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COLLABORATE  
----- 2017

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# HĪHĪAUA

## A Unitec Landscape / Architecture Studio

Matthew Bradbury, Xinxin Wang, Dr Hugh Byrd, and Lucia Camargos Melchiors

In 2015 Whangarei District Council initiated the development of an urban strategy document for the development of the city centre. The Hihiaua Peninsula was identified as a site for a waterfront development. The proposed Hihiaua Precinct Plan focused on a traditional urban waterfront masterplan with an intensification of built form in the shape of apartments and retail.

In response to this proposal, the Momentum North group was established. This group, includes local businesses, property owners and stakeholders in Whangarei. The Momentum North group wished to develop a more nuanced masterplan for the development of the site, where working and living together forms a rounded community with an emphasis on the importance of cultural values and a sustainable environment. The community identified five themes that needed to be addressed in any development.

WORK: More opportunity for employment in the area,

PLAY: A destination for recreation for the citizens of Whangarei,

LIVE: A great opportunity for people to live in the centre of Whangarei,

LEARN: With the presence of He Puna Marama Charitable Trust, the Pacific Indigenous and Local Knowledge Centre of Distinction (Pacific Centre), the Northland Youth Theatre and the proposed Hihiaua Cultural Centre, the peninsula could become a cultural and educational hub for Whangarei,

VISIT: Hihiaua has great potential as a tourist attraction. Momentum North contacted Unitec for assistance in developing an alternative masterplan. Senior students in the Landscape and Architecture programmes in the Architecture Pathway responded to the challenge.

This project was an opportunity to examine some of the underlying environmental conditions in the development of an urban waterfront, and address the desires and wishes of the stakeholders.

Working with these conditions, students were asked to privilege the environmental and cultural factors and to develop a new planning methodology to ensure an ecologically and socially sustainable waterfront by working in a collaborative manner.

### The Site

The site, the Hihiaua Peninsula, is located in the central area of Whangarei and has strong connections to early European and Māori settlement. In the past, Hihiaua was occupied by local Māori and used as a canoe landing place, a shellfish gathering ground, a camping area and a small fishing village with a pā built on the Ōkara hills. The Town Basin and wider area were occupied by the first European settlers in Whangarei and used for shipping and recreation.

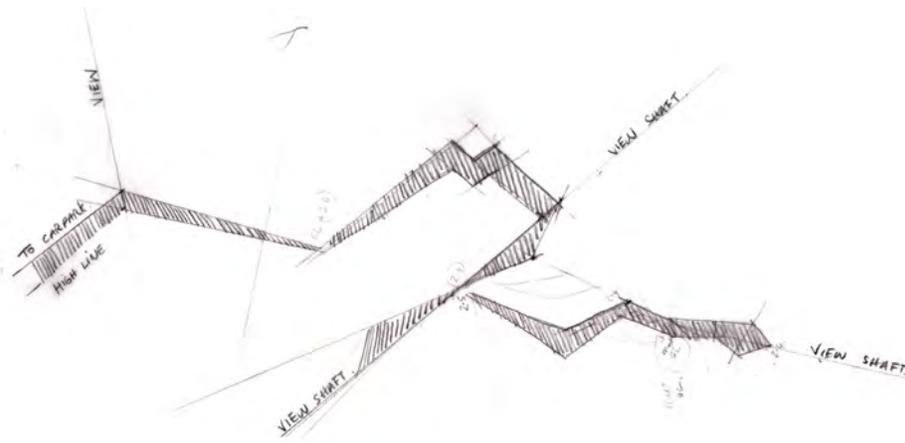
The 16.5ha site is located at the confluence of the Hatea River and the Waiarohia Stream. Hihiaua was formed by a series of reclamations from the 1920s until the early 1970s. The area is triangular in shape, with Reyburn Street at the base of the triangle, and Dent and Herekino Streets forming the two sides. The apex of the triangle is a large park, which is to be the site of a cultural centre.

