Appendix G

Landscape Connectivity Modelling

Accessibility Statement

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Please note there may be content within appendices to this report that are not fully accessible to individuals using assistive technology. This may be due to the technical nature of these documents, which can contain complex tables, graphics, and legal language that are not compatible with certain accessibility tools.

If you require them in an alternative format, please email info@tmr.qld.gov.au or telephone 13 74 68.

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Appendix G Landscape connectivity modelling method

Landscape connectivity modelling is a spatial modelling method to visualise possible species movement and understand ecological connectivity over an area. For this proposed action, the electrical circuit theory approach has been adapted to predict and model species' habitat connectivity and identify fauna movement corridors. The following sections outline the relevant theory behind circuit theory, the Omniscape model applied for this assessment, and inputs to produce connectivity modelling for the Proposed action. Connectivity mapping was conducted for koala (*Phascolarctos cinereus*), and gliders (that is, greater glider (southern and central) (*Petauroides volans*) and the yellow-bellied glider (south-eastern) (*Petaurus australis*)). These species were selected for connectivity modelling, since they have the potential to be most at risk of connectivity impacts as a result of the proposed action due to terrestrial or arboreal mobility or high site fidelity and/or were assessed to have a significant impact as a result of the proposed action (see Section 7.3 of the Supplementary MNES report). The highly mobile species assessed to have a significant residual impact as a result of the proposed action and which were excluded from modelling, were the grey-headed flying fox (*Pteropus poliocephalus)* and south-eastern glossy black cockatoo (*Calyptorhynchus lathami lathami*).

1.1 Circuit theory

The circuit theory proposes that ecological connectivity and species movement is similar to electrical circuits, where analogies are drawn between electrical circuitry terminology and ecological connectivity (McRae et al., 2008). For instance, electrical resistance is equivalent to landscape resistance to species movement, electrical conductance is equivalent to habitat permeability and ease of movement, current running through nodes or resistors in a circuit can predict the movement probability of species through habitat nodes, and voltage can help predict the probability of success of one path over another (McRae et al., 2008).

Circuit theory includes multiple additional factors compared to traditional connectivity models, such as (McRae, 2006):

- The presence of multiple pathways with varying potential for movement
- The potential for redundant pathways that might contain suitable habitat but may not be traversed by the individual
- A landscape-scale perspective that considers movement of several species over a large area
- Spatial heterogeneity which acknowledges that landscapes have barriers and catalysts to species movement, at varying strengths.

Connectivity measured using the circuit theory is not only a visual tool, but also quantitative, which allows for objective analysis, comparisons and optimal decision making.

1.2 Omniscape model theory and inputs

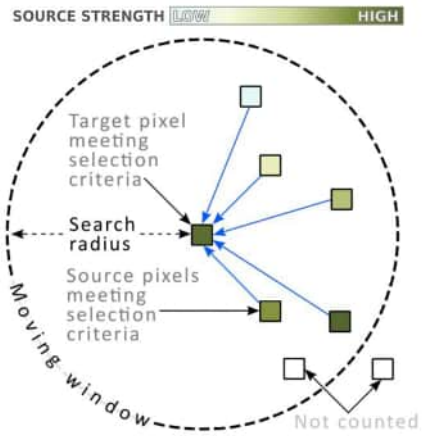
A circuit theory GIS model called Omniscape (Landau et al., 2021) was selected for this assessment, built upon an algorithm called Circuitscape (Anantharaman et al., 2020). Omniscape software version 0.6.1 in Julia programming language version 1.9.4 was used to conduct connectivity modelling. The model requires three base inputs as described in Table 1.

Table 1 Input data and value required to run Omniscape

Term	Data type	Description
Moving window radius	Distance value	The radius values for this proposed action are the average distances that each species can travel per day. The term "moving window" refers to the window of fixed radius which centres on each source pixel in turn (Figure 1).
Resistance layer	Raster	A dataset where each pixel is assigned a value that quantifies the ease of wildlife to traverse through that area.

Term	Data type	Description
Source strength layer	Raster	A dataset that defines the relative amount of current to be injected into each pixel. This layer identifies the start and end points for species movement, which is repeated for every identified pair of locations within the moving window.

Figure 1 An illustration of the moving window radius used in Omniscape (Landau et al. (2021), adapted from McRae et al. (2016)



The Circuitscape algorithm applies the moving window radius to the resistance and source layers per species to calculate a level of connectivity between every possible pair of habitat locations within the moving window radius (McRae et al., 2016). These inputs are detailed in the sections below. For this assessment, the source layer was derived from the resistance layer using a translator script. The spatial extent used for the model included the impact area, plus a buffer equal to the largest moving window radius (i.e. 189 m) (Table 2).

The outputs are displayed on a heat map in Figure 2 and Figure 3 that signifies three movement categories:

- Yellow indicates diffusion i.e. species movement is unimpeded
- Blue indicates channelled flow i.e. species movement is narrowed to conduits
- Red indicates impeded flow i.e. species movement is restricted.

The model was applied to two scenarios in Figure 2 and Figure 3, showing the current state of environment and the future state of the environment with the proposed action, to illustrate the effect of the proposed action on connectivity and fauna movement for each species.

1.2.1 Input: moving window radius

The moving window radius and justification for each species are listed in Table 2. Following a review of available literature, a conservative distance was selected for the moving window radius.

Table 2 Moving window radius distance values per species

MNES	Moving window radius	Justification
Koala	189 m	The conservative distance travelled per day by dispersing male koalas (Carney, 2010).
Greater glider (southern and central)	50 m	Half of the average maximum recorded gliding distances (Department of Agriculture Water and the Environment, 2022; Norman & Mackey, 2023).
Yellow-bellied glider (south-eastern)	50 m	

1.2.2 Input: resistance layer and source layer

The resistance raster for this Proposed action was produced using a combination of input data layers sorted into various classes that may positively or negatively influence fauna movement within the model extent (Table 3).

Resistance values were assigned to each class per species (Table 3), ranging from 1-1000 where 1 is the least resistance to movement or maximum connectivity, and 1000 denotes maximum resistance or no connectivity. Generally, lower resistance values outlined in Table 3 (≤100 or less for koala and ≤100 or less for gliders) were applied to vegetated areas, such as eucalypt woodland, low mixed regrowth, parkland (vegetated), and plantation, as well as minor roads, such as bikeways, tracks and walkways. Generally, higher resistance values outlined in Table 3 (>50 for koala and >100 for gliders) were applied to non-vegetated areas, such as developed areas (not vegetated), parkland (not vegetated), wetlands and swamps, as well as infrastructure and major roads, such as noise walls, railways corridor, motorways, and fences. Culverts were assigned a resistance value of 100 for koala and 1000 for gliders.

Some habitat classes may be slightly more or less suitable for one species as compared to another, e.g. disturbed areas with recent revegetation containing juvenile trees may be used by koalas for dispersal but provides less connectivity for gliders that require taller trees for dispersal. Additionally, suitable habitat features for one species may be a barrier for another; for example, a river may provide a hard barrier for small terrestrial animals but do not deter flying species or aquatic/semi-aquatic animals. For this proposed action, the focus species are terrestrial/arboreal species koala and gliders, and thus habitat classes and resistance values are relatively similar. In addition, due to the similar moving window radius values and movement patterns for gliders, an assumption has been made that resistance values are the same for these two species.

An order of preference was applied to the input data layers. Data was sourced either from proposed action mapping or public data available from QSpatial (Queensland Government, 2023).

Table 3 Resistance values applied to each class per species

Input data layers	Classes	Vegetation condition	Resistance values	
			Koala	Gliders
Fauna habitat type within the ground truthed mapping	Developed Areas (vegetated)	Non-remnant	50	500
	Developed Areas (not vegetated)	Non-remnant	500	1000
	Eucalypt woodland on sandy plains	Remnant and HVR	5	10
	Eucalypt woodland to open forest on alluvial plains	Remnant and HVR	5	10
	Eucalypt woodland to open forest on metamorphic soils	Remnant and HVR	5	10
	Eucalypt woodland to open forest on sedimentary rocks	Remnant and HVR	5	10
	Low mixed regrowth	Non-remnant	10	100
	Parkland (vegetated)	Non-remnant	10	100
	Parkland (not vegetated)	Non-remnant	100	1000
	Rail corridor and stations	Non-remnant	1000	1000
	Recent revegetation area	Non-remnant	50	100
	Roads	Non-remnant	100	100
	Waterbodies, creeks and lakes	Water	1000	1000
	Wetlands and swamps	Wetland	1000	1000
	Wetlands	Wetland	1000	1000

Input data layers	Classes		Vegetation condition	Resistance values	
				Koala	Gliders
Broad Vegetation Groups within the Queensland regional ecosystem mapping dataset (for areas outside the ground truthed mapping)	10 - Open forest and woodlands		Remnant and HVR	5	10
	12 - low shrublands and heathlands		Remnant and HVR	50	100
	13 - open forest and woodlands		Remnant and HVR	5	10
	16 - riparian fringing woodlands		Remnant and HVR	10	50
	22 - open forest on coastal alluvial plains		Remnant and HVR	5	10
	34 - swamps and wetlands		Remnant and HVR	1000	1000
	35 – mangroves and saltmarshes		Remnant and HVR	1000	1000
	4 – vine forest on alluvial plains		Remnant and HVR	10	50
	8 – open forest on uplands and alluvia		Remnant and HVR	10	50
	9 - open forest and woodlands on lowlands		Remnant and HVR	5	10
	Plantation		Non-remnant	50	500
	Water bodies, creeks and lakes		Water	1000	1000
Infrastructure and roads Note: Some values were converted from lines to polygons using a buffer suitable to the class (from 0.5 m for fences to 15 m for motorways).	Infrastructure	Detailed design resistant surfaces	Non-remnant	1000	1000
		Noise walls	Non-remnant	1000	1000
		Railway corridor	Non-remnant	1000	1000
		Culvert	Non-remnant	100	1000
		Fence	Non-remnant	200	50
	Public space	Recreation area	Non-remnant	10	100
	Roads	Bikeway	Non-remnant	50	50
		Connector	Non-remnant	500	500
		Local	Non-remnant	50	500
		Motorway	Non-remnant	1000	1000
		Restricted	Non-remnant	100	100
		Secondary	Non-remnant	1000	1000
		Track	Non-remnant	50	100
		Walkway	Non-remnant	50	100
		Mall	Non-remnant	1000	1000
	Cadastre	Lot type parcel	Non-remnant	50	500
		Road type parcel	Non-remnant	100	100
		Water bodies, creeks and lakes	Non-remnant	1000	1000

1.3 Limitations

Circuit theory has a broad scope of applications, from evolutionary processes (i.e. understanding flow of genetic material across a landscape) to conservation decision making (i.e. understanding disease spread or determining where to invest funding for restoration or protection) (Anantharaman et al., 2020; Cameron et al., 2022; McRae et al., 2008). This model was designed to quantify habitat and fauna movement connectivity changes as a result of the proposed action and identify locations for mitigation opportunities such as fauna culverts. Whilst this model is efficient in finding areas where human development and land modification constrains species movement, the model is unable to quantify the behavioural response of a species' population or individual from the effects of urbanisation as a whole or changes in any given location. The model is targeted to capture species-specific information by assigning resistance values, but it does not capture seasonal variation affecting vegetation condition or species habitat utilisation, influences from climate change, or other population specific variables such as actual home range locations or threats such as disease and dogs. Despite these limitations, this is valuable tool to assess the current and future state of habitat and fauna connectivity as a result of the proposed action.

This model relies on the selection of appropriate input data layers and assigning probability of movement to resistance values. Selection was informed by expert opinion, a literature review per species, and a literature review of similar model applications. The analysis uses a spatial extent larger than the impact area, which may influence the results. Many inputs are more accurate within the Impact area, such as ground truthed habitat values within the Impact area compared to using state information outside the Impact area. Other inputs were only available within the Impact area i.e. location of fences. However, it is anticipated that this is a conservative approach that assumes species have more movement outside the proposed action. State mapping layers were used to classify vegetation outside the Impact area and using this for species habitat provides limitations, for example non-remnant vegetation in the state layer was not delineated into habitat categories to assign appropriate resistance value to shelter trees compared to mown park or urban infrastructure.

Due to lack of available information, the following assumptions on resistance values were made for the following habitat classes:

- Existing and proposed culverts were assigned a resistance value of 1000 for greater glider (southern and central) and yellow-bellied glider (south-eastern), and 100 for koala
- Proposed roads was assigned a resistance value of 1000
- Proposed railway corridor was assigned a resistance value 1000
- No fence data was available to assign resistance values.

