Melicactus ramiflorus</i>), whau, pohutukawa, titoki, houpara, kohuhu, wharangi, kawakawa, rangiora, coastal astelia, <i>Gahnia lacera</i>, karamu, <i>Coprosma rhamnoides</i>, nikau, akatea (<i>Metrosideros perforata</i>), and ferns including <i>Microsorium pustulatum</i>, <i>Pyrossia eleagnifolia</i>, <i>Asplenium oblongifolium</i>, &amp; <i>Pteris tremula</i>.</p>	
<p><b>Results of wider maunga values assessment:</b> Significant landscape features – scoria cone, volcanic landform, significant geological features, significant iwi cultural and archaeological features, visual patterns and strong heritage associations.</p> <p>An assessment was completed for Maungawhau by Opus Consultants: <b>Maungawhau Mt Eden Draft Vegetation Management Plan 2007</b>. This re-vegetation assessment meets the following objectives from page 45 of the plan:</p> <ul style="list-style-type: none"> <li>• Ongoing weed control</li> <li>• Neighbour weed education</li> <li>• Encourage plant care groups</li> <li>• Replant native understorey</li> <li>• Remove pine trees</li> </ul> <p>It is considered that any impact on cultural, archaeological, geological values would be minor and would not limit their integrity, use or create any impact on taonga or visitor's experience.</p> <p>A number of sites in close proximity to the area have been identified as cultural sites. A site visit by a suitably qualified archaeologist prior to further planting is recommended to determine if this will impact on this proposed plan.</p>	

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### Methods:

Clear remnant weeds progressively and replant gaps with individual plants c.0.5-1m apart, spacing dependant on species requirements and where practically possible. View shafts will be retained by planting low growing species closer to the tracks. Planting will not occur within 1.5m of the walking tracks unless low growing herbaceous spp. Friends of Maungawhau are already involved in restoration work on this site, so they (and maybe other volunteer groups organised by TM staff) could be involved in this renewal planting.

Controlled release fertiliser tablets should be added at the time of planting. This planting is following up on where weeds have been controlled to establish native spp to prevent the invasion of more aggressive weed spp.

Releasing of plantings may be required where weed species create competition.

### Timeframes:

Number of planting days - when suitable conditions permit – usually each Tuesday in late autumn to mid- winter with a public planting day on a weekend.

Initial number of years of planting required to achieve goal - 5

Year to start planting - 2017

Complete planting – 2022

Reassessment after the 5 years

### Plant Supply and seed collection:

Plants will be eco-sourced from stock on or around Maungawhau, or within the Tāmaki Ecological District. Plants will be supplied by the Maungawhau Nursery (tended by FoM) and by an appropriate native plant nursery.

Common hardy sub-canopy species are most suitable for planting on this site. No canopy trees will be planted – see species list below:

Plants should be supplied in small containers to ensure small plant size and provide low disturbance and ease of planting

Number of plants: Maximum 2500 plants over five years.

Proportion Guidelines	Common Name	Proportion (%)
<i>Astelia banksii</i>	Kowharawhara	4
<i>Asplenium oblongifolium</i>	Huruhuru Whenua, Shining spleenwort	4
<i>Brachyglottis repanda</i>	Rangiora	8
<i>Coprosma crassifolia</i>	Mingimingi, karamu, coprosma	3
<i>Coprosma rhamnoides</i>	Mingimingi, karamu, coprosma	3
<i>Coprosma macrocarpa</i> subsp. minor	Karamu, coprosma	7
<i>Entelea arborescens</i>	Whau	5
<i>Gahnia lacera</i>	Toe toe, cutty grass	4
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i>	Hangehange	5
<i>Griselinia lucida</i>	Puka	8
<i>Melicytus ramiflorus</i>	Mahoe, whiteywood	10
<i>Metrosideros perforata</i>	Akatea, white rata	5
<i>Microsorium pustulatum</i>	Kowaowao, hounds tongue	5
<i>Oplismenus hirtellus</i> subsp. <i>hirtellus</i>	Oplismenus	4
<i>Pellaea falcata</i> <sup>1</sup>	Sickle fern, cliff brake	4

<sup>1</sup>According to current taxonomic research we don't have this species in New Zealand. It should be sourced only from those plants that already occur on Maungawhau and are identified as *Pellaea falcata*. Avoid collecting from hybrids which are present on other maunga. This is a threatened species so ensure no harm is done to the donor populations when collecting spores for propagation

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Piper excelsum subsp. Excelsum <sup>2</sup>	Kawakawa	6
Pseudopanax lessonii	Houpara	6
Pteris tremula	Turawera, shaking brake	3
Pyrrhosia eleagnifolia	Ngarara wehi, ota, leather-leaf fern, pyrrhosia	3
Solanum aviculare var. aviculare	Poroporo	3
<b>Totals:</b>		<b>2500 over 5 years</b>
<p>To reflect proportions as they naturally occur and to reduce erosion risk, aim to set out plants prior to the majority of volunteer's site arrival. Use skilled people to randomly space plants to closely reflect their natural occurrence.  <b>NOTE: this species list may change subject to time and the judicious input from others.</b></p>		
<p><b>Site preparation required:</b>  Weed control required prior to planting – cutting or removal of weeds from planting site, plus cut &amp; stump treatment will be utilised only; no large-scale spraying to occur due to concerns over chemical residues.  Releasing of plantings to ensure survival within any existing or new weeds.</p> <p>Monitoring of animal and plant pests to be undertaken by FoM volunteers with assistance by TM staff if required.</p> <p>No fencing is required</p>		
<p><b>Level of community involvement:</b> Potential for large-scale community involvement throughout the life of this restoration plan – especially with the welcomed contributory input by FoM.</p>		
<p><b>Monitoring plan:</b> Success monitored by FoM and TM staff</p>		
<p><b>Biosecurity Plan for ongoing weed and pest control:</b>  Possum control part of the TM possum control operational plan  Weed control will be monitored by TM staff and funding for required control will be determined by AC Biosecurity staff and be provided from the TM operational budget.  Plant nurseries will be monitored and maintained in clean condition regarding rainbow skins, other pests and environmental weed species.</p>		
<p><b>Internal consultation checklist:</b>  VC Manager:  Biodiversity : ✓  Cultural Heritage:  Biosecurity weeds::  Regional Parks Policy Team:</p>		<p><b>External consultation checklist:</b>  Mana Whenua:  FoM</p>
<p><b>Internal sign off:</b>  TM Manager: .....</p>		<p>Date:.....</p>
<p>Chair of Maunga Authority</p>		<p><input type="checkbox"/></p>

<sup>2</sup>Ensure seed is not collected from planted species on Maungawhau as there is a range of kawakawa from eastern offshore islands.

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Batger Rd to Owens Rd area – proposed indicative revegetation boundary above private property on maunga:

