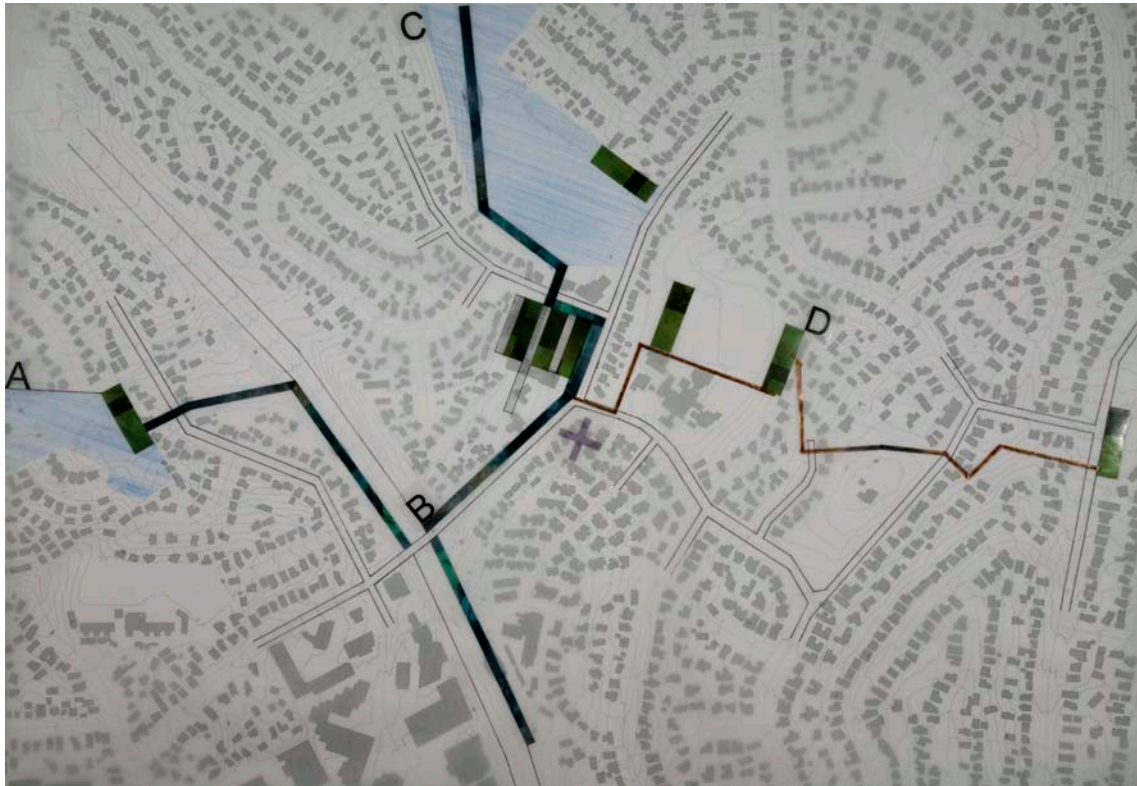


Urban Reprogramming at Sunnynook

Can a landscape strategy for an urban design project provide satisfactory planning direction for a local body?



Introduction

Centre plans, analysis documents, and urban renewal documents, appear on council's shelves and archives under many names. An examination of the contents page, in these documents, reveals a seemingly full and rigorous analytical study of existing site conditions has been carried out, but on closer inspection some areas of weaknesses are revealed. For example, often an analysis of the open space or parks and reserve networks are undertaken, which consist of a list of these areas...and that's all. This project aims to make a thorough investigation into the open green spaces that populate the immediate vicinity of the Sunnynook town centre, with the aim of providing some initial concepts for the reprogramming of Sunnynook town centre. This reprogramming will be entirely driven by the inherent potentials of the ecological diversity of the open green spaces. An acknowledgement is made at this point that other important factors such as social conditions, economic and political factors, and other necessary components of the site have been sidelined in order to focus entirely on the potentials of the ecological diversity mentioned earlier.

If we were able to argue that cities contain diverse ecological conditions then perhaps local authorities might be persuaded to engage in this plethora of ecological richness in order to help model the communities over which they preside. It is not unreasonable to create this argument. In an article in *American Scientist*, 'A New Urban Ecology'¹ the authors state that,

"In cities people mobilize some nutrients and deplete others, create habitats that have never before existed, divert water, increase temperatures and, by intent or by accident, manipulate the communities of other species found within city boundaries and beyond...If there is a laboratory where ecological change can be viewed at close hand, it is the city."

