

COOKS COVE URBAN DESIGN REPORT ADDENDUM A



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Document Control			
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A	31 August 2023	JC	Addendum

FORESHORE

Plan Developments
Sectional Typologies
Ecological Value
DPE Riparian Corridor Review

FORESHORE ENHANCEMENTS

Permeable Surfaces
Increased Ecological Links

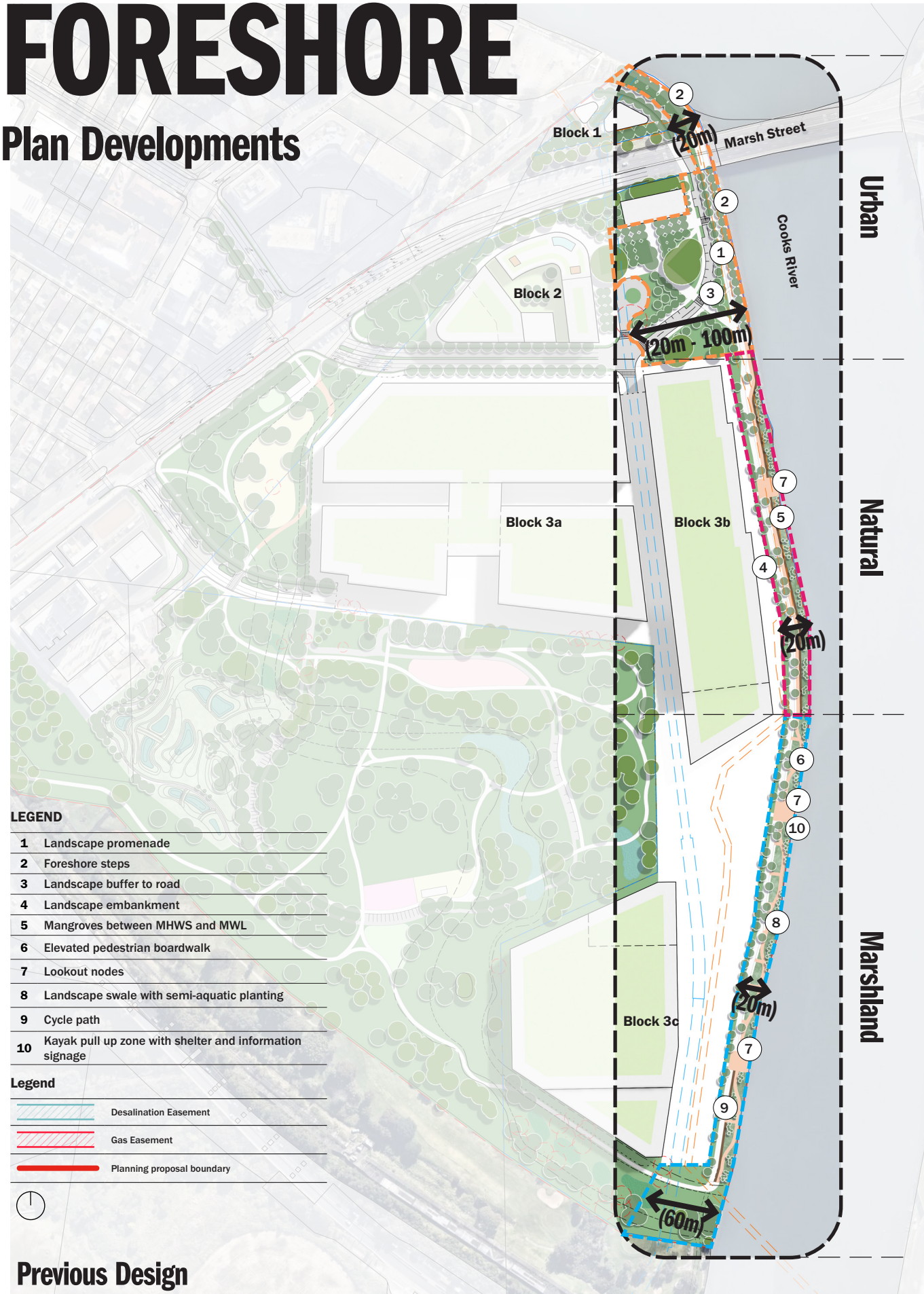
FORESHORE OVERSHADOWING

Summer Solstice
Winter Solstice

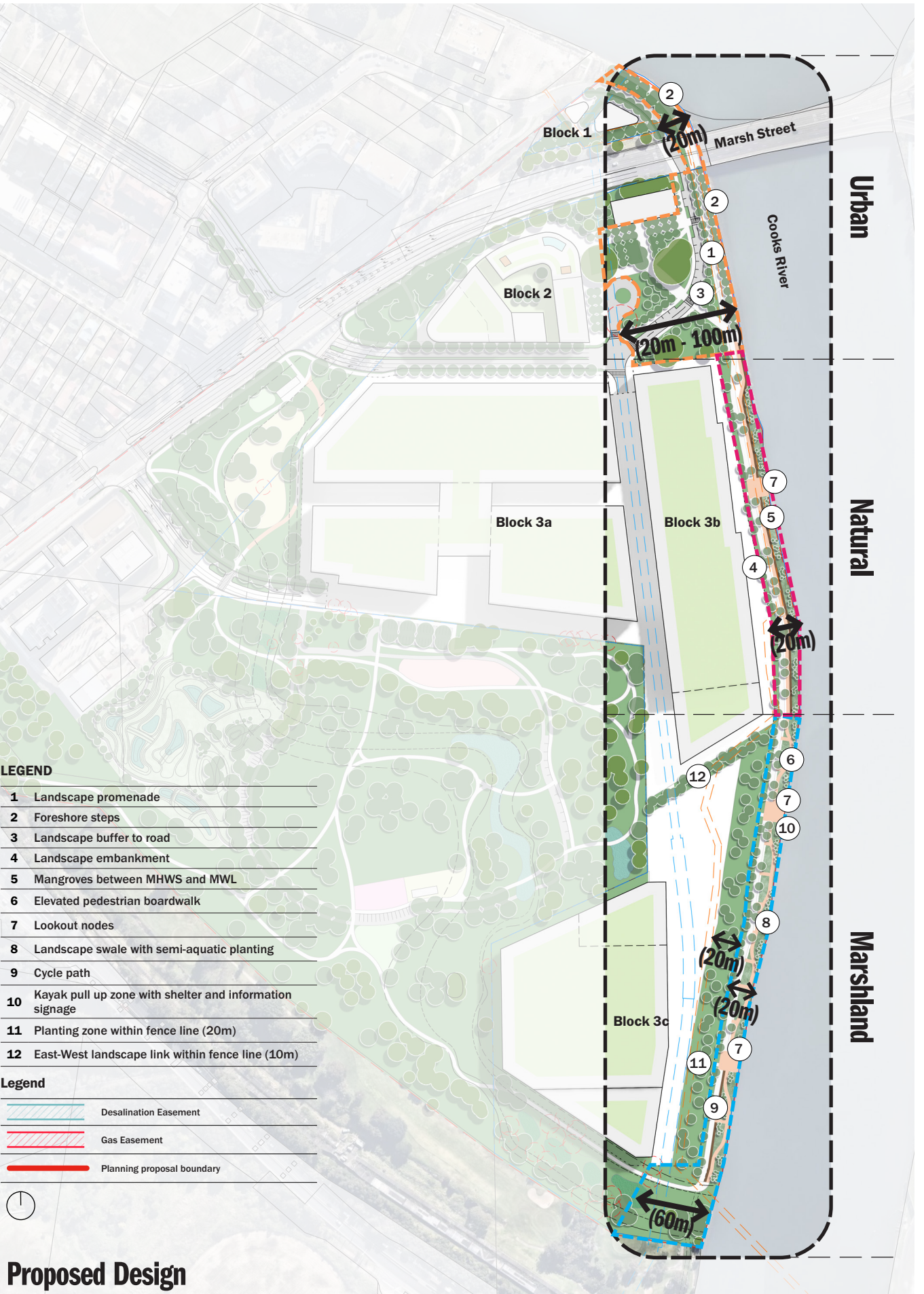


FORESHORE

Plan Developments



Previous Design



Proposed Design

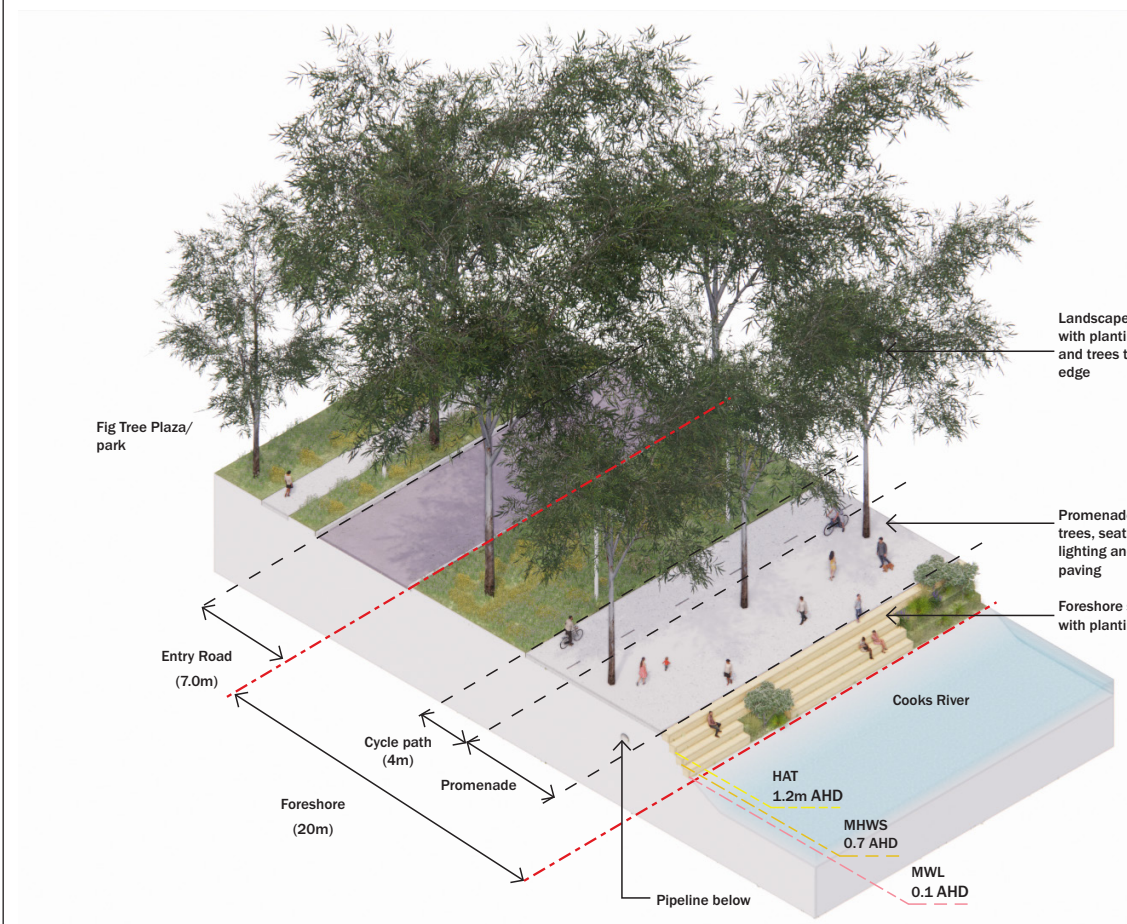
FORESHORE

