Ōtākaro Avon River Corridor Regeneration Plan

Christchurch City Council's Single Stage Programme Investment Case for the Christchurch Regeneration Capital Acceleration Facility

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Better Business Cases Programme Business Case - Document Control and information

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Document History

Version	Issue Date	Changes
1	14/6/19	First draft for Treasury and DPMC officer review
2	Not issued internal only	Tracked changed and revised version in response to feedback on Draft Version 1 (via meeting) from John Beaglehole (Treasury) and Mark Hodge (DPMC), where advice given was that the overall document was pitched at the right level however the deliverables (from the proposed funding allocation) and outcomes achieved need to be made more explicit and upfront in the early sections of the document.
3	6/9/19	Tracked changes accepted from Version 2, further tracked changes following receipt of approved Regeneration Plan obtained on the 23/8/19, finalisation of the proposal costings and completion of the Executive Summary. Revisions to the proposal following further staff analysis of cost estimates, available funding and prioritisation of particular works to best achieve the first phased works as identified in the approved Regeneration Plan. Internally reviewed.
4	11/9/2019	Final edits and version submitted to 25 September 2019 Council meeting.
5	18/09/2019	Inclusion of further detail and costings on landings.
6	1/11/2019	Amendments in response to review comments from John Beaglehole (Treasury) of Version 5, minor corrections and clarification of statements made.

Document Review

Role	Name	Review Status
Team Leader	Mark Stevenson	Completed

Document Sign-off

Role	Name	Sign-off Date
Head of Planning & Strategic Transport	David Griffiths	Completed 11/9/2019 Updated version 08/11/19

Contents

Executive Summary

This single stage programme business case seeks approval to have allocated $40M from the Christchurch Regeneration Capital Acceleration Facility (CRAF) to help commence the implementation of the Otākāro Avon River Corridor Regeneration Plan and provide a catalyst for further aligned investment. On the 23rd August 2019 the Honourable Dr Megan Woods, Minister for, Greater Christchurch Regeneration, approved the Otākāro Avon River Corridor Regeneration Plan. On the 23 September 2019, the Crown and Council signed a Global Settlement Agreement providing the opportunity for the Council to complete the transition to local leadership, with the Council leading and co-ordinating Christchurch's regeneration into the future. The Christchurch Regeneration Acceleration Facility, committing the Government $300 million for regeneration projects forms part of the Global Settlement Agreement (GSA). Prior to the GSA , the Christchurch City Council agreed that $40M of funding from the Christchurch Regeneration Acceleration Facility would meet the expressed intention to accelerate regeneration within the Otākāro Avon River corridor.

In additional to this investment, the GSA includes the Crown's sale of the Residential Red Zone land (including the Otākāro Avon River Corridor) to the Council. It also agrees to the establishment of a consultative group to advise the Council and LINZ on transitional land use of the residential red zone land until such time as a community governance group/entity, with delegated decision-making powers, could be established once the Council owns all or a sufficiently substantive amount of the residential red zone land.

Achieving the vision and objectives within the Regeneration Plan is heavily reliant on a significant level of public investment, specifically in respect of the Green Spine being a central and foundation element of the plan. It is proposed the $40M will be used to create pathways and connections along the full length and across the corridor (to a value of $7.7M); establish basic public facilities at up to seven landing sites (to a value of $6.6M); and commence the restoration of ecological areas at a number of priority sites within the river corridor (to a value of $25.7M). This funding will build upon and align with the Council's 2018-2028 Long Term Plan funding for major infrastructure works within and through the corridor, including the Pages Road bridge replacement (to a value of $20.3M); City to Sea major cycleway (to a value of $31.1M); stormwater treatment facilities (to a value of $9.8M) and floodplain management (to a value of $83.1M). Further, the Council has lodged a proposal with the Christchurch Earthquake Appeal Trust (CEAT) for funding to establish three pedestrian and cycle footbridges and up to two landings. If approved, the combined value of Crown, Council and CEAT funding over the next ten years could be near $200M, providing much needed business and community confidence that the plan can be achieved.

A key objective for the proposed programme is to bring people into the area and provide core public facilities along the whole length of the corridor to support a broad range of other land use activities. It does not seek to fund large scale and high risk commercial ventures, but will provide a strong platform for such investment, and also importantly transitional and temporary activities. Most importantly, the proposed programme seeks to deliver what the community sought most[1], namely a "city to surf" green ecological corridor with a wide network of walkways and cycle ways, to provide access along and to a healthier river.

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[1] Refer to the Regenerate Christchurch website links to the community feedback and ideas at https://engage.regeneratechristchurch.nz/your-ideas-for-the-otakaro-avon-river-corridor; https://engage.regeneratechristchurch.nz/26922/documents/55586;

The quantum of proposed CRAF funding is not sufficient to deliver all of the Green Spine elements, nor to the high-end standard depicted in a number of illustrations within the Regeneration Plan. Early commitment to a good level of funding will however enable the development of a well-integrated (across agencies) and aligned programme of works, to ensure opportunities are not lost to achieve cost efficiencies within the programme delivery; maximise project design benefits; reduce construction periods and limit disturbance to neighbouring areas; and most importantly attract new economic activity and improve community well-being through a greater sense of belonging and positive identity. Further, within ten years and at the completion of the proposed programme, the corridor can begin to emerge as a unique visitor destination, being one of the Regeneration Plan's objectives for New Zealand (see page 22 of the Plan).

1. Introduction

The Canterbury earthquakes and continuing aftershocks caused substantial ground failure (lateral spread and liquefaction) and damage to buildings and infrastructure, particularly in the eastern part of Christchurch (see Figure 1) along the Ōtākaro Avon River Corridor (hereon referred to as "OARC" or "the area"). For individuals, families and communities the effects were devastating. Not only did those most affected face significant damage to their homes and contents, but also secondary issues such as lengthy insurance claim resolutions; loss or significant reduction in public infrastructure and services; and reductions in property values.

Eight years on from the earthquakes, there is now a pressing need to activate and regenerate the OARC. The Crown, as the majority land owner, has a significant interest in the area through the purchase of 5,442 residential red zone properties for over one billion dollars. The cost of property clearance and on-going maintenance of those properties is significant and beyond some limited activation through temporary and transitional uses, the area fails to make a significant contribution to the City.

This Better Business Case seeks investment to help change this important city landscape and activate its use by both locals and visitors, to become one of New Zealand's leading examples of land regeneration. Importantly, it does not provide the business justification and assessment of land-use options, as this is considered to have been met through the process and assessments made in the development of the OARC Regeneration Plan.

Figure 1: Geographical context image courtesy of Regenerate Christchurch

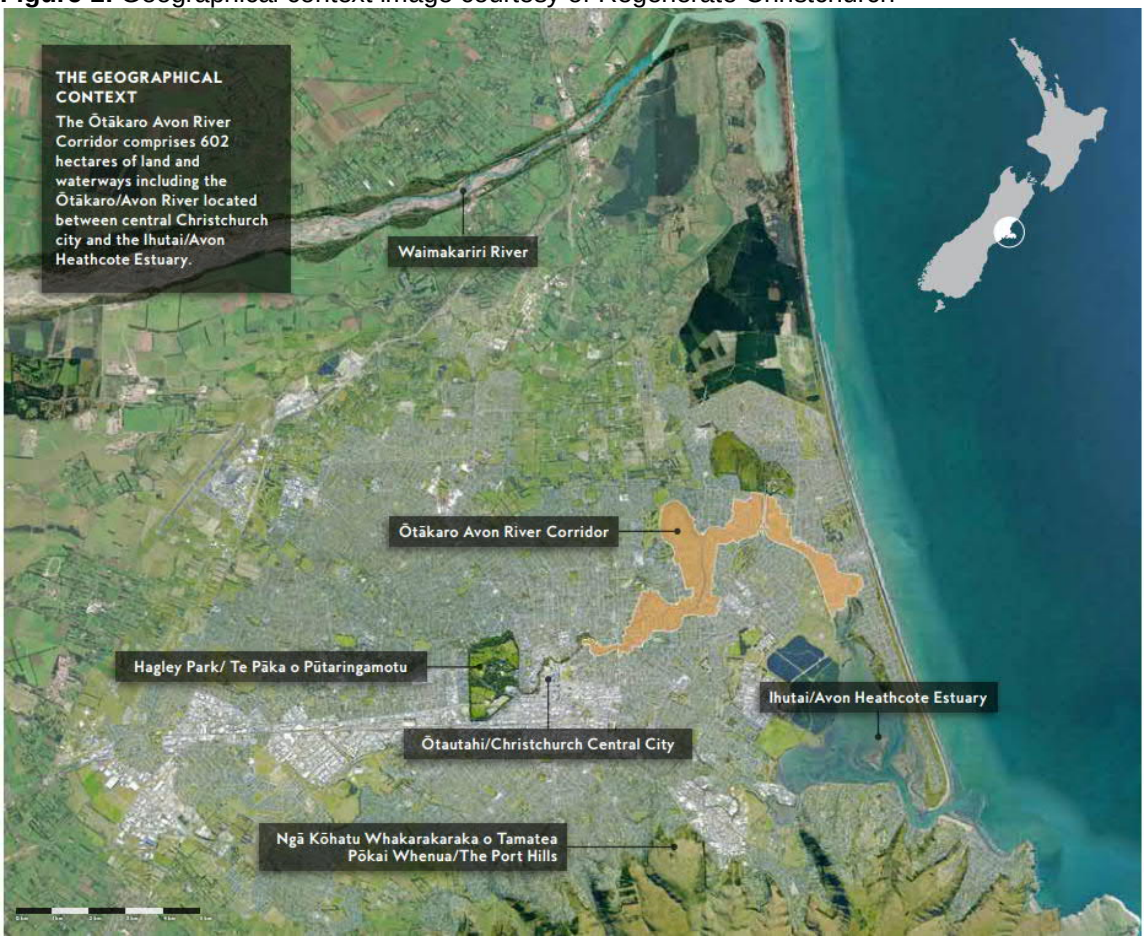
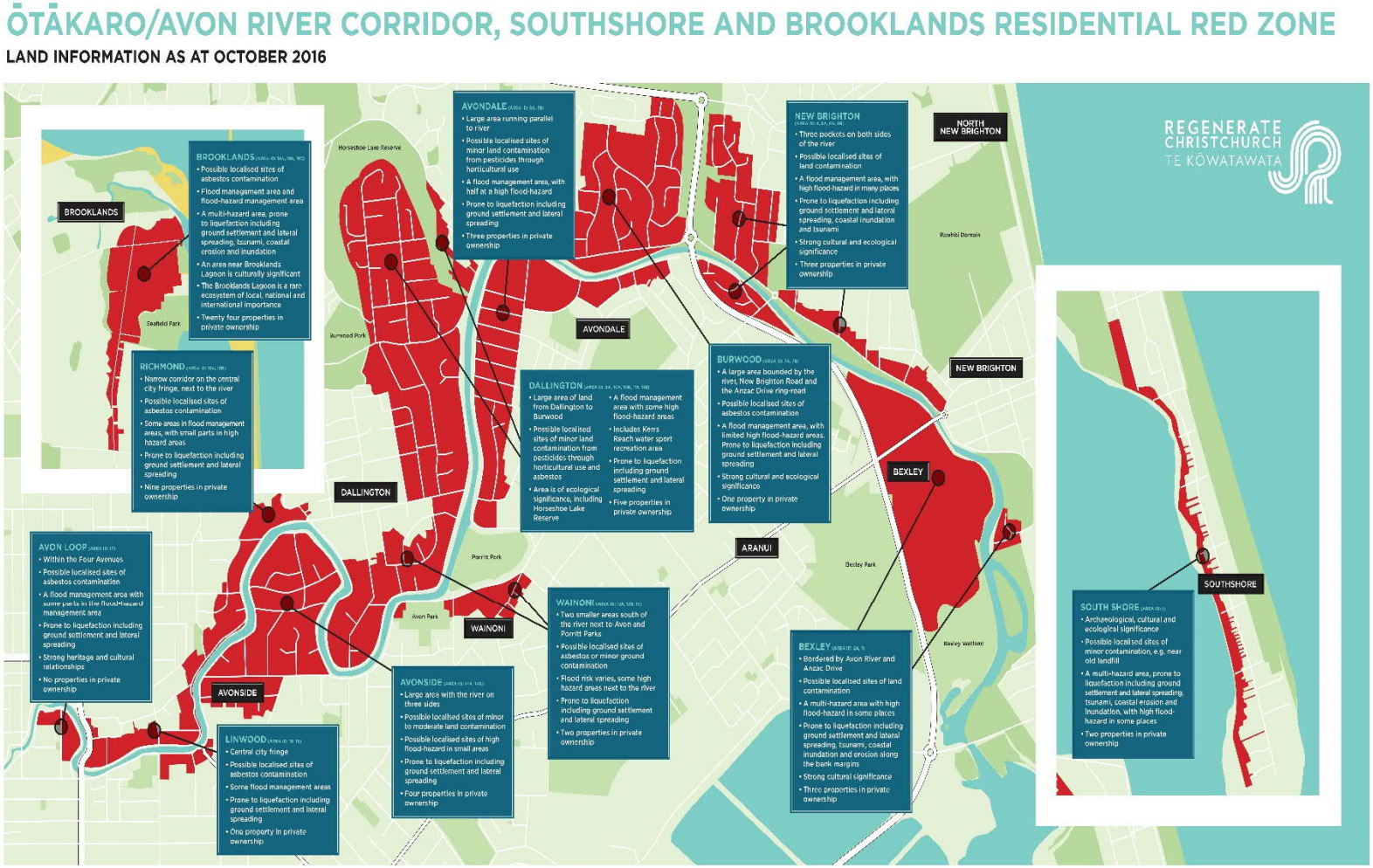


Figure 2: Ōtākaro Avon River Corridor land characteristics courtesy of Regenerate Christchurch



*For more information on sites of area specific land contamination please refer to the Technical Area Summaries contained on the Regenerate Christchurch website.

Background

In June 2011 Cabinet made an offer to purchase insured residential red zone properties where wide scale land remediation would take a considerable period and incur considerable cost[2] and social disruption. In some areas remediation would require up to 3m of compacted fill to bring the land up to compliant height, along with many kilometres of perimeter treatment. Further, a complete replacement of essential infrastructure and services would be required. The Governments offer enabled many households to recover quicker and avoid lengthy insurance negotiations. Much of the RRZ land (being approximately 443 hectares, the balance area being owned by Council or in private ownership) has been acquired and cleared by the Crown and is currently maintained by Land Information New Zealand (LINZ). Roads and reserves within the area are still held by the Christchurch City Council and some private owners remain.

In April 2016, Regenerate Christchurch was established[3] to lead the regeneration of Christchurch and specifically 602 hectares of significantly earthquake damaged land in eastern Christchurch. After extensive community and stakeholder engagement and in accordance with the requirements of the Greater Christchurch Regeneration Act 2016 (and Outline for the OARC Regeneration Plan) Regenerate Christchurch completed the draft Ōtākaro Avon River Regeneration Plan (hereon referred to as the "Regeneration Plan" or "OARCRP") On the 23rd August 2019 the Honourable Dr Megan Woods, Minister for, Greater Christchurch Regeneration, approved the Ōtākaro Avon River Corridor Regeneration Plan.

As part of the 2018 Government Budget, a $300m 'Christchurch Regeneration Acceleration Fund' was established to provide certainty, confidence, and demonstrate progress towards Christchurch's regeneration. In August 2017 the Government announced *"… a $300m capital acceleration facility to develop the red zone, contribute towards a new stadium and deal with the gaps in the horizontal infrastructure programme in partnership with the Christchurch City Council as part of the Global Settlement".*

On 13 September 2018 the Christchurch City Council agreed that $40M of funding from the Christchurch Regeneration Acceleration Facility would meet the expressed intention to accelerate regeneration within the Ōtākaro Avon River corridor. Subject to Crown endorsement, more detailed investment cases will be developed and reported back to Council for approval, and subsequently submitted to the Crown for final approval and drawdown of funding.

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2 A more detailed account of the Government's approach can be found in the document Land Zoning Policy and the Residential Red Zone: Responding to land damage and risk to life (April 2016) http://eqrecoverylearning.org/assets/downloads/res0052-land-zoning-policy-and-the-residential-red-zone2.pdf.

3 Regenerate Christchurch was established under the Greater Christchurch Regeneration Act 2016

2. Strategic Case and Context

The strategic case and context for the proposed investment is underpinned by the Ōtākaro Avon River Corridor Regeneration Plan. In its preparation, Regenerate Christchurch considered more than 5,000 ideas submitted by the community as well as surveys, technical reports and studies. As stated by Regenerate Christchurch's Chair Sue Sheldon, the community identified a "strong preference for environmental leadership and the draft regeneration plan delivers this". Further, that the plan's implementation would see the river corridor emerge as a leading example of 21st-century urban environmental management (see further comments at https://www.regeneratechristchurch.nz/oarc/). The Regeneration Plan vision and objectives, set out below, provides direction and guidance to shape the areas regeneration.

