

6. PROPOSED CHARLESWORTH TIDAL WETLANDS AND THE ASSOCIATED SALE OF RESIDENTIAL LAND

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The purpose of this report is to seek Council support for the proposed Charlesworth Tidal Wetlands and the associated sale of surplus residential land. Low-lying paddocks will be excavated to produce islands for nesting birds and additional sandpiper pools.

Lowland Canterbury now has only scattered remnants of formerly extensive indigenous habitats. Some are at risk of being so diminished as to lose their usefulness as parts of a larger whole. Integrated management and recognition of the strategic significance of ecological connections between these scattered habitats, and the processes that maintain them, is essential¹.

INTRODUCTION

Policy 2.4.7 of the Christchurch City Council's Proposed Plan, relates to a concept known as the 'green corridor'. The policy is aimed at:

- Creating an opportunity for an integrated network of open space and public walkways which could be used extensively for recreation; and
- Supporting wildlife and habitats.

The "Green Corridor" concept also links existing and newly developed ecological areas and parks, the anticipated outcome being a continuous ecological and recreational corridor on the eastern edge of Christchurch City. The area incorporates land from the Linwood Paddocks to Bexley Reserve. The Charlesworth Tidal Wetlands like the Bexley Wetland are promoted as "minor" developments which will augment the larger concept of 'Green Edge' land incorporating important new bird habitats for the Estuary. Existing land set aside for the 'Green Edge' concept includes Linwood Paddocks, the oxidation ponds and Bexley Reserve.

GREENEDGE CONCEPT

A multi-disciplinary project team has recently been established to develop a comprehensive plan for the Estuary edge with a vision to "create a unique, inviting experience that represents and enhances the outstanding natural, cultural and recreational values of the Estuary's western green-edge". The project focuses on the Linwood Paddocks site but also includes Charlesworth Tidal Wetlands, Bexley Wetland, Bexley Reserve and the shoreline around the oxidation ponds.

Expected completion of the plan for the overall "green edge" is June 2001 while the long-term implementation phase/work plan will be developed over the next 1-15 years.

The Green Edge planning team has endorsed the Charlesworth Tidal Wetlands proposal along with the Bexley wetland development as the first step in implementing the 'green corridor' concept, and funding is available.

CHARLESWORTH TIDAL WETLANDS PROPOSED

The proposed Charlesworth Tidal Wetlands area is currently low-lying paddocks with level of typically RL10.00m located below Humphreys Drive between Ferry Road and Charlesworth Street behind the Avon/Heathcote Estuary. In 1991 the Council developed a small wetland area called the Sandpiper pools adjacent to Humphreys Drive. An existing pipe under Humphreys Drive allowed saline water to flow into the low area. This has resulted in an ecologically important area of bird habitat and well-established estuarine salt marsh and *Plagianthus*.

This proposal is to further extend the salt marsh and *Plagianthus* area by constructing two additional culverts connecting to the estuarine environment.

¹ Environment Canterbury Proposed Regional Policy Statement, 1998.

The necessary resource consents from Canterbury Regional Council and Christchurch City Council will allow the activity to be completed including the proposed seawall breach, earthworks, planting and creation of the reserve area. The work will be carried out in accordance with the concept plan that was developed by City Design. The concept plan was commissioned by the Parks Unit to implement the plan originally developed in the Ihutai (Linwood paddocks) reserve concept. This project is the result of a multi-disciplinary design approach, which included input from the disciplines of engineering, ornithology, botany, landscape architecture and environmental science.

OBJECTIVES

The vision for the completed Te Poho Areare is to create a recreation reserve with sound ecological integrity and educational facilities for the people of Christchurch. The area will form part of the development to enhance the whole green edge area around the Avon/Heathcote Estuary.

The proposal would extend the existing native vegetation and achieve an area of high ecological significance. The main objectives will be:

- Increase the extent of existing planting to appear more natural, and function as a visual buffer between the industrial and residential areas and the estuary.
- Increase the extent of existing saline wetlands by increasing the tidal links to the estuary. This will create an ecologically important site for Christchurch's estuarine fauna and flora.
- Facilitate habitat creation for waterfowl, wading, and nesting birds and increase saline pools and islands.
- Incorporate cycle and pedestrian routes through the reserve to allow for passive recreation while defining walkways to avoid the impact of people on the sensitive bird life.
- Maintain and increase the existing stand of *Plagianthus* along the eastern end of the drain.