Sectional Typologies

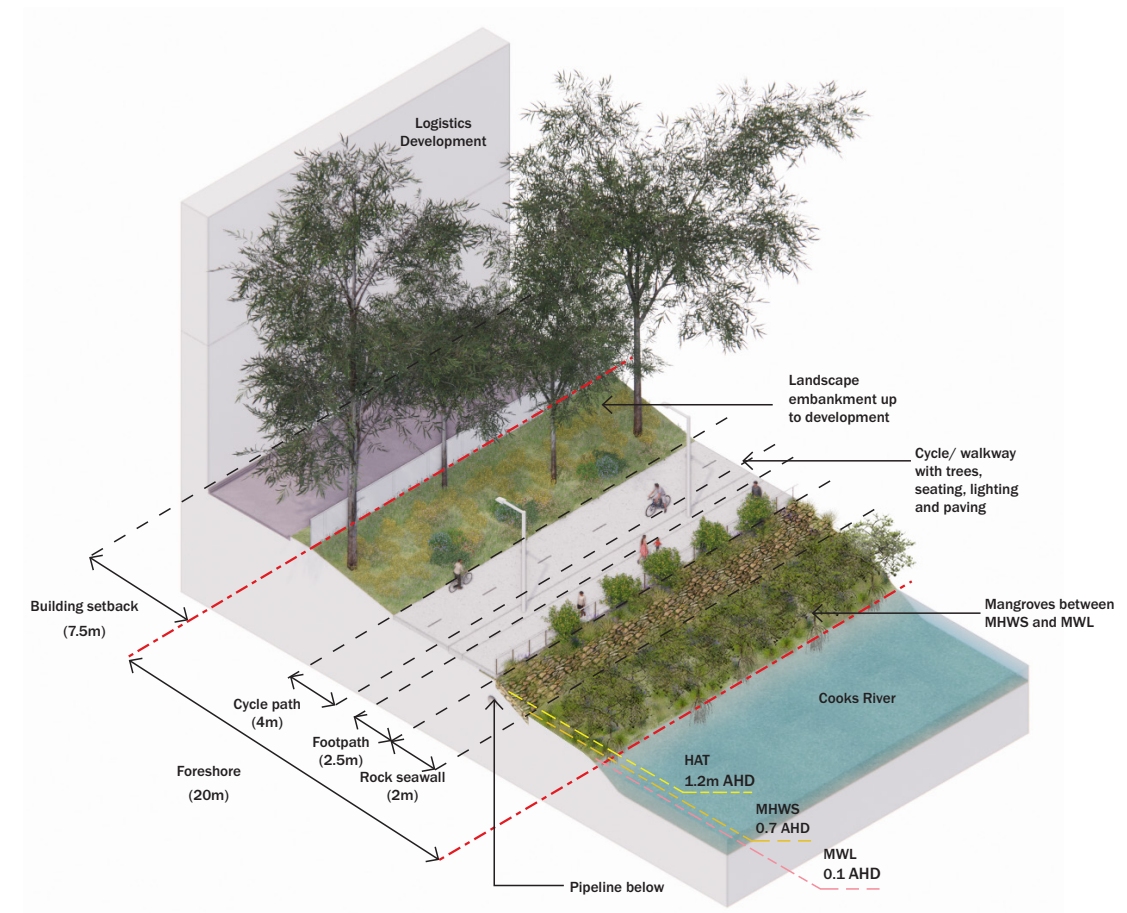
DPE definition of Riparian Corridor:

A riparian corridor (RC) forms a transition zone between the land, also known as the terrestrial environment, and the river or watercourse (aquatic environment). Functional requirements of riparian corridors include:

