Date: Tuesday 15 September 2020
Time: 1:00pm
Meeting Room: Skype for Business
Venue:

Waitematā Local Board
OPEN MINUTE ITEM ATTACHMENTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TABLE OF CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2</td>
<td>Deputation - Dirk Hudig - To update the board on Herne Bay Residents Association and Saint Marys Bay Residents Association’s priorities and issues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Presentation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>B. Submission on wastewater/stormwater</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>C. Coalition presentation</td>
<td>15</td>
</tr>
<tr>
<td>8.3</td>
<td>Deputation - Helen Geary, Friends of Leys Institute co-ordinator on Leys Institute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Photo of Leys Institute</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>B. Presentation to Waitematā Local Board on Indicative Business Case: Leys Institute Report</td>
<td>21</td>
</tr>
<tr>
<td>8.4</td>
<td>Deputation - Wendy Gray to speak about the Western Springs Pines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Presentation</td>
<td>23</td>
</tr>
<tr>
<td>8.5</td>
<td>Deputation - Deborah Manning, Friends of Western Springs Forest to speak about the Western Springs Pines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Presentation</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>B. Response to proposed brief</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>C. Doman memo</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>D. Clarkson urban forest restoration ecology review from Hamilton NZ</td>
<td>49</td>
</tr>
<tr>
<td>9.3</td>
<td>Public Forum – Gael Baldock, Western Springs Pines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Presentation</td>
<td>73</td>
</tr>
<tr>
<td>9.4</td>
<td>Public Forum – Allan Matson, Endorsement of the preliminary design for the Myers Park stage two project - Mayoral Drive underpass</td>
<td></td>
</tr>
</tbody>
</table>

Note: The attachments contained within this document are for consideration and should not be construed as Council policy unless and until adopted. Should Councillors require further information relating to any reports, please contact the relevant manager, Chairperson or Deputy Chairperson.
21 Board member reports

A. Member A Bonham report September 2020 103
B. Member J Sandilands report September 2020 115
HBRA and SMBA presentation to Waitemata Local Board
15 September 2020
The common aim

- Water quality - in our streams and harbours - that Auckland and New Zealand can be proud of.
History of the need:

- Snapshot of failures
- Historical lack of clear, consistent, long-term policy and planning
- Historical underinvestment, particularly for stormwater
2018 watershed for central Auckland

- Comprehensive programme for separation in central Auckland (the Western Isthmus)
- Supported by committed funding – the targeted rate
- Council (Healthy Waters) and Watercare working together
- Plans to extend upgrading to Eastern Isthmus
- Continuing maintenance budget – Auckland wide
Old stormwater infrastructure in WLB area will remain in use

- The separated stormwater network in the Western Isthmus will be the existing combined sewer piping.
- Much of the sewer piping in the WLB area is 120 years old. Some is older.
- Thus the network will require regular maintenance and repairs to maintain serviceability.
Impact of budgetary restraints (Covid)

- Critical changes – pull back on maintenance and timing of upgrades
- ‘Reactive’ expenditure – unpredictable in terms of adverse effects and cost
- Prospect of increased financial pressure from unpredicted failures
- Problem worsens if restrictions continue – risk of return to the past
Needed for the future – an outcomes-focused policy and a funded plan

- A stormwater policy for Council
- A sustainable plan
- Integrated with Climate Plan
- Integrated with wastewater directions
What we are seeking from the Waitemata Local Board

1. A Board policy stating that it supports an outcome based stormwater/wastewater plan for Auckland

2. A commitment to influence Council to develop and implement such a plan for the 2021 Auckland Long Term Plan.
HBRAI and SMBA submission to Waitemata Local Board on wastewater/stormwater.

Rebuilding our drainage infrastructure – planning for the long term

1. The common aim for all of Auckland:

   Water quality - in our streams and harbours - that Auckland and New Zealand can be proud of.

2. The need:

   2.1 Exemplified by this snapshot of failures:

   - Hobson Bay
   - St Mary’s Bay
   - Herne Bay beaches
   - Kelmarna Stream (has the highest E Coli reading in Auckland)
   - Cox’s Bay
   - Motions Creek

   2.2 There has been a history of insufficient planning and under-investment in stormwater/wastewater infrastructure in the Waitemata Local Board (WLB) area for decades. This has led to increasing deterioration of water quality, evidenced by permanent health warning signs in some beaches and streams. For example, Cox’s Bay, where Herne Bay Sea Scouts and the Canoe Club are based and St Mary's Bay which is used as a training ground for small yachts and a launch area for waka.

   2.3 The extent of the pollution has been brought to the public’s attention in recent time by the introduction of Council’s SafeSwim programme. This shows graphically that water quality in the Board’s area is arguably the worst in Auckland (alongside that of the Albert-Eden area with its Meola catchment).

3. Responding to the need

   3.1 The years of under-investment in the WLB area as well as adjoining areas in central Auckland were finally addressed in an integrated way by

   - the creation in late 2017 of the Western Isthmus Water Quality Improvement Programme, a joint enterprise between Auckland Council (Healthy Waters), and Watercare, and
3.2 Separation of the old combined sewer network (carrying both stormwater and wastewater) lies at the heart of the Western Isthmus programme. The primary cause of overflows from the network, and hence of poor water quality in receiving watercourses and beaches, is stormwater entering the combined network. The WLB area has one of the highest percentage of properties still being served by a combined network. This adverse effect from stormwater has been a major contributing factor to the high level of contamination in the Kelmarna stream and the area’s beaches: St Mary’s Bay, the Herne Bay beaches and Cox’s Bay.

4. **The need to go further**

4.1 Although the western isthmus, and the harbour catchments of St Mary’s Bay and Herne Bay, are “the first cabs off the rank” for separation, and the related St Mary’s Bay/Masefield Beach water improvement project is now well underway, the benefits from these works will only be realized fully in the WLB area if combined with a comprehensive, Auckland-wide water strategy and an action plan for upgrading all of Auckland.

4.2 Without comprehensive long term stormwater and wastewater infrastructure planning for replacement of end-of-life assets, which includes adequacy and certainty of funding, other older Auckland suburbs will experience infrastructure failures and will suffer water quality consequences. Recent examples from outside the Western Isthmus include the culvert failure in New Lynn in March 2017 which caused major flooding, and a wastewater transmission pipe bursting and discharging into the Henderson Creek (Te Wālo o Pareira) in October 2018.

4.3 Critically for the WLB area, infrastructure failures in areas not covered by the Western Isthmus programme such as Avondale, New Windsor and New Lynn will affect the Whau River and nearby streams, and pollutants discharged into these watercourses ultimately will drain into the Waitemata, and flow past the WLB coastline. The same may be said for infrastructure failures in Newmarket and Meadowbank/St Johns – where infrastructure failures are allowing polluted water to flow into streams which empty into Hobson Bay and Okaikai basin, and ultimately to the inner harbour.

4.4 Water quality is an Auckland-wide problem. Auckland-wide support is needed to resolve it.

5. **The intervention of Covid**

5.1 The rebuild of infrastructure under the Western Isthmus programme is largely unaffected by Covid — funding for it is in place both within Watercare and within Council (the latter through the targeted rate).

5.2 However, the emergency budget adopted by Council for the current year, makes significant changes to Healthy Waters’ general budget which currently is the source of funding for
stormwater upgrades outside the Western Isthmus programme and for ongoing maintenance. Critical changes include the removal of funding for re-lining of existing pipes, and for replacing end of life infrastructure prior to it collapsing or being on the verge of collapse.

5.3 This is an issue even for the St Mary's Bay and Herne Bay catchments, as much of the separation will be done by building a new wastewater network, leaving stormwater to be carried in the old, crumbling combined pipes.

5.4 To make matters worse, we understand the emergency cuts introduced this year may be continued in future years.

5.5 The inevitable effect of these cuts is a deterioration of infrastructure unless caught up immediately – which in these times of economic uncertainty is unlikely. A comprehensive plan is needed to ensure that the progress achieved in recent years is not dissipated. The adverse water quality effects on the Waitemata harbour of overflows entering Cox's Creek, Meola Stream and Oakley Creek can be attributed directly to a historical lack of forward planning for the old combined system in the central isthmus and prevarication in progressing the long-planned Central Interceptor project.

6. **What we are seeking from the Waitemata Local Board**

6.1 The Stop Auckland Sewage Overflows Coalition (SASOC), a coalition of community groups which includes SMBA and HBRAI and others in the WLB area, made a presentation last week to Council’s Environment and Climate Change Committee (attached). That presentation asks Council to develop an outcome-based, Auckland wide integrated upgrade and maintenance plan for stormwater (Healthy Waters) and wastewater (Watercare) infrastructure.

6.2 We ask the Board to support an Auckland-wide approach to water quality by adopting:

- A Board policy stating that it supports an outcome based stormwater/wastewater plan for Auckland and
- A commitment to influence Council to develop and implement such a plan for the 2021 Auckland Long Term Plan.

**David Abbott**
Chair
The St Mary’s Bay Association Inc.
Dirk Hudig
Don Mathieson
Co-chairs
Herne Bay Residents Association Inc.
SASOC submission to Environment Committee on build of the Long Term Plan

Rebuilding our drainage infrastructure – planning for the long term

1. The common aim:

   Water quality - in our streams and harbours - that Auckland and New Zealand can be proud of.

2. The history of the need (with apologies for repetition to those who know the history well):

   2.1 As a snapshot of failures (by way of example):

   - Cox’s creek
   - Meola stream
   - New Lynn
   - Hobson Bay
   - Takapuna Beach
   - Waiau estuary

   2.2 We believe that it is an accepted fact that there has been a historical lack of clear, consistent, long-term policy and planning – Auckland-wide – for our stormwater and wastewater infrastructure with:

   - differing approaches and issues in Auckland’s legacy cities pre-2010 (Auckland City) but universally, stormwater has mixed with wastewater either by design or by accident (designed overflows from combined sewers; unintended infiltration and ingress from one system to the other even when systems are separated; illegal private property connections);
   - little or no apparent awareness of the inter-relationship between stormwater and wastewater in terms of the effect on water quality – resulting in overflow of contaminated water into stream and harbours; and
   - even after the formation of Auckland City, there is little evidence of integrated planning to address this, until very recently:

     ➢ Separation of combined system has been a stop/go affair;
     ➢ Little or no apparent planning for upgrade based on end of life projections;
     ➢ Maintenance has been largely a reactive rather than a proactive process.

   2.3 Again until very recently, there has been a history of underinvestment, particularly for stormwater:

   - $105M p.a. stormwater spend last year of legacy Councils (10 years ago).
   - History has shown legacy Council spend was inadequate to maintain acceptable condition of stormwater infrastructure.
3. The 2018 watershed

3.1 Planning for the 2018 LTP brought the first real attempt to catch up in the form of:

- The Western Isthmus a start to detailed long-term planning for stormwater in central Auckland supported by committed funding;
- Council (Healthy Waters) and Watercare working together to upgrade the combined system in the Western Isthmus (largely by separation);
- an increased focus within both organisations on causes of mixing of stormwater and wastewater in ‘separated’ infrastructure outside the combined system;
- a clear programme to upgrade and maintain stormwater infrastructure; and
- introduction of the targeted rate to fund that programme.

3.2 This was in addition to a reasonable general budget for maintenance and upgrade (across Auckland).

3.3 Planning has since begun for extension of the Western Isthmus programme to the Eastern Isthmus.

4. Impact of budgetary restraints (Covid)

4.1 The emergency budget makes significant changes to the planning for stormwater upgrades and maintenance. Critical changes are the decisions to remove funding for:

- re-lining existing pipes; and
- replacing end of life infrastructure until it collapses or is on the verge of collapse (altering the risk response).

4.2 Both these changes exemplify a return to ‘reactive’ expenditure – i.e. only when there is a critical need – which is unpredictable both in terms of adverse effects and cost e.g. New Lynn.

4.3 Continuing budget constraints, or a failure to provide for early catch up, will raise the prospect of increased financial pressure when an unpredicted failure occurs (which must remain a real risk whilst funding for infrastructure replacement and maintenance remains below the level required for sustainable upgrade).

4.4 The problem worsens the longer budget restrictions continue. The greater the delay in catching up this year’s retrenchment, and any scaling back of future budgets by adoption of a higher risk profile (should that be contemplated as a means to limit expenditure),
put Auckland at risk of a return to the past of under-investment and the disastrous effects of that under-investment on our urban water quality.

5. **What is needed for the future** – an outcomes-focused policy and a funded plan:

5.1 A policy is needed to establish a stormwater plan that:

- sets appropriate standards for water quality (e.g. swimability);
- sets a timeframe for achieving that standard;
- sets a budget to achieve that standard within a set time frame;
- prioritises expenditure on drainage infrastructure within Council’s general budget and protects it by a targeted rate.

5.2 The plan must be sustainable, which means that it must:

- be based on a detailed schedule of infrastructure asset, setting out life expectancy, a programme for upgrade and an estimate of cost;
- build infrastructure that meets Council’s Climate Plan (it seems to be accepted science that stormwater infrastructure will need to cope with increased volumes of rainfall); and
- be integrated with Watercare’s wastewater plan.

David Abbott
Dirk Hudig

Co-convenors
SASOC
Presentation to Waitematā Local Board on Indicative Business Case:
Leys Institute Report

1. Friends of Leys Institute was delighted to read in the council Indicative Business Case report on
the Leys Institute that seismic strengthening, upgrading and restoration of library services is
recommended.

2. Waitemata Local Board is to be congratulated and thanked for their strong support for the Leys
Institute and their advocacy for the community’s wishes, both with council in the Emergency
Budget and in the WLB Plan for 2020-23. WLB has made the Leys Institute a priority issue, which
is noted in the report.

3. The report makes a number of points that we see as important and would like to highlight:

4. It is pleasing to see the heritage status of the Leys buildings firmly acknowledged and presented
in a positive manner.
Heritage buildings are ideal for adaptive reuse, and add to sustainability goals, contributing to
lowering carbon footprint levels. This is recognised in the report, which is heartening to see. We
hope this becomes standard practice for the retention and reuse of older council buildings
throughout the city.

5. In 2013, when I was on the Board of Civic Trust Auckland, we hosted an Auckland Conversations
event on the Economics of Heritage Buildings. Civic Trust brought out Donovan Rypkema, a
world authority on heritage economics from the USA to present. His firm Place Economics has a
wealth of world-wide examples of the economic advantages of adaptive reuse of built heritage:
see www.placeeconomics.com

6. We acknowledge this is Te Wiki o Te Reo, Maori Language Week, and look forward to seeing the
upgraded Leys Institute having more opportunities to promote Te Reo.

7. As a compelling reason for proceeding with upgrading the Leys Institute the report notes the
significant location of the Leys – right on the edge of the Three Lamps village, and on at least 4
bus routes. Access by public transport is available to a large number of residents in the area.

8. Community members are concerned about the care and maintenance of the buildings while
they are closed. Recently, local residents took it upon themselves to tidy up the gardens, clean
up litter and mow the lawns. This concern is ongoing, as the buildings are still likely to be closed
for a number of years. It is recognised in the report that they will deteriorate if left closed.

9. We acknowledge the suggestion in the report that the local community could be a potential
source of fundraising and philanthropic donations. Members of Friends of Leys Institute have
expressed an interest in this idea and would be happy to work with the Local Board and council officials to facilitate development of how this might be structured.

10. Regarding the development of the detailed business case for the upgrading of the Leys, we have some comments:

11. It’s understood that the company EQStruct has been preparing seismic information and costings for strengthening of the buildings.
Friends of Leys Institute members and SMBA members have been approached by Arthur Morgenstern, from Seismic Performance Specialists, looking to be involved in quoting on the strengthening. He has approached council officials, with no result. His firm has a track record on strengthening buildings in the local area, and we respectfully suggest that he could provide assistance.

12. The legislation requiring the upgrading of heritage buildings to 67% of the current building code allows a timeframe to be completed by 2053. Is it possible to upgrade and strengthen the Leys buildings in stages?
There is a wealth of reports on the condition of the buildings, going back to 2007, then 2009, 2010, 2013, 2014, and a major one in 2018, and a crack report in 2019. Some of them suggest tying back the parapets as an initial measure. Are there ways of spreading out the upgrading works, while still allowing for some use of the buildings?

13. Assuming this report is accepted by the WLB, it will need to go to council committees for approval for the development of the detailed business case, and to access some of the funding.
Friends of Leys Institute is ready to support the WLB case in any way we can – we can appear before the relevant committees at the appropriate time and can lobby councillors. We would be guided by WLB with regard to further actions to support the case.

14. In preparation of the detailed business case Friends of Leys Institute and the various local resident’s associations would be available for consultation on community views and expectations.

15. In conclusion, Friends of Leys Institute would again thank the WLB for working for the community to retain, restore and upgrade the Leys Institute Library and Gymnasium we all treasure so much.

Helen Geary
Friends of Leys Institute Co-ordinator
heleng@maxnet.co.nz
09 376 9411, 021 208 7490
Wendy Gray Submissions to the WLB on Western Springs Forest
Public Meeting Tuesday 15 September 20

Thank you for accepting my deputation today about Western Springs Forest even though it is not on the agenda.