Our Vision is for the river to connect us together with each other, with nature and with new possibilities.

Nōku te awa.[1] *The river is mine. We all share in the future of this river.*

1. *Noku to awa:Wiremu Te Uki addressing the Smith-Nairn Commission, 1880*

The Ōtākaro Avon River Corridor Regeneration Plan's objectives for Christchurch are to:

- *Create a restored native habitat with good quality water so there is an abundant source of mahinga kai, birdlife and native species.*
- *Support safe, strong and healthy communities that are well-connected with each other and with the wider city.*
- *Provide opportunities for enhanced community participation, recreation and leisure.*
- *Create opportunities for sustainable economic activity and connections that enhance our wellbeing and prosperity now and into the future.*

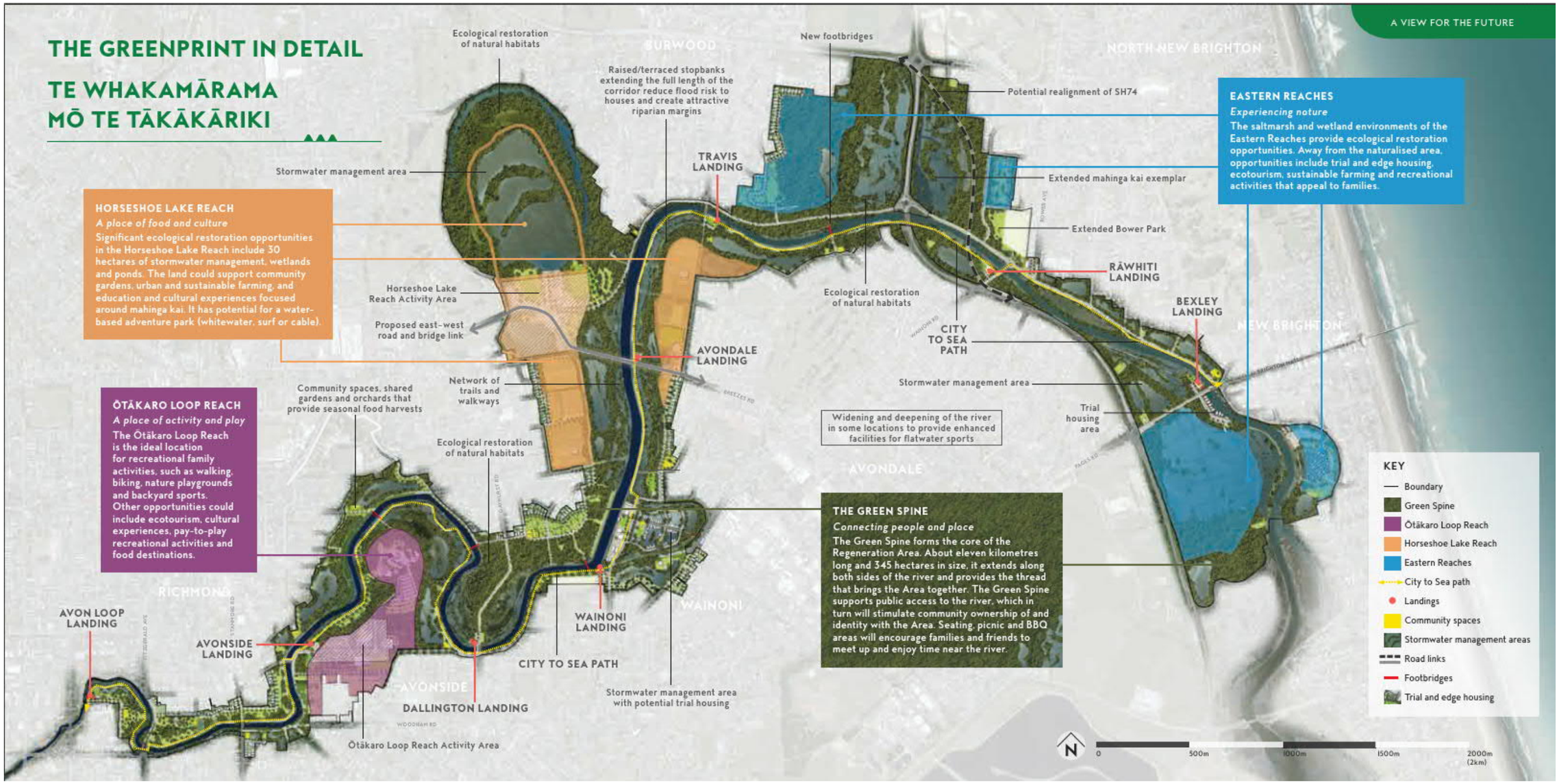
The Ōtākaro Avon River Corridor Regeneration Plan's objectives for New Zealand are to:

- *Develop the Ōtākaro Avon River Corridor Regeneration Area as a destination that attracts a wide range of domestic and international visitors.*
- *Establish a world-leading living laboratory, where we learn, experiment and research; testing and creating new ideas and ways of living.*
- *Demonstrate how to adapt to the challenges and opportunities presented by natural hazards, climate change and a river's floodplain.*

Figure 3: The Green Print – Te Whakamārama Mō Te Tākākāriki (refer to page 47 and 48 of the Regeneration Plan) broadly illustrates how the vision and objectives can be achieved and types of activities provided for within the Green Spine and Three Reaches (i.e. Ōtākaro Loop Reach, Horseshoe Lake Reach and Eastern Reaches). The 'Green Spine' (being 345ha of the total 602ha) provides predominantly for open space (natural to more structured) and Council's existing and planned network infrastructure (major cycleway, stormwater and floodplain management facilities). The "Three Reaches" provide for a range of land uses depending on the specific location, including ecological restoration, visitor attractions, productive land uses, recreation and leisure activities, and some limited residential redevelopment (or a combination of).

Importantly, the Regeneration Plan, through changes to the Christchurch District Plan, provides either as a permitted activity or alternatively a consenting pathway, for the 'Intended Activities' signalled under the Plan (see also Table 1 – Corridor Areas and Overlays and The Ōtākaro Avon River Development Plan included within Attachment A of this document)

Figure 3: Ōtākaro Avon River Corridor Regeneration Plan – The Greenprint



Economic assessments commissioned by Regenerate Christchurch conclude that developing the Ōtākaro Avon River Corridor could result in $1.6 billion of economic benefits to the city; provide a value uplift to some 21,500 residential properties within 1km of the Ōtākaro Avon River Corridor; and further cement Christchurch as an international scale destination. Embracing this opportunity is of importance to the City given the disrupting impact of the earthquakes to visitor numbers. The 2016 Christchurch Visitor Strategy[4] records that up until the 2010/11 seismic events, Christchurch played a key role in the national travel network as the main destination within and primary gateway to the South Island. With significant damage to facilities, infrastructure, businesses and the Central City, visitor perceptions and confidence was compromised. Canterbury Development Corporation (now Christchurch NZ) estimated that Christchurch's visitor economy fell from $1.54 billion in the year ending March 2009 to $1.26 billion in the year ending March 2014.

While visitor numbers do show some signs of recovery[5] (and just recently voted as the 7th top 10 "Friendliest cities in the world"[6]) there is still a strong need for investment to enhance the visitor experience and build demand, particularly during the off-peak winter season. Regeneration of the corridor provides a unique opportunity to create and grow visitor demand (see Figure 4 below drawn from the Christchurch Visitor Strategy).

Figure 4: Christchurch Visitor Strategy: Cycle of improvement initiated by growth in the visitor economy

Horwath HTL, (hotel, tourism and leisure consultants) prepared a Visitor Projections report[7] stating that (based on assumptions estimates and information provided by Regenerate Christchurch – see section 1.2 of this report) the *"…proposed regeneration of the ARC area will result in an appealing visitor destination in Christchurch, starting close to the CBD and reaching out towards the coast. A range of activities and attractions in the new destination will encourage more visitors to extend their stay in Christchurch, and some activities and attractions will draw additional visitors especially domestic visitors) to Christchurch. Some visitors to the city will decide to stay longer, some will stay for a longer portion of their day visit, or extend the length of their overnight visit, and possibly even stay for an additional night or nights. The visitors who stay in Christchurch for an additional amount of time will spend more on goods and services in this additional time. For example, overnight visitors*

[4] Refer to https://www.ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Strategies/Christchurch-Visitor-Strategy-September-2016.pdf

[5] Christchurch NZ: Christchurch and Canterbury Quarterly Economic Report December 2018

[6] Refer to https://bigseventravel.com/2019/08/the-50-friendliest-cities-in-the-world/

[7] Refer to report at https://engage.regeneratechristchurch.nz/41331/documents/92450

may spend on another night of commercial accommodation, day visitors may spend on an additional meal, and visitors may spend more on petrol to drive to and around the ARC area."

In developing this BBC, consideration has been given to what is most needed to attract and secure a range of visitor activities and attractions. One the most important first steps to achieving this, is to encourage people back into the area, which requires safe connections to and through the area, and most importantly places of interest and activity (for example community gathering places and ecological areas). Improving the accessibility and attractiveness of the area is essential to not only attracting private investment, but also will make significant progress towards the area becoming a valued local community asset.

The need for its increased value as a community asset is born from the significant loss of the local resident population, along with significant damage to community facilities, local hubs, and transport connections linking local communities. This has created challenges for Eastern Christchurch to retain its sense of connection and identity. Outcomes sought under the Regeneration Plan include to "*…support safe, strong and healthy communities that are well-connected with each other and with the wider city*", provide *"opportunities for enhanced community participation, recreation and leisure"* and *"….opportunities for sustainable economic activity and connections that enhance our wellbeing and prosperity now and into the future."* Investment into projects which create these physical and social connections are therefore considered pivotal to meeting local community needs.

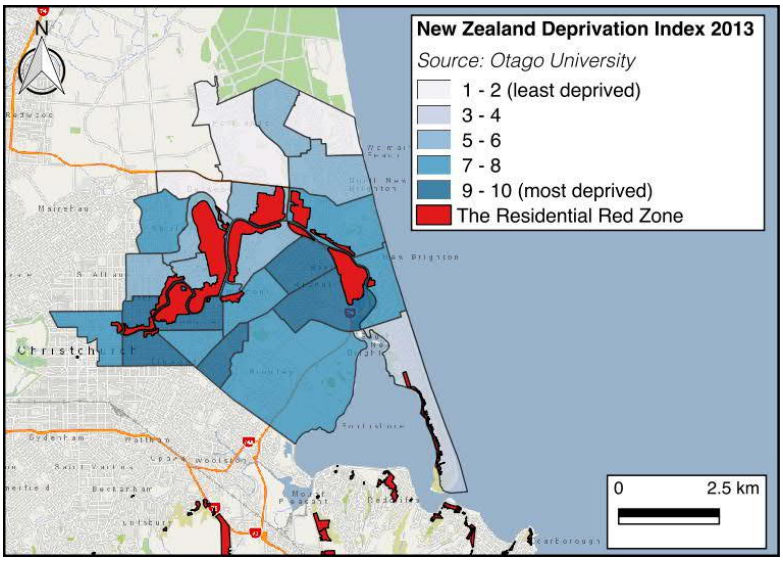


Figure 5: New Zealand Deprivation Index 2013 – Eastern Christchurch

Table 1 below sets out three investment objectives the Council considers are most critical to making positive steps towards achieving the Regeneration Plan's vision and objectives. These investment objectives are drawn from problems faced within regard to the current environmental condition of the corridor and status of the land, and what is needed to transform the corridor into a valued local, regional and national asset.

Table 1: The case for change and investment objectives.

Investment Objective One	**To achieve substantive progress on foundation elements of the Regeneration Plan to build regeneration momentum; support transitional uses; attract economic activity and private investment.**
Existing Arrangements	The Area is not reaching its potential in terms of the contribution it could make to the City and eastern Christchurch. Some 5000 properties were demolished in the residential red zone within the Area, contributing to a sense of personal loss, lost amenity and community, and perception of poor safety and security, and exacerbating existing social, health and housing deprivation in parts of east Christchurch. The cost to Crown and Council to maintain the RRZ and infrastructure and services is $1.5M per annum, and without regeneration of the Area, over the next ten years this would equate to $15M of revenue spent with no major benefits realised (beyond potential benefits arising from transitional activities). Christchurch is NZ's second largest city and the gateway to the South, however the earthquakes had a detrimental impact on the visitor economy within the city. The Christchurch Visitor Strategy (2016) estimates that the annual visitor economy is $300 million less than it would have been without the earthquakes, driven mainly by a large drop in international visitation. As set out in the Regeneration Plan (refer to the Vision and Objectives page 22 of the OARCRP), there is an unique opportunity for the Area to be established as a visitor destination and living laboratory for demonstrating innovative responses to climate change and natural hazards.
Business Needs	Without a significant level of public investment (seed funding) in the early stages, there is a high risk that regeneration opportunities will be lost through a failure to attract and secure community, private and philanthropic investment. The corridor is a significant land area and unless progress is made on establishing core public realm elements, large areas will remain inactive, incur on-going maintenance costs over the long term, resulting in few social, economic, cultural and environment benefits being realised. Whilst the Christchurch City Council has committed some $144M towards development of a major cycleway, and stormwater quality and flood management facilities within the corridor, there is no funding to develop connecting pathways, nor create the level of amenity and environmental improvements which is critical to achieving a many number of the Regeneration Plan's objectives.
Investment Objective Two	**To begin the restoration of native habitat, achieving over time, improvements to water quality and an increasing abundance of mahinga kai, birdlife and native species.**
Existing Arrangements	The ecology and aquatic habitat within the Ōtākaro Avon River corridor is in poor health and this state has been exacerbated by the earthquakes.
Business Needs	Currently there is no funding, beyond very small scale community initiatives, for ecological restoration, nor to prepare the land to enable private and philanthropic and greater community contributions towards ecological restoration.

Investment Objective Three	**Restore community identity and connectivity; enhance community participation in recreation and leisure activities, and provide opportunities for community stewardship.**
Existing Arrangements	The community profile for eastern Christchurch indicates high levels of social deprivation and poorer health and wellbeing outcomes[8]. Existing social inequalities in parts of east Christchurch were exacerbated by the 2010 and 2011 earthquakes which damaged infrastructure and community facilities, decreased community access to natural environments, resulted in significant depopulation in heavily damaged areas, and created lasting psychosocial impacts for some.
Business Needs	Whilst the Council has funding for flood and water quality management, and a major cycleway route which will run through part of the corridor, there is no funding to establish pathways and connections within the corridor to the major cycleway route, nor to improve connections across the corridor to connect communities. There is also no funding to develop the focal points and open space areas within the Green Spine, which are critical components to encourage and enable community investment in, and guardianship of, the corridor.

8 A copy of the Community Needs Profile for east Christchurch can be found at https://engage.regeneratechristchurch.nz/25752/documents/55619

3. Economic Case

Achieving the plans bold vision (and more specifically the Green Spine) requires long term investment and commitment from multiple parties, most vitally the Christchurch City Council and the Crown. The total cost to develop the corridor is estimated at in excess of 800m. Whilst the Council's Long Term Plan includes approximately $144M of funding for infrastructure, this will only achieve limited improvements and activation of the Area. No Council funding is available to prepare the land (namely clear infrastructure and remediate contaminated land), undertake restoration of ecological areas, nor develop landings and connecting pathways (including footbridges and the Cultural Trail). These more aesthetic elements are critical to achieving the Green Print vision and attracting community, philanthropic and private investment. Whilst submissions could be made to future Long Term Plans for Council to fund such works, there is no guarantee these proposals would be successful in the short to medium term, particularly in light of the extensive funding demands for a many number of regeneration and community projects across the City.

To realise these and other environmental, cultural and community benefits, effective delivery of the plan will be crucial, therefore requiring sufficient funding in the early stages. The allocation of $40m from the CRAF is proposed to enable the construction of currently unfunded Green Print elements, specifically the connecting pathways, the cultural trail (or part of), ecological restoration of prioritised areas, and the establishment of basic facilities at up to seven of the landing locations identified on the Greenprint. It is recognised that a $40M seed fund will not address the overall funding shortfall for the Green Print, nor the additional public funding likely required to assist in regeneration of the 'Three Reaches'.

The proposed CRAF projects will however achieve synergies with the Council's planned infrastructure works, but potentially also with the projects sought to be funded by Canterbury Earthquake Appeal Trust (CEAT). An application has been made to the CEAT to fund three footbridges and one, potentially two landings, to an estimated value of $15M. Should the CEAT proposal be successful, it will create stronger connections across the river and community focal points along the corridor. The combined Crown, Council and CEAT, being close to $200M of the next ten years, would activate and transform significant parts of the corridor and it is hoped, instil greater confidence and assurance for business investors.