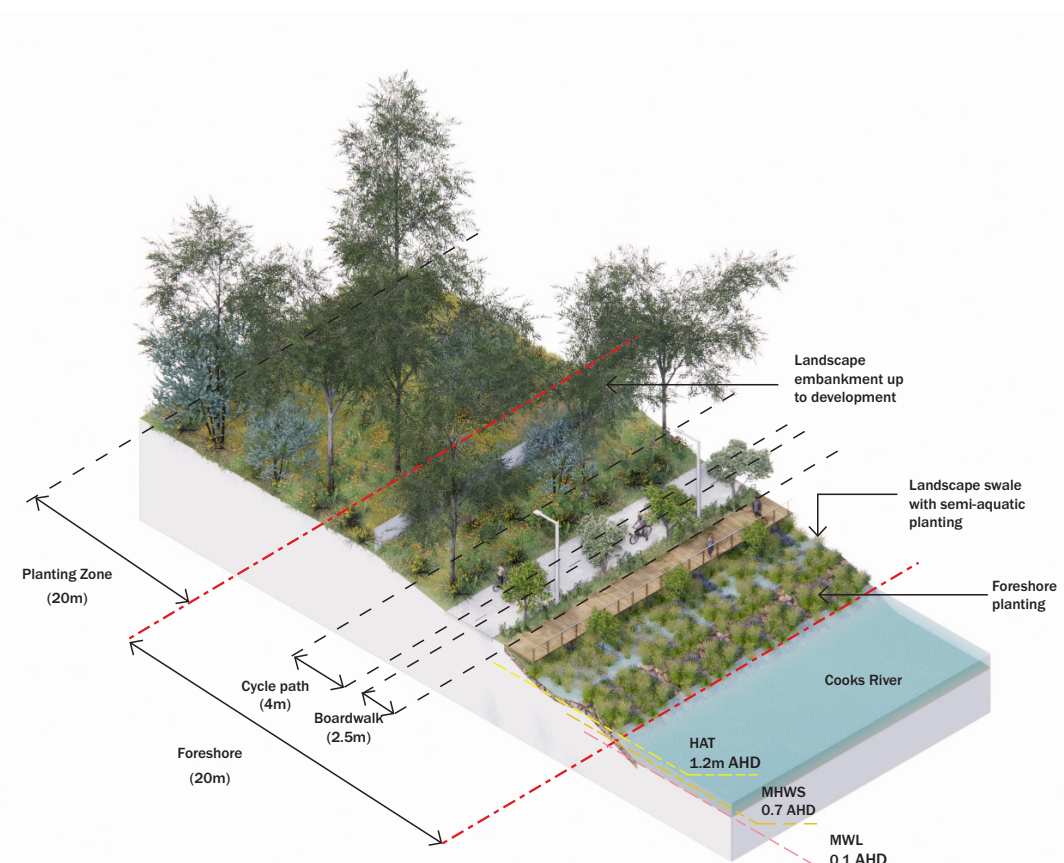
- Providing bed and bank stability and reducing bank and channel erosion
- Protecting water quality by trapping sediment, nutrients and other contaminants
- Providing a diversity of habitats for terrestrial, riparian and aquatic plants (flora) and animals (fauna)
- Providing connectivity between wildlife habitats
- Conveying flood flows and controlling the direction of flood flows
- Providing an interface or buffer between developments and waterways



Urban 20m - 100m



Natural 20m



Marshland 20m + 20m within fence line

FORESHORE

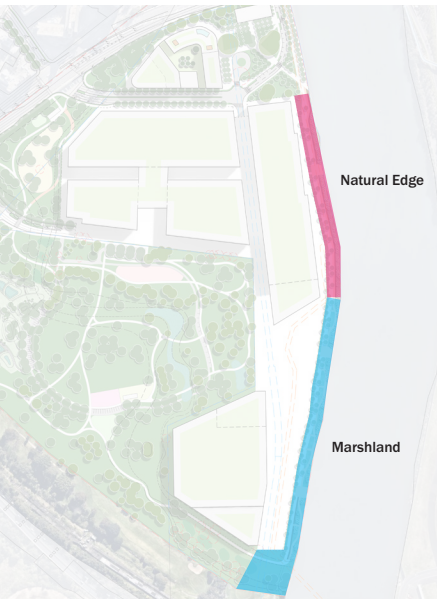
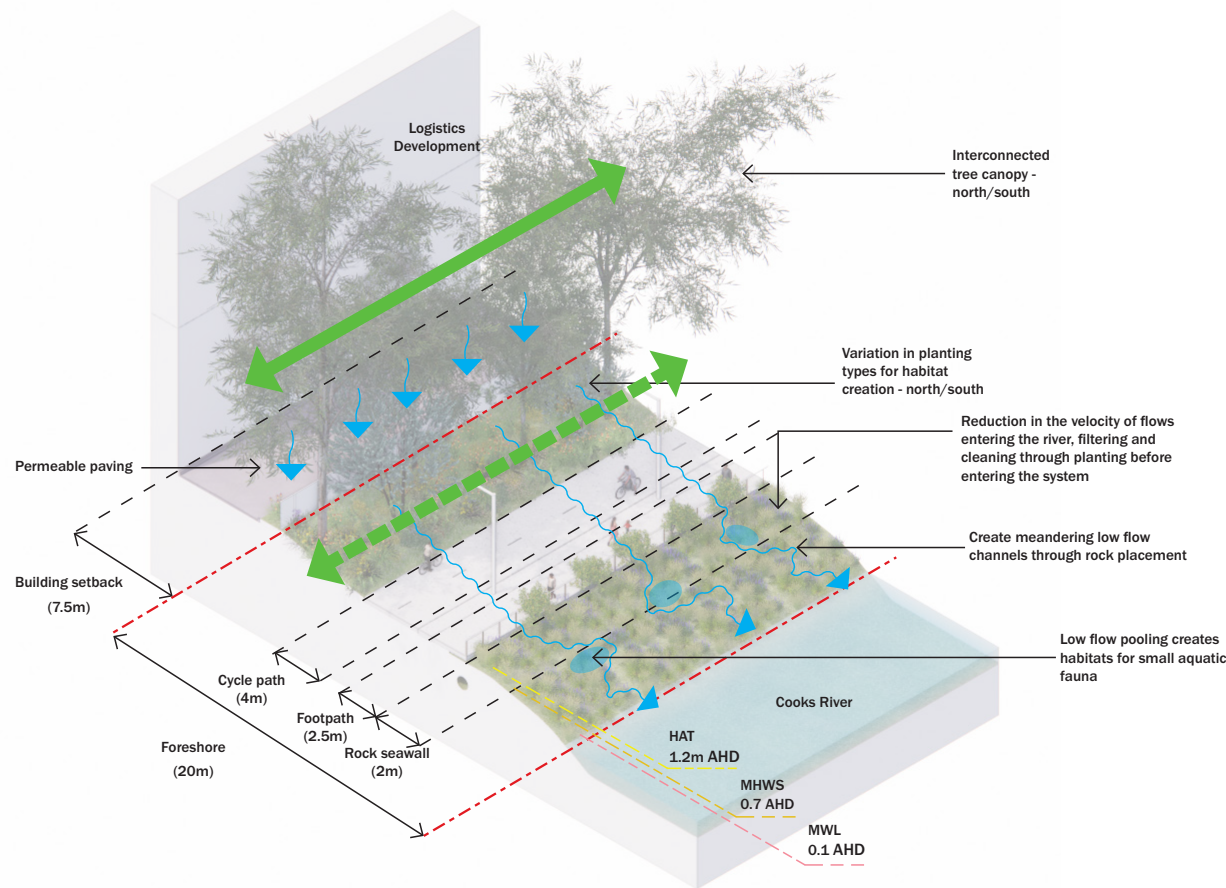
Ecological Value

