The Emergence of Collective Dreams:

An exploration of community development based collaborative landscape design

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“A proper building grows naturally, logically, and poetically out of all its conditions.”

(Frederick 2007 – paraphrasing Louis Sullivan)

“To build a house in the first person, a place as much one's own as a second skin, would require an exploration of self and place- and work itself-that simply could not be delegated to somebody else. The meaning of such a place was in its making.”

(Pollan 2008, 24)

“While we may go faster alone, we go further together.”

Old African Proverb (Inspiring Communities 2010, 11)

Note on cover illustration: This image was created by artist Paul Bradley following conversations had with the author of the present thesis. It is used with permission.

Abstract

This thesis explores the nature of a landscape design process that could ensure the resilience and sustainability of suburban public space. Utilising a literature review and two large case study projects, the research presents an argument that:

- public landscapes must be seen as multi-dimensional complex systems emerging from the co-evolution of different players in the landscape community with the dynamics of their wider ecosystem; and
- the sustainable design of these spaces is dependent on collaborative decision-making, the engagement and empowerment of the local community, and the restoration of on-going responsive interaction with the site.

This approach is referred to as 'deep landscape design' and is expanded through the presentation of a number of guiding principles which it is hoped will support designers, council staff and community leaders to implement it. These guiding principles describe a facilitated, nested and iterative model of design in which:

- the physical, ecological and cultural dimensions of landscape can be integrated holistically;
- multiple engagement methods are established enabling the inclusion of a large range of community partners; and
- those engaged in the design of the space are able to reflect on the impacts of their decisions and make changes accordingly.

The research suggests that through the inclusion of deep design principles, small projects with a specific focus can initiate a process of increasing community knowledge, skill, and ownership in the design and maintenance of landscapes. A process which is necessary for the sustainability and resilience of public spaces.

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Developing this narrative has been a process of research and inquiry, of reflection and communication. In attempting to tell this landscape story, I have been on a long journey with many twists and many turns, but I have not been on this journey alone.

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As I have explored this argument, I have also deepened my understanding of my own work and my own relationship to the landscape, an evolving relationship, to describe which I will continually seek a voice.

Ko Ranginui e tū iho nei, Ko Papatūānuku e tākoto ake nei.

Ngā mihi nui.

Table of Contents

Abstract.	2
Acknowledgements.	3
Table of Contents.	4
1. Forward.	5
2. Theory.	8
3. Introduction to case studies.	37
4. Case study 1 Participatory design of an edible garden and outdoor classroom at Martinborough School.	43
5. Case study 2 Catchment Community: a community based approach to the ecological restoration and development of a new public space in Wellington's Happy Valley.	79
6. Conclusion.	131
Bibliography.	158
Appendices.	163

1. Forward

When looking at a landscape, if the viewer's perception is based only on what can be seen immediately with the eyes, the viewer is seeing only a tiny portion of it. Beneath the canopy, within the bark, are incalculable processes, relationships and happenings, an ecological dance of activity. This dance happens both within each moment and also through time in growth, change, seasons, succession, evolution and speciation. Landscapes have a future, as well as a past and present.

This dance in space and time occurs not only in the geo-physical, chemical and biological realms, but also within the mental and emotional body of each person and the structures of society. Interacting with the water, rocks and organisms of the landscape are the values, aspirations, opinions, understandings and theories of countless people, whether they are obvious or not. In the case of public green spaces, this point is particularly relevant, as these are tangible meeting points of the human diversity of an area with its non-human ecology.

The future and sustainable development of these public landscapes is utterly interrelated with the relationships they share with those individuals and groups who live in, play in, work in and pray in them. In turn, these relationships are affected and influenced by the way the spaces are governed and designed.

The way in which landscapes are designed and governed, and the influence this has on their sustainability, is the focus of the present study. Specifically, this thesis attempts an answer to the following question:

To ensure the sustainability of public landscapes, what might their design process be like?

In order to answer this question, the thesis will explore the nature of landscapes, the place of humanity within them, the nature of sustainability, and what these mean for landscape design. In doing so, this thesis will present an argument for an alternative theory or paradigm of landscape design.

This exploration will focus on small scale suburban public spaces, particularly parks, gardens and revegetation projects. These types of landscapes have been chosen because they are meeting points of people and nature (as alluded to above), and also to keep the scope of the research manageable. Urban landscapes, or landscapes of a regional or national scale must be left for further research.

Essentially this thesis will explore the theory and practicalities of a 'bottom-up' public space design process, in which the foundation is one of genuine collaboration between the council, design professionals and the public. This is a process which through utilising the unique views and potential of each member of the landscape community, could support the manifestation of a shared vision, or a collective dream of ecological and social sustainability.

The elucidation of this design paradigm takes place through a review of literature concerning the nature of landscape, sustainability and community engagement, and also through two large case study projects.

The author of this thesis is both a professional and long term volunteer in the fields of environmental education, landscape design and community development, and thus there was a unique opportunity to explore the theory discussed here in two real time projects. The first of these projects concerned a primary school that wished to develop a new edible garden space within their grounds, and the second a community stream care group in the process of developing a site to serve as both a viable restoration site and a new public space. Through both exploring academic literature and realistic projects, it is hoped that the resulting design paradigm will be both philosophically sound and practically applicable.

The development of this paradigm is essentially a process of praxis, or adaptive learning. The theory described in the core literature review section informed the design process utilised during the case studies, and the experience of the case studies further informed the theory. The answering of the core question posed above will thus form a narrative throughout the thesis. The thesis as a whole will attempt to tell the story of a new way of looking at landscape design and maintenance. That said, this narrative will

be framed in three ways:

- a basic theory of sustainable landscape design process, which will be based on a review of literature concerning the nature of landscape and landscape sustainability;
- specific reflections on the logistics of such a process in reference to the experience of the two case studies undertaken;
- a general summary and exploration of the core principles of such processes.

It is hoped that the thesis will contribute to the exploration and development of sustainable landscape design theory. This thesis will add to the discussion of whether it is possible for councils and landowners to empower communities to take ownership of the design and maintenance of communal areas, which may be an essential factor in ensuring their long term resilience. More specifically, it is hoped that the learnings gathered from the case study projects could serve as a guide for schools and community groups wishing to engage in landscape design projects.

To begin exploring the principles of a design process which could ensure sustainable public landscapes, this thesis must first explore what is meant by the terms landscape and sustainability.

2. Theory

2.1. What is landscape?

To understand what landscape is in the context of this thesis, it is necessary to look at the relationship between humans and landscape.

2.1.1. Landscapes - more than scenery?

Over the course of their physical and cultural evolution, as they have moved through the diverse environments of earth, humans have viewed landscapes through veils of meaning and expectation and manipulated them to suit their own ends. Landscapes have been the source of sustenance, shelter, recreation and reverence. In Aotearoa New Zealand (ANZ) there is a strong colonial legacy of viewing the country's landscapes as wildernesses to be explored or tamed, a utilitarian attitude to them for being sources of resources to be harnessed, and a picturesque perspective in that they are to be explored and marvelled at, or more contemporarily, marketed for tourism.

However, this manipulation is now occurring faster and at a larger scale than ever before (Resilience Alliance 2010, 4). If the remaining wild spaces, and the fragile ecology of urban and suburban environments are to survive and thrive, landscapes must be viewed with a wider lens than that which can see only scenic beauty, sources of nourishment, shelter and energy, or products to market. So from a broad perspective, what are these things called landscapes, and how can their relationship with people be defined?

From an academic perspective, Stephenson et al. (2010, 14–17) suggest that landscapes can and have been viewed in a wide range of ways; as place, scene, cultural construct or text, a “*palimpsest*” recording the histories of those who have made it their home, a physical “*embodiment of movement and activity*”, or the environment which results from an engagement between specific practices and the places in which they occur. They argue that landscapes possess both symbolic and functional value to people and that human shaping of the land has been as much determined by ideology as it has by need. Their discussion reveals the dual nature of landscapes as both an “*external reality*” and also as “*a way of seeing*” (Stephenson et al. 2010, 16) and suggests that people are on a societal journey from somewhat shallow views towards a deeper

concept of landscape which could assist in understanding true human identity.

For ANZ this journey towards a deeper concept of landscape may in fact be easier than for other nations. As a bicultural (not to mention multicultural) nation in legislation as well as perspective and lifestyle, there are diverse and strong cultural layers to be incorporated into its landscape definitions and practices. In Iwi¹ traditions there is a rich heritage of very intimate and powerful long term human-landscape relationships. For example, the Māori concept of whakapapa, in which the people and the features and forces of the landscape are viewed as sharing common genealogy, and thus literally be a family or whānau, is a powerful informing perspective for many Māori and one from which mainstream ANZ can also draw inspiration. The phrase 'ko te awa ko au, ko au ko te awa' or 'I am the river, the river is me' reflects this understanding. The landscape is not seen as being something outside of self, but rather as an integral part of self.

As the granting of large scale resource consents in ANZ often requires the consented party to take steps to preserve 'landscape value', the need to define the nature of landscape also comes up in legal settings. Recent precedents have made significant steps towards a more holistic definition. In 2011 the Hauauru ma Raki wind farm in ANZ's Waikato region, which is to be the country's largest, was granted consent (Lister 2011, 38–39). However this only took place after a long inquiry process into the project's impact on the landscape. In a decision that may be considered a benchmark for similar scale projects in the future (Lister 2011, 38), the Board of Inquiry based their assessment on the following definition of landscape:

*“(a) a biophysical entity;
(b) and is valued, used and modified by people;
(c) and is also perceived and experienced by people.”*

This definition is significant in that it identifies that human values and perception are key components of the landscape. The idea that there is a cultural dimension to landscapes (which plays a fundamental role in determining what is perceived and valued) is not a new one, and the study of this dimension is the domain of the field of

¹ The term Iwi, literally meaning ‘bones’ refers to the indigenous tribes of Aotearoa New Zealand.

² In an ANZ context, some interesting and innovative research into the mapping and spatial analyses of culture and history has been undertaken by researchers at Victoria University of Wellington. Using

cultural landscape geography².

Cultural landscape geography traditionally deals with “*mapping the physical expressions of a culture in the landscape*” (Munns 2003, 171), and with using the artifacts and boundaries left behind by people to understand the nature and spread of different cultures. According to Munns' Landscape Glossary (2003, 171) this idea developed into an understanding that landscapes were “*socially produced in time and space*” and embedded with “*a host of symbolic and ideological codes.*” These could be read as if they were texts documenting not only the history of a given society, but also that which they valued and believed. Robertson and Richards (2003, 6) have argued that reading landscape in this way may not bring to light the general culture of people, but rather the power structures that were at play in a given location and time. Thus, as they study landscapes, cultural geographers pay as much attention to the social, economic, ideological and political processes of human culture as they do to the bio-physical aspects.

The idea of the social production of landscapes can be taken to an extreme; Diane Menzies refers to landscape as a “*cultural construct*” (Stephenson et al. 2010, 10). Or it can be seen in a more reciprocal, “*intertextual*” way (Munns 2003, 174), in that it is accepted that landscapes both inform the witnesses and actors of their history and value, and are informed by, or have meaning superimposed on them, by those very witnesses.

Despite difference in detail, it is generally agreed that the development of the cultural identity of a landscape is an ongoing and dynamic process.

“*Ingold... [rejects] the notion of landscape as a cultural or symbolic construct as it falsely separates mental and material worlds. Instead he proposes a temporality to landscape in order to 'incorporate the processes of social life'... landscape as part of and the product of the dynamic process of dwelling in which it, the landscape, 'is never built...is perpetually under construction...is always in the nature of 'work in progress'*” (Robertson and Richards 2003, 7 - referring to Ingold 1993, 162).

² In an ANZ context, some interesting and innovative research into the mapping and spatial analyses of culture and history has been undertaken by researchers at Victoria University of Wellington. Using Google Earth, the researchers created layered maps showing the relationship of Māori history, stories, songs and “*geo-biographies*” to different landscape features (Mercier 2011, 10).

2.1.2. The coevolution of consciousness and landscape

Referring to this constantly changing, dynamic quality, Bloch(1984, 1) has described nature (or landscape) as “*a process, not as a catalogue of fixed structures*”.

The idea that the cultural dimension of a landscape and its artifacts (whether physical or conceptual) develop through a dynamic and reciprocal interplay with the bio-physical dimensions is core to the argument presented in this thesis. Taking this approach, Buchecker et al. (2003, 30) have argued that the static view of society in which landscape is seen as a resource (to be either exploited or protected) is outdated and suggest instead a dynamic model of society landscape interaction. Their co-development view of landscape and society, which is depicted in Fig. 1 below (Buchecker et al. 2003, 30) is based on a more dialectical approach in which the landscape, society and individuals are seen to coevolve through on-going interaction.

Fig. 1. The dialectical relationship between individuals, society and landscape (Buchecker et al. 2003, 30).

The coevolution of society and the bio-physical has also been explored by Norgaard (1994). In his review of Norgaard's arguments, Kallis (2007, 1) presents the view that coevolution is characterised by an on-going relationship between entities which has an impact on their evolution. In the case of the relationship between the cultural and bio-physical dimensions of a landscape:

“For Norgaard coevolution is a process of coupled change between practices, values and the biophysical environment. Humans change environments both materially and cognitively, he argued, and in turn new environments change human practices and ideas” (Kallis 2007, 1).

At a very simple level, the traditional cottage garden could be seen to be an example of this, in the sense that it exists as a dynamic and dialectical relationship between the 'forces of nature' (the inherent growth potential of the plants, the seasonal effects of weather, the appetites and ecology of insects, birds and other animals) and the on-going changes and additions the human gardener chooses to make.

The work of the Resilience Alliance (2010, 4–10) defines landscapes as complex 'social-ecological systems' and describes their coevolution as a “*panarchy*” of nested sub-systems which while possessing their own internal dynamics or “*adaptive cycles*”, also influence the states and dynamics at of the systems 'above' and 'below' them. Each subsystem of the panarchy can be defined by social-ecological boundaries that are both spatial and temporal, but will not be seen in their full context unless “*cross-scale system interactions*” are also considered. Managing a social-ecological system thus “*requires an understanding of what is happening at multiple scales*” (Resilience Alliance 2010, 8) Similarly, this nested view of the structure of reality (or in this case landscapes) is referred to by Koestler (1969, 192-296) as a “*holarchy*” in which systems (or “*holons*”³) are both self-contained wholes and subordinate subsystems dependent on the super-system of which they are a part.

This idea of a holistic cultural-bio-physical landscape, existing at different interconnected scales can be viewed from another, perhaps more metaphysical perspective. This approach views human consciousness, thought, emotions (and the complex social, cultural and technological systems which have resulted from their development), as emergent properties of the ecosystem, and thus as a part or a sphere of the landscape. This perspective was developed by geochemist and biosphere concept pioneer Vladimir Vernadsky from 1920-1940 in his theory of the “*noosphere*”

³

From the Greek roots holos-whole, and proton-part (Koestler 1969, 192-296).

(Oldfield and Shaw 2006, 145-154). In Vernadsky's theory the biosphere is seen to be an emergent property of the complexity of the geosphere, and one which has the capacity to transform it dramatically. So too, the noosphere is an emergent property of the biosphere and has the potential to dramatically transform it in turn⁴. The noosphere was also described by Vernadsky as “*the energy of human culture*” and “*cultural biogeochemical energy*” (Oldfield and Shaw 2006, 145-154; Vernadsky 1945, 387-389).

The concept of the noosphere as a cultural dimension of the landscape, and one which interacts with the rest of the landscape could also be paraphrased as follows:

Human beings are animals, which are as much a part of the human ecosystem as any other other organism. As consciousness and mental faculties are part of being human, they are also part of the ecosystem. As ecosystems evolve through the interaction of the countless behaviours and qualities of the organisms of which they are composed, it follows that human inhabited landscapes evolve through the interaction of their bio-physical aspects with the behaviours, systems and structures generated by human consciousness, thought and emotion.

“How do we humans fit into the natural world and in what ways is that different from other creatures? Are our buildings the pure product of culture, like poems, or are they more like adaptations akin to a pattern of camouflage in an animal.” (Pollan, 2008, xii)

This thesis disagrees that human creations (whether they be buildings *or* poems) are pure products of culture, but rather that they too, like adaptations of form or the biological structural necessities of development, result from complex ecological interactions in the total landscape or ecosystem.

2.1.3. Landscape co-evolution – the total human ecosystem

It appears that the perspective taken on the relationship between the human subjective environment and the external 'natural' environment is a key factor in how landscape is

⁴ The first usage of the term Noosphere is credited to Philosopher Edouard Le Roy, a collaborator of Vernadsky's. The noosphere concept is also discussed in an altogether more metaphysical, though still useful way in the works of another, more famous Vernadsky collaborator, Pierre Teilhard de Chardin [Chardin, P T de, 1975 - first published in 1955] (Oldfield and Shaw 2006, 145-154).

defined. At the Findhorn Foundation, a Scottish intentional community, their definition of landscape, or of the 'garden-ness' of a garden is not limited solely to the plants, insects, microorganisms and soil, but includes the consciousness, subjective experience and activities of the gardeners (Findhorn Community 1975, 129).

The idea that an accurate and useful definition of landscape requires both the principle of coevolution and the inclusion of the dynamics of the noosphere has been developed to a sophisticated degree by the school of Holistic Landscape Ecology pioneered by Zev Naveh. Naveh (2000, 7-26) further explores the concept of the noosphere and adds the additional “*noospheric realms*” of the info-, socio-, and psycho-spheres and also the human conceptualised and built technosphere to his definition of landscape. All of these spheres are seen by advocates of Holistic Landscape Ecology to be emergent properties of the biosphere as a whole, that have arisen from the co-evolution of humanity and its natural environment. Thus they are intimately related to the process and function of the entire natural world. Borrowing from the Santiago Theory of Cognition of Maturana and Varela (1992, 75), this intimate, interconnected relationship is referred to as “*structural-coupling*” (Naveh, 2000, 7-26).

The central concept of holistic landscape ecology is that of the '*Total Human Ecosystem*' (THE). The THE is described as the highest level of co-evolutionary complexity (Naveh and Lieberman 1994; Naveh 2000, 7-26) and, accepting that the noospheric realms are intimately related to the biosphere, it refers to an ecological view in which the mental and spiritual human dimensions are completely integrated with their total environment. It argues that people exist within a “*single interactive system in which each species adapts to and affects others in a constant process of community evolution*” (Naveh, 2000, 16).

According to Naveh (2000, 7) it is necessary to work from the perspective of the THE towards a '*post-industrial symbiosis between nature and human society*' in landscape design and management processes.

The perspective of the THE certainly comes closer to a holistic definition of landscape in which human beings and their behaviours are seen to be a *part* of the landscape system rather than external observers, however much of its terminology is largely

anthropocentric. This thesis argues that to reach a truly accurate definition of the relationship between humans and the landscape, one which is framed in a full ecological context, and one which will enable all to operate within landscapes in a truly sustainable fashion, people must move away from anthropocentrism as much as possible.

This definition of landscape, in which the noosphere (subjective, social, cultural aspects), biosphere and geosphere are seen to be interconnected aspects of one holistic co-evolving system, and where the subjective human being is a part of the natural landscape from which it has emerged, rather than at its center, could be described as a 'deep ecology' perspective. The term 'deep ecology' was first used in 1972 by Norwegian philosopher Arne Naess (Katz et al. 2000, xi)⁵ and can be contrasted against the dualistic 'shallow ecology' perspective in which the workings of the human mind are seen as separate from the workings of nature. In this view, human value is alienated from the landscape allowing its phenomena to be observed and recorded in terms of objective 'facts', or manipulated for utilitarian gain. Naess' deep ecology is based on a "*total view*" of the nature of humanity regarding its place in the natural world (Naess 1989). Capra (1997, 7) has described this as a holistic perspective of reality emerging from a thorough, empirical and objective understanding of ecological dynamics, an acknowledgement of interrelatedness and reciprocity of subjective human values with the rest of the natural world, and an acceptance that human life is but one "*particular strand in the web of life*" rather than the center of reality. From this perspective the 'voice' of nature is considered as significant as the 'voice' of humanity. Katz et al. (2000, xiii) describe this view of landscape as "*ecocentric*":

"Ecocentrism is the idea that the ecosphere and ecological systems are the focus of value. It is a holistic view of value, for entire systems are thought to be valuable, rather than individual humans or individual natural entities (such as animals)."

The deep ecological perspective thus challenges the distinction between 'nature' and 'human nature', and argues for an inclusion of human thought and values in the conception of landscape while rejecting anthropocentrism in favour of ecocentrism.

⁵ However, as Naess' main formulation of Deep Ecology 'Ecology, Community and Lifestyle' did not appear in English until 1989, the movement owes much of its popularity to American, Canadian and Australian thinkers such as George Sessions, Bill Devall, Alan Drengson, Richard Sylvan, Warwick Fox, Freya Andrews, Andrew McLaughlin and David Rothenberg (Katz et al. 2000, xi).

2.1.4. Summary - multi-dimensional co-evolving landscapes

Drawing from the holistic or 'deep ecological' perspectives of landscape discussed above, the present thesis defines landscape as follows, and this definition will be used as the basis for exploring the sustainable landscape design process.

Landscapes are dynamic, multi-dimensional and multi-scale, co-evolving systems.

These dimensions, or 'layers' as termed in this thesis, include the geosphere, biosphere, and noosphere of the landscape. Each layer is an emergent property of the total landscape system, and evolves through both the dynamics of its own internal processes, and through being structurally-coupled with the other layers.

While culture certainly defines human perception and interaction with the rest of the landscape, it is not simply a lens through which to view and interact with the landscape, it is part of the landscape itself. The development of social systems, beliefs and behaviours are as much an emergent property of the ecosystem coevolution as, for example, the waggle-dance of the bumble bee, the dynamics of predator prey relationships, or forest succession. The cultural dimensions of landscapes create a tangible bridge between human minds and nature. Because of this co-evolutionary process of mutual modification and adaptation of human culture and its natural environment, the delineation between social and natural systems in shallow-ecology models of landscape processes is completely arbitrary and artificial. For the purposes of this study, 'culture' refers to realms of the noosphere; the subjective, spiritual, creative, behavioural and social layers of the landscape (and their built phenomena) that emerge from the on-going interaction of human existence with the rest of the landscape.

In summary, landscapes are:

- multi-layered with geological, biological and cultural dimensions;
- complex;
- dynamic and co-evolving at multiple scales, being living communities rather than static forms; and
- must be viewed from an ecocentric perspective to be seen in their full context.

2.2. The nature of sustainability in a landscape context

For this thesis to explore the nature of sustainable design in landscapes which are dynamic, multi-dimensional and multi-scale, co-evolving systems, the nature of sustainability in these systems also requires exploration.

A common definition of sustainability is “*meeting the needs of today's population without-out diminishing the ability of future populations to meet their needs*” (Thompson and Sorvig 2008, 3 – slightly paraphrasing the definition of the 'Brundtland Commission' [World Commission on Environment and Development 1987]). However this definition could be taken as anthropocentric, does not define what constitutes a 'need' and has been criticised by Birkeland (2008, xv) as “*watered down*”. In her exploration of the nature of sustainability, Birkeland (2008, xv-xxiii) suggests it involves the “*integration of social, economic and environmental goals*” and an approach of “*design for nature*” which involves expanding “*future options through reversible, adaptable, net positive development*”.

McDonough and Braungart (2009) explore this as an approach of “*eco-effectiveness*” in which designs should “*imitate*” nature. This idea of learning and drawing inspiration from the forms and processes of non-human nature, and attempting to recreate this in human generated forms and processes can be termed biomimicry.

“*The most successful forms share qualities with natural phenomena. Natural and man made forms 'serve to reconcile conflicting forces' the forms that do this the best are the ones that endure*” (Pollan 2008).

If, as discussed above, life and landscapes are dynamic processes rather than ‘*a catalogue of fixed structures*’ (Bloch, 1984, 1) and sustainability is about biomimicry or imitating nature, then this thesis argues that biomimicry is needed not only in design outcomes, or forms, but also in the design process itself. If a fundamental principle of nature is its co-evolutionary structure, then it follows that a key requirement of sustainable design is the maintenance of the co-evolution of the multiple layers of the landscape. Forms are not made ‘*more like nature*’ by making them as isolated objects which recreate some property of the non-human ecosystem, but by ensuring that their

development and change over time occurs in a coevolutionary fashion. Whilst individual organically inspired or biomimetic designs may form part of a sustainable landscape, they will not be enough to ensure the sustainability of the system unless they are continuously integrated into the total landscape ecosystem.

This thesis makes a distinction between the 'snap-shot' sustainability and the dynamic sustainability of a landscape. Snap-shot sustainability can be described by indicators existing in any one layer or subsystem of the landscape. For example, 'how eco-toxic are the materials used in a given structure, what is their embodied energy and are they locally sourced?'; or, 'what is the biodiversity level of a given park and are the plants eco-sourced?'. While these factors are important, they are not necessarily a measure of the system health of a given landscape. Dynamic sustainability however, refers to questions of how responsive the different layers of the landscape are to each other, and whether their coevolutionary stability is supported. In other words, whether the layers of the landscape are indeed structurally-coupled. This dynamic responsiveness can also be referred to as landscape resilience. The Resilience Alliance (2010) refers to resilience as the ability of a nested system to absorb disturbance whilst retaining function, structure and identity.

Buchecker et. al. (2003, 29-46) have suggested that as social structures have changed and urbanisation has increased, people spend less time directly interacting with their local landscape causing a shift towards increased authority control of the development of landscape. This model, in which most landscape decisions are made through an (elected or appointed) intermediary, has removed people's ability to interact in a responsive way with their environment (Buchecker et al. 2003, 30).

It has also been argued that a design and planning model based on “*the installation of a capitalist, industrialised world*” into a resistant landscape (Beck 2011, 10) leads to “*abstract relationships to interchangeable landscapes*” and a landscape experience that is “*dictated by the logic of pavement*” rather than a responsive relationship between people and place. Smith has noted that “*design can sometimes be too concerned with finding that which is idiosyncratic or innovative, that it can ignore its fundamental role in creating spaces that are 'democratic' and, ultimately, satisfying*” (Smith 2010a, 26). This model of landscape decision making and design could perhaps be described as

structurally-uncoupled. This thesis suggests that structural-uncoupling, disrupts a landscape's resilience and is thus a key cause of contemporary landscape challenges, both 'ecological' (e.g. biodiversity loss, water way degradation) and 'social' (e.g. littering, vandalism).

As discussed above, in the present definition of landscape, human action, thought and emotion are *part* of the landscape. It then follows that the degree to which these actions, thoughts and emotions support the dynamics of coevolution, or continued structural-coupling can be seen to be a key sustainability/ecosystem health indicator. Sustainable design cannot refer only to the snap-shot integration of the physical aspects of human life into the landscape (in terms of water and energy conservation and waste reduction for example). It must also include the degree to which the noospheric or cultural aspects are structurally-coupled to the rest of the landscape.

An example of a holistic measure of sustainability, that includes both inner and outer aspects of human life, without valuing them above the rest of the ecosystem, is Morgan's (2006, 1-9) "*mauri model*" of decision making. The Māori concept of *mauri* refers to the "*life essence*" or the "*binding force of life*", which links the physical and "*spiritual*" worlds. The framework thus attempts to measure the impact of different decisions on the holistic health of a system.