I felt it was important to update you on an initiative that has developed since your meeting on Monday last week when the Board requested further work be undertaken on the option of selective removal of pine trees in the Forest with ongoing management.

Both Deborah and I have spoken to you about the urban forest restoration programme at University of Waikato called People Cities and Nature Programme.

Professor Bruce Clarkson, of the University of Waikato leads the MBIE funded People, Cities & Nature multi-disciplinary programme which is leading urban ecological restoration research in New Zealand. (The details of the programme are available here: https://www.peoplecitiesnature.co.nz/)

I have been speaking to Professor Clarkson about the Western Springs Forest regeneration becoming a reference site as part of this research programme. Professor Clarkson’s comment was “normally the most efficient way to restore sites like this is to manipulate the forest system to enable the native species to fully assert their dominance. “ He is very supportive of our proposal to enhance the dominance of indigenous species.

To enable the monitoring there is also a proposal to involve an Auckland HEI and I have had a favorable conversation with them. They are particularly interested in using the transitioning forest as a place to educate undergraduates in monitoring practices and as a possible location for post graduate work. It is exciting for them that this forest exists near the CBD and that it could be part of an active restoration programme.

With academic and scientific partnerships being created by the community working with some of the most eminent regeneration ecologists in the land, we could have a world-class model of community-led, evidence-based, urban regeneration that will benefit the city’s environment, serve communities and provide educational resources for generations to come.

This is our vision.

It will also cost a fraction of the multi-million dollar resource consented arboricultural driven Council Community Facilities project which appears to be going around in circles with this latest proposal of yet another expensive arborist report designed to produce the outcome favored by CCF.

With WLB support our proposal has the potential to be a significant legacy project for this Board and for Auckland Council.
However, in order to deliver a successful project, it will require Council managers who are skilled at community engagement and who are ready and willing to engage with the local community.

Managers who know how to build community trust not destroy it.

As you know I am working with Council Community Facilities on the WLB sponsored No Mow project and it is clear to me that these people do exist in CCF. Therefore this request should not be such a big ask.

Better solutions come from working together.

Finally, I would like to thank the members of this Board for the sensitivity they have brought to this difficult project. I would like to recognise that this Board has had a very difficult first year in the job but you have stepped up to the challenges and been willing to look outside the box and be open to new ideas and solutions. Thank you for being so responsive to the community you represent.

15 September 2020
Wendy Gray
DEPUTATION TO WAITEMATĀ LOCAL BOARD BUSINESS MEETING

15 September 2020

Last Monday the residents had a meeting with the WLB and we asked Community Facilities to attend because we want to work constructively with Auckland Council. This was an intense meeting with residents, their experts, four Local Board members (Members Northey, Leoni, Bonham, Christie and Bonham). Dr Claudia Wyss and Rod Sheridan from Community Facilities also attended and they were very welcome. The presence of Dr Wyss was particularly appreciated. Other council officers were also present, and there is no need to list them here.

We heard from Community Facilities that they only worked at the direction of the WLB and if they were requested to do so, then they would work up an Alternative Plan to manage the Western Springs Forest (WSF). They said that Option 1 (full stand removal) was at the direction of WLB who wanted tracks throughout the WSF which meant all the pines needed to be removed.

The next day, Mr Sheridan appeared to the WLB at a workshop and residents were contacted (through Mr Abel) afterwards by Mr Sheridan and Board members. We were told that the WLB and CF had decided to develop an Alternative Plan and would engage with residents about this and finding a constructive path forward with us. We were told that the plan would be considering 6 factors (ecology, arboriculture, environment, risk, cost, delay). We advised Mr Sheridan that we had other factors to add and also that the development of the Alternative Plan should be ecologist-led.

Since then, a Brief has been unilaterally prepared by CF and provided to an independent contractor (we received contact about this on Friday evening, 11 September 2020). We have raised numerous concerns with the Brief and that the Brief must be directed and approved by the WLB. Residents, through FOWSF, wish to comment and engage about the Brief before it is finalised and we have sent in comments in correspondence dated 13 September 2020.

It is entirely appropriate for residents and their experts, who have considerable local knowledge and expertise to contribute to the preparation of the Brief. We are not seeking to influence the contractor. However, we are trying to avoid a report being returned to the WLB which is incomplete or based on contestable information (such as the value of property, occupancy rates, risk thresholds, target identification).

The scope and content of the Brief is essential. Currently the Brief asks for a tree assessment + a full written report covering the 6 factors mentioned above. These are complex matters and outside of the scope of expertise of the proposed arboricultural consultancy; there is also insufficient time to do all that has been requested in the Proposed Brief.
Key Requests from the WLB (in addition to correspondence of 13 September 2020):

1. We request WLB directs CF that it is the WLB that must be involved with directing and giving sign-off to the Brief for the preparation of Option 2 – the Alternative Plan for WSF.
2. We request that the WLB seeks the views of residents before signing off on the Brief. We can participate and engage at short-notice.
3. That residents are provided in writing what engagement they can expect from CF and the WLB prior to any decision being made about WSF (in either October or November 2020). We ask for a reasonable time of period to consider the information, to clarify the material and in the circumstances consider this is at least one week – with 5 full working days, so that we have time to respond (as we work full-time) and so we have time to talk to experts and to communicate our views. We need to also build in sufficient time to convey our views to the WLB.
4. Residents are provided a skilled liaison officer within CF to meet and speak with as our trust with CF has completely broken down due to events of the past week (and since beginning of last year).
5. That the risk threshold of AC is clarified before the Brief is finalised and any work begins. If AC does not confirm in writing that the contactor is follow their own Risk Matrix or an industry standard (such as QTRA) then no work should begin. If AC continues to follow a zero risk approach then work should be begin. To allow public funds to be spent without the risk threshold issue being resolved would not be a defendable use of public funds.

Residents wish to have a positive relationship with the WLB and with AC and we reiterate this again. We always endeavour to be diligent and constructive to the WLB and officials.

We consider the process to date has been dysfunctional and disrespectful treatment of the community and residents by the Council. There has been no process for resident engagement and to hear our views; it has been ad hoc and very stressful. This all needs to change.

We look forward to hearing from the WLB and Auckland Council in response to these points and our correspondence.

Deborah Manning

---

1 The history of this Project has shown there is always the need for time to clarify information.
2 This all needs to be built into any project time-line and adhered to. If things are running late, we should not be expected to continue to work in crisis conditions and the decision date should be delayed. Late provision of inadequate information right before a decision dates has occurred on multiple occasions and this poor time management need to stop.
EXECUTIVE SUMMARY

We were relieved and grateful that last week, at long last, an Alternative Plan was to be created to manage the Western Springs Forest which ecologically protected the native forest. We were relieved that CF was going to engage with residents and to provide a constructive path forward. That relief seems to have been short-lived.

CF seems to have raced ahead with the Proposed Brief and plan to engage the Tree Consulting Company (TCC). They have cut residents and the community out of their approach to prepare an Alternative Plan and we do not agree that their approach is consistent with the outcomes sought by the WLB in the Alternative Plan.

CF needs leadership and direction from the WLB on the Western Springs Forest which is a unique project and situation. They need support to engage with community. We remain here and are able to respond at short notice to meaningful and effective engagement. We will not delay this process and are not seeking to do so. However, we will speak up when we see incorrect decisions being made and when incorrect or inadequate information is provided to the WLB.

We also can no longer tolerate the current approach of last minute and inadequate information being provided by CF to the WLB where we need to bang on the doors hoping that our expertise and relevant input can be heard somewhere in the process. We have expressed on many occasions the severe toll this is taking on the well-being of residents. These decisions affect our homes and neighbourhood.

Although it may not be intended, the actions and approach by CF are deeply disrespectful, hurtful and frustrating. CF should not be permitted to continue to engage with residents in this way and clearly there is a training need to resolve this problem. The current approach of engagement should not considered to be an acceptable way to treat members of the community, who have only endeavoured to work diligently and honestly within the local government system.

Ms Manning is available for a tele-conference should that assist the WLB on Monday morning, and our experts you met with last week have also kindly made themselves available should you wish to clarify any point made in this correspondence.
13 September 2020

Dear Waitemata Local Board,

We are writing about the correspondence you received from Community Facilities (CF) on 11 September 2020 (after-hours) with a Proposed Brief to instruct the Tree Consulting Company for a contract regarding Western Springs Forest (WSF). This correspondence requested your feedback by Monday 14 September 2020, within less than a working-day and you have been advised that the Tree Consulting Company needs to be appointed for a large contract on that same day.

We take no pleasure in requesting you oppose the Tree Consulting Company being formally instructed on Monday 14 September 2020 and to wait until the Proposed Brief is properly prepared — please note we believe that can be done this week and would only require one or two meetings (phone, zoom or in-person). We therefore request you direct CF to pause and await the direction of the Waitemata Local Board ("WLB") regarding the ambit and direction of the Proposed Brief for the alternative way to manage the WSF, other than full stand removal (the "Alternative Plan").

We summarise our key concerns below:

1. The purpose of this "Alternative Plan B" is to address the management of the Western Springs forest through a different lens than the previous consented plan ("Plan A"). Plan B was to be developed through an ecological lens.
2. If the WLB wants a meaningful alternative Plan B on the table, as we the residents do, then the brief must be ecologically-centered.
3. Therefore this project needs to be led by a consultant with an ecological background and experience in urban forest restoration.
4. The Proposed Brief needs to state the sought outcomes focussed such as requiring, for example, that there was 1) ecological protection 2 safe public access, 3) native forest transition, 4) active community engagement.
5. WSF is a unique ecological project and requires the right ecological and environmental expertise and understanding. Urban forest restoration with a developed native sub-canopy in an urban area is a new area of work for Auckland Council. Urban restoration is a new area of ecological science in New Zealand¹.
6. CF is preparing a reverse brief at the request of the WLB for an Alternative Plan to manage WSF (other than full stand removal). WLB members are therefore in charge of directing the focus and ambit of the brief and we know from last week that CF want the WLB to lead this and direct them in this work².
7. The Proposed Brief by CF is coming from the wrong angle and is incorrectly framed. This is a Pine stand focussed brief for an arborist rather than an ecology-centric brief but is for a project that needs to be led by an ecological expert.
8. The Western Springs Forest S Native Forest requires a minimum interference management strategy. The Proposed Brief is pine stand focussed instead of centring on inappropriately

² CF made it clear to WLB members and the community on Monday 7 September 2020 that they are looking for clear direction from the WLB. They were clear that if the WLB instructed them to prepare an Alternative Plan for management of WSF then they would do so, as they only act upon the direction of the WLB. They made it clear they would act upon the request and direction of the WLB regarding WSF for any such plan. CF made it clear that to date, the approach of full-stand removal had only been at the direction of the former WLB and not at the initiation or leading of CF.
sidelines ecological and environmental assessments and considerations of which the pine stand is a portion.

9. The Proposed Brief repeats the mistakes of the full-stand removal approach; it is arborist and risk led - not ecologically led. This approach seriously neglects the risks to the ecology and bio-diversity of the native understory and ignores the ecological and amenity values of the pine canopy forest. The Proposed Brief for an Alternative Plan to manage the WSF is therefore incorrectly framed and seems to be a near repeat of the brief for the Plan A and is likely to yield a rehash of the same conclusions that are in Option 1.

10. The Proposed Brief has been rushed and prepared without consultation or engagement with affected residents (it came as a surprise to residents late on Friday evening). Many aspects are unclear and parts contain irrelevant requests\(^5\).

11. It has been less than a week since it has been decided by the WL&B and CF to prepare a comprehensive Alternative Plan B for the WSF after years of this being requested by the community (it is not clear who made this decision). For the WL&B to now be given less than a working day to consider the reverse brief by CF – the foundational document for the Alternative Ecological Restoration and Forest Management Plan is risky, and with respect, is unprofessional.

12. The Proposed Brief is inconsistent with what WL&B members said on Monday, 7 September 2020 at our joint meeting about not wanting a third tree risk assessment report. This approach adds at least a further 4 weeks of tree risk assessment time within an already extremely tight timeframe to prepare an Alternative Plan. No explanation has been given as to why TCC have been selected and there is a potential conflict of interest issue that need to be worked through\(^4\).

13. The proposed consultant, TCC has tree risk assessment credentials however does not have credentials for ecological restoration and is not the right consultant to lead the development of the whole Alternative Ecological Restoration and Pine Management Plan (although may be suitable for tree risk assessment).

14. No engagement has taken place with residents for this Proposed Brief. It seemed to have been accepted by Auckland Council officials and Local Board members last week that where things have gone badly wrong to date has been the lack of consultation with community before a significant course of action is adopted – this is history repeating itself. The only way to get this on the right track is for the WL&B to direct and lead officials on what the WL&B wants to see as an outcome for the Alternative Ecological Restoration and Pine Management Plan and the brief be designed accordingly.

15. No community involvement has been incorporated into the preparation of the Alternative Ecological Restoration and Forest Management Plan Yet community engagement is a key factor for success in urban forest ecological restoration.\(^5\)

---

\(^4\) For example, there is the need for an experienced planner; consideration of community engagement with the restoration project; consideration of the considerable amenity value of the WSF, including landscape amenity. There are irrelevant considerations included (consideration of full stand retention is not advocated by any party); vague and imprecise terminology is used throughout the Proposed Brief; there is a lack of process to determine key issues including the acceptable risk tolerance threshold – these issues are explained further in this correspondence.

\(^5\) In terms of costs, a GDTMA request for TCC’s tree risk assessment of the 208 oak trees in Auckland Domain in 2015 was $20,000. That is a smaller scope of work than what they have been asked to do in the Proposed Brief. It is therefore reasonable to presume that the cost of engaging TCC is at least $30,000, which is a significant sum and residents would like the WL&B to enquire as to the costs, as they have been omitted in the material provided.

\(^6\) Article. Urban restoration ecology is a young, growing scientific field in New Zealand\(^5\); “Positive, varied, partner engagement lends powerful support to restoration projects, which is critical for meeting long-term goals.” Kim Joy Wallace & Bruce D. Clarkson (2019): Urban forest restoration ecology: a review from Hamilton, New Zealand, Journal of the Royal Society of New Zealand.
16. The proposed timeframes for preparation of a final report and decision by the WLB are unreasonable and do not allow for proper consideration of the Alternative Plan at an WL business meeting in November 2020.

17. The proposed times frames also do not factor in engagement and views of the community. This is a repeat of past approach of February, March, August and September 2020 where CF wanted the WL to approve the resource consent at an WL business meeting with last minute, inadequate information and inadequate time for the community to respond. Why are CF repeating an approach that hasn’t worked and causes relationship damage? Why are CF repeating an approach that has been shown to be distress the community who are reasonable, hardworking and timely with their input and contributions?

18. There is no reason the public track cannot be assessed and managed for safety immediately so that public access can commence this year.

For the reasons set out below we believe the CF are unreasonably rushing their approach and the preparation of an Alternative Plan should not start out on the wrong footing. We do not believe this Proposed Brief will achieve what the WL and community wishes it do to – which is to provide a reasonable practicable option of an alternative way to manage WSF, to manage ecological and environmental needs while allowing public access, while managing acceptable levels of risk (other than full stand removal).

The brief for the Alternative Plan can be revised with minimal delay but requires the input of an expert in urban forest ecological restoration and needs and needs to be led by someone with ecological expertise. It must also define the approach to risk and risk tolerance of AC, or the exercise will be futile.

We consider that the preparation of the brief for the Alternative Plan requires the leadership and direction of the WL with the engagement of the affected community (and our experts). The work should not be rushed with a potential promise of potentially amending the scope of the brief “depending on the feedback” – this is not a responsible use of resources.

The current Proposed Brief should therefore not be accepted in any way at this time and to do so risks the rejection of the community and ongoing concern and conflict, which no one wants. The main concern is the Proposed Brief has the wrong focus, and is not focused on the native forest and ecological and environmental outcomes of the WSF.

While the right arborist consultants may have been selected for tree risk assessment, they are the wrong consultants to prepare the overall brief of the Alternative Plan due to their lack of ecological restoration and environmental expertise.

Furthermore, we place the WL on notice that there may be a potential conflict of interest with Tree Consultancy Company (“TCC”) that needs to be addressed and managed. As a professional courtesy we wish to raise this directly with Assurance Services and TCC in the first instance, and it requires an in-person meeting as the matters are sensitive. We do not raise this issue lightly and wish to deal with it appropriately. We hope it can be managed, but consider it must be addressed before TCC are engaged as a contractor on WSF.

False sense of urgency – The WL has been advised that if they wish the stand to be open to the public within the next 12 months they must make a decision by November 2020. With respect, this is inaccurate. If the WL wishes the track to be open (not the entire stand), then works can be carried out immediately and the track could be opened within a matter of weeks. Appropriate signage can be placed at either end of the track advising the public to keep to the track, as is common in other
parks. The Webb report has shown only minor works need to be carried out to have the track reopened (and we want those works, including the removal of a dangerous totem which is on the track half way down by the elephant viewing point).