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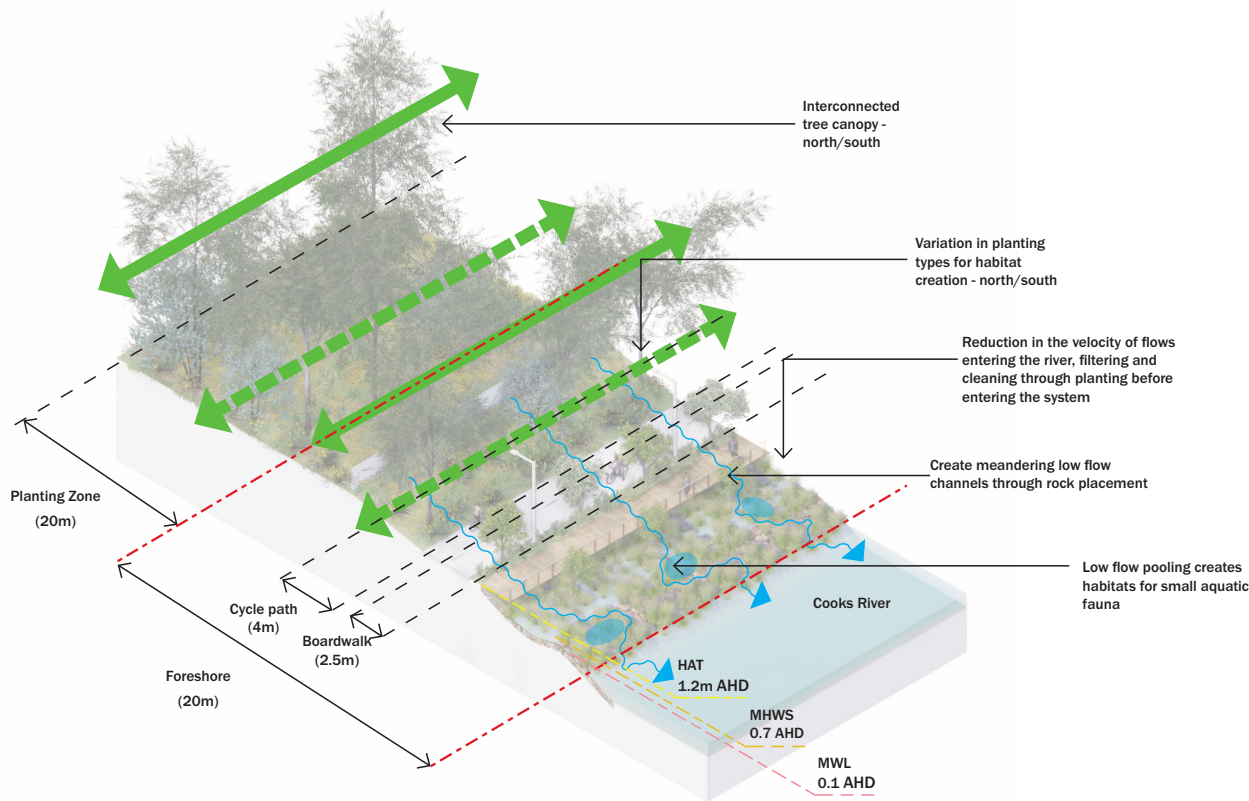
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Natural Edge