1.4 Results

The landscape connectivity model was run to understand the overall potential impacts of the proposed action on available movement areas for three species (that is, koala, yellow-bellied glider (south-eastern) and greater glider (southern and central), using current habitat class and resistance value data (current state) with predicted habitat class and resistance value data during operation phase of the proposed action (future state).

The connectivity models are considered to have met the aims using the method specified in Section 1.2 above. Results for koala are shown in Figure 2 below, and results for the gliders are shown in Figure 3 below.

Figure 2 Koala landscape connectivity model

Current State

Future State

Appendix G Figure 2 Koala landscape connectivity model

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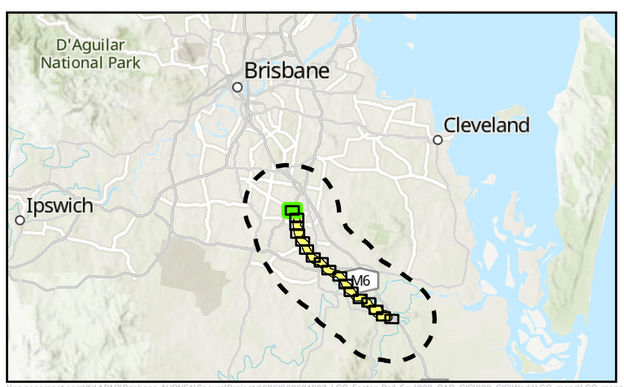
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



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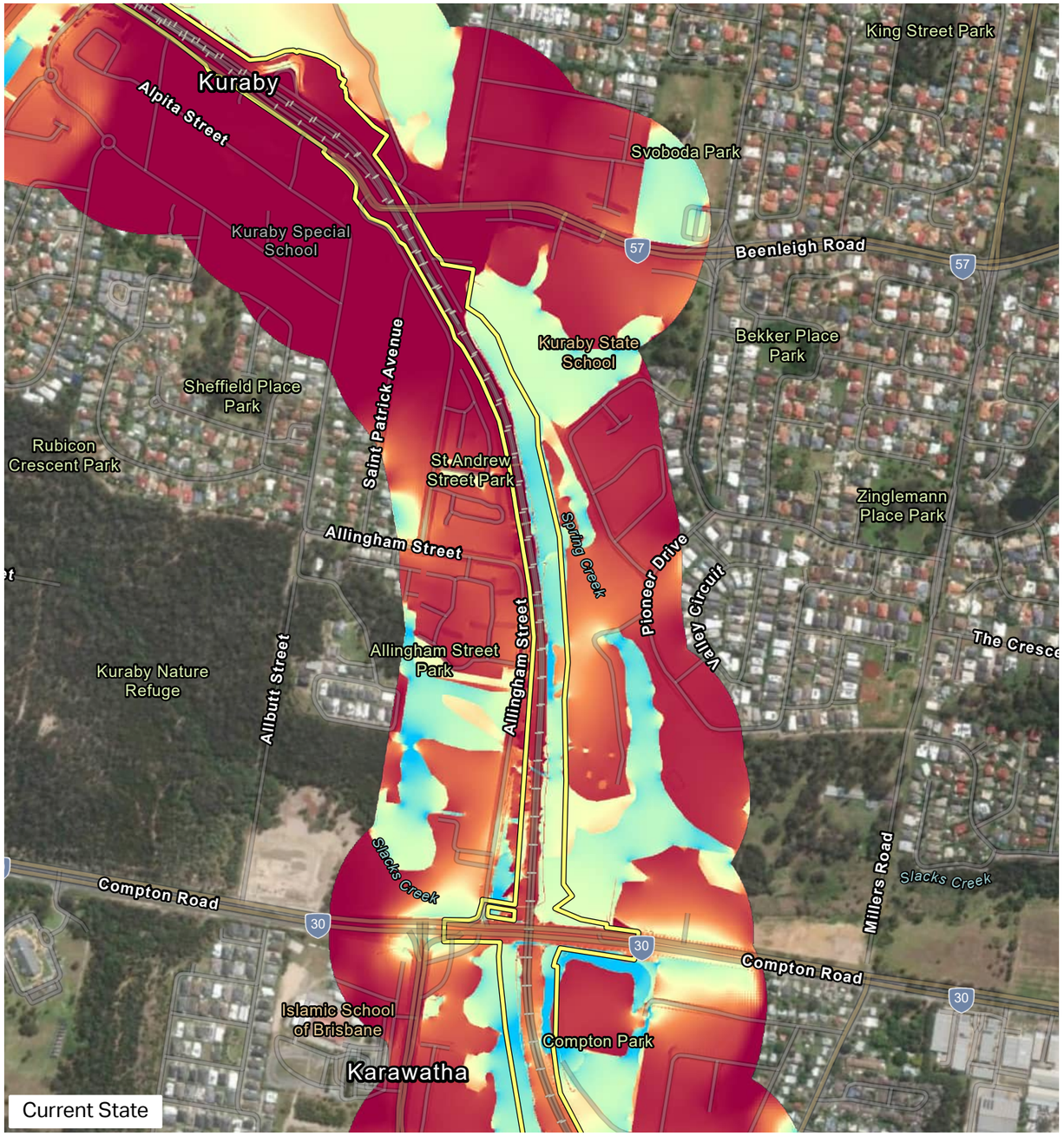

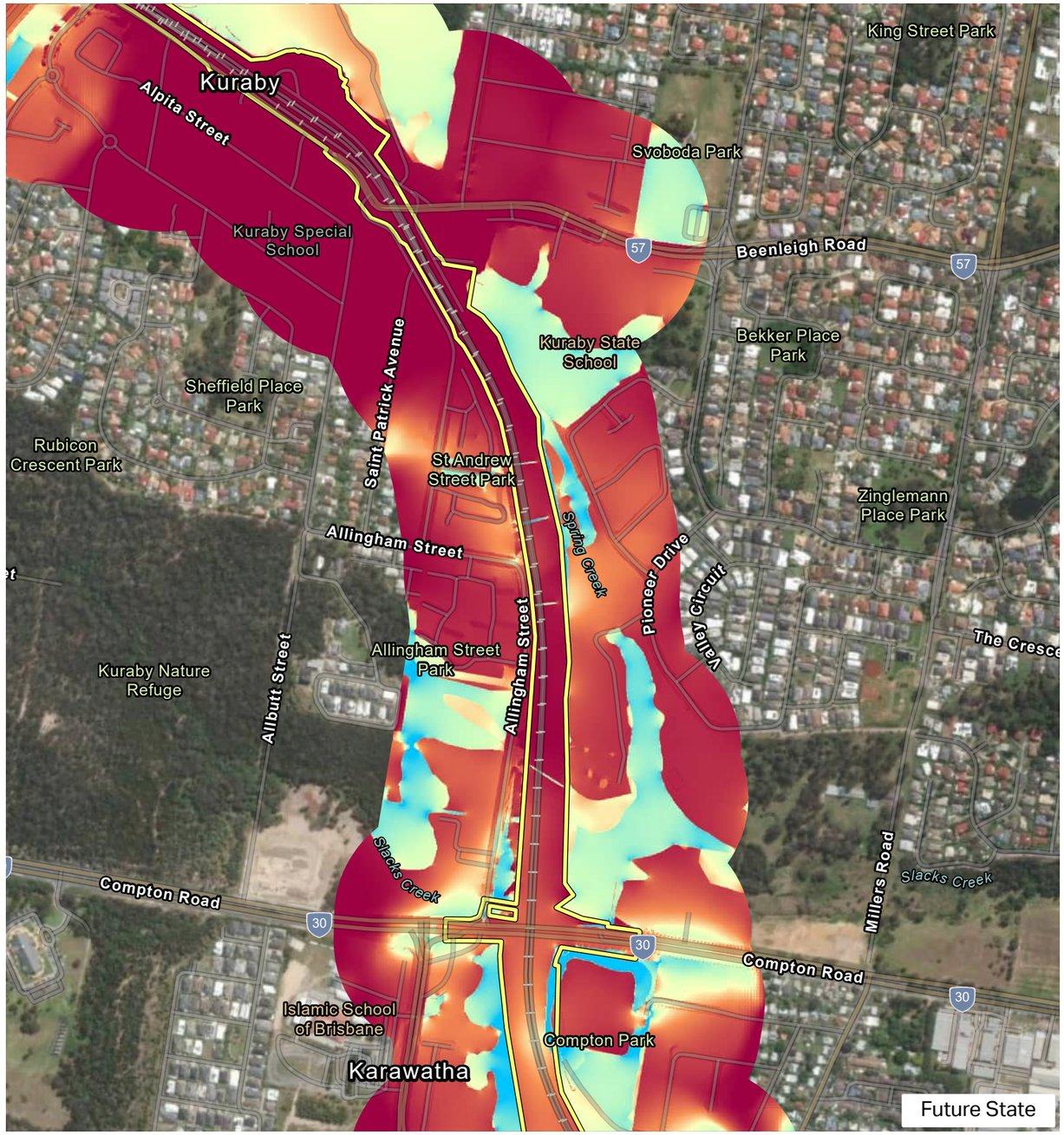

Appendix G Figure 2 Koala landscape connectivity model

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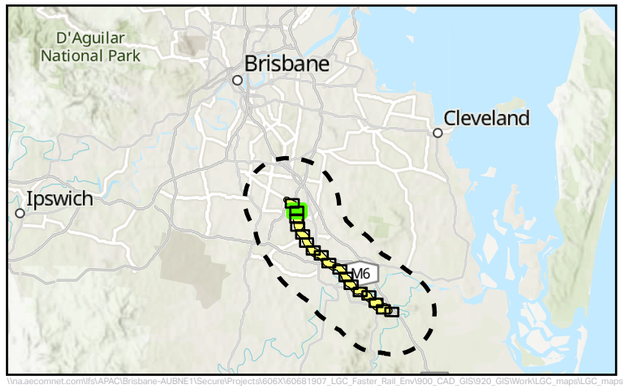

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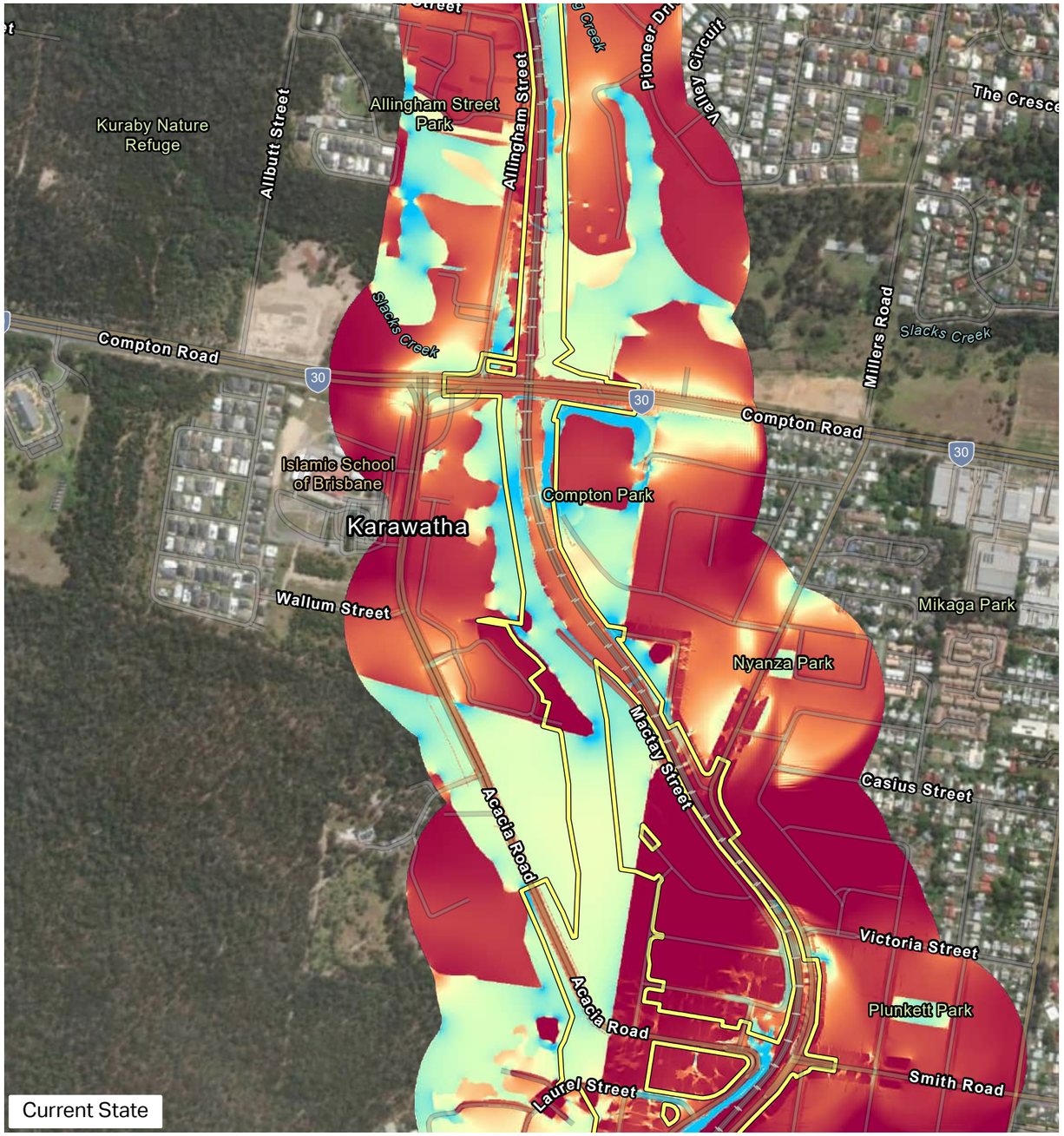