CF have been carrying out tree works in WBF for years, they should continue to do so. If they need legal assistance to carry out these works, they should consult their planning/legal teams to arrange permission for this work, they have full support of residents and the community in this regard. The opening of the track to the public can be separately considered – consideration of the whole project does not need to hinge on this issue.\footnote{There has been a consistent concern by the community that the track has remained closed in order to create a sense of pressure to approve the agenda for full stand removal.}

It is essential the brief for the Alternative Plan is clear. That was one of the clear learnings from the meeting between the WLB/CF and the experts with residents this week.

Residents also know from our Environment Court experience that it is critical the questions that are asked of the arborists and experts need to be clear. When there is a lack of clarity on definitions and approach (such as targets, consequences and risk tolerance) then great confusion and conflict arises and much delay and cost/time/delay ensues. The devil is in the detail and it is essential the Proposed Brief is clear and precise. Adopting a “let’s just get started” new matters can be tackled on once a contract is let is a fraught approach. It is not the way to proceed with a project which has been plagued by poor processes and poor engagement.

Residents learned much during the Environment Court process and we can see many mistakes being repeating in this Proposed Brief. It is clear the Proposed Brief has been prepared in haste and we request the WLB direct that this process is paused, does not miscarry and ensures that the Proposed Brief is prepared properly and is seen to be done properly.

Finally, we set out a list of suggested directions to be made by the WLB to CF about preparation of the Alternative Plan. This includes the need for the nature of the engagement with us to be clear and in writing so we have some rights in this process. Currently we feel disempowered and continuously treated without respect by CF, as they have failed to engage with us in a meaningful way, within fair or reasonable time frames.

We also request that a professional liaison person be appointed to engage with the residents and community. We need to deal with an Auckland Council staff member who has the skills to engage effectively with us, who is reliable, ensures clear processes, clear communication, is available for us to contact, and is someone whom we can trust (we suggest from the communications/engagement team).

There are a number of unanswered questions that we have made to CF (such as wanting to continue weeding and pest control) and about the intimidating letter we received in July 2020 – but despite our request and reminders there has been no engagement with us. Right now, unfortunately, our trust levels with Community Facilities are very low. We want that to change, have expressed our good will in that regard many times, and do so again.

**Importance of the Brief**

A major learning of last week was how important it is to get the brief for the experts right. Unfortunately the Proposed Brief does not and can not meet the needs outlined above. Furthermore, the material provided is incomplete and some of the requests are irrelevant.
The Proposed Brief appears to be heavily and disproportionately weighted to managing arboricultural needs and risk. It almost entirely minimizes and excludes Ecological and Environmental considerations. Community engagement and participation is fully absent.

We know that the previous ecological briefs were constrained to only consider impact of full stand removal, rather than considering the needs of the native forest. It is therefore illogical to provide these constrained ecological reports to the independent consultant without ensuring unconstrained ecological reports are also prepared and provided.

It is also a concern that arboricultural assessments and views provided by experienced arboricultural experts Chris Benton and Marcus James from 2019 have not been provided. This is a significant oversight and seriously erodes trust and confidence in this process. It appears as though a skewed brief has been prepared by CF.

**What is the WLB trying to achieve?** Is it a zero risk environment in the WSF? Or are we trying to protect the tallest and largest remnant of native urban forest in the Auckland isthmus area? Are we trying to create a native podocarp forest through transitioning the forest we have that allows public access? Or is there still a focus and wish to remove all the pine-stand because of fear of risk?

It seems there are two competing mindset at play here. The WLB seems genuinely open to an Alternative Plan to manage the WSF. Yet, CF still seems to be focussed on removing the pine-stand as they will not accept any risk. We are concerned that the Proposed Brief is setting up the Alternative Plan for failure, rather than success.

**Background**

*A history of only a single option:* Preparation of the full stand removal has been in works since at least 2015. To date, CF has only considered this option and spent years briefing experts, focussing on and presenting solely this option (and it is still not fully prepared – for example there are concerns about its restoration budget).

To date, CF has been highly adversarial in their dealings with residents refusing to consider their repeated requests to consider an alternative way to managing WSF (while claiming that these alternatives have been considered and consulted upon).

The engagement over the last two years, between CF and the community, about the need to develop an Alternative Plan has been highly fraught and distressing. While it is positive that as of last week CF is now looking at developing an Alternative Plan (due to the intervention of the WLB), this is in the context of many years of CF holding a fixed view as to full-stand removal and having broken relationships with the community.

We consider the approach of this Proposed Brief shows CF still do not yet really understand the concerns motivating the need for an Alternative Plan to be prepared. They have not pivoted away from their approach to date of a fixed focus on the pine-stand and the need for whole-stand removal, to focussing on the needs of the native forest and public access to that forest. The information they have chosen to provide (and not provide) to their chosen consultant indicates a mindset that CF have not let go of their preferred option – full stand removal.

*Step change last week, Monday and Tuesday 7/8 September:* We understood from the meeting on Monday 7 September 2020 between residents, the WLB and CF, and the WLB workshop on 8 September 2020 that CF was now preparing an Alternative Plan to manage the WSF. We understood
that they wanted to draw a line under what has happened to date and to move forward constructively with the WLB and community, including residents.

We thought we had turned a corner on this matter and that CF wanted to develop an Alternative Plan for the Native Forest restoration project that is truly effective and has the trust and confidence of the community. We understood the WLB wanted the Alternative Plan to be both done right and seen to be done right. We were ready and willing to engage quickly to prepare the brief.

Agreed understanding for Alternative Plan: We thought there was agreement that the Western Springs Native Forest needs protecting and transitioning to a native podocarp forest with public access and that any unacceptable risk needs to be managed.7

We understood that the following needs and factors were to be taken into account into preparing the Alternative Plan:

1. Ecological
2. Arboriculture
3. Environmental (including climate change impacts and considerations)
4. Risk
5. Cost
6. Managing delay
   We also wish to add
7. Community engagement
8. Amenity value – including WSF being a significant landmark.

We understood all of the above factors were to be considered and included into an Alternative Plan so that it was effective and couldn’t be undermined because one factor had been overlooked or minimised. We also understood that if this new plan required it, then the current resource consent could be amended or a new resource consent would be sought.

The Proposed Brief does not achieve this. This goes beyond “amending the scope” of the current Proposed Brief sometime in the future. It is about getting the foundations of the Proposed Brief correct before any consultant is engaged. To do otherwise is poor contract procurement practice.

Lack of resident/community engagement
Unfortunately there was no engagement with residents over the preparation of the Proposed Brief. Residents are once again confused and upset with the process taken by CF.

Rod Sheridan had only had 2 preliminary conversations with Steve Abel last week. He did not speak with Deborah Manning or any residents despite Steve trying to set up such a meeting with him. Mr Sheridan and Steve had spoken about the need to find an independent project manager and that we had points we wished to include in the brief and to discuss with him. Then there was radio-silence.

Residents were speaking to our experts seeking recommendations and preparing points to include in the brief. We had planned to meet with Mr Sheridan to discuss our suggestions with him and CF. We understood that Mr Sheridan had told the WLB he would be doing this and this is what Steve had also been told in his phone call with Mr Sheridan.

7 Western Springs Plan 1995; “Policy 7: to progressively replace the pine trees adjoining the Western Springs Stadium with a native podocarp forest”.
Instead, yet again, residents have had no engagement with CF about the Proposed Brief. We were provided a copy of late information provided to the WLB on Friday evening with an unreasonable time frame to consider complex matters. Unfortunately, the provided information is inadequate and requires expertise and time to explain why the information is inadequate. We have done our best to set this out below. Our experts have had input into this response, but the short-time frame has meant that responses are limited.

Please also note, residents want CF to have urgent training about community engagement – perhaps some learnings can be given to them by Auckland Transport. Community engagement by CF needs to be specifically directed by the WLB and this direction provided in writing to residents (so it cannot be later denied or forgotten by CF). Currently, there is no clarity or transparency on the engagement we can expect. On several occasions CF have represented to the WLB that they will engage with residents, but it did not eventuate (despite us trying to engage). This is clearly unsatisfactory and needs to end.

Residents had expressed to the WLB and senior CF management that they had been pushed to breaking point due to the constant provision of late and incomplete information. Within the very same week, CF repeated that same behaviour. It has caused great disruption and stress to the lives of residents over this weekend and should not be considered to be acceptable conduct. We consider this to be a continuation of institutionally intimidating and bullying behaviour by CF. It appears they do not have insight into the effect of their actions on residents, and we need the WLB to intervene. That no CF staff member intends to cause harm to the well-being of residents is not relevant when their actions do cause such harm.

Problems with Brief
We now set out the problems with the Proposed Brief to Contractor.

Confusion between cover letter and Proposed Brief: The Proposed Brief Subject to the Tree Consultancy Company states: Scope of independent assessment of Western Springs Forest”. It then states AC and WLB wish to conduct an independent expert assessment of the pine stand. So far so good.

However, the Proposed Brief is far wider than this. It hands the entire development of the Alternative Plan, with the complex and specialised questions of Environmental effects and Ecological impacts over to an Arborist company – but this is hidden until the Final Report requirements (page 3).

Wrong contractor to prepare Final Report: As explained above, TCC may be the right contractor to prepare the tree risk assessment. However, with all respect, this is the wrong choice for preparing the Final Report on the Alternative Plan. This is a native forest restoration project and requires ecological expertise – this was discussed at length on Monday 7 September 2020.

Background of Brief: The background is inadequate – it misses the cornerstone of the project – which is to transition WSF to a native podocarp forest. It also illustrates the problem with this project to date as the priority has been managing the risk first and then managing ecological outcomes.

Page 1, paragraph 4: The WSF is not exotic pine-dominated vegetation. It is an established regenerating native forest with interspersed pines providing over-canopy cover.

---

* Above: Western Springs Plan 1995; Policy 7: to progressively replace the pine trees adjoining the Western Springs Stadium with a native podocarp forest.*
Page 1, paragraph 5

2) Partial and staged pine tree removal: We should clarify the wording as we are not talking about tree removal, as the trees will not necessarily be removed from the Forest\(^9\).

Environmental restoration has not been made an explicit part of the “Option 2” brief and needs to be included. It is unlikely that a successful ecological restoration will be fully accounted for under point 5 of Cost Comparisons: “Other estimated annual costs, e.g. maintenance costs, pest management costs”

3) No tree removal: The third option of no tree removal has not been proposed by any party. This should not be part of the brief as it is a distraction, a total waste of resources and utterly unhelpful.

It is correct the tree risk assessment needs to be conducted independently. We do note that this particular assessment needs to be carried out by someone with experience in active retention of older trees.

We are concerned the requested assessment is asking TCC to step outside their area of expertise to consider environment and ecological considerations.

Page 2 Proposed scope of work – key point, almost no work concerning ecological and environmental needs and outcomes for the WS Forest.

An overall comment is that this is a major piece of work. It is not clear how the scope of this work can be achieved in 4 weeks. TCC reviewed the Auckland Domain oak tree stand (208 oaks) over a period of 5 months\(^10\). The scope of this work was far narrower than the scope of these works.

Further, the scope of works contains no reference to the Auckland Unitary Plan and the need to refer and rely upon industry recognised arboricultural standards. Given the history of this Project, this is a notable weakness and defect.

Further, and most significantly, if the Auckland Council doesn’t provide detail around acceptable risk tolerances (i.e. death or serious harm and/or high value property damage) and a time frame for that risk to occur then all of this exercise is a waste of time. Using AC’s risk matrix, tree failure is “acceptable” if it happens and causes harm less than once every 4 of 5 years.

Our further comments regarding the Scope of Work are in italics below:

1. **Determine the number of trees that are healthy, senescent, or dead (i.e canopy health).** The term “senescent’ is not definable – what does this mean? This needs to be defined so the consultants and the Council are talking about the same thing.

2. **Determine the number of trees that require immediate removal.** This is unclear – what determines the criteria for immediate removal? This needs to be justified by arboricultural reasoning. Is this Emergency Works? What is the risk framework or threshold? It is extremely important these thresholds and criteria are clearly established.

---

\(^9\) The current resource consent requires the felling and leaving of pine logs and slash on the forest floor (except for some limited areas).

\(^10\) LGDIMA request, Memorandum to Arboricultural and Landscape Advisor, Auckland Council re Auckland Domain – Arboricultural assessment of English oak trees within fall reach of a road or car park, dated 25 February 2015.
The term “immediate” needs to be defined to ensure the Consultants and the Council are actually talking about the same thing (is immediate in the next two or three months or first thing tomorrow morning?) Our arboricultural experts suggest the term imminent risk is used. We suggest the following wording; “Determine the number of trees that are at imminent risk of failure and will cause death or serious harm or excessive property damage if not removed immediately.”

3. Determine the likely continued annual deterioration rate or tree death rate and anticipated longevity of the remaining pine stand. What data is being provided for the likely continued annual deterioration? There is no objective data about this – the current data is contested due to unauthorised and undocumented tree works that have taken place in WSF. 11 Without supportable data, this is a subjective assessment which could be contested.

There is also relevant information regarding the longevity of Monterey Pines that needs to be included in the reference material. There is information that they live 80-90 years, however there is a dearth of research about this and this is a unique Monterey Pine stand. This is a small pocket of trees from a unique area and lived through unique conditions. Research material shows Monterey Pines living in New Zealand for 150-160 years.

4. Provide a list of most commonly used tree assessment tools, and if possible, a summary of the pros and cons of each tool identified. Provide advice on which assessment tool is most appropriate to assist the pine trees and Western Springs, for this project. It needs to be made clear that these are to be arboricultural industry-standard tree assessment tools.

5. Conduct ratings on each of the standing pine trees and the reserve using TRAQ, QTRA and VALID assessment tools, and any other assessment tool as deemed suitable by the contractor. This needs to confirm that the consultant must use TRAQ, QTRA and VALID. It is concerning to see “any other assessment tool” without it being made clear that this must be an arboricultural industry standard recognised tool. 12 This point also seems odd given Point 4 above – Point 4 asks the contractor to inform the Council which assessment tool is most appropriate to use, then at point 5 the Council tells them what to use.

6. Provide a recommendation of which trees need to be removed immediately, and which could be retained within the recommended assessment time, in line with Council’s risk framework and the Health and Safety at Works Act 2015. There is no clarity about what this means and is unacceptably vague. The “Council’s risk framework” needs to be clearly defined – it is not. This needs to state that decisions concerning tree removal and retention needs to be arboriculturally supportable.

Furthermore, reference to the Health and Safety at Works Act (HSWA) is also vague. The consultant is not an expert of HSWA and how to manage these responsibilities. This requires discussion and consultation.

Point 6 also seems odd considering point 2, and points 4 and 5. We suggest the following:

---

11 See submissions from Vaughan Clutterbuck and Deborah Manning to the Hearings Panel for the resource consent dated 19 February 2019 (paras 52-58). We provided a Table of Tree losses based upon Mr Coletti’s figures in his Statement of Evidence. This showed that the forest lost trees at a rate of 3.5 trees per annum, separate to planned removals, extreme winds and trees in saturated soil (a figure of 275 to 203 over 12-13 years).

12 This is important because during the Environment Court process, CF experts advocated inventing and adopting a form for tree assessment that “had limitations and needed improvements” (para 19 of Joint Arborists Witness Statement).
New Point 4: Undertake a comparative analysis of the most commonly used tree assessment tools to see how or where they can be aligned or benchmarked against the Council’s risk framework.

New point: Conduct a risk assessment rating on each of the standing pine trees in the reserve using TRAQ, QTRA and VALID assessment tools - assessing the likelihood of tree or tree part failure within the next 12 months causing cause death or serious harm and/or high value property damage.

New point 6) (which makes sense to come in after point 2): Provide a timeframe for the likelihood of tree or tree part failure causing cause death or serious harm and/or high value property damage for each of the remaining trees.

7. Advise on the recommended frequency of ongoing inspection and maintenance of any pine trees that remain in the stand.

8. Advise on the anticipated timescale for a partial and staged removal option, given the estimated rate of future tree failures. Tree failure needs to be defined. Is it whole tree or parts of a tree (uproot or snap is mentioned later on). Need clarification for what purpose — is this to manage acceptable risk? What is the acceptable risk? Why is there a focus on removal of the pine stand, rather than enhancement of the native forest and how to transition to a native podocarp forest?

9. Outline arboricultural methods and cost suitable to remove the trees requiring removal: Again it needs to be defined what trees require removal. This should specifically refer to requiring removal based on an arboricultural tree risk assessment with reference to the risk standard that is considered acceptable. It should also include method and costs for managing the trees — for instance tree works such as pruning, removing dead wood.

10. Compare the health & safety risk (to residents and forest users), timing of public access, feasibility, environmental impact, ecological impact and provide the cost of three potential management options:

a. A partial and staged removal of unstable pine trees in the stand (including frequency and costs for ongoing monitoring, assessment and removal) and ongoing assessment and required works of retained trees; and The criteria for trees requiring removal is unclear - what does “unstable” mean? Unstable is not an arboricultural term and can be overly broad and open to interpretation.

