

FLOODED WITH OPPORTUNITIES

TURNING FLOOD MITIGATION SCHEMES INTO COMMUNITY ASSETS

Water NZ Stormwater Conference 2018

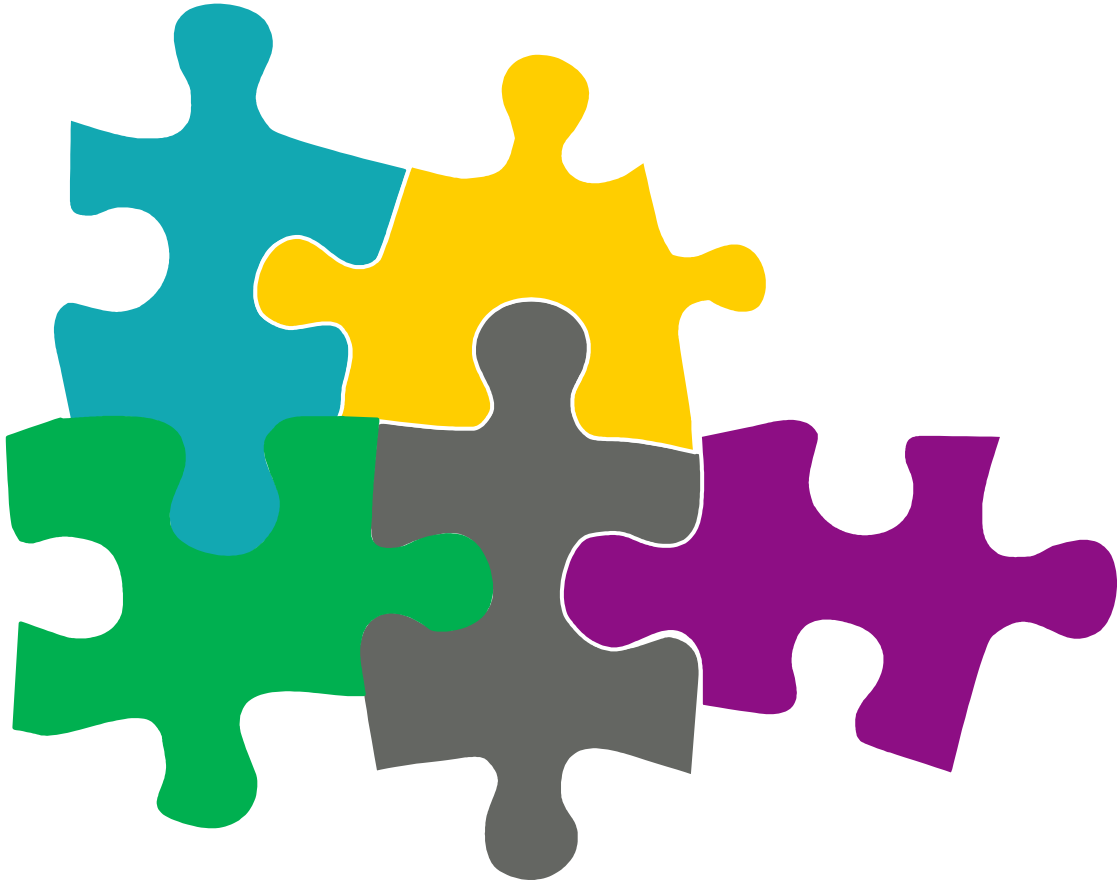
Amber Murphy, Beca

Karissa Hyde, Christchurch City Council



Can we afford to use land 'just' for flood management?

Or can we make that land provide multiple benefits to the community?