Importantly, the proposed programme of (combined) works, whilst intentionally activating areas along the whole length of the corridor, will still leave large land areas available for private investment opportunities and community use. Further, the proposed programme builds upon the Christchurch Central Recovery Plan, drawing locals and visitors into and from the Central City, and establishing the long sort "City to the Sea" connection.

The proposal focuses on early restoration of ecological areas, and alongside the Council's planned Waikakariki/Horseshoe Lake stormwater management facility, begins to achieve the plans Mahinga Kai objective. Supporting mahinga kai presents an opportunity for a holistic approach to the management of the river and its natural resources and importantly, to exercise the whakapapa, kaitiakitanga and other values of mahinga kai (see page 26 of the OARCRP). The combined programme of works will also respond directly to some of the communities most highly rated wants for the area[9], those of greatest relevance being the protection of ecology and nature including restoration of mahinga kai; creating an opportunity for people to connect with nature, and with other

[9] Refer to community feedback provided under the Regenerate Christchurch's website at https://www.regeneratechristchurch.nz/oarc

people, and to take part in recreational, sporting, cultural and multi-cultural, historical, local food experiences and events-based low cost or no cost activities; and providing stronger linkages to existing communities.

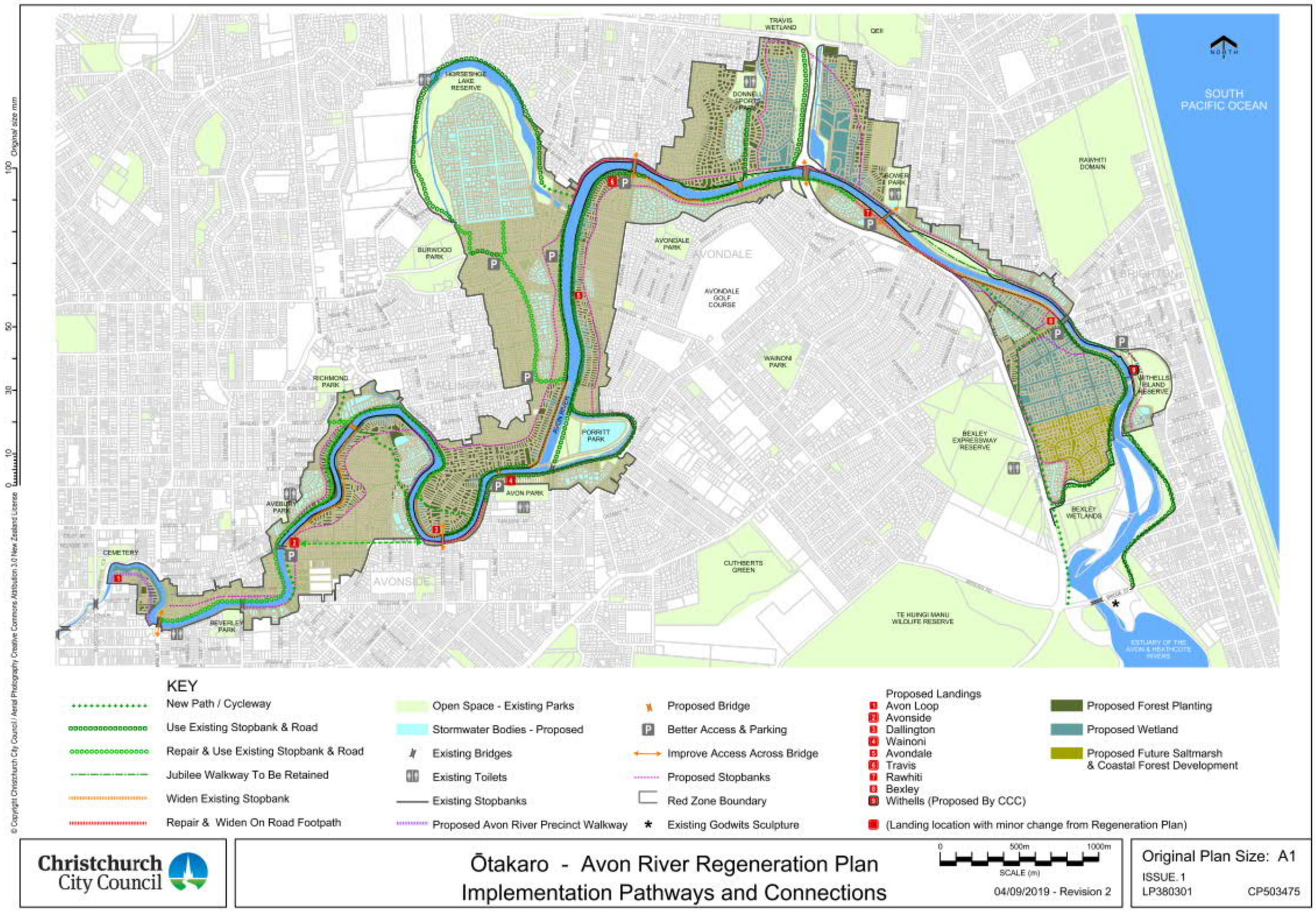
The combined level of proposed (CRAF and CEAT) and planned (CCC) funding over the next ten years, is deemed sufficient when consideration is given to limitations and interdependencies of physical delivery of such works. Regeneration works need to be staged for a number of reasons and certain core infrastructure works must be progressed first to provide a strong foundation for other regeneration initiatives. Providing a greater level of funding would not necessarily deliver greater benefits. Further, there is a high risk any additional works beyond the proposed programme, could not be physically delivered within a 10yr period. Time and operational resources need to first focus on site investigations; detailed planning and design; consenting; and land clearance and preparation (see section 7.1 of this report for further discussion).

The specific details of the projects proposed to be funded through the CRAF are described in Table 2 below, broadly illustrated in Figure 6 and described in more detail in section 7 of this report. Table 2 also sets out the benefits expected to be realised through the combined Crown, Council and CEAT investment in the Area. .

Estimated costs are drawn from a report titled “The Draft Otakaro Avon River Corridor Illustrative Plan Estimate (Rev 5)” prepared by WT Partnership Limited (dated 07 November 2018), additional cost estimation of specific elements, and cost estimates prepared by Council officers based upon similar constructed works (refer to Annexures 3 and 4 for further details of the cost estimates). Whilst the cost estimations undertaken to date do demonstrate that the overall programme is affordable (as there are a number of contingencies and assumptions that have had to be made) some cost variation is expected as projects are better scoped, site investigations undertaken and detailed planning and design stages advanced. Notwithstanding this, the cost assessments undertaken by WT Partnership Limited in support of this investment case, have provided Council with a level of confidence that the proposed programme can be delivered within the $40M.

Table 2 – Proposed Christchurch Regeneration Acceleration Facility projects, estimated costs and expected benefits			
		Benefits realised through specific elements of the proposal	**Benefits realised by the elements of the proposal when combined**
City to sea pathway (part only) and supporting connections to the City to Sea pathway and major cycleway - using a combination of existing adequate paths and roads (**9.4** km to an estimated cost of $616,000), widening low stop banks (**3.6** km to an estimated cost of $1,386,000), adapting and repairing existing carriageways (**8.9** km to an estimated cost of $3,465,000), widening existing paths and creating new connections (**5.4** km to an estimated cost of $2,233,000). Refer to Section 7.2 for further explanation on the proposed pathways and connections and Annex 3 for the detailed cost estimates.	$7,700,000	• An improved level of community connection between local neighbourhoods and key destinations including places of employment, education facilities, sports and recreation centres, commercial centres (importantly the Central City), to create opportunities for additional economic activity by virtue of land uses being more accessible to wider catchment; • Increased use of the Area and as a consequence a greater sense of safety, security and well-being; • Improved community identity and quality and function of neighbourhoods; and • Improved physical, social and mental wellbeing through the creation of more accessible and well developed open spaces that attract and support a broad range of land uses.	• Improved perceptions of Christchurch, in particular eastern Christchurch, being a desirable and liveable place for locals, new business, new migrants and visitors. • Improving the attractiveness of local environments and as a consequence contributing to increased property values (broadly within 1km of the Regeneration Area).
Basic facilities for up to seven landings - All landings will be established with basic facilities including where necessary public toilets (recognising that in some locations public toilets are already in close proximity to the particular landing location), water fountain, seating and steps to the river. In some priority locations (i.e. high use areas), parking, shelters, larger platforms and grassed areas will be provided. Refer to Section 674 for further explanation on the proposed landings and Annex 5 for the detailed cost estimates.	$6,600,000	• Increased use and activity within the Area to support business and community activities already established within the area, and encourage and attract new investment and local employment opportunities;	
Ecological restoration - through planting of native forest, wetland, river habitat and associated land preparation works (noting that the full cost of the proposed ecological restoration works is estimated at $28,115,129 however the funding gap of $2,415,129 could be reduced should land preparation works prove, through more detailed site investigations, not be as extensive and/or forest planting costs met through alternative funding sources). Refer to Section 7.3 for further explanation on the plan for ecological restoration and Annex 2 for the detailed cost estimates.	$25,700,000	• Increased community leadership and involvement in ecological and community sustainability practices and initiatives; • A more resilient community through the creation of places and spaces for people to interact and develop innovative ideas for how we may respond and adapt to our changing environment; • Improving the attractiveness and health of the natural environment through the restoration of aquatic and terrestrial ecosystems within the Ōtākaro Avon River Corridor to pre-earthquake levels • Improving and extending opportunities for mahinga kai tikanga and recognising sites of cultural significance • Enhancement in the quality of the physical environment resulting in benefits for improvements to public health and community wellbeing; and • An increase in ecotourism activities to support the promotion of Christchurch and New Zealand as a place to visit and reside within.	
Total CRAF programme of works	$40,000,000		

Figure 6: Phase One Implementation Plan - Proposed pathways, connections, landings and restoration of priority areas.



4. Potential programme options

The Regeneration Plan broadly sets out what activities and uses are expected to be delivered in the early stages of implementation, namely to "Create a platform" (Phase 1) and "Welcome people in" (Phase 2). As it is not proposed to deviate from this direction a range of alternative programme options have not been considered. What has been considered is the range of projects that could deliver each phase but in a slightly different manner or pace. A greater amount of expenditure from the CRAF could be focussed towards more extensive ecological restoration and less towards constructed elements, thereby achieving more of the naturalisation aspects of the plan. Alternatively, less ecological restoration could occur with a greater focus on more built structures. For example, all eight of the proposed landings (valued at $1.8–$3M each) could be constructed resulting in expenditure of over $20m. This together with more extensive sealing of pathways and construction of two further footbridges (estimated at $3M each footbridge) would see the total expenditure close to $30M. Additional funding could also be directed towards the cultural trail, specifically artworks, signage, digital platforms and retaining vestiges of the landscape (refer to page 71 of the Regeneration Plan). A greater focus on the constructed elements would certainly improve the number of community focal points, however they would do little to restore ecological values being one of the main objectives for the plan.

Another alternative approach could be to fund a major visitor attraction; edge and adaptable housing; and in the short term the establishment of the "Ōtākaro Living Laboratory Partnership" (refer to page 64 of the Regeneration Plan). Each of these initiatives would significantly benefit from Crown investment to und fully or in part, however there is no certainty of the costs and risks associated with these latter activities. Whilst Regenerate Christchurch commissioned the undertaking of some financial and risk assessments, these were not at the level or detail such to be fully informed of the commercial feasibility of such ventures. The Council recognises that such detailed assessments were not necessary for the Regeneration Plan's development, but should be undertaken prior to any funding commitments being made.

In conclusion, the proposed approach to the CRAF (set out in section 7), aims to fund those core public realm elements which will best visually demonstrate significant progress towards the corridors regeneration, support transitional uses and attract private investment. Should the proposed programme of works not be funded (i.e the Status Quo), activities undertaken over the next ten years will be limited to the Council planned infrastructure improvements and transitional uses. The Councils programme under its 2018-2028 LTP will see the construction of a major cycleway through part of the corridor, and commencement of its flood and water quality management programmes.

5. Alignment of the investment proposal to other the strategies and plans

A high-level assessment of how the proposal to invest in the Regeneration Area aligns with relevant national, regional, sector and organisational strategies was developed by Regenerate Christchurch to guide the OARCRP development. This report is titled Strategic Direction and Statutory Context for the Ōtākaro Avon River Regeneration Plan and is equally applicable and relevant to this proposal. Table 3 highlights those documents with the highest relevance, where the investment proposal is likely to make a direct, or in the very least an indirect contribution towards achieving the outcomes sought in these documents.

Table 3: Strategic direction for relevant documents

	Environmental/land Use	Cultural	Economic	Social	Resilience/Natural Hazard
National	Government Strategic Priorities				
	Resource Management Act 1991				
		Ngāi Tahu Claims Settlements Act 1998	Business Growth Agenda – Towards 2025	Social Housing Reform Programme	
	NZ Coastal Policy Statement 2010		Tourism Strategy – MBIE	NZ Disability Strategy 2016-2026	
Regional	Canterbury Regional Policy Statement 2013				
	Greater Christchurch Urban Development Strategy 2016 (updated)				
	Canterbury Land and Water Plan	Mahaanui Iwi Management Plan 2013	Canterbury Regional Economic Development Strategy 2015	Canterbury Public Transport Plan 2014	
	Natural Environment Recovery Programme	Heritage Buildings and places Recovery Programme for Greater Christchurch	Canterbury Regional Land Transport Plan 2015 – 2025	Sport and Recreation Recovery Programme (for greater Christchurch)	
		Arts and Culture Recovery Programme for Greater Christchurch			
Local	Christchurch City Council - Long Term Plan 2015 – 2025 [Amended 2016] - Community Outcomes				
	Christchurch City Council Surface Water Strategy 2009 - 2039	Te Ngāi Tūāhuriri /Ngāi Tahu vision for future use of red zone – flat lands	Christchurch City Council Christchurch Regional Economic Development Strategy 2014	Christchurch City Council Social Housing Strategy 2007	Resilient Greater Christchurch Plan 2016
	Christchurch City Council Wastewater Strategy 2013		Christchurch City Council Christchurch Visitor Strategy 2016	Christchurch City Council Public Open Space Strategy 2010	
	Christchurch City Council Climate Smart Strategy 2010			Christchurch City Council Safer Christchurch Strategy 2016	
	Christchurch City Council Biodiversity Strategy 2008			The integrated Planning and Recovery Guide	
	Christchurch City Council – Christchurch District Plan				
	Christchurch Transport Strategic Plan 2012-2042				
	CERA/CCC/TRONT - Christchurch Central Recovery Plan 2012				
	Comparison between Programme Business Case Investment Objectives and Overarching Vision and Objectives for the Ōtākaro Avon River corridor				
			Crown & Christchurch City Council – Cost Sharing Agreement		

6. Realising the benefits

By June 2030 the proposed integrated programme of works is planned to be completed seeing the activation and use of a significant proportion of the Regeneration Area. It is expected that visitor numbers to the area will have increased with the establishment of new community gardens and ecological areas, with bird and invertebrate numbers also expected to begin to increase. It is noted however that the focus of the programme is to build a strong foundation for ecological restoration, and newly planted areas will take time to realise their value as a safe and flourishing habitat for flora and fauna.

The combined Crown, Council and CEAT funding and resultant works, is expected to build confidence and a sense of growing potential for the area becoming a unique tourist attraction. It is expected that by the end of the ten year period, the corridor will harbour a broad range of transitional uses and it is hoped new business activities and ventures or at the very least encourage the initiation of these.

How these benefits will be measured is broadly set out in Table 4 below. Some of the Council's current key performance indicators (KPI's) will be used, for example regarding cycleway usage and water quality, however there will be a need to develop tailored surveys and research tools, given the need for more direct measurements of the expected benefits. A first step in the development of a monitoring programme will be to prepare a report identifying:

i. The timeframe for the delivery of projects and identification of when benefits arising from the projects are to be realised (i.e expected to change or influence environmental and community health and well-being).

ii. The baseline data currently available and/or required to be established.

iii. Work required to identify, articulate and measure the benefits, including the construction of new surveys, including recurrence of surveys (noting that a 2-3 year re-survey period is deemed most appropriate given the programmes timeframe for delivery and resultant expected rate of change).

iv. The associated monitoring costs and funding required to implement the monitoring and research programme.

It is recognised that there will continue to be ongoing involvement and partnership with Te Ngāi Tūāhuriri/Ngāi Tahu to recognise cultural values; particularly in relation to improving and extending opportunities for mahinga kai tikanga throughout the Area.

