



# Environmental planning analysis: Using Feng shui to inform the redevelopment of the Christchurch eastern red zone

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## 1. INTRODUCTION

This report provides an overview of environmental planning approaches, and considers how alternative methods could be used to inform the redevelopment of Christchurch's eastern residential red zone. The first section assesses environmental planning approaches and discusses traditional approaches to planning. The next section describes current developments in planning theories and practices designed to counteract perceived issues with traditional methods. The final sections provide a summary of the non-Western planning theory of Feng shui, which is used to devise a plan for Christchurch's eastern residential red zone.

## 2. TRADITIONAL ENVIRONMENTAL PLANNING APPROACHES

Planning techniques in Europe and the UK arose from the industrial era in response to population and environmental issues. Cities such as London and Edinburgh experienced large influxes of rural peoples seeking employment and higher quality of life. As industry further developed, over-crowded cities and decreases in social well-being occurred due to environmental degradation (Healy, 2012). Edinburgh experienced growth limitations due to its physical layout, which contributed to cramped, crowded and unsanitary living conditions. Health issues linked to sewerage were solved through design of sewer systems (Repcheck, 2003). City expansion evolved by creating buildings that extended through vertical space (Repcheck, 2003).

One of the first traditional planners that emerged from the industrial era was Haussmann with the redevelopment of Paris in the 1850s-1860s. This was followed by the City Beautiful Movement in Chicago (1893) and the creation of the first Garden City,

Letchworth, in the U.K in 1903 (Fainstein & Campbell, 2012). Concerned with the terrible living conditions within the city, and observing the disconnection of society from the natural environment, theorists such as Howard, Wright, and Le Corbusier began to focus on creating alternative new developments in response to their hatred of nineteenth century cities (Fishman, 2012). They held utopian visions, where planning could facilitate a more peaceful relationship between man and the environment, and provide balance to biophysical, economic and social structures. Each imagined a city where technology relieved pressure on the environment, and social justice was achieved through the reorganisation of wealth and power (Healy, 2012).

Twentieth century plans outlined procedures and rules for zoning and guidelines for master plans, alongside transportation needs (Fainstein & Campbell, 2012). The popular rational comprehensive model of this era was based on the premise that humans are rational beings. It used cost-benefit analysis to achieve planning goals, where expert planners were responsible for making decisions (Fainstein & Campbell, 2012).

Decisions regarding planning using this rational approach were highly subjective, with those in power making the top-down decisions based on scientific and economic projections, while the community was excluded from the decision-making process. (Fainstein & Campbell, 2012). Some also argued that the systems and knowledge involved were too complex and that the expert planners were lacking in co-ordination skills suitable for dealing with the various public and private sectors (Fainstein & Campbell, 2012). This led to the rise in popularity of incremental planning which was thought to address common public interest; however, some argue that this still privileged the powerful over the poor and weak (Fainstein & Campbell, 2012).

### 3. RECENT PLANNING THEORIES AND PRACTICES

New approaches to planning have emerged in response to the shortfalls of traditional planning practices outlined above. The management of socio-spatial arrangements now places an emphasis on environmental considerations, and uses communicative practices that allow multiple communities to be heard. In contrast to traditional methods, these planning approaches promote the dilution of centralised powers and rise in community engagement, seeing them as core to successful planning. These communicative approaches acknowledge the public stakeholder, and promote self-directed planning provided by communities and for them, guaranteeing endorsement of proposed developments (United Nations Human Settlements Programme, 2009).

Recent planning approaches are holistic and community driven, akin to a bottom-up management style integrating communicative approaches. These recent approaches have been influenced by key thinkers such as Aldo Leopold (1949) and Rachel Carson (1962). Theories including design with nature (McHarg, 1969), adaptive management (Holling, 1978), and green urbanism (Beatley, 2000) have also contributed to this recent planning paradigm shift. Furthermore, non-Western thought is also influencing planning approaches, as evidenced by recent use of Feng shui in a variety of planning practices.

### 4. FENG SHUI

Feng shui is applied to city and neighbourhood scale planning, as well as the interior and exterior of homes and businesses (Xu, 2003). Yoon (2011, pp. 243-244) defines Feng shui as a “highly systemized ancient Chinese art of selecting auspicious sites and arranging harmonious structures such as graves, houses, and cities on them by evaluating the surrounding landscape and cosmological directions”. According to Xu (2003, p. 26), “Feng shui creates mountains and rivers, nurtures plants and animals, and is essential to human life”. Favourable sites are selected through geometrical and astronomical analysis of the bio-physical landscape and climate. (Xu, 2003). Western cultures believed Feng shui to be folk lore (Yoon, 2011); however, recent Feng shui examples are found in architecture in New York and Washington D.C (Xu, 2003), and city developments throughout China, Japan and Korea.