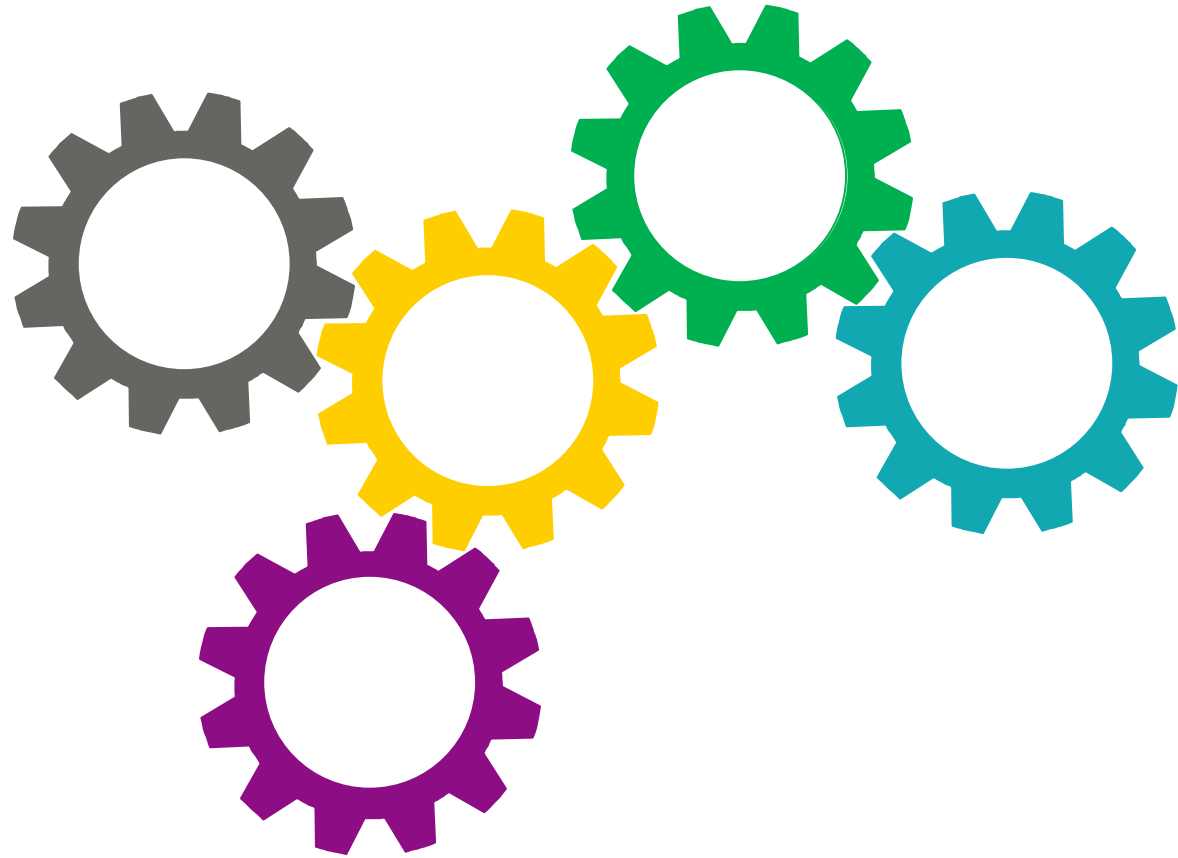
Drivers

- Historic flooding and drainage issues
- Flood events
- Land development
- Climate change

Challenges

- Land-hungry infrastructure
- Capital cost
- Operational requirements
- Other hazards
- Required Level of Service
- Resilience
- Tie-ins to other assets
- Affordability

Features and Opportunities



- Flow and Volume Design Criteria
- Low-lying land, near water bodies
- LIDS, SUDS
- Water availability
- Amenity Values,
- 6-values
- Proximity to properties
- Desire for other uses of land
- Existing waterway values