Table 4: Proposed approach to monitoring achievement of benefits		
Investment Objective One: To achieve substantive progress on foundation elements of the Regeneration Plan to build regeneration momentum; support transitional uses; attract economic activity and private investment		
Element/aspect	**KPI**	**Mechanism**
Support transitional uses	Number and details of transitional/temporary activities established	Ongoing updating and expansion of the LINZ information refer to https://www.linz.govt.nz/crown-property/types-crown-property/christchurch-residential-red-zone
Attract economic activity and private investment	Number of businesses and if accessible the value of the business (e.g. land/lease and capital value)	Count
Investment Objective Two: To make significant progress towards the restoration of native habitat with improvements to water quality, so there is an increasing abundance of mahinga kai, birdlife and native species.		
Element/aspect	**KPI**	**Mechanism**
Restoration of native habitat	Area planted in native species and by age of planting	Count
Improvements to water quality	Water quality measures as set out in the Councils Water Quality Monitoring Report	See https://ccc.govt.nz/environment/water/waterways/waterway-monitoring/
Increasing abundance of mahinga kai, birdlife and native species	Number of selected indicator species.	Survey and count
Investment Objective Three: Restore community identity and connectivity; enhance community participation in recreation and leisure activities, and provide opportunities for community stewardship.		
Element/aspect	**KPI**	**Mechanism**
Restore community identity and connectivity	Gauge community perception in respect of identity. Physical connectivity is measured in terms of usage of the land. Social connectivity is measured by determining community perceptions of whether the projects have facilitated an increased sense of community by bringing people together.	Surveys and count
Enhance community participation in recreation and leisure activities	Number and details of recreation and leisure activities established	Count and record details
Provide opportunities for community stewardship	Number and extent of community involvement in management and governance decisions.	Record of decisions made and/or survey and assessment of level of community involvement.

7. The Proposal in more detail

7.1. Land preparation

Prior to any works being undertaken demolition and site clearance works are required, which includes the removal of redundant roading infrastructure (and services within) and remediation of contaminated land. Reports commissioned by Regenerate Christchurch (see report titled Ōtākaro Avon River Corridor Regeneration Area Development Feasibility Study, October 2017), state that all potential development sites within the Regeneration Area carry the risk of some form of contamination being encountered during site preparation and development works. The main risk arises coming from asbestos associated with previous demolition works on each site; in addition to a number of HAIL sites throughout the study area; and coal tar used in road construction.

WT Partnership Limited produced a cost estimate report[10] estimating that site clearance and demolition costs could range between approximately $58M (low range) to $113M (high range). Below is an excerpt from this report detailing the key assumptions, exclusions and clarifications relating to these works.

Figure 7: Exert from page 11 from the WT Partnership Limited Draft Otakaro Avon River Corridor Illustrative Plan Estimate (Rev 5) for Regenerate Christchurch 7 November 2018

DEMOLITION AND SITE CLEARANCE		
Contamination Remediation	Mid	It is assumed that the entire Regeneration area will be remediated as required by the final land use. The estimates are based upon the advice contained within the Tonkin + Taylor Memo *'Ōtākaro Avon River Corridor – Development Assessment – Ground Contamination Assumptions'* dated 8th May 2017. Allowances are made for varying amounts of the top 250mm of material to be contained or treated on-site and/or disposed off-site. On-site treatment ranges for 25% to 45% and off-site disposal ranges from 0% to 15%.
	Low	The low position assumes a greater volume of contaminated material is retained on-site.
	High	The high position assumes a greater volume of material is disposed off-site.
Decommission Road Network	Mid	The estimate allows all roads currently 'Out of Service' to be removed including abandoning of associated infrastructure.
	Low	The estimate allows for 50% of roads currently 'Out of Service' to be removed including abandoning of associated infrastructure.
	High	The estimate allows for all roads currently 'Out of Service' and ` 'In Service Reduced' to be removed including abandoning of associated infrastructure.

The proposed programme of works has been designed so as avoid as far as practicable the disturbance of large land areas thereby incurring fewer land preparation costs. Where there are alternative locations for projects that do not incur high land preparation costs and achieve the same desired outcomes, these locations have been chosen. Some costs are however unavoidable,

[10] Draft Otakaro Avon River Corridor Illustrative Plan Estimate (Rev 5) for Regenerate Christchurch 7 November 2018

particularly in association with ecological restoration alongside the river which requires both regrading of the river banks and removal of roading infrastructure (and as a consequence treatment and/or removal of contaminated land).

Estimating these costs is difficult to ascertain without some level of more detailed investigations, particularly in regard to treatment of contaminated land. However, allowances have been included for treating or disposing of 5% of the top 200mm across the entire site. Where significant amounts of contamination are encountered, it may also be possible to limit costs through design changes, amendments to land use, and on-site remediation.

Should the proposed funding allocation be insufficient this will be reported through the government and management arrangements (see section 10).

7.2. Establishing connections, pathways and parking areas

Transport connectivity has been affected by earthquake damage to the east Christchurch transport network with roads, footpaths, and bridges badly damaged. An improved transport network will support the regeneration of the Area, stimulating activation and enhancing the appeal of the area to private investors (refer to Page 64 of the Regeneration Plan). "*Welcoming People In*" is promoted as an important early phase in the Regeneration Plan's implementation (refer to page 66 of the Regeneration Plan). Projects and transitional activities that result in the return of people and activity to the area is critical to stimulating further investment. The Regeneration Plan (see page 66) sets out what needs to be achieved, namely:

- Early construction of the eleven-kilometre City to Sea path (noting that the Council has already committed funding for a large length of this pathway through its major cycleway programme)
- The Cultural Trail, to promote visitation drawing on the rich histories and sites of significance for early Ngāi Tūāhuriri and European settlers, and the more recent experiences of residents of residential red zoned properties.
- New or replacement footbridges to reconnect communities across the river.

To date, the Te Ara Ōtākaro River Trail (TAO) has promoted a cycling and walking route along the lower reaches of the Ōtākaro Avon River. Work has included large map boards, kilometre marker points and directional signs. There is also ongoing temporary interpretation work being developed with Matapopore[11]. The TAO trail is only on one side of the Avon and has used sections of closed road that are in reasonable condition and existing stop banks where wide enough. No work has been undertaken to improve the surface or width of the trail and in many places it is not adequate nor safe. A survey was undertaken this year of both sides of the river to understand what is needed to be done to realise the "City to Sea" pathway and to provide a safe and accessible pathway for all users.

Figure 8: Form new pathways and widen existing

Figure 9: Existing road to be repaired and better signage

[11] The Matapopore Charitable Trust has been established by Te Ngāi Tūāhuriri Rūnanga for the provision of cultural advice on Ngāi Tūāhuriri / Ngāi Tahu values, narratives and aspirations for the anchor projects and any other projects associated with the regeneration of Ōtautahi / Christchurch.

The pathway proposal illustrated in Figure 6 has been designed to achieve a continuous link of both sides of the river from the Fitzgerald Ave Bridge, and to tie in with the Avon River Precinct shared path, which connects to the Estuary of the Avon & Heathcote Rivers at Bridge Street Bridge. Along the proposed pathway, important linkages will be provided to the suburbs of Bexley, Brighton, Wainoni, Burwood, Avondale, Dallington, Avonside, Richmond and the Central City. The pathway will also connect some significant ecological areas, including the Bexley Wetlands, Cockayne Reserve, Travis Wetland and Horseshoe Lake. These are all important conservation areas within Christchurch that will provide added interest and side excursions for users.

By using a combination of existing adequate paths and roads (9.4 km), widening low stop banks (3.6 km), adapting and repairing existing carriageways (8.9 km), widening existing paths and creating new connections (5.4 km), a continuous cycle/pedestrian link can be created on both sides of the river. The pathway will alternate from top of stop banks to adjacent roads and paths as it moves down and up each side of the river. A small section of footpath on active carriageway will need to be widened where the stop bank and road cannot be used. Some new paths will be established where currently none exist and these generally relate to the proposed new footbridges or where better connections are needed across busy roads. The upgrade will also provide safer access at bridges by re-establishing damaged underpasses or enhancing crossings at the bridge intersection.

The pathway will be supported by well-defined car parking areas (spaced along the route) where people can start the trail and access other attractions. The parking areas will need to have adequate drainage & lighting, but in most cases, this can be created by modifying existing roadway (thereby reducing costs). The work already undertaken on directional and interpretation signage by TAO's will be continued and where temporary, made more permanent. This work will be developed in partnership with Matapopore, Council and community groups. Directional signage, interpretation and maps are critical to enable full utilisation and provide the connectivity to the adjacent areas to make the pathway a success.

In summary, to encourage more people into the regeneration area, the path systems need to be safe, wide enough to accommodate a range of users of different abilities and good parking. The paths need to be legible and easily accessed from the adjacent road network. By linking important conservation and heritage areas with the surrounding Eastern suburbs & Central City, the "City to Sea" pathway will be critical in promoting the regeneration of the area.

Figure 10: Existing adequate road space

Figure 11: Widen stopbanks and form pathways

7.3. Ecological restoration

Through their planning and engagement process, Regenerate Christchurch have developed a plan for the Otakaro-Avon River Corridor (OARC) that includes extensive areas of indigenous forest, shrub-land and wetland planting. If planned and implemented appropriately, these plantings will offer a significant contribution to the biodiversity of the Christchurch and wider Canterbury Low Plains Ecological District, where today less than 0.5% of the original indigenous cover remains. As such the Low Plains Ecological District remains an acutely threatened land environment.

Council staff have given further consideration to the opportunities the Regeneration Plan presents to provide significant long term ecological improvements. Christchurch City Council ecologists and other staff have undertaken a rapid ecological assessment of the OARC and calculated rough orders of cost for what is deemed achievable and appropriate based on the Greenprint Plan and ecological statements within the Regeneration Plan.

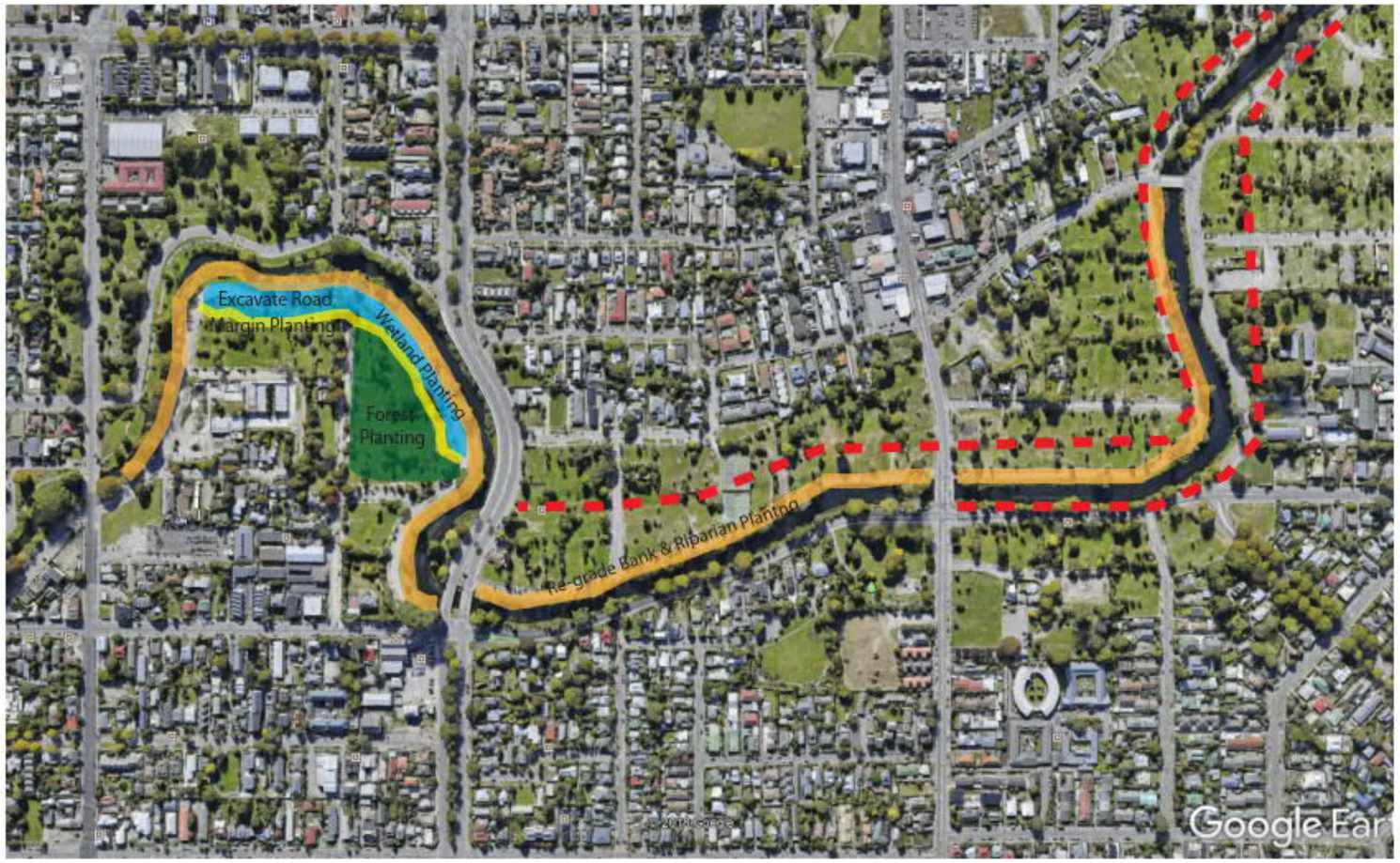
Vegetation Types - Council staff have separated broad areas of re-vegetation into five broad categories. Each of these five categories vary in terms of their method of establishment, depend on a range of physical conditions and temporal parameters, and will be discussed in further detail in the following sections. The approximate areas of each are:

1. Coastal Saline Wetland (57 ha)
2. Freshwater Wetlands (33 ha)
3. Riparian Planting (12 ha)
4. Indigenous Forest (130 ha)
5. Exotic Dominated Parkland/Woodlands Including Edible Trees (30 ha)

It is not possible within the CRAF to restore all of the areas identified above, without forgoing development of the pathways and landings (which are deemed essential to returning people to the area). Notwithstanding this, substantial progress can still be made and the following plans (refer to Figures 12-16) outline the extent of work sought to be achieved through the proposed allocation of $25M from the CRAF (refer to section 3.2, Table 2). The proposed approach will result in:

- More than 56 hectares of coastal saline wetland, including more than 8ha of coastal shrub-land edge planting
- More than 31 hectares of freshwater natural back-swamp wetland, including almost 3ha of margin planting
- More than 6.5 kilometres of riverbank re-grading and riparian planting
- More than 36 hectares of indigenous forest planting, including more than 150,000 trees.

Figure 12: Proposed ecological restoration within the Upper Reaches



Road Removal and Minor Re-shaping	380 linear metres	$83,145
Wetland Bulk Earthworks (25% of area)	9500 m2	$35,196
Constructed Wetland Margin Planting	4000 m2	$25,794
Wetland Planting (10% of Wetland Area)	5700 m2	$52,930
Riverbank Regrading	1850 m2	$838,223
Riparian Planting	14,750 m2	$48,978
Forest Planting	5000 m2	$37,412