The literature written around landscape urbanism, (a new science, or a revived enthusiasm for social, cultural, and ecological issues) has rekindled an interest in public works, infrastructure, and brown

field developments. Some of the major issues contemplated include the stability or otherwise and the approach to planning of local bodies and central government. Along side this resides a tradition of technically proficient, discipline specialist economically driven design briefs. Landscape nonetheless exists, and seems to flow around, through, and with this milieu of bureaucratic machinations. Perhaps because of this unique characteristic (almost like putting a four wheel drive vehicle into low ratio and grinding through rough terrain, or a swollen river engulfing human intervention) landscape has the potential to, as Chris Reed puts it, “re-engage issues of site and ecological succession and play a part in the formative roles of projects rather than simply giving form to already defined projects.”ⁱⁱ

Cities contain a matrix of patchworks including parks, golf courses, concrete and glass conglomerations, streets and industrial zones. This pattern of patches supports a diverse range of flora and fauna and perhaps is the best starting point for developing an understanding of how organisms and resources are distributed across an area. It could also be argued that human interaction with these systems is an energy rich hunting ground for landscape architects. After all, the power and scale of human intervention can be devastatingly transformative for an ecosystem, yet the landscape, and plants and animals have the slow and steady capacity to recolonise, adapt and carve out niches in this volatile environment.

If we argue that there is an abundant relationship between ecology and high rate development in urban areas, then there is potential for a similar relationship to exist between the landscape and the territorial authority within which it resides. If an understanding of the potential to draw out new programmes from the assimilation of landscape phenomena can be achieved by those who are empowered with the development of urban areas, a shift towards design being understood as occurring prior to the inception of form and removed from ideas about typologies, could flourish within local authorities. It is this connection between an understanding that the landscape ‘works’ and the global perception of New Zealand as a clean green land, that may enable local and regional authorities to engage with landscape architecture and its continuing exploration of systems as a model for the orchestration of public landscapes.

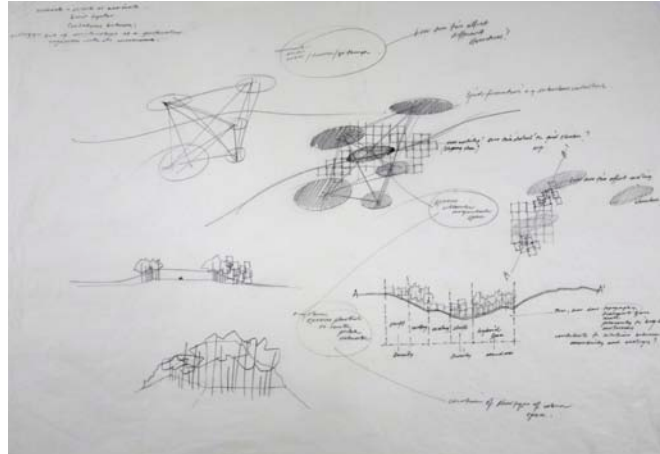
Research by Design: A Landscape Approach

The project is carried out through design as investigation, this means that many potential outcomes are generated through the shuffling and manipulation of existing site information, there is no set final solution, rather a set of interventions that set up landscape system interactions, emerge from this way of working. Therefore programmatic boundaries become of less importance than site itself. A premise Sebastien Marot sets up in his book *Sub-Urbanism and the Art of Memory*ⁱⁱⁱ:

‘While methods and routines of urban design have traditionally mimicked those of architecture, thereby perpetuating the dominance of programme (and of an approach that goes from programme to site), the suburban condition calls for an inversion of this hierarchy, in which site becomes the regulatory idea of the project.’

Life cycles, vegetation structure, fauna, and food sources, among other intrinsic site conditions set the boundaries for this project. This landscape approach moves away from a brief driven methodology, that is, objectives set out through consultation, pre-imaged perceived need, or fiscal constraints, to an approach that allows the landscape of Sunnynook to provide the programme for this project, which emerges through an engagement with enquiry by design, or research by design.

This process (research by design) is often commented on as containing an ‘abstract’ element. Phrases such as “how has the process contributed to the final outcome”, and, “there seems to be a gap between this part (the initial abstract phase) and the final stages of your project” is repeated often by critics during design presentations. It seems that abstraction (of site information) is an important part of learning, testing, and finding things out. Through being experimental and thinking in an abstract manner about a problem, it seems the whole notion of research by design is being engaged, and put to use. Robert Motherwell^{iv} comments on the process of abstraction, in the context of abstract art: ‘...abstract art is not invented or arbitrary at all, but *found*, found in the sensitive, passionate, and profoundly accurate...’ In this sense, landscape architecture’s sensitive, passionate and profoundly accurate is the site, and the rich and complex systems that course through it.