As a meeting points of human constructions and the rest of ecosystem, a sustainable landscape is then one in which the intrinsic value and self-organising properties of nature are respected, allowed to flourish and supported to co-evolve in harmony with the continuing development of human emotions, thoughts and society. In order to keep the noospheric realms in a 'mauri enhancing' relationship with the rest of the landscape of which they are an emergent part, the present thesis suggests that a sustainable design process must support and nurture both the internal dynamics *and* the cross-system links of each layer of the landscape.

The sometimes incongruous ways in which mainstream society treats the 'wild'⁶ or non-human parts of the ecosystem presents a challenge to a holistic model of landscape

⁶ The use of the term 'wild' here is of course contentious, as many would argue there is no true 'wild' left in nature. The current researcher uses the term to refer to the innate ecological properties and evolutionary potential of non-human organisms and the ecosystems they result from their interaction.

sustainability and can create a deeper division between the noosphere and the ecosphere. On one hand, natural spaces can be treasured so much that significant sums are expended to preserve them with as little human impact as possible, and they are effectively shuttered away from human development, potentially furthering the 'uncoupling' process. In other cases natural spaces are valued so little that they are ripped to pieces to construct structures or spaces in which there is virtually nothing left which could be considered wild. So is there a balance between these two extremes? It is unrealistic to expect that wild spaces can be restored to predevelopment conditions, or preserved as they were before human impact. Too many species have already been lost and the ecological pressures (for example of invasive plants) are very strong. It is equally unrealistic to expect that human development will stop impacting on the dynamics of the non-human world.

What is required is a development process that makes use of the ecological concept of the 'recombinant ecosystem' in which a new ecological balance is struck. In such a recombinant system human activity would proceed in a way that is sensitive to the ecological dynamics of the wild systems. It would thus work to maintain a dynamic and responsive co-evolutionary equilibrium between native ecosystems, invasive species and on-going human development. The sustainability of such a system would be measured by the level of interconnectedness of its various subsystems rather than by the design or functionality of any specific element.

Thus in terms of the sustainability of public landscapes, a re-coupling of the on-going design of a space to its 'wild ecology', or ensuring on-going responsiveness in the design process and governance, is more significant than the plants, materials or finishes that are specified in an initial design programme. Equally important is a re-engagement, or re-coupling of the inner and outer life of the landscape's community with the co-evolution of the landscape to ensure a sense of place and ownership. This could then be described as 'ecological community restoration'. This is not the attempted restoration of a pre-human environment, but the creation of a co-evolving recombinant ecosystem through the protection and nurturing of the ecological dynamics of the wild system and a restoration of the structural-coupling between the local community and that wild system. The degree to which the community are actively and effectively involved in the development and maintenance (or co-evolution) of this system will be a key measure of

its sustainability.

For the purposes of this thesis sustainability in a landscape context can thus be defined as:

The maintenance of conscious ecological interconnectivity between the 'wild' aspects of nature, and the different spheres of human existence (including thought, value, action and behaviour as well as technology and infrastructure).

From this definition, this thesis then argues that the journey towards a sustainable landscape is inseparable from the journey towards an ecocentric and empowered landscape community.

2.3. What is a Community?

Even in mainstream landscape literature there is a growing recognition that “*the relationships between citizens, the local community, and all relevant phenomena*” (O’Shaughnessy 2010, 18) are as important as the phenomena themselves in determining the quality of a public space. In the quoted article O’Shaughnessy notes that such views are more prevalent in council design strategies and suggests that the key to nurturing these relationships is an absence of pre-determinism in the design process, and “*opportunities for activity [which] are offered rather than scripted*” (O’Shaughnessy 2010, 18–19).

To refer further to the empowerment and engagement of community as a key aspect of a sustainable design process, it is important to define what is meant by 'community'.

For the purpose of this thesis community is defined as the sum total of individuals who have a direct relationship to a given landscape, whether through inhabitation, on-going use/visitation, governance, design responsibility, or historical passion. Following on from the definition of landscape above, it could thus be said that 'the community layer' of a landscape emerges when there are an identifiable group of people residing in and/or around that landscape who have a sustained relationship to it. There are in turn multiple dimensions to the community layer (e.g. religious, economic, creative, governance).

From a holistic landscape perspective these community relationships have the potential

to add an internal integrating process (decision making, patriotism, shared values, communal activity, shared responsibility of management) and energy flows (resources, power, ideas, waste) to those of the bio-physical environment. These relationships thus both help to define the boundaries of a given landscape system, and help to ensure the responsiveness necessary for its sustainability, or the maintenance of its co-evolutionary processes.

2.4. Power in the landscape

Key to the development of an ecocentric and empowered landscape community are the challenges of power dynamics; both the power humans have over the landscape, and the power people in a position of 'landscape authority' have over the rest of the community.

2.4.1 Power in the landscape – a matter of language

By nature of their physical and mental abilities, humans wield immense power in the landscape which can lead to a suppression of the voice of nature and to making decisions based on what is best for humans rather than what would be best for the ecosystem as a whole. This anthropocentric power often appears in the language used by landscape thinkers. For example 'intervention' is a word in common parlance in the landscape architecture field as an “*apt description...[for]...a thoughtful approach*” (Smith 2010b, 21).

Collins English Dictionary describes intervention as to “*involve oneself in a situation...so as to stop something*” (Collins 2005, 310). Some would argue that this is a suitable term, as for humans to find their place in the landscape they must find appropriate ways to operate within its fabric with the minimum of conflict. However, for this research the term presupposes a conflict between people and the wider landscape as two separate forces. This is a view which could easily lead either to an anthropocentric approach or to a glorification of the natural world as sacrosanct and something humans can interact with only under very controlled conditions. For this thesis the preference is to use the word 'conversation' to describe the nature of the on-going site interaction between the human and non-human parts of a given landscape. Granted this term still implies separation, but reciprocity is implicit in a conversation in a way in which it is not in an intervention.

2.4.2. Power knowledge and power over people

For French Philosopher Michel Foucault, knowledge and power were inseparable (Gutting 2011) and the power structures embedded in society, in which those who 'know' are enabled to control those who 'do not know' are very subtle and continuously reinforced through education, the media and everyday interactions. This concept is very relevant to this thesis, as through their knowledge, landscape 'experts', whether they be architects or council staff, are in culturally sanctioned positions of power. These positions essentially enable them to assert their power over the landscape and also over the communities residing in it.

In personal communications with landscape professionals working within local council, in the course of this research the view was expressed that people are too ignorant to take responsibility for ecological stability and restoration. While it is certainly logical to make landscape decisions from positions of knowledge, a council/architect led power structure can both disempower the very communities who have the closest relationship to these landscapes, and undervalue the vast knowledge resources that exist in those communities. Thus, in the pursuit of a sustainable design model, the power of architects/designers and the role they should have in the design process is a key issue.

2.4.3. The power of architects

Diane Menzies describes landscape architecture as an art (Menzies 2010, 6), which implies its practitioners are artists, artists who Vincent Ward invites to create spaces rich in “*echoes of contradiction and juxtaposition*” (Olsen 2010, 6).

The image of the glamorous and creative 'hero' architect is a well-established one, as discussed by Andrew Saint (1983). He claims that this cliché is as soundly embodied in the famous 'clients have to take what they are given' attitude of Frank Lloyd Wright as it is in the paean to individualism and ode to Wright that is Ayn Rand's *The Fountainhead*. This glorification of the role of the architect is, as Saint (1983, 6) suggests, amplified by architects themselves as they promote their own work, and by critics and industry insiders who in promoting the profession or in either celebrating or deriding its personalities, give legitimacy to the ideal. While the calls for interdisciplinary work and collaboration are also strong, many local examples of the

“creative thinking and intelligence of architects” (Thresher 2011, 6), how *“better equipped they are”* (Boguonovich 2011, 7), how *“best placed... [they are]... to capture the genius loci”* of a given landscape (Murphy 2011, 17) and other rhetoric glorifying the role of the architect can be found in contemporary popular landscape literature.

This artistic or power-knowledge based notion of landscape architecture can mean that contemporary landscapes are subjected to global or national design trends that are often not based on any vernacular relationship or bioregional process, but instead are abstract and theory driven. If a landscape feature is designed in a process that is disjointed from the population or landscape of which it attempts to be a part, it is unlikely to be of any long term use or meaning.

“For just when I turned to architecture and building in search of something more deeply rooted in reality than words, architects were giving all that up in order to be more like writers and software designers and sign makers of every kind...The conventions of architecture, things like gabled roofs and right angles were just as arbitrary and culture bound as the sounds of words in a language. Like words or letters, the meaning of these things derived not from facts of nature or the human body's experience of space, but from the systems of signs or the 'language' of which they are a part” (Pollan 2008, xiv).

However, Saint also suggests that while there is *“a much admired stereotype”* of the architect as *“the creative individual manifesting his will in action”* (Saint 1983, 14) the chief distinction between architecture and other art forms is the need to compromise, because of the increasing number of stakeholders, parameters and limitations (Saint 1983, 6). The present thesis argues that Ayn Rand's battle between the forces of individualism and collectivism exists even more saliently and with more challenges in landscape architecture than it does in architecture. This is because, in addition to the collective and potentially contradictory forces of diverse peoples, practices and policies there are the combined and evolving forces of nature.

This thesis is certainly not attempting to argue against the necessity for artistry or creativity in sustainable landscape design, but rather that care must be taken in the over-romanticisation of the landscape architect as an artist. Landscapes are not canvases, fads

or individualistic idiosyncrasies which can easily be painted over on paper, or relocated to the back room of the gallery. If they are treated in this way they can leave legacies on the land which can become collective burdens. Nor is this thesis arguing against the importance of architects⁷, just against the centrality of their role in sustainable landscape design. As will be further explored below, the working definition of sustainable design in this thesis is inseparable from the idea of collaboration, which itself cannot exist without compromise, and at least some degree of collectivism with all the challenges to individual egos that follow on from this. A sustainable landscape design process needs to support the empowerment of people in the landscape. However this empowerment must be seen in context, and support the growth of a corresponding understanding of the *nature* of human power in the landscape so that people can make appropriate decisions in their interactions and their conversations with the landscape. People who have their power taken away, or view their power out of context, are far more likely to rebel or otherwise misuse their power. In a landscape setting this can result in vandalism, rampant insensitive development, and arbitrary design.

Experts still have their place, and it would be irresponsible to suddenly hand all the landscape decision making over to the wider community, even with the support of councils, ecologists and design professionals. For a design model such as that explored here to work, there would need to be a transition phase as communities acquire the confidence, and express and develop their knowledge in order to take on the responsibility that follows. In many areas processes like this are already occurring, with councils facilitating and supporting greater community engagement in landscape management. In a 2011 ANZ example, responding to both internal funding cuts and a growing level of community empowerment around ecological restoration, the Greater Wellington Regional Council facilitated a 'Restoration and Monitoring' workshop in which committed community members worked alongside council and central government staff to develop restoration plans for their local ecosystems.

To support this transition process, the significance of breaking down power structures through genuine on-going dialogue between the different stakeholders in landscape decision making cannot be understated. This distributing of decision making throughout

⁷ Though significant architectural developments have certainly been achieved without being designed by architects. One notable Wellington example is the impressive Taputeranga Mārae in Island Bay. See <http://www.taputeranga.maori.nz> – Accessed 30/3/2012.

the community could be referred to as 'de-hierarchisation'. As different kinds of knowledge come to be valued, or re-valued, "*the old boundaries between lay and expert...begin to dissipate*" (Girard and Stark 2007, 148 - referring to Callon et al. 2007 and Rabeharisoa and Callon 2002).

2.5. Participation and the necessity for a collaborative model for dynamically sustainable public space design

The importance of collaboration in landscape design is well established, although there are different interpretations of what this entails. Stephenson (2001, 8–11) argues for an interlinked "*webs and layers*" approach to landscape characterisation and preservation, achieved through a cross-disciplinary process. McManaway (2011, 14) has argued that it is up to landscape architects to see the over-arching context of a site, but that they need to collaborate with relevant experts and local knowledge. In the case of the recent Christchurch earthquakes, design professionals have agreed that collaboration in planning, design and implementation is essential to the city's recovery (Brown 2011, 8). As can be seen from the examples above, the idea of collaboration in landscape design often refers to the collaboration of design professionals, or a collaborative process centered around the architect. This can result in a "*positivist frame work where the 'expert' knows and others often just listen*" (Buchy and Hoverman 2000, 22), rather than the engagement of the wider community in a democratic venture.

The ideas of user/community participation and collaborative decision making in space design are referred to by practitioners and academics using a number of different terms. These include: community design, community architecture, social architecture, community participation, or commonly, participatory design (Toker 2007, 310).

Leading proponents of participatory design methodologies claim that they often produce better long term design outcomes and user benefits. This is because they allow access to both specialised and local knowledge of a given issue, allow collective intelligence to emerge from diverse thinkers applying themselves to a situation or challenge, and as participants learn through the design process, result in empowered users (Toker 2007, 310). Australian examples of collaborative projects based on uniting community groups with resource management agencies have resulted in significant increases in technical and strategic skills within the participating communities (Buchy and Hoverman 2000, 22).

Buchecker et al. (2003, 29) have suggested that to ensure sustainable landscape development, authority led protection based approaches are not enough, and that the participation of local residents in “*shaping the landscape*” in order that landscape changes may co-evolve with societal ones may be the most important factor. This is due to the hypothesis that having a direct influence on the landscape is essential in strengthening people's sense of identity, supporting their social integration and ensuring the resulting landscape meets their needs. This encourages them to spend more time in it and leads to a sense of responsibility, which is seen as a fundamental factor in ensuring a sustainable landscape (Buchecker et al. 2003, 30).

Ricketts (2008) offers a neat summary of the importance of community participation in design if the result is to have a positive well-being impact on the resident community. Her analyses suggest the inadequacy of experts in solving social problems and concludes that participation in place making has a significant effect on community well-being.

Luz (2000, 157) has claimed that there can only be a truly holistic (and effective) approach towards landscape ecology if the participation and awareness of the public are on an equal footing with that of the expert scientists and planners. To achieve this he suggests that the makeup of the population and their relationships to the landscape must be understood. In addition, genuine efforts must be made to include the public, through “*more investigation and better communication*”, monitoring and feedback. These relationships include social and emotional factors, which may seem peripheral to physical landscape issues but are crucial in whether the community accepts landscape change. Luz (2000, 159-160) cites a range of studies carried out in Germany during the 1990s and suggests that three key reasons for communities not accepting landscape change are:

- “*Weakness in communication and the withholding of environmental knowledge*”, resulting in resentment of the experts.
- “*Differences in perception and evaluation*”, a lack of “common views and language”.
- The planner's lack of knowledge of “*the prehistory of a project*”, which may have resulted in specific reasons for community resistance towards a given solution or

approach.

Luz's (2000, 164) model of a communication “*round table model*” that could result in better landscape outcomes is reproduced in Fig. 2 below:

Fig. 2. Luz's (2000,164) “round table” model of landscape decision making.

As the ideas associated with participatory design rise in popularity there is a danger of their misinterpretation or use in a tokenistic fashion, as public or private sector planners and designers try to 'tick the boxes' of community engagement. Toker (2007) suggests that approaches such as new urbanism have adopted the term community design as a 'catch phrase' while neglecting the broad community empowerment ideals that initially inspired the movement. So then what is genuine participatory design?

Henry Sanoff describes participatory design as “*an attitude about a force for change in the creation and management of environments for people...that cuts across traditional professional boundaries and cultures*” (Sanoff 2007, 213).

In Toker's (2007, 318-320) content analysis of the answers of a range of leading practitioners to the question of the current definition of community design, key themes were: respect for user defined needs, involvement of local people, empowering people, working within the public realm, and sustainability.

Buchy and Hoverman (2000, 15-25) distinguish between participation as an “*end in itself or as means to an end*”. In this distinction *participation as an ends* refers to it being a community development approach grounded in fundamental principles of encouraging on-going learning and the transfer and sharing of power to promote collective responsibility over community issues. Alternatively, *participation as a means* is a management approach, and is based on the idea that although the degree of participation will depend on a cost benefit analysis, a well facilitated participatory process can result in better outcomes for specific policy developments or projects.

Shirvani (1985) [cited in Toker (2000, 311)] offers two main groupings of genuine participatory approaches: facilitation based and advocacy based. The first aims to support diverse individuals and groups to collaborate in decision making, and the second to ensure that marginalised, disenfranchised or otherwise alienated groups are included in the process. The latter of was one of the original ideals of the community design movement (Sanoff 2007, 213–215).

Various continuums have been offered to demonstrate the range of approaches that sit between disempowering 'top down' decision making and genuine participatory approaches.

Table 1 below summarises the continuums of: Wulz (1986)⁸, Driskell (2002)⁹ and IAP2 (2004).

⁸ As cited in Toker (2007).

⁹ As cited in The EnviroSchools Foundation (2008).

Origin of continuum	Degree of community participation.						
	Least			Most			
Participation in architecture Wulz (1986)	Representation architecture (architect's subjective interpretation of the user)	Questionnaire architecture (based on general characteristics of an anonymous user)	Regionalism (based on collection of data about local design preferences)	Dialogue (informal conversations between architect and users)	Alternative participation (users get to choose between architect's alternatives)	Participation as co-decision (direct and active involvement of users throughout process)	Self-decision (users control the whole design and construction processes)
The dimensions of young people's participation Driskell (2002)	Manipulation and Deception	Decoration	Tokenism	Social Mobilisation	Consultation	Children in Charge	Shared decision making
IAP2 public participation spectrum IAP2 (2004)			Inform	Consult	Involve	Collaborate	Empower

Table 1. The participation spectrums of Wulz (1986), Driskell (2002) and IAP2 (2004).

In the table above, the movement 'up' each continuum essentially involves a breaking down of power structures. At one end, experts are in charge of the landscape and simply inform, consult or interpret the users' needs. At the other, the views of all members of the landscape community are treated as significant. In this sense, for the purposes of this thesis, genuine collaboration sits at the top of the continuum, similar to the '*shared decision making*' of the Driskell spectrum. The present thesis disagrees with the IAP2 spectrum as genuine collaboration or shared decision making *requires* the empowerment of the community rather than leading to it. Similarly in terms of the sustainable landscape design process "*co-decision*" making could be argued to sit above '*self-decision*' making as it implies that not only are all relevant members of the landscape community involved, but that there is power-neutral interaction and communication with parties sitting within other scales of the landscape. As discussed earlier, the empowerment of the community does not necessitate the discarding of 'expert' opinion and advice, just a re-evaluation of the power dynamics implicit in public-expert relationships.

A collaborative design model can and should still include expert opinion in each layer of the landscape and should still have room for conventional landscape managers (such as council officers). If experts and landscape managers can identify their overlapping goals and needs, and all parties work towards common goals within their sphere of

influence, collaborative design can sit at the meeting point of 'top down' (council-led) and 'bottom up' (grass roots, community led) approaches.

In terms of participation, this thesis suggests that care must be taken with the term to avoid reinforcing the very power structures discussed earlier. Encouraging people to *participate* in a design processes could imply that while they are taking part in it, the direction is coming from elsewhere. However that caveat aside, for the purposes of this thesis participatory design refers to the goal of making the design process inclusive to all parties who have connection with the space to ensure that their opinions are heard. On a deeper level however, it also refers to the fact that in a structurally-coupled design process, the design of the landscape emerges over time as a result of the community participating in the co-evolution of the landscape itself. It is not so much about forcing people to be involved, or to have an opinion, but rather in setting up a rhythm in which both individuals and groups learn about, and connect and interact with the landscape. Through this on-going interaction and participation in the landscape, the landscape community can make design decisions from within the complex dynamic landscape, rather than through trying to look at it objectively and condensing all the layers of the landscape into a two dimensional image or computer model.

In other words, for the purposes of this thesis there are two different levels of participatory design, which operate at two different time scales. In an individual engagement, participation can refer to an inclusive, collaboration based model as opposed to a power structure infused consultation model. At a larger scale, participation refers to the way the individual engagements are managed to facilitate a growing sense of moment to moment interaction between the community members and their landscape.

To ensure effective participation in a collaborative landscape design process, Buchecker et al. (2003) have suggested that just offering opportunities for the community to engage in participatory design may not be enough. To support on-going involvement and the necessary community empowerment, it must be accepted that participatory design is a long term learning process, and appropriate '*sheltered frameworks*' must be utilised to support involvement (Buchecker et al. 2003, 41).

In terms of nurturing on-going, empowered community participation, and developing a collaborative landscape design process that is able to engage adequately with the multi-layered nature of landscape, contemporary community development thinking has a lot to offer this thesis.

2.6. Contemporary community development models and their relevance to collaborative community based landscape design

ANZ's Inspiring Communities Trust (Inspiring Communities 2010, 45) suggest that communities are complex systems and that their development must work from a base of complexity theory, which distinguishes between simple, complicated and complex challenges. Simple challenges can be solved by any individual who puts some time into them, while complicated challenges require expert advice. Complex challenges may appear to be the sum of numerous simple and complicated problems, but there are likely to be emergent dimensions that cannot be seen or adequately managed if the individual issues are focussed on without the full context. Complex challenges thus require long term, multi-party solutions. As landscapes are also complex systems, community development thinking and complexity theory support the above arguments that their sustainable design and development must be dealt with in a collaborative manner.

The Inspiring Communities Trust champions a model of community development which is very similar to the idea of empowered community engagement in collaborative landscape design. This model, which is known as community-led development (CLD), calls for the nurturing of widespread locally-led action or “mass localism” (Inspiring Communities 2010, 2). This entails an emphasis on place, utilising a planning and development model which works with all members of the community. It also works with whole systems through encouraging communities to engage with change at personal, relational, structural and cultural levels. Key to this approach are the ideas of empowering communities to identify their own needs and “*developmental evaluation*”, which is based on “*adaptive learning*” (Inspiring Communities 2010, 41) rather than simply providing status updates to funders and authorities.

In their 2010 report *What we are learning about community-led development*, Inspiring Communities (2010, 9 - 36) offer a series of key lessons drawn from community-led development projects and practitioners throughout ANZ, which are summarised in

Table 2. These lessons are directly relevant to collaborative landscape design as explored here, and can help generate the sheltered frameworks necessary for community empowerment.

Themes	Key Lessons
Working together in place	<ul style="list-style-type: none"> •Be really clear on the question that lies behind the issue before embarking on solutions •Persevere: expect the work to be long and hard •Collaboration is required at many levels •Actively seek contributions from residents and local organisations •Build capacity by connecting up like minds •Develop new roles for local and central government to support and enable CLD •Funders can be partners too •Tough times can tempt people back into old ways •Brokers, ideas and expertise from outside can help
Community building	<ul style="list-style-type: none"> •Identify and build from local strengths and assets •Proactively involve as many people as you can •Value and involve residents as community experts to actively build capacity •Local events are a key connecting mechanism
Leading in and leaderful communities	<ul style="list-style-type: none"> •Create opportunities for new leaders at decision making tables and support them to be there •Look more broadly at community leadership: value and celebrate local leaders •Create and hold leadership spaces for others •Servant leadership actively empowers others •Proactively develop local community leadership strategies •Communities are looking for integrity and authenticity in their leaders
Creating and sustaining momentum	<ul style="list-style-type: none"> •Get some visible action happening quickly •Have clear intent and work organically and adaptively •Incorporate key planning steps for success •Use stories to support reflection, learning and documenting progress •Learn from what doesn't work •Build in time for action-reflection •Seek comprehensive systems change too •Plan for transitions of key people •Understand personal and professional practice is intertwined

Table 2. Key lessons to support community-led development in ANZ (Inspiring Communities 2010, 9 - 36)

Prominent community development thinker Jim Ife (2002) suggests that key to genuine community empowerment is allowing any development structures to develop naturally from the community level rather than being imposed from outside. Ife (2002) offers a range of principles to support this process. In summary, he divides these principles into “*ecological*”, “*social justice*”, “*valuing the local*”, and “*global and local*” categories. These encompass: maintaining a holistic, ecological perspective which links local and global scales; addressing and breaking down power structures; upholding fundamental human rights at all times, and striving for non-violent and anti-colonialist practice; valuing local knowledge, culture, resources, skills and processes; endeavouring to raise the consciousness of all parties around the issues being addressed; aiming for cooperation and consensus in decision making; not forcing the pace of development;

and ensuring that at all times the processes is participatory, inclusive and builds community.

Asset based community development (ABCD) presents a model of community engagement and empowerment which is based on nurturing and nourishing the existing strengths of a community. In their *Organizer's Workbook* [sic] The Indianapolis Neighborhood Resource Center¹⁰ presents ABCD as an approach which is based on creating a community '*asset map*'. This brings the strengths of the community's individuals, associations, and institutions to the forefront of the action plan rather than focussing only on the needs or what is *not* working. In a landscape context this could be expanded to include identifying the specific ecological strengths of a given landscape, for example, local seed sources or water purifying wetlands.

In her exploration of 'community place making', which draws heavily on community development thinking, Ricketts (2008, 128) suggests that the stages of effective community engagement are: locating community-led support, community directed social analysis, the celebration of existing strengths, shared visioning/decision making, collaboration in design, partnering with outside agencies, implementation, and supporting continued involvement.

The practice of Cultural Community Development (CCD) aims to bring local people together and establish a framework of cooperation and trust. Then through a process of working alongside artist-facilitators, they are supported to identify local social and ecological issues and empowered to express their concerns and visions through collaborative creative practice (Goldbard 2006). Goldbard (2006) suggests that CCD projects develop both individual and collective capacity and also contribute to positive change in the community. Through its acknowledgement of the creative and cultural aspects of landscapes, CCD provides a mechanism both for including a wider range of people in the on-going design of landscapes, and ensuring the continued engagement of these (noospheric) dimensions in the design process.

An ANZ example of the success of utilising a CCD approach as part of a holistic landscape management strategy can be seen in Auckland's 'Project Twin Streams' (PTS) initiative (Trotman and Woodley 2008). Striving for a sustainable catchment model,

¹⁰ <http://www.inrc.org/resources/publications> - Accessed 27/1/12.

PTS takes a very broad approach to riparian restoration. In addition to biophysical aspects, which include purchasing properties to increase flood plain reserve, undertaking extensive riparian planting and exploring innovative bioengineering techniques and environmentally friendly storm water management, project twin streams also has community development at the core of its strategy. Through supporting local community groups and organisations, PTS empowers grassroots leadership in the restoration of Auckland's streams, and through story telling and art projects, explores and nurtures the spiritual and cultural relationship between the local communities and *their* streams. The PTS approach is based on the following community development principles¹¹:

- *People are more likely to make changes in behaviour when they understand the problem and are part of identifying the solutions.*
- *Local communities know the most appropriate and effective methods to engage local people.*
- *Each community has its own diverse characteristics. Programmes need to be adapted to harness the diverse strengths of communities. A one sized solution is not effective.*
- *Creative learning methods that engage with people's hearts and minds are more effective in creating meaningful and long-term behaviour change than simply distributing written information.*
- *Local organisations can be more effective than Council in engaging their own communities but need to be adequately resourced and supported to do so.*
- *A partnership approach between communities; local, regional and central government, non-government organisations and local people is a very effective way of achieving long-term change.*

2.7. The design process - theory

In the preceding sections, this thesis has explored the definition of landscape and landscape sustainability, and has suggested that a suitable landscape design process must be ecocentric, collaborative, grounded in community development principles and able to respond to the dynamic, multi-layered and co-evolutionary nature of landscapes. Essentially this thesis distinguishes between shallow landscape design and deep

¹¹ <http://www.projecttwinstreams.com> – Accessed 7/4/12.

landscape design. In the same way that shallow ecology was earlier defined by a distinction between the ecologist and the ecosystem under scrutiny, this thesis defines shallow landscape design as a process which divides the designer, the landscape community and the rest of the ecosystem from the design outcome. The designer assesses the components of ecosystem, consults the constituent community (sometimes), and then produces a design. In what this thesis will call deep landscape design, arguing that this is a necessary approach for true landscape sustainability, there is no such distinction. The designer ceases to exist as the dynamic 'design' is an emergent property of the on-going responsive interaction between the human and non-human aspects of the total landscape ecosystem.