Two schools of planning that utilise Feng shui are

form school and compass school. Form school modifies landforms in relation to chi, and measures a site’s spiritual energy or life-force. Xu (2003, p. 28) describes chi as the “vital energy flow or the breath of nature”, and an abundance of chi signifies good health and prosperity. The influential factors determining chi are linked to site orientation, landscape, wind and water (Xu, 2003). An auspicious site has living chi from the land and is surrounded by smooth mountains, clean meandering rivers, rich uncontaminated soil, healthy vegetation and clean warm air. In comparison, dead chi is characterized by steep mountains, fast rivers without bends, poor or damp soil, insufficient vegetation and stale cold or moist air (Xu, 2003).

Compass school uses alternative methods of measurement, based on astronomical placement with a compass utilised for calculations (Xu, 2003). Xu (2003, p. 27) outlines the inter-related principles of Feng shui to be “chi, yin yang, and the five element and the eight trigram concepts”. Compass orientations guide trigram concepts, and sites balancing chi at the centre of the yin yang pattern.

The yin yang concept balances the energy of yin (female) elements, and yang (male) elements. The five elements of water, metal, earth, fire and wood are all represented. Gender attribution is given, such as a mountain will be yin (female) and water is yang (male) (Xu, 2003). Each compass direction is allocated a colour, shape and animal (physically and symbolically), and these enable a site to become more auspicious (Tchi, 2015). In the southern hemisphere the feminine south is depicted by the colour blue and represents water. It is also favourable for career paths (Tchi, 2015).

### 5. APPLYING A FENG SHUI APPROACH TO THE CHRISTCHURCH EASTERN RESIDENTIAL RED ZONE

The plan shown in Figure 1 is a development proposal for the eastern residential red zone that has been designed according to the planning principles of Feng shui. These principles combine elements of both form school and compass school<sup>1</sup>.

The plan illustrates six key zones for Christchurch’s eastern red zone, including a large and a small residential

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1 Although I believe that the correct compass and orientation methods for the southern hemisphere have been used, further analysis is required from a Feng shui expert with regards to orientation of settlements and architectural design details.

zone, a botanical gardens, a retirement zone, wetland restoration zone and a freshwater lake. These zones will be supplemented by a continuous forest tract surrounding the Avon River, central to slowing down chi, as well as wetland restoration to enhance water quality.

Connectivity is promoted with tram lines linking the city centre with the lake, and a cycle/pedestrian path interwoven within the forest with several river crossings. River crossing points featured in this plan will include options for wheelchairs, zip lines and flying foxes.

Large scale land modification will occur with the freshwater lake being trenched, and useful soil sifted from contaminated materials and used to form hills surrounding the main residential settlement. The hills act as a buffer zone for chi, making a site more auspicious, as well as safeguarding inhabitants from flooding and minimises effects of harsh southerly winds. A feasibility study is required to assess the impacts of these large scale modifications.

of character, and the height represents strength and protects the inhabitants below. There will be no large structures built to the north as this direction is not auspicious. This site will also include sub-zones for retail, recreation, education and spiritual and community purposes. More detail of these sub-zones are shown in Figure 2.

The smaller residential zone will be built once the larger one is completed and will reflect the development style found in this settlement.

## 5.2 Botanical Gardens

Celebrating biological diversity and novel urban ecosystems, this living museum of botany will be mindfully designed to showcase gardens within gardens. This site already has many established blossoming fruits trees and a cherry blossom section is recommended for spring celebrations, as well as use of fertile sites for

