



Living
Waterways.
IN PICTURES

Living Waterways - In Pictures

Living Waterways is a Water Management Tool that can help us achieve the best outcomes for our waterways and communities. It allows councils and developers the flexibility to tailor Water Sensitive Urban Designs (WSUD) to local needs. This pictorial guidebook was created to illustrate the possible outcomes of utilising the Living Waterways Tool.

As our catchments are developed, we need to take special care to ensure the waterways that wildlife depend on are not degraded beyond repair.

WHY WE NEED TO ACT





There is an urgent
need to halt the
decline in waterway
health and manage
our impact holistically.

WHY WE NEED TO ACT

AFTER

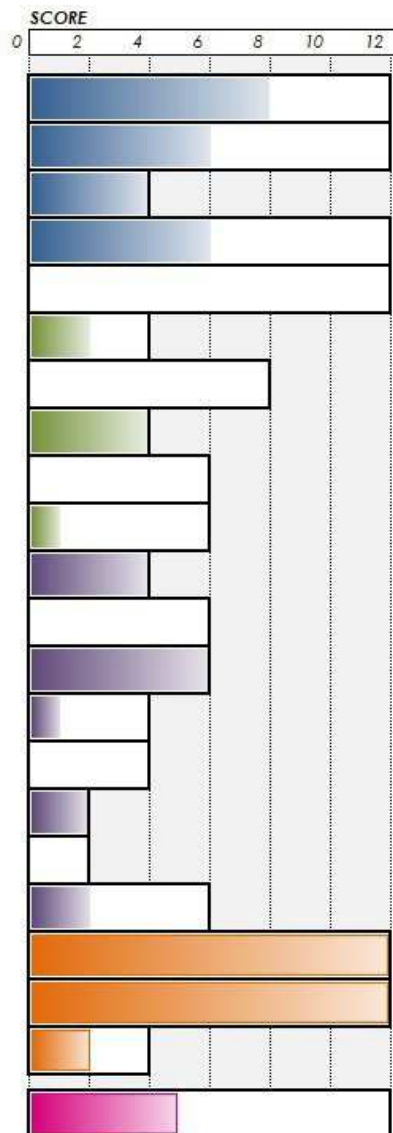
The Living Waterways Framework



The Living Waterways Framework is built around four key themes; water, environment, community and economy. Local governments and developers can use Living Waterways to meet their State Planning Policy stormwater treatment obligations while delivering best practice water-centric developments.

The Living Waterways Scorecard

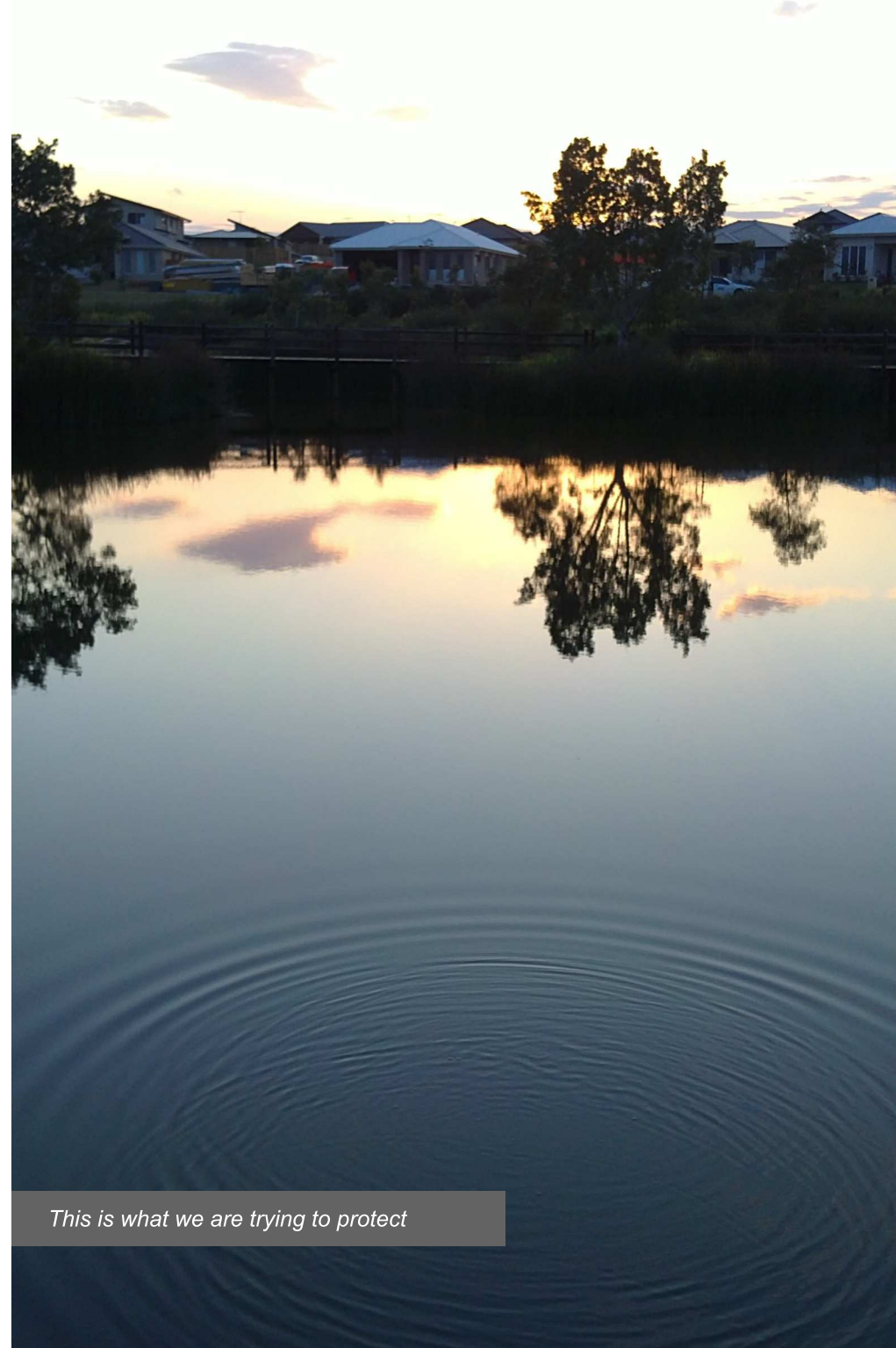
Value	Element	Description	Score	Available
	Living Water			
	LW1	STORMWATER QUALITY (min 2pts)	8	12
	LW2	EROSION AND SEDIMENT CONTROL (min 6pts)	6	12
	LW3	MAINTAIN NATURAL HYDROLOGY	4	4
	LW4	PERVIOUS SURFACES	6	12
LW5	WATER HARVESTING	0	12	
	Living Environment			
	LE1	PROTECT RIPARIAN AND AQUATIC HABITAT	2	4
	LE2	PROTECT BIODIVERSITY VALUES	0	8
	LE3	BIODIVERSITY REHABILITATION	4	4
	LE4	SUSTAINABLE LANDSCAPED AREAS	0	6
LE5	TEMPERATURE MANAGEMENT	1	6	
	Living Communities			
	LC1	ENHANCED AMENITY	4	4
	LC2	RANGES OF EXPERIENCES	0	6
	LC3	INTEGRATED EDUCATION	6	6
	LC4	NATURAL, HISTORICAL AND CULTURAL IDENTITY	1	4
	LC5	SOCIAL TIES	0	4
	LC6	OUTDOOR CONTEMPLATIVE VALUES	2	2
	LC7	HEALTHY LIVING	0	2
LC8	SAFE AND WELCOMING PLACES	2	6	
	Living Local Economies			
	LLE1	WHOLE OF LIFE COSTS	yes	y/n
	LLE2	MAINTENANCE AND ACCESS	yes	y/n
LLE3	CIRCULAR ECONOMIES	2	4	
OVERALL SCORE			48	118



The Living Waterways Tool allows designers flexibility to tailor WSUD strategies to local needs while maintaining beneficial waterway outcomes. Download the Living Waterways Tool for free at www.waterbydesign.com.au/resources and unlock the vast possibilities and potential.