The case studies which make up chapters 4 and 5 of this thesis explore what such a process could look like in practice.

3. Introduction to case studies

3.1. Case study selection

The purpose of the case studies that form this portion of the thesis is to explore the logistics and practicalities of the theory of deep landscape design as described above. This exploration takes place from the perspective of a professional facilitator in the field of community development, landscape design and ecological restoration (who from this point onwards shall be named the Researcher). This exploration is expressed through the documentation of the key stages of the projects and the roles played by the Researcher and the project participants; and also through the Researcher's reflections on the logistics and challenges of the projects.

The goal of these case studies is not to make absolute statements about the nature of the process, as all such projects are highly contextual. It is rather to offer perspectives on the principles and logistics of deep landscape design, and examples of how such projects could be undertaken, which it is hoped will be of use to other facilitators, designers or council staff who wish to engage in similar projects.

Case study participants and projects were not chosen to offer a robust variety or 'full spread' of contexts or participant groups, as this would be beyond the scope of a single thesis. Instead, they are projects that naturally emerged from the field of work currently engaged in by the Researcher and were chosen to reflect the participatory/collaborative design experience involved.

To begin this practical exploration, a school garden design project was chosen. In addition to its availability, a school environment was suitable for such a trial for a number of reasons:

- With its governance, funding structures and student community, a school environment can effectively serve as a microcosm of a more complex landscape system, while remaining one with more defined boundaries and less risk in which to explore a collaborative design approach.
- In an ANZ setting, engaging students in participatory landscape design projects is very

much in line with the *vision* (*confident, connected, actively involved, lifelong learners*), *principles* (*high expectations, Treaty of Waitangi, cultural diversity, inclusion, learning to learn, community engagement, coherence, future focus*) and *values* (*excellence, innovation, inquiry and curiosity, diversity, equity, community and participation, ecological sustainability, integrity*) of the New Zealand curriculum document (Ministry of Education 2007, 8–10). Also, the process itself has learning outcomes which support the development of the five key competencies explored in the curriculum: *thinking, using language, symbols and text, managing self, relating to others and participating and contributing* (Ministry of Education 2007, 12-13).

- Strong international precedents (Hunter et al. 1998; Tai et al. 2006) have already been demonstrated in the area of student participation in schoolyard design.

With the experience gained from the school based 'pilot study', the Researcher could then engage in a more complex second case study, with a wider range of stakeholders, which allowed further exploration of the process in a broader context.

The ways in which the two case studies are documented provide two different scales of insight into the design paradigm explored in this thesis. The school project offers 'fine grain' detail of the process utilised, continues right through to the implementation of the first stage of the site design, and includes the design team's post-project reflections. The second case study offers a view into the wide range of stakeholders that can be involved in a collaborative public space design project, and ways in which they can be engaged. This case study ends (due to the time constraints of the thesis) at the development of a site plan and installation plan for the first stage of the project.

The process and tools used to facilitate the projects discussed in these case studies evolved with the experience of the Researcher. Those used in the pilot study were based on experience as an ecologist/landscaper and Enviroschools/community development facilitator¹², and also on the precedent projects discussed below. The process was also informed by the 'Action Learning Cycle' of enquiry based pedagogy which is commonly used by Enviroschools facilitators and in many contemporary schools¹³. For the subsequent case study, the process and tools were further developed from both the

¹² For more information about Enviroschools see <http://www.enviroschools.org.nz> -Accessed 5/5/12.

¹³ For more information on the Action Learning Cycle see The Enviroschools Foundation (2008).

experience gained from involvement in the initial case study, and knowledge obtained from the literature review.

3.2. Lessons learned from participatory design projects in schools

“Often, as adults, it is hard to not straighten and enhance the creations of children, but it is also important that children feel a sense of ownership for their landscapes. It is also important to be sure that while learning and growing, children develop a lasting love for the act of nurturing life and watching nature give birth to the landscape”
(Tai et al. 2006, 33).

As mentioned above, there are various precedents for the participatory/collaborative process in the area of school playground/yard design. Precedents which were influential in the development of the process used in the pilot case study are explored below.

In the school landscape design model presented by American landscape architects Tai et al. (2006, 22-44) the preliminary step is the formation of an inclusive design team who are actively engaged throughout the process. This is composed of representatives of the site administrators (principal, garden director, community or civic leaders), the site users (children, parents, community), the designers/architects and any necessary others (arborists, educators, engineers, horticulturalists, biologists, child psychologists). From this starting point their design process is split into three stages:

- 1) Research, site inventory, site analysis, programme development and user needs.
- 2) Design.
- 3) Construction documentation, cost estimation, and implementation.

The formation of the design team and the emphasis on collecting site information from the perspective and scale of young people is a step towards a collaborative approach between the students/community and the architect/designer. However, beyond these initial steps the approach offered by Tai et al. (2006) is still very architect dominated. The focus is more on the principles of architecturally developed landscapes that provide young people with opportunities to interact with nature, rather than on how to include them in the design process and support their growing participation in the co-evolution of

the landscape itself. Despite their “archi-centric” paradigm, Tai et al. have other offerings to make to the development of a collaborative design process. These are their discussions on the importance of volunteer labour in school/community projects, and how best to support this involvement; and on maintenance. On the topic of volunteers Tai et al. (2006, 46-49) make the following reflections:

- *“Identify potential volunteers.”*
- *“Protect your volunteers”* - ensure robust health and safety procedures are followed
- *“Communication is the tie that binds”* - ensure regular communication between volunteers and the design team, and appoint a volunteer coordinator if necessary.
- *“Follow the yellow brick road”* – work to a common plan and ensure any changes are discussed with the design team.
- *“Establish a timeline”* - establish everything that needs to be done, and include deadlines and seasonal limitations.
- *“Set a work schedule”* - estimate the number of days required for each stage and make allowances for delays and varying volunteer skill.
- *“Patience is a virtue.”*
- *“Be prepared”* - have all the required materials ready for your volunteers and prepare detailed task lists.
- *“Provide food and drink.”*
- *“Volunteers are like fine wine”* – accept that it may take time for your volunteers to build momentum and develop skill in the allocated task.

As school/community landscape projects are likely to be maintained by volunteers Tai et al. (2006, 49-53) suggest that an awareness of maintenance requirements should be an *“integral part of the overall planning process”*. These need to be factored into the master plan, specific designs, grading and engineering, and the selection of both hard and soft landscaping materials. This maintenance could involve subdividing the entire environment into units that are further divided into smaller units or specific maintenance needs. Decisions can then be made as to which units require expert/professional services and which can be carried out by volunteers. If necessary the overall maintenance can be monitored by a volunteer coordinator or subcommittee (Tai et al. 2006, 52).

The School Landscape Programme¹⁴ (also known as the School Landscape Project) takes the inclusion of the school community in the design of their landscape one step further. In this model, “*the process of change*” is given as much importance as the design outcome, and *all* stages of the design process are shared with the school and not “*hidden behind the professional cloak of a designer*” (Hunter et al. 1998, 8).

Through this approach, the school is supported in developing a steering group and is paired with a suitable architect who effectively works as a design facilitator (Hunter et al. 1998, 29). The partnership based design process of the School Landscape Project then aims to:

- “*develop an holistic, long term plan for the grounds;*
- *involve the whole school community in the decision making;*
- *create a grounds project which is held in the school's ownership;*
- *encourage links with the local community;*
- *implement a phase one scheme; and*
- *create in schools the ability and confidence to continue development*” (Hunter et al. 1998, 9).

A later innovation of the School Landscape Programme, one which assists pupils and school communities to visualise the potential landscape impact of changes to their school environment, is the BIG Landscape eXperiment (BleX)¹⁵.

In the BleX initiative, through utilising a set of large foam blocks, outdoor carpets and parasols (which can easily be moved around a site) to stand in for various landscape features, the design team or steering group can explore different design ideas and seek feedback in a dynamic fashion before committing to any developments. The BleX equipment modules can be seen in Fig. 3 below¹⁶, and are also accessible in model

¹⁴ The programme was set up in 1992 by the UK's Hampshire County Council. www3.hants.gov.uk/landscape-and-heritage/improving-your-environment/school-landscapes/schools-landscape-programme – Accessed 7/4/12. The programme also has strong links to the Learning Through Landscapes Trust, a UK charity “*dedicated to enhancing outdoor learning and play for children*” <http://www.ltl.org.uk> – Accessed 7/4/12.

¹⁵ See www3.hants.gov.uk/landscape-and-heritage/improving-your-environment/school-landscapes/the-blex.htm – Accessed 7/4/12.

¹⁶ Sourced from [http://www3.hants.gov.uk/landscape-and-heritage/improving-your-environment/school-](http://www3.hants.gov.uk/landscape-and-heritage/improving-your-environment/school-landscapes/the-blex.htm)

making templates or files which can be imported into Google's Sketchup¹⁷ design software.

What is the BLeX equipment?

THIS CONSISTS OF ROBUST MODULAR OBJECTS THAT CAN BE MOVED AROUND BY STUDENTS TO CREATE NEW AND DIFFERENT TYPES OF SPACES

1) FOAM BLOCKS

THESE CREATE SHAPE AND VOLUME AND CHANGES IN LEVEL.

20 CUBES - 60X60X52CM

10 HEX'S - 120X60X52CM

10 RAMPS - 190X60X60CM

THE FOAM BLOCKS CAN BE COMBINED TOGETHER TO MAKE DIFFERENT SET-UPS...

2) OUTDOOR CARPET

ADD COLOUR AND CREATE COMFORTABLE SURFACES

2 RECTANGLES - 4X2M, 3 CIRCLES - 4M

3) PARASOLS

CREATE SHELTER, SHADE AND VERTICAL STRUCTURES

2 PARASOLS + BASES

THERE MAY BE OTHER READILY AVAILABLE EQUIPMENT AND OBJECTS THAT CAN BE BROUGHT TO THE EXPERIMENT..FOR INSTANCE

PORTABLE HEDGES CAN BE HIRED TO DEFINE SPACES AND ADD A NATURAL FEEL..

For more information on the BLeX equipment, including where to hire portable hedging, please see PRACTICAL ISSUES 1 at the end of this document.

Fig. 3. The landscape equipment utilised in the BLeX approach towards schoolyard design.

3.4. Case study methodology and documentation.

As the two case studies featured in this thesis differed significantly in their context and complexity, they were both undertaken and presented in different ways. However for clarity, each case study will feature the following sections:

- 1) Background (the origin of the project).
- 2) Project scope, context and participants (what was intended for the project and who was involved).
- 3) Project process strategy (how the project was undertaken).
- 4) Project presentation strategy (how the happenings, outcomes and post-project reflections of this particular project are documented).

landscapes/the-blex.htm – Accessed 7/4/12.

¹⁷ See www.sketchup.google.com – Accessed 7/4/12.

5) Project presentation (the documentation of the project's happenings, outcomes and post-project reflections).

4. Case study 1 - Participatory design of an edible garden and outdoor classroom at Martinborough School

4.1. Background

Martinborough School in the Wairarapa region of New Zealand's lower North Island has an established tradition of edible gardening and the promotion of horticulture to its students. A productive vegetable garden was started in 2003 by two local women. One was a florist and the other an architect, who had visited schools involved with Stephanie Alexander's Kitchen Garden Foundation in Australia¹⁸. As this garden project developed, other adults in the community became involved in aspects such as the development of a planting and fertilizer plan. A detailed landscaping plan was developed by the architect that included wind breaks, fruit tree plantings and an outdoor class room. While not all aspects of the design were implemented, the garden became so big that the school employed a 'green thumb' grandmother to work with the students. At the height of its productivity produce from the garden was used to supply the school canteen.

However by 2009 the school role had become so large that another classroom was required and unfortunately the only suitable site for the new building was that of the garden, which was subsequently deconstructed, much to the disappointment of the students, staff and community members who had been involved with the project. In 2010, the key teacher involved with the original garden, with approval from the school's principal and board of trustees, decided that the school should develop a new edible garden and outdoor classroom site. This time it was decided that the process should be led by students, with help from adults rather than the other way around. This 'empowered students' approach was much more in line with both the pedagogy of the school and its status as a proactive member of the EnviroSchools programme.

¹⁸ For more information about the kitchen garden project see www.kitchengardenfoundation.org.au – Accessed 13/5/12.

At this point, the school approached the lower Wairarapa Enviroschools Facilitator for help and advice on how to advance a participatory design model for the project. The Wairarapa facilitator then contacted the author of this thesis to coordinate the process, knowing of his experience with both landscape design and group facilitation. From this point onwards the author of this thesis shall be referred to as the Researcher.

The Researcher was initially invited to run a one day garden design workshop on 11/5/10 with a group of year 7 and 8 students. The morning was spent exploring garden design principles and features, and the afternoon brainstorming design ideas. During the lunch break the Researcher created a scale base map of the site with fixed features marked. These maps were then photocopied for students to work on in small groups, with the resulting designs discussed and (with feedback from the facilitator) combined into a final design. The intention was that this session would result in a workable design for a new edible garden, and would include some form of outdoor classroom space. In the time set aside for this workshop, producing a design that was achievable, with a process that was genuinely participatory and empowering for the students, proved to be an unrealistic expectation. However, a number of key ideas were generated which the students were very excited about.

- 1) Raised garden beds in 3 different heights for easy access by junior, middle and senior syndicate students.
- 2) A large garden in the shape of a koru, which would serve as the outdoor classroom.
- 3) Koru shaped frames for climbing plants
- 4) Stepping stones
- 5) Wheel barrow gardens
- 6) Fruit trees

Fig. 4. The head teacher and students from the initial design group

As an overall satisfactory result had not been achieved from this initial session, the Researcher contacted the school and offered to continue facilitating the process for as long as it took to produce a workable design, provided the project could be utilised as a case study for the present thesis. The school gratefully accepted.

Fig. 5. Garden design resulting from the initial workshop.

4.2. Project scope, context and participants

The Researcher's brief when entering this project was to facilitate a participatory landscape design process with a group of year 7 and 8 students to result in a realistic

and achievable landscape design for a new edible garden and outdoor class room space for the front of Martinborough School. The project had an initial budget of \$10,000, which came from funding from various grant pools and benefactors.

Martinborough School is a co-education decile 7 school with a role of just under 200 pupils and a great deal of support from their local community, both in terms of funding and skilled labour. The students chosen to take part in this project were not necessarily the schools top achievers, but were those members of the school's 'envirogroup' who had shown the greatest interest in the school landscape. The project was seen by the school staff as a positive way to engage less academic students.

The site chosen for the new garden was a portion of the large grass area directly in front of the school's staff room and clearly visible from the road. The site featured a few large trees but was otherwise undeveloped.

Fig. 6. Site chosen for development of new garden.

During the course of the project a range of individuals and groups from the Martinborough school community formed the design team. The list of key participants in the process is as follows:

- **The Students** – 7 students were actively involved in the process and will be referred to as the Students with a capital 'S' to differentiate them from other students in the school. There were a number of other students involved in the initial design workshop who then decided not to continue.

- **The Head Teacher.**
- **The School Principal.**
- **The School Caretaker.**
- **The Builder** – A retired local builder.
- **The Architect** – A local parent who was also the designer of original school garden.
- **The Landscaper.**
- **Friends of Martinborough School** – Key funding support agency for Martinborough School.

4.3. Project Process Strategy

As it had been accepted that one day was an unrealistic time frame for the production of a full garden design using a student empowered participatory process, it was agreed to expand the design process. As many (roughly fortnightly) sessions as required to produce and implement a workable design were set aside. Each session was planned to run from 12 noon – 3pm, which allowing for lunch time gave 2 hrs of working time per session.

From this point, the design process was expanded into one based on the Action Learning Cycle (ALC) pedagogy model, which is a standard model of learning in an Enviroschools context. The standard ALC approach applies four steps to any project:

- 1) Identify the Current Situation / where are we now?
- 2) Explore Alternatives / where could we be?
- 3) Take action / what shall we do?
- 4) Reflect on change / what has changed?

For the practicalities of landscape development these 4 steps were spread across the following 3 phases:

Phase 1 – Preliminary (Where are we now? - building group rapport, creating design brief, confirming design process, site assessment, people involved, exploring cultural context of project).

Phase 2 – Brainstorming (Where could we be?).

Phase 3 – Reflective construction (What shall we do? What has changed?).

The aim was for the process to cycle around the phases to result in an education focussed, reflective and iterative landscape design process that would carry on until the team was happy that they had a workable design that satisfied the needs of all parties. With such a process it was intended that the design team could learn as they go, test designs before they were implemented, and base subsequent decisions on a deepening understanding of both their site and community and the factors and conditions involved in landscape design.

When commencing this project, the Researcher had also intended that:

- a) The design team's site assessment (phase 1) would be guided through physical, ecological and cultural layers in turn to help them gain a deeper understanding of their landscape.
- b) While exploring the design of the site (phases 2 and 3) the process would both cover each of these layers and integrate them using successive layers of detail, allowing a holistic design to emerge from the group at their own pace.

It is this principle that is referred to by the term 'layer' in the case study presentation.

The words 'aim' and 'intended' should be noted above, as although these phases remained the general format throughout the project, it will be seen in the exegesis below that the design process evolved with the group and the phases were not always distinct. Also, explaining the concept of landscape layers to the Students proved difficult.

In order to keep track of the developments and decisions, and to manage the agenda and facilitation of the sessions, the Researcher would initially set a simple agenda and recorded minutes of the meetings. Over the course of the project, as it became clear that the intended agenda was seldom adhered to, so the the format of the document and the meetings was altered. By session 6 a standard base format was used to run the sessions.

Prior to the meeting, a suggested agenda was set based on the outcomes of the previous session and what were perceived by the researcher/facilitator to be the priorities for the

subsequent meeting. The meeting would then generally have the following structure:

- 1) What's on top?** - The group would have a chance to discuss any new ideas or observations they had, or any challenges they had identified since the last session.
- 2) Confirm agenda** - The suggested agenda would be adapted into a specific agenda based on group need.
- 3) 'Mark out'** - Getting outside to explore features/designs prioritised on the agenda.
- 4) Detail design/ specify materials and plant** - Working in the design room to explore the design and details of areas/features prioritised in the agenda.
- 5) Review new ideas added to pool of knowledge** - Further exploring any new ideas that had been put forward during the session.

4.4. Project Presentation Strategy

To demonstrate the step by step development of this project each session of the project process section will be presented under the headings:

- Researcher/Facilitator Preparation.
- Session intention.
- Session outcome.
- Post-session correspondence.

To complete the case study there will be a project outcomes section under the following headings:

- i) Student feedback.
- ii) Head Teacher and Principal feedback.
- iii) The role of pre/post session correspondence in the project.
- iv) The state of the project a year after the final design session.
- v) The roles of different individuals within the process.
- vi) Post project reflections of the Researcher.
- vii) Key lessons.

4.5. Project Presentation

Session 1 24/6/10**Researcher/Facilitator Preparation**

- Confirmed scope of the project with school management.
- Prepared a survey for on the cultural and ecological environment of Martinborough School.

Session intention

- Re-establish relationships between the Student, Head Teacher and the Researcher before the school goes on term holidays.
- Give the Students and a number of teachers in the school a simple list of questions exploring the cultural, architectural and ecological environment of Martinborough to think about over the holidays. It was intended that the answers to these questions would help provide the design team with a rich base of knowledge from which to develop their design.

Session outcome

The students were excited about the project, happy to see the Researcher again and agreed to look at the survey over the holidays. It was also confirmed that while they would not be present at meetings, the School Caretaker and Principal were core members of the design team and ideas would be discussed with them at regular intervals.

Session 2 21/7/10**Researcher/Facilitator Preparation**

- Created example scale cardboard 'modules' to represent different garden/landscape features (see below).
- Obtained materials for 'mark out' technique (see below).

Session intention

- To develop the Students' understanding of the cultural background of their community and landscape.
- To introduce the Students to participatory techniques for laying out and testing

designs.

- To carry over desired features from the original design workshop to the new design.

Session outcome

After the holidays all the information that had come from the surveys (which were filled out with varying levels of attention) and all information and ideas that the Students had carried over from the initial garden design workshop were 'brain-dumped' onto two wall charts.

- Our Cultural Layer.
- Our Garden Wish list.

Fig. 7. 'Our Cultural Layer.'

While it was intended to use the cultural information to create designs and motifs to underlie the layout of the rest of the garden, this did not really happen as the Students lost interest in the historical and social aspects, although the 'cultural layer' chart was kept visible in the design room. Most other preliminary information such as seeking and finding north, had been carried out during the initial garden planning workshop.

Next the facilitator introduced the 'modules' method to begin laying out the ideas and features into the scale base map. This tool involves using tape measures and rulers to explain the concept of scale to the Students, then creating scale cardboard cut-outs of different garden features which can be moved around on the map to test different design

layouts. For example, the 'person module', a cardboard cut-out representing the shoulder width and sitting knee length of an average adult, was used to test the width of paths. These measurements were obtained from anthropometric standards text books (Pheasant 2006; Pheasant and British Standards Institution 1987).

Using this technique, modules of the raised garden beds, koru garden and stepping stones from the original design were laid out onto a new blank base map to recreate the design from the initial workshop.

Fig. 8. Initial garden design with cardboard cut-out features.

Next the design team went out to the garden site to utilise another participatory design technique developed by the Researcher and similar to the BleX approach discussed in chapter 3. The 'marking out' technique involves using spray paint to mark out the 2D outline of a structure, then using garden stakes and string to model its 3D structure on site. This allows the design group to truly visualise the impact a given feature will have on the site and take this information 'back to the drawing board'. Using this technique the group determined the three different heights for the raised garden beds. At this point the Caretaker helped the group realise the gap between the garden beds and the concrete path was too small to mow, and that the beds should be moved to butt up against the concrete.

Fig. 9. The Researcher and the Students 'marking out' garden beds.

Finally the group decided that the raised garden beds should be constructed from the wood saved from the old garden and the Head Teacher suggested that the Builder could do the work. The Researcher had initially intended that the design would be developed further before any construction took place, however the Head Teacher strongly suggested starting with practical elements as soon as possible to keep the Students interested.

Post session correspondence

After session 2 the Head Teacher informed the Researcher that although the Builder would not be able to come and take part in the design sessions as hoped, he had offered a number of suggestions about the specific construction of the beds. The Builder also suggested there was enough wood to make 6 beds, however it was decided that this should be discussed with the rest of the design team. The Head Teacher also stated that the Caretaker had confirmed that the area to be utilised for the garden could be extended as the emergency vehicle access, which was a key factor in dictating the site boundaries, had been altered.

At this point the Researcher contacted the Architect to ask her if she would like to come and discuss design principles with the Students and critique their ideas at a future session and she agreed. The Researcher had contacted the Architect simply because she was a local, and had not realised that she was the designer of the original garden until he spoke with her. However the Architect still shared good relations with the school, and was interested in the participatory process of the project, so this was not an issue.

Session 3 – 11/8/10**Researcher/Facilitator Preparation**

- Drafted new scale base map of the site to reflect new site boundaries as confirmed by the Caretaker.
- Prepared laminated photos for 'photo technique' and plastic overlay (see below).
- Compiled collection of garden design books and landscape plans.

Session intention

- To continue the exploration of the cultural layer.
- To clarify new outline of site and placement of garden beds.
- To use 'photo technique' and 'plastic overlay' technique to continue brainstorming.
- To make 'modules' of features and lay them out on map, exploring different layers of the landscape..

Session outcome

The session began by confirming that (due to the larger garden area now available) there would be 6 raised garden beds, which were then marked out their location using the 'mark out' technique. The Students made the final decisions about placement with regard to sun and shade with the Head Teacher and Researcher offering suggestions regarding access issues.

The group then worked to change the layout of the 'modules' on the garden map to reflect the new layout of the garden beds, although it proved difficult to retain student focus during this process.

An attempt was then made to use information from the cultural map and wish list to add detail to the design brief. This process was not wholly successful and the design brief was not really expanded from: An edible garden with outdoor classroom space.

The remainder of the session was spent brainstorming ideas for the garden, This was done by looking at garden design books and the Researcher's large collection of garden plans and then exploring ideas through two techniques:

- 1) The 'photo technique'. In preparation for this technique the researcher/facilitator took photos of the site from a range of locations and had these photos laminated. The Students could then draw different features onto the photos to see how they might look.
- 2) The 'plastic overlay technique'. A large piece of clear plastic is laid over a scale map of the site. The Students then experiment with different designs and feature layouts by drawing on the plastic with erasable markers. Any desired designs could then be measured and made into scale 'modules'.

The 'photo technique' was very successful and enjoyed by the Students. However the 'plastic overlay technique' quickly turned into a free-for-all and the plastic became covered in scribbles. From this brainstorming session the Students decided they would like to include compost bins, a sundial, espaliers, a bird feeder, cold frames and a 'wrap around tree bench' in their garden. These features were added to the wish list alongside the 6 features mentioned in the 'background' section above.

Finally, based on advice from the Caretaker and the Researcher, the group laid out modules representing espaliers to temporarily demarcate the area to be left clear for emergency vehicle access.

Post session correspondence

The Head Teacher confirmed that the Builder and the Students had built most of the raised beds and that the Students had decided whether they wished to be 'designers' or 'builders'. This was an idea she had suggested to ensure only those who were most interested would stay on the design team whilst still allowing the students who struggled to stay focused with the design elements remain involved.

The Head Teacher also requested that to keep the Students interest the Researcher “make the sessions very practical”. However, although trying to ensure there were interactive and practical elements in every future session, in order to progress with the design there was need to retain a focus on the design process. The Researcher also asked the Head Teacher to speak with the Students about making the most of the limited time they had.

Fig. 10. The brainstorming process

Fig. 11. Examples of the 'photo technique'.

Session 4 – 25/8/10

Researcher/Facilitator Preparation

- Confirmed the Architect's involvement in project and clarified her role in the process. At this point the Architect asked about what would happen if the Students wanted 'something really strange'. The Researcher clarified that she was encouraged to critique and question their ideas, but that no one had an overriding vote and that the idea was to work towards a consensus or compromise.

Session intention

- Review design layout so far and the reiterate process with the Students.
- Discuss design ideas with the Architect.
- Confirm emergency vehicle access and garden boundary.
- Determine placement of espaliers with modules and mark them out.

Session outcome

The Students showed off the new garden beds built by the Builder and explained the basic changes he had made to the design, how they were built and his choices regarding materials. They showed a great deal of understanding of the construction of the beds and were very happy with them.