### Aims and Objectives

The studio aimed to engage architecture and landscape students with the real problems around the development of an urban waterfront. The design work should respect the community's aspirations, cover a range of territorial scales, and propose innovative urban design solutions by architects and landscape architects working together. The main aims of this studio were:

- To build an understanding of some of the larger-scale urban/environmental, economic, social and cultural issues that affect the production of architecture and landscape work.

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Scenario 1 - (Sharon Eccleshall, Vignesh Krishnamoorthy, Aleesha Kumar, Shibing Li, Sianne Smith)

- To acknowledge the Māori occupation and history of the site.
- To engage with critical questions about the development of the contemporary waterfront in the age of climate change.
- To develop the ability to understand and consider a site design at a range of scales, from the regional to the construction detail.
- To explore the disciplinary boundary of architecture and landscape practice and to seek connective possibilities between them.
- To develop capability in the design of complex architectural projects, with particular reference to high-rise, long-span and large-volume typologies.

## Methodology / Pedagogy

The studio was developed as a joint course integrating architecture and landscape architecture courses, at Unitec Institute of Technology during the first semester of 2017. It included students in the fourth year of the Bachelor of Landscape Architecture and students in the first year of the Masters of Architecture Professional.

The collaborative work between architecture and landscape architecture students contributed to their experience of a process closer to professional reality, as well as bringing complementary views to the subjects analysed during this course.

Students were encouraged to think critically, search for innovative strategies, and develop their own ideas about real and complex issues related to urban design, culture, ecology, and sustainable and resilient strategies.

The collaboration between the studio and the community group was an important part of this course, enhancing both student and community growth. Community engagement allowed students to deal with a real situation, identify and analyse critical issues specific to a community with a real need. This process enriched the learning experience and showed students the civic responsibility implicit in their future professions.

The methodology of this course was based on research by design, and was conducted using different techniques:

- Studio discussion;
- Lectures and informal talks with experts;
- Meeting with the community;
- Presentation to the community;
- Informal pin-ups;
- Critique sessions.

## Design Phases

The Studio was divided into three phases:

### 1 – Research

The first phase was an investigation of the site, its surroundings and the key concepts that would drive the design in the next phases. This stage included; data collection, GIS mapping, literature review, a site visit and meetings with the community leaders to identify their aspirations. For three weeks, the students were divided into 10 groups, each group with a mix of architecture and landscape architecture students. The students compiled the relevant data into a published online.

### 2 – Design a masterplan

The urban masterplan took on board the aspirations of the community group: WORK / PLAY / LIVE / LEARN / VISIT. The masterplan had to acknowledge the rich Māori history of both the immediate site and the greater landscape. The Te Aranga principles gave techniques and tools to enable the students to manifest the whakapapa of the site. The extensive GIS analysis revealed the underlying environmental conditions of the site and the very real threats of terrestrial and marine flooding. For three weeks, each group created a proposition exploring urban typologies, climate change, flooding risk, sustainable and resilient strategies. After the development of the main masterplan each group designed, a mini-masterplan for a smaller site to accommodate a new building and landscape for the Pacific Indigenous & Local Knowledge Centre of Distinction.

### 3 – Design a building or public space

In last phase of the project, students designed a new building and landscape for the Pacific Indigenous & Local Knowledge Centre of Distinction. The Director of the PILKCD, Tui Shortland, developed a brief for the new complex based on a number of questions:

How does this meeting place connect to the other cultural functions of the site? How does the meeting place connect to the existing landscape (natural and man-made) and to the ecology of the region? How does the meeting place connect to the masterplan, the specific landscape and urban design developed in the previous phase? How does a meeting place of indigenous people function?



Scenario 2 - (Yamen Jawish, Jill Koh, Sarah Mosley, Wesley Twiss, Yujie Zou)

## Design Outcomes

The following are four design projects that demonstrate the way different types of collaboration have resulted in a number of innovative design decisions.

### Scenario 1

(Sharon Eccleshall, Vignesh Krishnamoorthy, Aleesha Kumar, Shibing Li, Sianne Smith)

Keywords: re-use of buildings, embrace the flood, tactical urbanism

Scenario 1 explores some key principles in the masterplan phase: the re-use of existing buildings and a clear strategy to embrace the eventual flooding of the site. Many of the existing buildings are preserved. View shafts are created to enhance the connections with the surrounding hills and rivers. An elevated path helps in the navigation of the site. A green stormwater infrastructure is designed to help to reduce the effects of flooding with green roofs, wetlands and vegetated retention ponds.