Key Plan

Marshland



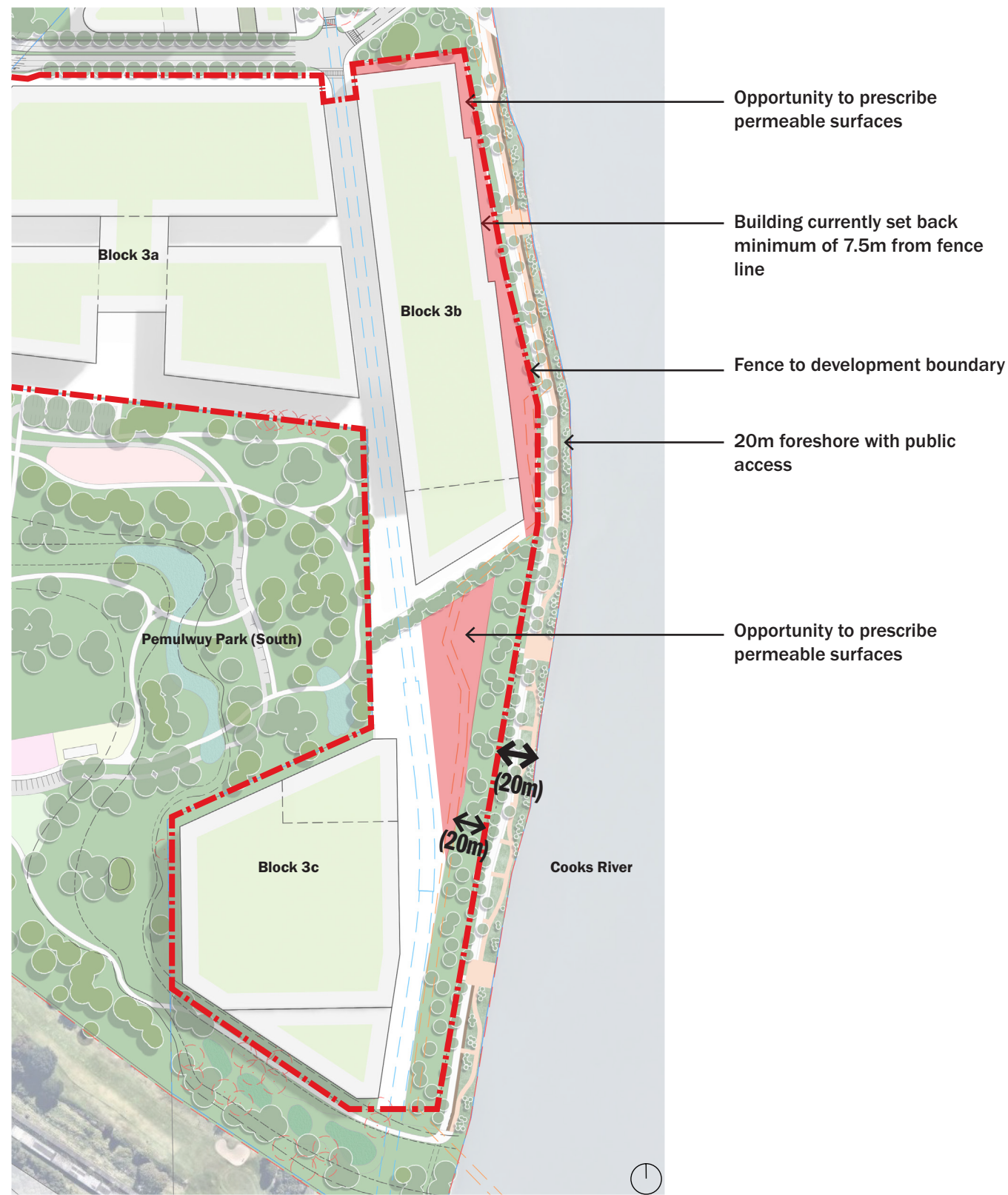
FORESHORE

DPE Riparian Corridor Review

DPE Functional Requirements	Cooks Cove Precinct Foreshore Design Response - Hassell	Ecology Response - Cumberland Ecology
Providing bed and bank stability and reducing bank and channel erosion	All foreshore edges improve bank stability through the a range of landscape and built treatments. To the south zones of aquatic and semi aquatic planting mitigate erosion with landscape swales acting as a device that not only improves water quality but importantly stabilises the foreshore edge. In urban zones to the north a series of sandstone and concrete foreshore steps acting as a retaining element, removing the risk of foreshore edge erosion	The proposed design of the foreshore edges, which will improve the bank stability using a mix of landscaping and built treatments, will result in a riparian area that is controlled and managed to reduce the risk of erosion. It will also substantially boost the biodiversity of the foreshore by increasing native wetland vegetation cover, and providing additional wildlife habitats for both riparian and aquatic fauna.
Protecting water quality by trapping sediment, nutrients and other contaminants	A variety of edge conditions are provided along the length of the foreshore including semi aquatic planting, landscape swales and mangroves that protect and enhance water quality.	The proposed revegetation of the foreshore will provide water plants including mangroves and reeds that are known to stabilise sediments, store nutrients and filter contaminants. Some such plants also harvest carbon from the atmosphere and provide a carbon sink.
Providing a diversity of habitats for terrestrial, riparian and aquatic plants (flora) and animals (fauna)	The 20m foreshore dimension has been divided into a series of landscape typologies that provide a diversity of habitat opportunities. Key zones include buffer planting, high quality feature planting, embankment planting, semi aquatic and aquatic planting zones. A connected tree canopy along the length of the foreshore provides habitat and fauna connections. Habitat creation will consider the adjacent aeronautical uses.	<p>The landscaping proposed for the foreshore will offer a range of habitats that can be utilised by terrestrial, riparian and aquatic flora and fauna. It will also provide opportunities for movement along the foreshore, as well as linkage between the riparian corridor along the foreshore and the proposed Pemulway Park, through a 10m wider planted corridor.</p> <p>The landscaping of the riparian corridor comprises a layered approach to the plantings, with mangroves and semi-aquatic plantings to occur closest to the waterway, which will then be transitioned to terrestrial habitat in the form of trees and shrubs with grassy understorey.</p>