If the word “unstable” is to be used then it should be unstable in a way that causes risk that cannot be managed through tree works.

It should be made clear that tree removal is a last resort and that other management techniques should be considered (eg pruning, tethering, cabling, propping, reducing).

It is respectfully noted the consultant has no experience on environmental or ecological impacts.

It is not clear how the proposed consultant is supposed to access the costs for this option and the full stand removal (we know the costs to date have been underestimated for full stand removal).
b. A full stand removal of the pine trees in the stand.

The Auckland Council Risk Framework (including the Health & Safety Framework) will be supplied to help inform the risk assessment: – what does this mean? Which document is this – is it attachment A or Attachment B???

Is the consultant TCC, being empowered to determine levels of acceptable risk to AC? If so, what are the levels of acceptable risk – these need to be clearly identified. If the consultant is not being empowered to make such a recommendation, then we need to know what AC’s level of risk tolerance is, otherwise the commissioning and expenditure of this Alternative Plan could be pointless.

We don’t see anything in the proposed supplier expertise brief that shows the selected contractor is qualified to assess environmental impacts of pine tree removal. Evaluating environmental impacts only against human or property risk in the context of trees causing direct harm will result in a skewed outcome where environmental considerations are minimised. The problem with this is the scale and weighting of risk factors.

Measuring environmental impacts of pine management, whether full stand or partial removal, at a 3.2ha site approaches environmental risk in a fragmented way, and does not consider the cumulative effects of ongoing large tree removal (a feature of Waitetemata Board Area) and the subsequent loss of ecosystem services as a risk to human wellbeing.

The risk of losing environmental services (CO2 absorption, cooling temperatures of the urban heat island, protection from UV solarisation, habitat for wildlife, a sense of awe, the aesthetic, mental health, soil conservation, clean water, clean harbour, better marine environment) at a scale of 3.2ha is likely to not register significantly when compared with the extreme outcome of direct human injury or death. Consideration needs to be given to a risk assessment model that actually accounts for cumulative effect of tree loss and associated environmental services that should be used in the case for Western Springs Forest.

Partial and Staged Removal

Bottom of page 2: This states "[t]he intent would then be to retain the pine trees that are assessed as not likely to fail...within the recommended timeframe between inspections".

This approach does not conform to industry tree risk assessment. Tree risk assessment looks at Likelihood + Consequence. Again, a tree may be likely to fail but not hit any target, therefore it should not be removed, in order to protect the native forest and eco-system. The above approach ignores Consequence which is a key aspect to tree risk assessment – and risk assessment. This needs to be amended to reflect arboricultural practice and requires direction from the WLB.

The starting point is wrong as the presumption is to remove pine trees not retain them. However, we have heard from expert ecologists that the native forest requires a minimum interference strategy.

Decay – It should also be noted that the absence of decay is not a requirement for stability. Tree roots extend, grow and then roots can recede and decay, that is part of a normal cycle. Some tree roots are able to be heavily degraded as they are top surface roots not the structural roots.

Resisting windthrow – this needs to be clearly limited to normal conditions (and not include extreme weather events) where commensurate tree damage in other areas is also experienced (that is, not
assessing the WSF inconsistently with other stands – not putting a higher standard of safety on these
trees to others within the Auckland Council family).

This is the section of the Proposed Brief where we should be starting to quantify the amount of
ecological restoration needed alongside each tree removal event. This critical issue is absent which
another example of how this Proposed Brief is not about ecological restoration of a native forest.

**Full stand retention:** Once again, no one is seeking full stand retention as it is expected tree works
must occur (and these are wanted by the community). This option is a strawman and should be
removed from all future discussions. It has never been sought by any party. It is not prudent to use
Council resources for this and it is a distraction.

**Cost comparisons**

1. **Total number of standing pine trees and pine trees that require removal:** There is no criteria
   for what “requiring removal” means. The criteria for removal must be made clear and be based
   upon arboriculturally supported reasons, with a clear standard of unacceptable/tolerable risk
   thresholds.

2. **Estimated future failure rate of pine trees per year.** What is meant by failure rate must be
   made clear. Does this include branch failure? The meaning of failure rate must be made clear
   and based upon arboriculturally supported reasons, with a clear standard of unacceptable/tolerable risk
   thresholds.

3. **Estimated cost of future removal of unstable pine trees in the stand and ongoing assessment
   and required works to the remaining trees.** As set out previously, there is no definition of
   “unstable pine trees”. The criteria for removal must be made clear and based upon arboriculturally supported reasons, with a clear standard of unacceptable/tolerable risk
   thresholds.

4. **Estimated cost of removing each pine tree that has been assessed as requiring removal
   (different options can be available; and average price will be used).** Average price should not
   be used – there is a vast range between average price between helicopter removal and a
   climber – each option needs to be separately priced. The prices for each option needs to be
   provided, not an average – with advantages and disadvantages of each one (low and high
   impact)

**Other estimated annual costs, e.g. maintenance costs, pest management costs.**
Unfortunately environmental restoration has not been explicitly part of the “Option 2” brief
and needs to be explicitly costed. The TCC needs to be provided with accurate information –
noting that the costing information provided for Option 1, Full Stand Removal has been shown
 to be inadequate.

**Final report Requirements**

1) **Risk and risk management confidence:** This needs to be clarified before any contractor is
   engaged and any brief is signed off. Who needs to have confidence in the risk management?
   What is the risk standard? What if the Risk Manager doesn’t have confidence in the Alternative
   Plan for their own subjective reasons?

   This whole process of preparing an Alternative Plan will be futile if this issue is not clarified. It
   will be a waste of time and financial resources if the unacceptable/ tolerable risk thresholds
   are not clarified before it begins. A simple way to do this would be to consider adopting the
approach taken for the Auckland Domain tree risk assessment most recently in November 2018 (also undertaken by TCC).

2) Ability to safely reopen the forest to public access: It is already possible to do tree works and safely reopen the forest to public access (refer Webb arborist report).

3) Environmental effects: This is a significant piece of work and TCC do not have the expertise for this work. The provided material is inadequate and most of it is written to a different brief. It needs to cover short, medium and long term environmental effects. How will a new canopy be established when the over canopy is removed? How will we assist this forest to transition with podocarps to protective the native forest sub-canopy? Support planning can begin now. Forest dynamics need to be understood and considered to have the best outcome for this rare fragment of urban native forest.

4) Ecological impact and pest and weed control: This is a significant piece of work and TCC do not have ecological expertise. This should be the core and priority of the Alternative Plan and has been significantly overlooked.

5) Disturbance and effect of pine tree removal to existing understory: This is critical information and requires specific ecological expertise.

6) Cost (details required as listed above) – please see concerns set out above.

Notably, there is no mention of mitigating environmental damage, the cost of restoration and how that could be addressed including options for community participation.

The community should have an opportunity to express how they want to be involved in the restoration. This is where the WLB could shine – such as the inclusion of a community engagement plan, and communications strategy to show best practice ecological restoration.

Ecological and Environmental considerations: Preliminary Comments
As it stands the Proposed Brief by Council for Option 2 ‘Partial and staged removal of unsafe trees’ is limited in providing the information the WLB and the community have asked for. It is clearly arborist driven and is heavily weighted to seeking assessment of tree failure risk against the cost of removal.

The Proposed Brief does not explicitly address ecological and environmental concerns and the needs for restoration of the site to a podocarp/broadleaf forest as trees are removed. It completely excludes opportunity for community participation in the development of Option 2 and any subsequent involvement in planning the restoration.

A proposal that explicitly integrates ecological restoration, with pine risk management and at the same time considers community participation and shared ownership will provide a better platform to enable the WLB to make an informed decision on the best way to proceed with the restoration of broadleaf/podocarp forest.

It is important that ecologist and arborist disciplines work together to complement each other to get the technical aspects of restoration and pine removal right. Community and WLB can bring enrichment of community involvement.

Staged pine removal requires a restoration plan to sit alongside each tranche of tree removal. It is not enough to fell the trees and walk away. Although the forest has a significant native understory it is a
fragment within an urban matrix and seeds of the desired key podocarp/broadleaf canopy species are not likely to be distributed into the site easily. This is due to the distance between forest remnants and relevant gut time of the dispersal agent.

Planting of key canopy species and relevant successional species where high light is created from tree felling will be required to transition to the desired native forest.

An ecological approach to partial tree removal considers the impact on and recovery of the native understory, and wildlife. This considers the ability of fauna to remain on site via local migration into undamaged areas. It will consider what triggers the need for a lizard management plan and other management requirements for species explicitly protected under the wildlife act. Savings may be realised as the tree felling activity is scaled down to a point where the effects are truly assessed as minor to protected wildlife under the RMA.

It is important that ecologist and arborist disciplines work together to complement each other. The pace of tree removal can be approached as a percentage of the pine canopy removed over time based on the relative benefits of removal and the impact to existing biodiversity and the risk of pine tree failure.

Approaching pine removal as a percentage of canopy over time makes it easier to predict budget requirements for planting, and on-going pest plant and animal management. Spatial configuration of pine removal in any given percentage removal event would be based on updated arborist information regarding health, and the likelihood of failure and the removal method should consider constraints on restoration management.

Depending on what is found regards the risk of failure and approximate longevity of the pines across the whole stand it is possible that an ecological approach to removal as a percentage of canopy over time will result in the pines being removed before a longevity time frame.

We therefore respectfully request the WLB to direct the following:

For CF officials to develop an Alternative Plan for managing WSF (an alternative to full stand removal) ("the Alternative Plan") for the WLB to consider. The outcomes that the WLB wishes to see are:

1. The Western Springs Native Forest transitioned to a native podocarp forest.
2. An accessible public track(s).
3. Risk to the public and property managed according to the AC’s legal responsibilities.
5. Responsible levels of financial expenditure.

To achieve the above aims, the Alternative Plan must consider the following aspects of the WSF:

1. Ecological
2. Arboriculture
3. Environmental
4. Risk
5. Cost
6. Managing delay
   We also wish to add
7. Community engagement
8. Amenity value
The brief for the Alternative Plan should be developed and led by an ecological expert in urban forest ecological restoration along with community engagement. They should also have skills with project management and community engagement.

Clarification in writing of the risk approach and tolerance of the Risk Manager/Community Facilities towards WSF: Before the Proposed Brief is finalised and any contract work commences, CF must clarify what their approach to risk is. They have previously (and recently) stated in writing that they have a zero tolerance to risk, which is has been strongly refuted as inconsistent with Auckland Council’s own risk framework. However, this approach to risk needs to be urgently clarified in writing or preparing an Alternative Plan will be pointless if it can be overridden by an unclear or zero risk tolerance by AC.

We have ascertained from a LGOIMA request that CF is the Risk Manager for WSF. CF urgently needs to clearly identify what is their risk tolerance regarding trees in open spaces and at WSF. Is it a zero risk tolerance? If it is zero, why is this risk tolerance not being applied to trees Auckland wide (as no tree has zero risk)? If AC does not have a zero risk tolerance, what is the risk threshold and specifically for WSF?

Is CF to adopt the same approach that TCC employed at the Auckland Domain in November 2018? We attach the Arboricultural Inspection from Tree Consultancy Limited to Auckland Council, Re Auckland Domain, Oak Tree inspection and work program dated 19 November 2018 and refer to paragraphs 3.2-3.3 (attached).15 This recent report by TCC refers to QTRA risk thresholds which may trigger action and refers to 1/10,000 being tolerable risk and 1/100000 being broadly acceptable. Their report on the management and recommendations concerning the Oak Trees then utilise these risk thresholds.

We note this approach is consistent with the approach of Craig Webb in his December 2019 report, see Executive Summary, paragraphs 2-3.

Critical question to be resolved in writing at the outset: Is CF happy to adopt the risk threshold used by TCC when it assessed the oaks in the Auckland Domain in 2018?

Working with residents for inputs for risk assessment: CF needs to work with residents about inputs for the tree risk assessment. This includes occupancy rates of their residences, values of their property and track usage. This is important for assessing likelihood and consequences of tree risk assessment and can greatly impact the assessment.

CF to appropriately engage with residents: There must be community engagement and consultation with residents of West View Road immediately adjacent to the WSF when developing the brief of the Alternative Plan and when developing the Alternative Plan.

Residents are to be provided with clear written material about what their expectations for engagement can be (currently we have no clarity and consequently no right to engagement).

Direct the inclusion of the following information into any Proposed Brief: The following material must be also be provided to the consultant leading the development of the Alternative Plan:

i. Arboricultural report of Marcus James on Western Springs Forest dated 16 February 2019.

---

15 LGOIMA material, Arboricultural Inspection from Tree Consultancy Limited to Auckland Council, Re Auckland Domain, Oak Tree inspection and work program dated 19 November 2018 — paragraphs 3.2-3.3 (attached).
ii. Arboricultural report of Chris Benton of a tree by tree risk assessment of the Western Springs Forest pine stand dated 19 August 2019 (with accompanying Table of Findings, site map of risk assessed trees).


iv. Submissions from residents regarding resource consent hearing dated 19 February 2019 and 20 March 2019 (particularly regarding rate of tree removal and critiquing AC arboricultural material from an industry perspective).

v. Ecological stocktake of the non-PAP areas (Priority Areas of Protection) prepared by residents (previously provided to WLB) for March 2019 business meeting.

We also request that the independent consultant meets and speak with community and their experts including Simon Chapman, Craig Webb and our bio-diversity expert. Ideally, this would occur with CF staff also present.

**Further information on the Full stand removal option:** As identified at the meeting on 7 September, there must be clear costings in Option 1, (full stand removal) of the costs for ecological restoration. The current proposal for Option 1 has been identified to be seriously deficient in terms of proposed costings.

Thank you for your consideration of this correspondence.

Yours faithfully,

Deborah Manning
On behalf of Friends of Western Springs Forest

**Attachments:**

1. Arboricultural Inspection from Tree Consultancy Limited to Auckland Council, re Auckland Domain, Oak Tree inspection and work program dated 19 November 2018, see in particular paras 3.2-3.3 regarding risk threshold adopted.

Arboricultural inspection

To: 
From: Andrew Benson – Consultant Arborist, The Tree Consultancy Company Limited
cc: 
Date: 19th November 2018
Re: Auckland Domain
Oak tree inspection and work program

Dear 

1. Introduction

1.1. The Tree Consultancy Company has been commissioned to inspect 209 oak trees in Auckland Domain. The trees had previously been inspected by Treesafe Consultancy Limited (former name of The Tree Consultancy Company) and GreensceneNZ Limited between October 2014 and February 2015.

1.2. The trees were visually inspected from ground level between 24th October and 15th November 2018. This memorandum is intended to summarise the findings of the assessment and provide guidance on the interpretation of the tree inspection record.

2. Attachments

- Tree inspection record and recommendations (spread sheet)
- Site drawings 1167_001 to 007 rev A

3. Inspection methodology

3.1. The trees were inspected from ground level only by means of a visual tree assessment. A small nylon mallet was used to tap on the trunks between ground level and approximately 3 m to detect acoustic anomalies consistent with the presence of cavities, decay or other altered wood characteristics.

3.2. In addition to the visual inspection, each inspected tree was risk assessed using the Quantified Tree Risk Assessment (QTRA) system. The method considers:

- The nature of the targets (people and property) that could be affected should tree failure occur;
- The size of the part most likely to impact the target;
- The probability / likelihood of failure within the next 12 months.
3.3. The model uses a series of bands, or ranges to quantify the various probabilities of each outcome and the values derived from the assessment of these three components (target, impact potential and probability of failure) are combined to derive a probability of significant harm occurring. The QTRA model quantifies and presents risk in terms of a probability ratio (e.g. 1 in 10,000 probability of significant harm in the next 12 months). Figure 2 below illustrates the risk decision making framework proposed by the model along with the risk thresholds which may trigger action.

![Quantified Tree Risk Assessment - Risk Decision Informing Framework]

**Figure 1: Risk decision making framework (Ellison, 2015)**

3.4. The same numbering which was previously used in the 2015 assessment was used, and a small (75 mm x 20 mm) aluminium tag was affixed to each tree with a steel nail at approximately 3 m above ground level. The tags are numbered with three digits, beginning at 001 and ending at 209 and should be read from left to right with the nail oriented to the left, per the image below.

![Correct orientation to read tree tags](https://example.com/tag_image)

**Figure 2: Correct orientation to read tree tags**

3.5. Trunk circumferences at = 1.4 m were measured accurately using a conventional tape measure. Unless otherwise indicated, all other dimensions shown are estimates. Trunk circumference measurements have been used to calculate structural root zones (Coder, 1996) and to depict tree size on the accompanying site plans.
4. Limitations

4.1. The trees were inspected from ground level only. No aerial inspections were undertaken and nothing that wasn’t readily visible from ground level was viewed.

4.2. The trees were inspected in mid spring, and many had densely foliated canopies which in some cases, precluded a thorough visual appraisal of portions of the scaffold framework. Where deemed appropriate, we have recommended for these trees to be revisited again after leaf fall and / or aerially inspected as part of the recommended work program, i.e. deadwood removal.