The group had a discussion about the size of the other three garden beds to be built on the west side. There was initial disagreement but through a combination of compromise and voting it was decided to have medium height ones on the outside, with a small one in the middle. Factors that came into the design included the amount of soil required to fill them, the ease of use, and the way they looked. It should be noted that the Students did not seem to take accessibility into account naturally, especially as (at the time of the project) there were no students in wheel chairs at their school. These issues were brought up by the Researcher and Head Teacher.

The Architect met with the design team from 1.30 – 3 to give input into the design. A key idea she explored with the Students was how to avoid a 'hotch-potch' design through ensuring unity of design elements such as curves, materials and grouping element functions together. Based on this advice, the group confirmed that espaliers would be used to mark out the emergency vehicle path, that their layout should be as curved as possible to match the curves of the outdoor class room, and that the isolated koru climbing plant frames should be moved to be with the other garden beds.

After the Architect, Head Teacher and Researcher prompted a discussion on access, it was decided to put in a couple of gate-gaps into the espaliers. Victoria suggested we put them at the ends of rows to avoid using too many posts. Two of the Students suggested their builder fathers might be able to help construct the espaliers.

Finally exploration was started on the outdoor class room idea. The Architect helped the group to realise that the current outline of the classroom made it too small. The group talked about scale again and used the scale cut-out person module to 'walk around' the site to work out how big it should be to allow room for seats, planting and walking. Gridded paper was used to cut out a new rough outline of how big the structure needed to be and the group began to explore what it could be made from.

It should be noted that at times when the Researcher was struggling to keep the group focused, the Head Teacher had good ways of re-engaging them by asking them questions about things she knew they were interested in.

Fig. 12. The Students and Researcher discussing the design with the Architect

Fig. 13. The growing design 'wish list'.

Post session correspondence

The Head Teacher confirmed that the School Principal and a student rep from the design team are going to take the design to date to a meeting with the board of trustees (B.O.T) to get their feedback.

Session 5 – 9/9/10

Researcher/Facilitator Preparation

- Compiled examples of construction methods and costs for different styles of features the design team wanted.
- Contacted the Landscaper to invite him to assist the team with designing and

constructing the outdoor classroom.

- Made copies of the outline of the outdoor class room shape for the Students to brainstorm with.

Session intention

- 'Mark out' boundaries and check structure dimensions with help from the Caretaker.
- Work on outdoor class room plan.
- Begin discussing plant selection.
- Prepare the Students for the Landscaper's visit.

Session outcome

The Head Teacher and Student Group confirmed that the B.O.T were very supportive of the design so far and that Friends of Martinborough School had donated \$200 for tools. The Head Teacher had found a local person to construct the espaliers.

It was too wet to do the marking out of all the new site elements as intended, so the team reviewed all the features and design elements so far and made a list of what work needed to be done. During this process and using ideas from the wish list alongside the feature examples brought in by the Researcher, a few additions were made to the design: more stepping stones were added, herb and flower borders were introduced to further demarcate vehicle access, a design for the 'wrap around tree bench' was selected and the location of orchard area was confirmed. The Students were very clear that the latter should be on the south side of the outdoor classroom so as not to block its sun.

Using the blown up scale drawings of the outdoor class room, which will be referred to as 'detail design modules', the Students came up with further design ideas for this feature. This worked well and the Students used a scale person 'module' to work out how much room they needed in the structure.

Based on a suggestion from the Researcher, the Students and Head Teacher decided to write letters to the community and compile a list of who could help in contributing skills and/or resources. They also agreed to increase the level of publicity for the project in the school newsletter.

Post session correspondence

The Principal confirmed that the initial budget for the project was \$5000, with another \$5000 to be raised.

Fig. 15. The Researcher's sketch of what the outdoor classroom could look like.

Fig. 16. Final version of site layout after the

Session 6 -22/9/10

Researcher/Facilitator Preparation

- Confirmed the Landscaper's involvement and clarified his role.

Session intention

- Develop the detail design of the outdoor classroom.
- 'Mark out' the location of other features and specify their materials
- Make plant wish list.

Session outcome

The Head Teacher and the Students showed the Researcher the photo boards of the project so far they had made to show at parents' open night and confirmed that garden updates had begun appearing in the school newsletter.

The group worked with the Landscaper to go through the detail design of the outdoor classroom. The main map, 'detail design modules' and the 'scale person module' were used to develop this feature. It was agreed the design would be based around benches nestled into native plants and a gravel base decorated with blue mosaic pavers to represent a river. The Head Teacher suggested that students could make the pavers in art class over the following year.

The team measured benches and the heights of people to gain a realistic understanding of the dimensions of the features in the outdoor classroom. This worked well and the Students were very engaged.

The Landscaper left with a sketch of the outdoor class room and agreed to get back to the group with a quote for its construction and also for the construction of the koru shaped climbing plant frame.

Post session correspondence

The Landscaper confirmed the price for the construction of the outdoor classroom and koru garden.

Fig. 17. Ideas for the outdoor classroom.

Fig. 18. The Landscaper and the Students measuring benches to confirm the size of those in the outdoor classroom.

Fig. 19. Using the map and 'modules' to lay out benches in the outdoor classroom.

Fig. 20. The final sketch of the outdoor classroom.

Session 7- 13/10/10

Researcher/Facilitator Preparation

- Research on plant species native to the Wairarapa region.
- Discussed budget with the Principal.

Session intention

- To look at the Landscaper's quote for the outdoor classroom and make a decision with the Students.
- Mark out the locations of the remaining features and plan their construction.
- Discuss the planting plan.

Session outcome

The Head Teacher shared with the group that the Builder was too busy to do any more work on the project so the other features would be purchased if possible and, if the budget allowed, the Landscaper would build the rest. She also admitted that the original (adjustable) site plan had been misplaced. Luckily the main design work had been completed and full size colour photocopies made.

Based on the current project budget of \$5000, with another \$5000 to come the following year from FOMS, the group agreed to accept the Landscaper's quote and have the outdoor class room constructed immediately, but that the other projects would have to wait.

The Researcher and Head Teacher then discussed the budget with the Students to get their opinion on prioritising projects, but this proved difficult. It was confirmed that the remaining stages of the project would be to get the features constructed or bought one by one, to design a planting plan and to develop a maintenance and on-going design plan. The Head Teacher suggested that at the next session a prioritisation technique the Students were familiar with could be used to rank the projects.

The design team then worked together to mark out the espaliers.

Post session correspondence

The Researcher confirmed with the Landscaper that he could begin the construction work.

The value of the 'marking out' process was demonstrated when the Head Teacher contacted the Researcher to inform him that the Caretaker had noticed the espaliers had been marked with corners too tight for vehicles to turn.

Session 8 - 3/11/10

Researcher/Facilitator Preparation

- Made a clear list of the remaining tasks to complete the current project.

Session intention

- Use the Head Teacher's technique to prioritise the remaining features/tasks.
- Finishing marking out features.

Session outcome

The Head Teacher's technique was used to prioritise the remaining projects to be completed the following year. This process worked as follows:

- The group discussed the different factors that needed to be considered in making this decision;
- The projects were listed on a piece of paper;

- The design team cut up the project list and arranged them on a coloured sheet (either in order of preference or in any pattern they liked);
- The Students wrote numbers on the projects in order of their preference;
- The scores for each project are then added up and prioritised based on the resulting score.

The Students at one point suggested a number of the other features could be built before the outdoor classroom, but as the quote had already been accepted, this idea was dismissed. The Wairarapa Enviroschools Facilitator also attended this session to assist with this exercise.

The project priority list became:

- 1) Fruit trees
- 2) Espalier
- 3) Worm farm table
- 4) Chair around tree
- 5) Koru bean trellis
- 6) Cold frames
- 7) Wheel barrow gardens
- 8) Sun-dial

The group then discussed materials to use as the base for the outdoor classroom, as they had suggested gravel might be too sharp for their feet. The layout of the tall and short plants in the design was made to allow for growing shade cover. That the Students' critical thinking on these landscape issues was growing was clearly evident.

The group worked with the Caretaker to remark the espaliers to allow for emergency vehicle turning clearance.

Finally the Landscaper arrived to work with the Students and mark out the outline of the outdoor classroom in preparation for spraying and landscape work.

Post session correspondence

After this session the Landscaper started and completed the construction of the outdoor class room. The Head Teacher informed the Researcher that while it was looked good and was very popular with both students and staff, there had been a couple of issues:

- When the Landscaper began the excavation work he discovered that the grass was covering large beds of concrete. He needed to use additional power tools, however he graciously did not charge any additional fees for this.
- After the classroom was constructed it was clear that the shade was insufficient. Shade providing shrubs had been included in the design but these would take a while to be tall enough. The Head Teacher and Principal would investigate funding sources for a shade sail through both grant pools and a scheme in which sponsors can have their names on a plaque on one of the classroom's benches. In the meantime the Landscaper had donated umbrellas and umbrella rings to the school free of charge.

The Researcher confirmed that the next session would be his last with the school.

Fig. 21. Marking out the outdoor classroom with the Landscaper.

Fig. 22. Prioritising projects.

Session 9- 1/12/10**Researcher/Facilitator Preparation**

- Preparation of guidelines for the development of a planting plan and maintenance

plan.

Session intention

- Discuss planting plan and maintenance schedule.
- Review the project and process with the design team.
- Celebrate the journey so far.

Session outcome

The design team shared with the Researcher a range of challenges and issues with the way the new koru garden is being used. These included students trampling on plants, and kids scuffing their feet on the path and uncovering the weedmat. The Students also shared a range of solutions they had come up with. When discussing these issues the Students were referring to the photos on the wall and the landscape map/plan, clearly showing a dramatically increased ability to relate to the landscape map and articulate their ideas and suggestions.

The Head Teacher showed the design team photos of wheelbarrow gardens that the school could buy. The Students still wanted them but had suggestions for how they could make them better (e.g. half bury them, paint them).

The Researcher then introduced the design team to a plant selection tool he had developed and left them with it to use next year when they are ready to select plants.

The group was then taken through a maintenance planning process and came up with a 'process maintenance' plan for how the group could maintain their communication channels and manage the on-going design of the landscape. The group also discussed how to create a 'product maintenance' plan for caring for the hard and soft elements of the landscape.

In summary, in their 'process maintenance plan' the design team decided that:

- They would retain a design team who would meet for half an hour every fortnight, or more often if there was a big project on.
- They would open the team to new members who could put their names forward and

state why they want to join. The existing team would recommend people and the teacher in charge would approve the final decision.

- They would retain the wall they had been using in the 'design room' for the collection of ideas and suggestions on the school landscape.
- When making decisions they would prioritise ideas and suggestions, vote and try to make compromises.
- They would keep in touch with the rest of the school through their school assembly TV show 'Marty On Air' and by asking the others to put forward their ideas for discussion at design team meetings.
- They decided they could research projects and maintenance through using the internet and libraries, and through asking the experts and scientists the school had relationships with.
- They decided they could keep using the 'mark out' and 'modules' techniques taught to them by the Researcher to test out new ideas and plans and that teachers and the Landscaper could help them work out how to construct them.
- They decided that a teacher would be responsible for keeping track of the budget.

Finally, before celebrating with chocolate cake and a card the Students had made for the Researcher, the Students were guided through a review of the process. The initial format of the review was a little too complicated for the Students but was simplified with the help of the Head Teacher. The Students were sad to see the Researcher go but were excited and optimistic about their abilities to continue on with the project without him. The Researcher confirmed that they could contact him for advice if they got stuck, and that he would come back the following year to see how they were getting on.

The Students then showed the Researcher an episode of 'Marty on Air' – the weekly 'TV show' made by the senior school, which presented the new garden to the rest of the school and asked that they take care of it.

Before leaving the school a further review was carried out with the Head Teacher and Principal. The Head Teacher also introduced the Researcher to one of the other teachers in the school who had started working with a local artist to create a mural for the fence that sits behind the outdoor classroom. She had initially intended to 'just do it' but when the nature of the overall project was discussed with her, she was very open to including

Fig. 26. The outdoor classroom

4.5.1. Project outcomes

i) Student feedback:

The Students claimed that they enjoyed this project, were happy overall with how it came out (other than the way some students were misusing the outdoor classroom) and thought it was important that the Students were included in the design and decision making as “it would be boring if kids didn't help”. They particularly enjoyed using the photos to brainstorm, marking out on the site with spray paint and getting advice from the experts (the Architect and Landscaper) about their ideas.

They felt the Researcher was useful in giving them ideas and helping them to understand the design process. However they felt that he talked too much, was initially grumpy with them, and that the process could be improved by spending more time outside.

Overall they felt that they understood the landscape design process better than they did before and were optimistic about their abilities as a group to carry on the process without the help of the Researcher.

ii) Head Teacher and Principal feedback:

The Head Teacher and Principal both felt that the project was successful in upholding the inquiry based pedagogy that is used at Martinborough School and the participatory process was important as students do not perceive their landscape in the same way that adults do. They were both very happy with how the project had turned out and had received much positive parental feedback. They felt that the new outdoor classroom made a big impact on the front of the school. They were also happy with the way the Students had sustained their vision and were optimistic about the participatory process continuing with more students and without the on-going support of the Researcher.

They valued the role of the Researcher in maintaining the vision of the project and having the knowledge of how to transfer ideas into realistic designs, but felt the process could have been improved through being not so drawn out, being more interactive and with less talk, as the Students occasionally got bored.

As mentioned above, the teaching and management staff of the school showed their satisfaction with the project and their appreciation of the Researcher's role in that they presented him with their annual community service award.

iii) The role of pre/post session correspondence in the project:

Throughout this project pre and post session correspondence between the Researcher and the Head Teacher proved to be important for a number of reasons:

- To ensure that both parties knew what to expect from the upcoming session and that adequate preparations were made.
- To discuss decisions and/or unforeseen circumstances that could not wait until the next design team session.
- To discuss issues with the group dynamics, the design process or the facilitation methods.

Out of session correspondence was also essential for communicating with contractors and experts and provided the Researcher with a chance to research upcoming facets of the design process.

iv) State of the project a year after the final design session:

While the espaliers had been constructed (with help from a local agricultural training scheme) the implementation of other features in the design plan had been put on hold as fund raising for a shade sail for the outdoor classroom had become the priority. The outdoor class room was an enormous success with many students liking to eat their lunch inside it. The design team had also decided to move one of the original garden beds as it was too shady. The group was still meeting, but these taking part changed over time. As many of the original Students were leaving school, the Head Teacher was planning to form a new group to continue looking after the project. The school was still enjoying a good relationship with the Landscaper who had been very helpful in assisting them to deal with any issues regarding the outdoor classroom (for example replacing plants killed by student trampling). Overall the school was still pleased with their garden and the way the students were engaging with it.

Fig. 27. The garden site a year after the last session with the Researcher. Note the espalier poles and wires.

v) The roles of different individuals within the process:

Students

- Developing ideas for the project.
- Inclusion in making decisions.

Teacher

- Developing ideas for the project.
- Inclusion in making decisions.

- Found ways to keep the Students engaged and kept the Researcher informed of what their limits were.
- Represented the school's obligations, requirements and visions in the process.

Caretaker

- Provided feedback on site use practicalities and construction methods.
- Supported the design team in marking out the site design.

Principal and B.O.T

- Provided guiding information for the development of the design brief.
- Offered feedback on the project's development at regular intervals.
- Ensuring the design team had the resources and time they needed to engage in the project.
- Secured funding.

Researcher

- Guided sequential nature of project and preparation of session agendas.
- Offered design suggestions and researched issues requiring more information.
- Located and liaised with outside experts.
- Mediated group differences/disputes.
- Retained group's focus on the agreed project vision and design brief and reiterated previously agreed decisions.

Landscaper

- Offered feedback and ideas on the design process.
- Supported the design team to clarify detail design of structures and elements.
- Provided contracted labour and construction project management.

Architect

- Offered feedback, and ideas on design principles, themes and trends.

Council staff

- Provided the group with information on the local ecology.

vi) Post project reflections of researcher:

It is clear that the process used in this case study needs fine tuning. While the Researcher wanted to ensure that the design team understood as many principles of landscape design as possible, the Students often found that there was too much talking and not enough doing. Due to this, and the fact that the Researcher often found it difficult to explain some of the more subtle aspects of the design process to the Students (such as exploring the cultural dimension of the landscape) some areas that could have benefitted from deeper analysis were probably overly rushed.

Also, in the effort to include as many of the group's ideas as possible, some key site factors were neglected (such as supplying adequate shade for the outdoor classroom) and the design at times seemed to be in danger of being composed of a random collection of unrelated elements. While this may still have been functional for the intended purpose, and have resulted in good learning outcomes for the Students, it may not have been a satisfactory design for the school management.

However, the fact that the school's students, staff and management were all so pleased with the outcome of the project, both in terms of its impact on the physical landscape and in terms of its impacts on the learning outcomes and morale of the Students involved, is an indication that in this context there was a lot of value in taking a participatory approach to the design. This value was also demonstrated by the growing number of individuals within the community and staff who supported the project as it went on.

As the Students became more knowledgeable about the multidimensional nature of landscape design and more comfortable and competent as a collaborative group, their abilities to make appropriate and sustainable landscape decisions also grew. Therefore it seems that ultimately what was being designed was as much a participatory process as a landscape project.

A process that results in the design team developing a long term inquiry relationship with the landscape is thus more important than one resulting in an initially beautiful design. Reconsidering decisions or redesigning features is not so much a case of correcting mistakes as a key part of creating a learning landscape and empowered,

ecologically educated relationships between the landscape and the community who reside within it. However, it is important to note that while participatory projects are by nature inclusive, participation does not mean that all decision making power is given to students (or any other often disempowered or excluded group). It means decisions are made as part of a 'consensus' process and that each opinion is as valued as it is open to critique and query.

It seems that the iterative aspects of the process are key. It is hard for non-design professionals (or even some professionals) to visualise the outcome of landscape decisions from the outset, as this involves many assumptions about the way in which the living landscape will evolve and interactions the local community will have it with it over time. While an iterative long term design process, such as the one suggested by this study, may take longer, because it by nature facilitates interactive relationships between the landscape and the community within which it is placed, it will probably result in landscapes which grow and evolve with people, rather than away from them.

Of course a design project like this, when taken out of the context of a school and into a wider public space suburban setting, will have a greatly increased range of stakeholders and social, economic, ecological, architectural and legislative parameters to contend with. Below is a list of the key learnings gleaned from this case study which will be carried forward into subsequent projects.

vii) Key lessons learned:

Group Dynamics and Facilitation

- It is very important to build group rapport and a promote a playful creative attitude early in the process, while at the same time agreeing on clear ground rules around how the group will communicate and make decisions. It may be useful to have a group statement around the intent to reach consensus (or close to it) that can be referred to during the sessions if necessary.
- It is important to allow time at the beginning of each session to settle and focus the group, and to allow time for regular mini breaks throughout. In school settings it is very helpful if a teacher can gather and focus the students ready for when the facilitator or

experts arrive.

- In a school setting it is also important to establish methods that the facilitator or process guide can use to energise, calm down, or refocus the group during the session, and also to engage students with different learning styles, which is something the key teacher can assist with. While this may not be so relevant when working with adults, energy levels must still be monitored by the facilitator to ensure that key decisions are not being made by a group that is distracted or exhausted.
- Allow the agenda to be flexible to adapt to what the group and evolving project needs, not fixed to what the facilitator wants.
- It is important to have the design team confirmed before starting the process proper, and that all members of the group actually *want* to be there, rather than because someone thinks they should be there. Alternative methods of engagement can be utilised to include the different opinions and perspectives of individuals who do not want, or are not able to be in the core design team.
- In a school setting it is a good idea to explain clearly the intended content of a session and any participatory tools or methods are going to be used to the teacher or another support person before engaging with these with the group. This way they can support the facilitator and not accidentally take the group off on a tangent when they are trying to help. In a non-school setting it may be a good idea to explain the full process of any engagement technique to the group before using it to ensure that it is understood and appropriate to the group's needs and abilities.

Design Process

- As early as possible in the process the group should begin to explore and clarify a vision statement for the design that captures the essential needs each individual or group involved in the project has for the site. This vision can be used to guide decision making and can be reviewed and evolved as the project develops.
- If there are any key environmental/social concerns that anyone in the group has, it is important to identify and discuss these as early as possible so that they can be

incorporated into the project vision. Examples of these issues could include whether or not the group is comfortable with weed spraying, hybrid species or unsustainably harvested wood products.

- It is a good idea to have a 'what's on top' session at the start of each session and to have a clear way to record and explore new ideas throughout the session without disrupting the session process.
- To avoid rushing the group, whenever possible decision making deadlines should be kept flexible. However it is important that there is an understanding within the group of the expected timeline of the overall project and that any external deadlines and the time given by any external experts or helpers are both respected.
- It is important to have ways for the participants to remain engaged in the design process during any breaks between sessions to allow enthusiastic members to keep their momentum and to ensure that no valuable ideas are lost.
- Before making any decisions, whether by voting, ranking decisions or any other method, ensure that there has been an opportunity to discuss all the factors that might go into making a decision regarding the given dimension of the landscape. If some time can be allowed for research by a range of individuals within the group, it is ideal.
- Having some kind of iterative process is important as it allows participants to see the outcomes of their decisions as they go, and allows the design process to be resilient to unforeseen changes. 'Mixing in the rewards' of building and practical or highly interactive elements (such as using the 'modules' technique) helps to hold the group's interest (especially when working with young people) and it supports the group's growing understanding of the multidimensional nature of the design process. This extends to 'marking out' any proposed features, boundaries or access routes on site to test that they are practical and appropriate before construction.
- As the group's insight into the landscape and its future grows with their experience of the design process, it is important to allow plenty of time for brainstorming and reassessing the vision throughout the process.

- To ensure the group can develop an accurate impression or image of the feature or element they are working on, it is important to have a wide range of brainstorming, visualisation, modelling or rendering techniques available.
- As early as possible, ideas and brainstorms should be transferred into a realistic scale, to ensure that any subsequent decisions made from these initial ideas are also realistic.
- It is important to ensure that all access or essential site usage locations, and any potential health and safety issues (e.g. required shade) are clarified early in the process.
- It is very useful, if not essential, to have an accurate base map before starting. Site measurements and information on topography, hydrology, aspect and other fixed conditions could be produced by a council or landscape professional if the skills to do so do not exist within the group. If no such expert is available these key landscape features can be assessed and recorded one by one.
- If the group is creating or working with maps or site plans, they should not have arbitrary borders as this can give a false impression of the site. The map should include as much of the site in which the project is based as is practical. The boundaries of the given project space can then be marked in dotted lines on the map, and marked with stakes or paint on the site.
- It is very helpful to have appropriate experts who can sit in on the process during both the site planning and detailed design of elements to offer design critique and ensure that the design team does not make any fundamental mistakes. However it is also important that these experts are briefed on the nature of the project and that their role is to take part in and support the project, not to control it.
- In addition to deciding how the group will make decisions, it is also important to decide which decisions can be made by individuals within the group, which decisions need to be made by group consensus, and which decisions require the opinion and guidance of an appropriate expert.

- It is important to ensure the design team has a clear understanding of the elements or features to be explored with experts or contractors before they arrive.
- When working with external contractors ensure communication regarding the design and quotation process is kept very clear and any potential cost increases are discussed.

5. Case study 2 - Catchment Community: a community based approach to the ecological restoration and development of a new public space in Wellington's Happy Valley.

5.1. Background

Wellington New Zealand's Owhiro Stream flows from the suburb of Brooklyn into the estuary of Owhiro Bay, which makes it the only un-piped stream flowing into the Taputeranga Marine Reserve. The Friends of Owhiro Stream (FOOS) are a highly active and empowered voluntary riparian care group who have been working since 2003 to restore the biodiversity and ecological health of the stream. In addition to their core physical and ecological restoration work, the group also actively lobbies for its protection through submissions to and engagements with council, and aims to both increase community awareness of fresh water ecology and storm water issues, and to increase community empowerment and buy-in for the preservation of this beautiful and ecologically significant stream. FOOS operates under the umbrella of the Brooklyn Community Association (BCA) and works in close relationship with the Wellington City Council (WCC), Greater Wellington Regional Council (GWRC) and various community partners including churches and schools.

In 2011, the focus of FOOS returned to one of its original restoration sites, which due to being adjacent to a former factory is known as 'the bagel factory site' (BF site). This 'flagship' site is unique within the restoration mandate for FOOS, as it is the only site which is large enough and with appropriate access to become a public space. The group's growing vision for the site includes extensive native planting and also track development, seating, innovative interpretation and other recreation and community oriented features.

Fig. 28. A shot of the bagel factory prior to the commencement of the engagements described in this case study.

The FOOS core group (of which the Researcher is a member) has a very holistic attitude towards the restoration of this site, and values the idea of the restoration of the relationships between the community and the stream and how the community value it, as highly as they do its physical and ecological restoration. With this in mind, the decision was made to include as many community members as possible in the long term design and development of the bagel factory site into a vibrant public space in which people can get 'up close and personal' with the stream. However, equally key to the vision for the space were the following principles:

- Its role as an ecological restoration site would remain paramount.
- It would retain an element of 'wilderness'.
- It would not become a highly regulated or controlled space through its development.

With this background, the development of the BF site is an ideal project within which to explore further the practicalities of community development based sustainable

landscape design, especially given its more complex and politically challenging context. The Researcher's offer to support a wider range of community members to engage in this project, and then document it as a case study for the thesis was welcomed by members of the FOOS core group. Again with support from the core group, the decision was made to name the community development aspects of the work of FOOS 'Catchment Community' (CC).

At the time of the CC project, FOOS were also engaged in a number of other significant initiatives, which while they certainly influenced the wider context of the project will not be discussed in this case study. These initiatives were: the relocation of the FOOS shade house, the development of a long term restoration and monitoring plan, and writing council submissions expressing concerns regarding storm water discharge and resource consents for clear-fill operators in the area.

5.2. Project scope, context and participants

The purpose of CC can be described generally as:

- To increase ecological knowledge and action empowerment within the Brooklyn and Owhiro Bay communities in order to develop a wider and more resilient community support system for the Owhiro Bay stream.

And more specifically as:

- To facilitate genuine and on-going community participation in the design, development and maintenance of the BF site to ensure its long term sustainability.

The scope of this project is thus very large and extends far beyond the hand in date of the present research. The events documented and reflected upon here cover the period from April 2011 to March 2012 and will refer to four different (though completely interrelated) aspects of the community engagement processes used during CC and the on-going development of the BF site.

FOOS interaction evening

Early in the Researcher's involvement with FOOS (8/4/11), discussions were held

regarding how the core group could restructure the way it meets and functions. The impetus was to enable a wider range of people to be informed of and involved in the work and vision. The group discussed forming sub-groups for different FOOS functions, which would report back to the main core group. As a way of encouraging participation in a sub-group by interested people, it was decided to hold a public evening to inform people about the ecology, history, and challenges of the Owhiro Bay stream and the activities of FOOS in relation to these. It was hoped that gatherings such as this could supplement the core group meetings which (due to their often more technical nature and the fact that they were held during the day) were not necessarily suited to general attendance.

Collaborative site planning

The on-going collaborative effort of FOOS members, WCC, and GWRC staff was to develop, with as much wider community input as possible, a resilient restoration plan, suitable track network, and general landscape plan which would be conducive to the public engaging with the site, whilst preserving its ecological integrity. This aspect of CC essentially encompasses the others but is presented individually in order to clarify the overall structure of the project.