100 m

Otakaro Avon River Corridor

Scale 1:5000 at A3

Figure 13: Proposed ecological restoration within the Avon Loop area

Figure 14: Proposed ecological restoration near Avonside Drive

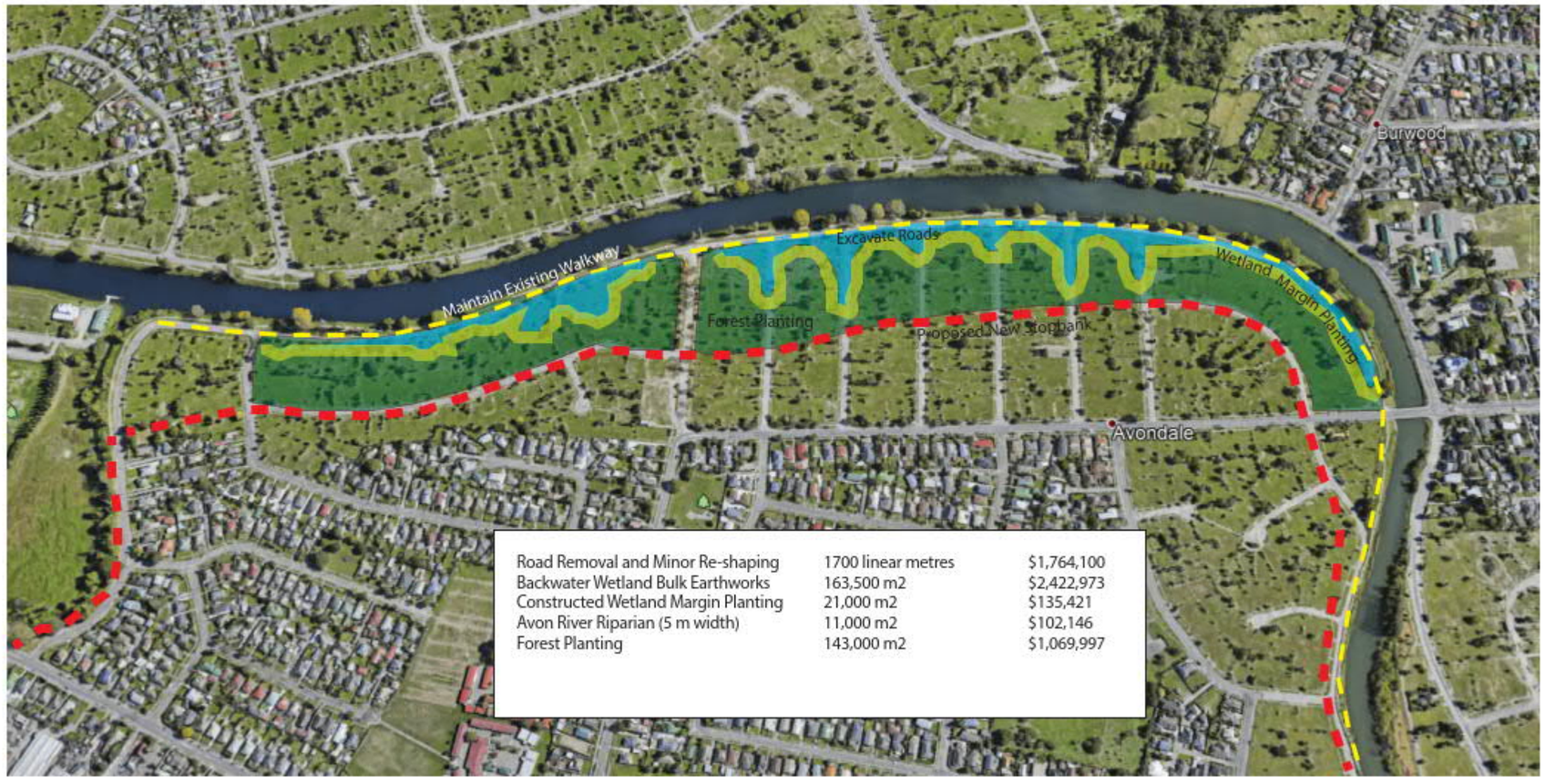
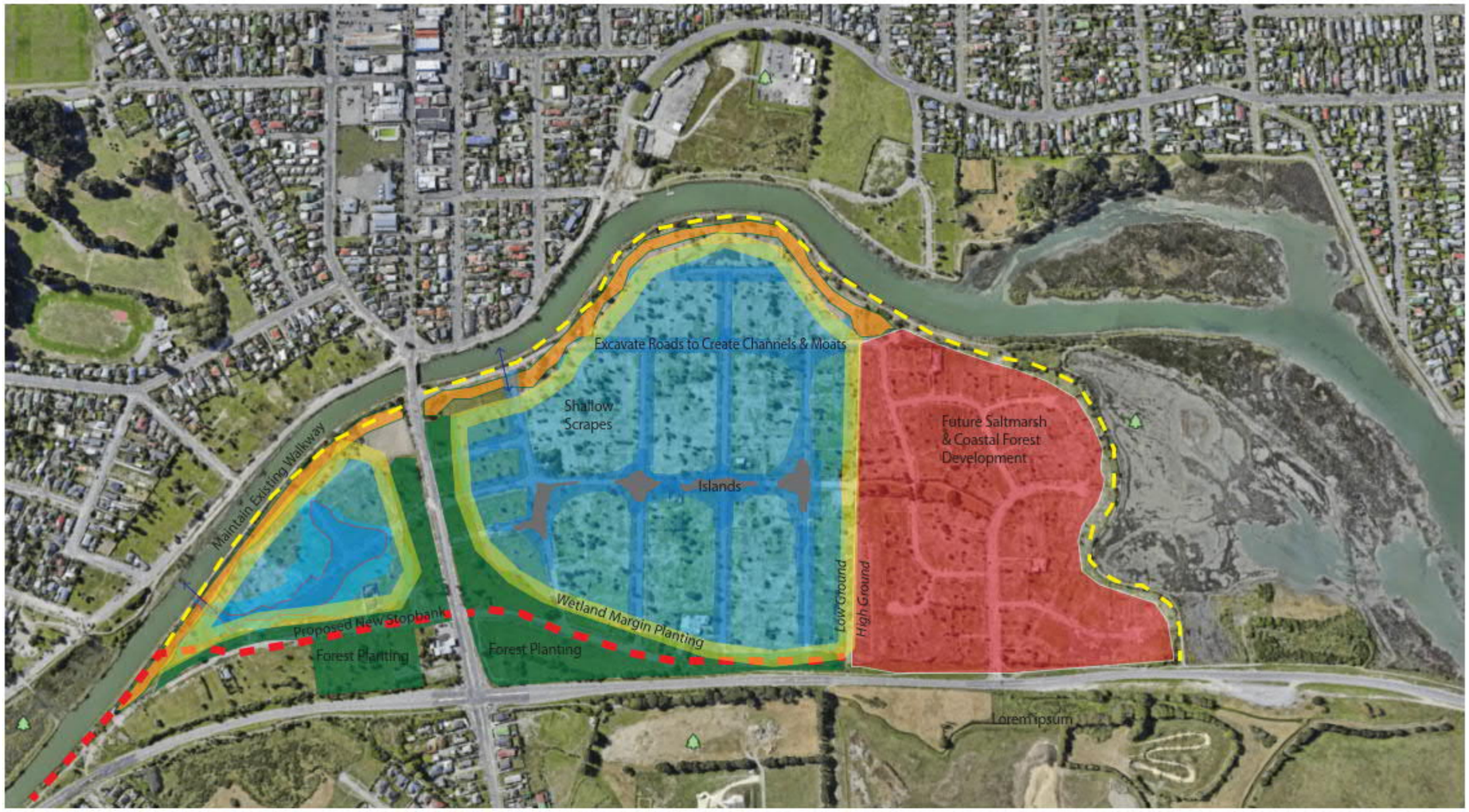


Figure 15: Proposed ecological restoration near Anzac Drive

Figure 16: Proposed ecological restoration within the Easter reaches (Bexley area)



Road Removal and Minor Re-shaping	3660 linear metres	$2,777,940
Saltmarsh Bulk Earthworks (25% of area)	300,000 m2	$1,111,455
Constructed Wetland Margin Planting	40,000 m2	$257,945
Avon River Stopbank Screen Planting	34,800 m2	$323,153
Forest Planting	58,300 m2	$436,230

100 m

Otakaro Avon River Corridor

Scale 1:5000 at A3

Coastal Saline Wetland (57 hectares) - Coastal saline wetlands have historically been important ecosystems throughout coastal Canterbury. However historic land conversion, restriction of saline egress, and more recently earthquake events impacting on coastal ground levels have put these ecosystems at even higher threat. The OARC project offers a unique opportunity to provide quality estuarine, salt meadow and salt marsh habitat through using earthworks to set critical ground levels and allowing natural processes to revegetate these areas without the need for costly and unnecessary planting. This approach has been used effectively and efficiently elsewhere around the margins of the Avon Heathcote Estuary, most notably at Charlesworth Reserve on Humphreys Drive (Figure 17).

Figure 17: Areas of naturally re-colonised salt marsh at Charlesworth Wetland following shallow scraping and reintroduction of tidal water.

Within the OARC, key areas in which to implement this approach include the former Bexley and Pacific Park subdivision areas (approximately 30 hectares) and also low lying areas either side of ANZAC Drive located between New Brighton Road and Travis Road (27 hectares). Whilst the Pacific Park area would require deeper excavation than the older Bexley Subdivision, this could be largely limited to the excavation of redundant roads and associated infrastructure to form a mosaic of tidal inlets, salt marsh margins and coastal shrub-land and forest on higher topography. This higher topography would also allow for visitor experience features (for example the cultural trail) and strategically located eco-tourism operations as provided for under the OARCRP.

The former Bexley subdivision, which spans both sides of Pages Road consists of large low lying areas that are already beginning to support native salt marsh and salt meadow vegetation. Throughout these areas, established exotic trees are already in severe decline, particularly in the lowest areas. As with Pacific Park, we recommend that the existing road networks are excavated to form tidal inlets that will allow salt water to infiltrate and establish appropriate indigenous plant communities though natural processes.

Suitable cut material from the excavations could be placed against the landward edge of the existing stop banks and planted with indigenous coastal tree and shrub species (e.g. Figure 18). This will provide both habitat and an essential buffer between users of the stop bank walkway and wildlife that is expected to use the new wetlands.

Figure 18: Native coastal shrub species provide an effective buffer between the public and valuable wildlife habitat at Charlesworth Reserve.

It is noted that while Regenerate Christchurch suggested these areas might be suitable for horticulture, it is staff's view that the coastal soils in this part of Christchurch would not support horticulture or cropping without significant fertiliser application. This type of land use would almost certainly result in reverse sensitivities toward the existing and well-established pukeko population if/when they became a pest in the cropping area. Creation of salt marsh and salt meadow habitats in these locations is not only important for securing viable estuarine habitats, but is a cost effective and low maintenance solution. Cost estimates for these sites have been based on a balanced cut-to fill strategy over the site at a rate of $4.00/m^2 for a 500mm average excavation/scrape. It is also noted that the cost of this excavation and establishment of a 10m wide (average width) planted buffer is likely to be less than half the cost of forest plantings and riparian/freshwater wetland plantings elsewhere in the OARC.

Freshwater Wetlands (33 hectares) - Because large areas of the OARC are very low lying compared to levels in the Avon River, and because new stop banks are expected to be constructed significantly further back from the existing riverbanks, large areas of the OARC are expected to be established as freshwater wetland. Some redundant roads that currently run parallel with the river just behind existing stop banks are proposed to be excavated. The excavation profiles will be naturalised to form back-swamp freshwater wetlands based on profiles recommended in the Christchurch City Council's 'Waterways, Wetlands and Drainage Design Guidelines', and 'Streamside Planting Guidelines'. If possible, some of the cut material from the excavation of these roads could be reused for non-structural/non-engineered components of adjacent stopbank construction, and/or used to create higher landforms to support indigenous forest and/or shrub land.

Riparian Plantings (12 hectares) - In order to achieve the vision set for the Ōtākaro Avon River by Regenerate Christchurch, it is important to establish appropriate riverbank profiles before any riparian planting is carried out. In most instances the re-contouring of these riverbanks will need to be coordinated with the replacement/realignment of the existing stop banks. Riparian treatments will need to balance views and enjoyment of the river environment by people with the need to provide and protect undisturbed refuge areas for sensitive wildlife

(e.g. cormorant colonies, roosting areas, crake and bittern habitat and inanga spawning areas).

Through large stretches of the OARC, riparian areas are anticipated to grade seamlessly from the freshwater aquatic environment through the back-swamp wetlands (see above) and on to the indigenous shrub and forest land beyond. In other more people-centric zones such as the landings and other amenity areas, the planted riparian areas are likely to be narrower but nevertheless a significant improvement on their current state from an ecological, cultural and aesthetic point of view.

Forest Plantings (130 hectares)- Within the OARC, there is potential for approximately 130 hectares of indigenous forest, not including any forest plantings associated with stormwater facilities and forest tree species planted as part of riparian restoration plantings (the latter accounting for an additional 12 hectares of potential forest canopy cover). Ultimately there is likely to be scope for between 160 and 170 hectares of indigenous forest plantings within the OARC, however the exact extent of these plantings will be largely dependent on site investigation and planning.

Forest plantings will be carried out by a range of interested parties. These currently include, but are not limited to groups such as the Avon-Ōtākaro Forest Park group, Conservation Volunteers New Zealand (CVNZ), Community Guardians, Limited Service Volunteers, Avon-Ōtākaro Network, Trees for Canterbury, OCEAN, Local Schools, Christchurch City Council Park Rangers, and a number of other less formal groups, including CVNZ and/or Ranger-led corporate groups.

While these groups are invaluable in engaging communities and taking ownership/exercising kaitakitanga for the local environment, it is also anticipated that large areas of forest will be planted and maintained by suitably qualified and experienced contractors. Therefore the rough order of costs provided are based on economies of scale for the large size of the forest planting project compared to the business-as-usual approach for smaller areas, and factors in the contributions made by the range of community groups.

Forest types will vary throughout the OARC depending on their proximity to the coast, ground conditions, water table and frequency of inundation. Towards the lower reaches of the Avon River, a distinctive coastal forest type dominated by Ngaio, Akaake. ti Kouka, Manuka, Kanuka, taupata and also totara is proposed in selected locations. Further upstream and away from significant coastal influences, the forest will become taller and more diverse. Here forest will be podocarp-broadleaved forest, dominated by kahikatea and totara/matai depending on ground conditions. All species used for indigenous forest, wetland and riparian plantings throughout the OARC will be locally eco-sourced and based on guidelines such as the Indigenous Ecosystems of Otautahi Christchurch (produced by Lucas and Associates).

Exotic Dominated Parkland (30 hectares) - Throughout the OARC, remnant trees from the former residential areas are a dominant feature of the landscape. They include street trees, riverbank trees and trees that once grew on individual private properties. They represent a mix of native trees, exotic evergreen and deciduous trees, fruit and nut trees, palms and a wide variety of understorey shrubs. Some trees and shrubs are likely to become problem weds in the OARCs natural areas, however many of these have since been removed for this reason. However, due to the established and iconic nature of these trees, the range of ecosystem

services they provide, and also their role in offering a significant narrative on the landscape, large areas are likely to be retained as open woodland.

7.4. Landings

The Regeneration Plan provides for eight distinctive landings located at regular intervals along the river. The function of the landings is to provide places for people to enjoy and access the river and provide a focus for small scale food and hire outlets. They will also provide a range of public amenities including toilets, parking (all transport modes), barbeque areas, rubbish bins, jetties and boardwalks. Each landing is to have its own identity with the design developed with the community and Ngāi Tūāhuriri runanga. The WT Partnership Limited report[12] provides a cost range for each landing between $1.8M - $3M, however it is anticipated that the community will expect a high level of service and amenity in respect of some landings. These community expectations will need to be carefully managed and in the consideration of design options, a focus given to delivering what is of greatest importance to the selected landing locations. Figures 19, 20 and 21 below illustrate the range of different approaches to landings.

For guidance on the proposed approach to the landings and associated allocation of funding, Council has drawn from the first and second phases described within the Regeneration Plan, namely to "Create a Platform" and "Welcome people in". It is proposed that the CRAF focus on establishing new community focal points and essential public facilities along the full length of the corridor (i.e. more in line with Figures 19 and 20), rather than more high-end (and high cost) landings at one or two locations (i.e. Figure 21). Creating focal points and "stops" at regular intervals along the corridor will draw in more of the community, not favour one local neighbourhood community and help create a more extensive and better functioning visitor attraction (i.e. supporting delivery of the City to Sea connection). Importantly this approach does not foreclose the creation of more high-end landings over time, as additional features and facilities will be able to be included when funding (public, community and/or private) becomes available.