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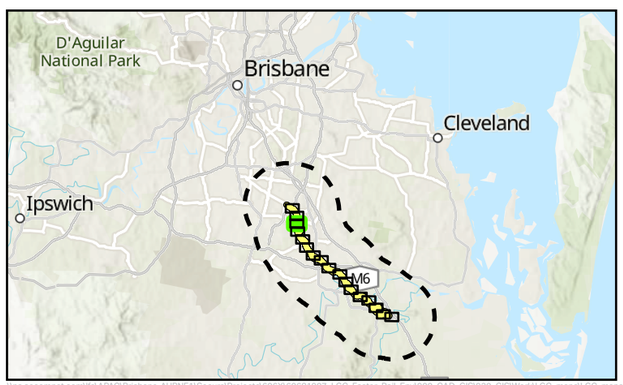

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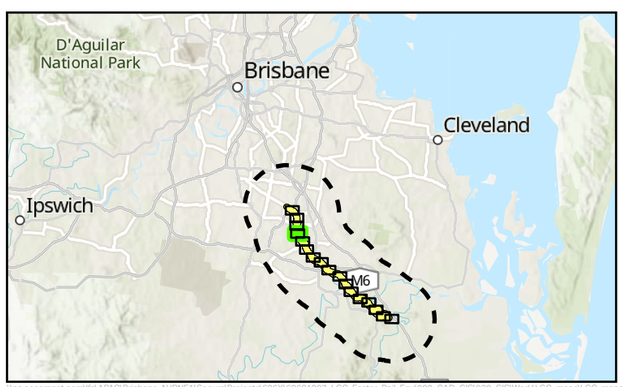

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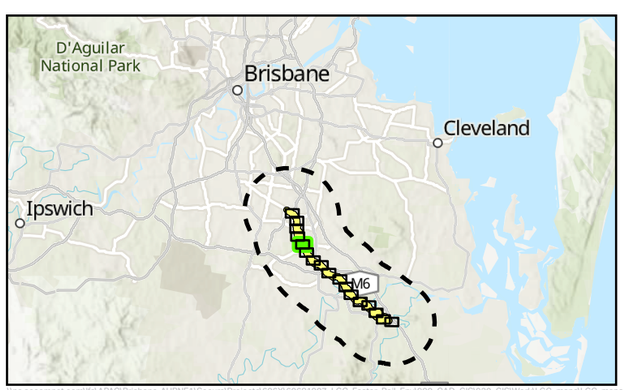

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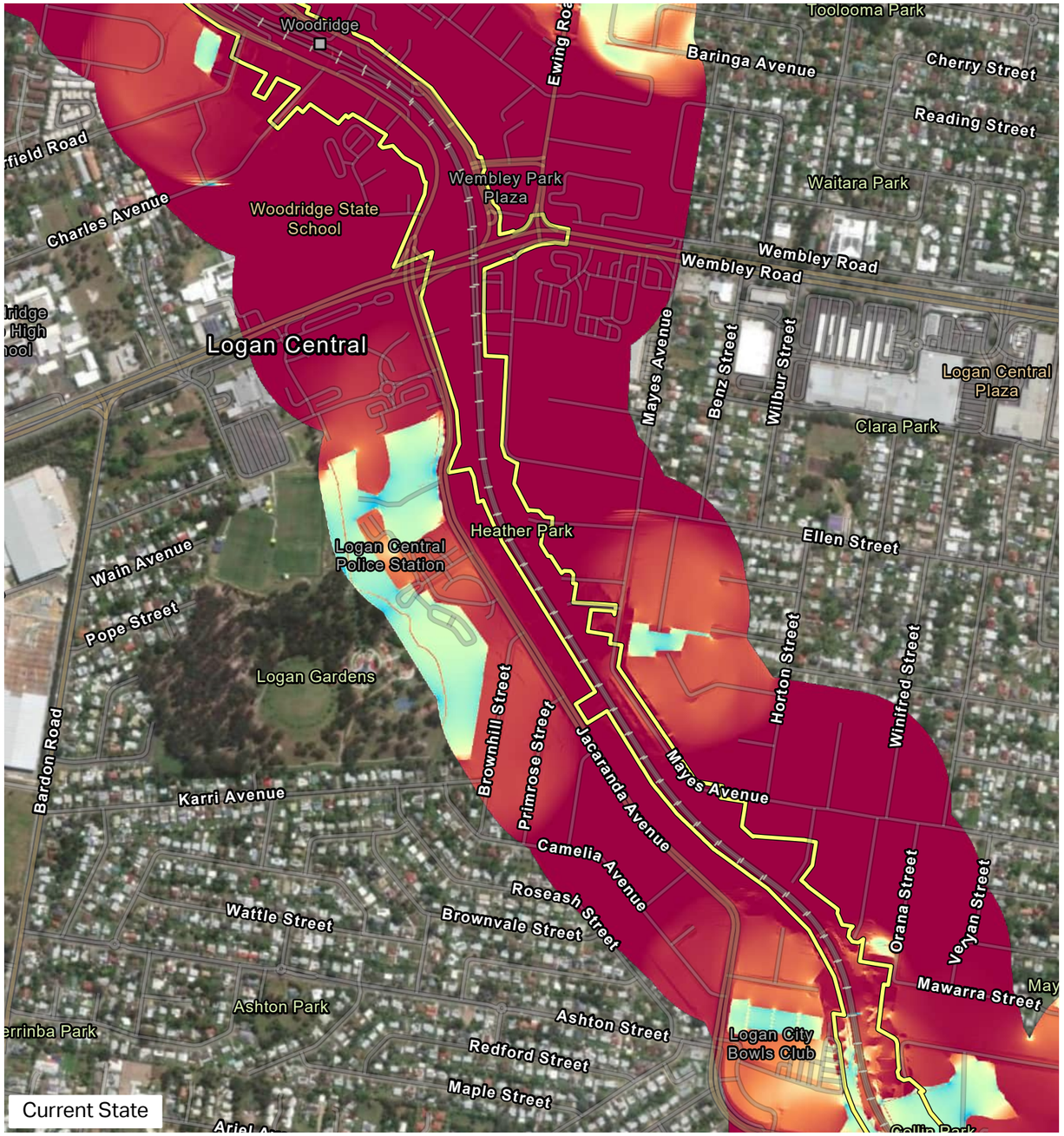

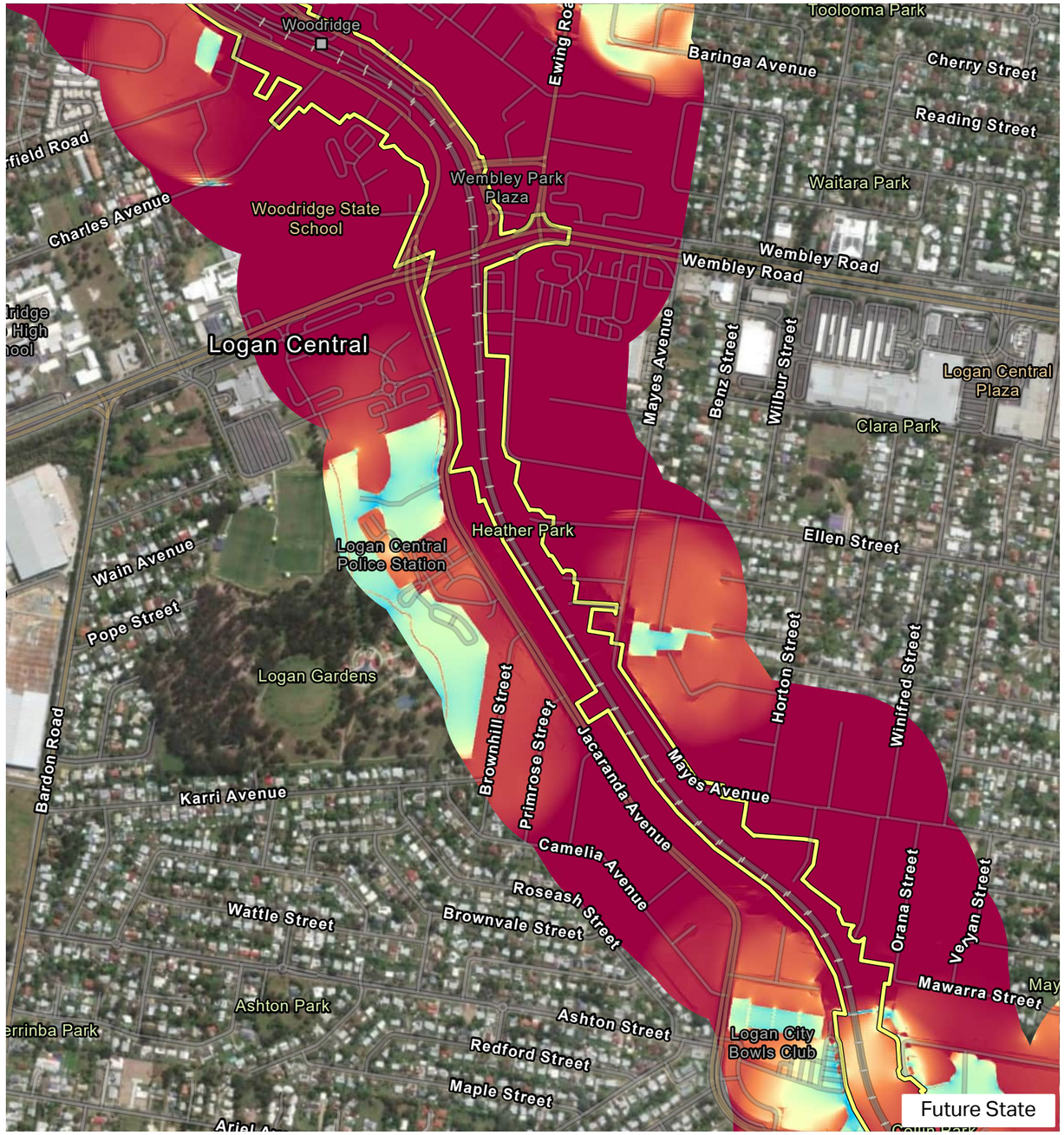

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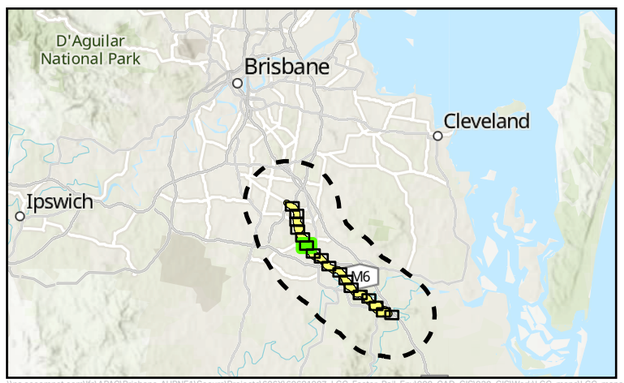