In landscape architecture abstraction is a process of emphasis, a selection of things that are chosen to be dealt with. Significance becomes most important. What is this abstraction significant to? How can it be traced back to something? One possible answer to these questions is the adaptive use of existing site conditions and the development of flexible infrastructures such as circulation systems. A site investigation may include a detailed investigation into vegetation types and the fauna associated with these species. This information could then be 'abstracted' to place emphasis on the duplication of existing successful species, the introduction of endangered species, or the possible reuse of weed species, such as '*privet*', mulched for the development of humus matter. This emphasis can be described as a mechanism and does not have to be a large and all encompassing 'design move', but could be humble, yet concrete. Through the process of abstraction a mechanism such as wind blown seed, or a particular type of space that allows for 'gathering', can be explored in terms of its mechanical, or 'how does it work' capabilities. This way of working allows for the development of design ideas that promote more design ideas, for example, an abstract investigation into prevailing winds and topography might reveal a circulation system that is able to collect wind blown seed on steep backs and control water flow through a site. So there is a flow on effect. One drawing promotes an idea that in turn promotes another, and the important point is that these types of drawings are not illustrative but functionally orientated and *are* transferable in terms of design moves. This lack of transferability to the site has long been a criticism of abstraction in landscape architecture, perhaps with the emphasis on site (rather than as has been in the past on metaphor) landscape has a tool that allows abstract engagement.



This type of engagement with the land seems appropriate as design often has to deal with already configured terrains, steeped in some cultural, functional and historical significance. The development of suburban and urban areas no longer starts with a blank canvass; rather a preordained landscape collides with 'the harsh imperatives of land value, development, productivity, and mobility'^v. This collision suggests that a normative approach to design tests through plan and perspective means may not provide an accurate account of the complex nature of these 'used' spaces. Perhaps an abstract investigation, or a research by design approach, could more readily allow the landscape to be read, synthesised, and an accurate analysis take place. While the particular case study that follows has been acknowledged as dealing with one focus, the green spaces, the case study experiments with and argues for a site based abstract encounter with the landscape, one that hopes to reveal the collision between existing and potential, one that engages the land as a tool for design.

Case study: Sunnynook, North Shore of Auckland, New Zealand

The landscape analysis began with a study of seven pocket parks surrounding the area. From a basic ecological standpoint, the information to be highlighted in each of these open green spaces was existing vegetation, qualities of that vegetation, any existing open waterways or wetlands and, potential fauna habitat. A summary of these findings are listed below. In addition to this a slope analysis was conducted through a study of the contours.

1. Lyford Reserve
2. Sunnynook Park
3. Centennial Park
4. Rewi Alley Park and Trias Reserve
5. Greville Reserve
6. Totaravale Reserve
7. Unsworth Reserve

1. Sunnynook Bush/Lyford Reserve

Description

The majority of this reserve is a stand of pine trees with a dense understorey of regenerating native bush. A stream runs through the bush and is surrounded in two locations by marshy wetland areas. The south end of the reserve is a grassed recreation space, and the grass paths that lead into this area are surrounded by native plantings.

Existing Vegetation

The regenerating native bush consists of plant species such as kanuka, manuka, cabbage trees, flax, toi toi, totara, mapou and tree ferns. The exotic canopy is dominated by radiata pine with the occasional Tasmanian blackwood, black wattle and maritime pine. The wetland areas are covered in reeds that are greatly infested with grass and weeds. The native plantings are similar to the species that are growing in the regenerating bush, and include species such as kowhai and kahikatea.

Existing Fauna

There is no available survey of species, however Tui are present and Bellbirds, silvereyes, kereru, fantail, grey warblers and morepork would all have available food sources and sufficient shelter here. Forest gecko, Auckland Green gecko, Copper skink and the pacific gecko are likely to be found here (however they are hunted by cats, rats, mice and possums). Moko skink and the Ornate skink could also be found here. The introduced green frog and golden bell frog could possibly live in the wetland areas as long as the water is not too polluted.

2. Sunnynook Park

Description

Mostly consisting of turfed sports fields, the park includes Glenfield Greyhounds rugby league club, a skateboard bowl, and Sunnynook scout den. Mixtures of native and exotic trees and shrubs have been planted around the edge of the park. Historically the land now occupied by Sunnynook Park

was a swamp. The park has been designed as a dry detention pond able to contain excess water within the site in extreme stormwater events. Open drainage channels run along the north-eastern and north-western boundaries.