In the second design phase, the students designed three options for the PILCD building. The design of the public space investigated how a public space can be both an infrastructure and have civic qualities. The use of indigenous vegetation helped to share Māori knowledge and acknowledge Mauri Tu in the cleaning of contaminated stormwater.

*"It's great how the Pacific Indigenous & Local Knowledge Centre and the Cultural Centre face one another and the landscape [is] in between"*

– Tui Shortland, Momentum North Group

*"This project probably best met our original brief. It was clever in so many aspects. Firstly it used a space that meant few would be disenfranchised by the new build. It had a central theme linked by the walkway but still managed to keep all options open. It meant that existing buildings or areas could be modified/replaced over time without compromising others, while still staying true to the spirit. 'Power to the people' involved community groups in the build."*

– Peter Ogle, Momentum North Group

### Scenario 2

(Yamen Jawish, Jill Koh, Sarah Mosley, Wesley Twiss, Yujie Zou)

Keywords: water sensitive landscape, public space as a meeting space

The Scenario 2 masterplan reflected a strong interest in water-sensitive landscapes. The flooding analysis and the wetland research informed important components of the masterplan through an understanding of how the site would respond to future flooding. The northern edge of the site was designed to enhance connections with the river and provided purification wetlands. The centre of the site was the residential area integrated with landscape. In the second design phase, the student explored the concept of village as a way of integrated landscape and architecture. The PILKC was designed as a group of buildings of a modest scale and able to be constructed in phases. The complex offering a number of different kinds of spaces, both architectural and landscape for the users.

*"The design of multiple buildings for the Pacific Indigenous & Local Knowledge Centre gives the impression that the centre is a complex itself. The round space for 'meeting in the streets in the Village' encourages integration"*

– Tui Shortland, Momentum North Group

*"A beautiful-looking building mimicking the mountain and recycling existing materials. Functional from the point of having access to parts of it. Enviro-friendly. The axis, light and spaces worked well for a large number of people and for diverse groups"*

– Peter Ogle, Momentum North Group

### Scenario 5

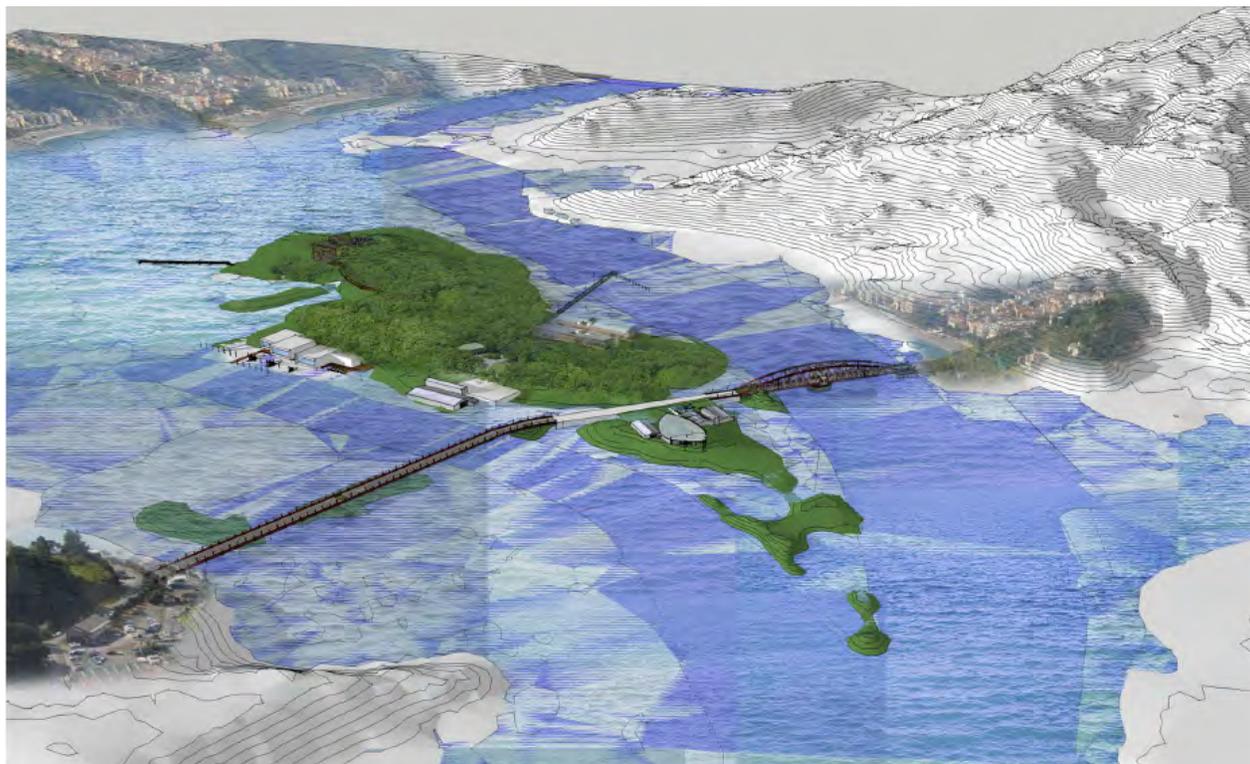
(Doyle Eccleshall, Aynnezele Lomboy, Madhuvanathi Padmanabhan, Rui Su, Dexell Aita)