Catchment schools

This was an engagement in which the Researcher, working alongside staff from GWRC's 'Take Action For Water' programme¹⁹ (Take Action) supported the schools at the 'top' and 'bottom' of the Owhiro Stream catchment to develop their relationships to the stream, and to each other, and also to engage with the BF site project.

Community art project

This was an engagement, motivated by Cultural Community Development (CCD) principles (see section 2.6) in which a group of local artists, landscapers and other interested people were guided through a facilitated design process to develop and implement a creative dimension to the landscape plan. The intention of this aspect of CC was that it would add an additional level of collaborative design to the landscape development of the BF site, allow and encourage a wider range of people to engage with the project. It would also serve to explore and strengthen the relationships between

¹⁹ <http://www.gw.govt.nz/take-action-for-water> – Accessed 13/5/12

the local community and the stream.

These four different aspects can be characterised either as efforts to raise community awareness of the work of FOOS and the ways the community could participate, or as more direct facilitated engagement in the development of the BF site. The awareness raising initiatives, while having value in themselves, also served as a medium through which to engage the community in the facilitated site development elements. The relationship between these different aspects is demonstrated in Fig. 29 below. It should be noted that while the collaborative site planning and the community art project are presented separately, they were interrelated parts of the same process operating at different scales; the site planning concerning the overall layout of the site, and the art project contributing creative elements and specific details to the design.

Fig. 29. The relationship of different aspects within the Catchment Community project.

Throughout the course of CC there were a very large number of individuals and groups involved. In addition to the Researcher, the key participants referred in the case study are listed below. The role of other individuals will be defined as they appear.

FOOS Core Group

The core group is a group of 10 volunteers and council staff who have made a commitment to supporting the restoration of Owhiro Stream and coordinating all FOOS activities. The FOOS core group met approximately once a month for the duration of the project considered here, providing regular feedback to the Researcher on the various aspects.

WCC

Wellington City Council are the official land owners of the BF site. Work carried out by FOOS is done under a memorandum of understanding (MOU) with WCC which clarifies maintenance responsibilities and health and safety requirements. While eager to ensure development happens in a safe and rational way, the Council has been very supportive of FOOS and the CC project with a range of staff offering both overall guidance and feedback on the site development and art project, and direct input into the design and development of a track network. The main WCC staff members involved in CC were: the Arts Programme Advisor (**Arts Advisor**); the Manager, Community Engagement & Reserves (**Reserves Manager**); the local **Park Ranger**; the Biodiversity Coordinator, Parks & Gardens (**Biodiversity Coordinator**); and the Reserves and Walkways Project Officer (**Walkways Officer**).

GWRC

GWRC staff members sit on the core group and offer invaluable support (financial, scientific and logistical) to FOOS. They were also supportive of CC, whilst being a strong voice stating that the fundamental restoration work should remain the top priority for any developments.

The Arts Facilitator

The development and facilitation of the community art project aspect of CC was a joint effort between the Researcher (who served as project manager) and his colleague the Arts Facilitator, who guided the project's creative process.

Creative Group

The Creative Group refers to a group of local artists, landscapers, architects and other individuals who engaged with the BF site project and took part in the community art project aspect of CC. While there were a number of participants who were involved throughout the project, the membership of the group varied in size.

School One (School at the top of the catchment)

This primary school on the hill above the Owhiro Stream engaged with CC through taking part GWRC's Take Action For Water, having taken part in previous planting-days and through a family connection with FOOS.

School Two (School at the bottom of the catchment)

This primary school has a long history of engagement with the stream, being sited near to where it flows into the sea.

5.3. Process strategy

For CC as a whole every attempt was made to follow community development principles (as discussed in section 2.6) in the various engagements. In the aspects for which the Researcher was responsible, the process was guided by the process phases described in the process strategy section of the Martinborough School case study (chapter 4). However as this was a far more complicated project, with a wider range of stakeholders, the facilitation and project management processes evolved over time.

While specific engagements and processes of the different aspects of CC will be described in the relevant sections below, key principles are set out below:

- The overall BF site plan was coordinated by the FOOS Core group with regular feedback and input from WCC and GWRC.
- The Creative Group met roughly fortnightly, functioned as a sub group of the FOOS core group and as the designs progressed, fed-back regularly both to them, and directly to the necessary council officers. The content of the early creative sessions was developed by the Arts Facilitator with assistance from the Researcher. Later sessions were largely self-facilitated by the group, but were based on the following 'fall back'

structure (which emerged from that developed during the Martinborough School project):

- 1) What's on top? - Reflect/review/new ideas
- 2) Confirm agenda or design process for the session
- 3) 'Mark out' or 'reality check' current ideas
- 4) Detail design of features/ specify plants and materials
- 5) Review any new ideas.

- The Catchment schools engagements were developed by the researcher in conjunction with staff from GWRC and the participating school/s, with the intention that the pupils' ideas and feedback would be fed into the design process for the BF site.

5.4. Project presentation strategy

Due to the large number of sessions and extended timeframe of the CC project a different presentation approach has been taken for this case study to that of the Martinborough School project. The four main aspects of the CC project (interactive evening/ re-evaluation of group structure, collaborative site design, catchment schools and the community art project) took place in parallel and were interconnected in a variety of ways. However for clarity of presentation, each aspect will be presented separately, and set out as follows:

- Key milestones
- Researcher reflections

As they are more complex engagements, the *key milestones* of the collaborative site design and community art project sections have been sub-divided into:

- Inception
- Implementation (which in the community art project section has been further divided into: group forming; setting the parameters and developing a brief; concept development; public feedback; and detail design).
- Outcomes

5.5. Project Presentation

The events of the four aspects of Catchment Community will now be presented, along with the Researcher's reflections.

5.5.1. FOOS interaction evening

Key milestones

The planning for the first of the 'FOOS interactive evenings' began in early April 2011. The intention was to try to get across the diversity of activities in which FOOS is engaged, and collect contacts of interested people and the aspect of the work of FOOS they are interested in. There could then be 'go-to' people within FOOS for each aspect who would keep the relevant individuals up to date, and also ensure that information would flow into and out of the core group, whose role is to oversee everything and ensure that it proceeds in a complementary fashion. However, as alluded to above, the individual groups would, within their area of specialisation, have autonomy, which would serve both to empower the group members, and reduce the burden on the FOOS core group.

In an attempt to attract a diverse pool of people to this session, different speakers were invited to present on a range of topics. At this stage the idea for the community art project had already begun to form through discussion between the Researcher, the Arts facilitator and the FOOS core group, and it was planned that the interactive evening would be a suitable forum to gauge initial public interest in the idea. The evening was advertised widely in the local community and wider region through leaflet/poster drops, an interview on Wellington's Radioactive radio station (29/6 on 88.6 FM) and through items in local newspapers (see appendix 1 for an article from Wellington's *Capital Times* newspaper) and relevant newsletters. The flyer for this meeting (Fig. 30 below) was paid for by the FOOS core group out of their operation funds and was designed by the Arts Facilitator.

Fig. 30. Initial Catchment Community Poster.

The event (held on 30/6/11) was very successful with 26 people attending from a wide range of back grounds (FOOS members, and local artists, ecology enthusiasts and kaupapa Māori advocates). Many people said they came after receiving the flyer in their letter box and a number said they had seen the article in the paper.

The session inspired active discussion about political issues relating to the stream, suggestions for the development of the BF site, ideas for the proposed art project and suggestions for future interactive evenings. A number of people registered their interest in being involved in the art project, proposed school engagements, and ecological monitoring. To conclude, FOOS invited the attendees to take part in the next big working bee at the BF site (discussed below). It was originally planned that these gatherings would be semi-regular as a way to keep the wider community informed and engaged, however the time commitment required of FOOS members in facilitating the

collaborative site design and art project did not allow this to happen.

Researcher reflections

- The feedback from the community was that they genuinely appreciated having an opportunity to learn more about what was happening in an environment in which they were not expected to immediately participate or commit to further involvement. A number of individuals strengthened their relationship with FOOS after this evening, or attended a working bee or other engagement for the first time.
- From the feedback regarding how people had learned of the evening it is clear that the letter box drop had the most impact. While there is more effort required in this approach, it is perhaps perceived as more personal and it ensures that the invitation reaches the targeted community.
- The Researcher and the rest of the FOOS core group were quite ambitious in the range of projects and engagements they hoped to enable through opening up the core group to a wider audience. It appears that a clearer distinction should have been made between aspects of the work that already had a clear direction and facilitation procedures, and simply required more support, and those which had been identified as possibilities but currently had no leadership or momentum. It is important in volunteer run projects such as this that groups reflect honestly on their capacity and do not spread themselves too thinly. This is important both to prevent burnout and to avoid losing faith in the community through making promises that do not eventuate.

5.5.2. Collaborative site planning

Key milestones

Inception

Early in CC (8/4/11) the WCC Park Ranger confirmed that he would coordinate the construction of a track network extending along the hill side of the BF site towards Owhiro Bay, linking it with other adjacent walkways. The track system would include areas set aside to be designed and developed with wider community support. Large

parts of the work were also to be carried out with assistance from both corporate volunteers (engaged through WCC, GWRC and Volunteer Wellington led initiatives), and workers carrying out community service sentences²⁰.

The Park Ranger initially worked with GIS and GPS to establish the general route and ensure property boundaries were clearly established. He suggested that all the track development within the BF site itself should have a wider community focus. At this point the FOOS core group and the Park Ranger agreed that to proceed with the site development it would be helpful to have a general landscaping concept plan. In order to begin work on this, the (unofficial) chairperson of FOOS created a large scale map of the BF site (using WCC's publicly accessible GIS services²¹). The intention was that members of FOOS could brainstorm and draw in all the different ideas on plastic overlays for discussion before collating them into a concept plan. As those involved in this exercise were adults who took the process seriously, this proved to be a far more useful tool than when a similar approach was tried with Martinborough School. As this technique enabled different layers of the design to be explored individually and then laid over each other, it created a clear way to visualise the multi-layered nature of the landscape.

Fig. 31. FOOS Core Group members working with the concept plan.

²⁰ <http://www.courts.govt.nz/publications/global-publications/s/sentencing-in-new-zealand-a-statistical-analysis/community-service> Accessed 1/3/12

²¹ <http://www.wellington.govt.nz/maps/index.html> Accessed 1/3/12

Fig. 32. The initial site concept, indicating track lines and open spaces.

While it was acknowledged to be a continuous work in progress, the process for developing the landscape plan was seen to be as follows:

- 1) Collect ideas from the core group on the plastic over-lays.
- 2) Mark out the basic track outlines (with the Park Ranger) on the site to give the group somewhere to start.
- 3) Collect ideas from the community at working bees and interaction evenings.
- 4) At working bees take people into the bush at the back to help them have a 'wilderness experience' to generate ideas.
- 5) Use these idea to reflect back on the design process.
- 6) Hold concerted design sessions to collate ideas.

At this stage the relationship between the proposed art project and the overall site design was clarified²². It was agreed by the Researcher and the FOOS Core Group that the art group would function as a sub group of the main core group and would explore creative concepts for the landscape development in order to reflect the values of the local community. The outcomes would be to develop an 'artistic concept plan' which would feed into the overall site design. In addition it was also clarified that in proceeding with the art project the following points will be paramount:

²² Further details about the scope and logistics of the community art project are presented in section 5.5.4.

- Ensuring that the site does not become highly modified.
- Ensuring that any art installations compliment the ecological restoration process rather than detract attention from it.
- Ensuring communication between two groups was bilateral and not just the Creative Group feeding back to the Core Group.

Thus the overall development of the BF site was conceptualised as being coordinated by the FOOS core group with the input of:

- The art project creative process.
- Wider community input at working bees and interactive evenings.
- Physical landscape ideas generated during work carried out under the supervision of the Park Ranger.
- Student input through the Catchment Schools engagements (which had commenced at this stage).
- The on-going development of a holistic stream restoration plan (with support from GWRC).

Fig. 33. Brainstorm of the process for developing a landscape plan for the bagel factory site.

It was agreed that the BF project was an opportunity to move away from isolated or island-like restoration sites and take and explore an approach that was slightly less controlled and thus more open to community involvement and creativity. However it

was acknowledged that as this was potentially a more risky approach people would need to be supported to increase their awareness of restoration principles in order to make sensible decisions, and also be made aware that each person was responsible for their own safety.

Implementation

On 1/7/11 members of the FOOS Core Group met with the Park Ranger to mark out (with landscape paint) the basic tracks within the BF site and form a 'skeleton' for the design of the space. This would offer support to volunteers at the upcoming community working bees to visualise the potential future of the site. FOOS holds fortnightly working bees at various locations along the stream to carry out planting and maintenance work. In addition to these regular efforts, to enable the project to gain momentum, two full days focussed at the BF site were planned for the 2011 planting season.

Fig. 34. Working with the Park Ranger to establish the 'skeleton' of the track system at the BF site.

The first of these larger working bees was held on 9/7/11 and was a great success. The impact of the interaction evening could be seen with a number of its participants attending, as well as a couple of other local artists who had heard about it 'through the grapevine'. In addition to the track markings, plants were laid out to demonstrate the

proposed boundaries of the tracks and open spaces. In order to generate ideas for the site plan and encourage participation, the Researcher gave an introductory talk about the scope of the BF project and the potential for community involvement. Also, an information board about the project, and the developing site map (complete with 'post it notes' for people to add suggestions) were set up on site. While a couple of new people signed themselves up for involvement in the art project, and a few ideas were put forward, the site map was largely not used as the Researcher and other FOOS members were engrossed with the working bee tasks of planting and coordinating volunteers.

Fig. 35. Site concept plan and suggestion board as set up at FOOS working bee.

On 22/9/10 biosecurity staff from both WCC and GWRC joined FOOS members on a 'weed walk' to support the development of a weed management plan for the BF site and wider area. While the core tactic of pest plant control was still the mandate of council staff, they were very supportive of the input and perspectives of FOOS members, showing the overall atmosphere of collaboration which existed on this project (in spite of the bureaucracy of council processes and health and safety red tape).

Fig. 36. WCC and GWRC staff with FOOS members on a 'weed walk'.

From this point onwards, the development of the site proceeded through regular working bees of FOOS (including the second large bee held on 10/9/11) and monthly FOOS Core Group meetings at which the members kept each other up to date on the progress of the sub-projects of which they were part.

Fig. 37. FOOS workers at 10/9/11. Though taken from a different position, this shot is of the same location as that shown in Fig. 28. Note the formed track now visible.

Fig. 38. FOOS Core Group meeting

As by this stage a general plan for the site had been developed and work priorities were easier to identify, corporate volunteer groups also became increasingly involved with carrying out track development, planting and site clearing work. These groups were facilitated by one or more of the following people; the Park Ranger, a member of GWRC staff; or a member of the FOOS Core Group.

Outcomes

At the time of writing this case study, the track networks (both those facilitated by the Park Ranger and those constructed by working bee volunteers) were well underway, and a specific landscape plan for one area of the site (as discussed in the community art project section) was in the process of being implemented. Various staff members and councillors of both councils had also visited the site and shown their general approval for the process and progress. Evidenced by new volunteers attending working bees and good feedback in the media, social media and through personal interactions, it appears awareness of the BF site development was rising in the community. This was probably supported through FOOS's regular mailing list, local media articles and word of mouth publicity.

While the landscape development was still proceeding according to the general site plan, reference to the hard copy map had largely stopped. Because there was only one copy of this and it had been passed between so many people, and used outside in not always dry conditions, the original has become damaged and difficult to read. However

by the time it reached this condition, it seemed to have become largely internalised. This was because the key coordinating members of the FOOS Core Group had a shared understanding of what the plan for the site was, and the group kept each other well-informed of progress and new developments or deviations from what was previously agreed, these being discussed in meetings or via email.

There were plans to update the map when time allowed, and discussions in the group had occurred about what the best format for this should be, alternatives being a more robust hardcopy version or a version held online that could be updated regularly²³.

Researcher reflections

- If hoping to generate discussion and ideas at community events (such as the working bee), it seems necessary to have a designated individual or group to engage with people and record their input to avoid missing valuable contributions.
- As community led projects such as this are often carried out on top of existing work commitments for many community participants, people can not always attend every meeting, or may take time to respond to email. This means that the project time scale needs to be adjusted accordingly. It is important to allocate sufficient time for each stage of design, development or decision making and to have as much flexibility as possible with deadlines. However, it is equally important that this does become so loose that it results in a loss of momentum, or the frustration of paid (or otherwise committed workers) who are working to a less flexible schedule.
- If working in with multiple, concurrent layers of design and development it is important that communication channels and feedback responsibilities are clearly defined. If communication processes are not clear and accessible, progress can be unnecessarily delayed, for example by people having to wait for the next meeting to make a decision. They can also be disrupted by people not informing each other of their plans and working against the objectives of another. Regular meetings might not be enough to prevent this.

²³ For example using freely accessible CAD software such as Google Sketchup.
<http://sketchup.google.com/intl/en/index.html> Accessed 2/3/12

- If using iterative planning documents such as the FOOS concept map, it is important to keep the master copy somewhere safe, and have more than one copy.

5.5.3. Catchment Schools

Key milestones

In early April 2011, contact was made with GWRC staff to discuss collaborating on a series of sessions to support the growing knowledge of schools within the Owhiro Stream catchment and find ways to include them in the BF project. This suggestion was received positively and, utilising GWRC's contacts through Take Action, over the next month planning began for engagements with two schools. Other schools within the catchment were also approached, but did not respond.

As they were short of natural areas within their school grounds, School One was very interested in having a planting day at the stream. School Two however, with their existing high level of involvement with the stream were more interested in having support from FOOS for their working bees and maintenance activities.

At a meeting with staff from School One on 20/5/11, the Researcher suggested their focus could be on exploring 'top of the catchment issues' and lobbying the local community to take greater care of their environment. The idea of working together with School Two and perhaps presenting their findings at a public information event was also discussed. The school was very keen on these ideas. However staff were a little nervous about the idea of the public presentation, so this idea was not pushed at this stage. The resulting plan for School One was as follows:

- Arrange for the class who had not already visited the stream as part of Take Action to do so ASAP.
- For the Researcher to visit each of the classes in the syndicate to present a workshop on human impacts on the stream and actions students could take to ameliorate them. In preparation the Researcher was to send the school a list of themes so that they can start their own investigation.

- Each class would then explore a different issue, work on a project, prepare a presentation on their findings and explore suitable/appropriate ways for these presentations to be shared with the wider community.
- Later in the term an interactive day would be organised for Schools One and Two to get together at the stream.
- Ways would be explored for the school to have some role in the design of the BF site, particularly for keen students, parents and staff to get involved with the art project.

While the Researcher and GWRC were also exploring ways to engage School Two in the BF site project in spite of their existing stream obligations, a minor issue arose. A teacher from School One told School Two about coming together to do additional planting around the stream, to which they understandably showed disinterest. While this communication breakdown initially caused frustration, it was quickly resolved. As School Two were overall very supportive of the project, and were interested in being involved in the art and design elements (in an age appropriate fashion), and in further developing their relationship with School One around stream issues, the following plan was arranged:

- The Researcher would come along to the next planting day held by the school.
- A trip would then be organised for the class to visit the BF site followed up by a creativity session to gather ideas for the art project.
- The Researcher was invited to speak about the project at the school's assembly and have a link to the stream project from the school's website.

At this point it emerged that every year Schools One and Two get together for an event called 'Rangimarie Day', which this year was to be hosted by School One. Planning began for the Researcher to run a stream focussed session during that day to collect student design ideas for the BF site project.

On 15th and 16th of June two 'human impacts workshops' were held with School One to help students engage with the stream and generate some ideas about how they could make positive impacts and help their communities do the same. The sessions were very successful with all students (60 in each workshop) being very knowledgeable and passionate about stream ecology and human impacts, thanks to their involvement with

Take Action. The students had many ideas about how they could encourage others to care for the stream and spoke about making posters, setting up temporary signs by storm water drains and forming a stream care group within the school. Most students seemed excited about being involved in the design of the stream at a later date and one class had decided to make a movie about stream issues for an upcoming short film competition.

Following these sessions, and to further support the growing relationship between the schools and the stream, the Researcher supported School Two with a planting day at their school site (26/8) and worked in partnership with GWRC to coordinate two planting days for School One (31/8 and 2/9) at a spot close to the BF site. The School One sessions included a visit to the BF site at which the students were presented with the vision for the site, asked for their ideas and informed that there would be a brainstorming session at a later date. All planting days were very successful, with lots of fun for the students and positive feedback from the schools.

In preparation for Rangimarie day on 1/11/12, the Researcher met with staff from School One and planned a session that would be held with year 7-8 students from School One and year 6 students from School Two. The session would explore landscape ideas for the BF site and parts of the brief from the art project, which was well underway at this point.

During the allocated 45min session for Rangimarie day, in an effort to include local student perspectives in the plan for the BF site, the students were guided to reflect in groups on 'what would nature want to say?' to people in such a public space. The students worked in groups and explore the perspectives of trees, fish, birds and lizards.

The students then brainstormed the built features needed on site to make it suitable for people, and how the previously discussed 'voice of nature' could be incorporated into these ideas. The technique of drawing on photos, used during the Martinborough School project was also used here, and again was popular with the students.

This was a challenging session as the group was very large and a very brief time was allocated for such a big topic. However, it was still valuable with students coming up with many ideas (bush walks, water fountains that were also bird feeders, glass bottom

bridges for viewing the fish). It was clear that some students were very interested in the project, informing the Researcher that they were happy to be contacted in the future should any questions regarding their ideas arise.

As the project had now evolved away from the idea of the students making presentations to the local community, this was the end of the schools' facilitated involvement with the aspects of the CC document in this case study. However the schools continued to be invited to working bees, and a number of students and their families did attend. At the time of writing this thesis, it is also planned to invite the schools to take part in the opening celebration for the site (as discussed in the community art section below).

Researcher reflections

- To avoid communication breakdowns when working with multiple groups on one project, it is important to not make assumptions about the involvement of any given group before speaking with them. It is also important to be clear with all groups about which aspects of the project are confirmed, which are proposed, and what commitment has been made by the other groups involved.
- If working with school groups, it is important to ensure adequate time is allowed for what the session is intended to cover. Time must also be factored in for explaining difficult concepts and for the (somewhat inevitable) breakdowns in order than can occur when working with excitable young people. It is a good idea to ensure that the teachers involved fully understand the intentions of the session, so that they can assist with facilitation and communication with students.
- As is the case when working with any community group, when planning a series of engagements there must be flexibility. Schools and teachers have many pressures on their time and resources, so the facilitation and expectations must be able to evolve to suit the schools needs. It is also ideal to keep school projects concise and focussed to avoid them dragging on, students losing attention, and staff resenting or regretting their involvement.

- If wishing to work with schools on a project, it is useful to establish what they are already working on. There may be ways to link and add value to existing activities, enabling the school to engage with the new initiative without putting additional pressure on their time or resources.

5.5.4. Community art project²⁴

Key milestones

Inception

At roughly the same time as the collaborative site planning commenced (April 2011), the Researcher, after discussion with the Arts Facilitator, presented the FOOS Core Group with a proposal to engage the local community in an art project based within the BF site. The group was supportive, and planning commenced. From this point, whenever the Researcher and Arts Facilitator are mentioned together they will be referred to as the Co-Facilitators.

On 11/5 the Co-Facilitators met with WCC's Arts Advisor to explore the proposal. The initial project proposal was met with support, and after further discussion with the FOOS Core Group, the suggestion was made to apply for funding from the Cultural pool of WCC's contestable community grants, and to do so under the umbrella of the BCA as FOOS is not an incorporated society or otherwise suitably legal entity.

The project was described as an arts based community project to develop an overall creative layer for the BF site plan, rather than focussing on one individual artwork. At the centre of the project would be the facilitation of a core creative group to oversee the project with professionals brought in to help with technical aspects, if necessary. This move would be handled carefully to avoid losing the collaborative nature of the project or disempowering the Creative Group.

While the creative design process was to work alongside the landscape design through their common vision, they would have clear boundaries. The Creative Group was to be a subset of the core group, and include people who had never before been involved in

²⁴ The full history of the art project is documented in the <http://catchmentcommunity.tumblr.com/> blog – Accessed 13/5/12.

FOOS. The FOOS Core Group would be responsible for setting the parameters within which the Creative Group would work, but within those parameters it would have creative freedom. The Creative Group would regularly feedback to the core group and vice versa. The project would actively seek input from a range of groups including local schools as described above, who would be able either to submit ideas or be directly involved in the Creative Group. A range of different methods, which are discussed below would be used to support this engagement.

It was clarified in the proposal that individual features would be developed from the process and there would be a stage one installation, but that any specific works would form part of a creative context. The intention with this caveat was that it would give the project greater flexibility as not all stages would have to be implemented at the same time. The Arts Facilitator would guide the creative design process, while the Researcher would be the project manager, to ensure the ideas of the Creative Group were compatible with the rest of the collaborative landscape design project and serve as the intermediary between the Creative Group and the FOOS Core Group.

Over the next month and a half the Researcher worked on the WCC funding application and worked alongside the Arts Facilitator to clarify the process outlines, collect project ideas and build relationships in the community.

After further meetings with FOOS it was agreed that the funding boundaries would need to be very well defined between the art project and other FOOS activities to avoid jeopardising the core restoration work. As different divisions of council had a stake in the BF site e.g. Parks and Gardens, Roading, Storm Water, Community Arts, it was necessary to ensure that they were all kept updated. It was also decided that there should be some form of opening event to celebrate the site at the completion of the first development stage.

After completing a first draft of the funding proposal the Co-Facilitators met with the Arts Advisor again (29/6/11) who assisted in refining the proposal. As the amount requested was relatively large (for the scale of the grant pool) the Arts Advisor made the following suggestions:

- Seek a wide range of support community endorsement (and evidence with letters of support).
- Contact the councillors on the grants sub-committee in advance to inform them of project.
- Ensure the project has the support of the WCC Public Arts Panel (PAP) and Parks and Gardens officers.

On 30/6/11, as an initial step in seeking public input into the community arts project, the Arts Facilitator gave a presentation at the CC interactive evening, at which a number of local artists registered their interest in being involved (as described above). One artist in particular was so enthused by the idea of the project that he began sending project ideas through. Over the next few weeks, the Co-Facilitators used 'Google Docs' to collaborate on developing the outline and timeline of the project and its budget. They also composed a letter to inform community partners about the nature of the project and seek support/endorsement. This letter was sent to the local organisations and groups including a history group, schools, an art studio, a community garden, a performing arts trust, the local residents association and also the local Department of Conservation ranger. Support for the project was strong as letters of endorsement were received from almost all contacted parties.

Following the suggestion of the Arts Advisor, the Researcher contacted all council members of the WCC 'Grants Sub-Committee' to discuss the funding proposal and seek their feedback. Most councillors were happy to discuss this over the phone and were generally supportive; one was so interested that he met with the Co-Facilitators to discuss the proposal at length.

After following up the requests for community endorsement letters and taking into account the feedback of the WCC Arts Advisor, the Co-Facilitators worked together to complete the application and submitted it in late July 2011, requesting a total of \$12,713. In total more than 30 hours of the Researcher's time was required to complete the application and supply all the necessary documentation, which also included a signed confirmation from the BCA that they would 'umbrella' the project, and a copy of their audited accounts. At the time of completing the application, the Arts Facilitator suggested that a blog be created to document the project's development. This blog (www.catchmentcommunity.tumblr.com) was updated regularly and has continued long

after the aspects of CC documented in this thesis.