Bells Creek Stage 1



March 2014



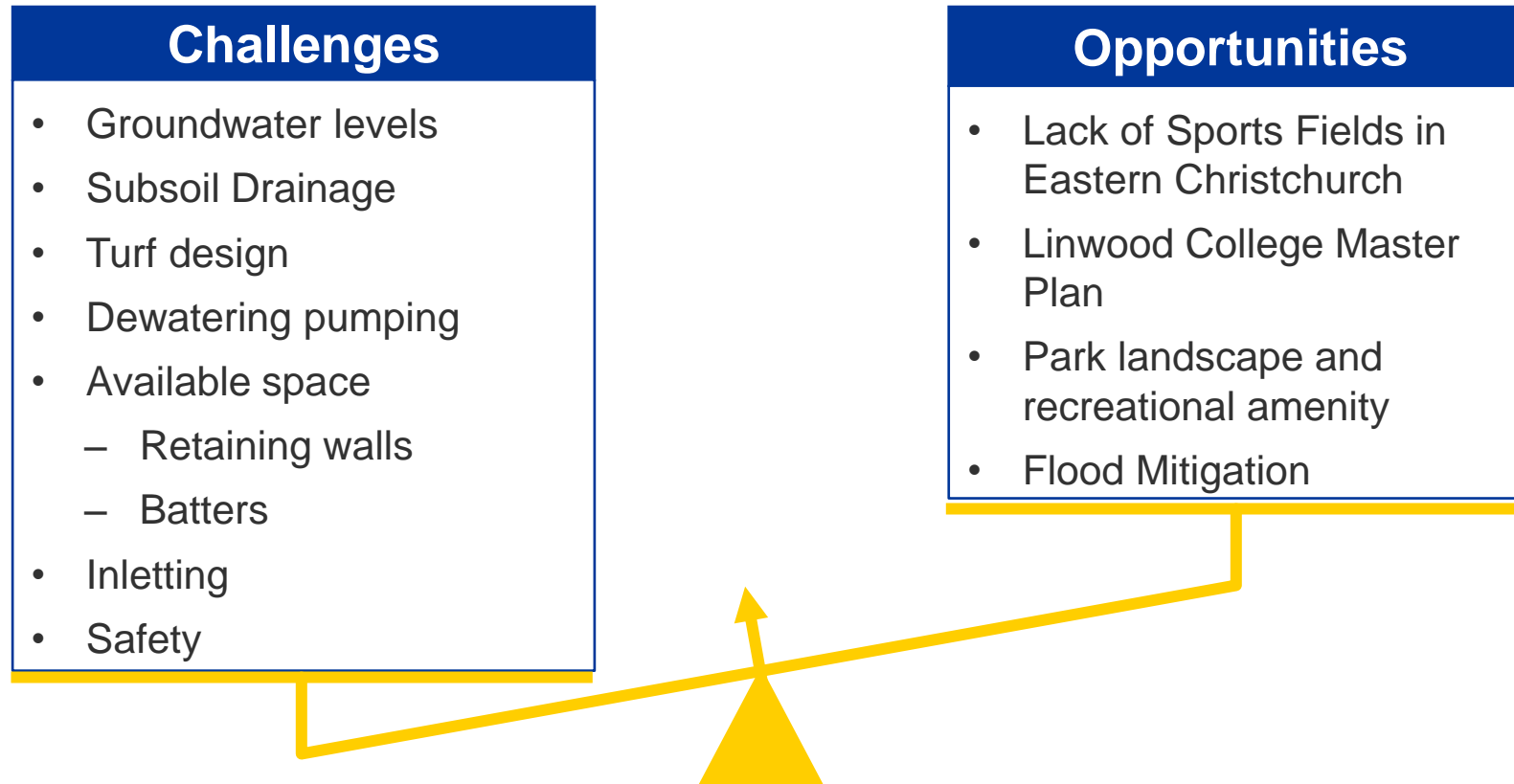




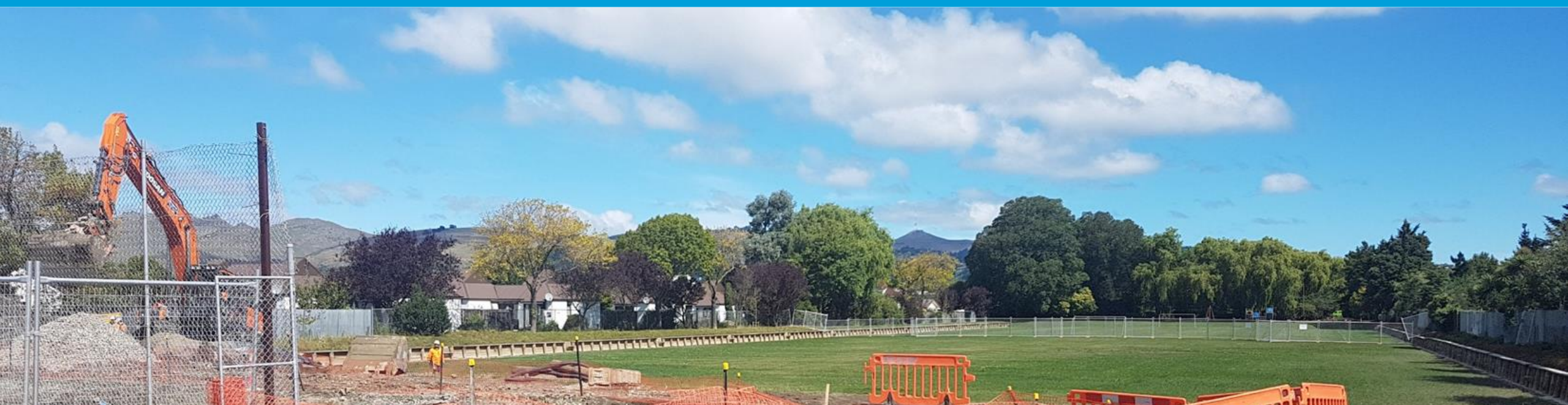
Edmonds Basin Sports Fields



Edmonds Basin Sports Fields









Te Oranga Waikura Urban Forest



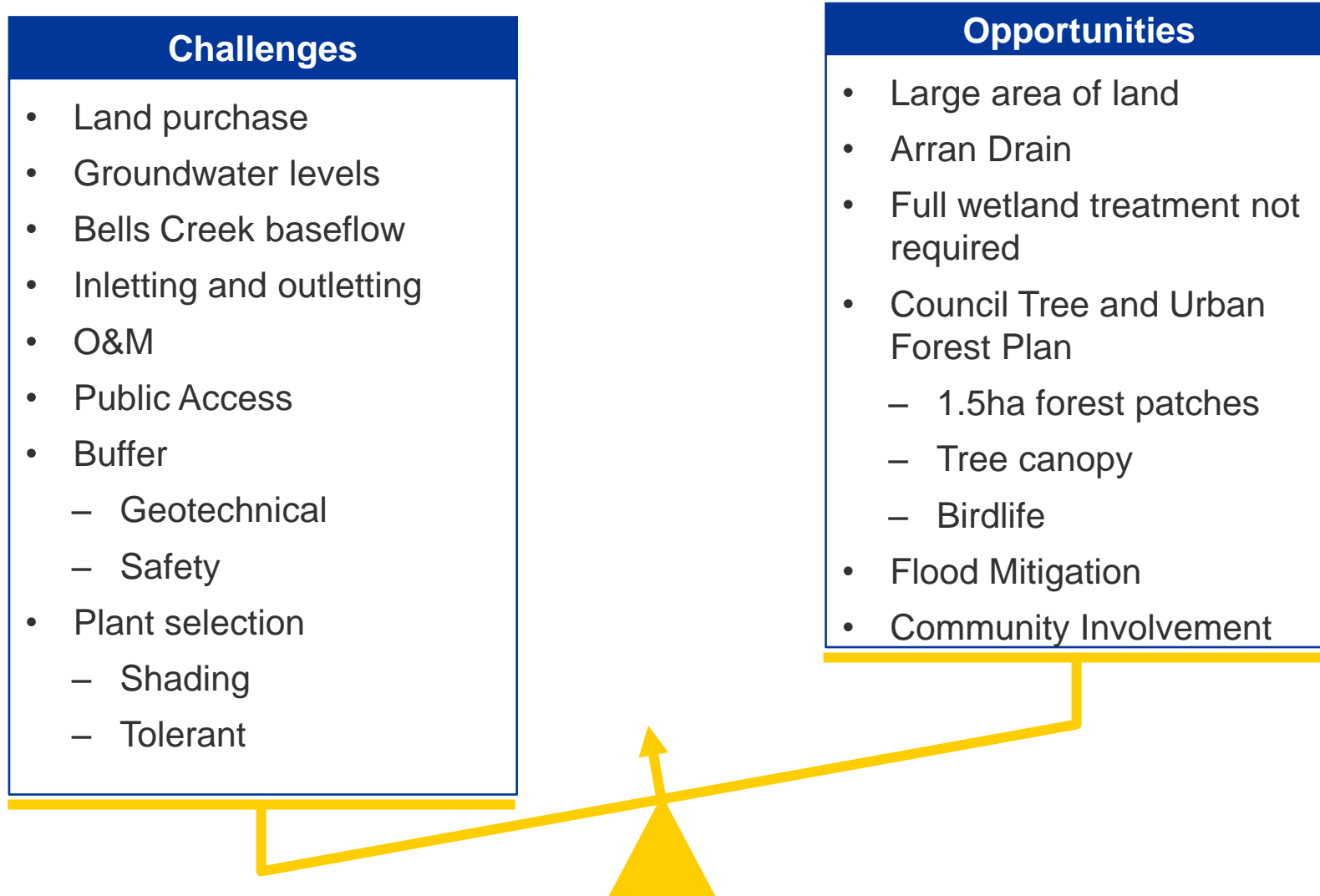
Te Oranga Waikura Urban Forest

Challenges

- Land purchase
- Groundwater levels
- Bells Creek baseflow
- Inletting and outletting
- O&M
- Public Access
- Buffer
 - Geotechnical
 - Safety
- Plant selection
 - Shading
 - Tolerant

Opportunities

- Large area of land
- Arran Drain