4.3. Acoustic testing using nylon, rubber or plastic mallets to identify potential areas of internal decay, cavities or other altered wood characteristics is common in basic tree assessment methodologies, however not without limitation. Thick bark can mask subtle acoustic changes and large trees, with defects or decay in the central regions only may sound the same as defect-free trees. Road noise may also confound the acoustic testing.

5. General observations

5.1. We assessed 202 pedunculate oaks (*Quercus robur*), five pin oaks (*Q. palustris*), one turkey oak (*Q. cerris*) and one Algerian oak (*Q. afares*). Mean trunk diameter at breast height (DBH) was 71.48 cm. The trees are generally in a mature age class. Detailed observations for each tree can be found in the attached tree inspection record spread sheet. Several consistent observations were made throughout The Domain, those being;

- Herbicide use around tree bases appears to be common practice.
- Mechanical damage to surface roots and buttress regions consistent with lawn maintenance equipment appears to be abundant.
- Very few of the trees have mulched root zones, and those that do, have insufficient coverage.

5.2. Seven pedunculate oaks identified in the previous inspection were absent, either due to natural failure or removal.

5.3. We identified several trees, which although not dead, were of sufficient quality to warrant their removal. These characteristics included;

- Mortality spirals
- Subordinate, self-set trees with little or no prospects to become desirable trees
- Trees with structural flaws which carry high potential for future problems, such as severe phototropic tendencies and / or root plate displacement / damage.

6. General conclusions and recommendations

6.1. The reader is referred to the tree inspection record (spread sheet) for detailed comments on each tree as well as specific recommendations. From the wider observations of consistent themes and tree characteristics, the overall vitality of the population is fair to good. Vitality could be improved by improving some basic cultural practices, those being;

- Cease herbicide use around tree bases and elsewhere in tree root zones
- Improve lawn maintenance practices to avoid future mechanical damage to roots and root flares
- Apply mulch to as much of the root zones as possible. This will likely provide a solution to the first two matters in this list.

6.2. Each recommended activity has been assigned a work priority, those being;

- High – Within three months of the date of this assessment
- Medium – Within one year of the date of this assessment
- Low – Within three years of the date of this assessment
Note: Some of the recommendations call for a secondary inspection after leaf fall, due to visual obstructions from the current foliage. These should be undertaken following the next period of leaf abscission (April / May 2019), even where the work priority shows as "Low".

7. References

Coder, K.D., 1996. Construction damage assessments: trees and sites. University of Georgia cooperative extension service forest resources unit FOR96-39,

Please do not hesitate to call me should you require more specific details

With regards

Andrew Benson
Consultant Arborist
QTRA 2626

Reviewed by

Sean McBride
Director
Urban forest restoration ecology: a review from Hamilton, New Zealand

Kiri Joy Wallace & Bruce D. Clarkson

To cite this article: Kiri Joy Wallace & Bruce D. Clarkson (2019): Urban forest restoration ecology: a review from Hamilton, New Zealand, Journal of the Royal Society of New Zealand, DOI: 10.1080/03036758.2019.1637352

To link to this article: https://doi.org/10.1080/03036758.2019.1637352

Published online: 03 Jul 2019.
Urban forest restoration ecology: a review from Hamilton, New Zealand

Kiri Joy Wallace and Bruce D. Clarkson

Environmental Research Institute, University of Waikato, Hamilton, New Zealand

ABSTRACT
Restoration of urban forest improves quality of life for city residents and is important for boosting native biodiversity. However, the scientific knowledge required to inform successful restoration is largely lacking for urban forest ecosystems, which differ from rural forests. Here we review two decades of urban forest restoration research in Hamilton, New Zealand and summarise key findings across seven major ecological topics: i. species traits, filters and thresholds; ii. species richness and target ecosystems; iii. tree regeneration; iv. seed banks and seed rain; v. seed predation; vi. enrichment planting and vii. restored forest function. We then discuss general urban restoration principles that increase the efficacy of urban restoration efforts including restore to a minimum of 10% indigenous cover in cities, develop a step-wise restoration plan and prioritise partner engagement. The purpose of this review is to aid urban forest restoration across New Zealand and globally.

ARTICLE HISTORY
Received 10 December 2018
Accepted 22 June 2019

KEYWORDS
Restoration; species richness; forest; urban ecology; tree regeneration; seed bank; epiphytes; enrichment; ecological function; microclimate

Introduction

It is paramount we understand the dynamics of planted native forests to restore them effectively (Oldfield et al. 2015; Miller et al. 2016; Wallace et al. 2017). This is critical for urban forests in particular because of benefits they provide, such as ecosystem services (Dobbs et al. 2011; Endreny et al. 2017), enhanced human health and well-being (Alberti 2005; Brown et al. 2014), and havens for native biodiversity (Aronson et al. 2014b; Threlfall et al. 2016). About 86% of New Zealand citizens live in cities (The World Bank 2014), where their opportunity to regularly connect with nature is often a local forested park. Despite the manifold benefits, most New Zealand urban centres have little native forest cover remaining (Clarkson et al. 2007c). Forest fragments are instead relegated to upland rural areas, and even there, restoration work is often needed (Norton et al. 2018).

Restoration ecology is a novel, expanding discipline both globally (Perring et al. 2015; Crouzeilles et al. 2016) and in New Zealand (Laughlin and Clarkson 2018; Norton et al. 2018). Restoration actions vary widely from alterations of the abiotic such as alteration of soil composition (Janzen 2000) to manipulation of biotic elements such as the attraction of birds to promote seed dispersal (Robinson and Handel 1993; Reid and Holl 2012). New Zealand practices typically include removal of non-native, invasive species (e.g. trapping/
poisoning of introduced predatory mammals), followed by re-introduction of native species (eg planting of native tree seedlings). These practices have recently been extended to the urban context (Overdyck et al. 2013; Clarkson and Kirby 2016) in an effort to maximise the many benefits of native biodiversity where people live (McPherson et al. 1997; Matsuoka and Kaplan 2008; Johnson and Handel 2016; Acosta et al. 2018).

Urban forests are distinctly different from rural forests both ecologically (eg greater fragmentation and non-native species pressure) and environmentally (eg urban heat island, higher pollution levels), and are more dynamic than rural forests (Groofman et al. 2016; Doroski et al. 2017). Unique challenges to urban forest restoration worldwide include the urban heat island effect (Samuel et al. 2016), fragmented city landscapes (Drinnan 2005; Clarkson et al. 2007c) and non-native species invasion (Trammell et al. 2012; La Sorte et al. 2014). Planted urban forests are therefore faced with additional pressures and require intensive management to return to a functional native state (Ruiz-Jaén and Aide 2006).

Urban restoration ecology is a young, growing scientific field in New Zealand (Clarkson and Kirby 2016), and research in Hamilton has been occurring for about two decades since the mid 1990s (Clarkson and Bylisma 2016). We have found that the underpinnings of urban forest restoration must be scientific to ensure success because little is known about either reconstruction of the forest from scratch (ie plantings in former pasture or parkland, Clarkson and Kirby 2016) or restoration of degraded, extant forest patches. Urban forest restoration by trial and error is costly, and resulting failures are both discouraging to practitioners and condemning of future funding approval. Instead, we propose an evidence-based approach developed with partners and practitioners, informed by, ecologists and applied through practice oriented principles. This completes the full cycle of discovery and implementation, allowing restoration efforts to be successful.

The applied practice of urban ecological restoration has only emerged in Hamilton recently (Clarkson and McQueen 2004; Clarkson and Kirby 2016). Prior to 2000 most efforts focused on either care of existing forest remnants or constituted new plantings characterising revegetation more than ecological restoration. After 2000 fuller recognition of the potential of Hamilton gullies as places to reconstruct indigenous forest and the decision to set aside 60 ha of public land for the establishment of Waiwhakareke Natural Heritage Park shifted the approach to one of ecological restoration. A wider vision for the city as a driver of a regional, landscape scale restoration was raised as early as 2004 (Clarkson and McQueen 2004). Together, the Gully Reserves Management Plan (Hamilton City Council 2007), the Waiwhakareke Natural Heritage Park Operative plan (Hamilton City Council 2011) and the Hamilton Operative District Plan (Hamilton City Council 2017) are the main elements of the planning and policy framework. It is within this context that further ecological research was initiated to assist government agencies and community groups with their restoration endeavours.

The purpose of this review is to synthesise research done in Hamilton in order to aid urban forest restoration efforts across New Zealand and globally. We focus on the restoration of native forest flora but acknowledge that actions to re-instate native fauna should follow closely to achieve fully functioning urban forest ecosystems. There are some aspects of restoration (ie below-ground interactions) that are in early stages of investigation in Hamilton and while not discussed here, are recognised as important in restoration.
The review has two parts: first, we present restoration research from our Hamilton studies grouped by seven ecological topics (Figure 1): i. species traits, filters and thresholds, ii. species richness and target ecosystems, iii. tree regeneration, iv. seed banks and seed rain, v. seed predation, vi. enrichment planting and vii. restored forest function. These studies contribute theoretical and applied advancements to the field of urban restoration ecology by describing how planted urban forests develop and how to best manage them. The second section, ‘General Urban Restoration Principles’, summarises broader topics including socio-political dimensions to consider for successful urban restoration projects.

Hamilton research

Study sites

Hamilton is located on New Zealand’s North Island, which was historically 75% covered in the temperate rainforest but 66% of which is now cleared for agriculture and

Figure 1. Ecological topics to consider in an urban forest undergoing restoration, listed with related research references from Hamilton, New Zealand. Topics are defined as: i. species traits, filters and thresholds largely determine community composition and successional progress, ii. species richness and target ecosystems are measures for setting restoration planting goals, iii. tree regeneration is an index of restoration success and necessary for a self-perpetuating forest, iv. seed banks and seed rain determine non-native weed control and enrichment planting requirements, v. seed predation indicates pest animal presence and when planting must occur by over sowing seed, vi. enrichment planting of late-successional species is often required in urban forest but must occur only when appropriate microclimate conditions develop, vii. restored forest function should be a primary goal of restoration work.
silviculture (Nicholls 1980). Data were collected from restored urban forest patches in Hamilton (37.7870°S, 175.2793°E), population 160,000. Hamilton has an annual mean precipitation of 1110 mm with mean minimum and maximum temperatures of 8.7°C and 18.9°C, respectively (NIWA), and 2.1% indigenous forest cover (Clarkson et al. 2007b). Data from research outputs discussed in this paper were collected from forests throughout and closely surrounding the Hamilton ecological district (Figure 2) from the mid-1990s to 2017. These forests fell broadly into four categories based on location and restoration status: (1) remnant or secondary forest in the Hamilton surrounds, (2) remnant or secondary forest within Hamilton (3) unrestored forest within Hamilton (de-forested and never actively restored) and (4) restored forest within Hamilton (de-forested then reconstructed, usually by planting from scratch into retired pasture). We summarise research from these studies by ecological topic below.

Figure 2. Placement of Hamilton city boundaries, Hamilton Ecological District and surrounding forest.
i. Species traits, filters and thresholds

Plant species traits often pose a substantial filter determining what species survive in the urban context. The Hamilton ecological district hosts at least 343 vascular plant species, but only 195 are found in the entirety of Hamilton’s city boundaries (Overdyck 2014). This limitation is in part due to a lack of niches, as reconstructed forests inventoried in Overdyck (2014) had not matured yet to be able to facilitate more specialist late-successional species. Although this barrier disappears with time, the limited range of species typically used in restoration plantings also restricts the traits found in restored urban plant communities. This is often due mainly to logistical difficulties in the acquisition of seeds and successful propagation. Hamilton’s planted forest species complement is only a subset of what is present rurally. For example, urban native canopy species represent only 46% that of rural native canopies, and urban understory species 26% that of rural canopies (Overdyck and Clarkson 2012). Although the inhospitable urban environment may filter as to prevent a full representation of rural forest species, these low percentages should be increased to represent a larger suite of species traits. A variation of traits and range of natural genetic variability can create forest community resilience in the face of disturbance (Sandell et al. 2011), global climate change (Laughlin 2014) and invasion (Funk et al. 2008).

Invasion by non-native species is a major limitation to the restoration of comprehensive forest assemblages, because non-native species have traits which confer competitive advantage (Pudney 2009; Coleman 2010; Trammell et al. 2012). Pudney (2009) found that in open canopy conditions in Hamilton forests, significantly greater numbers of the non-native *Lonicera japonica* (Japanese honeysuckle) occurred. This non-native liane’s climbing habit allows it to smother native vegetation of small stature, essentially limiting establishment and therefore halting natural succession. This may be avoided through an integrated control approach including spot spraying, cutting and pasting, and encouragement of a closed canopy (dense restoration plantings) to block light (Wall and Clarkson 2006; Pudney 2009). In Hamilton forests where the native canopy tree *Dacrycarpus dacrydioides* (Kahikatea) and introduced *Salix cinerea* (Grey Willow) co-exist, the *S. cinerea* is able to gradually take over the canopy and suppress *D. dacrydioides* regeneration (Coleman 2010). Where *S. cinerea* densities exceeded 2 per 10 square m, *D. dacrydioides* seedlings were no longer present. These non-native plants act as filters constraining the growth of native plants in urban forests while also preventing forest development across vital ecological thresholds such as canopy closure.

Canopy closure in newly-planted forests is the first, most important threshold in forest development (Doroski et al. 2017). Wallace et al. (2017) studied the dynamics of a chronosequence of New Zealand planted urban forests aged 3–70 years, looking for thresholds of ecosystem properties most important for native tree regeneration. Using breakpoint analyses, they found that distinct thresholds existed in urban forests about twenty years after initial plantings (Figure 3). At twenty years canopy openness dropped to less than 5%, causing senescence of competitive non-native herbaceous ground weeds, and stabilisation of the microclimate (humidity and soil temperatures in particular). These conditions were significant drivers causing native tree seedling regeneration only after the canopy closure threshold was crossed. The forest will then develop naturally through other successional stages, including canopy gap formation through eventual dieback of the planted early-successional tree species. These gaps provide light levels required by some important
late-successional saplings to fully recruit into the canopy (Knowles and Beveridge 1982; Lusk and Ogden 1992). This later stage is appropriate for enrichment plantings if low seed dispersal into the site is limiting spontaneous recruitment, and may require ‘managing the gap’ actions if light-demanding weeds take advantage of the newly available light resource (Whaley et al. 1997).

In conclusion, a larger array of early and mid-successional native species with a wide variety of traits should be planted to form urban forests. This pioneering cohort should be managed to cross the threshold of canopy closure through the management of invasive non-native weeds. Once forests are able to cross the canopy closure threshold, environmental filters are altered, and the microclimate will be appropriate for spontaneous native tree regeneration and late-successional enrichment plantings.

ii. Species richness and target ecosystems

With suitable management, native woody species richness increases during the first few decades following initial forest restoration plantings (Mackay 2006; Shoo et al. 2015; Wallace et al. 2017). MacKay et al. (2011) found on average a planted forest canopy species count doubled from 8 species in the first decade to 17 species by the third decade after planting. The main drivers during this dynamic window of forest succession include canopy closure, subsequent weed suppression and development of a suitable
microclimate (Wallace et al. 2017). But these events cannot occur without the planting of pioneer species and follow-up management such as non-native weed control and enrichment plantings.

To achieve species richness goals it is sometimes helpful to adopt an extant or historical reference ecosystem as a restoration target (Bakker et al. 2000). Definition of the target, reference ecosystem has been the topic of some debate (Pickett and Parker 1994; Aronson et al. 1995; White and Walker 1997). Purists advocate complete elimination of introduced species and re-creation of historical ecosystems. This is difficult without excellent records, in landscapes lacking examples of extant indigenous cover, and when attempting to shape ecological communities resilient to global climate change (Laughlin 2014; Perring et al. 2015). Other members of the restoration ecology community have advocated novel ecosystems, which have also been hotly debated (Hobbs et al. 2009, 2014; Murcia et al. 2014; Aronson et al. 2014a). The novel ecosystem approach suggests a mix of native and non-native species are acceptable in a restored ecosystem and is driven by elements of restoration theory such as a narrow focus on achieving specific ecological functions, accommodating human social values and sheer practical feasibility. However, a novel ecosystem is not substantiated by evidence to be as ecologically valuable as a natives-only ecosystem (Pauchard et al. 2018). The novel ecosystem approach may also have a disproportionately negative impact in easily-invaded island ecosystems such as New Zealand, due to vacant niches and a high proportion of specialised, endemic species that evolved in isolation (Alpert et al. 2000; O’Dowd et al. 2003).

Regardless of theoretical stance, many restoration projects land somewhere between these two extremes and are usually defined at the end more by funding, project design and project longevity.

Here, as recommended by the Society for Ecological Restoration International (McDonald et al. 2016), and New Zealand experts (Norton et al. 2016) we advocate the use of an extant reference target ecosystem to use as a general restoration guide. This is part of a broader practical approach to restoring ecological integrity (Lee et al. 2005) to protect unique, endemic flora and fauna, and feasible in New Zealand due to its relatively recent settlement and land use records.