At this point, awareness of the project was rising in the wider community and the Researcher was invited to run a session exploring the idea at a local ' Collaboration Cafe' event (8/8/11) at which a number of individuals involved in Wellington's environmental action community offered feedback on the idea.

Implementation

Group forming

On 18/8/11 the first formal get together of those who had shown interest in being involved in the art project (12 people including the Co-Facilitators) was held. In addition to those who had registered their interest at the initial CC interactive evening, the participants included two members of the FOOS core group and an invited local landscaper. The remaining participants had learned of the project through a second flyer/poster drop, and invitations sent out to the networks developed throughout the funding application process.

Fig. 39. Participants of initial art project get together.

During this session the Co-Facilitators introduced the concept of collaborative design

and the potential for the present project, supported the group to get to know each other, and discussed the likely time commitment involved. At this stage this was thought to be one 3 hour meeting every 2-3 weeks until the end of the year. The group were also informed of the pending funding proposal and that while the project would go ahead, its scale would depend on the outcome of the proposal. To start the creative process, a large blue cloth was spread across the centre of the room to represent the stream and an open discussion was held on the relationship members of the group have to the stream and the ways in which art could strengthen these relationships. All participants seemed to enjoy this session and there were many ideas of what could emerge from the project.

Setting the parameters and developing a brief

The next phase of the process was to ensure that the Creative Group were clear about the context and parameters of the project.

On 24/8/11 the Researcher met with other members of the FOOS Core Group to update them on the progress of the project and clarify the parameters within which the newly formed Creative Group would work. At this stage these parameters were:

- Not doing anything *in* the stream as this would be problematic and unlikely to meet approval from GWRC.
- Need for a clear consultation process to ensure all interests are respected in the development.
- As this was a different scenario from the usual public space development processes, all plans would be discussed with WCC right from the beginning to reassure them that all health and safety requirements would be met and that the fact it was a community led project does not mean it will make more work for them.
- Being conscious about the materials used to ensure that they had long term integrity.

In order to explore the context of the project, the Researcher planned a 'Pūna Matauranga' (pool of knowledge) session, in which the group would be guided (with the support of a range of experts) through discussions on the physical, ecological and social/cultural identity and history of the stream. A wide range of individuals and groups with expertise in these areas were contacted and invited to attend. Maps of the site were obtained from the Park Ranger to use as talking points during the session. In

addition, on 25/8/11 the Co-Facilitators met with the Kaumatua of the local Taputeranga Marae to seek his reflections on the significance of the stream and advice on what would be important for the project. These reflections were made available to the participants of the session.

As the planning for the Pūna Matauranga session progressed, the Co-Facilitators were aware that the Creative Group was only composed of adults. In an attempt to seek some youth involvement, the arts teacher of a nearby high school was contacted and arrangement made to speak about the project (on 1/9/11) at the school assembly and for her to promote the project to her students. This engagement resulted in two students showing an interest in joining the Creative Group, but unfortunately this never eventuated.

The Pūna Matauranga session was also held on 1/9/10 and had a great turnout. In addition to the members of the Creative Group and other members of the wider FOOS group, the session was attended by representatives from the local history group, a local city councillor, a noted local author on Māori history and knowledgeable representatives from neighboring marine and lowland-forest care groups. The session was run in an interactive 'world cafe' style format²⁵ in which participants took turns discussing the physical, ecological and social/cultural identity of the stream in small groups. The discussion yielded a great deal of fascinating information about the stream and sparked many further questions. The session concluded with the group making a 'model' of the stream from a giant piece of blue cloth and random objects, to represent the significant aspects of the streams holistic identity.

²⁵ <http://www.theworldcafe.com/method.html> - Accessed 23/3/12.

Fig. 40. 'World Cafe' style discussions at the Pūna Matauranga session.

Fig. 41. The 'model' representing which aspects of the stream's identity the group found most significant.

In the days following the Pūna Matauranga session, the WCC Grants Officer published a report recommending that the Grants Subcommittee allocate \$9,000 for the art project due to its “good partnerships with artists and local community groups”²⁶. At the subsequent meeting of the subcommittee, this recommendation was ratified. Following this notification, the Co-Facilitators met to discuss how the \$3000 shortfall could be

26

http://www.wellington.govt.nz/haveyoursay/meetings/subcom/Grants_Subcommittee/2011/12Sep0915/agenda.html - Accessed 23/3/12.

absorbed. They made the decision to reduce the hourly rate of the Arts Facilitator for guiding the creative process and to reduce slightly the funding available for the resulting stage 1 artwork.

To further clarify the parameters of the project from the perspective of WCC Parks and Gardens (as the landowners), on 15/9/12 the Co-Facilitators met with the Reserves Managers and Biodiversity Coordinator. Both officers were supportive of the project, had lots of ideas of their own, and gave the following words of advice:

- Use robust, low maintenance materials.
- Note any features requiring electricity, moving parts or running water would be particularly challenging.
- If the project used any furniture items it would far easier to use standard council furniture types.
- The project had to follow all health and safety guidelines for public space, such as balustrade specifications.
- The project needed to ensure adequate community feedback and that appropriate council staff (such as those who deal with public artworks) were kept informed.

The council officer responsible for public art later added that glass and soft stone should be avoided, that the ability of any installations to be climbed would need to be considered, and that any works over a certain size would need resource consent and engineer sign off.

In order to create a definite starting point for the creative process the Arts Facilitator developed the parameters and ideas that had emerged from the Creative Group sessions and council meetings to date into an initial 'brief'. This brief was sent out through the Co-Facilitators' community networks and made available on the blog with the link also distributed in two local community newsletters. This initial brief was further developed into two versions: a detailed version which was further refined after feedback from the Creative Group, and a reduced 'public submission' brief which was used to promote the project to the public. See appendix 2 for a copy of the public submission brief.

At this early stage of the design process the Co-Facilitators also began thinking about

an opening ceremony for the event. Planning for this at such an early stage was needed to meet the funding deadline for the *Creative Communities* grant pool²⁷, to which it was decided to apply (successfully). While wishing to keep the plan for the opening very loose until the art project had developed further, the Co-facilitators started with the idea of an interactive performance based event. In addition to formally welcoming people to the BF site and opening the art works and track network, this event would further acknowledge the cultural, creative layer of the landscape and enable yet another range of community partners to be involved in the project. To explore this idea, on 16/9/11 the Co-Facilitators met with a prominent local theatre producer, who has strong connections to the Owhiro Bay area. The producer was excited by the idea and agreed to be involved.

Concept development

After the parameters of the project had been clarified, the context explored through the pūna matauranga session, and the brief refined, the creative aspects of the process began, guided by the Art Facilitator. It was initially proposed the creative process would be three-four planning sessions (held between September and October 2011) to develop an initial concept, followed by an open community meeting to collect public feedback, and then three final sessions to develop the concept into a detailed design (with the help of an 'expert' if the selected project required skills not held within the Creative Group). However, as will be seen from the remaining sections of this case study, this time frame was over ambitious and unrealistic given the complexity of the project.

To begin the concept development phase the Creative Group held their next meeting (17/9/11) at the BF site. Turnout was a lower than expected, however all parties who could not attend gave their apologies and a second brief site visit for interested parties was made later. A new group participant, who had discovered the project through word of mouth, also attended.

During this session, the project manager took the group on a tour of the site and pointed out the current landscaping ideas that were emerging from the FOOS Core Group and the wider collaborative planning process. The members of the Creative Group were given personal journals to collect their ideas. The group then moved to the facilities of a

²⁷ See www.wellington.govt.nz/services/grants/profiles/creativecomm.html – Accessed 12/4/12.

nearby community garden (which borders on the stream) and began to brainstorm. Next came a visit to the nearby community garden and their facilities were used to begin the brainstorming process. This consisted of exploring the key ideas and functions any art installations should have, and then how these might be translated into a form or forms. The Arts Facilitator suggested that:

key ideas + function = form

At this early stage of the process, the group had the following ideas²⁸:

Function

We would like the artwork to pay tribute to the mauri (life-force) of the stream. Ideally, the artwork may lead people to think about cultural, social, or ecological aspects of the stream.

We would also like there to be a level of awe present in the artwork.

The artwork should also assist in creating a space that people will enjoy and help care for.

The artwork may help break down the perceived separation between humans and the natural landscape.

The artwork may make the invisible, visible. For example, alerting people to underground piped streams, or absent fish species.

There has also been talk of a series of artworks that act as signs, communicating specific aspects of the site without written language.

Form

The form of the artwork is still wide open at this stage.

It is important that whatever form the artwork takes, it is well integrated with the site, that it is part of the landscape. We can work the design in with the landscaping and planting teams who are also working on this site.

²⁸ Reproduced from the Arts Facilitator's entry to the Catchment Community blog <http://catchmentcommunity.tumblr.com> - Accessed 12/4/12.

The artwork should not appear to be overworked or contrived. Simple is good.

Materials

The core team have expressed a strong desire to work with natural and/or recycled materials.

We originally decided that the artwork would be permanent and robust against the weather and vandalism, although we are exploring some ideas around intentionally vulnerable artworks that weather over time.

Ideas so far

Some of the ideas so far include: a sculpture, a series of pou (poles), a seating area, a labyrinth, a mandala, a pathway treatment of paved area, a zoetrope, a tree with roots growing over a giant stone, and a gateway into the site, or something that interacts with the wind like a large wind-chime.

As ideas for the project began to develop, the Co-Facilitators had a number of conversations regarding the importance of upholding the 'overall landscape' vision of the site to ensure that a holistic site concept was in place before jumping to specific art works. This was important to ensure that there was a creative/cultural layer to the whole site rather than it becoming a gallery of isolated projects. It was also agreed that there were two levels of exploration operating in this project; the first being the specifics of the stage one installation as the beginning of the emergence of a tangible/visible creative dimension to the BF site restoration; and the second, a more subtle exploration into the dynamics of how the on-going collaborative design of the creative layer was best supported, and best integrated with the rest of the project.

To move forward with the design, the Co-Facilitators agreed to support the Creative Group in exploring the brief (so far refined collaboratively) and successively refining design ideas until there was both a solid concept for the site and specific ideas for stage one projects. At this stage a prominent local artist who had become interested in CC also suggested that to avoid 'too many cooks spoiling the broth', another way would be to refine the brief collaboratively and then invite individual artists to submit ideas for

fulfilling specific parts of it in certain areas of the site. As the initial focus of CC was in supporting the growth of a collaborative community around the restoration of the BF site, this idea was not pursued at the first stage of CC, but may be utilised in later developments.

During the following Creative Group sessions (6/10/11, 13/10) the process consisted of:

- Continuing to explore forms that expressed the desired functions of the work.
- Members of the Creative Group bringing along images they felt related to the brief.
- Exploring the core values of the brief and how they could be incorporated into art works.

Numbers were not large at these sessions as some initially interested people had dropped away, however enthusiasm was high among those members who remained and throughout the project a range of different people attended sessions and contributed to the discussions. The design process reached a turning point during the 13/10/11 session. The group had amassed an enormous range of project ideas, some rather abstract, and it became difficult to determine how to move forwards.

The difficulty was resolved after a big discussion on the difference between the overall plan for the site, which would be on-going and iterative, and the specific stage one project, which the group needed to complete to honour the funding agreement. It was reaffirmed that the focus of the stage one project was to demonstrate the process being used to imbed creativity into and explore the culture of the site, and to gain publicity for the wider project. Following this discussion the decision was made to focus on one particular area of the site and use that part of the landscape as a focus for ideas. This removed the pressure of trying to use all the ideas as those not used for stage one project, could still inform the overall development of the site and might get used later.

Once the site itself was brought back into focus, decisions were made very quickly and the group found it significantly easier to integrate their ideas. The Co-Facilitators also realised that it was important to have a clear system for keeping track of the different kinds of information emerging from the process. It was also interesting to note that without actually having a focused conversation on the conventional principles of

sustainability, awareness of material toxicity, biomorphic design, waste minimisation and recycled materials were implicit in the design and there was a consensus on the importance of these things without having to debate them. This may have simply been a result of the makeup of the group, or it may be a demonstration of the idea explored in this thesis that the principles of sustainability do not need to be the focus of sustainable design process. Rather in following a robust collaborative and interactive design process, awareness of these aspects will emerge naturally.

The specific site chosen for the stage one development was a small area at the bottom of the site, beside a large pool where the stream emerges from a piped section. With this decision, the Creative Group decided to focus on a concept which included the following elements (as illustrated in Fig. 42)²⁹:

***Seating** around the outside, to encourage people to stop, and spend time here. We see this as a contemplative space next to the pool.*

***A constructed stream form** running through the space (shown in blue). This could be paved, mosaic, or some sort of other hard wearing construction that people could walk on. This is a sculptural element which would encourage people to think about the piped stream which is directly beneath it. This would line up with the large pipe which connects with the pool.*

***A tall pou, or pole** in the centre of this space which would also have some sort of pod/capsule/storage space or spaces. This pou would draw attention to the site from the road, and communicate something about this site. It could have a flag on the top. The capsules could either support local species (weta hotel), or contain information, or natural treasures (cicada skins, seeds, leaf skeletons etc). The contents of these could change over time.*

***A balustrade or natural plant barrier** to keep people safe from falling into the pool, particularly children.*

²⁹ Reproduced from the Arts Facilitator's brief.

Fig. 42. Initial sketch of the design elements to feature in the stage one development.

Public feedback

Interacting with the wider community, and finding manageable ways to include as many people as possible was a key aspect of the CC project and efforts towards these ends were made in a number of ways.

Throughout (and beyond) the concept development process, interested members of the community were updated through a regular column in the local newsletter, keeping the blog current, creating a *Facebook* page for the group, and taking advantage of media opportunities (including an article in the *Cooks Straight News* – see appendix 3). The 'public submission' brief referred to above was shared with the wider community through the local schools already contacted during CC, and at community events, including a school fair and the open day of a local art studio (Figs. 43 and 44).

Fig. 43. The Researcher promoting the Catchment Community projects at a local art studio open day.

Fig. 44. close up of sign above.

In another approach, taking advantage of the ANZ Green Party's campaign launch, the Researcher followed up a query from them regarding how they could engage with local community groups working on stream restoration. The party leaders were invited to attend a special working bee on 26/10/11, and the National Radio coverage of the campaign was used as another opportunity to promote CC and the work of FOOS.

Also, during the concept development stage of the process, students and tutors of a

Victoria University Landscape Architecture class had become interested in the CC project and ways in which they could be involved. The class was eager to expand their experience of practical landscape development, and explore the collaborative, iterative process on which the project was based. The Researcher spoke with the class on 14/10/11 and a special working bee was arranged (for 4/11/11) to help prepare the site for the stage one project and offer input into the overall design. While the turn out for the working bee was low, the students who did attend were enthusiastic and offered many landscaping suggestions, largely around site access and movement flow. The students affirmed the importance of community engagement in landscape work, despite the lack of training they received in this area during their studies. In discussions between the Researcher and students there was general agreement that there is a place for continuing design. It was also agreed that in order to experience directly the change in site feeling or mood induced by each stage of development, it is essential for whoever is engaged in the design of a site to get to know the landscape well and spend time in it throughout the implementation of a project.

In addition to these engagements, now that a firmer concept for the project had been developed, the Co-facilitators and Creative Group met again (30/10/11) to begin preparing for a more formal public session to collect community feedback. This session was set for 17/11. To prepare for this the group reaffirmed their decision to focus on the 'pool area', recapped the concept ideas developed in the previous session, and began discussing ideas for treatments and materials that could be used for the different features. Following the planning session, members of the Creative Group visited the Wellington City Council's resource recovery shop to get an idea of what recycled materials might be available, and individual members of the group each prepared their own concept drawings for the different features. These material possibilities and feature concepts, along with an overall map of the site concept, were then compiled into a presentation by the Arts Facilitator.

The Co-facilitators then met with WCC's Reserves Manager and Biodiversity Coordinator again to ensure the concept had their general approval before it was presented to the public. The Council officers were generally supportive of the concept with the following caveats:

- If the project encourages lots of people to the site, the balustrade is an essential early feature. The officers suggested working alongside the walkways officer to ensure this feature was designed to the appropriate specifications.
- Once a more detailed site plan was developed it needed to be shown to the Reserves Manager (and potentially the building consents staff) in order to draft up a Memorandum of Understanding (MOU) regarding responsibilities and liabilities for the project's development and maintenance.

The public feedback session was advertised through another flyer/poster drop, a second radio interview for the Arts Facilitator and through the other communication channels referred to above. Despite this publicity the turn out was very low. However the community members who did attend were generally supportive and offered some good feedback which helped to refine the concept. The WCC Walkways Officer, who also attended agreed to offer on-going advice to the group on the balustrade and entrance/exit developments.

Fig. 45. The Arts Facilitator presenting the concept for the development of the 'pool' area at the public feedback session.

Detail Design

Taking into account the feedback received from both council officers, landscape

architecture students and the public, the creative group then moved into a series of sessions (held between 24/11/11 and March 2012) in which the concept was successively refined into a specific plan for the stage one installation, and an implementation plan was developed. During this portion of the project, a tutor and recent graduate from Victoria University's landscape architecture department both joined the group, and a local landscape designer who had attended sessions early in the process resumed his involvement. Having these experienced landscape and design thinkers, working alongside the creative and community development skills already present in the group was crucial to this aspect of the design process. The key stages in this refining process were as follows:

- The production (by one of the trained landscape designers in the group) of a scale site map on which to base the site plan (Fig. 46³⁰). Copies of this map were used initially for group members to explore the placement of the different features specified in the concept individually, and then another copy was later used to specify their definite location (Fig. 47).

Fig. 46. Scale base map of the 'pool area'.

³⁰ Prepared by James Richardson of the Conscious Design Collective.
<http://sites.google.com/site/consciousdesigncollective> – Accessed 11/5/12.

Fig. 47. Using the base map to specify the location of different design elements.

- Visits to both the WCC depot, a local landscape supply store, and a local, largely volunteer constructed bike park. These outings helped refine the group's choice of materials, and inspired useful discussions about the specifics of the features being designed.

Fig. 48. A feature in a local bike park which helped to refine the design of the stream sculpture.

- Holding informal site meetings. These meetings helped the group to make decisions about site access and movement flow which made significant impacts on the design. After one site visit the decision was made to incorporate large stone steps into the site as both a vernacular design element (as they could be constructed by a local stone mason) and a necessary landscape feature.

- Prioritising the implementation of the different features, which were then detailed one by one, and breaking the overall design into implementation stages. This helped to make the stage one installation programme more manageable and affordable. It also preserved the on-going and iterative aspects of the process, as after each installation stage there would be a chance for reflection and re-engagement of the wider community before the next stage. Each feature was spaced along a timeline featuring different development phases in which the celebration of the implementation or 'closure' of each stage included within it an opportunity to reflect on the next stage. An example of this was the decision to start with the placement of the steps, stream sculpture and balustrade, but withhold specifying the placement of the seats and pou until stage two of the design. The opening celebration for the stage one development could then include a community discussion on the best locations for seating, and an invitation to take part in the design and construction of the pou. This project plan can be seen in Figs. 49 and 50. The thick sections refer to the core creative process of each stage of the design, and the thin sections to the implementation-celebration-reengagement phase. The post-it notes each refer to different features developed during the core creative process.

Fig. 49. The project management timeline developed for the the Catchment Community art project.

Fig. 50. The timeline as used to divide the proposed design elements into different implementation stages.

- Holding a meeting on site in which spray paint and large pieces of cloth were used to mark out the locations of the steps and stream sculpture (Fig. 51).

Fig. 51. The Creative Group marking out the location of the stream sculpture

- Obtaining quotes for the materials and construction of the different elements of the design and determining which aspects of the plan would require professional contractors

and which could be implemented by the Creative Group and wider community. The decision was made that the earth works and step construction would be carried out by a local stonemason who was supportive of the project, while the stream sculpture and balustrade would be constructed in a joint effort between the Creative Group and the professional services of a local landscape designer, also a member of the group.

This final portion of the project was more challenging and involved a degree of stress not been present in earlier aspects. These challenges arose for the following reasons:

- The group had to move together from an exciting brainstorming phase in which anything was possible, to a more serious and mentally demanding phase of making concrete decisions on the design of features and their material specifications.
- Due to the nature of the funding process the budget of the project had been set before the design process began, but the budget limitations were not made explicit enough by the Researcher during the setting of the project's parameters. This was done in an attempt to keep the creative process open, and avoid burdening the other members of the Creative Group. However it led to a number of the features desired in the stage one plan proving too expensive.
- This portion of the design process took a lot longer than originally anticipated, which led to severe time pressure issues for the Researcher.
- There was a communication breakdown between the Arts Facilitator and Researcher during one session regarding the best way to proceed with the process. This issue was however quickly resolved and the Co-facilitators agreed to ensure they understood each other's position in the process before future sessions.
- Due to a change in circumstances the Arts Facilitator moved away from Wellington at the end of 2011 and the Researcher felt ill-equipped to maintain the momentum of the project and bring the stage 1 development to conclusion alone. This issue was partially resolved through being honest with the key members of the Creative Group and asking for their support in the facilitation of the project. Over time other members of the group increasingly took ownership of the process. To support this process the decision was

made that at the end of each meeting, the agenda would be set for the subsequent meeting to ensure that everyone came prepared.

- Following such a rich and long creative period, it proved difficult to keep track of all the core principles developed early in the process, and difficult to make final decisions on what materials to use after exploring so many options.
- While part of the vision of the project was to include as many people as possible this occasionally proved difficult as bringing new members 'up to speed' on the history of the project took up time and the constant flow of new ideas (while exciting) added to the longevity of the process.

Outcomes

The outcomes of this refining process, and of the aspects of the CC community art project documented in this thesis, were the emergence of a site plan for the stage one development of pool area of the BF site, construction details for the stream sculpture, an implementation plan describing the order in which the features would be implemented, and the signing of an MOU with WCC confirming that the work could proceed as documented.

The final site plan was developed from the Creative Group's collaborative draft site plans (as discussed above) and was drawn up by one of the trained landscape architects in the group. This plan is shown in Fig. 52. A copy of the MOU signed with WCC, which includes a clearer copy of the site plan and also a copy of the implementation plan can be found in appendix 4.

The construction drawings for the stream sculpture as drawn by the local landscaper can be seen in Figs. 53 and 54³¹.

³¹ Prepared by Hugh Underhill from Living Planet Ltd. <http://www.livingplanet.co.nz> – Accessed 11/5/12.

Fig. 53. Stream sculpture construction drawing.

Fig. 54. Stream sculpture construction detail.

The site and implementation plans were well received by all members of the FOOS Core Group, and in signing the MOU, the Reserves Manager demonstrated WCC's support both for the specific outcomes of the CC community art project, and for the

process itself. In a personal communication, the Reserves Manager described how she was watching CC and the community art project with interest, and would be open to exploring similar community engagement processes for future projects.

At the time of the writing this thesis, the Creative Group were defining final details regarding the construction of the balustrade, after which the construction process, and then the planning of the site opening celebration were to begin. These events are eagerly awaited by the Creative Group, the FOOS Core Group and a number of members of the wider community.³²

Researcher reflections

Project Management

- When implementing a community landscape project, it is important to identify existing or past groups or initiatives related to the project's area of interest. It is better to nurture existing work or strengthen links between projects rather than trying to start from scratch.
- When there are multiple engagements happening at the same time in a collaborative project, it is important to have a clear process for keeping track of developments and the way they fit together in the overall timeline, vision and implementation of the project.
- To make large projects manageable in collaborative settings, it is helpful to break projects up into 'bite sized chunks'. However, it is essential to ensure the holistic nature of the project, that these chunks are always seen within the context of the project/landscape as whole, and that all parties involved understand how they fit together. Project chunks can either be worked through sequentially by the whole group, or allocated to subgroups in which all are agreed about who should be involved in each aspect and what kinds of decisions would benefit from, or require (from a legal perspective), the opinion of an expert. The different subgroups can be overseen by a facilitator, project manager, or core group.

³² As evidenced by comments on the CC Facebook page and personal communications received by the Project Manager at FOOS working bees and via emails.

- Breaking a project up into sub-projects in this way could ensure that while the overall collaborative and holistic nature of the process is maintained, different aspects of the project have space to develop their own identity and potency.
- Supporting the relative autonomy of subgroups to manage different aspects of the overall project can help to maximise the community empowerment and outreach of a project, and ensure that it functions at multiple scales and in multiple layers of the landscape. However it is important to ensure that there are clear communication channels between the groups, and that groups are clear of their mandate within the overall project, what their boundaries are and with whom they need to collaborate and consult.
- While the creative process will occur in stages, to ensure its responsive and coevolutionary nature, it should be seen as an iterative and on-going process. While a group needs to make decisions in order to continue with the project, these decisions are not set in stone and can be changed as further information or understandings are gleaned later in the project.
- When working on a project with multiple stakeholders and scales of operation, it is important to have clear communication channels and responsive feedback mechanisms to avoid decisions being held up, or important people being left 'out of the loop'.
- It is important to clarify the scope and limitations of the project early on, and to reflect on them regularly. This is necessary both to both keep the project realistic, and to know when it is appropriate to push the boundaries. The same principle stands for any guiding parameters or key objectives specified for the project.
- While it is helpful to have a project timeline, in a responsive, community development based process, it is important to have as much flexibility in this as possible to allow for unexpected outcomes. However, being too changeable about dates and deadlines can also disrupt relationships with other parties involved in the project. In this sense it is important to clarify what deadlines really are *deadlines*, and what degree of certainty about timing is required by all parties involved in the project.

- Spending time on the project site, or taking field trips to explore materials or similar projects, can greatly assist the creative process and ensure that designs are grounded, practical, and achievable.
- It is important to keep the essential nature and diversity of the project site as the focus of the design to avoid the design process becoming overly conceptual and arbitrary. The on-going exploration of, and connection with the site should happen in parallel with the creative process.

Community development and the role of the facilitator

- To ensure wide community engagement in a collaborative project, it is important to have different kinds of engagement opportunities, which will appeal to, and be accessible to different generations, cultures and personality types.
- The project manager, facilitator or core group's role can be seen as ensuring that the different subgroups, project chunks and engagement streams fit together into a cohesive whole and that each stage of the design flows neatly into a continuous process.
- When guiding a collaborative project, it is important that the facilitator is clear with the group about his/her own vision for the project to ensure that they are not subtly manipulating the group to suit their own ends. It is also important for the facilitator to be clear to the group about their personal limitations (time or otherwise) to ensure the scope of the project is realistic.
- While assertive facilitation can help collaborative projects to move along, it is important to empower group leadership to avoid facilitator burnout.
- Fun, informal meetings can help with group cohesion and creativity, but if working to deadlines it is also important to keep a project's momentum up. It can help to send out the session timetable or agenda in advance so people know what needs to be covered, and group ownership over the process can be engendered.
- When working with groups, different people understand and explain things in different ways. Trying to get everybody using the same language can be overly time consuming

and is not always necessary. Everyone has their own logic to their thought process. The art of facilitation is not trying to get everyone to agree on everything or the reasons for doing things, but to agree on what the overall purpose of the project is, and on what to do next.