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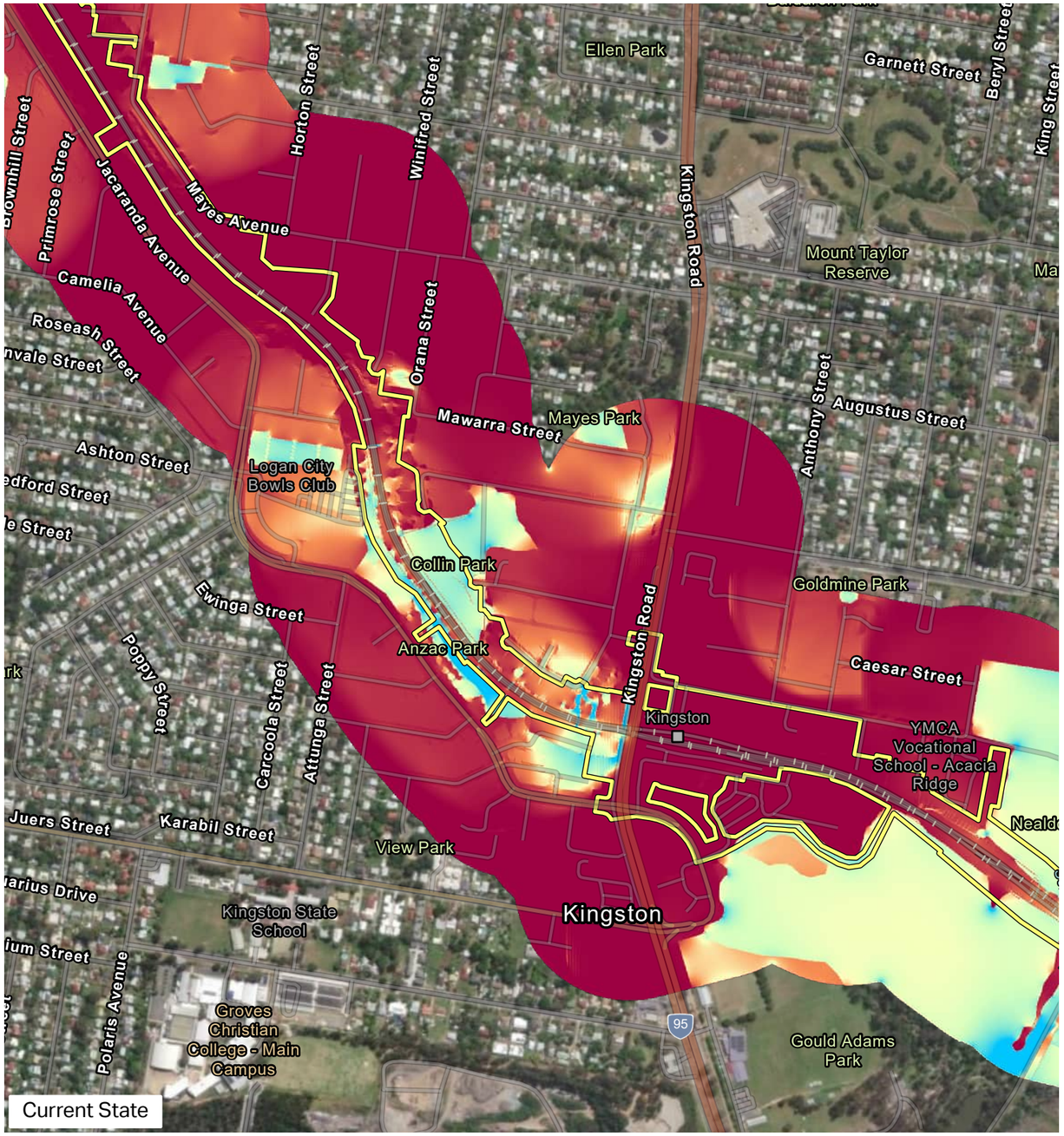

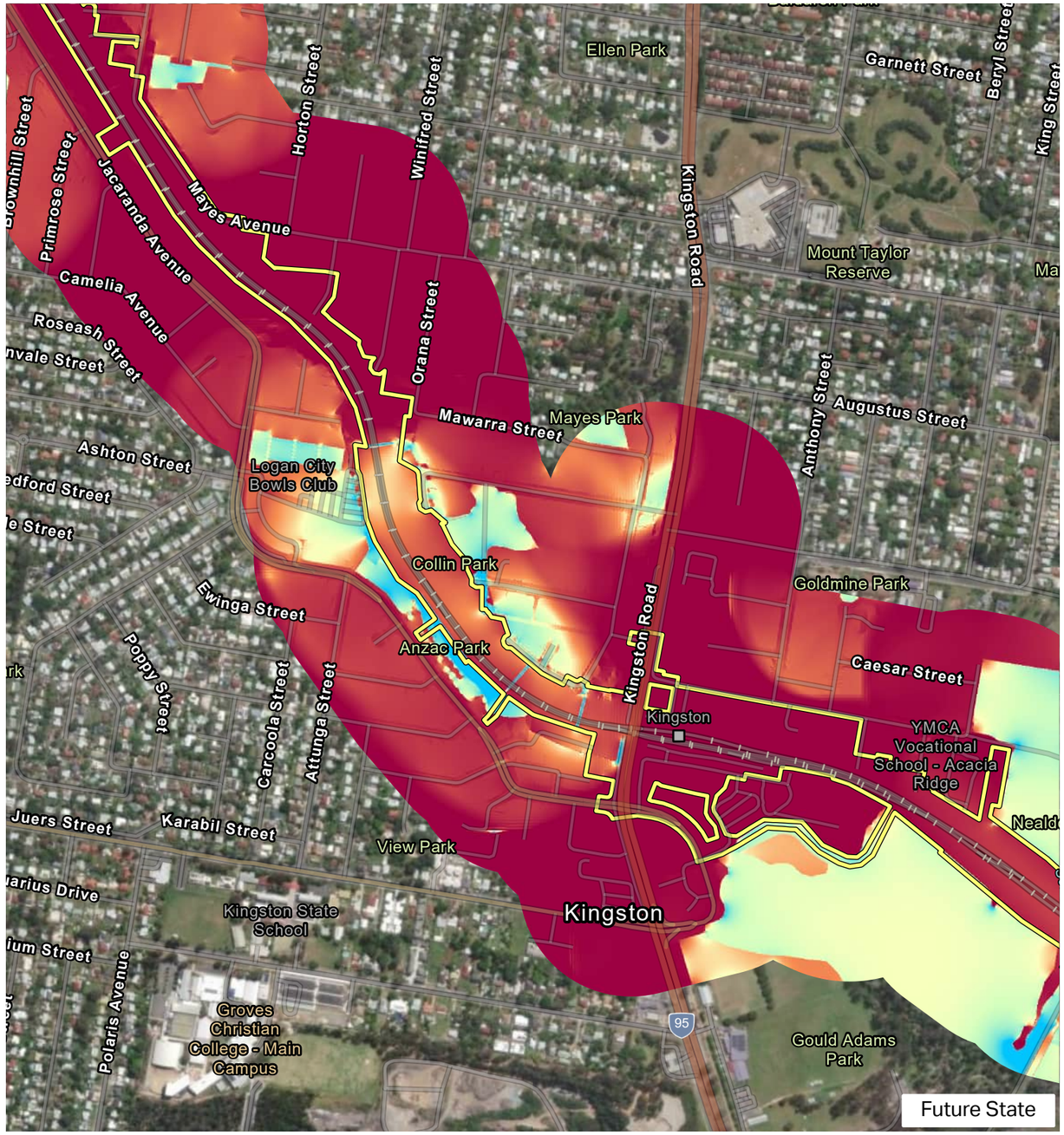

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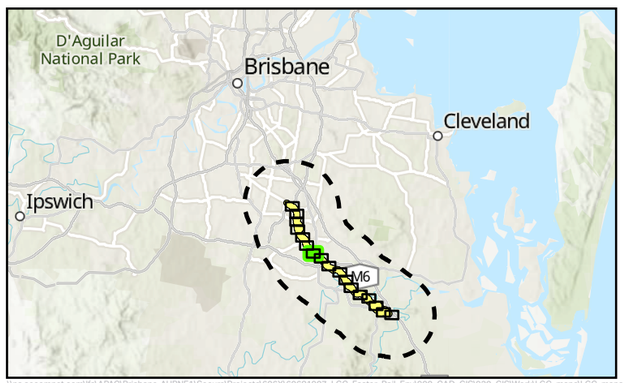

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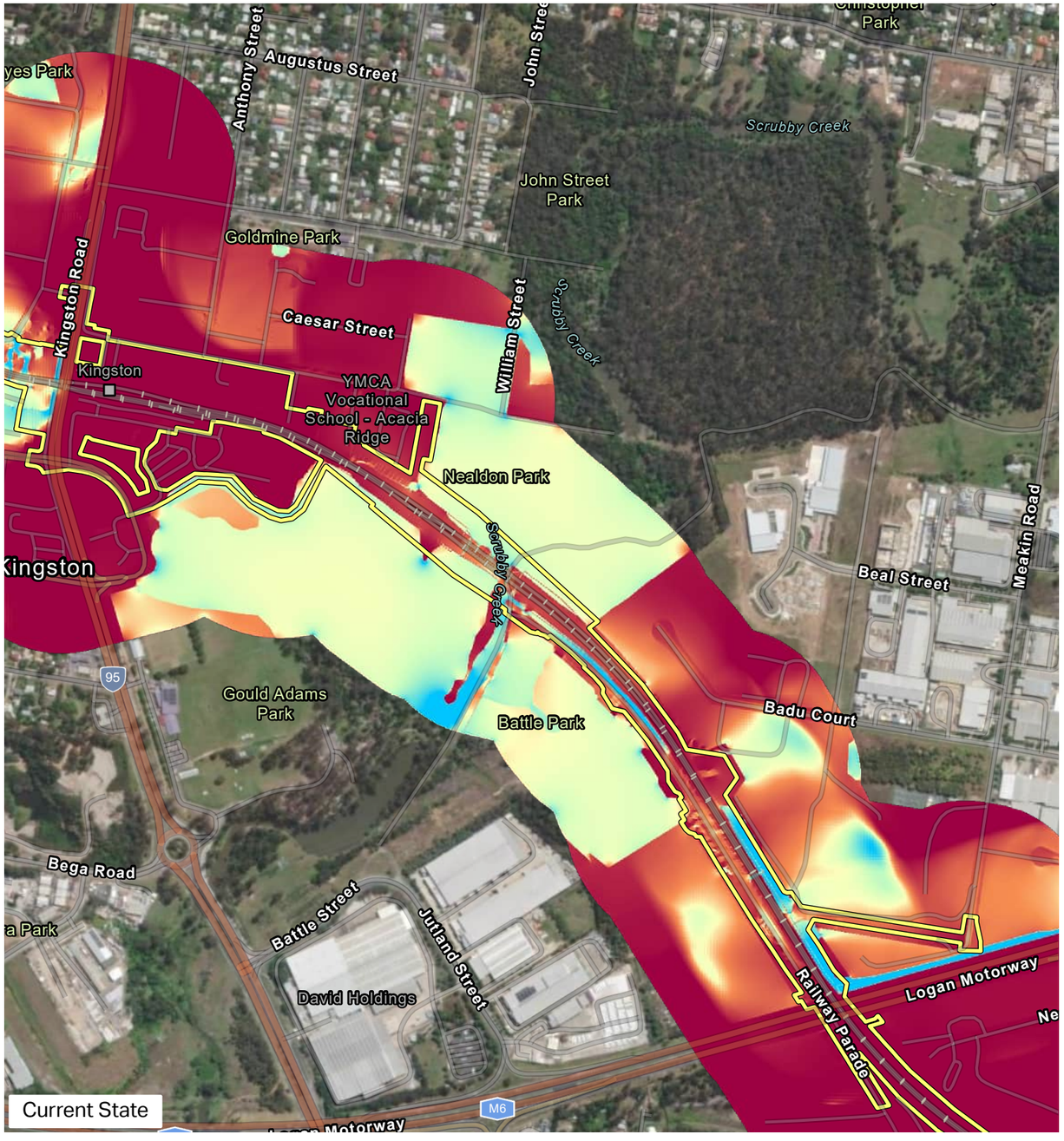

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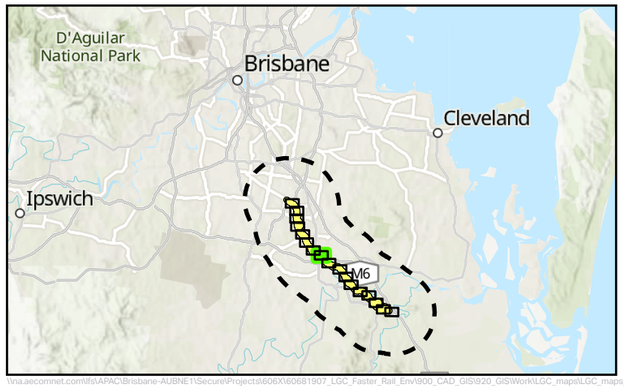

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Current State

Future State

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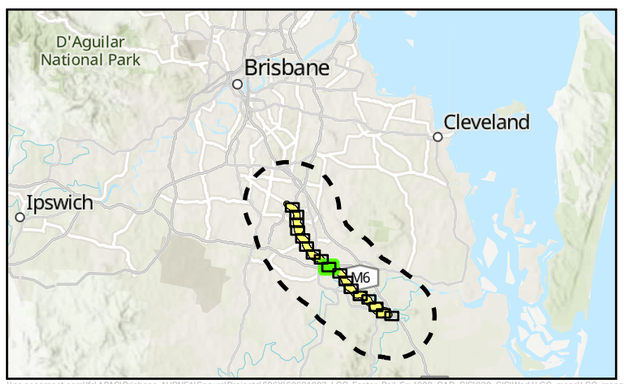