Living Water

Protect and enhance our water
systems and their environments



This is what we are trying to protect



LW1 Stormwater Quality



issue: polluted water



issue: blue-green algae

issue: gross pollutants

WARNING
Blue-green algae bloom

The blue-green algae, Lyngbya, has been detected in the water and on the foreshore of this area.

- Contact with Lyngbya can cause skin, eye and respiratory irritation
- Swimming and wading in this area is NOT recommended.
- Avoid direct contact with any material on the beach or in the water.
- In case of contact with Lyngbya, seek medical assistance.

For more information, contact Brisbane City Council on 3403 8888



solution: bioretention



solution: biopods



solution: constructed wetlands

LW2 Erosion & Sedimentation



issue: exposed earth



solution: silt fences



issue: muddy creeks

solution: coir logs

8 12 2004





solution: high efficiency sediment basins



solution: water clarification



solution: tidy construction sites



solution: sediment pond

LW3 Natural Hydrology



issue: catchment clearing and flooding



solution: retain vegetation in catchment



issue: flash flooding



solution: stormwater harvest



solution: constructed wetlands



solution: bioretention



solution: bioretention with detention

LW4 Pervious Surfaces



issue: urbanisation



issue: catchment clearing and impervious surfaces



Issue: flash flood



exacerbates: scour





solution: rainwater tanks



solution: water wise street trees



solution: permeable paving

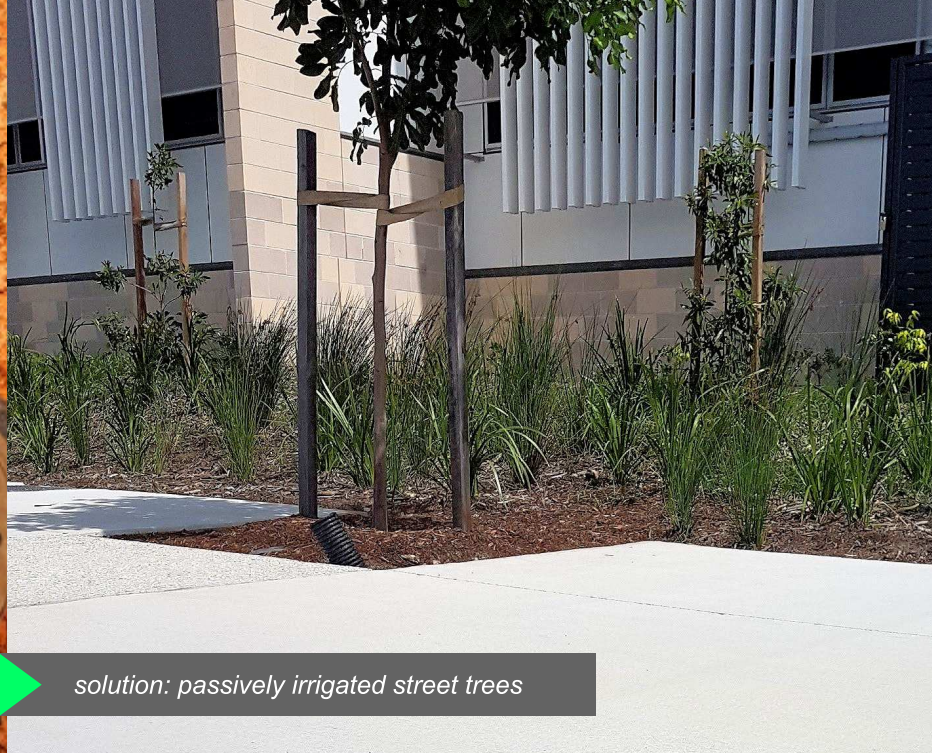


solution: permeable paving

LW5 Stormwater Reuse



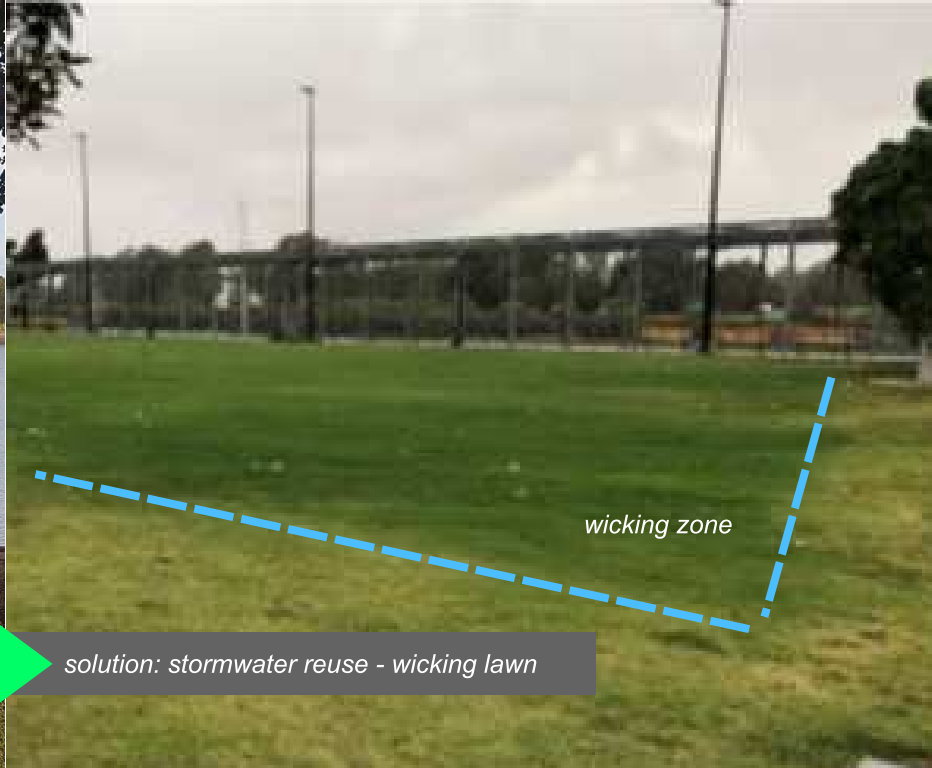
✗ *issue: water scarcity*



solution: passively irrigated street trees



✗ *issue: drinking water used for irrigation*



solution: stormwater reuse - wicking lawn



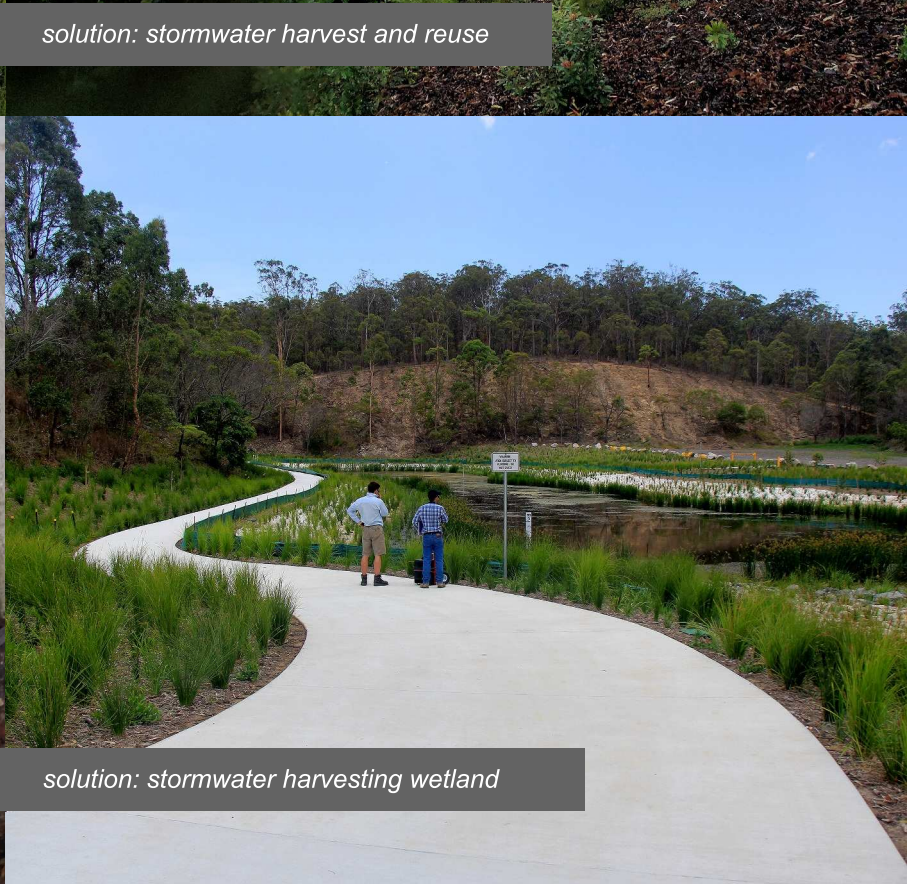
solution: stormwater harvesting wetland



solution: stormwater harvest and reuse



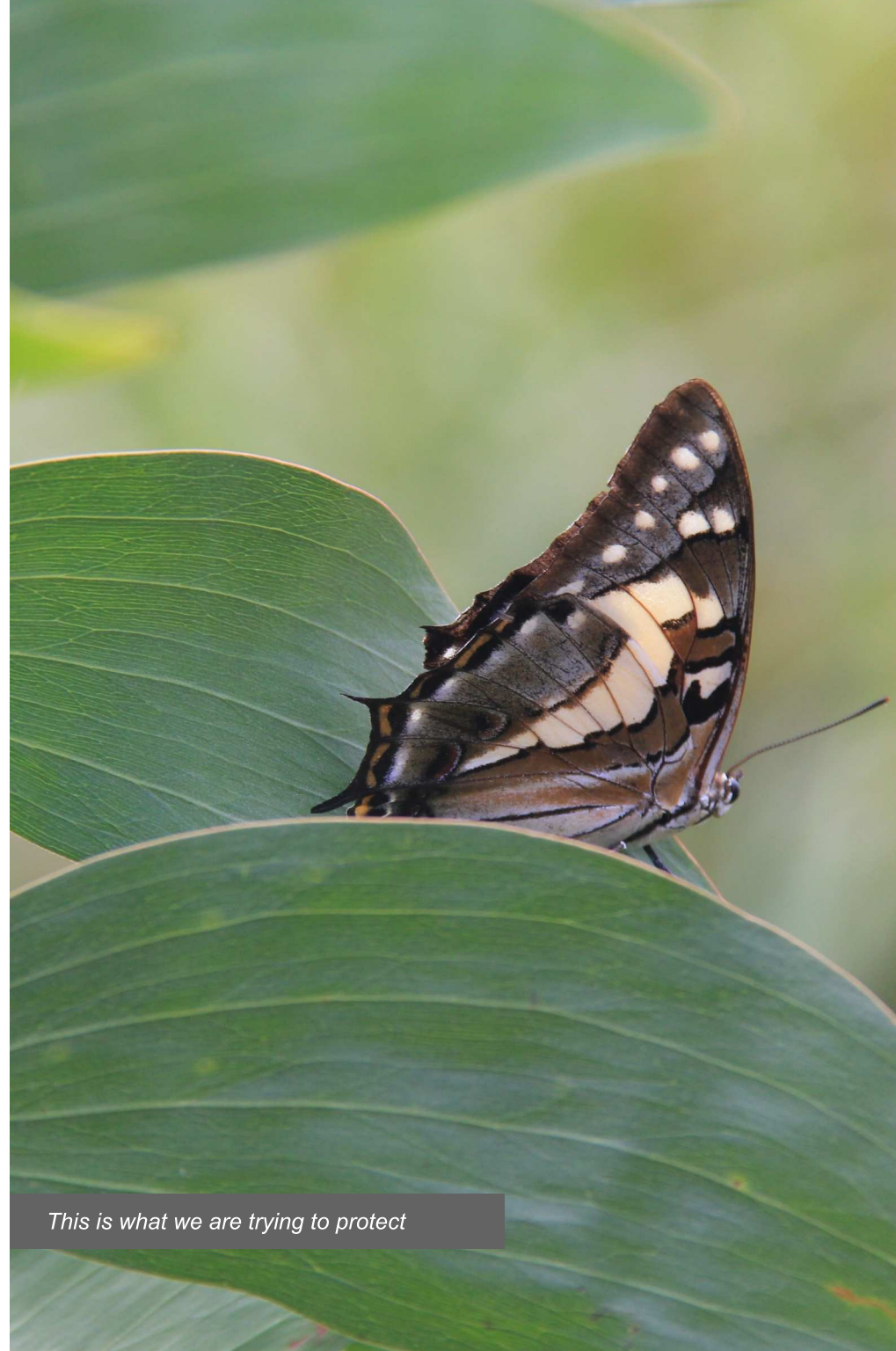
solution: non-potable reuse



solution: stormwater harvesting wetland

Living Environment

Protect our wildlife and enhance natural areas adjacent to waterways



This is what we are trying to protect



LE1 Riparian Corridors



issue: land clearing



issue: weeds (hymanachne)



exacerbates: pests (tilapia)