Reference ecosystems should be geographically close to the restoration site and share ecosystem properties such as landform, soil type and previous plant community type. For urban restoration sites, it is best to pair with existing urban forest rather than rural forest because city conditions are unique, and this will set an achievable benchmark for species richness. The high edge to interior ratio inherent to small urban forest patches affects an array of properties, such as altered vegetation structure, increased sunlight availability, greater fluctuations in humidity, greater soil compactness and more exposure to pollution (Matlack 1993; Young and Mitchell 1994; Murcia 1995; Harper et al. 2005; Malmivaara-Länsä et al. 2008). Urban forests are therefore particularly disrupted by edge effects because of their small patch size and isolation, compounded by the altered environment of the surrounding urban matrix (eg asphalt causing the urban heat island, Oke et al. 1989).

Selection of target ecosystems must include subsequent surveys to determine species richness and measure other ecosystem properties. For example, Corones and Clarkson (2010) assessed the largest urban indigenous forest remnant in Hamilton, Claudelands Bush. The resulting plant species list (134 species) and water table data provide targets for forest restoration elsewhere in Hamilton and also improve adaptive management of
Claudelands Bush, especially when considered together with three earlier ecological assessments of this forest fragment (Gudex 1995; Boase 1985; Whaley et al. 1997).

Regular inventories of valuable ecological sites like Claudelands Bush are important for awareness of how species richness or distribution may be changing across the urban landscape over time. Managers can then consider landscape scale richness, which impacts restoration efforts by providing local seed-sourcing options and spontaneous seed dispersal. Repeated monitoring also deepens understanding of population changes and lag effects (eg management practices or climate change), providing insight for how to manage other restored or reconstructed forests in a changing environment.

Two large-scale inventories have occurred city-wide in Hamilton: the Key Ecological Sites of Hamilton City: Volumes I, II and III (Downs et al. 2000) and Key Ecological Sites of Hamilton City (Corones et al. 2012). Both were commissioned by the Hamilton City Council and conducted by the University of Waikato Environmental Research Institute, who established a permanent vegetation plot network for the surveying. If urban forest remnants are scarce and inventories like this cannot be conducted, it is then best to expand beyond the urban zone to survey the surrounding landscape by accessing knowledge on indigenous forest species across the whole ecological district (Clarkson 1981; Clarkson et al. 2007a) and region (Leathwick et al. 1995).

iii. Tree regeneration

Achieving late-successional tree establishment in restored forests signifies the crossing of an important threshold in forest dynamics (Oliver and Larson 1990). Late-successional canopy tree species are long-lived, vital elements of the forest community, and are therefore necessary recruits for long-term urban forest restoration (Labatore et al. 2017). Without regeneration of late-successional trees, planted early-successional trees may thrive for several decades but then senesce without replacement, causing native canopy collapse and re-invasion by non-native invasive species (Doroski et al. 2017).

Late-successional tree species regeneration is dependent on forest age, and requires specific regeneration conditions, such as a stable forest floor microclimate (Wallace et al. 2017). Young forest patches with open canopies often possess ground layers invaded by competitive herbaceous non-native weeds that hinder tree regeneration. Both these barriers are overcome upon crossing the threshold of canopy closure (Doroski et al. 2017), sometimes as soon as five years post-planting when herbaceous weeds are shaded out (Laughlin and Clarkson 2018) and more so twenty years post-planting, when humidity and soil temperature levels stabilise (Figure 3; Wallace et al. 2017).

Wallace et al. (2017) found that total and late-successional native plant regeneration (trees and epiphytes) in Hamilton and New Plymouth increased significantly over the first 70 years after initial restoration plantings (Figure 4). This increase was of particular note for late-successional trees, which rarely occurred in planted forests under ten years old (~1000 stems/ha), but were more common (~10,000 stems/ha) in forests older than that (Figure 4B). Obligate epiphytes (which must grow on trees) did not colonise until forests were at least 20 years old and remained at relatively constant densities after that (growing on ~800 host trees/ha, Figure 4E).

Urban forests typically require intensive management to cross the threshold into a closed canopy system. Initial tree plantings may succumb to intense competitive pressure from non-native weed species in cities (Miller 2011). Initial plantings of densely spaced (eg 1 plant per m²), tall plants (eg 1 m), use of weed matting and other means of weed control
are helpful in countering competition in the first decades and reducing the need for expensive herbicide use. If herbicide is used, it should be minimised and tailored to the site to avoid killing regenerating native plants and causing pollution.

Urban areas do not typically host high vertebrate herbivore densities, and therefore focus on protection against hare, goat and pukeko browse sometimes does not require as much attention (Cornes et al. 2008) as rural areas. Instead, clear communication between urban land managers, practitioners and contractors is most important to orchestrate appropriate planting timing, location and follow-up care to cross the threshold into native tree regeneration conditions.

Even when conditions are conducive to tree regeneration there may not be adequate propagules available either in the seed bank or dispersed from nearby forest to provide for late-successional tree establishment. This is often the case in urban forests, which have a long history of disturbance or are isolated, and it is important to recognise when enrichment planting is necessary.

iv. Seed banks and seed rain

Successful establishment of late-successional trees in restored forests is paramount to ensuring diverse, resilient and sustained forests. Forest seed bank and seed rain composition largely determine future forest composition (Labatore et al. 2017). Determining what seeds are available from these sources can inform management decisions well in advance, such as weed control measures and required enrichment species planting. Early, well-informed decision making can change the trajectory of forest ecosystem development and save long-term costs and effort.

Native New Zealand forest seeds persist for only a few years in the seed bank (Rowarth et al. 2007), hence restored urban forest seed banks are typically dominated by non-native wind-dispersed herbaceous weeds and native ferns (Overdyck and Clarkson 2012). This implies that while ferns may recolonise spontaneously, and sometimes facilitate a desirable ecological trajectory (Brock et al. 2018), a developing urban forest will require a management plan for weed control and native woody enrichment planting. Overdyck and
Clarkson (2012) surveyed canopy vegetation and seed banks of restored Hamilton forest patches and found that despite native canopy compositions, seed banks were predominantly comprised of non-native species (46 non-native species out of 69 total species). When then compared with seedbanks of rural remnant forests surrounding Hamilton, only 64% of the native species were found in both forest types, indicating that the natives that do persist in the seedbank are not fully representative.

If most woody native seeds do not persist in the seed bank, seed rain is then of utmost importance. Overdyck (2014) discovered that seed rain in Hamilton forest patches primarily consists of native ferns and early-successional woody species dispersed by wind and water (Figure 5). Arrival of the typically large, fleshy-fruited native woody species is primarily via avian mutualisms, suggesting that urban areas without dispersal agents such as the native wood pigeon, the Kereru (Hemiphaga novaeseelandiae), will not reach the full forest species complement.

Efficient management of urban forests undergoing restoration requires knowledge regarding species in the seed bank and seed rain. It can generally be assumed that late-

![Graphs showing seed bank species composition](image-url)

**Figure 5.** Mean (±SD) of species that are newly arriving in a forest patch (a) all native species, (b) all exotic species, (c) native woody species and (d) exotic woody species in the annual seed rain (and not present in vegetation at sites) in urban planted (n = 9), urban natural (n = 4) and rural natural (n = 4) forests. Different letters denote significant differences between overall treatment means for Tukey’s pairwise comparisons, p < .05. Here ‘Urban planted’ denotes restored urban forest patches, ‘Urban natural’ are urban forest remnants, and ‘Rural natural’ are rural forest remnants. Reproduced with permission from Overdyck (2014).
successional native species will be lacking, but ferns will re-colonise spontaneously, and non-native weed species will be prevalent.

v. Seed predation

Native, late-successional tree species’ seeds may come to rest on a restored urban forest floor, either passively through seed rain or intentionally through sowing by land managers. Direct sowing can be a cost and labour efficient option for introducing late-successional plant species to forests undergoing restoration (Cole et al. 2011). However, seed predation poses an obstacle to the establishment (Labatore et al. 2017), which is exacerbated for New Zealand tree species that did not co-evolve with introduced seed-predators like rats (Daniel 1973).

A study in Hamilton forest patches investigated broadcast seeding of three late-successional, large, fleshy-seeded tree species (*Beilschmiedia tawa*, *Elaeocarpus dentatus* and *Litsea calicaris*) to determine best practice for discouraging seed predation and improving seedling establishment (Overdyck et al. 2013). The factorial design included a control and three factors: caging, removal of fleshy fruit pericarp and incorporation into fertilizer-enriched clay balls (Figure 6). Caging and clay balls significantly increased survival and establishment. Uncaged seeds had 58% loss compared with caged seeds, which only suffered 4% loss. Uncaged seeds with pericarp removal that were also in clay balls had an intermediate loss of 35%. Use of the clay ball doubled the seedling establishment rates after germination in *B. tawa* (6% vs. 12%).

Urban forest studies further beyond Hamilton have confirmed that seed predation is a substantial factor limiting late-successional tree establishment. In North America, Labatore et al. (2017) introduced canopy tree seeds to urban forests and discovered that seedling recruitment increased significantly where seed predators were reduced. These results, paired with their work showing a lack of native seed rain, suggests that urban forests without canopy species’ seed introduction and subsequent protection were destined to experience canopy collapse and revert to non-native species dominated urban shrublands.

![Figure 6. Cumulative seed loss (mean ± SE, n = 36) for *B. tawa*, *E. dentatus* and *L. calicaris*, with seed predator access (uncaged treatment) and no seed predator access (caged treatment) at one rural and two urban forest sites. Species start dates have been standardised to time zero although start dates in the field were staggered due to the timing of seed collection, so experiment length was shortened accordingly for the species collected later. Adapted with permission from Overdyck et al. (2013).](attachment:Figure6.png)
While restored urban forests can be enriched with late-successional plant species through direct seeding, resulting seedling recruitment is only likely if seed predators are excluded or controlled. This may be done by caging seeds, encasing them in clay balls (Overdyck et al. 2013), or intensifying non-native omnivorous mammal control to levels adequate for native bird protection (Saunders and Norton 2001). Further, in cases where germination and establishment are successful, several more years of care must be invested to ensure plant survival to a harder size and age.

vi. Enrichment planting

Due to lack of late-successional species in seed banks and seed rain, and limitations posed by seed predation, forests undergoing restoration often require intervention by enrichment planting of late-successional tree seedlings or saplings after formation of an early-successional tree canopy (Overdyck et al. 2013, Suganuma and Durigan 2015, Bertacchi et al. 2016). This is frequently the case in urban areas, where forest undergoing restoration are typically geographically separated from native seed sources and pollinators, dispersal agents are limited, and control of seed predators is difficult.

Experimental work in herbaceous weed-infested Hamilton restored forests demonstrated that enrichment was possible by planting tall (>1 m) B. tawa seedlings (Wallace 2017). B. tawa exhibits the classic characteristics of a late-successional tree species seedling, including a slow growth rate, extreme shade-tolerance (Knowles and Beveridge 1982, Carswell et al. 2012), need for a stable understory microclimate (Clarkson and McQueen 2004) and provision of dense shading once mature. Despite the necessity of an established canopy to protect B. tawa from frosts and desiccation while very young, it later grows faster under indirect light provided through small canopy gaps (Knowles and Beveridge 1982), which warm the air and soil slightly. An initial planting height of >1 m under a restored canopy limited suppression by the aggressive monoculture ground-cover weed Tradescantia fluminensis, when concurrent mulching and weeding did not significantly help over 4 years of establishment and growth (Wallace 2017).

Enrichment planting is occurring on a wide scale at a large forest restoration project in Hamilton named Waikakaraka Natural Heritage Park. This forest ecosystem has been reconstructed from scratch by planting early-successional native forest species followed by enrichment plantings after approximately seven years of growth. Laughlin and Clarkson (2018) found enrichment plant survival is ultimately determined most by canopy closure (i.e. planted forest age) and canopy composition. Under young, open canopies, planted enrichment seedlings survived best if overshadowed by mainly species in Myrtaceae (tea tree spp., genera Leptospermum and Kunzea), but under older, closed canopies, planted enrichment seedlings survived best with a more diverse canopy composition including broad-leaved species (Figure 7A). Growth rates improved with canopy age (Figure 7B).

Many epiphytes, which are plants that grow on trees, are also considered late-successional plant species due to their microclimate sensitivity (León-Vargas et al. 2006; Bryan et al. 2011; Clarkson 2011). Just as with other enrichment species, they may need to be actively introduced into urban forests undergoing restoration, but only once conditions are suitable. The shrub epiphyte Griselinia lucida is native to the Hamilton Ecological District and was once noted as a conspicuous epiphyte in the New Zealand lowland rainforest (Dawson 1966). However, increased forest fragmentation and urbanisation have lowered humidity levels in forest canopies, which is detrimental to G. lucida.
survival (Bryan et al. 2011). Therefore it is suggested that *G. lucida* be restored in the urban landscape, but only once restored forest canopy closure is achieved and provides high, stable humidity levels (Bryan and Clarkson 2013). The same approach is relevant for other members of the shrub epiphyte guild, epiphytic ferns and vines.

Enrichment planting of all late-successional plant guilds is typically necessary in urban forest patches undergoing reconstruction from scratch, but may also be needed in urban forest remnants that have merely been degraded or severely isolated. As with forest species richness generally, it is vital to be aware of what enrichment species may be missing. Miller (2011) compared late-successional understory vegetation of the forest floor between remnant forests in and outside the Hamilton city boundaries. Urban forest remnants comprised only 61.5% of the native understory species found in rural forest remnants. In a similarly designed study, Bryan (2011) found that urban forest remnants hosted only 55.2% of the native epiphyte species found in rural forest remnants. Both studies also found that the late-successional species that were found in urban remnants occurred in lower densities than in rural forests. Despite altered conditions (ie microclimates) in the urban context, it is likely that urban forests are suitable for a much larger proportion of the plant species found in rural remnants and should be enriched accordingly with representation from all guilds, including trees, shrubs, herbs, epiphytes and perhaps hemiparasites like mistletoes and parasitic plants such as *Dactylanthus taylorii*.

vii. Restored forest function

Forest restoration is fully achieved when both forest structure and function are reinstated. In this context, function encompasses any ecological processes or ecosystem services. Restoration work often focuses exclusively on plant community structure or richness, without consideration of restoring functional processes (Montoya et al. 2012; Worthley et al. 2013). This is unfortunate, as forest restoration is a valuable tool for
recovering degraded ecological functions. When successful in an urban setting, the benefits are twofold: support of native biodiversity and ecosystem service provision for urban citizens (Alberti 2005).

Creating a species-rich, complex forest structure can be a means of kick starting ecological function (Derhé et al. 2016) that may be expected for the forest’s successional stage (Guariguata and Ostertag 2001). Increased ecological function due to re-introduced link between even a few species can form a positive feedback cycle, enabling more complex ecosystem connectivity. For example, the single species of tree, B. tawa hosts endomycorrhizal fungi in its root system, feeds many herbivorous insects, grows large fleshy fruits for bird sustenance, and provides establishment sites for epiphytes (Knowles and Beveridge 1982). Practitioners should include plants with varying functional traits when planning species composition (Laughlin 2014) and shape plans to intentionally replace missing functional links between native species.

Research on restored forests in Hamilton has demonstrated that not all ecological functions are connected to restored urban forest structure. Wallace et al. (2018) studied connections between the restored forest canopy and nutrient cycling in the forms of decomposition and denitrification. They found that while restoration of a native, evergreen, closed canopy affected decomposition, denitrification by soil microbes was driven by other abiotic factors completely, such as drainage (Figure 8). This research highlights the importance of knowing what drivers are behind desired ecosystem functions and specifically managing these for functional restoration success.

Functioning urban green spaces are important because they provide numerous ecosystem services of human benefit (Gaston et al. 2013). Urban forests, in particular, provide economically valuable services such as flooding and climate mitigation (Dobbs et al.

![Figure 8. A structural equation model illustrating drivers of decomposition (n = 17) and denitrification (n = 27). The ecosystem functions of decomposition and denitrification are shown in light green, and their drivers in dark grey. Values by arrows are standardised path coefficients. R² values are shown in the box of each response variable. For clarity positive pathways are black and negative pathways are grey. Model fit was assessed using Fisher’s C statistic, where good-fitting models yield small C statistics and p-values > .05. This model fit the data well (Fisher’s C = 59.96, df = 46, p = .081). Reproduced with permission from Wallace et al. (2018).]
2011; Pickett et al. 2011) and pollutant filtering (Pickett et al. 2011). They are also a means of human re-connection to nature, recreational activity and social cohesion (Groffman et al. 2016). Therefore, restoration plans should include the re-instatement of both ecological structure and function.

**General urban restoration principles**

Successful ecological restoration in an urban context requires attention to several overarching socio-political principles. Landscape-level coordinated strategies for restoring to a minimum threshold of indigenous cover across a city is vital for safeguarding restored biodiversity. This landscape approach requires cooperation between private landowners and multiple public entities (eg city and regional councils, DOC). Careful step-wise plan development and implementation should be orchestrated between these entities, and these partnerships periodically strengthened. We expand on these principles below.

