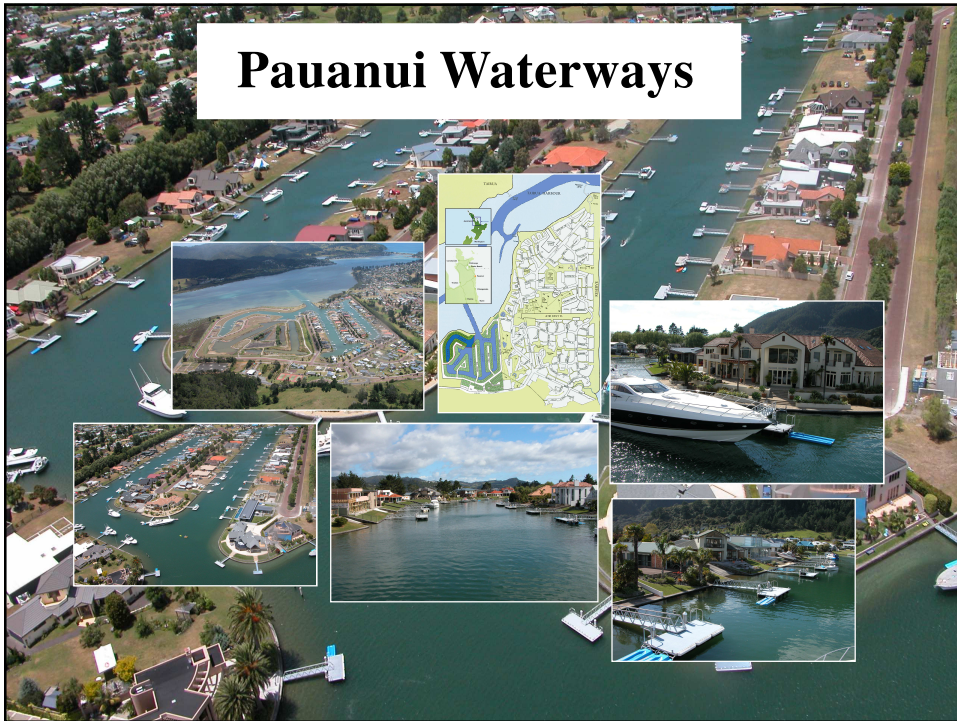
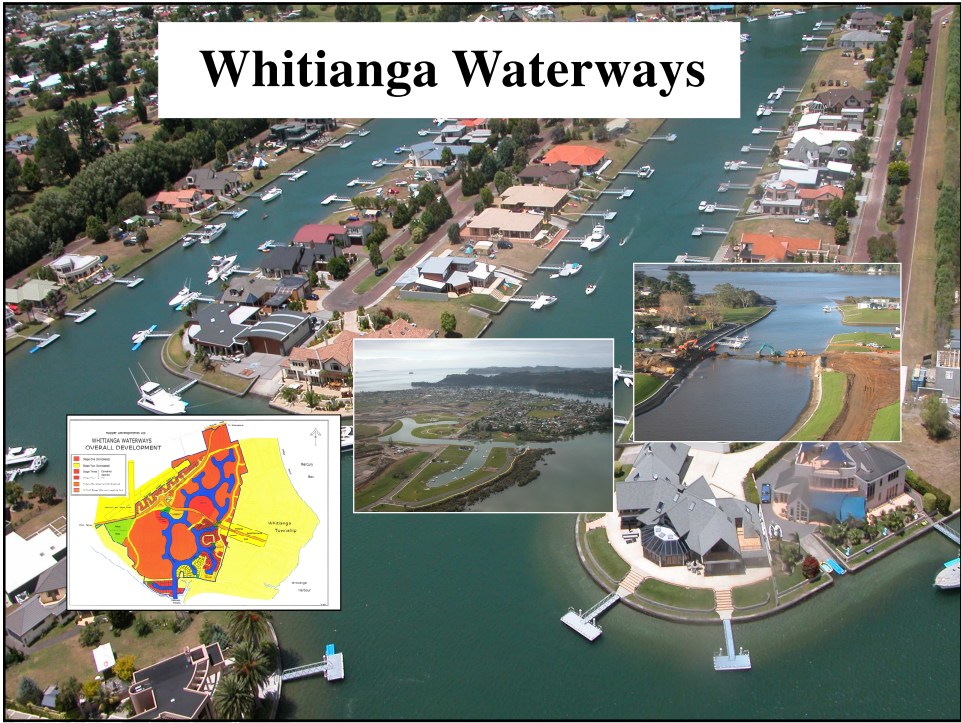


CREATING NEW COASTLINE

Hopper Developments Limited gained New Zealand's first canal housing consent at Pauanui in 1993 secured under the 1991 Resource Management Act. Since then the company has pursued a further two similar waterways projects at Whitianga and Marsden Point.

Pauanui Waterways





Land Use

Good land use	Site characteristic is typically low lying, low value land often with little capacity to improve.
Extended CMA	New water bodies become part of CMA.
Extended facilities	Offers an opportunity to establish a range of facilities not otherwise appropriate on the land in its original state.
Consolidation	Where a suitable site adjoins an existing community canal housing enables consolidated growth, avoiding fragmentation and ribbon development.

Physical Changes

PHYSICAL CHANGES	
Access channel	Established on an alignment causing least impact on existing environment and designed to require minimal maintenance. Disturbed area results in a change of environment not loss.
Foreshore severance	Cannot be mitigated, prevents long-shore pedestrian movement. Trade-off's can provide compensation to loss of foreshore.
New maritime habitat	Extended habitat within the canal system.
Construction	Contained site, minimal passage of contaminants off-site.

Outcomes

Extended CMA	Canals are managed and maintained by property owners gaining direct access but are accessible by public.
Low impact on CMA	Development well set back from natural coast line. A complementary package of RC conditions, private covenants and default remedies ensures high environmental outcomes are achieved and maintained (eg, Pauanui canals maintained shellfish gathering quality). Activities beyond the site can cause undesirable effects on the environment within the canal system.

Outcomes

Urban form	Master planning produces superior development. Structured layout, integrated facilities with a variety of property types (canal frontage, canal access comprehensive housing and conventional lots). Private covenants add continuity of standards (jetties, boat ramps, yard restrictions).
Re-cycling of resources	Suitable materials extracted during construction or maintenance can be re-cycled for beach nourishment or restoration (Pauanui, Whitianga and Marsden Cove).

Outcomes

Storm water management	<p>High quality discharge to canal waters is imperative. From a market perspective it is highly desirable to maintain NZ bathing standards. Storm water design includes green engineering; separating roof-water for direct discharge, soakage pits, discharge to swales and rain-gardens prior to entering piped system. Canals provide an opportunity for flood protection for existing community (Whitianga, Marsden Cove).</p>
District Planning	<p>Provides attractive, high amenity value water-front property reducing development pressures on sensitive natural coastal environments. Allows consent authorities to resist coastal development pressures elsewhere in the district.</p>

Outcomes

Containment	<p>Layout offers containment of activities which have potential to impact adversely on the environment eg, oil spills.</p>
Extended facilities	<p>Canals introduce a new dimension to an area. They are a tourist attraction and give rise to the establishment of facilities such as waterfront retail, tourist accommodation and boating services resulting in a mix of private and public benefit.</p>