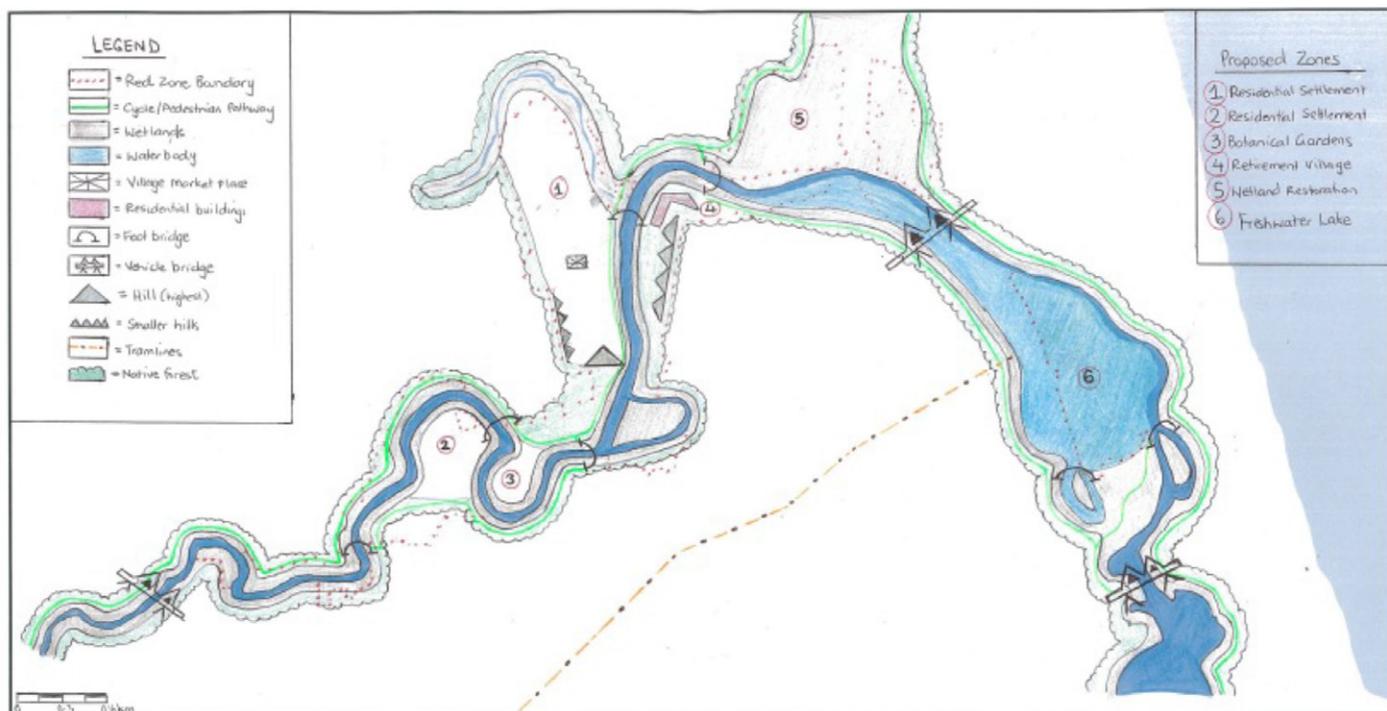


Figure 1: Development proposal for the Christchurch eastern residential red zone, designed according to the principles of Feng shui. Image created by Charlotte Thompson.

### 5.1 Large residential settlement

The Feng shui compass was superimposed onto a map of the red zone and a location was chosen for a large north-facing housing development, subject to natural landscape modification. The hills surrounding the settlement will be highest in the south, blocking the mother position, and also enclose the settlement on the east and west. For Feng shui the preferred mountainous terrain for settlements is smooth, promoting gentleness

growing heirloom vegetables. Botanical solutions for counteracting excess minerals and heavy metals within the soil may also be trialled in these gardens.

The gardens will include a living outdoor temple for reflection and contemplation, and could be built from bamboo and entwined with kawa kawa.

### 5.3 Retirement zone

Tall multi-story structures will be utilised in the eastern corner to provide health support through chi, and will be complimented by small foothills and native forest surrounding the village. A Zen style garden with pagodas and water features will complement the eastern health corner while providing alternative visiting space for families. The retirement home will be situated relatively close to Burwood Hospital, and should be situated close to a bridge for easy access. Amphibious building options should also be considered for legacy projects such as this.

### 5.4 Freshwater Lake

The freshwater lake is identified by air as a dragon shape, with the Avon River forming its tail. The lake's name is Te Taniwha Kahurangi, translated into blue dragon. Symbolically represented in Feng shui, a Taniwha will signify guardianship, and it is envisioned this Taniwha will protect the city inhabitants.

Soil and geological samples are to be taken at various shorelines surrounding the lake. Dredged materials will be assessed and soils deemed uncontaminated will form hills in more central locations. Uncontaminated soil is important to Feng shui, and soil remediation options