Further information and cost estimations for elements that will be delivered within the landings is included within Annex 5 of this report. Whilst this indicates broadly what will be delivered at each different landing, until such time as more detailed design is undertaken, the specific costing for each unique landing cannot be confirmed. Council is however confident that all landings can be provided with a sufficient level of service and amenity within the $6.6M funding envelop, also having regard to existing facilities and other associated CRAF and Council's LTP planned improvements within or near the landing sites

[12] WT Partnership Limited Draft Ōtākaro Avon River Corridor Illustrative Plan Estimate (Rev 5) for Regenerate Christchurch 7 November 2018

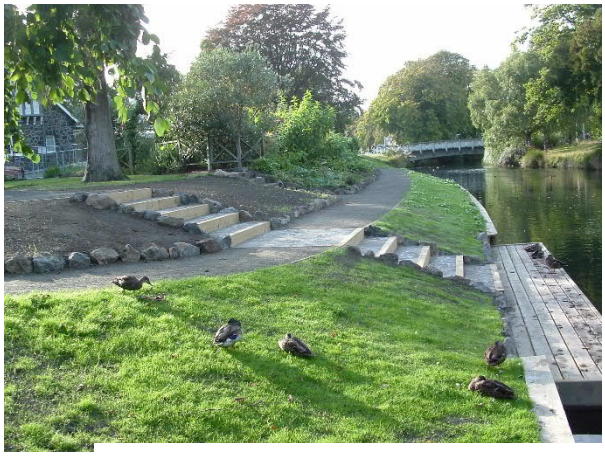


Figure 19: Botanic gardens

Figure 20: Margaret Mahy playground (sourced from Ōtākaro Limited)

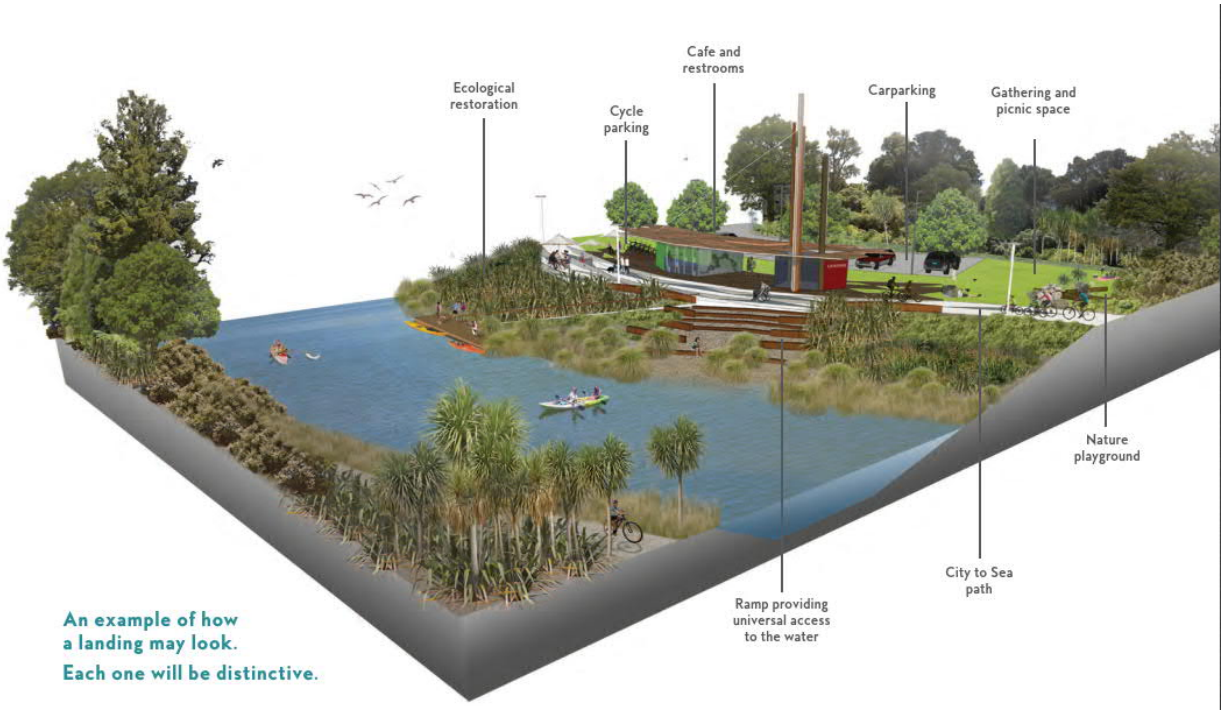


Figure 21: Page 70 of the Ōtākaro Avon River Corridor Regeneration Plan

8. Alignment with the Christchurch City Councils 2018-2028 Long Term Plan

The OARCRP vision and objectives were developed in consultation with the community, which put forward 5,000 ideas for regenerating the area, and drew on the findings of a community needs survey conducted by Nielsen. The survey found for the regeneration area that 83 percent of people surveyed prioritised groundwater quality and 72 percent prioritised water quality in rivers, streams, lakes and wetlands. These views were also strong in the communities feedback on the Council's Long Term Plan and reinforced the Council's on-going water improvement and management programmes.

The Council has committed approximately $144M under its 2018-2028 Long Term Plan to design and construct a major cycleway (through the Ōtākaro Avon River corridor); replace the Pages Road bridge (a key transport link); and to commence the design, consenting and some construction works for flood and water quality management facilities. This planned infrastructure investment however only partly funds a much larger programme of required network improvements to address flood risk, water quality and transport issues, with a further $270M identified as being required in the Council's 2018 30-year Infrastructure Strategy.

Preliminary designs and investigation (specifically in respect of locational options) is still to occur for the flood management, water quality improvement and cycleway facilities. The early stage of the Council's infrastructure programme is however advantageous to the overall proposed OARC programme, as it will facilitate a more comprehensive and integrated approach to design to be taken. Further it will enable critical thinking and assessments to occur, thus better achieving cost efficiencies and maximising value gained from individual projects. Land preparation works in particular could be costly and not having the final design and location fixed so early in the programme, enables flexibility to avoid unnecessary expenditure (to address land contamination and decommissioning requirements). More detail and what the proposed CRAF projects will leverage from, is briefly described below, with a high level funding overview set out in Table 5.

Table 5 – 2018-2028 Christchurch City Council funded works within or connecting to the OAR Regeneration Plan area	
Pages Road Bridge	$20,300,000
City to Sea Major Cycleway	$31,100,000
Fitzgerald Ave Twin Bridge (initial works, remainder FY29+)	$120,000
Stormwater Treatment Basins	$9,800,000
Floodplain management	$83,100,000
Total LTP funding	**$144,420,000**

As a priority the Horseshoe Lake Wetland project is proposed to be constructed. This project enables the redirection of most of the urban stormwater that enters this small natural lake. The stormwater comprises of up to 6 cubic metres per second of untreated urban stormwater from the Dudley Creek Diversion pipeline, which drains about 400ha of Christchurch urban catchment. It also includes a further two drains from about 300 hectares of largely urbanised catchments, all of which currently discharge into the western end of Horseshoe Lake. This water will be redirected away from the Lake and treated in the proposed wetland before being discharged into the Avon River.

Horseshoe Lake is of major cultural significance to Ngāi Tūāhuriri runanga, who have welcomed this initiative as it will go some way to restoring respect for the Lake and its cultural traditions. The project will also remove many urban contaminants from the Avon River and contribute in the longer term to the restoration of the natural Avon River ecosystems. It will form a part of the current programme of stormwater treatment for urbanised areas of Christchurch. The wetland itself will be an attractive naturalised space which will add to the landscape and recreational amenity of the area.

Parts of the low lying eastern suburbs of the city are at risk of flooding from rainfall, groundwater, the river and the sea. The risk of flooding is predicted to significantly increase with climate change. Current flood risk is managed, in part, by a stopbank network that is adjacent to the river's edge and built on land which is fragile. The vision put forward by Regenerate Christchurch within the Regeneration Plan is of a new stop bank network moved further back from the river's edge allowing for a wider flood plain, and for the stop banks to be founded on more solid land. A series of stormwater pump stations and basins will be required over time in order to manage stormwater behind any stopbanks and to achieve the vision set out in the Regeneration Plan.

Council is currently developing a climate change strategy, and commencing adaptation planning which will include a significant investigative programme into the multiple hazards that land within the lower flood plains are subject to. These investigations will help support decisions on flood plain management within and outside of the OARC. The $83M currently within the 10 year plan is to begin to deliver the strategy, adaptation plans and the objectives of the Regeneration Plan. It is highly likely that ongoing expenditure will be required beyond the 10 year plan in order to manage flood risk on an ongoing basis within the OARC and its catchments.

The Avon - Ōtākaro cycleway (Puari ki Te Karoro) is part of Councils Major Cycleways Programme to connect suburbs, shopping areas, businesses and schools. It is programmed to be completed by 2028 and connect New Brighton to the central city via the OARC. A natural extension of the central city river pathway, it will primarily provide a high-quality route for recreation and tourists and, in sections, commuter cycling.

9. Commercial Case

As the Programme Implementation Plan progresses and associated design of various elements is developed, the most appropriate strategy for each of the procurement packages will be identified. It is proposed that the Council will be the lead agency for resourcing and delivering all projects as part of Council's wider Capital Works Programme. Work will be undertaken as a programme utilising resources sourced internally and externally. Council process in regard to procurement and purchasing will align with Council's procurement policy and the Government Rules of Sourcing. The work will be undertaken utilising existing contractor pre-qualification or open market tenders to ensure best value for money.

Market capacity in Canterbury is strong at present and with a reducing level of work available, therefore competition is strong. Council has a strong reputation in working with the market to successfully deliver projects of this type of scope to budget and expected timeframes. Council will develop existing engagement frameworks and market relationships to ensure that engagement with the market is clear, frequent and timely.

It is expected that a mix of internal Council and external consultant resources will be employed for investigation and design works. The most suitable procurement method for each of the physical work packages will be determined by assessing their respective value, complexity, risk and schedule considerations.

At all times Council will look to maximise value to stakeholders using competitive processes wherever practical and assessing not only the financial proposal, but also the ability of respondents to deliver to the standards required. Whilst observing Local Government Act requirements, Council will also explore creative solutions within these parameters to maximise stakeholder outcomes.

10. Management Case

10.1. Programme management

The significance and complexity of this Programme and need for a well-integrated and aligned programme of works across multiple delivery agencies to maximise the value gained from investment, is recognised by Council. This acknowledgement will be reflected in the strong Governance framework implemented to support the programmes delivery. This framework will primarily be led by the Programme Steering Group, meetings of which will be chaired by the Programme's Executive Sponsor. Reporting to this Group will be a Programme Control Group. Given the scale of this Programme, membership of these groups will predominantly be Executive and Senior Management level staff.

The function of the Programme Steering Group will be to provide advice to the Chief Executive regarding the strategic direction and management of the Programme. The Programme Steering Group is responsible for monitoring budgetary strategy, maximizing value, defining and realising benefits, and monitoring risks, quality and timeliness. Risks and issues will be escalated to the Programme Steering Group by agreement of the Programme Control Group, and to the Chief Executive by agreement of the Programme Steering Group who will identify any further escalation required.

At all times the governance body for this Implementation Programme, shall consider the best interests of the Programme specifically, as well as those of Council generally. Any matters that have the potential to have an adverse impact shall be raised and addressed at the earliest possible opportunity. This may include calling a special meeting. Regular (monthly by default) reporting will be provided by the Programme Manager to Elected Members, Coastal-Burwood, Linwood-Central-Heathcote and Papanui-Innes Community Boards separately and they will attend the Council's 'Finance & Performance Committee of the Whole' or equivalent each month to answer any questions raised in that forum.

The Council is currently developing an Implementation Programme to set in place the deliver framework (subject to Crown and CEAT funding approval). The objectives of the implementation programme are to:

I. Set out a clear roadmap to achieve the plans vision and objectives (Execution Plan)
II. Provide a framework and processes to deliver projects and transitional activities (Execution Plan and integrated schedule)
III. Clearly articulate the dependencies between individual projects and transitional activities
IV. Set timeframes for key decisions and actions required to maintain momentum (Execution Plan and schedule)
V. Foster and manage relationships with partners, private investors, delivery agencies and community groups (Communication strategy and Execution Plan stakeholder management plan, refer also to Annexure 6 for a list of key stakeholders)
VI. Ensure the right people are involved at the right time to support the plans delivery. (Execution Plan and schedule)
VII. Ensure true costs of the works are identified and funding is managed efficiently to deliver priority works, first. (LTP and Execution Plan budget and schedule)
VIII. Manage clear and open lines of communication with governing bodies, delivery agencies and the community. (Execution Plan stakeholder management plan)

IX. Provide sufficient detail on the design to offer confidence to stakeholders and governors.

A draft Programme Management Plan has been prepared, outlining the fundamental approach to managing:

- Programme Governance
- Health & Safety
- Scope
- Schedule
- Cost
- Programme Resources
- Communications
- Stakeholders
- Risks, Issues and Change
- Procedures and Assurance
- Procurement and Programme Closure

As the Implementation Programme progresses, more detailed and individual plans will be developed for specific projects within the Implementation Programme. Figure 22 below illustrates the required steps that precede and need to be completed before final costs for the programme and individual projects, can be confirmed. Any major variations to estimated costs (within this Investment Case) will addressed through the aforementioned management process.

10.2. Programme phasing and delivery

With numerous individual workstreams or projects being delivered simultaneously within this Implementation Programme, there will be considerable overlap of phasing throughout its lifecycle. A high level summary of anticipated scheduling of projects for Years 1 - 10 is shown in Table 6 below and the associated funding required to deliver these projects in each phase stated. Whilst this indicates expenditure of the $40M is spread across the 10 years (with the substantive amount over the first 6 years), there is potential for all CRAF projects to be delivered earlier. This could be achieved through delivering concurrent works and/or the packaging of works contracted out. It would however require the Council to have access to the full $40M up front to provide a level of certainty and surety to the programme.

Developing public infrastructure involves many steps

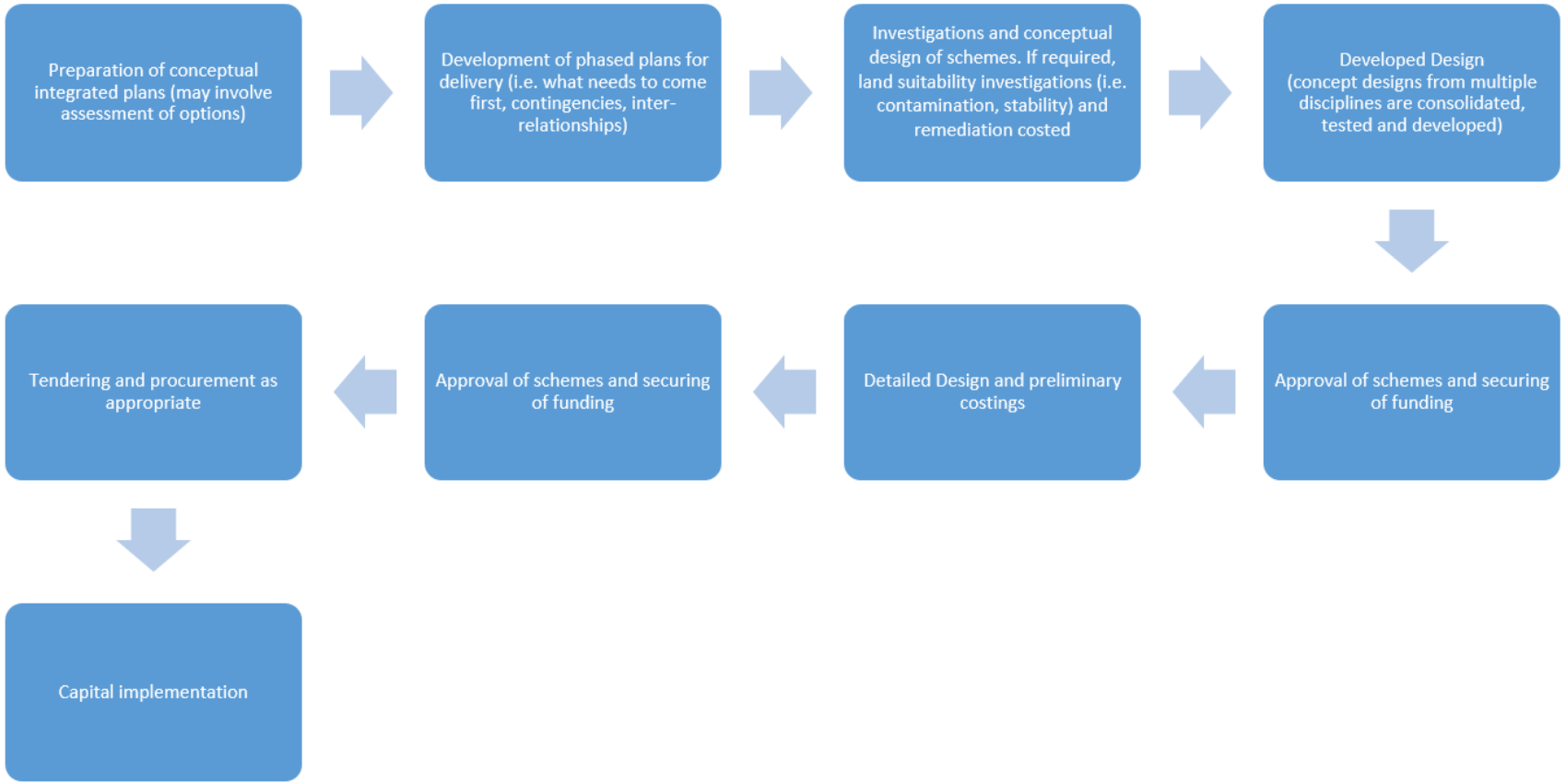


Table 6 - Overview of primary activities to be delivered			
YEARS	**Programme activities undertaken**	**Project elements expected to delivered**	**Associated funding required**
1-3	Site investigations; confirm land ownership status, detailed planning and design; obtain required consents, initiate procurement, commence construction of simple/priority elements only	***Pathways and connections*** • Improving the existing connections which follow the north section of the corridor, commencing from Oxford Terrace (west-most end of the corridor) and extend up to the Old Vicarage site near Basset Street and to Anzac Drive. Improve connections between the new high schools in QE2 to the river and through to the city. It is expected 20km of the total 27km length of pathways subject of this Investment Case can be improved in the first three years. ***Landings*** • Deliver (plan, design, consent if required) starter facilities (seats, cycle parks and prefabricated toilets) at all landing locations. ***Ecological restoration*** • Undertake planning and detailed design decommissioning of road infrastructure within identified areas along and adjacent to river banks and regrading of river banks	***Pathways and connections - $5M*** ***Landings - $2M*** ***Ecological restoration - $11M*** ***Total required to deliver Years 1-3 is $19M***

		to prepare land for planting; carry out earthworks within identified salt marsh areas in preparation for planting; and commence planting in areas not requiring any major earthworks. Commence selected areas of forest restoration planting. Note: Whilst not part of this investment case, in association with the proposed commencement of the priority pathways, it is proposed to deliver the footbridges sought to be funded by the CEAT, as together with the pathways will significantly improve connectivity and except for the connecting pathways (i.e. approaches) are not contingent on other projects occurring prior.	
4-6	Obtain required consents, complete procurement and commence of construction of other priority elements, p except where decisions on stopbanks have not been reached.	***Pathways and connections*** • Widen stopbanks to improve existing pathways and construct new pathway connections. ***Landings*** • Deliver associated civil works, specifically permanent car parking and the shaping of banks for access to the water, to six landings (refer to Annex 5 for further details).	***Pathways and connections - $2.7M*** ***Landings - $4.6M*** ***Ecological restoration - $11M*** ***Total required to deliver Years 1-3 is $18.3M***

		Ecological restoration • Completion of road decommissioning, earthworks associated with salt marsh and wetland establishment. Carry out significant riverbank re-grading and riparian/wetland plantings. Carry out a significant proportion of the planned wetland margin plantings and commence riverside and forest plantings. Commence significant forest restoration plantings.	
7-10	Complete construction.	***Ecological restoration*** • Complete remaining bulk earthworks. Continuation of significant forest restoration plantings, and commence introduction of niche plant species into older restoration plantings Complete riparian and wetland plantings.	***Ecological restoration - $3.7M***

11. Programme Risks

The programme risks were identified by first taking a list of common risks for large scale capital programmes and modifying it to provide high level coverage of the particular risks likely to be faced by, and that could impact on the delivery of, the proposed 10 year programme. A more detailed risk analysis will be undertaken as part of the development of the Implementation Programme and individual projects, including how these risks will be managed.