**Restore to a minimum of 10% indigenous cover**

An important determinant of biodiversity persistence is the total fraction of the landscape remaining in indigenous ecosystems. If a threshold of less than 10% indigenous cover is crossed, a major decline in native species richness is likely; in many cases less than half the total species may remain due to local extinctions (Diamond 1975; Hanski 2015; Desmet 2018).

Urban development in New Zealand is typically associated with depletion of lowland indigenous ecosystems, including some of the country’s richest, most diverse forests (Molloy 1980). Because of such development, the core of twenty main New Zealand urban centres range between <1%–8.9% remnant indigenous cover remaining (Clarkson et al. 2007b), making cities focal areas for restoration action. Clarkson et al. (2018) restated 10% as a minimum restoration target in severely biodiversity-depleted environments such as urban centres where indigenous cover is less than 10% (Grimm et al. 2008; Gillespie et al. 2012). This target can be achieved through encouragement of restoration work on both private and public land and should consist of large, connected forest patches to maximise support of biodiversity (Hanski 2015). In realising this threshold, key considerations include spatial configuration, ecosystem representation and connectivity (Clarkson et al. 2018). A clear, city-wide strategy for implementing landscape-scale restoration through a metapopulation approach will help reach this 10% target by facilitating important ecological processes such as dispersal (eg Wellington, New Zealand has a restoration strategy for the landscape scale).

**Develop a step-wise restoration plan**

A logical, achievable step-wise plan is vital in efforts to restore an urban forest ecosystem (Clarkson and Bylsma 2016). The high degree of invasion in cities increases non-native weed control requirements and the harsh abiotic conditions, (eg modified, polluted soils) can quickly suppress native plantings. A carefully tailored plan with clear steps (Table 1) suitable for the scale of the project will help avoid expensive pitfalls and
reduce risk of practitioner burnout and project failure. Plans may range from region-wide biodiversity strategies to local park management guidelines.

This step-wise approach should be applied from conception to the eventual on-the-ground restoration work. Plantings themselves should be dense, cared for intensively and then eventually enriched. Urban restoration work is best accomplished with a patient ‘quality’ over ‘quantity’ mindset. A specific planting plan using ecological underpinning can be formed using various online resources specific to a region or city, eg Hamilton Gully Guide (Wall and Clarkson 2006).

Ongoing monitoring is crucial in gauging success or failure, yet it does not occur in most restoration projects. Ruiz-Jaen and Aide (2006) conducted a review of 468 studies that employed seeding or planting techniques for terrestrial restoration and found only 14% evaluated restoration success afterward. If benchmarks of success are defined initially, and monitoring reveals whether they are attained, adaptive management can occur. Adaptive management allows precious resources to be allocated to the most effective, efficient management methods. These may be different from initial methods, or those used elsewhere because restoration approaches are rarely a one-size-fits-all. Waiwhakareke Natural Heritage Park has permanent monitoring plots that are surveyed regularly to measure long-term progress (Grove et al. 2006; Cornes et al. 2008), as well as ground-truthing after new plantings to determine immediate establishment success (Nepia et al. 2015). Findings are then carefully discussed in an advisory group and management approaches adapted where necessary to minimise wasted resources.

**Prioritise partner engagement**

Partner engagement is crucial for long-term success in the management of public urban green spaces. Waiwhakareke Natural Heritage Park in Hamilton New Zealand is a 60 ha urban forest restoration project that began on abandoned public pastureland in 2004. This project management includes the vital steps in a restoration project (Table 1), and continues successfully after 15 years (Clarkson et al. 2012). Waiwhakareke has been a joint effort between local government and community, standing the test of political inconsistency and charitable group leadership turnover. This is due to continued emphasis on partner engagement, which has made the progression of the restoration plan possible.

<table>
<thead>
<tr>
<th>Restoration plan steps</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engage with all relevant partners</td>
<td>Local government, iwi, community groups, businesses</td>
</tr>
<tr>
<td>2 Define restoration goals</td>
<td>Target ecosystem, non-native species removal, increased ecological function</td>
</tr>
<tr>
<td>3 Build landscape-scale vision</td>
<td>Understand connectivity with neighbouring ecosystems</td>
</tr>
<tr>
<td>4 Form long-term timeline</td>
<td>For a forest, this should be decade to century length</td>
</tr>
<tr>
<td>5 Create accurately scaled project budget</td>
<td>Plant costs, labour costs, administration costs</td>
</tr>
<tr>
<td>6 Acquire funding</td>
<td>Through granting agencies, local government, donations</td>
</tr>
<tr>
<td>7 Form restoration methods with scientific underpinning</td>
<td>Correct density of plantings, large enough plants, timely enrichment plantings</td>
</tr>
<tr>
<td>8 Perform restoration actions with partners</td>
<td>Conduct restoration plantings with partners present, follow up care</td>
</tr>
<tr>
<td>9 Monitor outcomes to gauge success</td>
<td>Annual monitoring of plant survival (quantitative if possible), photo points</td>
</tr>
<tr>
<td>10 Adapt methods moving forward</td>
<td>Change species mix being planted based on survival monitoring results</td>
</tr>
</tbody>
</table>
Positive, varied, partner engagement lends powerful support to restoration projects, which is critical for meeting long-term goals. An additional aspect of partner involvement is often overlooked, however. This is the benefit partners receive in return through connection to such projects via on-the-ground restoration work. Urban green spaces do not have to be ‘complete’ for citizens to enjoy them; in fact, participating in early stages of ecological restoration can be a therapeutic experience. Volunteer planting and weeding provides a connection urban residents need with nature and with each other (Matsuoka and Kaplan 2008). Finally, investment by many in the early stages will help ensure continued investment and guardianship long-term.

Clear communication of progress throughout a project is important for continued partner engagement. A diversity of outputs tailored to a wide range of partners and end users is most effective. This may occur through updates in newsletters, websites or social media, or more interactive methods such as working bee gatherings, meetings, academic conferences or workshops (Clarkson and McQueen 2004). Acknowledgement of all who are involved and celebration of milestones will keep support strong and encourage continued communication and cooperation between multiple partners.

Conclusion

Restoration of the urban forest is a new and important initiative in many cities in New Zealand and beyond. Here we have reviewed ecological restoration research from Hamilton, New Zealand and summarised key findings to help inform successful restoration of urban forest ecosystems. By understanding the importance of species traits, filters and thresholds, restoration plantings can be designed using appropriate pioneer species, with the goal of crossing ecological thresholds like canopy closure. We have emphasised why increased native species richness of plantings is important for resilience, and that awareness about the indigenous cover on the surrounding landscape can be helpful. When choosing a reference ecosystem, urban forest remnants are useful targets for restoration as they indicate what species will tolerate urban conditions. In reviewing tree regeneration, seed banks and seed rain, and seed predation, we highlight why it is important to understand barriers to what late-successional species can and will regenerate spontaneously. When desirable late-successional species do not regenerate spontaneously, we encourage enrichment planting under the right environmental conditions. Finally, we encourage practitioners to remember to restore for both forest structure and ecological function.

We also discussed general principles determining urban restoration project success. First, that restoring to a minimum of 10% indigenous ecosystem cover in a city is a necessary target for maintaining a healthy level of native biodiversity. Secondly, forming a stepwise restoration plan with well-timed and comprehensive steps is important for efficient, sustainable project progression. Finally, we emphasised why creating and maintaining partner engagement is more important than ever when working in urban settings.

Despite the complexities of urban forest restoration, the benefits are manifold and worth the substantial effort. Native fauna like birds, lizards and indigenous bats are supported by restored urban forest habitat (Dekrout et al. 2014). Restored forests will have positive ramifications on the quality of our waterways by filtering water running into our rivers (Collier et al. 2008) and lakes (Duggan 2012), and cleaning air in our city.
streets (Pugh et al. 2012). Finally, urban forests enrich the lives of city citizens by providing green spaces for recreation, community involvement and connection with our precious biological heritage.

**Acknowledgements**

We thank D. Laughlin and L. Overdyck for permission to reproduce figures and T. Cornes, C. Kirby and S. Laing for assistance with editing and formatting of figures. Figure 1 adapted from a rainforest structure diagram, courtesy of the Wet Tropics Management Authority (www.wettropics.gov.au/rainforest-structure).

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**Funding**

Funding for writing this manuscript was provided by the People, Cities & Nature research programme, which is funded by a Ministry of Business Innovation and Employment (MBIE) [grant number UOWX1601] from the New Zealand government.

**ORCID**

*Kiri J. Wallace* [http://orcid.org/0000-0003-1236-6846](http://orcid.org/0000-0003-1236-6846)

**References**


Clarkson BD, McQueen JC. 2004. Ecological restoration in Hamilton City, North Island, New Zealand. 16th Int'l Conference, Society for Ecological Restoration; Victoria, British Columbia, Canada.


NIWA. Cliflo. NIWA’s national climate database on the web.


Waitematā Local Board
15 September 2020

Priscila Firmo

From: Gael Baldock <gaelb@xtra.co.nz>
Sent: Thursday, September 17, 2020 4:16 AM
To: Priscila Firmo
Cc: Richard Northey (Waitemata Local Board); Kerrin Leoni (Waitemata Local Board); Alexandra Bonham (Waitemata Local Board); Adriana Avendano Christie (Waitemata Local Board); Graeme Gunthorp (Waitemata Local Board); Julie Sandilands (Waitemata Local Board)
Subject: Western Springs Lakeside Park playground, toilet block, safety presentation for the MINUTES
Attachments: IMG_6212.mov
Categories: ANSWER

Waitematā Local Board Members

Tuesday with technical faults during my presentation to Waitemata Local Board via mobile phone not being able to see my slides and audio cutting out made it was my worst experience of presenting. I would have come along to the Town Hall if I had known that was an option.

Presentation on Playground and Toilet Block as approved in the 'Western Springs Lakeside Plan'
A post on Waitemata Local Board Facebook page

Playground
Slide 1. Location of playground works

![Location of playground works](image)

Slide 2. Aerial Plan showing existing path through playground
Slide 3. Perspective marked up with new undersigned paths in orange not taking into account the steep hill, too steep for mobility access, or the foundations required to go through the swampy grounds of the wetlands which would require extensive and expensive foundations through this area that is part of the cleaning system of the manmade Lake that has not been considered in this Plan.

Slide 4. These items do not appear to be considered in the sketch plans:
1. New paths (materials? size? foundations? cost?)
2. Steep hill (not mobility accessible whilst current path is at an acceptable accessible slope)
3. Wetlands (not appropriate location of path as this is more of a 'bridge' and interferes with wildlife)
4. H&S kids & birds (What is the liability for Board Members and AC Staff and designers regarding the widened paths for cyclists speed around birds and children? An accident/fatality possibility)
5. Tree removal (How many trees are to be removed for this design as they do not appear to be included in the sketch?)
6. Staging (Why is the entire area being blocked off to public access when this Sketch Plan shows 'Stage 1 & Stage 2')
7. Cost The playground shows cost of approximately $1.5 million in this document


Does this $1.5m include the paths?
5. Construction Staging

Slide 5. Plan
1. Wider Playground & Path Upgrade
Slide 6. Detailed Plan. No area for children to practise bike skills
2. Playground Concept, 1:250 @

Bark cushionfall
Slide 7. Playground equipment purchased a year ago before Plan approval. All for a very underwhelming playground design instead of a Zoo themed one that would have attracted children from near and far....after all it is a children's park.
3. Playground Equipment

Senior Play Module

- 33 users
- climbing (ladder, rock climbing, rope)
- tunnelling
- balancing
- sliding (x 2)
- imaginative play

Infant & Junior Modules
**Toilet Block to be demolished** according to the 'Western Springs Plan' approved by WLBD.
This functioning toilet block was built in the 1980s in precast concrete to last.
And while the park is closed for this playground construction from September to January, the only toilets in the park by the maintenance entrance to the Stadium will be used then afterwards they will be demolished......they're perfectly useable.....demolition unnecessary.....

Slide 8. Location of toilet block so Board Members can visit

Slide 9. Exterior view and pukeko mural
Slide 10. Seat by exterior showing precast concrete exterior

Slide 11. Swan mural to entry of female toilet

Slide 12. Shag mural to entry of male toilets
Item 9.3

Slide 13. Concrete wall detail showing solid construction
I suggest that WLB reconsider their approval of the demolition of this toilet block and ensure it is better sign posted and lit.

Pipe from Stadium maintenance area
Slide 14. Pipe heading towards wetlands. The mother swan was hooting in distress as her baby cygnet trapped behind this large pipe so I rescued it.

Slide 15. Pipe over bridge to Stadium maintenance area.
Slide 16. Pipe though gate. H&S questionable with exposed plug and no wet weather switches

Baby Birds Safety
Slide 17. Swan and cygnet

Slide 18. Paradise Duck parents with 5 ducklings
Slide 19. Paradise ducks and ducklings, Swans and cygnets all crossing paths safely because the main users of the Park are the children who ride slowly.
Slide 20. Opening this Park up to be part of the cycle network will endanger the lives of the birds and the children who wander and ride across the paths. The H&S liability on designers, staff and Board Members could be mitigated by a 5km speed limit.

Park Safety and stopping feeding of bread to the birds could be achieved by reinstating the Park Ranger.
Thank you WLBM for saving the 'iconic double hump bridge'.
Here’s the Ugly Duckling saying "thank you"
Please make this into a heritage structure, repair and paint it?
Please consider adding more eel encounters by constructing a triple hump bridge either side as per my design?

Gael Baldock

Sent from my iPad
Endorsement of the preliminary design for the Myers Park stage two project - Mayoral Drive underpass
MAYORAL DRIVE STEPS

The Mayoral Drive steps design, which was endorsed by Auckland Council has been rationalised to gain the most out of the structure. Key differences between the endorsed design and the current proposed design include providing a level landing from the adjacent buildings fire escape. The proposed design reduces the size and importance of the plaza space at Mayoral Drive level and makes more of a celebration and feature of the steps. The access route remains to the crib wall side, but running alongside these are the larger, seating steps. Larger steps provide opportunities for people to sit, have lunch and linger, whilst staying clear of the access route. It was observed through site visits that people are already using the steps for this activity.

Another key change from the endorsed design is rationalising the screening along the edge of the steps, ensuring the route is visible and permeable from all angles. The proposed steps will still incorporate concepts developed by artist Tessie Harris, including patterns on the ground plane and along the screening/balustrade to the edge.

KEY
1. Mayoral Drive access level
2. Perforated steel edge with pattern designed by Tessie Harris
3. Accessible steps (150 x 315mm)
4. Timber seating steps (945 x 450mm)
5. Fire escape
6. Existing crib wall
7. Handrail
8. Existing oak tree
9. Proposed Pohutukawa tree
10. Proposed cabbage trees
11. Understory planting
Attachment A

Item 9.4
Attachment A

Item 9.4
Item 9.4

Waitematā Local Board
15 September 2020

Attachment A
Alexandra Bonham Board Member Report

This report covers my Waitematā Local Board Activities from 7 August to 11 September 2020. My roles include: Planning and Heritage portfolio (lead); Culture, Arts and Events portfolio (second); Domain Committee member; liaison for the Karangahape Road Business Association and Herne Bay Residents Group. The WLB is also advocating for greater protections of the Hauraki Gulf and our notice of motion has been picked up in Albert Eden and Orakei which has led to a presentation at the Hauraki Gulf Forum and an article in the Central Leader. The WLB notice of motion asking for council to develop a climate change resilient strategy was taken up by the governing body and a meeting was planned the day before the resignation of CEO. We are awaiting information on how things will proceed. However there has been progress on another part of the notice of motion: council staff have started to work on reducing barriers for residents to obtain water tanks.

Portfolio Report: Heritage and Planning
I keep track of resource consent applications for buildings, structures, and tree pruning and removal as they are received by Council, requesting further information, plans and Assessments of Environmental Effects for applications of interest. Significant applications are referred to the relevant residents' associations for their input which I then relay to planners as part of the Local Board’s input. I particularly keep a look out for tree removals, helicopter pad requests, digital billboards facing residential buildings, impact on heritage buildings and place and more than minor breaches of the unitary plan. The Waitemata Local Board recognises the amenity value of trees and has adopted the Nga Here Urban Forest Strategy. Where it is possible to keep trees we advocate for them. Sometimes trees may be removed for the building of transport and energy infrastructure that locks in lower carbon emissions in the future. Where trees are removed our position is that there should be more trees planted than are lost. Good urban design and spatial planning can make a huge difference to the quality of a neighbourhood. Considering new developments through a climate change lens is also necessary. The council has committed to halving emissions by 2030 which will impact decision-making across all departments.

Resource Consents (of interest)
401-3 Parnell Road
The WLB asked for this application to be publicly notified as the height of the building is substantially higher than what is allowed for in the unitary plan. This happened with comments closing in August. The building itself is attractive, upscale and keeps the heritage façade. It is six storeys high with a good ceiling height in the apartments. They would certainly be nice to live in. Our view was that the building is significantly different to what may be expected in Parnell Village and so the community should have their say and their views be taken into account.