solution: corridor protection



solution: mangrove protection



solution: retain mature trees



solution: install nest boxes




solution: install fish hotels




solution: install habitat niches

LE3 Waterway Rehabilitation




 *issue: legacy drains*




 *solution: creekfiltration*



 *issue: legacy drains*



 *solution: channel naturalisation*



solution: creek rehabilitation



solution: habitat nest boxes



solution: creek filtration

LE4 Sustainable Landscapes



issue: sediment in bioretention basin - shortens lifespan



issue: wetland plants damaged by wildlife



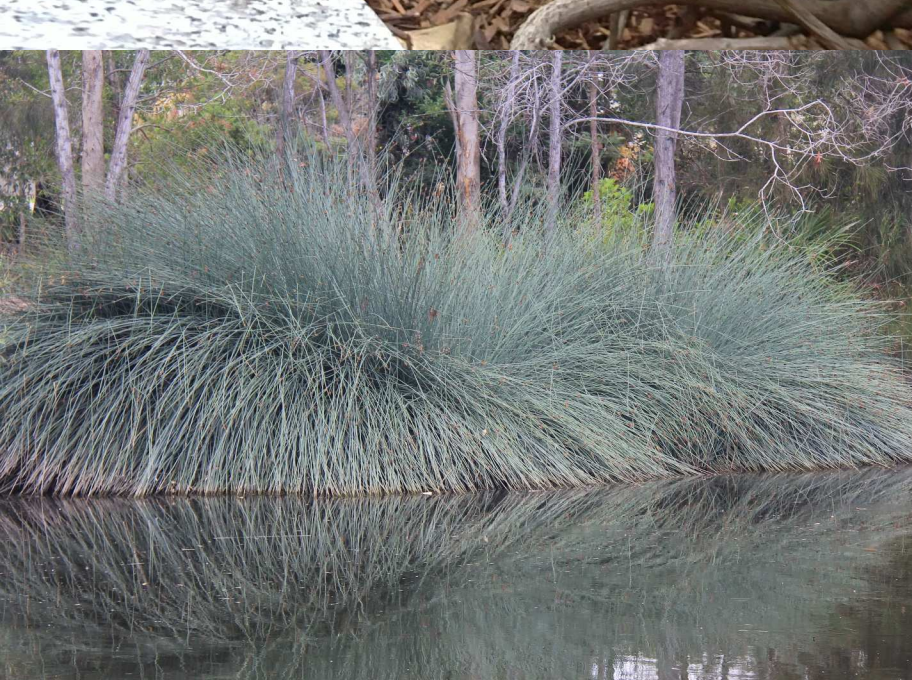
issue: invasive species (water hyacinth)



solution: passive irrigation



solution: self-sustaining bioretention



solution: indigenous plantings



solution: low-maintenance landscapes

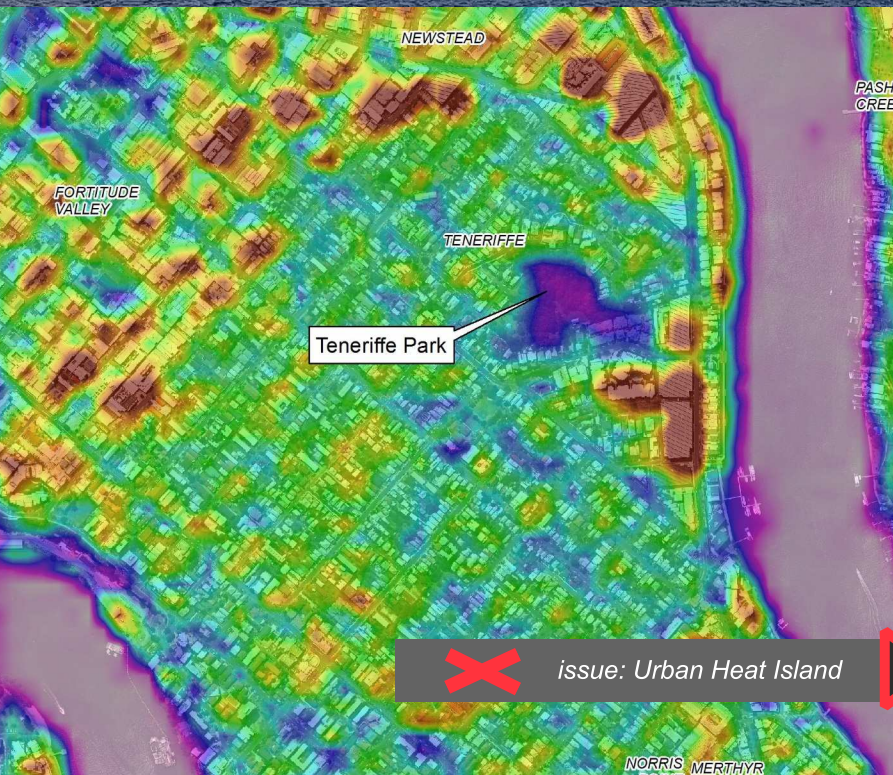
LE5 Temperature Management



issue: rising CO2 emissions



exacerbates: rising temperatures



issue: Urban Heat Island



exacerbates: bats with heat stress



solution: gravity drains limit pumping energy



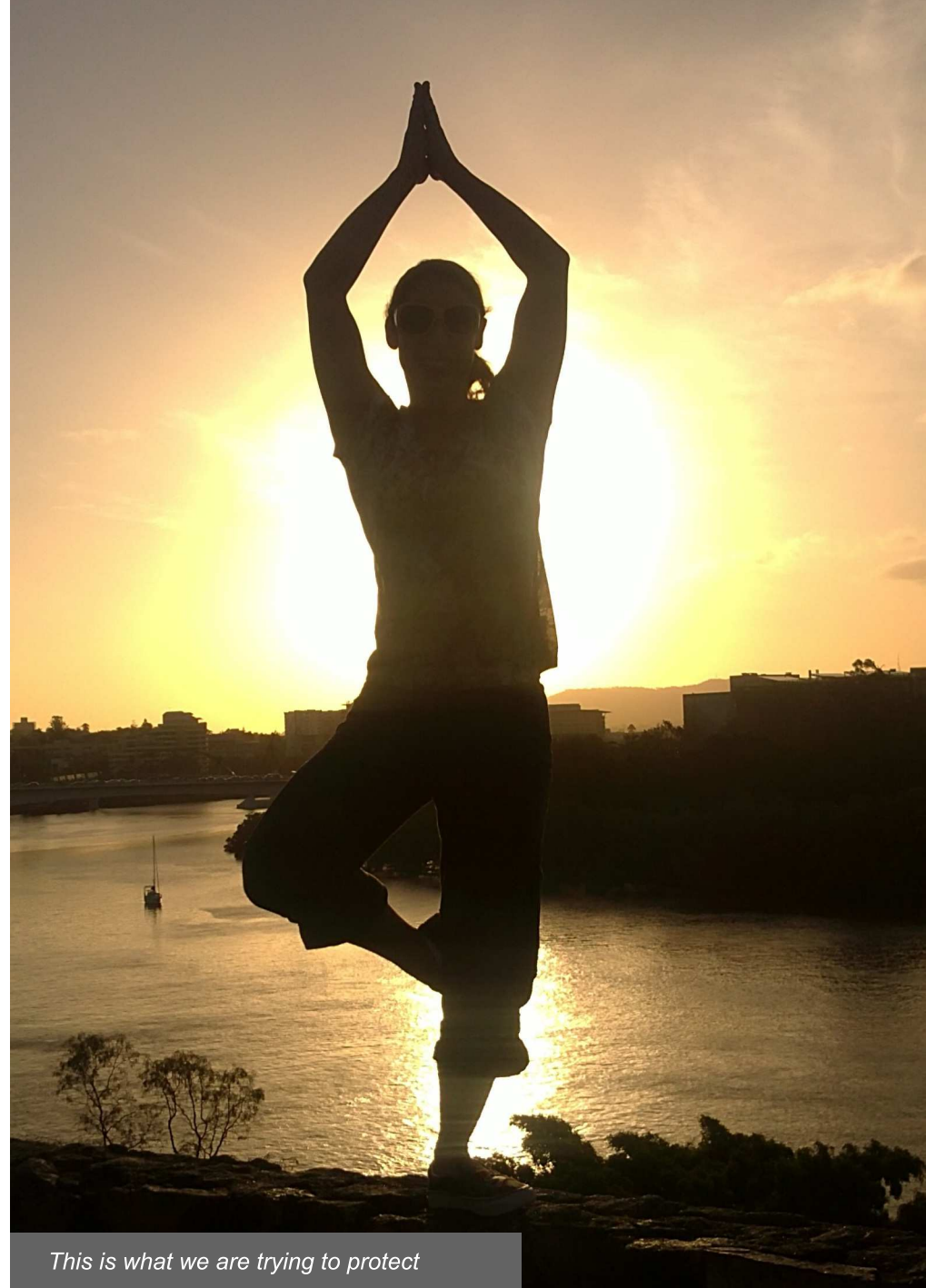
solution: passive irrigation for shade trees