- Full wetland treatment not required
- Council Tree and Urban Forest Plan
 - 1.5ha forest patches
 - Tree canopy
 - Birdlife
- Flood Mitigation
- Community Involvement



BOUNDARY FENCES
WILL BE UPGRADED TO
INCLUDE SECTIONS OF
SEE-THROUGH POOL
STYLE FENCES OVER TIME
AS OPPORTUNITIES ARISE

TIMBER BOARDWALKS
FOR PEDESTRIAN ACCESS
OVER FOREBAYS

FARM FENCE

EXISTING TREES
ALONG ARRAN DRAIN
TO BE RETAINED



ACCESSIBLE ASPHALT
LOOP PATH

EXISTING CHANGING
SHEDS TO BE REMOVED

CHURCH

TO FERRY ROAD

INTERPRETATION
MAP BOARD AT
ENTRANCE TO
FOREST

Te Oranga Waikura

What you see in front of you is only the beginning of a new urban forest and stormwater basin. This will have fantastic benefits for the community in the coming years.

During storm events, this basin will collect water and reduce flooding to properties in the area.

The forest will also provide a habitat for native birds such as bellbird, huihā and karewa and, one day, draw other locally extinct birds back to the city.

Community support and involvement has and will be crucial to the growth of Te Oranga Waikura.