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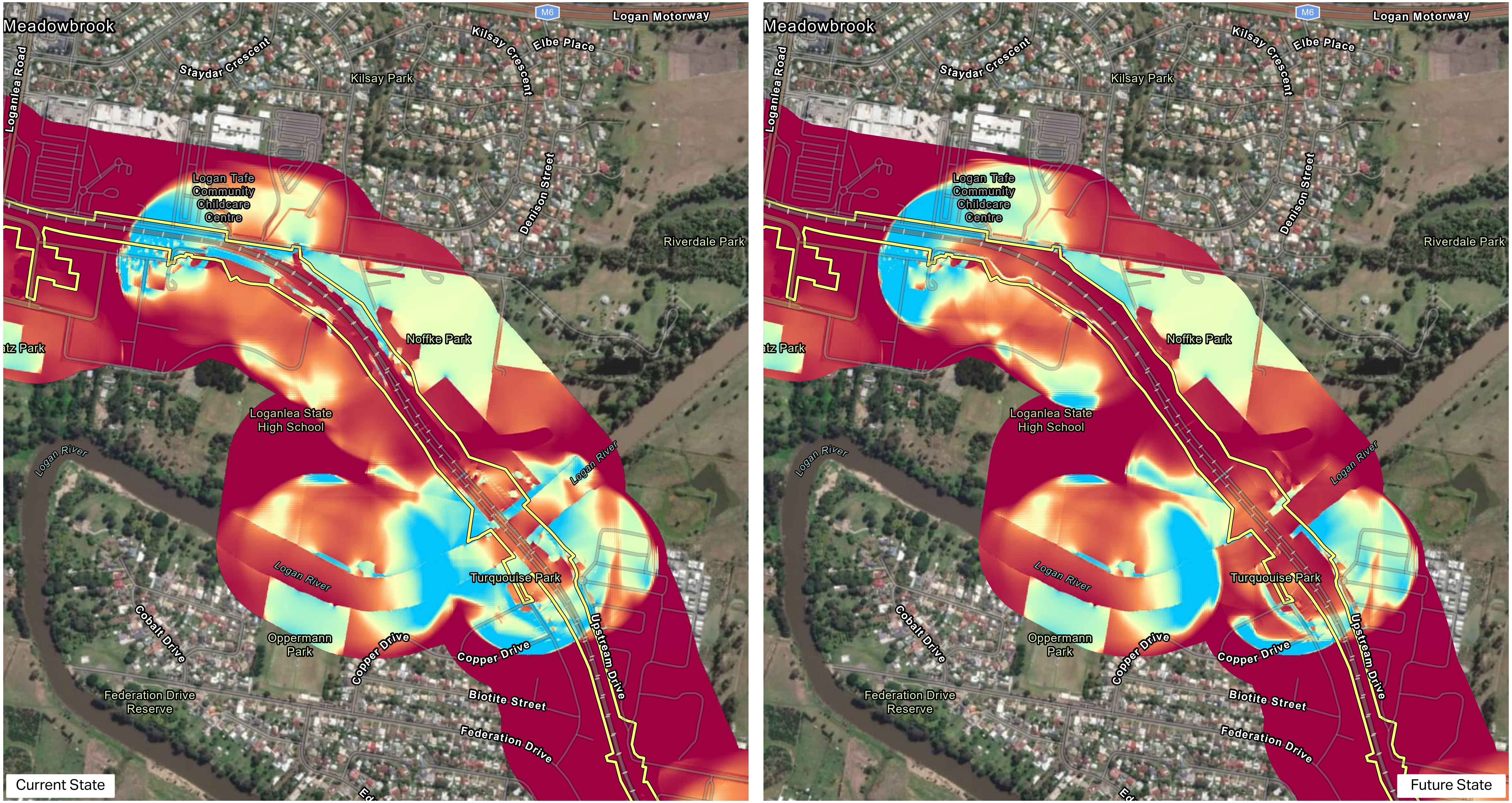

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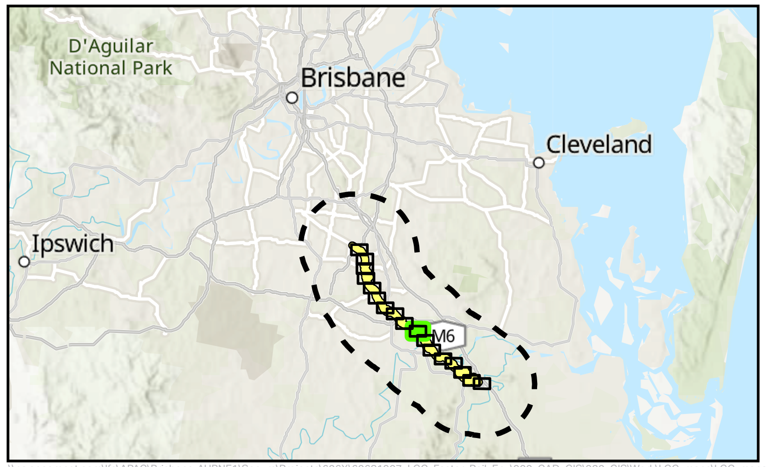

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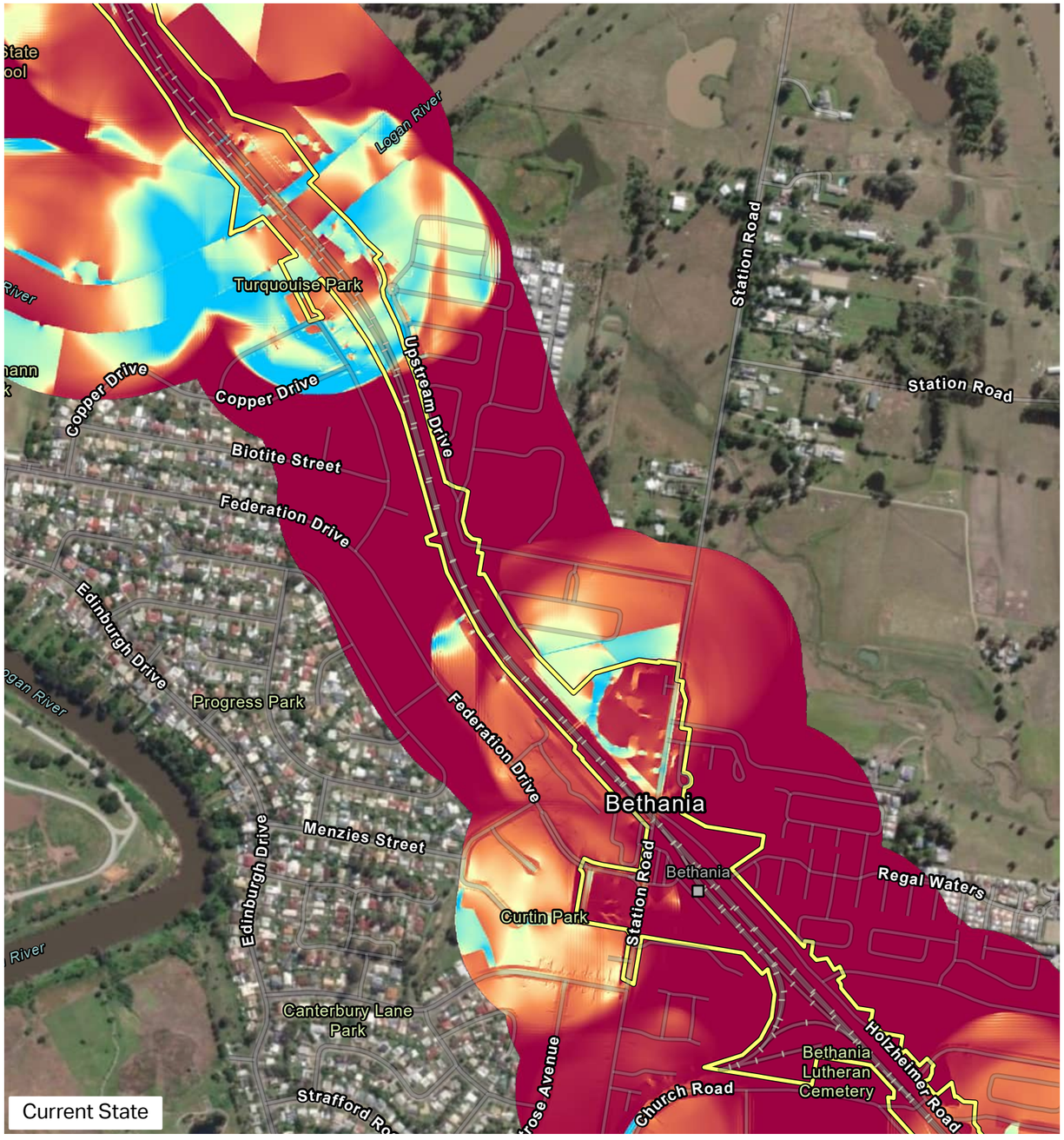

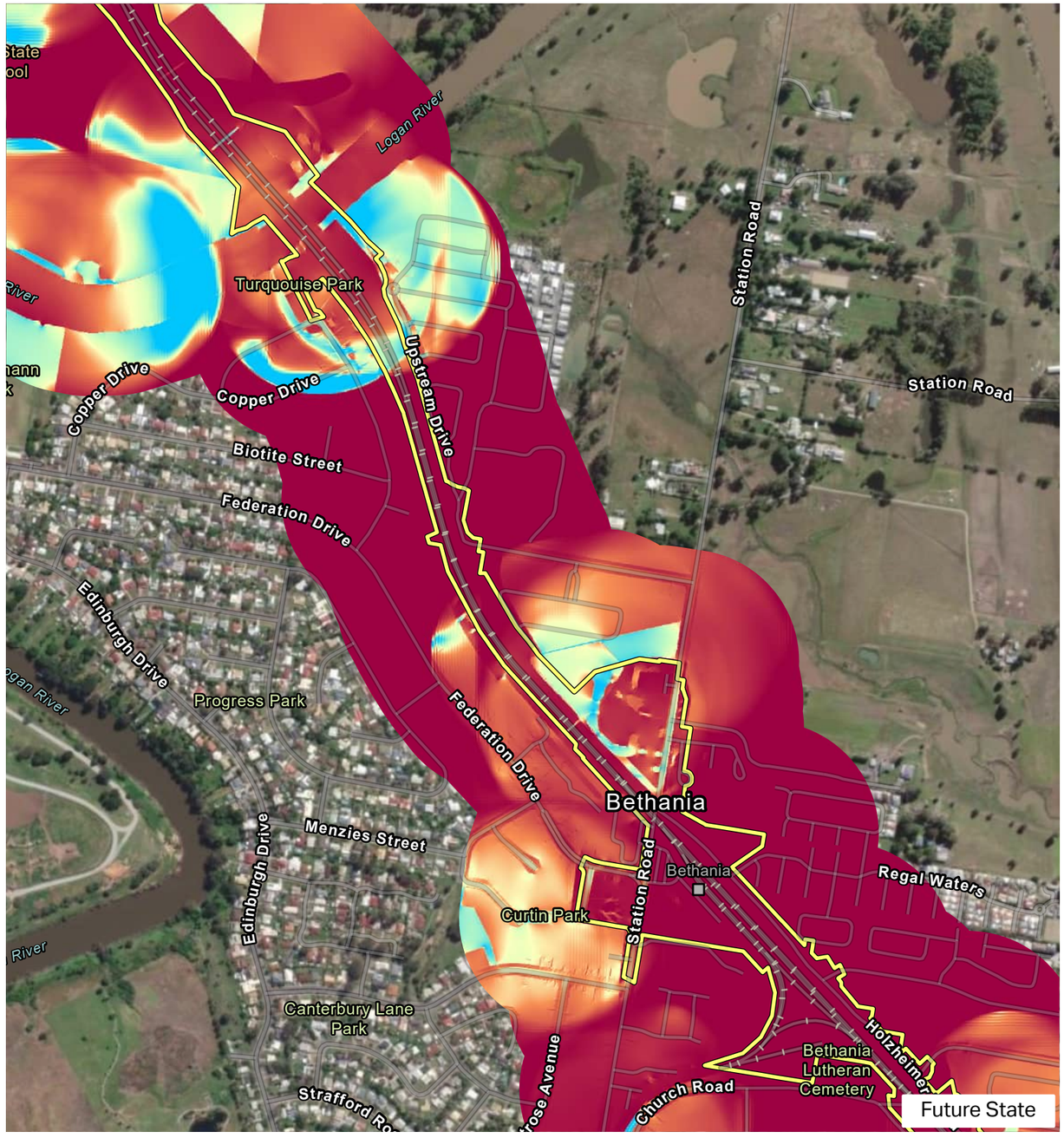

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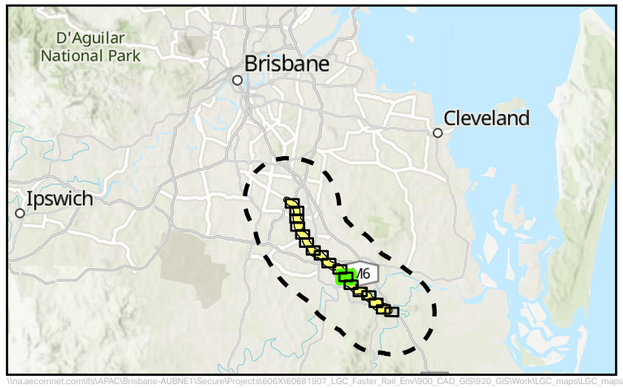