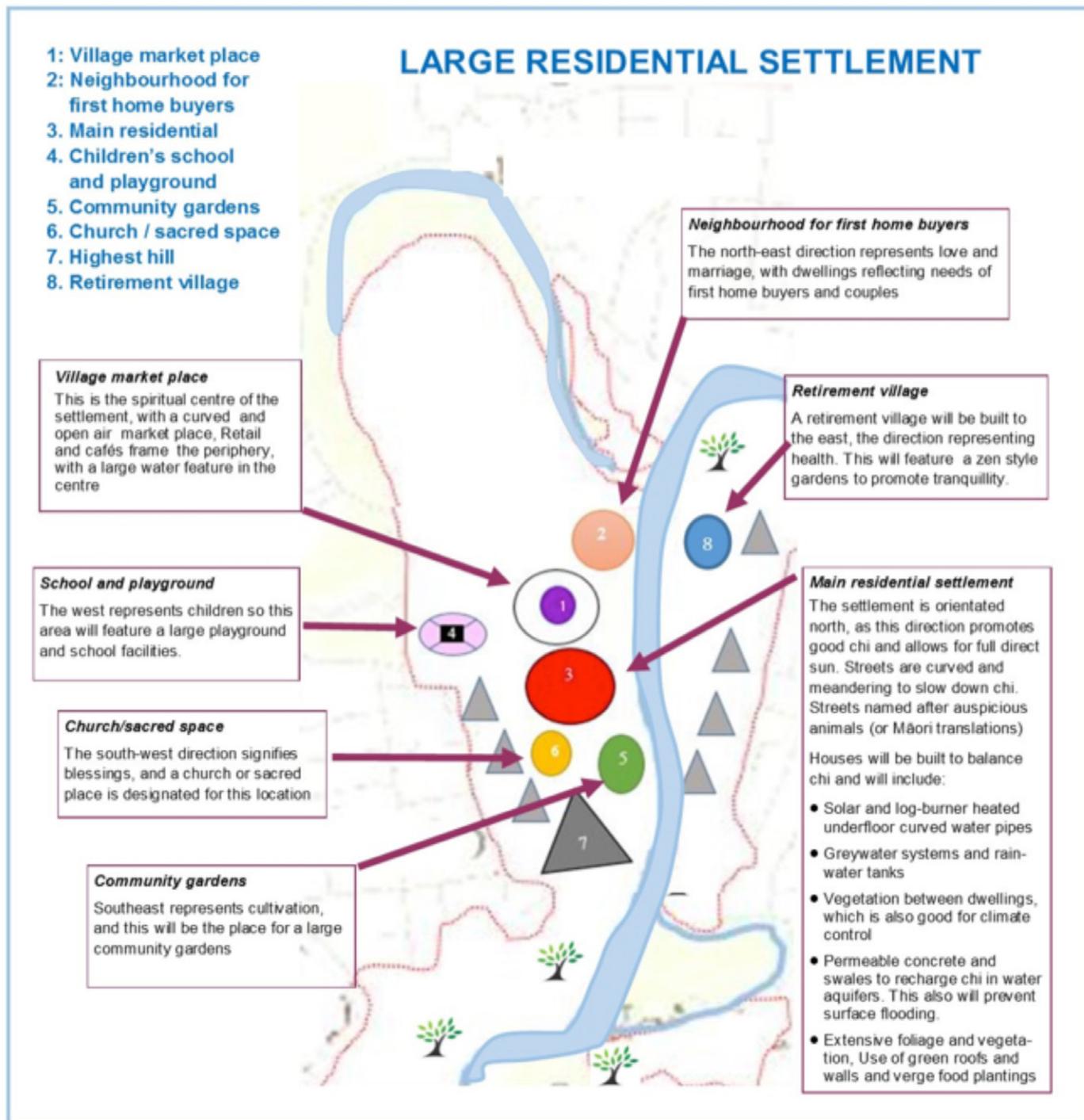


Figure 2: Detailed plan of the proposed large residential zone shown in Figure 1. Image created by Charlotte Thompson.

need extensive review, especially to recover soils such as those from the ex-refuse site in Bexley. If the scale of soil remediation is deemed unfeasible, possibly this soil can be contained and used for hill foundations, or added to earthquake waste used to reclaim land in Lyttelton Harbour.

The lake is a valuable resource for migratory birds. Birds such as Godwits have avian patterns that include Christchurch's eastern shoreline, and will thrive in this clean freshwater environment. Wildlife celebrations and phenomenon festivals are held on the shore line such as bird watching festivals, fishing competitions, and lunar eclipse events.

The lake is an important recreational fishing ground, with Feng shui symbolised though fish as a food source. The fresh water lake replaces symbolism with food gathering reality.

## 6. CONCLUSION

Given that it is a non-traditional, non-Western school of thought, Feng shui has the potential to shift dominant planning practices and envisage novel planning solutions. This potential has been demonstrated here by using Feng shui to outline plans for the redevelopment of the Christchurch eastern red zone. The result is not only consistent with Feng shui principles, but also practical and in keeping with the character of the local community.

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