Risk Category	Description
Design	Risk relating to achieving the expected quality of design and changes to design requirements due to a number of potential factors.
Consent Planning	Risk relating to obtaining any required consents and potential to incur additional costs and/or delay delivery
Land transfers, leases, and sub-division	Risk in not fulfilling the legal and commercial contractual requirements in a timely manner to enable use and development of the land (recognising the complexity of the land title reconfiguration process)
Land condition	The suitability of land in relation to geotechnical factors (seismic risk, liquefaction etc.), extent of land contamination and potential for additional remediation work to be required beyond that anticipated and budgeted for.
Construction cost escalation	Delays in the construction phase resulting in increased costs
Benefits realisation	Usage of the land and associated infrastructure is less than expected; reducing benefits realisation
Interface risk	Interdependencies between different projects during construction and operations, and associated risk of delay/disputes causing changes to the programme and resulting delays and increased costs
Funding sources	Changes to the Council's LTP funding and prioritization of projects potentially impacting on the delivery of the proposed CRAF funded works
Transitional uses	Risk related to transitional uses being provided for that potentially impact on the delivery of the permanent use programme of works
Other proponents	Major changes to the proposed programme to provide for other uses

12. Next Steps

This programme business case seeks formal approval from the Crown and Christchurch City Council to commence the preferred programme of work.

Annex 1: Amendments to the Christchurch District Plan – The Ōtākaro Avon River Corridor Development Plan and Table 1 – Corridor Areas and Overlays

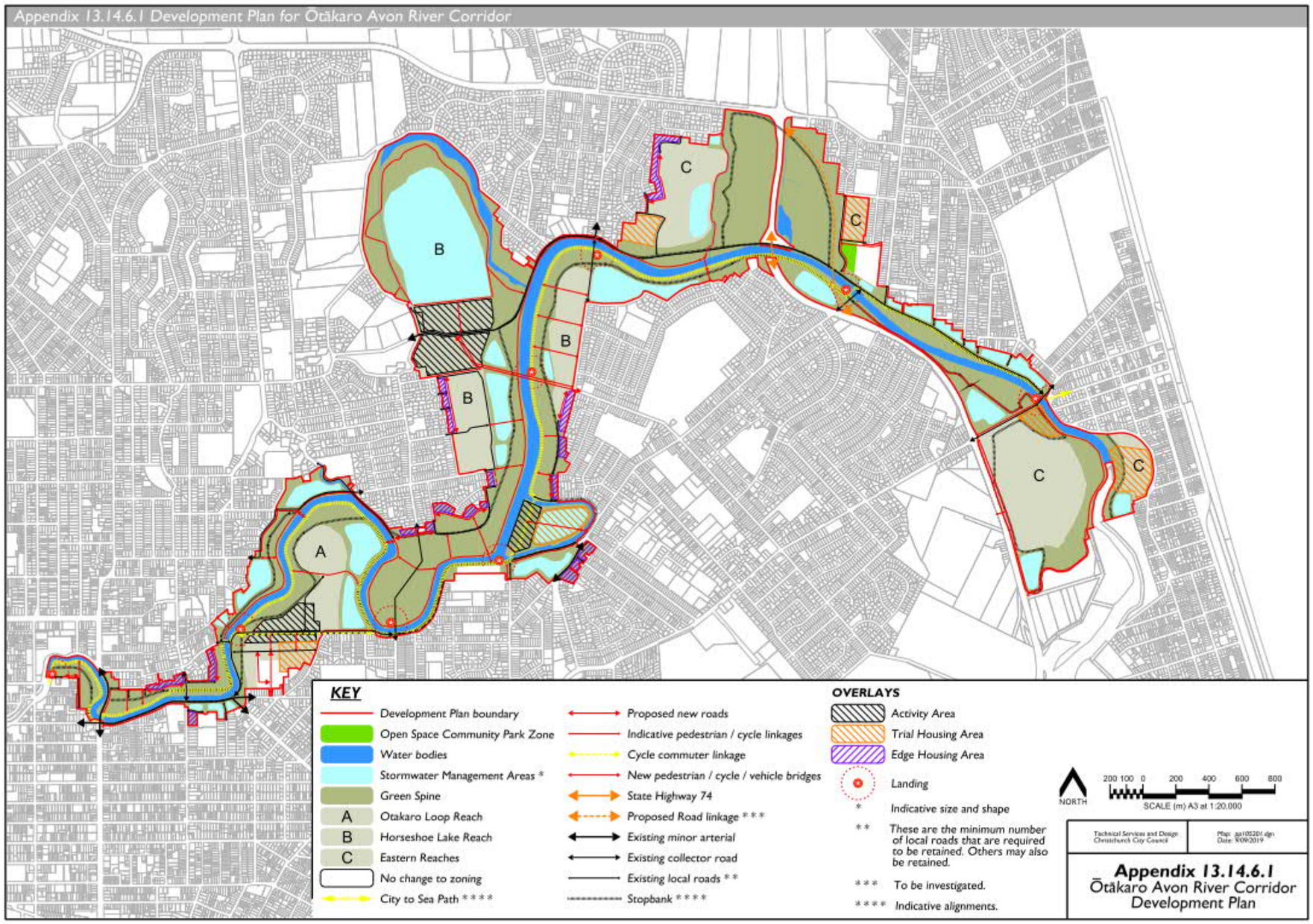


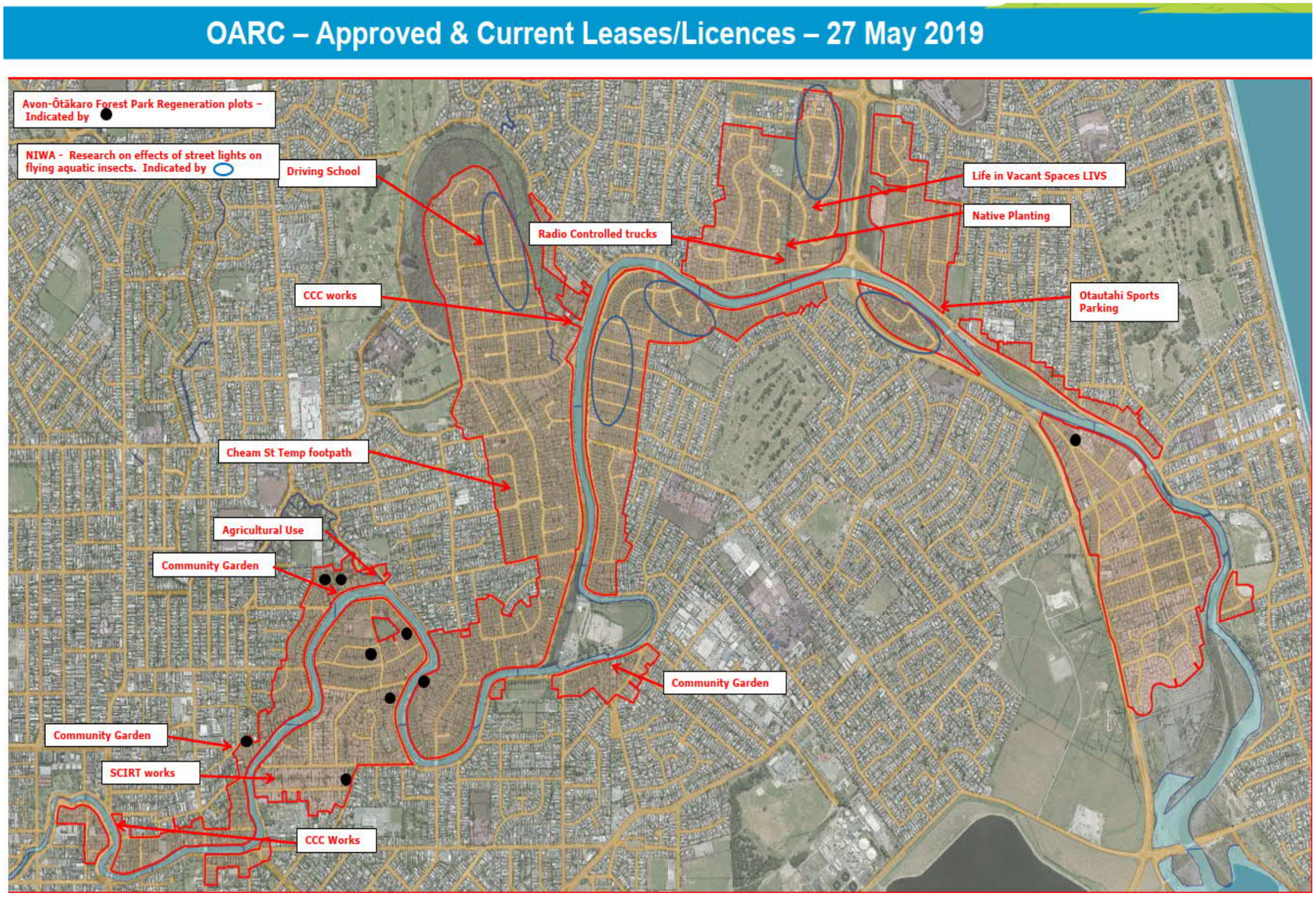
Table 1 – Corridor Areas and Overlays

Area/Overlay	Character Outcomes	Intended Activities
Green Spine	The Green Spine is to be predominantly natural open space providing for stormwater management, flood protection and significant ecological restoration, with enhanced indigenous habitat and mahinga kai opportunities. Stormwater management and flood protection activities are to be integrated into a naturalised and ecologically restored environment. The Green Spine will be largely free of built development, providing a continuous area of public open space with trails, paths and footbridges, extending from the central city to the sea. Built development and other activities will be largely limited to and concentrated in the Landing Overlays, Edge Housing Area Overlays, an Activity Area Overlay and Trial Housing Area Overlays (refer below). Retail activities will be limited to Landing Overlays and an Activity Area Overlay (refer below).	a. stormwater management and flood protection infrastructure, including stopbanks b. ecological restoration and enhancement c. outdoor recreation activities and entertainment activities compatible with a. and b. above d. outdoor community-based activities, including community gardens, markets, social events and other gatherings compatible with a. and b. above e. transport connections
Eastern Reaches	These Reaches are to be predominantly open and natural environments with restored ecological areas and activities that relate to, and are compatible with, those restored natural values and environment. Productive use of the land is also anticipated. A low density and small scale of built form is generally anticipated within the Eastern Reaches. Large-scale buildings may also be appropriate, where they integrate well with the landscape setting and do not dominate the natural landscape.	a. ecological restoration and enhancement b. urban farms c. eco-sanctuaries d. visitor attractions relating to, and compatible with, the natural values e. recreation activities compatible with the natural environment and restored ecology f. activities supporting those in c., d. and e. above that are limited in scale, such as retail and food and beverage outlets g. transport connections

	More significant built development and other activities will be provided for in Trial Housing Area Overlays and an Edge Housing Area Overlay (refer below).	
Horseshoe Lake Reach	The northern portion of this Reach will provide for a large stormwater management area with ecologically restored areas in a predominantly open and natural environment, including enhanced indigenous habitat and mahinga kai opportunities. The remainder of this Reach will be a predominantly open natural environment and provide for activities relating to productive use of the land. It is to provide a transition between the naturalised and ecologically restored environment of the Green Spine and the adjoining urban edges. A moderate density and scale of built form is generally anticipated within this Reach. Large-scale buildings may also be appropriate, where they integrate well with the landscape setting and do not dominate the natural landscape. More significant built development and other activities will be provided for in Edge Housing Area Overlays and an Activity Area Overlay.	a. stormwater management b. ecological restoration c. urban farms, community gardens and community markets d. recreation activities, education activities and public open space e. visitor attractions, f. food and beverage outlets g. community-based, educational and cultural-based activities h. transport connections i. activities that are compatible with a. – h. above and the Character Outcomes for the Reach
Ōtākaro Loop Reach	This Reach is to provide for activities within an open park-like environment. It is to provide a transition between the naturalised and ecologically restored environment of the Green Spine and the adjoining urban edges. A moderate density and scale of buildings are anticipated. Larger buildings may be appropriate where they integrate with the landscape setting and do not dominate the surrounding environment.	a. recreation activities, public open space, visitor attractions and cultural experiences b. transport connections c. activities supporting activities in a. above that are limited in scale, such as food and beverage outlets d. activities that are compatible with a. and b. above, and the Character Outcomes for the Reach, including education

	More significant built development and other activities will be provided for in a Trial Housing Overlay and an Activity Area Overlay (refer below).	
Activity Area Overlay	Activity areas are where a larger scale of development is anticipated than elsewhere within the Zone, with structures clustered within the overall Activity Area. The character of each Activity Area will be influenced by the area within which it sits.	a. small scale retail activities b. entertainment activities c. those activities listed above in relation to the area within which the Activity Area is located
Trial Housing Area Overlay	Refer Policy 13.14.2.1.5	a. residential activities
Edge Housing Overlay	Refer Policy 13.14.2.1.5	a. residential activities
Landing Overlay	Landings will be located within the Green Spine at identified intervals along the Ōtākaro Avon River to provide interaction with the river, and a node of small-scale buildings and activities that support the recreational use of the Green Spine. Some will provide direct access to the Ōtākaro Avon River, depending upon the environment in which they are located.	a. public amenities b. recreation activities c. limited small-scale retail activities

Annex 2: LINZ Overview of Transitional and Temporary Activities



Annex 3: Proposed Pathways and Connections and associated cost estimates

Job Description: Ōtākaro Avon River Regeneration - Pathways and Connections

Details: High level estimate

Date: 28 May 2019

Assumptions:

1) Estimation is based on Concept plan from Dennis Preston received on 21 May 2019.
2) Estimation is subject to further investigation and confirmation of scope of work.
3) No allowance is made for new bridges across Avon river.
4) Estimation assumes all earthwork fill / cut will be balanced on site. No allowance is made to dump surplus material.
5) Estimation is only for capital delivery program. No allowance is made for operation and maintenance.
6) Estimation is based on rate of FY2019-2020. Inflations as per CPI - Construction from Stats.NZ Annual Change for the Mar 2019 quarter@ 3 % - 2 years is applied.