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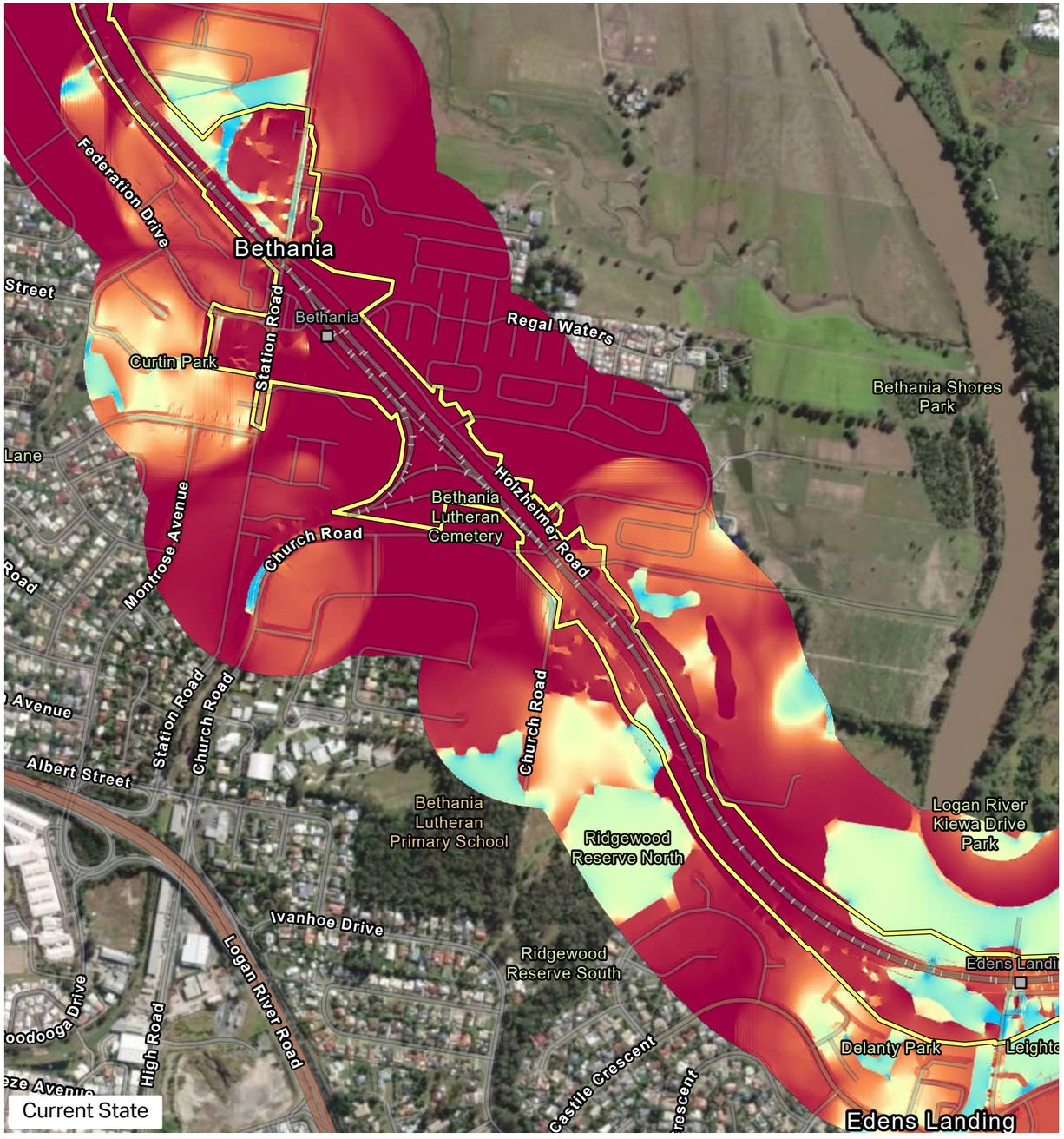
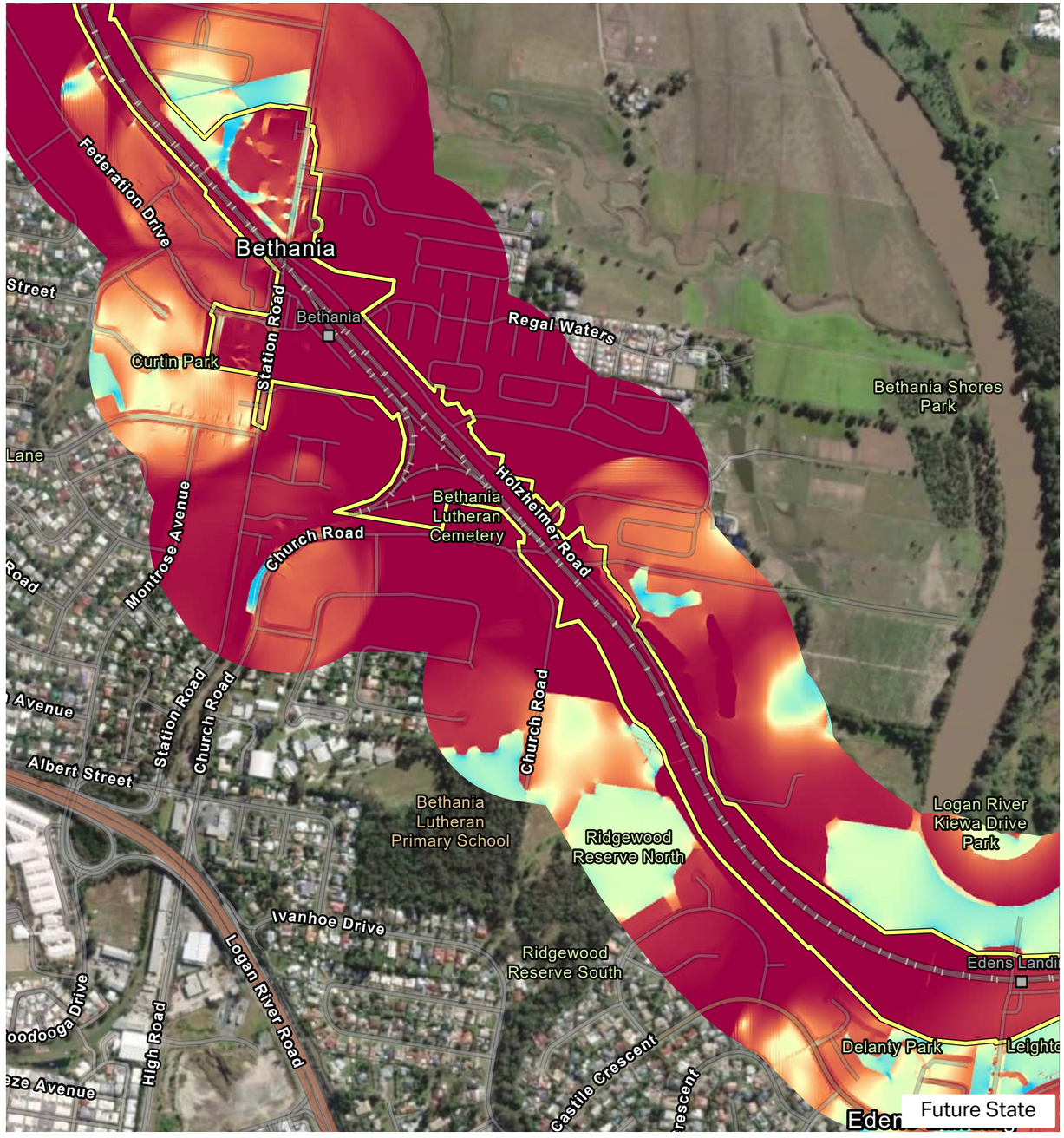




Appendix G Figure 2 Koala landscape connectivity model

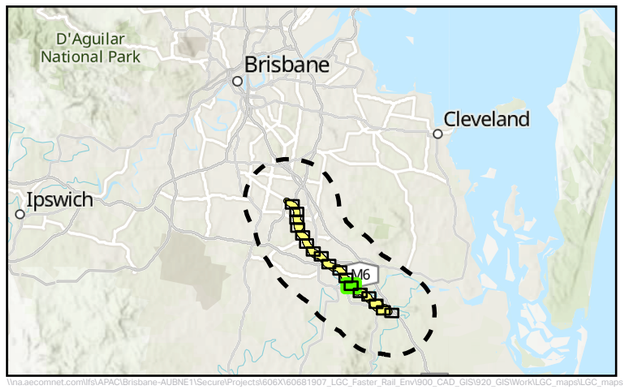
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



N

0 250 500 m

Project: Logan and Gold Coast Faster Rail
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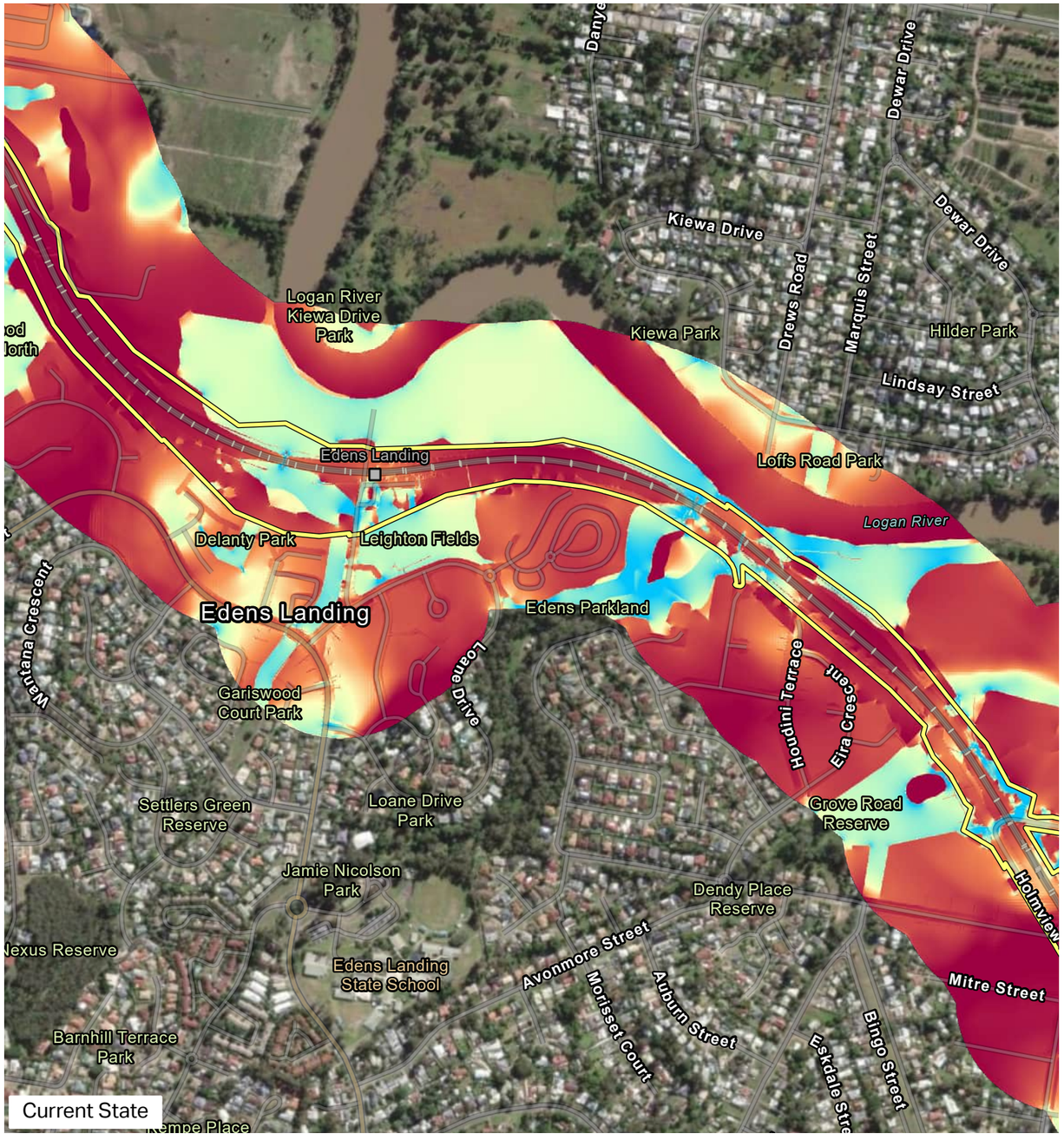