Keywords: riparian edges, board walk, reduce the car's using, green network

The masterplan explores the margins of the site as riparian areas, using wetlands and native vegetation to help in flooding mitigation. The north edge of the site was designed as a public park with the buildings located inland. The proposition tries to encourage a reduction in the use of cars by creating pedestrian and bike paths integrated with landscape.

The PILCD design uses specific design strategies to connect with Pacific culture. The students designed two options for the building, trying to create connections to the water and the surrounding views. The first option incorporates themes from the legend of Maui, with

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Scenario 10: - (Losa Nimo, Nick Slattery, Jingqian Sun, Benjamin Merdith)

a canoe and the use of fish scales. The second option attempts to connect to Te Aranga principles through the architecture and Pacific decoration. The landscape uses the Samoan malae (open outdoor meeting place) as an inspiration for the gathering place at the Pacific Centre and explores the view out to the harbour.

*"The use of a celestial viewing compass, Te Kapehu Whetu in the Pacific Indigenous & Local Knowledge Centre was a successful gesture to integrate the building with the cosmos."*

– Tui Shortland, Momentum North Group

*"One of my favourite landscape designs. The forest, medicinal plantings, water filtration and the terraces working as flood defence but also as a natural draw to the river. Reflecting all the cultures of Micronesia, Melanesia and Polynesia in a marae-style layout and incorporating the elements of Maui, ika and waka within the framing worked for me."*

– Peter Ogle, Momentum North Group

### Scenario 10

(Losa Nimo, Nick Slattery, Jingqian Sun, Benjamin Meredith)

Keywords: island of learning, restore, enhance, reflect the ecology

The masterplan showed a serious responses to climate change through the landscape response. A GIS analysis of the site showed a potential risks of flooding in the future. The students response was transforming the Hihiaua Peninsula into a learning island within the new Whangarei lagoon. The human presence is limited, while the natural and educational character is enhanced.

The building of the PILKC explores the Samoan village as a key design strategy. The building has a strong connection to the landscape, to the cultural centre and the water. The landscape design explores a thoughtful use of Te Aranga principles in the design of the planting.

*"I love how the spatial arrangement of the Pacific Indigenous & Local Knowledge Centre is oriented to the Samoan Village."*

– Tui Shortland, Momentum North Group

*"I liked the concept of 'body, spirit, creativity and mind' and the layout and Pacifica atlas theme worked well for me. I will be castigated, but I did feel slightly uncomfortable with the high degree of sensitivity to climate change in this one. I am an optimist that thinks humankind can and will do better than we currently are and in time to make a difference of some magnitude. I also believe that there will be technologies developed to mitigate some of the worst effects of what will obviously be an unstoppable amount of global warming. Let's hope I am justified."*

– Peter Ogle, Momentum North

### Conclusion

While the main goal of this project was to help the Hihiaua community, students were also carrying out critical research into important questions that will affect the way we will all live in cities.