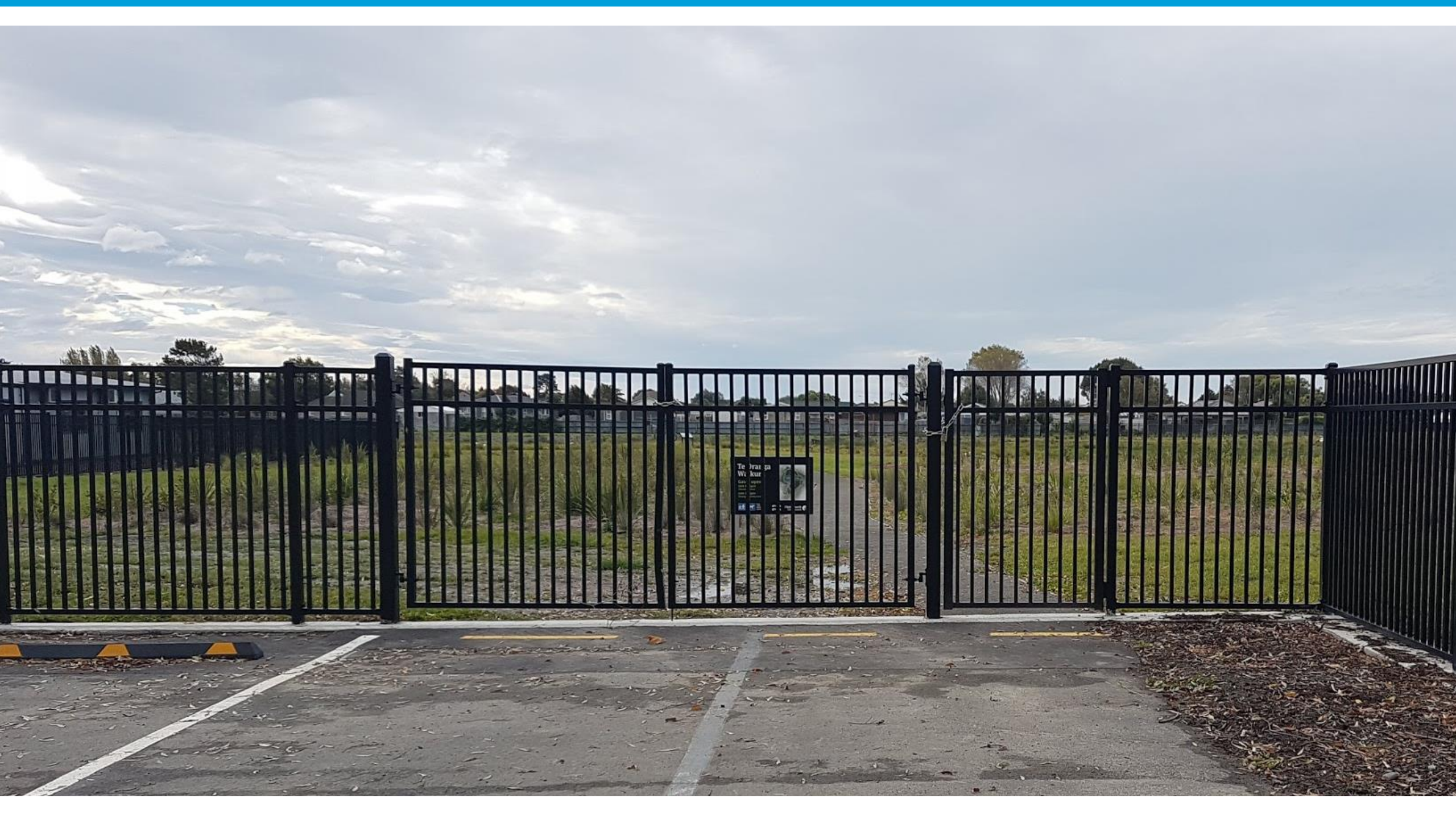
You can continue to help recreate an ancient Canterbury forest full of native hāora and kahikāhika. See how here: www.ccc.govt.nz/te-oranga-waikura

By the 2014-2015 financial year, the project will have planted 1000 native trees and shrubs.



Christchurch City Council





Te Jrai ga
Wi kur
Ga
Ga
Ga

NEWSLINE *Christchurch*



New urban forest in suburban Christchurch to attract native birds while fixing flooding