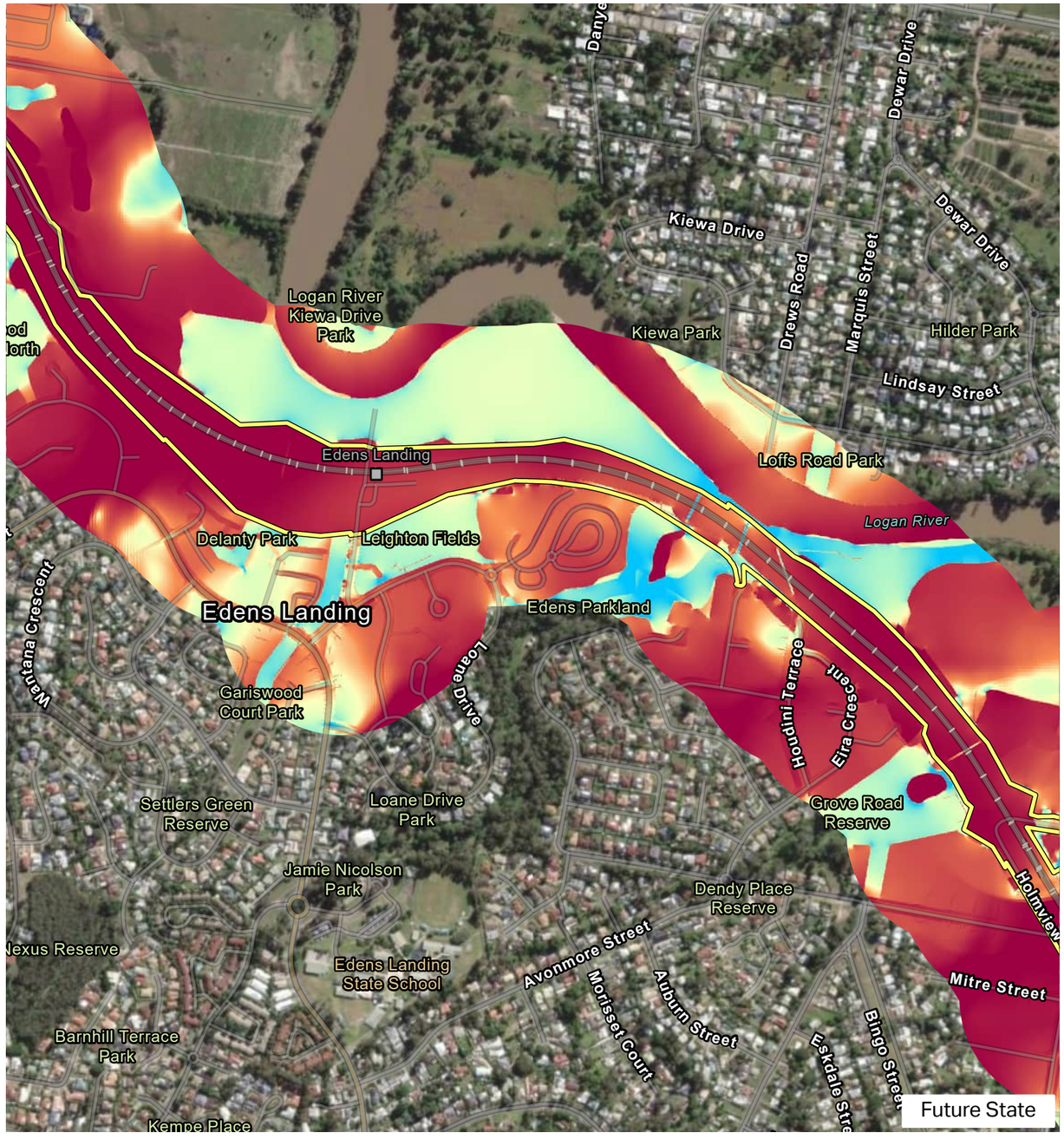

Appendix G Figure 2 Koala landscape connectivity model

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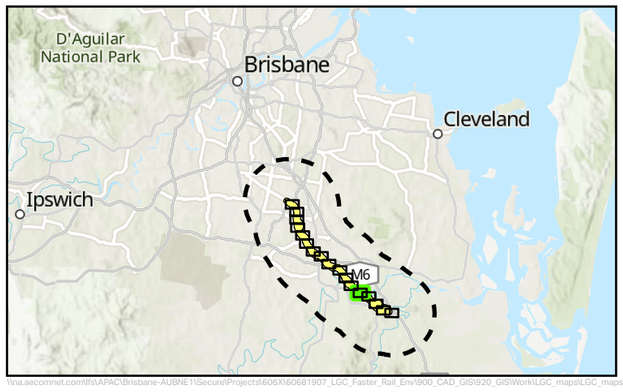

AECOM

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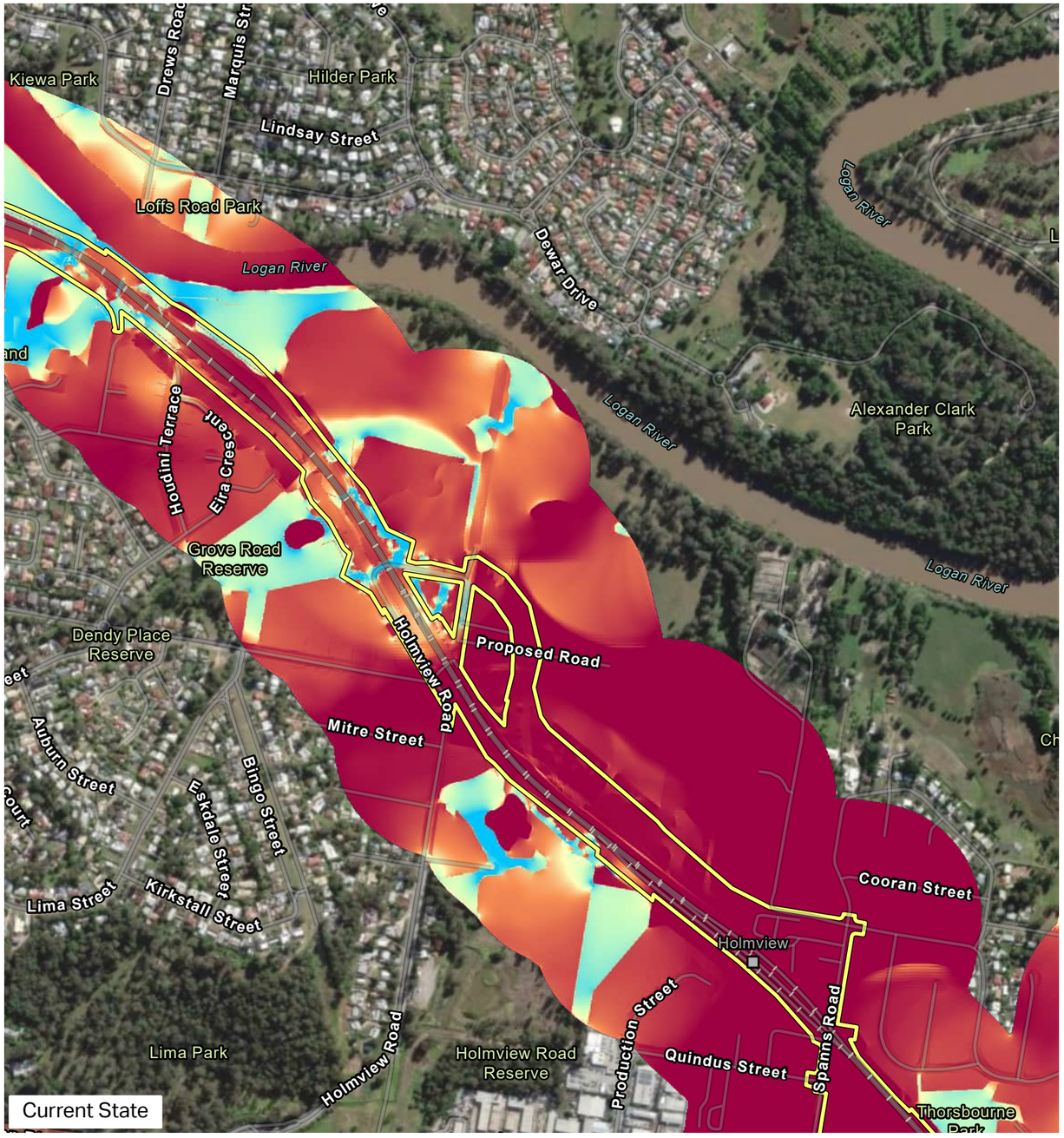

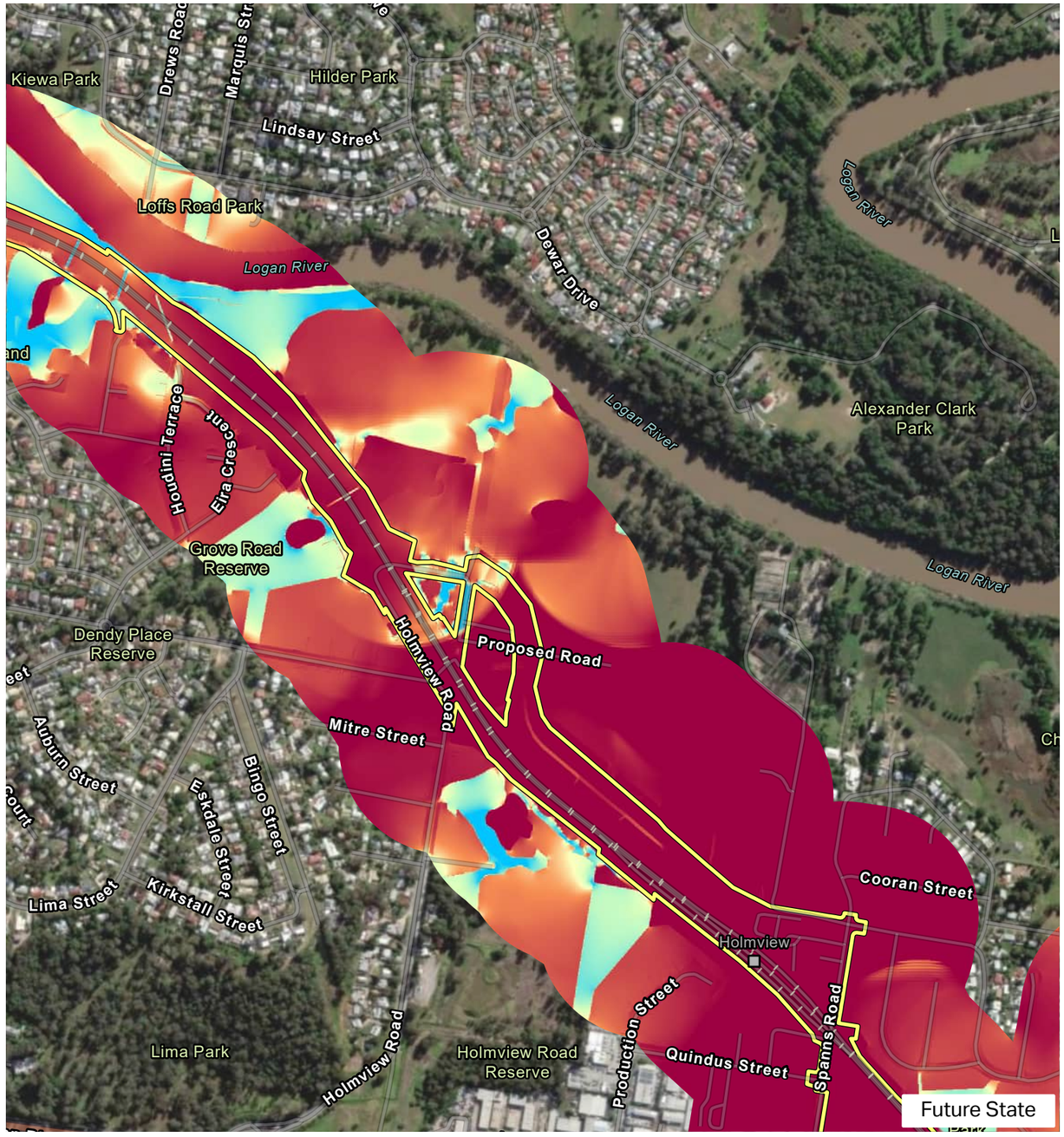

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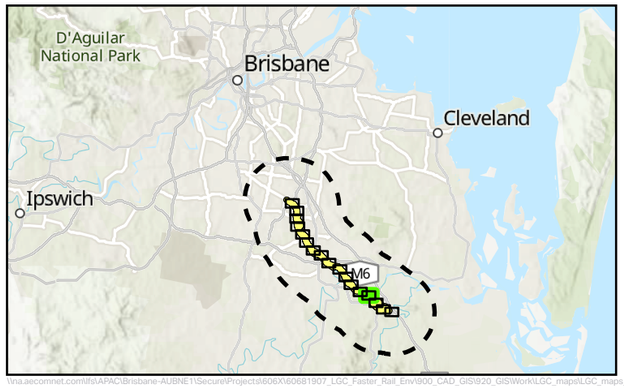