Existing Vegetation

The largest area of vegetation exists in the North West corner. This area contains plantings of American sweet gum, pin oaks, golden totara, coprosma and lophostemon. The exotic/native mix of specimen planting along the perimeters of the park includes some very mature and rare Eucalyptus, Brazilian pepper trees, pohutukawa and sheoke. There is also a row of recently planted English oaks.

Existing Fauna

There is no available survey of species, however most of the plantings are specimen, with no undergrowth and limited build-up of leaf litter, which provides a limited habitat for geckos and skinks, and insect eating bird species. Tui and bellbird living in the area might visit the pohutukawa trees, as they are a favoured food source. Some of the exotic trees are very mature, providing a safe place to rest and possibly providing nectar or fruit.

3. Centennial Park:

Description

Centennial Park and the Pupuke golf course cover a large 22.3 hectares, and occupy land where a kauri forest once stood. The Pupuke golf course is obviously a grassed recreation area. It is decorated with large areas of mixed exotic/native bush, and specimen trees. Centennial Park is predominantly covered in regenerating native bush at varying stages of regeneration. The Centennial Park Bush Society has weeded a lot of the bush area, and is trying to promote the presence of large native trees by thinning back the pioneering manuka and using compost. The nature trail situated in the centre of the bush area is described as a "*pristine forest environment*". Campbell's Bay stream runs through Centennial park.

Existing Vegetation

At Pupuke golf course, the dominant species that make up the mixed exotic/native bush include mature pines, wattles and gums, ponga, cabbage tree and manuka. The large blocks of native vegetation at Centennial Park include Broadleaf-tree fern forest in the river gullies (often under a canopy of pine trees), manuka scrubland with emergent mapou, and riparian vegetation including kahikatea, puriri, flax and putaputaweta. Other species present in this diverse bush environment include: tanekaha, kohuhu, karamu, hangehange, heketara, five-finger and pigeonwood. Species that have been planted to thicken the bush and add diversity include: totara, rimu, kauri, titoki, rewarewa, puriri, kowhai, matai and nikau. Wetland vegetation is also present and includes raupo, native grasses/reed species and planted swamp maire. Campbell's Bay stream has species like kikuyu, sedges, flax and oi oi growing on its banks, as well as a good level of periphyton (algae) and other aquatic vegetation. The eastern corner of the park is mostly grass and has many planted exotic specimen trees including: ponderosa pines, camellias, magnolias, liquid amber, phoenix palms, Japanese cedar, acmena and oak trees. An avenue of Pohutukawa trees has also been planted. Exotic weeds are present amongst the native vegetation and exotic plantings, including: tradescantia, climbing asparagus, gorse, willow weed, wattle and wild ginger.

Existing Fauna

Native birds commonly seen here are the pied fantail, wax eye, grey warbler, kereru and tui. Kingfisher, pukeko, fernbird and morepork are also present, and there has been one sighting of a pied tomtit. Kaka fly from offshore islands to feed here, but Centennial park does not yet have sufficient habitat for them to breed in. Forest gecko, Auckland Green gecko, Copper skink, the pacific gecko, Moko skink and the Ornate skink are likely to be found here, as all their preferred habitats such as manuka stands, leaf litter, logs, groundcovers and clay banks exist (however they are hunted by cats, rats, mice and possums).

The diverse riparian zone surrounding Campbell's Bay stream, and the wetland vegetation would provide a sufficient habitat for many aquatic species. Banded and giant kokopu, longfin and shortfin eels, inanga and koura are all present.

4. Rewi Alley Park and Trias Reserve:

Description

Two open green spaces are divided by Trias Road. Rewi Alley park is a large grassed recreation area that has a 2 metre deep stormwater detention pond (doubles as a 50 year flood zone) . Stone lined channels and planted swales direct water flow. Rewi Alley park also has a memorial courtyard with a plaque and statue in honour of this famous New Zealander. Trias reserve has an open watercourse running through the site, surrounded by a weed infested bush area.

Existing Vegetation

Rewi Alley: Native vegetation surrounding the detention pond was planted 18 years ago and includes Sedges, toi toi, flax, cabbage trees, ribbonwood, manuka, nikau, coprosma, kahikatea and kowhai. The pond was planted with reeds. Native cabbage trees and flax have been planted along the swales in some areas.