solution: retain shade trees over creeks

Living Communities

Create versatile places that enable safe,
healthy, interactive and resilient communities



This is what we are trying to protect



LC1 Amenity



issue: unsightly waterbody



solution: feature wetland



issue: unsightly algae



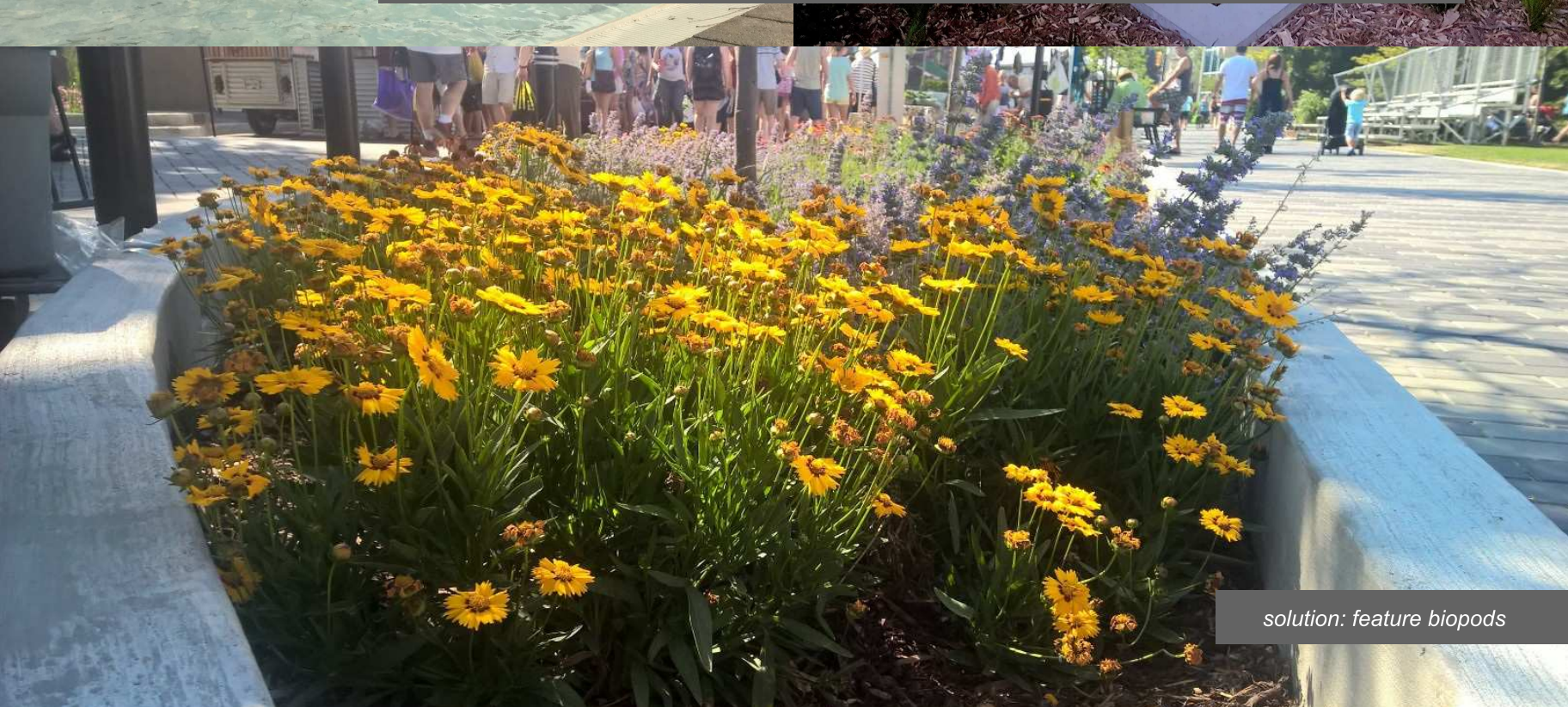
solution: feature bioretention



solution: water feature + waterplay



solution: quality bioretention edging and landscape integration



solution: feature biopods

LC2 Experiences



issue: limited interaction with water / sterile



solution: stepping stones



solution: light displays