67A Marine Parade Herne Bay Auckland 1011
CST60361511

Construct a new jetty. Advice from staff: Public access is not limited to foot access. It also encompasses access via small crafts etc. For most boat sheds and associated ramps/jetties the issue is the same. They limit pedestrian access for a short space of time. Usually they design it such that pedestrians can walk under it or around it. 10m as proposed in this instance is not a too large distance and at low tide there would be a wider intertidal area to walk across. The applicant would have a construction, occupation and use consent for the structure but they cannot limit the general public from accessing or using the structure. They will not have exclusive right."

35 Graham St
LUC60361799

There is proposed a very large building to incorporate the heritage building on 35 Graham Street. It is not compliant with regards floor to footprint ratio and the design does seem to diminish the heritage. The goals of the building are to provide a combination of public space, co-working space and offices. We have asked for full notification as the building will make a substantial impact on the environment and it is important that people have a chance to have
Waitemata Local Board
September 2020
their say on what is proposed. It is disappointing to see limited provision for landscaping,
outdoor space, and climate resilient features. These buildings are longterm projects and it
would be a shame to see quality compromised.

Part Level 1/149-159 Quay Street Auckland Central Auckland 1010
CST60361562
Waitemata Local Board
September 2020
Upgrading existing telecommunications facilities. I have asked for more information on this
but have not heard anything at this stage. The WLBI view is that such facilities are discreet
and do not reduce the visual amenity of the street.

111 Newton Road Eden Terrace Auckland 1010
LUC60361667
Erection of free standing LED billboard. In this case there do not seem to be many residents
nearby who will be affected by the billboard.

17 Kingsley Street, Westmere, Auckland
LUC60356161
This is a historic cottage and appears in Schedule 14.1 of the Auckland Unitary Plan
(operative in part) as a Category A place being part of a group of five former State Houses
built between 1914 and 1915 between 17 and 25 Kingsley Street (ID 02619). The Council
Heritage Evaluation notes that heritage significance is associated with a mix of tangible and
intangible values including:
- the Workers' Dwelling Act 1910;
- an important political and social idea in New Zealand during the turn of the
twentieth century;
- the first public housing to be planned and designed entirely by the state's
"Housing Expert", Woburn Temple;
- central government's policies on housing for workers, including the social
philosophies of the day, which informed the design, layout, construction
and location of the houses;
- assist in understanding the roots of New Zealand's state housing program
that has continued almost uninterrupted for over 100 years.

The proposed modification to 17 Kingsley Street will not impact upon the association
Waitemata Local Board
September 2020

The changes to the proposal made in conjunction with Auckland Council heritage specialists
are really welcome. The plan seems to balance well the public interest in maintaining
heritage and today’s needs. We supported the proposal.

65 Hamilton Road Herne Bay Auckland 1011
LUC60362027

The construction of a residential apartment building and associated earthworks on a
residential zoned site. While the plans seem reasonable, we have asked whether it is
possible to encourage the developer to sell the existing villa and/or to resource the native
timber within it.

1 Greys Avenue AUCKLAND CENTRAL 1010
LUC60362181

Additions and alterations to east and west façades of the ground and mezzanine floors of the
scheduled historic Civic Administration Building. The applicant is proposing alterations to the
façade of the Civic Administration Building at the mezzanine and ground levels, to provide
for future food and beverage commercial use. There have been numerous resource
consents already granted for the site, however the detailed design for this aspect of the
proposal had never reached a stage where it was able to be considered as part of earlier
applications. The façade alterations are proposed to follow closely the rhythm and design
that has been approved for the façade on levels above. While we approve the adaptation of
heritage buildings so that they can continue to be used we are a little concerned that the
style of window and door frames are considerably fatter than the heritage ones and we feel
this removes much of their elegance and intrinsic heritage quality. We have requested that
the window frames match the ones in the floors above and that the term of the sale be
complied with.
Waitemata Local Board
September 2020
Beach Road Temporary Bus Depot

LUC60361928

Resource consent is sought to establish a temporary bus depot on this site for a 20 year duration, with this depot supported by an ancillary office building and staff carparking. As part of this proposal, parking for 43 buses and 31 ancillary parking spaces, the construction of a new office building, and the construction of infrastructure connections associated with the bus depot are proposed. Consent is required as the proposal is an activity not provided for in the Business City Centre Zone, and the proposed on-site parking arrangements will result in infringements to the AUP (OP)’s transport standards in relation to the number of parking spaces and the use and development of the existing vehicle crossings and access. The works are also located in a floodplain. Consent is also sought for the office building’s infringement to the AUP (OP)’s frontage height and floor-to-floor height control, and further information will be sought in relation to this office building and its height/appearance within the site. The applicant has also provided an assessment to confirm that any discharge associated with the works will occur as a permitted activity. There may be good reasons to have a bus depot on the site but it is likely to have an impact on the area. There is a good deal of community interest in this application. While it is a temporary measure, there is precedent for temporary measures to last longer than anticipated. As a result we have recommended full public notification.

118 Carlton Gore Road Newmarket Auckland 1023
LUC60363018
WAT60363019

Construction of a co-living build-to-rent residential development at 118-120 Carlton Gore Road. This exciting development in Newmarket also demonstrates what could be the future of flattening. Rooms are ensuite with their own small kitchens so one can have one’s own space but there are also lots of shared spaces at the ground floor and top floor level to find
Waitemata Local Board  
September 2020

some company. This sort of living was very common in cities for twenty-somethings a hundred years ago and it is rather fab to see it making a come back with a fresh modern twist.

Lvl 2 2-3/ 283 Karangahape Road Auckland Central Auckland  1010
LUC60363044

Erect a new 6m x 3m digital billboard at 283 KRoad, Auckland Central. It is proposed that the billboard is placed in front of windows of Samoa House which is a heritage building and architecturally very interesting. We are uncertain whether the placement of the billboard is ideal and council officers are working with the applicants to find a better solution.

Level 8+/87-89 Albert Street Auckland Central Auckland  1010
LUC60363062

The proposal involves the refurbishment of the buildings at 87 Albert Street, 40 Federal Street and 16 Kingston Street to amalgamate the buildings on the lower levels for
commercial use, and a new eatery area, providing access through from Albert Street to Federal Street and Kingston Street. The works include internal alterations, an addition to the Albert Street building frontage to extend the ground floor to the street edge and provide a reconfigured front entrance and street veranda. A rooftop structure is proposed around the edge of the top of the building as an architectural top to the building. Signage is proposed for all buildings. One of the signs is proposed to be digital, displaying options for the eatery inside. The proposal results in the removal of 7 parking spaces from the basement levels. Consent is required as a discretionary activity. In theory this sounds great but I would like to see the plans to get an idea of whether the rooftop is open to people, and also more information on the digital signage. Noise and light pollution is an ongoing stressor for residents and getting the balance between a vibrant and livable city is always a concern of the local board.

**Arts & Community and Events Portfolio**

This has been a difficult time for the arts. Theatres can open at level 2.5 with appropriate social distancing but it is not the same. A number of outdoor events have also been cancelled, for example, the Turama Light Festival in Albert Park. Festivals like the Grey Lynn Festival, the Parnell Festival of Roses and Festival Italiano are still planned to go ahead, as are other festivals in parks. We are keeping everything crossed that they can be run safely.

In the background artists and event planners have been sharing ideas on good practice in creating a sense of buzz and excitement in urban centres. The Outside In series has been led by Barbara Holloway and Michelle Ardern of the ADO and has allowed people inside and outside of council to share ideas. Ironically it may be that the Innovating Streets package will be the event, coming as it does from the transport fund. Plans to improve Ponsonby Road
Waitematā Local Board  
September 2020  

and Emily Place are to involve the community and should be an opportunity for artists to be involved.

**Herne Bay Issues**

There are a number of ongoing local issues:

1. Street trees. Because of covid19, there has been insufficient planting of street trees in Herne Bay where trees have failed. They would like fast growing trees planted next year.

2. Helicopters. The residents association have asked us to advocate that private helicopter pads be prohibited in residential areas.

3. Stormwater concerns. The residents make the case that budgets for stormwater maintenance are less now than when the city was amalgamated which is problematic.

4. Plan Change 26. The desire to densify Auckland centre may mean that some older properties may be compromised as residents will not be able to do maintenance on them. They have asked us to advocate so that where an old property is by the boundary, the neighbour must continue to allow them access, to paint the side wall for example.

These points all seem reasonable and the board will consider them as advocacy positions.

The WLB already advocates for increasing the tree canopy, blanket protection of urban trees and for better water investment.

**Meetings / events attended**

7 August. Waitemata Local Board Plan consultation at the Central City library

Met Ella of SpaceToCo for a coffee at Scarecrow
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 August</td>
<td>Attended the candidates debate for Auckland Central at Freeman’s Bay</td>
</tr>
<tr>
<td></td>
<td>School</td>
</tr>
<tr>
<td>10 August</td>
<td>Presented at Auckland University on Local Board Plan</td>
</tr>
<tr>
<td>12 August</td>
<td>Covid19 Briefing</td>
</tr>
<tr>
<td>17 August</td>
<td>Briefing &amp; discussion: Proposed plan change to enable rainwater tank</td>
</tr>
<tr>
<td></td>
<td>installation</td>
</tr>
<tr>
<td></td>
<td>Local Board Members’ Forum, central.</td>
</tr>
<tr>
<td></td>
<td>Auckland Domain Committee Meeting</td>
</tr>
<tr>
<td>18 August</td>
<td>Covid19 Alert L3 Update</td>
</tr>
<tr>
<td>20 August</td>
<td>KBA Committee meeting</td>
</tr>
<tr>
<td></td>
<td>Grey Lynn 2030 community resilience meeting</td>
</tr>
<tr>
<td>21 August</td>
<td>Covid19 Update</td>
</tr>
<tr>
<td>23 August</td>
<td>Hapua thrive – community meeting on water quality</td>
</tr>
<tr>
<td>24 August</td>
<td>presented at Hauraki Gulf Forum Meeting</td>
</tr>
<tr>
<td>26 August</td>
<td>Finance and Performance Committee workshop to discuss the LTP</td>
</tr>
<tr>
<td></td>
<td>[off skiing 31 August – 6 September]</td>
</tr>
<tr>
<td>7 August</td>
<td>Coffee with Herne Bay Residents Group</td>
</tr>
<tr>
<td></td>
<td>Meeting with Western Springs Forest community Group</td>
</tr>
<tr>
<td>11 August</td>
<td>LGNZ Auckland Zone meeting, an opportunity to discuss with other councils</td>
</tr>
<tr>
<td></td>
<td>thoughts on climate change and water strategies etc.</td>
</tr>
</tbody>
</table>
Waitematā Local Board
September 2020

Conferences / member development

14 August  Outside In Speaker Series. “Non-instagrammable Urbanism – tactical urbanism wins and fails”

19 August  Outside In Speaker Series: “Working with local boards: more fun than it sounds”

Disclosures

I am doing a PhD in the Dance Department of the University of Auckland, studying the potential roles of playful arts practices in co-producing the Playful City. I am a member of Women in Urbanism, an occasional walking tour guide with Auckland Free Walking Tours and a parent trustee on the Richmond Road School board. My husband is director of dog walking company Fetch.

Finally

I am on Facebook and I have set up a website alexbonham.co.nz in which I discuss some of the issues that are crossing our desks and give more information and links on engagement with council. Julie Sandilands and I are leading a pilot “local government TV on Facebook”, which aims to engage the community with issues that may matter to them! Anyone living in Waitemata is very welcome to get in touch with me.

Recommendation

That this report be received.
Julie Sandilands Board Member Report

Portfolios:
Environment and Infrastructure
Co-portfolio: Transport

External organisations:
Grey Lynn Business Association
Uptown Business Association (alternate)
Grey Lynn Community Centre (alternate)
Grey Lynn Residents Association
Wynyard Quarter Transport Management Association

This week is Māori Language week, and in honour of this (and in support of improving te reo Māori abilities within Waitemata), my board report for this month is a lesson and four facts about te reo Māori.

Enjoy.
Your Journey to Learning the Māori Language Starts Here

Here is a bite sized chunk of te reo Māori language get you started.

Three Little Words

Before you do anything else, learn these three words. It may seem like not much, but you’ll be amazed at the range of things you can say once you’ve got a small vocabulary under your belt.
Have you learned these three words? Can you repeat them without looking? Will you be able to remember them tomorrow?

If the answer is yes, great! Let’s put those words to use:

---

**What is that?**

You might have noticed that the word ‘he’ in Māori corresponds to the English ‘a’ or ‘an’.

Here are two more words that will multiply the number of things you can say in Māori:

‘Aha’ means ‘what’.

‘tēnei’ means ‘this’.

Put them all together, and we have:
He aha tēnei?

Which means ‘what is this?’ (or literally: ‘a what this?’)

To answer this question, all you need to do is replace the word for ‘what’ (aha) with the object.

For example:

He aha tēnei?

He āporo tēnei.

Let’s do some practice. Have a go filling in the blanks:
As they say, to master a new skill requires 10,000 hours worth of practice. Let’s tick off a few minutes of those 10,000 hours now:

Fill in the blanks:

He aha _____?

He āporo tēnei.

He _____ tēnei?

He pene tēnei.

__________?

He pukapuka tēnei.
Congratulations! You can now ask ‘he aha tēnei?’ and give three different answers! You may not quite be fluent yet, but you’ve made a great first step.
4 Amazing Facts About the Māori Language

Here are four facts about te reo Māori that you perhaps didn’t know:

1: Sentence structure is much easier than in English

If I ask you a question in English, for example: ‘How are you?’
The order of that question is:

1: The question word (‘how’) 2: The verb (‘are’) and 3: The subject (‘you’).

When you answer the question (‘I’m fine’), you have to change the sentence order:

1: The subject (‘I’), 2: The verb (‘am’) and 3: the answer word (‘fine’).
As a native/fluent English speaker, you do this without thinking about it. But for someone trying to learn the language, this can be really difficult.

The good news is that in Māori, the question and the answer have the exact same structure.

All you need to do is replace the question word (pēhea/how) with the answer (paī/good).

<table>
<thead>
<tr>
<th>He</th>
<th>aha</th>
<th>tēnei?</th>
<th>Aha</th>
<th>what</th>
</tr>
</thead>
<tbody>
<tr>
<td>pene</td>
<td>tēnei.</td>
<td>Aha</td>
<td>pen</td>
<td></td>
</tr>
<tr>
<td>He</td>
<td>pene</td>
<td>tēnei.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>He</td>
<td>pene</td>
<td>tēnei.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nō</th>
<th>hea</th>
<th>koe?</th>
<th>Nō</th>
<th>Taupō</th>
<th>ahau.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where</td>
<td>are</td>
<td>you</td>
<td>from?</td>
<td>I</td>
<td>am</td>
</tr>
</tbody>
</table>

2: Māori has a special way of talking about NOW

In English, when we talk about things that are true now, we use the present tense. For example:

What is your name? My name is Julie.

What are you doing? I am eating.
Where is the pen? The pen is on the table.

Where are you from? I am from Taupō.

What is this? This is a pen.

How are you? I am fine.

Some of these sentences are talking about things that are true now, but may change in the future, or may have been different in the past.

Where is the pen (now)? It is on the table (now — but later it might be somewhere else).

How are you (now)? I am fine (now — but yesterday I was terrible).

Other sentences are generally true all of the time.

What is your name? (Presumably, this was also your name yesterday).

Where are you from? (Hopefully, you’ll still be from this same place tomorrow).

In Māori, when talking about now (and only now), we use kei te or kei. When we’re talking about things that are true in general, we don’t.
Have a look at the following sentences, and spot the kei te /kei when talking about ‘now’, and compare them to their English equivalent:

Kei te aha koe? What are you doing?
Kei te kai ahau. I am eating.

He aha tēnei? What is this?
He pene tēnei. This is a pen.

Kei te pēhea koe? How are you?
Kei te pai ahau. I am fine.

Ko wai tō ingoa? What is your name?
Ko Julie taku ingoa. My name is Julie.

Kei hea te pene? Where is the pen?
Kei runga te pene i te tēpu. The pen is on the table.

Nō hea koe? Where are you from?
Nō Taupō ahau. I am from Taupō.
3: Gender really is a social construct

In Māori, there is just one word for ‘he’ and ‘she’ (that word is ‘ia’).

Throughout most of English history, ‘he’ and ‘she’ have been used to let the person you’re talking to know whether the person you’re talking about has dangly bits or not.

This is quite a strange quirk of the English language, so it’s great to know that te reo Māori does away with this.

4: Nouns are also verbs (congratulations on doubling your vocabulary!)

If you’re a New Zealander, you probably already know that the Māori word for food is ‘kai’.

The amazing news is that this is also the word for ‘to eat’.

You probably also know that the Māori word for song is ‘waiata’.

So, what is the Māori for ‘to sing’?

Exactly!

Congratulations on doubling your vocabulary!
Kei te kai ia. She is eating.

Kei te waiata ia. He is singing.