Exotic specimen trees are scattered throughout the site (mostly in line with the pathways). Trias reserve: The bush area largely consists of flax, shrubs and small trees such as manuka. Many weed species grow along the banks of the watercourse and give the bush a dense appearance. A large willow tree dominates the northeast corner. Along the reserve borders exotic and some native specimen trees have been planted.

Existing Fauna

There is no available survey of species, however Pukeko, ducks and tui are present. Other native birds such as kereru, silvereye and bellbirds would probably visit the park due to the abundance of fruit and nectar found in species such as flax, kowhai, nikau and cabbage trees. Fantails and grey warblers would also have a food source here. A large number of fish are living in the pond, however the pond was never stocked. A watercourse does run from this stormwater pond, through Trias reserve and then onto Totaravale reserve, but again it probably passes through underground pipes and stormwater channels so would not be easily populated with native fish species. The more common Auckland Green gecko and Copper Skink may be found here, however they will possibly be competing with cats, rats and mice due to the close location to suburban housing.

5. Greville Reserve

Description

Greville reserve has two distinct areas. The first being a grassed recreation area with a sports field, playground and a large, raised concrete platform. The second area is a reasonably large stand of pine trees with a native understorey.

Existing Vegetation

Radiata pine and maritime pine make up the majority of the forested area with common native vegetation emerging as the undergrowth. A mix of exotic and native specimen plantings line the recreation area, with some small clumps of native bush plantings on the eastern border. Amenity plantings around the playground consist of native grasses and small bushes.

Existing Fauna

There is no available survey of species, however Seagulls use the sports field as a feeding ground for insects. Native birds that could be nesting here include Morepork, Fantail and the grey warbler. Other species such as Bellbirds, Silvereyes, Tui and Kereru might find it hard to find sufficient year round sustenance in the pine forest, but could possibly use suburban gardens and nearby reserves with large bush areas, such as Centennial park to find food. The Auckland Green gecko, Copper skink, Forest gecko and the Pacific gecko could be found here.

6. Totaravale Reserve

Description

A small grassed recreation area with a playground surrounded by exotic trees. Bordered on one side by the motorway, and on another by an open stormwater culvert.

Existing Vegetation

Vegetation is sparse, consisting of a border of evergreen exotics with no under planting, and a cluster of deciduous trees in two corners. The adjacent highway verge has scattered planting. The stormwater culvert is a concrete channel with no vegetation.

Existing Fauna

There is no available survey of species, however this reserve has a lack of ecological diversity so would support limited fauna. Birds may visit. There is no sign of aquatic life in the stormwater culvert.

7. Unsworth Reserve:

Description

A grassed recreation space along side a large stand of mixed native and exotic forest, with some smaller areas of planted native vegetation and occasional specimen planting. Alexandra stream runs through the reserve creating two wetland areas, and connects two stormwater ponds.

Existing Vegetation

Sydney golden wattle, black wattle and Tasmanian blackwood are scattered throughout the mixed native and exotic forest, and form the main canopy in most areas, with diverse regenerating native bush growing underneath. Native species include astelia, cabbage trees, tree ferns, coprosma, flax, hangehange, kumerahou, mahoe, ngaio, pittosporum, rimu and totara. There are also stands of manuka/kanuka scrub underneath the exotic canopy. The wetland areas have an established population of native species suited to boggy/wet conditions including cabbage trees, dense flax groves, tree ferns and ferns, however there is also an overpowering presence of weed species including gorse, bindweed, arum lily, convolvulus, pampas and blackberry. Some areas along the banks of Alexandra stream and around the stormwater ponds have been planted with cabbage trees, native grasses, flax and manuka.

Existing Fauna

There is no available survey of species, however possible native bird species include: Tui, Kereru, Morepork, Fantail, Fernbird, Pukeko, Grey warbler, Silvereeye, Bellbird and possibly Kingfishers. The area of native/exotic bush is large enough and has sufficient vegetation that it could provide safety and food for all of the above species, however It is debatable how many of each species the bush could support and species such as Tui, Kereru and Bellbirds who primarily feed on nectar and fruit would probably have to seek food sources elsewhere (at various times of the year) as the majority of the native vegetation is not mature. Ducks are present. Forest gecko, Auckland Green gecko, Copper skink and the pacific gecko are likely to be found here (however they are hunted by cats, rats, mice and possums). Moko skink and the Ornate skink could also be found here, as some areas have built up leaf litter and rotten logs. Grass carp were introduced into the stormwater ponds to reduce aquatic weeds according to North Shore City Council signposting. The small band of planting surrounding the ponds and some areas of Alexandra stream is probably not an adequate riparian zone to create a freshwater habitat that could support native aquatic fish species and the migration to the ocean is probably interrupted with drains and culverts.