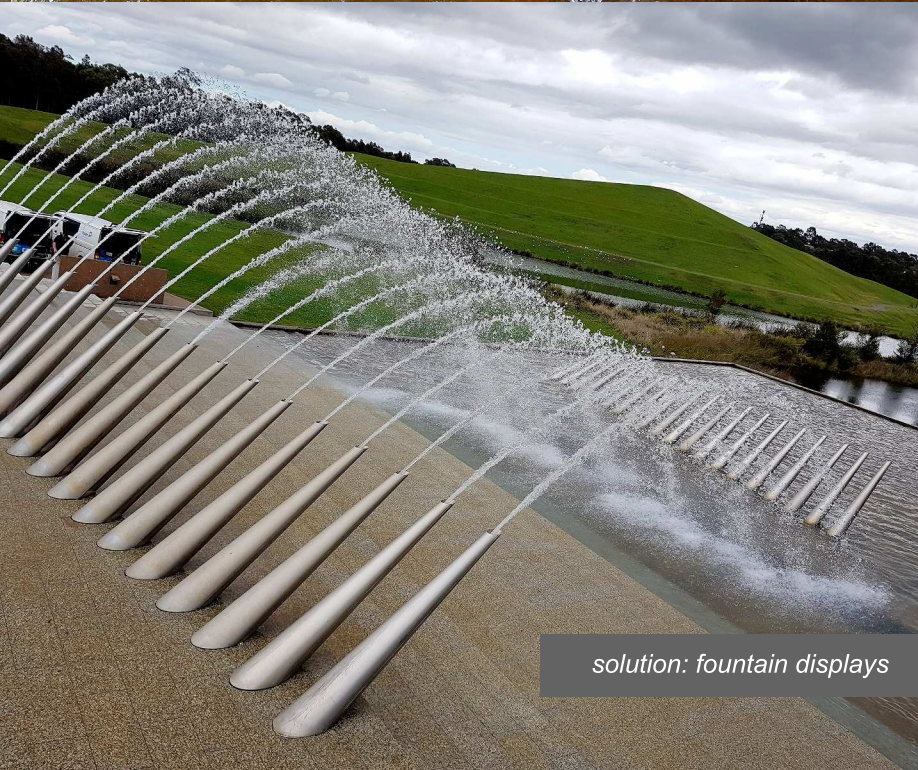
solution: water feature - fountains



solution: informal play



solution: immersive experiences

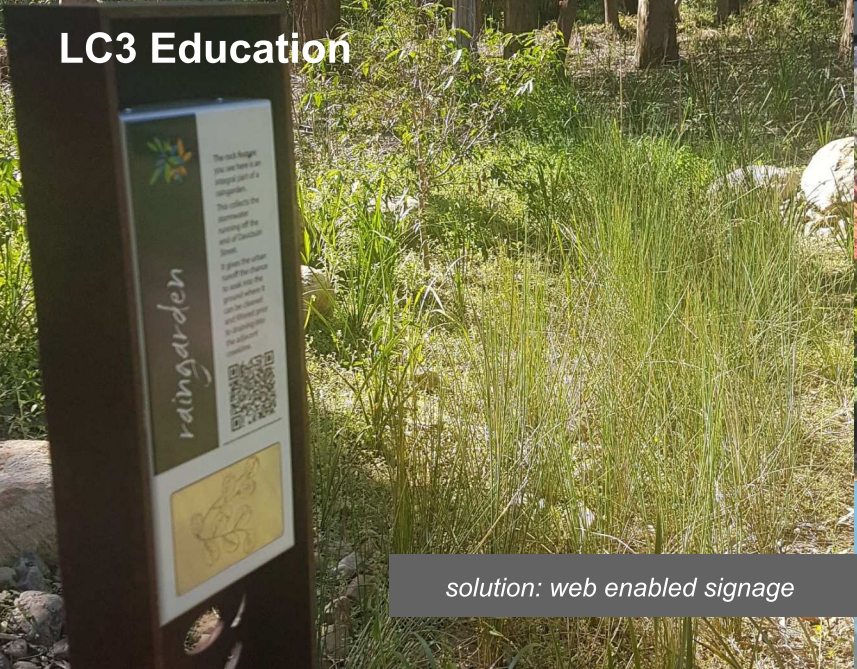


solution: fountain displays



solution: terrace / view platform

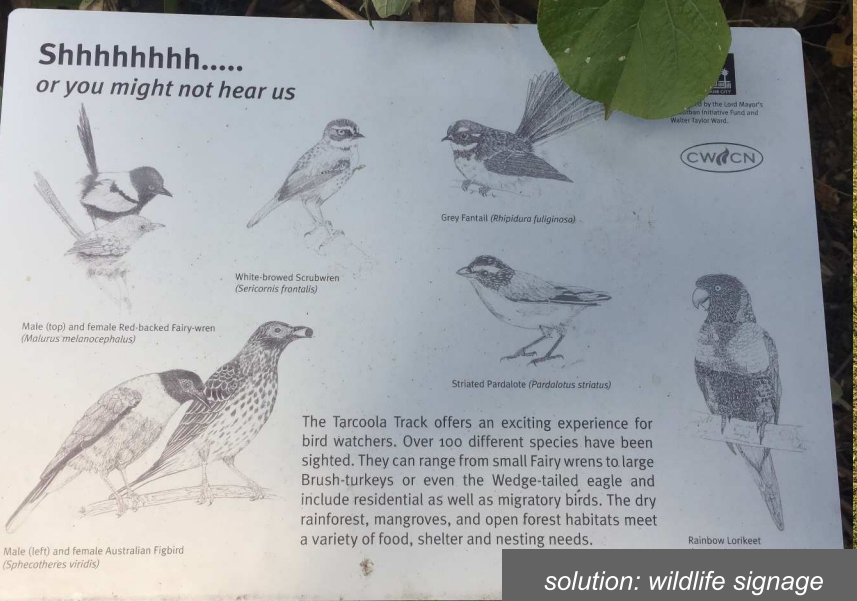
LC3 Education



solution: web enabled signage



solution: biopod signage



solution: wildlife signage



solution: creek rehabilitation signage



solution: anti-pollution campaign



solution: community environmental education



solution: floating wetland + lagoon signage



solution: signage "a city without trees isn't fit for a dog"