Ron Roggema, the distinguished Dutch academic, writes that when faced with speculative future problems, especially ones with critical environmental import, using conventional research methods to obtain measurable data is difficult if not impossible. Instead Roggema points to the efficacy of the research by design methodology. With opened-ended problems, the design process, with its intuitive leaps, can furnish a range of possible solutions that can open up new research fields.

Roggema defines the research by design project in three stages. The first is focusing on 'what is there', that is the developing of an understanding of the site. As the students started to investigate Hihiaua, they started not just a simple site analysis but began to develop a deeper understanding of the site. They started to see the site at a range of scales from a single plot up to the regional level. With this greater understanding of the site, as a basin within the Whangarei Harbour catchment, came an understanding of the deeper hydrological conditions that press upon the site, the contaminated stormwater coming out of the rapidly urbanising hinterland, and the pressure of rising sea-level from climate change. The other understanding of the site was cultural, the mana whenua, and in particular the way in which Te Warihi Hetaraka, was able to give the students a glimpse into the deep history of the site.

Group 10 responded the best to the challenge of climate change that will cause massive sea-level rise, causing the city of Whangarei to disappear under water. They proposed to leave the Hihiaua Peninsula as the only

remnant of the old city, a repository of cultural and botanical knowledge. Hihiaua will become a culture island in the centre of the new Whangarei Harbour.

The initial design/research work was presented to the Hihiaua community. The explorative nature of the work, the different ways in which the students had investigated the possibilities of the site, was revelatory to the community. The Momentum North group repeatedly expressed their admiration for the depth of work and commitment that the students showed. They admired the students' ability in trying to grasp both the underlying issues of the Hihiaua community and the exploration of possibilities that the community had not conceived of. This was a confirmation of what Roggema called 'what could be' research by design.

In the third stage of the project, students explored what the making of a new kind of space of encounter could look like in the proposed designs of the Pacific Indigenous & Local Knowledge Centre of Distinction. This design work enabled the students to consolidate their research into the 'what will be there' phase.

It was here that students were challenged to think carefully about the material and spatial consequences of their design thinking. How big is the project? What are the different components of the design work made of? and more technical questions like How will the roof stand up? and How will water be cleansed through wetlands?

The project by Group 4, Sarah Mosley, Wesley Twiss, Yamen Jawish, Jill Koh and Yujie Zou was initially interested in how a constellation of functions could coalesce around a village form. This proposition became a modest, eminently buildable development that connected seamlessly with the existing riverside landscape. The architecture, an informal grouping of pavilions, was integrated into a subtly modified terrain of a hard-social landscape and a softer stormwater-remediation landscape.

Roggema suggests that a research by design project shares three characteristics:

- It should be embedded in the local, cultural and political context.
- It should allow for unexpected explorations in order to identify best-fitting solutions for a design problem.
- It should emphasise the development of new knowledge and be beneficial for a broad public.

Reflecting on the Hihiaua project, we can see that from the beginning the project was deeply embedded into its location, geographically, culturally and physically. The many different design propositions demonstrated richness in their explorations of the different and the unexpected.

The conclusion of the project showed students had not only developed new ideas, but that these ideas had direct benefit for all citizens of not just Hihiaua but of Whangarei. Issues that can often be elided in typical waterfront projects, especially environmental concerns concerning stormwater discharge and sea-level rise were not only canvassed by students, but a range of active and participatory solutions were proffered. The deep cultural history of the site was similarly brought forward in the range of design work. Through collaboration the student demonstrated how a holistic solution, both architecture and landscape, can more beyond the traditional disciplinary boundaries to provide an innovative solutions for the Hihiaua community. Our hope that this work can be used by the community as an almanac of possibilities for the future of the Hihiaua peninsula.