Providing connectivity between wildlife habitats	Landscape networks of soil water, planting and tree canopy will enhance north-south fauna connectivity along the foreshore. Habitat creation will consider the adjacent aeronautical uses. At the foreshore edge flora and fauna are prioritised with pedestrian circulation via an elevated board walk that does not impede ecological and hydrological connections below.	The creation of habitats within the proposed riparian corridor will provide fauna movements both along the foreshore as well as in an east-west direction between the foreshore and the proposed Pemulway Park. The range of landscaped typologies to be planted include both aquatic, semi-aquatic and terrestrial ecosystems that can support and facilitate a range of native flora and fauna.
Conveying flood flows and controlling the direction of flood flows	Flood conveyance is facilitated within the 20m cross section of the foreshore. Overland flow is managed through the provision of extensive zones of planting and permeable surfaces that will prioritise percolation and infiltration to soils. At the foreshore edge a landscape swale that includes planting and sandstone boulders will slow water down as it moves into the Cooks River. In surge events the landscape swale also ensure the slow capture and release of saline water back into the Cooks River system.	The flood conveyance described in the Design Response will provide ecological benefits to plants and animals within the foreshore zone. Flood conveyance will also provide a range of wetland conditions for flora and fauna as flooding advances and recedes.
Providing an interface or buffer between developments and waterways	A landscape buffer zone with a diverse understorey and tree canopy is provided directly along the development boundary. This zone will be designed to be ecologically resilient and provide areas of habitat whilst providing a visual buffer to the adjacent development site.	<p>The proposed riparian corridor provides a carefully designed, varied interface between the proposed development and the Cooks River, which will be managed and controlled to ensure that it is ecologically functional.</p> <p>As previously described, it will comprise layers of plantings, with mangroves and semi-aquatic plantings to occur closest to the waterway, which will then be transitioned to terrestrial habitat in the form of trees and shrubs with grassy understorey.</p>
Providing passive recreational uses	Passive recreation is facilitated through the form of a dedicated bicycle path, rest stops that provide moments to dwell and zones with areas to connect to water activities such as kayaking	<p>The foreshore is currently part of a golf course and so it gets recreational usage. However, the existing foreshore is limited and lacks riparian flora and fauna. The proposal will transform the foreshore to include a range of riparian habitats, while retaining and enhancing opportunities for passive recreational usage.</p> <p>As described in the design response, the riparian corridor incorporates passive recreational uses for pedestrians, cyclists and kayakers whilst still accommodating functional habitats for a range of riparian and aquatic flora and fauna species. This can be achieved without unduly impacting ecological values of the foreshore.</p>