LC4 Culture & Identity



solution: retain maritime heritage



solution: marine ecosystems sculpture



solution: acknowledge traditional ownership



solution: Riverfire celebration



solution: ANZAC heritage



solution: showcase maritime heritage

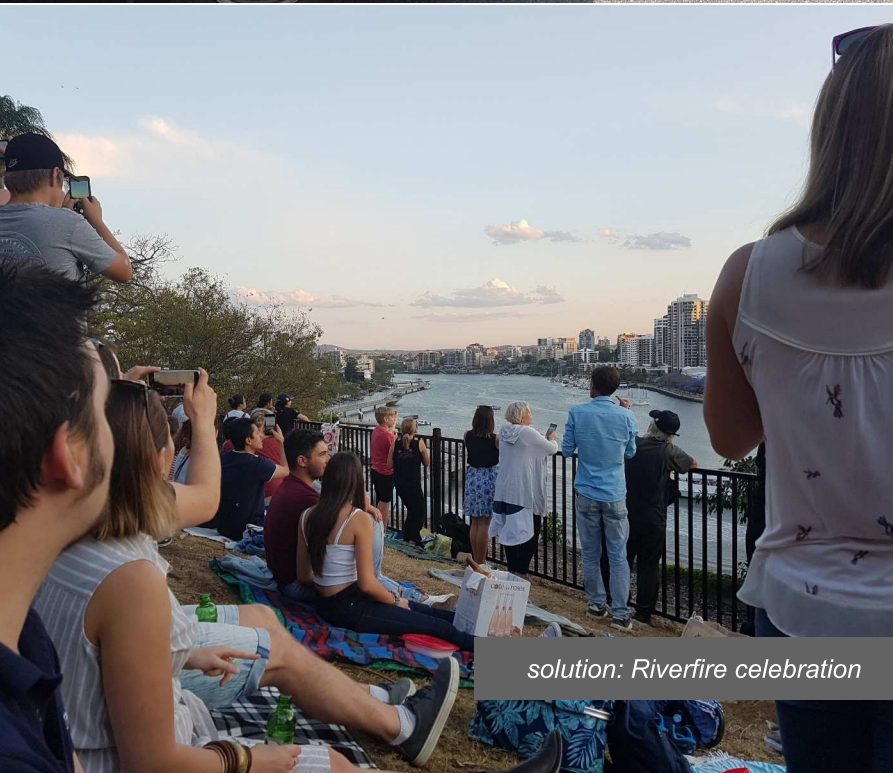
LC5 Social Ties



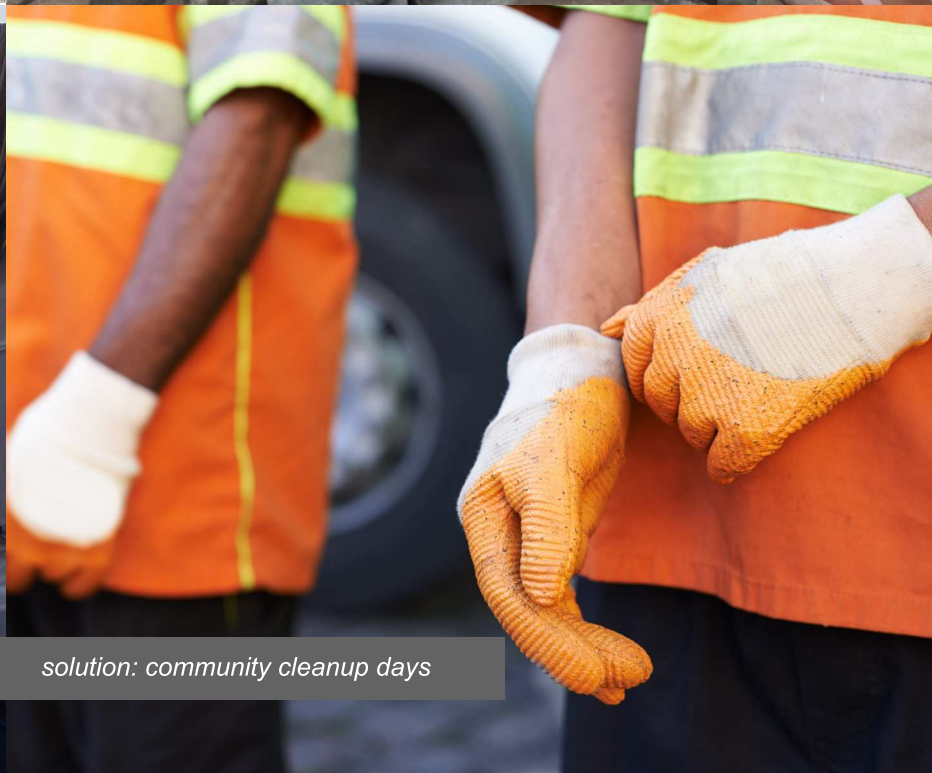
issue: community division



solution: water interaction



solution: Riverfire celebration



solution: community cleanup days



solution: community garden



solution: community planting days



solution: environmental education days



solution: creek rehabilitation





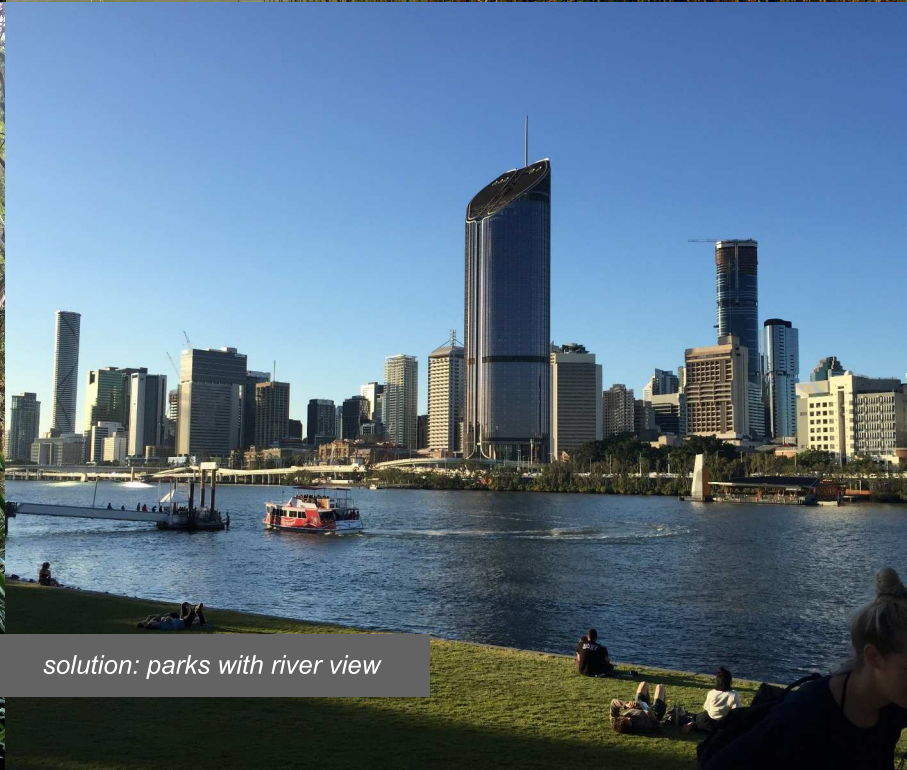
solution: boardwalks



solution: viewing decks



solution: walking trails



solution: parks with river view

LC7 Healthy Living



issue: indoor lifestyle



solution: connection with nature



solution: active lifestyle - enabled by clean water



solution: boardwalks + lakes



solution: nature play



solution: community gardens



solution: cycleways + swales



solution: bike facilities + biopods

LC8 Safe and Welcoming



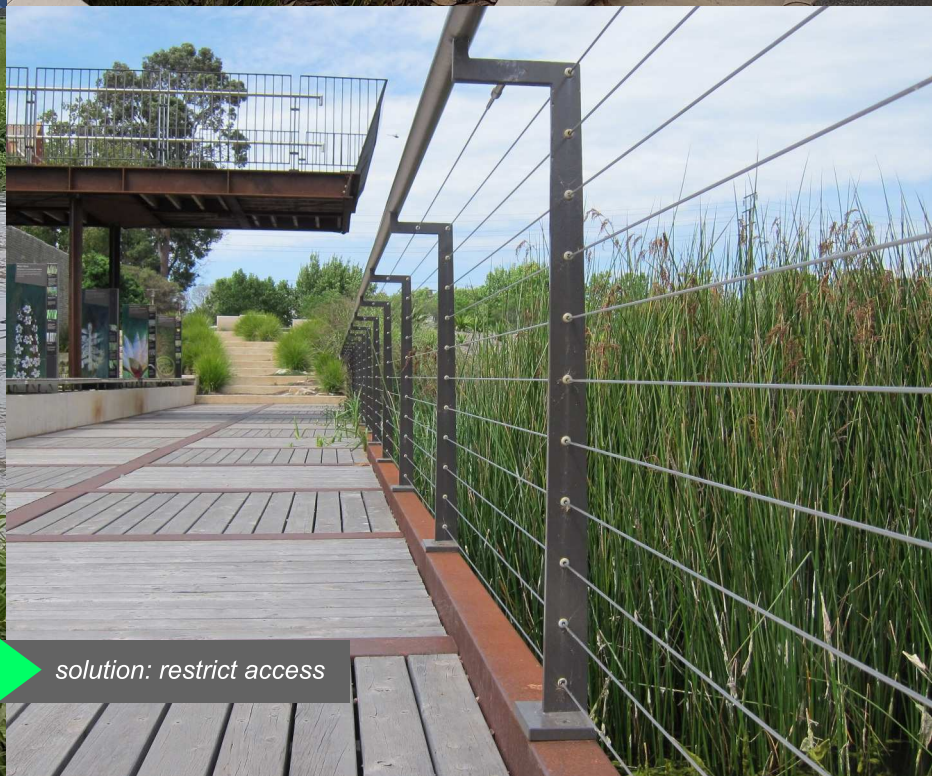
issue: polluted water



solution: safe stormwater treatment



issue: rapid flowing water



solution: restrict access



solution: seat / barrier



solution: safety grate



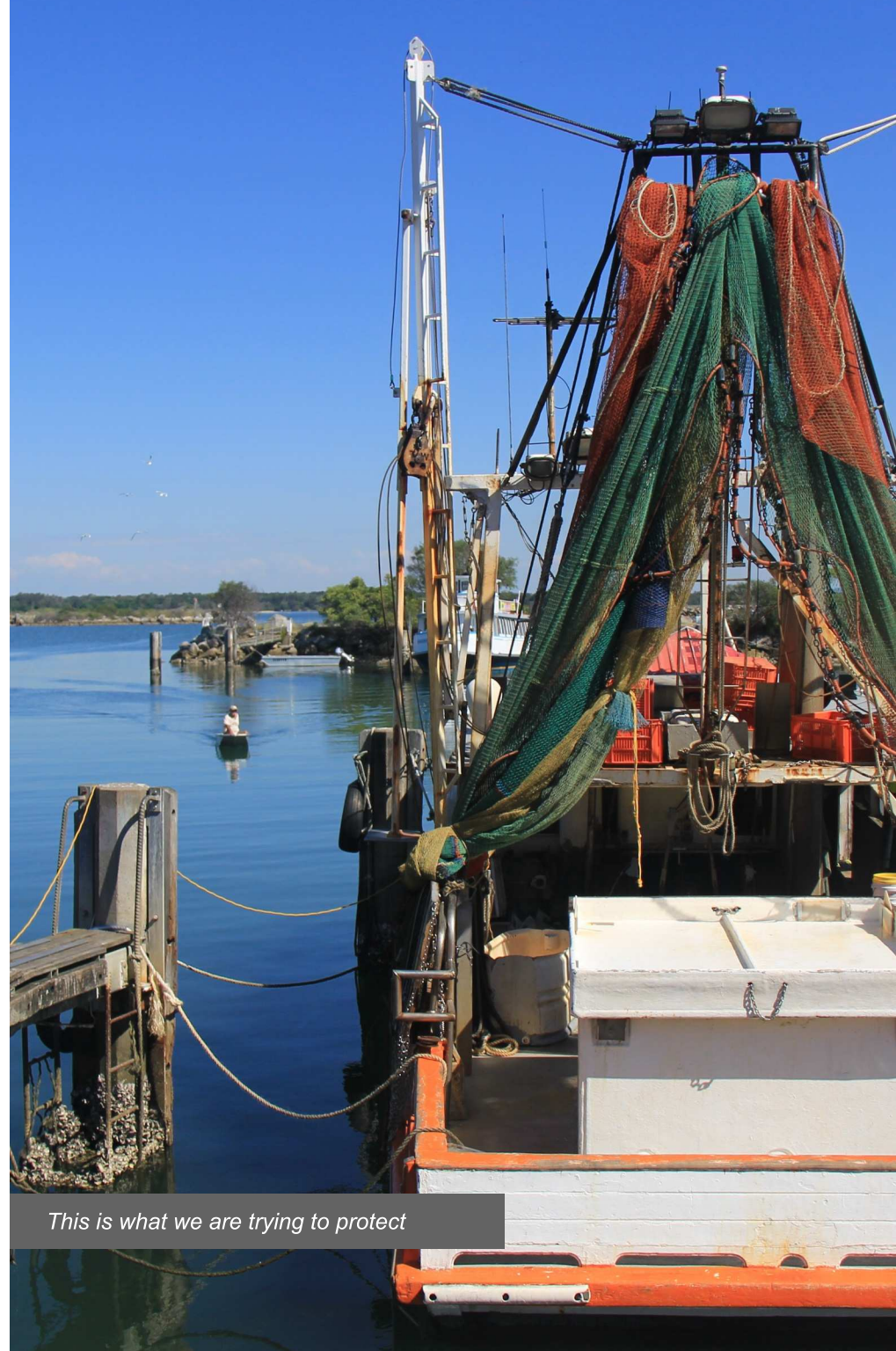
solution: safe egress