Precedents

Downsview Park, 2000, Toronto, Canada: was designed to be a central vegetal node connecting Toronto's green spaces. The design consists mainly of planted clusters that are separated by free open spaces such as meadows & playing fields. The clusters are being planted in stages (over a 15 year period) to create self sustaining forest environments. 1000 crossing pathways weave through the site, to be used by cyclists, joggers & pedestrians & extend right out into the neighbouring suburbs. Earth bridges reach out over key roads creating ecological links for flora and fauna. A comprehensive stormwater system using bio-technology/bio engineering ensures clean water, which is feed back into the nearby black creek & west don river. The park acts as a functional link and a green destination^{vi}.

Fresh Kills Park, 2001, Staten Island, New York, USA: is a reclaimed landscape, the site operating as a landfill for over 40 years (four landfill mounds ranged in height from around 27m-68m.) The challenge was how to reconnect the site to the community & to local ecosystems. The design focused on three key aspects; program, circulation & habitat. The programming was to provide often unavailable activities close to a large city, such as horse back riding, mountain biking and bird

watching. The circulation focused on ecologically sensitive roadway systems (narrow travel lanes, permeable paving, & no curbs), with plenty of access for people on foot, bicycles & horse back. Newly created salt marshes, woodlands, swamp forests & birch thickets would connect the area to adjacent park sites, providing a significant coastal fish and wildlife habitat, for breeding, feeding and resting (the site is an identified stopover point for birds on the Atlantic flyway).

East River Marsh Planter, 2005, East River Manhattan, USA: the vertical walls of the east river banks and the wake of numerous boats were prohibiting plant growth. Native saltwater grasses were established in raised wooden planter boxes along the rivers edge. Water from the river is pumped into the planter boxes twice daily to mimic tidal flooding patterns, and as water filters back into the river from these planter boxes it provides minerals & nutrients, which attract small fish, & in turn, lure larger predatory fish back into the area. This is a functional urban ecological system reviving native flora & fauna that once prospered in the area.

Findings

In the course of the landscape analysis it was discovered that Sunnynook Township is situated in a landform similar to a bowl. On the Northern edge Sunnynook Park has been designed as a 100 year flood detention pond. On the Southern edge Rewi Alley Park and Trias Reserve perform a similar function, acting as a 50 year flood detention pond. Sunnynook Township sits in between these Parks. The area has numerous piped and open water channels including a substantial man made storm water channel that runs along side the Motorway. These conditions along with the existing flora and fauna present in the site point towards a new public space that connects Sunnynook Park, Rewi Alley Park, Trias Reserve and the Sunnynook Township. This space has the potential to provide for open space, a pedestrian and cycle network that links into the bus way that runs adjacent to the motorway and to uncover and help to purify stormwater. The linear park also would enhance native vegetation and increase native bird populations by providing habitat and food sources.



Collaboration

This project has been undertaken in conjunction with Krystina Kaza lecturer in the Department of Architecture. The Landscape finds were passed on to Krystina's team and as a result a number of architectural components to the project have been proposed.

Outputs Pending

Document combining landscape architectural and architectural content for North Shore City Council

Collaborative refereed journal article

Monies Spent

\$2099.00 (research assistant)

ⁱ James P. Collins, Ann Kinzing, Nancy B. Grimm, William F. Fagan, Diane Hope, Jiangua Wu and Elizabeth T. Borer, A New Urban Ecology, in *American Scientist*, 88.5, Sept 2000.

ⁱⁱ Chris Reed, Public Works Practice, in *The Landscape Urbanism Reader*, ed. C. Waldheim, 2006, Princeton Architectural Press, p. 269.

ⁱⁱⁱ Sebastien Marot, *Sub-Urbanism and the Art of Memory*, Architectural Association and Sebastien Marot, 2003, p.4.

^{iv} Motherwell, R. Typescript on one page. First published in Stehanie Terenzio, ed., *The Collected Writings of Robert Motherwell*, New York, Oxford University Press, p. 126.

^v Christophe Girod, Vision in Motion: Representing Landscape in Time, in, *The Landscape Urbanism Reader*, ed.

C Waldheim, Princeton Architectural Press, New York, 2006, p.89.

^{vi} www.oma.nl