TINA LAW

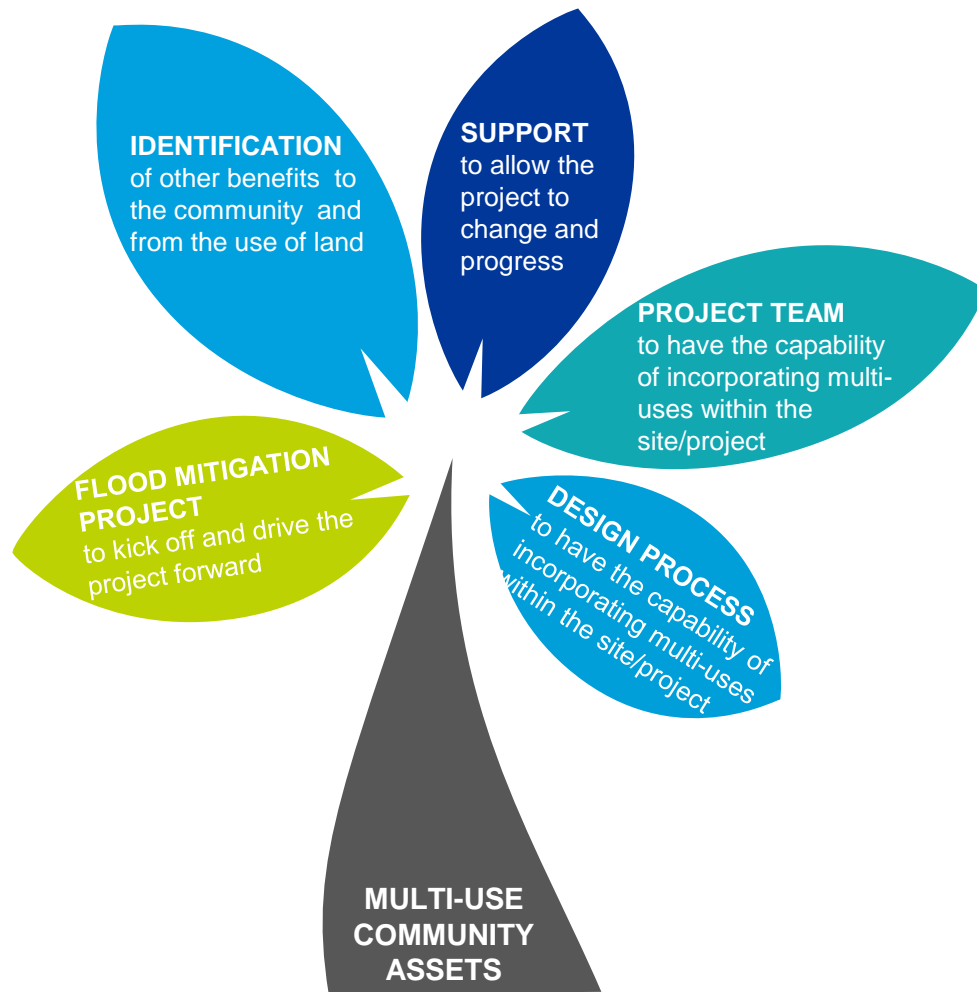
Last updated 20:36, March 16 2017





Opportunities for Community Multi-Asset Projects





Flood mitigation PROJECT

Flood mitigation projects have the opportunity to incorporate other benefits and uses. If a project has been identified and funded, this can form the basis and 'go-forward' for a multi-use project.

IDENTIFICATION of other opportunities

Other existing council strategies? Any communities desires expressed? Master planning activities? Any other infrastructure projects planned in same area?

What other ways could this land be used?

SUPPORT for the project

Can funding be approved? Can the project programme be adjusted? Can the design process be modified? Can other stakeholders (asset owners, community groups, ministries other agencies) lend support, funding, or technical knowledge? Multi-benefits can be more difficult to prove, can a MCA or NPV help? Will a better business case add weight? Is there community engagement and support?

Project TEAM

Multi-disciplinary team required in order to make multi-use of sites a success. Willingness to re-visit design options. Communication skills important (within team, and with other stakeholders).

DESIGN process

Clarity of design aim and design strategy. Bring on board the other stakeholders. Bring on board experts. Design process needs to facilitate collaboration. Requirements for some compromises and pragmatic design due to the sharing of land. Careful consideration of operation, and safety in design.



Can we afford to use land 'just' for flood management?

NO we cannot

Or can we make that land provide multiple benefits to the community?

YES we can





**make
everyday
better.**