No	Item	Unit	Rate	Quantity	Sub
A	**Construction Direct Cost**				
	Gritted path within parks - New build and repair				
1	New 3m wide gritted footpath with timber batten edge. Refer CSS detail SD609. Includes site clearance and levelling work.	m	$ 215.00	4500	$ 967,500.00
2	New 2m wide gritted footpath with timber batten edge. Refer CSS detail SD609. Includes site clearance and levelling work.	m	$ 165.00	1500	$ 247,500.00
3	Repair existing gritted footpath (between 1 - 5 m2)	m2	$ 65.00	3500	$ 227,500.00
	Footpath and driveway - new build and repair				
4	Repair existing carriage way - chipseal - Includes base / sub course and surface repair	m2	$ 45.00	850	$ 38,250.00
5	Repair existing footpath 25mm AC10 - Includes base / sub course and surface repair	m2	$ 55.00	650	$ 35,750.00
6	Widen existing footpath on road - new base / sub course and asphalitc concrete	m2	$ 140.00	750	$ 105,000.00
7	Widen existing carriage for cycle connection - new base / sub course and 50mm AC16	m2	$ 350.00	450	$ 157,500.00
8	Kerb and flat Channel along footpath as SD601	m	$ 180.00	800	$ 144,000.00
9	Road mark - Car park, cycle line and new road crossing	item	$ 65,000.00	1	$ 65,000.00
10	Repair footpath under bridge on ANZAC Drive, including improvement on storm drain system	item	$ 150,000.00	1	$ 150,000.00
11	Improve footpath and cycle way to bridge	item	$ 15,000.00	5	$ 75,000.00
	Path on stopbank				
12	Widen existing stopbank for footpath where < 2m - includes earth work on stopbank (from 1m width to 2m width)	m	$ 650.00	950	$ 617,500.00
13	Spot repair on existing path on stopbank (between 1 - 5 m2)	item	$ 80.00	60	$ 4,800.00
	Car Parks at five locations - approx. 1000 m2 for each car park				
14	Carpark and entrance construction includes earthwork and asphaltic concrete (to detail SD 607 Commercial crossing).	m2	$ 120.00	5000	$ 600,000.00
15	Commercial entrance to car park	m2	$ 250.00	800	$ 200,000.00
16	Carpark lanes and symbols	item	$ 1,500.00	5	$ 7,500.00

17	Regulatory Parking signs, including posts. (Installed to detail SD 647).	item	$ 2,500.00	5	$	12,500.00
18	Stormwater system to Car park	item	$ 4,500.00	5	$	22,500.00
19	Lighting in car park, includes power supply	item	$ 14,500.00	5	$	72,500.00
	Facilities and others					
20	Park entrance to SD716 and SD735 1/2. Hinged bollard in centre of path to SD735 2/2. Sheet D04 & D05.	item	$ 9,500.00	10	$	95,000.00
21	Supply and install cycle stands	item	$ 600.00	50	$	30,000.00
22	Supply and install noticeboards	item	$ 350.00	40	$	14,000.00
23	Supply and install stainless steel eco bin with concrete footings	item	$ 1,200.00	25	$	30,000.00
24	Supply and Install park bench including foundation and gravel surface	item	$ 3,800.00	25	$	95,000.00
25	Reinstate fence as per SD714 / SD 715	m	$ 120.00	1500	$	180,000.00
	Subtotal - Construction direct				**$**	**4,194,300.00**
B	**Construction Indirect**					
26	Preliminary and General		15%		$	629,145.00
27	Margin from Contractor		12%		$	503,316.00
	Subtotal - Construction indirect				**$**	**1,132,461.00**
C	**Total - Construction Cost**				**$**	**5,326,761.00**
D	**Design and Statutory**					
28	Survey, Investigation and Design cost		7%		$	346,239.47
29	Consent Fess		1.0%		$	53,267.61
30	Project management cost		5%		$	266,338.05
	Subtotal - Design and Statutory				**$**	**665,845.13**
E	**Risk and Contingency**					
31	Contingency and Risk Allowance		15%		$	898,890.92
	Subtotal - Risk and Contingency				**$**	**898,890.92**
F	**Total - excludes Inflation**				**$**	**6,891,497.04**
32	Inflations as per CPI - Construction from Stats.NZ Annual Change for the Mar 2019 quarter@ 3 % - 2 years applied		6.00%		$	413,489.82
G	**Total Cost**				**$**	**7,304,986.87**

Annex 4: Ecological restoration cost estimates

Forest Areas				Sub-totals	
Upper Reaches	25	ha			Area excludes purple zone
Bulk Earthworks for freshwater wetlands (25 x 380 m)	9,500	m2	$19,000		50% will be funded from another budget
Riverbank re-grading (TRB)	750	m	$375,000		Extent to be confirmed
Riverbank re-grading (TLB)	1100	m	$550,000		
Constructed wetland margin planting (5 m x 800 m)	4,000	m2	$20,720		Assume native tree, shrub & sedge planting at 1.2 m centres.
Wetland planting (15 m x 380 m)	5,700	m2	$40,000		Assumes planting at average 1 m centres and allowance for raupo to establish
TRB Avon Upstream from Fitzgerald Ave (5 m wide planting x 750 m)	3,750	m2	$26,000		Assume native tree and shrub planting at 1.0 m Centres
TLB Avon Downstream from Fitzgerald Ave (10 m wide planting x 525 m)	11,000	m2	$50,000		Assume native tree and shrub planting at 1.2 m Centres
Kahikatea dominated forest	5,000	m2	$25,000		Assume native tree and shrub planting at 1.5 m Centres.
Exotic Tree Dominated Parkland	80,000	m2			
				$1,105,720	
Ōtākaro Loop (True Right Bank)	16	ha			
Riverbank re-grading (TLB)	1325	m			Extent to be confirmed
TLB Avon (5 m wide planting x 1325 m)	6,625	m2	$50,000		Assume native tree and shrub planting at 1.0 m Centres
Totara dominated forest	40,000	m2	$130,000		Assume native tree and shrub planting at 1.5 m Centres.
				$180,000	
Ōtākaro Loop (West Loop Forest)	25	ha			Area excludes purple zone
Bulk Earthworks for freshwater wetlands (30 x 1700 m)	54,250	m2	$108,500		Assume 25% of total revegetation area to be excavated/scraped, (50% will be funded from another budget)
Riverbank re-grading (TRB)	2185	m	$655,500		Extent to be confirmed
Constructed wetland margin planting (5 m x 4200 m)	17,000	m2	$80,000		Assume native tree, shrub & sedge planting at 1.2 m centres.
Wetland planting (15 m x1700 m)	25,500	m2	$65,000		Assumes planting at average 1.5 m centres and allowance for raupo to establish
TLB Avon (5 m wide planting x 2185 m)	11,000	m2	$80,000		Assume native tree and shrub planting at 1.0 m Centres

Kahikatea dominated forest	175,750	m2	$565,000		Assume native tree and shrub planting at 1.5 m Centres.
				$1,554,000	
Ōtākaro Loop (East Loop Forest)	26	ha			
Bulk Earthworks for freshwater wetlands (25 m x 2150 m)	54,000	m2	$108,000		Excavation of road reserve area (50% area/volume funded from other budget)
Riverbank re-grading (TLB)	2000	m	$1,000,000		Extent to be confirmed
Constructed wetland margin planting (5 m x 4200 m)	20,000	m2	$95,000		Assume native tree, shrub & sedge planting at 1.2 m centres.
Wetland planting (15 m x 2150 m)	32,250	m2	$82,000		Assumes planting at average 1.5 m centres and allowance for raupo to establish
TLB Avon (5 m wide planting x 2000 m)	10,000	m2	$70,000		Assume native tree and shrub planting at 1.0 m Centres
Totara dominated forest	206,250	m2	$650,000		Assume native tree and shrub planting at 1.5 m Centres.
				$2,005,000	
Horseshoe Lake	98	ha			Excludes Horseshoe non-Red Zone land
Bulk Earthworks for freshwater wetlands (30 x 1500 m)	45,000	m2	$100,000		50% will be funded from another budget
Riverbank re-grading (TLB)	1000	m	$500,000		
Constructed wetland margin planting (5 m x 3000 m)	15,000	m2	$80,000		Assume native tree, shrub & sedge planting at 1.2 m centres.
Wetland planting (15 m x1500 m)	22,500	m2	$70,000		Assumes planting at average 1.5 m centres and allowance for raupo to establish
TLB Avon (5 m wide planting x 1000 m)	5,000	m2	$40,000		Assume native tree and shrub planting at 1.0 m Centres
Kahikatea dominated forest	318,000	m2	$1,030,000		Assume native tree and shrub planting at 1.5 m Centres.
Exotic Tree Dominated Parkland	98,000	m2			
				$1,720,000	
Avonside Drive Downstream from Porrit Park	41	ha			Assume 50% of restoration area will be excavated/scraped wetland & 50% forest on cut & fill
Bulk Earthworks for freshwater wetlands	163,500	M2	$654,000		Assume 50% of total area to be excavated
Constructed wetland margin planting (5 m x 4200 m)	21,000	m2	$100,000		Assume native tree, shrub & sedge planting at 1.2 m centres. Important buffer and barrier against road mortality
TRB Avon (5 m wide planting x 2125 m)	11,000	m2	$75,000		Assume native tree and shrub planting at 1.0 m Centres
Kahikatea dominated forest on cut & fill material	143,500	m2	$460,000		Assume native tree and shrub planting at 1.5 m Centres.
Exotic Tree Dominated Parkland	75,000	m2			

				$1,289,000	
ANZAC Drive EcoSanctuary (West)	53	ha			
Bulk Earthworks for freshwater/saline wetland (30 x 1700 m)	142,750	m2	$144,000		Assume 25% of total area to be excavated (36000 M2)
Constructed wetland margin planting (20 m x 1250 m)	25,000	m2	$80,000		Assume native tree, shrub & sedge planting at 1.2 m centres.
Wetland planting (10% of wetland area)	15,000	m2	$50,000		Assumes planting at average 1.5 m centres and allowance for raupo to establish
Coastal Forest on higher topography and cut to fill areas	174,800	m2	$565,000		Assume native tree and shrub planting at 1.5 m Centres.
Exotic Tree Dominated Parkland	36,500	m2			
				$839,000	
ANZAC Drive EcoSanctuary (East)	29	ha			
Bulk Earthworks for freshwater/saline wetland (30 x 1700 m)	125,000	m2	$124,000		Assume 25% of total area to be excavated (31000 M2)
Constructed wetland margin planting (20 m x 1150 m)	23,000	m2	$125,000		Assume native tree, shrub & sedge planting at 1.2 m centres.
Wetland planting (10% of wetland area)	12,500		$31,500		Assumes planting at average 1.5 m centres and allowance for raupo to establish
Coastal Forest on higher topography and cut to fill areas	100,000	m2	$330,000		Assume native tree and shrub planting at 1.5 m Centres.
				$610,500	
Bexley	62	Ha			
Bulk Earthworks for salt marsh	300,000	m2	$300,000		Assume 25% of total area to be excavated
Constructed wetland margin planting (10 m x 4000 m)	40,000	m2	$187,200		Assume shrub planting at 1.2 m centres
TRB Avon (20 m wide planting x 1740 m)	34,800	m2	$180,000		Assume native tree and shrub Planting at 1.2 m Centres
Pages Road Forest Planting (40m either side) 770 m	30,800	m2	$220,000		Assume native tree and shrub planting at 1.2 m Centres. Important buffer and barrier against road mortality
Core Forest Hub (Peninsula)	70,000	m2	$230,000		Assume native tree and shrub planting at 1.5 m Centres. Part of citywide optimal forest patch configuration
ANZAC Drive Forest Planting	27,500	m2	$90,000		Assume native tree and shrub planting at 1.2 m Centres
				$1,207,200	
TOTAL				$10,510,420	

Annex 5 Cost estimates and priorities for landings

The Ōtākaro Avon River Corridor Regeneration Plan provides for "*Eight distinctive landings located at regular intervals along the river would provide places for people to enjoy the river environment together. Where appropriate, they could include small scale food and hire outlets, as well as amenities such as barbecue areas, toilets and parking with jetties and boardwalks providing linkages with the river in some locations."* The Dallington, Travis and Rawhiti landings are considered by Council to be of the highest priority and the establishment of starter facilities at all landing locations including interpretation, car and cycle parking, seats and WC as listed in below table.

Name & Number (West to East)	**Priority** and • **Scale**	**Indicative Theme**	**Starter facility description** (Starter Cultural Trail interpretation included in all) • River Access	 • Green spine support	• **Notes – 2019 Sep**
1 Avon loop "Central City Connection"	Currently in delivery by Ōtākaro ●●● (M)	Gateway to the city	**Water vessels + People** Boat ramp Existing Boardwalk By Ōtākaro Picnic tables By Ōtākaro	**Services + Interpretation** Seats By Ōtākaro Parking By Ōtākaro WC Not proposed	Ōtākaro's Avon River (Central City) Precinct walkway proposed work -late 2019. (Information based on Public concept plans on Ōtākaro website.)
2 Avonside • "Kayaking hub"	**Medium priority 3-7 yrs ●● (S)	European Heritage	**Water vessels mainly** Boat ramp Existing Boardwalk Not proposed Picnic tables Not proposed	**Services + Interpretation** Seats Cycle and car parking WC not proposed (existing @Avebury Park)	• Popular kayak launching spot. • Pre-earthquake connection: A white water sports club used to be near here this area pre- earthquake.
3 Dallington "Corridor Highlight - Picnic in the forest"	***High priority 1-3 yrs ●●●● (Med-Large)	River as a Transport Corridor	**People only** Boat ramp Not proposed Boardwalk Not proposed Picnic tables proposed	**Services + Interpretation** Seats Cycle and car parking WC	• Sufficient room to support multiple uses and become a highlight with vertical elements and art work, giving the corridor high visibility to South.
4 Wainoni "Connect Avon Park" (Large scale long term)	*Low-medium priority 3-7 yrs ● (XS)	Recreation on and in the river	**People only** Boat ramp Not proposed Boardwalk Not proposed Picnic tables Not proposed	**Services + Interpretation** Cycle and car park (along existing strip along river) WC or Seats not proposed short term (existing @Avon Park)	• Integration with existing Avon Park a larger longer term project. • Existing white baiting spot. Design attention required so the spaces remain inclusive to all. • Steep narrow bank along existing retained road.

Avondale "Glimpse to history"	*Low priority 7-10 yrs ● (XS)	Resilience and sea level rise	**People only** Boardwalk Not proposed Boardwalk Not proposed Picnic tables Not proposed	**Interpretation** Pedestrian access only to high point. One seat WC not proposed	• Narrow strip between water sports and stop banks. • 'Stopping' focus rather than 'staying' focus.
6 **Travis** • "Views across"	***High priority 1-3 yrs ●● (Small)	Mahinga Kai	**People only – view across**	**Services + Interpretation** WC + viewing platform + seats	• Part of the wider implementation priority "Eastern Reaches". • Existing bridge connection to be improved
• 7 **Rawhiti** "Safe reconnection" •	***High priority 1-3 yrs ●●● (Medium)	Maori Settlement	**People only** Picnic tables proposed	**Services + Interpretation** Seats Car and Cycle parking WC	• Part of the implementation priority area "Eastern Reaches" in the corridor. • Existing WC at Bower Park on the other side of the river. • Existing bridge connection to be improved
8 **Bexley** • "Corridor marker"	*Low priority 7-10 yrs ●● (S)	Gateway to New Brighton	**People only - view above water**	**Interpretation** Art work One seat?	Small area of high ground can support small scale activity.
9 **Withells** "Recreation on Water"	**Medium priority 3-7 yrs ●●●● (M- L)		**Water vessels + People** Existing boat ramp, floating pontoon (to be refreshed)	**Services + Interpretation** Seats Car and Cycle parking WC (to replace existing)	• This landing is not identified in OARC. • CCC proposes to link revamping of existing facilities with the other proposed landings in the corridor. • Shared priority with CCC internal recreation service delivery.

WT PARTNERSHIP LIMITED – Cost estimation for starter facilities - Christchurch City Council requested WT Partnership to provide cost estimates for the listed elements below, being exclusive of contingency costs and that associated with detailed design, consenting and site investigation. A summary of this further assessment is provided within the "Estimate Summary" table.

1. Estimate Summary

Item	Description	Qty	Unit	Total
1.00	Seating (5 benches)	1	item	$ 42,000
2.00	Water Fountain (1 no)	1	item	$ 14,000
3.00	Cycle Parking (5 no. hoop bollards)	1	item	$ 7,000
4.00	Grassed area (1 Hectare)	1	item	$ 421,000
5.00	Car Parking (10 spaces)	1	item	$ 103,000
6.00	Shelter	1	item	$ 242,000
7.00	Information Signage	1	item	$ 11,000
8.00	Public toilets (4 no.)	1	item	$ 424,000
9.00	River Access (steps and ramp)	1	item	$ 303,000
10.00	Landscaped area (400m2)	1	item	$ 24,000
11.00	Paving (upgrade proposed cycle area - 80m2)	1	item	$ 20,000
	TOTAL PROJECT COST			**$ 1,611,000**

Annex 6 Primary stakeholder list

Regenerate Christchurch Ltd
Department of Prime Minister and Cabinet
Land Information New Zealand
Te Rūnanga o Ngāi Tahu
Ngāi Tūāhuriri runanga
Mahaanui Kurataiao (MKT)
Ministry of Education
New Zealand Transport Agency
Ōtākaro Limited
Canterbury District Health Board
Environment Canterbury
Heritage New Zealand
Canterbury Earthquake Appeal Trust
Matapopore
Development Christchurch Ltd
Community Board Coastal Burwood Community Board
Linwood-Central-Heathcote Community Board
Papanui Innes Community Board
Remaining residents
Eastern Vision
Avon Ōtākaro Network
Riverside Community Network
Land use proponents