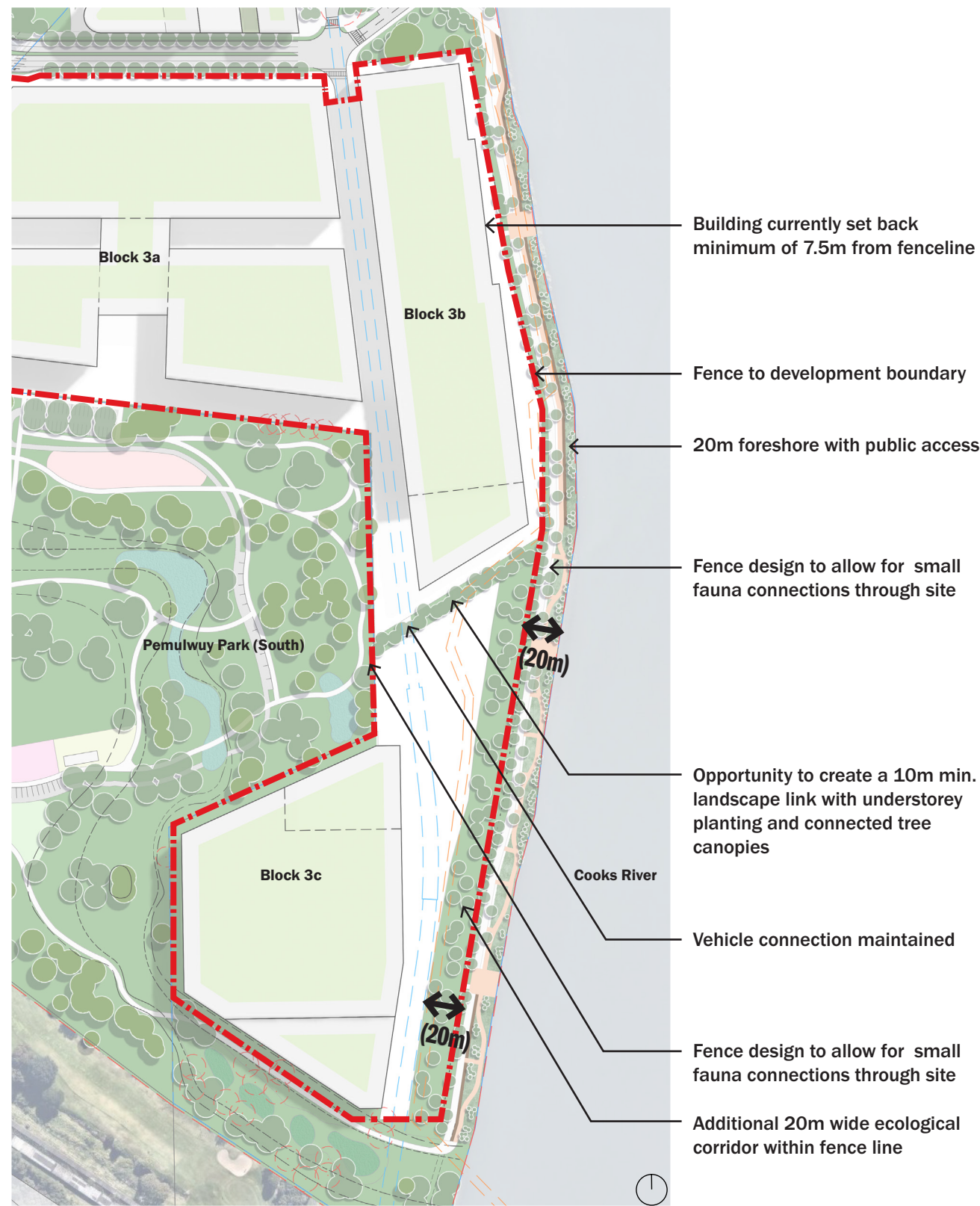
FORESHORE ENHANCEMENTS

Permeable Surfaces



FORESHORE ENHANCEMENTS

Increased Ecological Links



FORESHORE OVERSHADOWING

Summer Solstice



9:00am

10:00am

11:00am

12:00pm

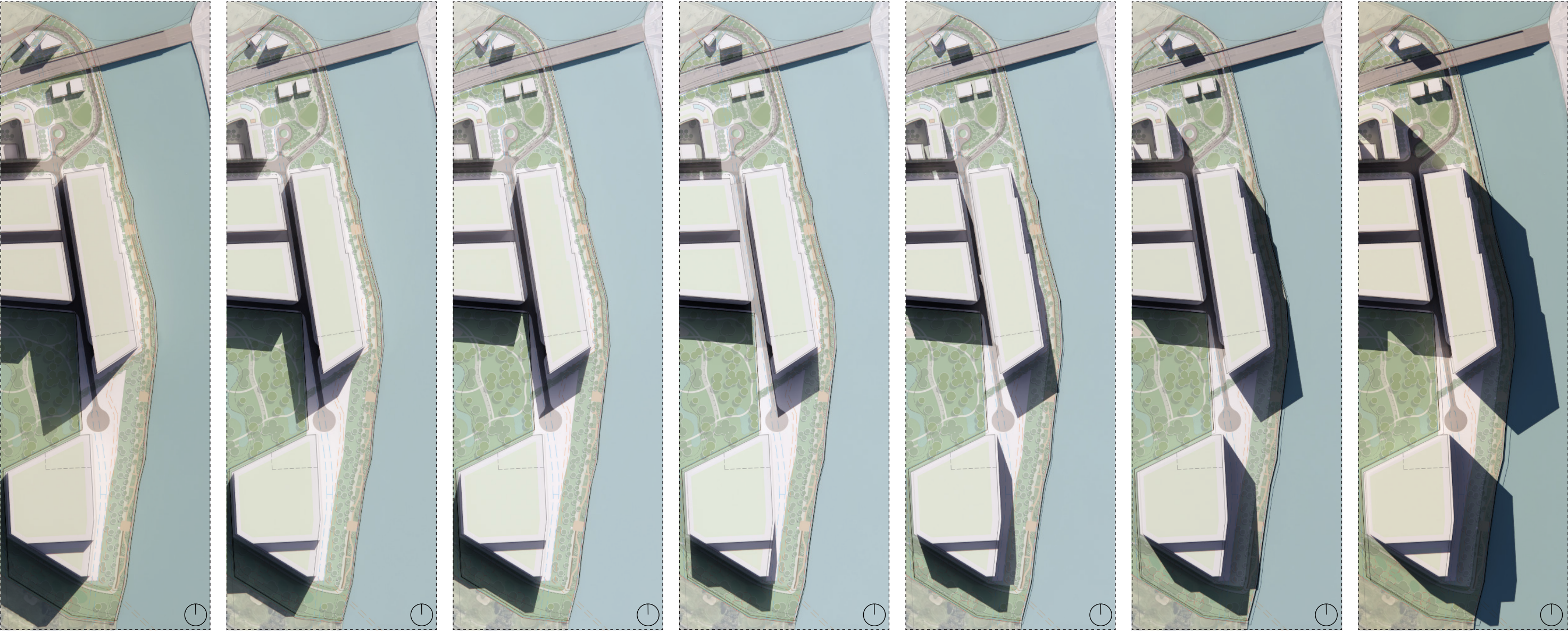
1:00pm

2:00pm

3:00pm

FORESHORE OVERSHADOWING

Winter Solstice



9:00am 10:00am 11:00am 12:00pm 1:00pm 2:00pm 3:00pm

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