solution: flood depth measurement

Living Local Economies

Provide affordable enduring
solutions that are viable to build,
use and maintain



This is what we are trying to protect



LLE1 Value for Money



issue: expensive + unsightly



solution: simplify construction



solution: business to capitalise on water values



solution: capitilising on water values



solution: use underutilised space



solution self-irrigating street trees



solution: enable clean water tourism



solution: integrated garden bed - biopod

LLE2 Easy Maintenance



issue: constant manual pumping



solution: wetland gravity drain



solution: total site vegetation coverage prevents weeds



solution: garden edging delineates maintenance



solution: sediment pond protects macrophyte zone



solution: silt handling and dewatering zone



solution: maintenance track



solution: bio sacrificial turf layer protects filter media

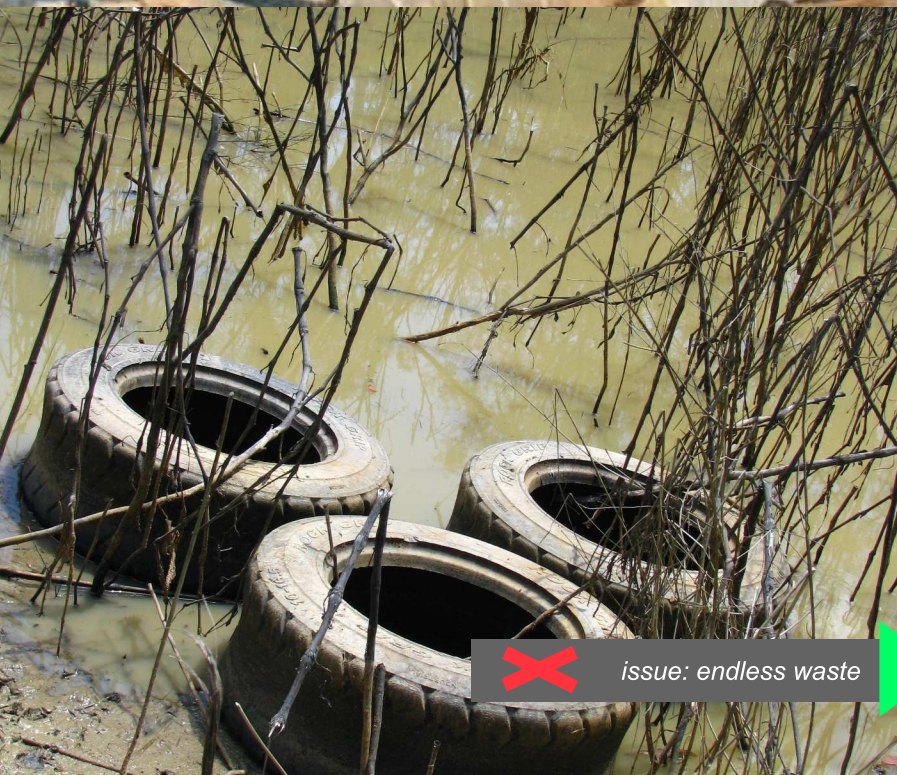
LLE3 Circular Economy



issue: single-use plastic



exacerbates: waterway litter



issue: endless waste



initial solution: waterway cleanup



solution: recycle PET - buoyant mats for floating wetlands



solution: avoid single use containers



solution: awareness education - recycled plastic fashion



solution: use long-life shopping bags

water by design
an initiative of



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