- It is important to have a range of information recording methods to ensure capture of all the different kinds of information that emerge from a session or process. This needs to be displayed or stored in an accessible way, and brought to each session. This information could include such things as: guiding principles, objectives, project implementation timetables, timelines of key decisions made, limitations and concerns, and available materials. When people design by themselves they have their own tracking process. whether they are aware of it or not. When there are many people it is easy for things to get lost as individuals will only track what they personally think is important thus missing aspects which later prove to be vital.
- While being careful to not rush through important decisions, it is important to keep the momentum of a project up to ensure the group's interest is retained in what could be a long process.
- To support the growth of genuine community sentiment and connectivity, as well as achieving the physical outcomes of a project, it is important to make time for informal group-bonding and shared experience. Not every aspect of the process has to have an immediately identifiable 'function' or outcome.

Collaborative decision making

- It can be helpful to establish a project's decision making process early on (e.g. consensus or voting) and whether there needs to be a quorum for any or all decisions. In group's with natural rapport, formal decision making processes may seldom be utilised, however it is useful to have them to fall back on if necessary.
- When new people join an existing group it is easy for them either to be left behind, or for the process to lose momentum as they are 'brought up to speed'. Ways around this include: having special intake periods in which new people can join the project; one of the members of the group meeting up with the new person before the session to take

them through the history of the project; or recording the development of the project on a blog, photo album (or similar) and asking the new person to familiarise themselves with it before their first session.

- At the beginning of each new element of the project, it is important to ensure that all members of the group are clear of both the overall purpose of the project and process, and the short term goals and tasks.

Funding and budgeting

- A key challenge of the CC project was that the time frame of the funding agreement led to the Researcher feeling as though the process, especially in the final stages of the design, had to be rushed towards an outcome. A better way could be to focus initially on the community development and design process whether funded or not and apply for separate funding for the construction phase once the group is happy with their design ideas. However, having a budget in place is also a spur to engaging in the project, since it is then definitely going to happen in some form.
- While ensuring there is room for unrestrained creativity and new ideas, it is important to look regularly at what is achievable within the current budget. If this is left too late in the process it can lead to designs having to be significantly diluted. Currently, unaffordable features or projects can either be postponed to later stages of development and funding or broken into implementation stages, as was the case in the CC community art project.
- It is important to be aware that the level of funding accountability is quite high for the community sector. It is important to be clear about the outcome expectations attached to any funding received, and to communicate clearly to funders about any changes.
- Writing funding applications can be very time consuming, so it is important to factor this in to any project planning.
- Seeking multiple funding streams for a community project can give it resiliency. Applying for separate funding streams for different aspects of the project, while being time consuming, can ensure that the project as a whole is not defined by the funding

criteria of any one agency.

6. Conclusion

6.1. Introduction

This thesis posed the following research question:

“To ensure the sustainability of public landscapes, what might their design process be like?”

At its outset, it was claimed that the thesis would explore a paradigm of landscape design that could ensure the sustainability of suburban public landscapes, particularly in reference to parks and restoration projects. In the light of the literature and practice discussed in the theory section, this thesis defined landscapes as:

Dynamic, multi-dimensional and multi-scale, co-evolving systems.

Systems which:

- are multi-layered with geological, biological and cultural dimensions;
- are complex;
- are dynamic and co-evolving at multiple scales, being living communities rather than static forms; and
- must be viewed from an ecocentric perspective to be seen in their full context.

With regards to the role humans play in interacting with, or designing within these systems this thesis has defined sustainability as:

The maintenance of conscious ecological interconnectivity between the 'wild' aspects of nature, and the different spheres of human existence (including thought, value, action and behaviour, as well as technology and infrastructure).

Following from these definitions, this thesis argues that sustainable landscape design

must be an on-going process of *ecological community restoration*. This is a process in which supporting resident communities to deepen their understanding of, sensitivity towards and interaction with their bio-regional landscape is given as much importance as the initial minimisation of material eco-toxicity and the preservation of biodiversity and ecosystem services. This paradigm of landscape design, which the present thesis defines as *deep landscape design*, can also be described in the following ways:

- An ecocentric process which could give a 'voice' to nature through honouring the intrinsic value and implicit evolutionary dynamics of the non-human ecosystem and restore the structural-coupling between the bio-physical layers of the landscape and the layers of human culture.
- An inclusive process which could de-hierarchise landscape design and through education, empowerment and collaboration, nurture dynamic responsive relationships both within the local community and between the community and their local landscapes, resulting in greater community ownership.
- A process which encourages the local community to participate actively in their environment, interact with it in an ecocentric fashion, and allow the continuous and dynamic emergence of a landscape which nurtures and supports the co-evolution of all of its layers.

This thesis thus argues that to ensure sustainability, the form and function of a given landscape cannot be seen as the end product of a linear design process, something that can be expressed in a map, image or model. There is no end point to the development and evolution of landscapes, and nor can there be to their design. The form and function of a sustainable landscape should rather be seen to be continuously emerging from a consciously co-evolving bio-social system. It is possible to talk of the architecture of a nautilus shell, bee hive or beetle exoskeleton but there is no map or plan for these 'creations' other than the stabilising, novelty producing process of coevolution; the sensitive and ultimately unpredictable interaction of life with life. To ensure sustainable landscapes, this thesis argues that the process of landscape design needs to reflect this understanding. In this approach it is the on-going *process of design* that is important rather than the initial outcome. Rather than designing spaces, to ensure sustainability

this thesis suggests that what must be designed is the process itself.

This process is not one of asserting human power over the landscape, but of learning about and continuously observing the different layers of the landscape and the way they interact and respond to any changes that are made. This is what has been referred to as listening to the 'voice' of nature. It leads to a model of landscape design based more on communication than intervention. It is not necessary to understand someone's language to control them, intervene in their lives, or impose on them, but to communicate with them, it is. To live sustainably, and design sustainably within the landscape, humans must communicate more honestly and openly with each other, dropping the confining power structures. Equally, if not more importantly humans need to communicate with the landscape and learn the language of the landscape. A communication model of landscape design means as humans make changes to the landscape to meet their needs, they must also ensure they are responsive to the way those changes affect the rest of the landscape system, including other people, and be prepared to modify their behaviour or make compromises accordingly.

Such a theory of landscape design could be argued to be too metaphysical to be of any real use to council staff, designers or community members wishing to develop suburban public spaces. Therefore, drawing from the literature review and the experience of the two case study projects, this thesis will now expand the theory of deep landscape design into a grounded model. It should be noted that this model is not intended to be prescriptive. As the context, participants in, timeframe for and motivation behind every landscape project are unique, so too must be the on-going process of its design. The model discussed below is rather intended as a point from which individuals or groups interested in ensuring the long term health of their landscapes and communities can begin to design their own process. This caveat aside, the theory of deep landscape design is presented as:

- Basic guiding principles of deep landscape design.
- Reflections on the inception of a deep landscape design processes.
- Reflections on the maintenance of deep landscape design processes.

The model is further explored through discussions on:

- Key challenges to the model.
- Additional benefits of the model.

Finally, a series of key questions are offered to support designers, community groups or landscape managers in the instigation or nurturing of deep design processes.

6.2. Basic guiding principles of deep landscape design

6.2.1. Deep landscape design is collaborative

As landscapes are complex systems, the flow on effects of change are ultimately unpredictable, and can take place over both short and long timescales. Taking this into account, complexity theory, as explored by the Resilience Alliance (2010) and Inspiring Communities (2010), therefore suggest that multiple viewpoints are necessary in order to ensure that any changes are made with as broad an understanding of the landscape system as possible. As landscapes develop through an ongoing interaction between society and their environment (Kallis 2007; Naveh and Lieberman 1994; Naveh 2000), the long term health and resilience of a public landscape, and the ease with which it can be maintained, are inseparable from the attitudes and behaviours of the community who interact with it. So while this collaborative approach certainly includes the engagement of multiple expert opinion, and design or architectural experience, it must also include the on-going education and empowerment of the landscape community, the residents of the area. In order to empower and enable involvement for a wide range of individuals, effective collaboration requires a community development based approach. Community development principles such as those presented by Inspiring Communities (2010), Ife (2002) and Ricketts (2008) suggest that this approach should involve: developing a process that is accessible and inclusive, supporting the community to identify their own needs for the space, nurturing existing relationships with the landscape, attempting to break down Foucaultian power structures (Gutting 2011), and in the terms used by Girard and Stark (2007), de-hierarchise decision making.

A key issue in aiming for collaboration is that of adequate representation, or how many participants constitute community buy-in. It can also be the case that strongly

opinionated and vocal community members take part in the process, while shyer or more alienated community members do not. To ensure this collaboration process is inclusive and accessible, and thus to enable as many people as possible to participate in the design process, it is important to have a wide variety of engagement methods and to ensure that these different methods provide adequate support (O'Shaughnessy 2010) and shelter (Buchecker et al. 2003). Lunch time or evening meetings will each only attract a certain demographic of the community, while other individuals or groups may be better reached through, for example, social media, or through facilitated engagements at one of their own meetings. Targeted, personal communication can also be useful. This model of collaboration requires engaging different members of the community in the way most suited to them; supporting them to deepen their relationship with the landscape, and participate in its future. To ensure that the different parties involved see the larger context within which they are participating, it is also necessary to have an effective way of combining the different viewpoints, needs and visions into a holistic picture of the landscape. In the collaborative design of the Bagel Factory site in the Catchment Community case study an attempt towards this model of collaboration was made through the multiple engagements of the school workshops, public meetings, working bees and 'wilderness experiences', art project, social media profile, and presence at public events.

Collaborative landscape design does not necessitate everybody involved in the process needing to be part of every decision being made, or that the knowledge and experience of designers, architects or other experts, whether professional or otherwise, is neglected. What is necessary is the transformation of a process solely directed by experts (Buchy and Hoverman 2000), who cannot be expected to possess all the solutions to the landscape issues (Ricketts 2008) into one in which everybody is valued as an integral part of the landscape, is encouraged towards active citizenship, and has the opportunity to engage genuinely in decisions that affect them. This is a process which Buchecker et al. (2003) have suggested will help to restore to the community a sense of responsiveness and responsibility for landscape issues. The scale and parameters of a project will help determine who should be involved, and what people need to be involved in what decisions. As landscapes can be viewed in a multitude of different ways (Stephenson et al. 2010), the 'big picture' or conceptual levels of a project require wide ranging input, whereas, although still working within an overall collaborative

context, details could be dealt with by smaller groups or individuals. As will be further discussed below, the layer in which a project is currently focussed will also help define who is involved in the decision making. For example, in a given project it might be accepted that there are a range of conditions, elements or features that constitute an engineering or technical layer to the landscape, and that while others would still be included, there needs to be someone with suitable experience present for each decision regarding this layer.

The two case studies in this thesis explore collaborative design at two different scales. The Martinborough School study deals with the fine scale process of supporting a specific group of individuals to develop a shared vision for a landscape and explores the logistics and challenges of their on-going collaboration. The Catchment Community study however explores collaboration at a larger scale, in which an attempt was made to engage a range of different individuals and groups engaged with a site, and link these engagements together in order to nurture the development of long term community collaboration in its design and maintenance.

6.2.2. Deep landscape design is multi-layered and nested

As landscapes systems feature interconnected physical, ecological and cultural dimensions (Resilience Alliance 2010; Naveh 2000; Oldfield and Shaw 2006; Vernadsky 1945; Robertson and Richards 2003) each of the 'layers' and the 'sub-layers' of which they are composed need to be explored and included in the design process. To ensure the maintenance of the structural-coupling between these different layers, the design process should involve the engagement of people working within, or who are passionate about, each layer (for example engineers, ecologists, artists and activists) and the development of effective methods of communication between them. As discussed above, not everyone needs to be actively involved in the exploration of every layer of the landscape, but everybody involved in the process can be supported to acknowledge the significance of each layer and understand both its parameters, and the way it interacts with the landscape as a whole.

In practice this could result in a nested design process. In this nested structure specific groups or engagements could focus on exploring, maintaining, developing and advocating for particular layers or aspects of the landscape, while a representative 'core'

group could ensure that these different groups are working within a holistic context. To do this the 'core group' could monitor the overall direction of the project, and support holistic development through ensuring that information flows between the different groups. Provided there are effective communication systems in place, this process could enable those best suited and most passionate about different dimensions of the landscape to have relative autonomy in different aspects of the design, without compromising the overall holism or collaborative nature of the design process. Depending on the nature of the project, there are different ways in which this structure could form. As in the example given in Fig. 55, the core group could form from representative members of other groups with specific interests or an existing connection to the landscape. Or, as was the case with FOOS in the Catchment Community project, an existing group could support the formation of new sub-groups, such as that working on the art project. In another scenario, these sub-groups, may in fact not actually be groups as such, but could refer to the individuals reached through each of the different engagement methods deployed during the project (as discussed above). The core group could then be charged with synthesising the output or learnings harvested from each engagement, and feeding them back to the different participants.

Fig. 55. A nested approach towards landscape design and management.

Different decision making methods will be better suited to different groups and engagements, as will different ways of communicating and connecting and this model allows for this. Some groups may prefer to vote on decisions or rank priorities, as was the case with the Martinborough School design group, while a more consensus based

structure may be better suited for other groups, such as the Creative Group and Core Group in the Catchment Community project. Some groups may choose to interact continuously over the internet, while others may opt for semi-regular formal or informal face to face meetings. Within this nested model, each sub-group can make decisions within its mandate in the way best suited to its constituents. A key factor however, will be ensuring that key information flows between the groups, or to and from the core group in a way that is manageable, intelligible and able to be collated.

Such a nested structure was not really established in the Martinborough School example, but it could be established over time through different classrooms, or volunteer groups, taking responsibility for different aspects of the project coordinated by the design group.

In another sense, a multi-layered or nested concept of design could refer to a design process in which different layers of the landscape and the ways they interact are explored sequentially, with new opportunities for relevant experts and the wider community to participate in each layer. For example, a design process could involve exploring the physical, hydrological, ecological, social and cultural (e.g. social, political, spiritual) layers of a landscape in turn, and building up a body of knowledge about the processes and stakeholders involved in each layer. When a change or development is proposed within a given layer of the landscape, its effects on the processes or stakeholders operating within other layers of the landscape could then be taken into account.

Establishing a multi-layered or nested approach to design could be said to utilise both the facilitation and advocacy approaches towards engagement and participation discussed by Shirvani (1985). It involves facilitation in the sense that it requires supporting greater communication between different aspects of the community and landscape (a point which will be further discussed below). It could also be said to involve advocacy as it provides a mechanism through which aspects of the community or landscape which may have been overlooked or neglected in the past, can be included in future landscape decision making.

6.2.3. Deep landscape design is continuous and iterative

To allow for adaptation and resiliency in the face of dynamic evolving landscapes (Bloch 1984) which are “*perpetually under construction*” (Ingold 1993), and to ensure responsiveness to the impact on the landscape of any changes made, the design process needs to be a continuous, iterative process which is itself able to evolve. This means that the design of the site is an on-going process bigger than any individual person or group involved, and that there is no end product. This does not imply that a landscape is always left 'half-finished' or incomplete, but rather that the development occurs in phases or stages. After which, there is an opportunity for reflection on the impact of any changes made.

Fig. 56. The 'woven rope' model of landscape project management.

Expanding on the concept described in the Catchment Community case study, and shown in Fig. 56, this aspect of deep landscape design can be visualised as a 'woven rope'. In this model each project phase begins with an engagement period (to form the collaborative structure described above) and has a period of peak activity in which ideas are explored and changes are made. The closure of each stage of the development then provides an opportunity for reflection on whether the proposed subsequent stages still serve. The closure process of a given stage, which in the case of stage 1 of the Catchment Community art project was to be the opening celebration, also creates an opportunity for individuals to pull back from the project and an opportunity to engage new participants in the next stage. The process can thus be continuously handed down

to new participants. This handing down process could be made easier through leaving an unfinished or unspecified aspect at each stage of the design, which could form the starting point for the next stage of design such as the pou in the Catchment Community art project. The next stage may choose to deviate from this original plan, but this handing down process allows room for new creativity without losing the momentum or vision generated by the previous stage.

In terms of the multi-engagement and nested concepts discussed above, each subgroup may be involved in its own woven projects, have their own engagement processes, and seek feedback from the other groups along the way. Alternatively, a core group may be coordinating a large on-going project with different subgroups engaging with it at different stages or focussing on different layers.

In the Martinborough School example this dynamic design process was explored through utilising the 'module map' and 'marking out' process to show the design team a way to explore ideas, test them out and then alter their original design if necessary. This method may not be suitable for larger or more complex projects, but this thesis suggests that having some way to record the current vision for the site in a way that is itself dynamic and iterative can be useful to avoid fixed maps or plans implying that the nature of site is itself fixed or static.

6.2.4. Deep landscape design is ecocentric

While this thesis has made a case for the importance of community development in sustainable landscape design, the ecocentric or deep ecology perspective as explored by Katz et al. (2000), Naess (1989) and Capra (1997) argues that this empowerment of the community must not come at the expense of the conservation and preservation of the non-human ecosystem. Community development projects are often focused on marginalised or oppressed groups and their general empowerment, with flexibility about the way this manifests being a principle of the process. In sustainable landscape design, the non-human ecosystem of the area could also be considered to be often marginalised or oppressed. In addition to empowering the community to engage in the on-going design and maintenance of their local landscapes, the sustainable design process is also about ensuring that the 'voice of nature' is empowered and represented. Therefore, during the on-going design process, it is important to ensure that efforts are

continuously made to honour and represent the intrinsic value and dynamics of the non-human parts of the landscape (which could be referred to as their rights and needs). The way that this is done will also depend on the nature of the project and the group currently engaged with it. It could mean including an ecologist in the core design group, having a restoration/conservation sub-group as a key part of the nested structure, or ensuring that there is an adequate exploration of the ecological layer of the landscape, which is taken into account when any changes are proposed. Alternatively, as was the case in the school engagement of Catchment Community, it could involve supporting the group concerned to try and see the landscape and any changes to it from the perspective of the organisms of the non-human ecosystem.

The principle of ecocentrism can also be supported through ensuring that at each closure/engagement stage of the woven process, the reflection on the impacts or flow on effects of any changes or developments gives *equal* weighting to the ecological and more human focused layers of the landscape. Ensuring this equal weighting will help to ensure that as changes are made to a landscape, the holistic health of a space, what Morgan (2006) would refer to as it's 'mauri', is maintained.

6.2.5. Deep landscape design is self-facilitating and co-facilitated

This thesis suggests that for the inception or nurturing of a deep landscape design process, facilitation is necessary. In some situations, such as that of Martinborough School or the Catchment Community art project, facilitation may involve guiding a group through a specific stage of the design process. In other situations, such as Catchment Community as a whole, the role of facilitation may be to support on-going engagement and (as referred to above) the linking together of different groups with the landscape focus. This facilitation may come from within the existing community (as in Catchment Community) or may be engaged from without to support the process (such as in the Martinborough project). It may be an individual person, or a group combining their skills to support the process.

In the case of guiding a group through a specific stage of the design process, the facilitator would require some degree of design experience and depending on the scale and complexity of the project, may need to be an architect: this is the approach towards design suggested by the School Landscape Project (Hunter et al. 1998). Alternatively, as

was the case in the Martinborough School and Catchment Community art projects examples, an experienced designer could be involved in the project, with the facilitator supporting them to include the rest of the group in the process. In any case, key to empowering the participants of the project is for the facilitation to ensure that decision making is genuinely collaborative and not just the designer making decisions and seeking feedback. Similarly a key role of facilitation is to ensure that all parties participating in a process have an opportunity to be heard and that strong personalities do not dominate the process.

In a more general sense, the role of facilitation in deep landscape projects is closely related to that of the *community worker* as described by Ife (2002, 237-277). Ife breaks the function of community workers into *facilitative roles and skills*, *educational roles and skills*, *representational roles and skills*, and *technical roles and skills*. The different functions involved in each of these roles are shown in Fig. 57 below (Ife 2002, 257).

Fig. 57. The different functions of community workers as described by Ife (2002, 257)

It may be unrealistic to expect one facilitator to possess all of these skills so the true

role of facilitation may be to encourage and nurture the spread of these different responsibilities across the community involved in the project³³.

Following on from this idea, this perspective of facilitation could also be described as socio-ecological entrepreneurship, akin to Leadbeater's (1997, 2) description of the goal of the social entrepreneur:

“...to identify under-utilised resources, people, buildings, equipment and find ways of putting them to use to satisfy unmet social [or in this case landscape] needs...”

As discussed earlier, the maintenance of on-going interaction between the landscape community and the site does not have to involve the same people continuously. This on-going interaction could also be visualised as a fire, which needs not only the right conditions to take hold (a suitable site, resources and interested individuals/groups), but also requires a continuous supply of fuel (motivation, new participants, ideas and resources) to keep burning. In this metaphor the role of the facilitator is to provide the fuel and stoke the fire through encouraging and motivating the group; helping to resolve disputes and find synthesis, consensus or compromise; and actively seeking meaningful ways for new people to be involved.

Facilitators can easily assume positions of power within a group, so it is important to monitor this and ensure that there is a balance between maintaining the momentum of a project, to build on decisions rather than going around in circles, and disempowering the group by pushing them. In some situations, the facilitation of a landscape project may be coming from the existing landscape management, or be the representative of a specific interest group, in which case there is likely to be a bias or intention towards a certain outcome. Such biased or directional facilitation, while achieving quick outcomes, is at odds with genuine community development processes, and can stifle the empowerment of community leadership and the ability of the design process to be responsive to change. Therefore, while the facilitator has a right to voice his or her own opinions and perspectives, and has to be honest about their own limitations, it is

³³ There are many effective tools out there to support facilitators or self-facilitating groups to explore their landscapes and communities. The Researcher has found *Grounding Vision- Empowering Culture: how to build and sustain community together* by McCurdy (2008) to be an informative resource.

important for the facilitator to be flexible in the way he or she engages with and guides the group to ensure they continue to meet their evolving and unfolding needs, and also those of the site. In the short term however, there are limits to this flexibility as there will always be internal and external limiting factors and parameters within which the project must operate, including time, funding, resource availability and legislative barriers. Ensuring that the group is aware of these parameters, and the design process accommodates them is an important aspect of effective landscape design facilitation.

Once the momentum of a project is going, communication structures are in place, and a responsive design process is established external facilitation may no longer be necessary. In any case, part of the role of facilitators should be to make themselves redundant through supporting the group or groups to find ways to maintain the project on their own, to self-facilitate. The power imbalance between the facilitator and the rest of the group can, as alluded to above, likewise be addressed through working towards a co-facilitation model, in which different members of the landscape community take responsibility for different aspects of the process.

6.3. Reflections on the inception of a deep landscape design process

A key aspect in implementing a given deep landscape project is defining the boundaries of the landscape in question, which will influence the scope of the project that can be implemented, and what conditions need to be factored in when establishing the design process. As explored in the literature review (Resilience Alliance 2010; Koestler 1969), any identifiable landscape system will be influenced, and have its boundaries defined, both by its own internal dynamics and the dynamics of the larger system of which it is a part. Therefore both these internal and external dynamics need to be taken into account. As this thesis is utilising a holistic definition of landscape, these dynamics refer to physical, ecological and cultural aspects. It could also be said that the boundaries of a landscape system or the sphere in which a given project can operate is defined by the interaction of the internal resources, drive or 'personality' of the landscape, with the 'limiting factors' of the ecological, political and economic conditions in which it is evolving. In practice this means that as well as identifying the geographical area in which a project is to be based, the individual or group attempting to implement the project will also need to assess what ecological and cultural factors are currently at play *within* that space, and also what factors from *outside* that space are exerting an influence

on it. In addition to the size and geography of the site, these boundary conditions will thus include; the ecosystem type of the site and any ecological pressures it is currently experiencing; the number, skill and knowledge level and time availability of people involved at the project's inception; the current and potential budgets for the project; the legislative requirements of any work undertaken in that site and the level of decisions the group is mandated from any current landscape authority to make on their own.

In exploring how such projects might be initiated it is important to define where in the landscape the impetus for change and the key drivers of the process sit. In the case of the Bagel Factory project of Catchment Community, there was already a community group actively engaged with a landscape and a high level of community leadership was evident from an early stage. As there was such a high level of existing community leadership and knowledge, and no fixed intentions for the site from council (the conventional land managers), there was also a relative lack of power based hierarchy in the decision making. In this situation, through strengthening and maintaining existing relationships, the gradual distributing of decision making power throughout the community, continuing to build trust with the council, and seeking appropriate ways to include other individuals and groups with an interest in the site, developing an on-going design process such as that explored in this thesis appears possible.

In the case of the Martinborough School project, there was an identifiable community around a landscape, but while there was willingness from the current landscape authority (the school management) to empower greater community (student) leadership, the impetus for change initially came from the management. In this situation the development of a collaborative design process initially required a great deal of management and active encouragement of the participants. This of course is largely due to the fact that these participants were children. However it is important to note that as the design team became a more comfortable group, became more knowledgeable about the multidimensional nature of landscape, and were given more responsibility, their abilities to both collaborate and make appropriate and sustainable landscape decisions also grew.

In moving towards a deep landscape design process, if leadership and experience does not currently exist within the community, the conventional landscape managers cannot

expect, or be expected immediately to hand over the reins of decision making. The same can be said for cases in which there is some critical internal or external factor regarding the site of focus that the community is not currently in a position to deal with. There should rather be a gradual handover of responsibility as groups increase their knowledge and the collaboration and communication structure becomes more stable.

Whatever the competency or scale of the landscape community, a specific project focus can serve as the starting point for a deep design process which can over time become broader and more inclusive. This development can be seen as a combination of the “*participation as a means*”, and “*participation as an ends*” approaches of Buchy and Hoverman (2000) and is evidenced in both case studies.

In the case of Martinborough School, as the management had already decided that they wanted a new garden, and involving the students in its development was seen as a desirable way to achieve this goal, there was a degree to which the participation was a management approach (Buchy and Hoverman 2000). However the school also had an over arching goal of the general empowerment of their students, and saw developing a culture of collaboration and student participation within the school as an end in itself. It is therefore likely that the garden design project will be a starting point for the continued and increasing empowerment of the students in the development and maintenance of their local landscape. That the formation of the student design group made it easier for continued collaboration within the school was evidenced by the willingness of the second teacher to include them in the development of the new mural. Similarly, in the case of Catchment Community, the sustainable development of the Bagel Factory site was a particular goal, towards which supporting a participatory or collaborative process was thought to be the best approach. However, generally engaging the community with the stream and empowering active citizenship in its ongoing management and protection was seen to be more important than any individual development.

As the process grows and deepens, there may also be a change in the defined boundaries of the project, such as a sequential expansion. However in other cases it may become clear that the initial boundaries of the project were set far too wide and will need to be reduced in order to develop a manageable process. Regular reflection on the

boundaries of a project, and on its internal and external conditions is thus crucial to its continuity.