ECOLOGY

The estuary is known for its ornithological significance, attracting approximately 20 000 migratory wetland birds per year and as many as 32 000 overall at peak times out of a total of 26 bird species. It is an important post-breeding point, migration staging post and moulting site as well as permanent home to a range of birds.

Introducing the culverts to the proposed Charlesworth tidal wetlands will allow for extension of Christchurch's unique estuarine environment. High tide water will flow across the wetland system forming pools and channels for wading birds as well as extending the existing salt marsh and mud flat areas. The pools, channels and bunds will act as moats deterring predators from the nesting birds.

CONSTRUCTION

Two box culverts size 1m by 1m will be constructed through Humphreys Drive to allow estuary tidal water to flow into the proposed wetlands area at high tide and to completely drain the wetlands at low tide. The wetlands need to drain to prevent conditions conducive to sea lettuce growth. The culverts will be constructed with their inverts at the present estuary mud level of RL9.40m.

Typical high estuary water level is RL10.11m and typical low is RL 8.7m. Therefore only the top half of a typical tide will flow into the proposed wetland area. The culverts have been sized by hydraulic modelling on the basis of flow regulation to the flow to ensure the water levels within the wetland are suitable for bird habitat, nesting and roosting.

Appropriate indigenous planting consistent with the estuarine environment will complete the area.

Bunding around the perimeter of the wetland and flood-gated culverts in swales protect the land adjacent to the wetland in the extreme event of the estuary water levels reaching the road level.

Sea level rise predicted to be 0.20m by 2050 and 0.50m by 2100 (IPCC best estimate) is catered for by future road raising works on Humphreys Drive and box culvert modifications to further restrict flows into the wetlands. This allows the wetlands to remain unchanged for future generations, long after the time they would have been completely inundated in the scenario where Humphreys Drive was not present.

PROGRAMME

The Parks Unit is presently advertising an amended public information leaflet, with closing date of 15 December 2000. The previous public information leaflet with a less extensive plan was well received.

Owing to constraints with bird nesting periods and soil conditions, the physical works at this site can be carried out only in late summer; February is the ideal month. Pukeko and Spur-winged Plovers begun nesting early/mid August with other species following in September. Eggs and chicks will be present on the existing wetlands September through to mid January, 2001. Therefore, works can be undertaken with the wetland and bund forming February 2001 with the culverts and planting following.

Two consents are required, an earthworks consent from the Christchurch City Council and consent for the estuarine link from Canterbury Regional Council. It is hoped the consent can be processed non-notified with consultation being undertaken simultaneously with the consent application.

BUDGET

The estimated cost of the wetlands is \$380,000. This consists of \$120,000 for earthworks, \$170,000 for two culverts, \$50,000 for planting and \$40,000 for paths, interpretation signage and swales.

The 2000/01 budget for the 'estuary green edge' is \$250,000, leaving a budget shortfall of approximately \$130,000.

An area of approximately 6,000 m² of residential land on Charlesworth Street (see attached plan) is not required for parks use and potentially could be available for disposal if there is no other Council operational requirement for the land.

Subject to Council approval, funds from any approved disposal, which should more than cover the funding shortfall, could be applied to this project.

This report was before the Hagley/Ferrymead Community Board at its meeting on 27 November 2000. The Board supported the proposal subject to the proposed development being referred back to it for consultation by the Property Manager during the decision-making process on the potential sale of the land. The Board also had no objection to a two stage process being adopted for the work, provided that the division of stages is done in a practical place.

- Recommendation:**
1. That the implementation of the proposed Charlesworth Tidal Wetlands project, subject to public consultation, be supported.
 2. That the proposal to dispose of approximately 6,000 m² of residential land be referred to the Property Manager for processing through the property decision-making process.
 3. That, following consideration of the public submissions, stage 1 (being the earthworks to a total of \$250,000) be undertaken, pending approval of the next stage to be potentially funded by the land sale.