In sites currently managed and maintained by councils, the suitability of the deep landscape process will also be dependent on whether or not there is an identifiable community around the space. It was recently observed that the refurbishments of Wellington City's Midland Park (an urban pocket park, much used by workers at lunchtime) “*featured much discussion with council but seemingly none with its users*” (Gordon 2011, 22). While it could be argued that more consultation and participatory techniques could always be employed in public space design, it is unlikely that a process such as that explored in this thesis would be immediately be suitable for this space. In the case of landscapes like Midland Park, which are highly utilised by a transient community, or of landscapes in which a clear community cannot be identified, the council or other landscape manager does need to have a more controlling role to ensure that the spaces are relatively stable and low maintenance, as they will be responsible for that maintenance. In this situation the landscape managers may need to carry on with their conventional design approach, but could seek ways to engage individuals and groups in the process, nurture seeds of community around the space and move gradually up the continuum of participation (discussed in section 2.5) from an approach based on informing to one based on genuine collaboration. As previously mentioned, the Martinborough School project suggests that genuine attempts to support participation in landscape decision making can result in an increase in the decision making ability of those involved. This is further supported by Buchy and Hoverman's (2000) claim that projects based on collaboration between experts and local communities result in an increase in the knowledge and abilities of those communities, an increase which will over time, enable them to take increasing responsibility for their local landscapes.

If the council or other local authority have identified a specific focus or need for a space that is not similarly identified or appreciated by the community, attempting to inspire greater community engagement in its design and maintenance without slipping down the participation continuum into levels of tokenism or manipulation can present a challenge. However in such situations it is important to note that the council is in fact part of the community too and has a right to express its own needs. In the setting of a

wider community based 'needs assessment' in which all the layers of the landscape (e.g. hydrological, ecological, cultural) are addressed, the council would have the opportunity to put forward their perspective in its full context in order to gauge the degree to which it really is a community priority. An opportunity is then created for the community to be involved in the search for a holistic solution. If the council's desired action is not seen to be a priority, they can still champion that perspective and, whilst nurturing existing community networks and priorities, 'plant seeds' of their cause which may grow in the community over time. If the action is still deemed necessary, the council could then at least move forward with it having ensured that the community has all the information about why a given action is being taken. This thesis argues that while change may need to occur over a long timeframe, as relationships are supported, and communities are informed and empowered, deep approaches could be possible for any public space.

6.4. Reflections on the maintenance of deep landscape design processes

In deep landscape design the idea of landscape maintenance takes on a different form. In conventional terms, landscape maintenance is about the on-going work required to keep the landscape within the boundaries and aesthetic of the original design: pest control, tree pruning, planting and mulching, care and restoration of hard features. In deep landscape design, while care of these elements is still important, more important than preserving any individual structure or feature in the way it was initially intended is the maintenance of the on-going design process and of the relationship between the community and its landscape. The maintenance of this connection means that the community is able to respond to changes in the landscape and the way it is used and are able to evolve with it, rather than continuously spending energy confining a dynamic landscape within imposed limits, which perhaps were not suitable for the co-evolutionary needs of the space.

This process maintenance exists at two timescales. In the short term it refers to the maintenance of the enthusiasm and commitment to the current engagement, and in the longer term to the maintenance of the overall process of collaborative community engagement and responsive ecocentric design.

In the Martinborough School example it became clear that, especially when working with young people, to maintain enthusiasm in the designing of spaces it is important to

try to keep the momentum up and keep the process as interactive as possible. The students' engagement in the process was greatly increased when there was something physical for them to do. They could see changes occurring and the design became more real. This is a further argument for the design process proceeding in 'bite-sized' chunks, or for the woven model of design explored above, which can enable those involved in the project to see results and the outcomes of their efforts.

In the case of the Catchment Community art project, the design process picked up momentum when the site itself was restored to the focus of the design and whenever there was an opportunity to visit the site, or explore materials in a tangible physical way rather than just conceptually. Staying in physical contact with the site, and ensuring that the site exploration and any conceptual aspects of the design process happen side by side, is important both for keeping participants motivated for the project and also for the longer term maintenance goal of ensuring that the design process remains grounded and responsive to the actual site itself. As collaborative projects can be time consuming and tiring, it is also important to ensure that while individual sessions are kept concise, there is opportunity for fun, informality and group bonding³⁴. In some situations, the establishment of an on-going interaction with the site and the maintenance of the momentum of a project may also involve finding ways to support participants to remain engaged in between formal sessions and meetings.

It could be argued that there is a conflict between aiming for responsiveness and adaptability, and ensuring durability and ease of maintenance. If everything is liable to change, does it not become difficult to 'set something in stone' and move on with other aspects of the design? Each group and project will need to set their own boundaries and the extent to which they are willing to move and change things as the landscape itself changes, new parties become involved in the process, or new factors emerge.

Some groups may decide to have a regular review of plans to allow these to change continuously, or may have a review and maintenance timetable which ensures that design stages are maintained as they were intended for a given period of time, while still

³⁴ Educational Psychologist Bruce Tuckman has suggested that there are stages to group development and that groups cannot be expected to perform well together unless they have had an opportunity to get to know each other and establish their boundaries and rules of engagement. For more information see www.chimaeraconsulting.com/tuckman.htm - Accessed 26/1/12.

allowing a forum for discussing and making changes as the site evolves. In any case it is important to review the process of design itself to ensure that it still meets the needs of those involved, and continuously creates opportunities for new engagements, participation and collaboration.

In the Martinborough School example, an opportunity to review the design process was created through the development of a maintenance schedule which referred to both the maintenance of the physical landscape, and also to the way the design group was composed and functioned. In the Catchment Community art project it was intended that this review of the process would take place after each stage of site development. For example, following the writing of the case study it was suggested that for stage 2 of the design to proceed more quickly and engage another range of people, there could be opportunities for individual artists to develop works in response to a collaboratively developed design brief.

6.5. Key challenges to the model

As already discussed, when clarifying and prioritising the needs of a given space and whether these truly represent those of the landscape community and not just those of the landscape management, dominant process participants or facilitators are key challenges to collaborative design processes. In any landscape project attempting to utilise the principles explored above, there will be numerous other challenges. Other key challenges which were identified during the case studies of this thesis are explored below.

6.5.1. Finding a balance between individual ideas and collective decisions

During the process of the Catchment Community art project, a local artist observing the process commented that having so many people involved in the final decision around a creative endeavour such as this risked a 'blanding' of the outcome. The potency and holism of an initial idea or concept could be lost by trying to cater to everybody's opinion. Further adding to the potential for this, Buchecker et al (2003, 31) have suggested that as people hand over the management of public space to authorities, they come to see their own private property as the only legitimate environment for their individuality. Buchecker et al (2003, 31) then claim that this has led to a sentimental

notion that the collective always knows best which can prevent people from asserting their own thoughts and ideas when engaging in collaborative or participatory projects. Genuine collaboration or participation requires an empowered individual, someone who is confident enough to engage and offer their opinion. Therefore, while it could equally be argued that the collective manifestation of a brief could actually result in a stronger and richer development, and in many situations groups may welcome the challenge to do this, it is important that individuals within the process feel empowered to argue for their individual opinion. Collaboration does not imply that every participant needs to have their input clearly visible in every decision. When dealing with a specific decision within a functioning collaborative process, a group may decide to use a modified form of one person's idea, combine a number of ideas into one solution or decide to utilise a single participant's idea in its entirety.

In other situations, a design group may be filled with so many strong ideas that there is no sense of collaboration at all as people compete to have their own ideas expressed in the design. Therefore in some cases it may suit the needs of a given project better to have individuals take responsibility for the specific interpretation of different parts of a brief. However this could then create the risk of having so many different ideas being represented in a space that the design becomes a 'hotch-potch' of elements with no real design unity. In any case, to ensure that strong ideas can be heard, avoid unnecessary 'blanding' and ensure there is a holism to the design, each collaborative project will need to find its own balance between individual empowerment and collective activity. Key to this will be working to generate a group rapport, nurturing an overall spirit of collaboration in the design process, and as much as possible, developing a clear design brief for each phase of the design in which everyone involved can feel a sense of ownership.

6.5.2. Time poverty and decision making fatigue

An on-going process such as that explored in this thesis could appear to be a very time consuming process which presents another set of challenges.

In any community project, in which on-going input from non-paid individuals is required there is the issue of time poverty. Time poverty refers to the situation of

individuals, who may feel passionate about a project and wish to be involved, not having the time to engage or maintain their engagement on top of other responsibilities.

Related to the issue of time poverty is that of decision making fatigue³⁵. In landscape projects there can be many details to deal with and expecting a voluntary community group to make decision after decision, on top of other commitments that they might have can easily drain energy and lead to rash or flippant choices.

To deal with these issues it is important as much as possible to build links between the landscape project and what engagements and activities are already occurring within the community, or to 'scaffold' off existing momentum. The awareness of time poverty and fatigue issues adds to the case for breaking the process into interlinked phases. While still forming an overall continuous process, people are then able to engage and pull out, without having to make long term commitments. Selecting the frequency and duration of sessions or engagements and the length of each design phase is also important, as is awareness of when decision making around details or technical issues can and should be delegated.

6.5.3. Funding structures

The alignment of community development and an on-going design process, with the project management procedures and/or funding criteria of any council partners or other funding agencies, presents other challenges. An ideal model for the deep landscape design of a suburban landscape is to have the processes and developments take place through community resources and 'in-kind' support from council staff and other agencies, with external funding required only for specific elements. While this model may be possible from the outset in certain circumstances, or develop over time in others, it is not realistic for every project. In many projects it is likely that the process will be reliant on contestable funding, or on funding allocated by landscape managers for specific developments. While key to the model of design explored in this thesis are flexibility, an ability to evolve, and an allowance for the emergence of unexpected

³⁵ For more information see http://www.nytimes.com/2011/08/21/magazine/do-you-suffer-from-decision-fatigue.html?_r=3&pagewanted=1 – Accessed 3/5/12

outcomes, these funding sources are likely to have specific criteria, and require specified outcomes, measurables, and predictable timeframes. Thus supporting the growth of such a process may not fit naturally within a council or funder's structure, and trying to do so may induce a rush to get the project 'finished', force outcomes and disrupt the genuine community development. In some situations the council or funder may show flexibility around criteria, extend funding deadlines, or be able to 'roll funding over' into the next financial year, however this cannot necessarily be depended on.

In some cases, supporting continuous interaction between a community and its landscape could be made easier by applying for different funding streams for different phases of the project, or for developments taking place in different layers of the landscape. This could allow the project as a whole to change course over time, or for different aspects of the project to be matched to different funding criteria without having to limit the overall scope of the project. However, funding pools are limited and, as demonstrated in the Catchment Community project, applying for funding can be a time consuming process. Thus the degree to which this is a viable option will depend on both the economic context of the given project, and the capacity of the individuals and groups involved in it.

6.6. Additional benefits of the model

A culture and process of on-going collaborative design such as that explored above may initially prove more complicated and difficult to implement than a more conventional designer driven approach. However, in addition to it being better suited to ensuring the sustainability and resilience of landscape systems, the case studies explored in this thesis have shown there are additional benefits to this model, both directly to the site of focus and also to the participant community.

Through attempting to inform and engage as many people as possible, deep landscape projects can access a wide range of resources in the community, some of which may be unconventional and could potentially be over looked or under-valued in other approaches. These resources can include skills and knowledge, and materials and equipment. Accessing available or under-utilised community resources could reduce the

cost of a given project, reduce waste and also add a unique vernacular aspect to the design, further grounding it within the local landscape. The on-going design and development of the Bagel Factory site of the Catchment Community project has already benefited from the wide range of input from the community, has a rich base of knowledge and ideas on which to draw and will continue to be enhanced through the numerous creative and skilled individuals who now have a forum through which to interact with the site. Through accessing surplus materials from the WCC depot and building relationships with local contractors the project was also able to operate at a relatively low cost and have a unique local stage 1 design outcome.

In the Martinborough School project, engaging with the wider school community also allowed the project to access low cost skilled labour and surplus materials. In addition to this material benefit, the collaborative, student and community empowerment focus of this project had another benefit which did not come to light until the completion of the stage one project. Following the construction of the outdoor classroom, the students, who before engaging in the project had not been high achievers within their school, were all given awards for their involvement, and perhaps for the first time acknowledged as school leaders. This is a demonstration of the way in which collaborative, community development based approaches, offer an opportunity to engage and celebrate members and groups in the community who may otherwise be overlooked or neglected.

6.7. Key questions to ask in supporting the development of a deep design process

As discussed above, the journey towards a deep design process in a given landscape will be dependent on numerous factors. In some cases attempts could be made by facilitators or landscape managers to engage the local community and establish such a process over time, while in other circumstances it may be a case of groups already working within different layers of the landscape nurturing its emergence through cooperating and communicating more effectively. In any case, Table 3 on the following page contains a series of key questions which have arisen from this research. The hope is they will be of use to landscape managers, designers or community members wishing to establish, or nurture a deep process in the design and maintenance of a given public space.

Process Area	Key Questions
Project inception and identification of landscape focus	What is the landscape of focus?
	Who is instigating the present initiative? What are their intentions and what degree of control do they intend to have over any developments?
	Will there be a core group to oversee any changes to the landscape? How will this be composed?
	What layers of the landscape (e.g. geo-physical, hydrological, ecological, cultural) form the initial focus of the current project?
Identification of landscape community	Who can be identified as the landscape community?
	Who are the key stakeholders (individuals and groups) within each layer of the landscape?
	What relationships already exist between these groups, and between the groups and the landscape? How could these be strengthened? Are there any grievances or barriers that need to be acknowledged or addressed?
Engagement of community in a multi-layered approach	How can a wide range of people be included in the exploration and potential development of the different layers? What different tools and engagement processes can be used to access the ideas, opinions and creativity of people with different interests, time availability, and learning and expression styles?
	How can people be engaged in the exploration and development of any neglected layers of the landscape?
	In which layers is it necessary to involve 'external' experts?
	What are the key (internal) processes (physical, ecological or cultural) that function within each layer of the landscape?
	What (external) pressures or processes influence, limit or constrain each layer?
	How can the different individuals and groups engaged in the process be made aware of these internal and external processes and how they interact?
	What are the 'needs' of each layer of the landscape, and the individuals and groups engaged with each layer?
Project management	How will the needs, knowledge, ideas and information emerging from each layer or engagement type be linked together to generate a common pool of knowledge, collective design brief or vision? How can individuals or groups be supported to maintain their own autonomy while working within that vision?
	How can it be ensured that fundamental landscape, design or technical principles are acknowledged whilst still promoting an empowering and inclusive learning environment?
	How will decisions be made about any changes to occur in the landscape? Will different individuals or groups have a mandate within different layers? What will be the role of the project instigator or any core group in these decisions?
	How will disagreements be managed?
	How can opportunities for reflection and evaluation, and for iterations in the design process be created?
	How can the different individuals and groups involved in the landscape be kept up to date on decisions that have been made and changes that are occurring?
	How will the different groups communicate with each other?
	What is the timescale of each engagement, and where can opportunities be created for participants to leave or join?
	How can a budget for the different engagements of the project be sourced and how will it be managed?

Table 3. Key questions to ask in supporting the development of a deep design process.

6.8. Concluding remarks

This thesis has explored the idea that in the journey towards landscape sustainability, the empowerment and education of the local community, and the development of an inclusive and ecologically responsive design process, are as important as the landscape plan that initially results. While maps and models are certainly useful to landscape design, public spaces are not objects. Landscapes are not static, they are dynamic and multidimensional, and their futures are utterly intertwined with the attitudes and behaviour of the communities who reside in and around them.

To ensure long term landscape sustainability, the different stakeholders in a given space must work together to take into account the interrelated layers of a landscape, both physical and non-physical. It must be accepted that there are many ways in which people perceive and relate to landscapes, each important, each valuable. The design process utilised must support empowered communicative relationships between the different members of the landscape community, whether they be council staff, design professionals, passionate locals or marginalised minorities. It must also support an evolving interaction with the ecology of the landscape itself.

However, turning these ideas into a reality is challenging. Among many other issues, such a process must deal with legislative boundaries, time and budget constraints, and human egos. The model of landscape design explored in this thesis perhaps represents an ideal. Moving towards this ideal will require compromise and continuous bridge-building between the different stakeholders operating within the landscape, to ensure that the process that emerges will meet their needs, limitations and availability.

This thesis has only explored this process in small-medium sized local or suburban landscapes and the researcher accepts that a process like this at a larger scale, for example city or regional planning, would be significantly more complex, due to the increased number of stakeholders, legislative hurdles and environmental factors.

That said, there *are* movements towards more adaptive planning and design models for cities already occurring. For example, Scott (2010, 6) has claimed that there is evidence

of ANZ's Auckland City showing a willingness towards a vision of “*a non-deterministic planning paradigm*” which would allow for regional variation and “*flexibility in relation to uncertain futures*”.

In general it may be the case that for a truly continuous, collaborative and de-hierarchised form of landscape design to work, there needs to be an overall paradigm shift in society towards one which is itself more collaborative and de-hierarchised. Taking small steps towards such a culture of design and decision making in suburban landscapes could prove to be a key factor in this shift. Participatory design leader Henry Sanoff (Sanoff 2007, 215) has suggested that:

“ the idea of democratisation of decision-making within all local and private organisations...is...a necessary prerequisite for political democracy at the national level.”

It could likewise be argued that supporting the distribution of democracy and empowering active citizenship at a local landscape level, is an essential pre-requisite of doing the same at a regional and national landscape level.

It is hoped that the projects and design paradigm explored and reflected on in this thesis will contribute not only to the on-going discussion on how to ensure the sustainability of local landscapes, but also to the discussion on how to inspire active citizenship in the evolution of a landscape which is adaptable, resilient and sustainable at every scale.

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Appendix 1. Article from the *Capital Times* advertising the initial Catchment Community get together (Anon 2011)

Stream of consciousness

CREATIVE and ecologically minded people are sought for a new art project in Owhiro Bay. For nearly a decade, Friends Of Owhiro Stream (FOOS) have worked to restore and protect one of the few remaining unimpeded streams flowing to Wellington's South Coast. They're about to get more creative.

Community development facilitator Charles Barrie and arts facilitator Paul Bradley, who guided the Brooklyn Regeneration mural project, are coordinating the project.

"We're aiming to support a group of people, to creatively explore the stream and the ecological, historical, social and spiritual issues around it," explains Barrie.

Sculpture, painting, mural, mosaic, and landscape ideas are just some of the suggestions that

Barrie and Bradley hope to see brought forward. Barrie points to similar projects like Project Twin Streams' eel sculpture on the Opunuku Stream bank, in Henderson, Auckland.

"The landscapes that restoration groups work in are often very degraded by human activity, and the issues around bringing native life back are pretty complex... Having a creative process to complement the scientific and technical aspects means that as well as involving more people we can explore the relationship between society and ecology, and what this means for sustainable landscape design," says Barrie.

The project is focused around FOOS' redevelopment of the area around the bagel factory on Ohiro

Road. Concepts that successfully complement and comment on the ecology of the stream will be incorporated into the design of the site.

"The idea is to create a sustainable space that people have a relationship with, not a park that they have no respect for, or an isolated ecological restoration site they're too afraid to interact with. The human social sphere and the ecological sphere are the same thing, there's just not enough communication between them. Art is a great way to explore that communication," he says.

Learn more about the stream and the art project at a public meeting this week.

FOOS presents: Catchment Community, Brooklyn Community Centre, 18 Harrison Street, 7-8:30pm, June 30.

Charles Barrie calls for creative exploration at Owhiro Stream.

Appendix 2. Catchment Community art project 'public submission brief'.

Catchment Community

A creative vision for a public space where people can enjoy the Owhiro Stream

Outline

A group of local people are creating a public artwork next to Owhiro Stream in Happy Valley. The artwork is being created collaboratively by a team working alongside the wider Owhiro / Brooklyn community. The artwork will reflect aspects of the stream and community and form part of the overall landscape. We have identified an area for the artworks to go next to a deep pool on our site.

Framework

On the left we have AREA1 where we would encourage people to spend time and appreciate the surrounds. This area would contain the following elements, all of which will need to be designed:

Seating around the outside (shown as curved black rectangles), to encourage people to stop, and spend time here. We see this as a contemplative space next to the pool.

A constructed stream form running through the space (shown in blue). This could be paved, mosaic, or some sort of other hard wearing construction that people could walk on. This is a sculptural element which would encourage people to think about the piped stream which is directly beneath it. This would line up with the large pipe which connects with the pool. This artwork makes the invisible, visible.

A tall pou (pole) in the centre of this space which would also have some sort of pod/capsule/storage space or spaces. This pou would draw attention to the site from the road, and communicate something about this site. It could be painted or carved. It could have coloured rings to show the height different trees in the area can reach. It could have a flag on the top. The capsules could either support local species (weta hotel), or contain information, or natural treasures (cicada skins, seeds, leaf skeletons etc). The contents of these could change over time.

A balustrade or natural plant barrier to keep people safe from falling into the pool, particularly children. If we construct a balustrade, we would like this to be designed an integrated into the site too. If we use a natural plant barrier, then we can work with the planting and landscaping teams to chose appropriate plants.

Above the pool, in this drawing, is another area, AREA2. This could also have seating and a flag pole to mirror the other space. This site sits down closer to the water level so offers a different perspective and access to the pool.

Function

We would like the artworks to pay tribute to the mauri (life-force) of the stream. The design of these artworks may lead people to think about cultural, social, or ecological aspects of the stream.

The artworks may help break down the idea of a separation between humans and the natural landscape. We do not these artworks to be imposed on the landscape, but to be integrated with it.

Form

It is important that whatever form these artworks take, they are well integrated with the site as part of the landscape. We are working alongside the landscaping and planting teams who are also developing the site.

The artworks will not be overworked or contrived. Simple is good.

We are interested in shapes that are inspired by, or reflect the natural forms in this environment.

Materials

We want to work with natural and/or recycled materials. We are interested in using materials sourced from the nearby recycling shop at the landfill.

Appendix 3. Article from the *Cook Strait News* advertising the community art project and wider work of FOOS (Ginestet 2011)

Wednesday, October 5, 2011 | **CityLife** Cook Strait News

Friends take root at new site

■ Agnes Ginestet

It is the end of the planting season for the Friends of Owhiro Stream, but they have been busy shifting their shadehouse from the Resource Centre in the heart of Brooklyn to a piece of Council land on Vennell St.

Member Janet Campbell says they used the local Resource Centre garden before, but they wanted it for their own purposes so Friends of Owhiro Stream looked for another site.

Member Martin Payne says the shadehouse was taken down and put together again on the new site, which also includes a stand-out area for the plants.

"Generally we've been growing 1500 plants here, and then we get another 1000 plants from Council and Honda trees."

The site will be officially opened on November 12.

Mr Payne says it has been quite a process to find a new site in the Brooklyn area.

"[Deputy mayor] Ian McKinnon has been very helpful in putting forward our case, so we could use this area."

The licence is a short term licence, as the future of the Vogelmoor hall next door is still uncertain. Friends of Owhiro Stream work towards bringing this urban stream back to life, including through the return of endangered fish species, says Mr Payne.

This year, the team focused on the Bagel Factory site on Happy Valley Road.

"We've planted 2700 plants, which is quite an undertaking."

Since they were formed in 2003, the group has planted over 16,000 plants on its restoration sites.

"We are looking for volunteers and support from the community. We've done a lot of work, but there is still lots to do," says Mr Payne.

NEW PLACE FOR PLANTS: Janet Campbell and Charles Barrie in the shadehouse the Friends of Owhiro Stream have recently shifted to 13 Vennell St in Brooklyn.

Photo: Agnes Ginestet / CCN280911AGshadehouse

MORE INFO:

■ Friends of Owhiro Stream are looking for volunteers
Contact Martin on
info@owhirostream.org.nz
Working bees are organised every second Saturday of the month.
Opening day on November 12 at 13, Vennell St, 10am-2pm. Speeches at 11am, and BBQ.
For more info on the Community Catchment Project, visit

ARTISTIC EXPRESSION

The Community Catchment Project will see permanent artwork set up on the Bagel Factory site on Happy Valley Road. Project manager Charles Barrie says it comes from the idea that the stream, as well as having a physical and ecological dimension, has a cultural dimension.

The project has received funding from Council, and stage 1 will be about creating an artwork by the beginning of next year.

"It's a way to spread the net wide and include more people in the project (Friends of Owhiro Stream's project), to build relationships between different groups," says Mr Barrie.

Appendix 4. MOU between WCC and FOOS regarding the stage 1 site developments of the Catchment Community art project.

File ref: 10648065 v1

12 December 2011

Charles Barrie
By email: koboldgardener@gmail.com

Dear Charles

AGREED CONDITIONS – Catchment Community, Owhiro Stream

Park development and maintenance conditions as agreed by Wellington City Council (WCC) and Friends of Owhiro Stream (the group).

1. WCC has made the portion of Tawatawa Reserve, adjacent to the Owhiro Stream, Happy Valley Road and below the Bagel Factory available for the development of a community space by the group.
2. The development of the community space will be in accordance with the landscape plan and implementation plan prepared by the group (see attached). Features will be approved by David Halliday, Projects Officer, Parks and Gardens.
3. The group has been responsible for carrying out consultation with the community and confirms that the final plan is acceptable to stakeholders.
4. Any contractors working on site will meet WCC requirements for Health and Safety and Public Liability insurance as outlined in documentation from WCC Parks and Gardens.
5. Any volunteers working on site must comply with the FOOS/Parks and Gardens MOU and the health and safety conditions included in that.
6. WCC understands that full funding for the Park has been achieved by the FOOS and that these funds are now available for the development community space.
7. WCC takes no financial responsibility for the development works of the Park in any way including paying of contractors, buying of construction materials, covering default of payments or any other matters in relation to the contract or construction works, other than any works which WCC has agreed to carry out.
8. FOOS will undertake maintenance of the community space once agreement and final sign off of all works are acknowledged by both parties.

2

9. Renewal of the asset at the end of its life expectancy will not be budgeted for and any renewal works will be the responsibility of *FOOS*.

Yours sincerely

Amber Bill

Manager, Community Engagement & Reserves – Parks & Gardens

Ph: (04) 803 8150

Fax: (04) 801 3155

Email: amber.bill@wcc.govt.nz

Attachment 1: Landscape Plan

Attachment 2: Catchment Community Project Stage 1 Implementation Plan

This plan has been developed by the Catchment Community group with the support of Friends of Owhiro Stream.

Elements are listed in order of implementation.

Numbers in parentheses refer to those listed on the attached plan view.

This work will commence in mid march and be complete before the end of July 2012

Stage 1

- Earthworks (1) and installation of pipe (2)
- Installation of steps (3)
- Track surfacing (1)
- Construction of stream feature 'main arm' (5)
- Balustrade construction (6)

Earth Works and installation of Pipe:

Basic earthworks will be completed by contractor Carl Gifford to create smooth entrance and exit paths and level the base of the site site. Carl will also install a pipe feature which will form the start of the stream sculpture. The entrance track will have a 'monobench' and no edging to allow for drainage

Steps:

Carl Gifford will install 3 large stone steps

Ground surface:

David Halliday will help us obtain 'clay over burden' for the tracks, and 'shell/gravel track metal' as the ground surface around the sculpture.

Stream Feature:

Living Planet Limited will implement the hard landscaping of the main arm of the stream sculpture (design specified in attached plans). The tiling will be carried out by the catchment community group under the guidance of Living Planet Ltd.

Balustrade:

A suitable balustrade will be designed by the catchment community group with guidance and approval from David Halliday. The balustrade will be constructed by Living Planet Ltd.

Note - Stage 2

There are further design ideas for the site which could form a stage 2 development. These include:

- The design and installation of a large pou whenua
- Seating
- Planting to highlight contours of open space and tracks
- The development of an entrance way
- The construction of the secondary arm of the stream sculpture (4)

Any stage 2 developments would be discussed and approved with WCC before implementation.