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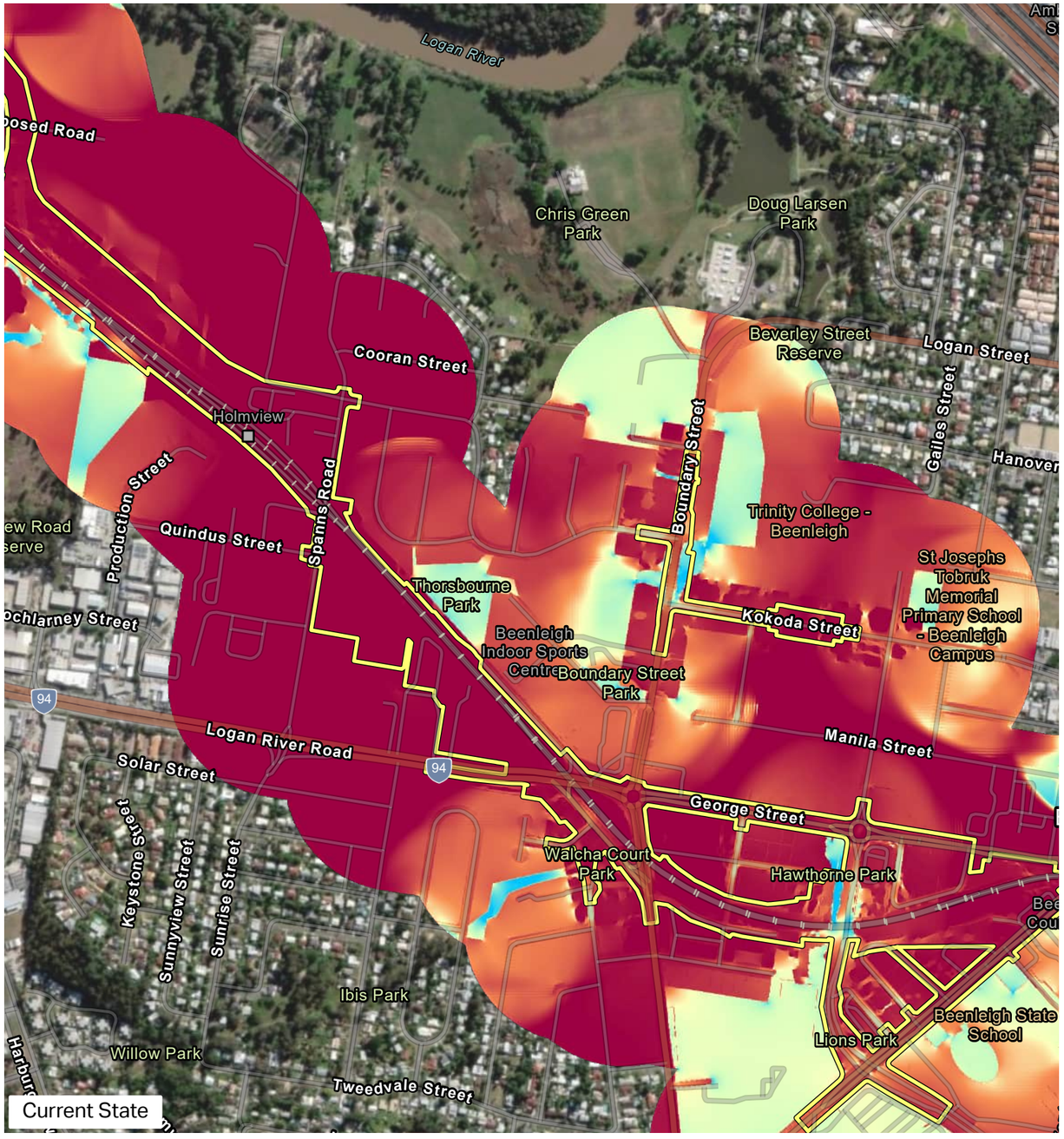

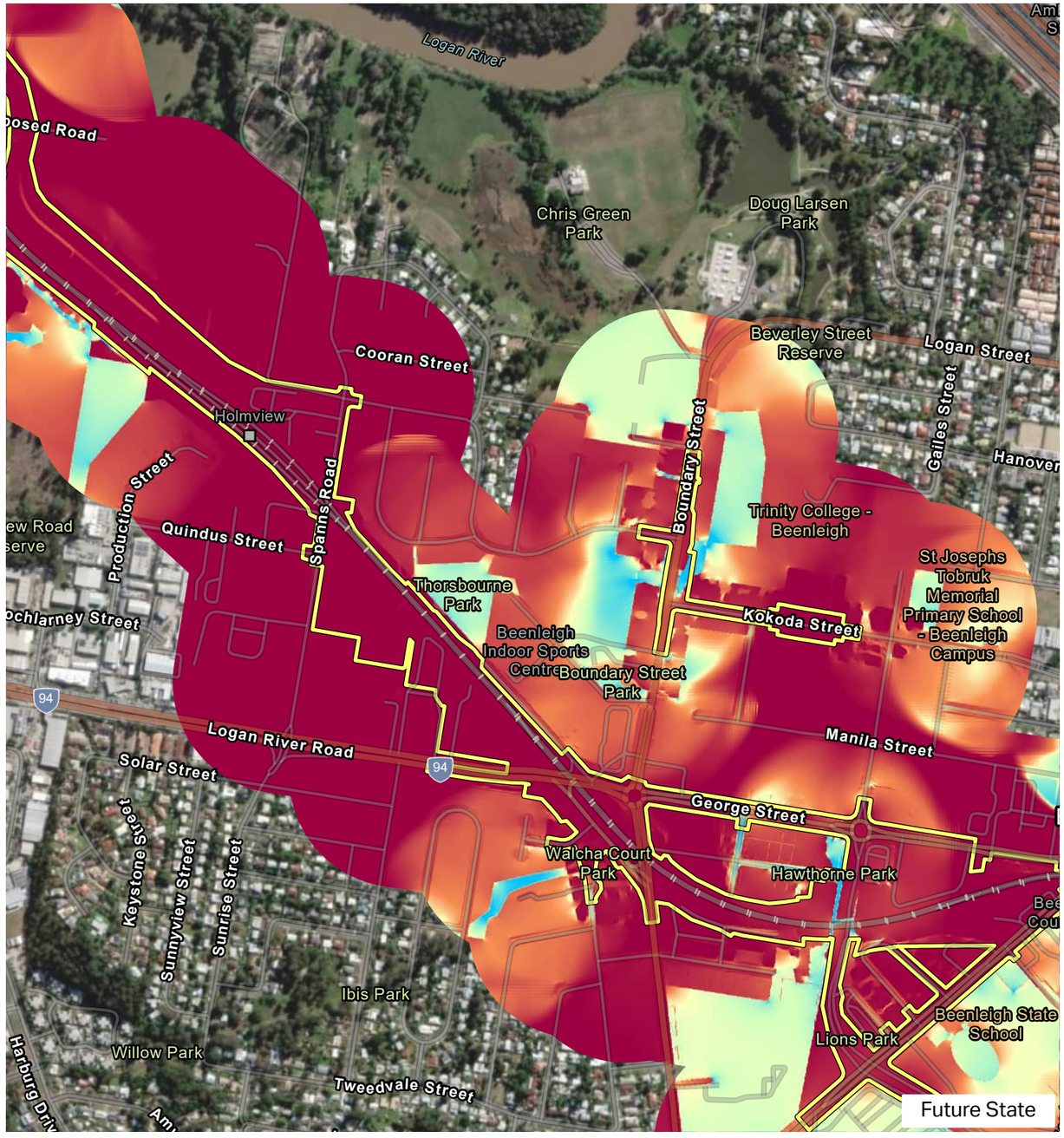

Appendix G Figure 2 Koala landscape connectivity model

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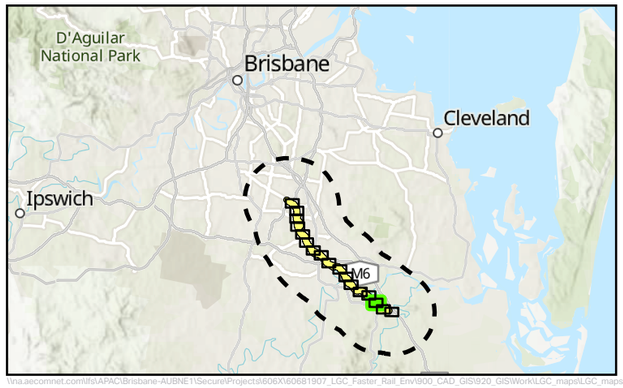

AECOM

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Project Number: 60681907
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Current State

Future State

Appendix G Figure 2 Koala landscape connectivity model

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Study area

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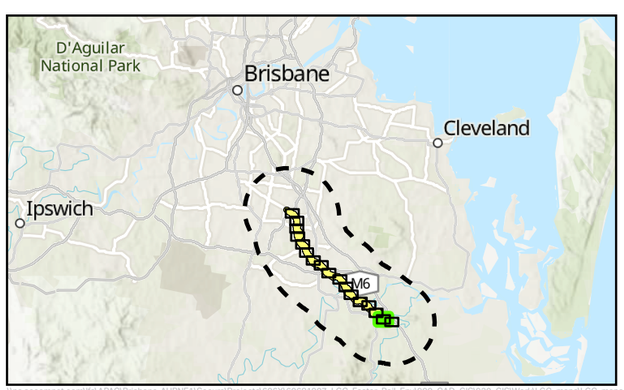

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Current State

Future State

Appendix G Figure 2 Koala landscape connectivity model

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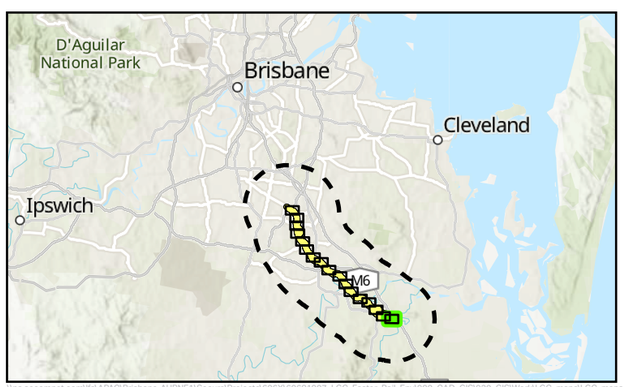

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Figure 3 Gliders landscape connectivity model

Current State

Future State

Appendix G Figure 3 Gliders landscape connectivity model

Page 1 of 17

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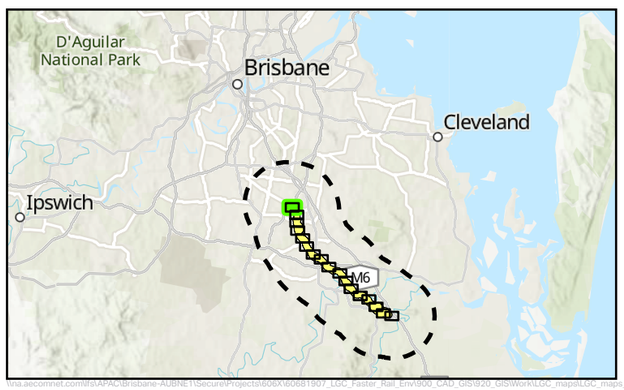
Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



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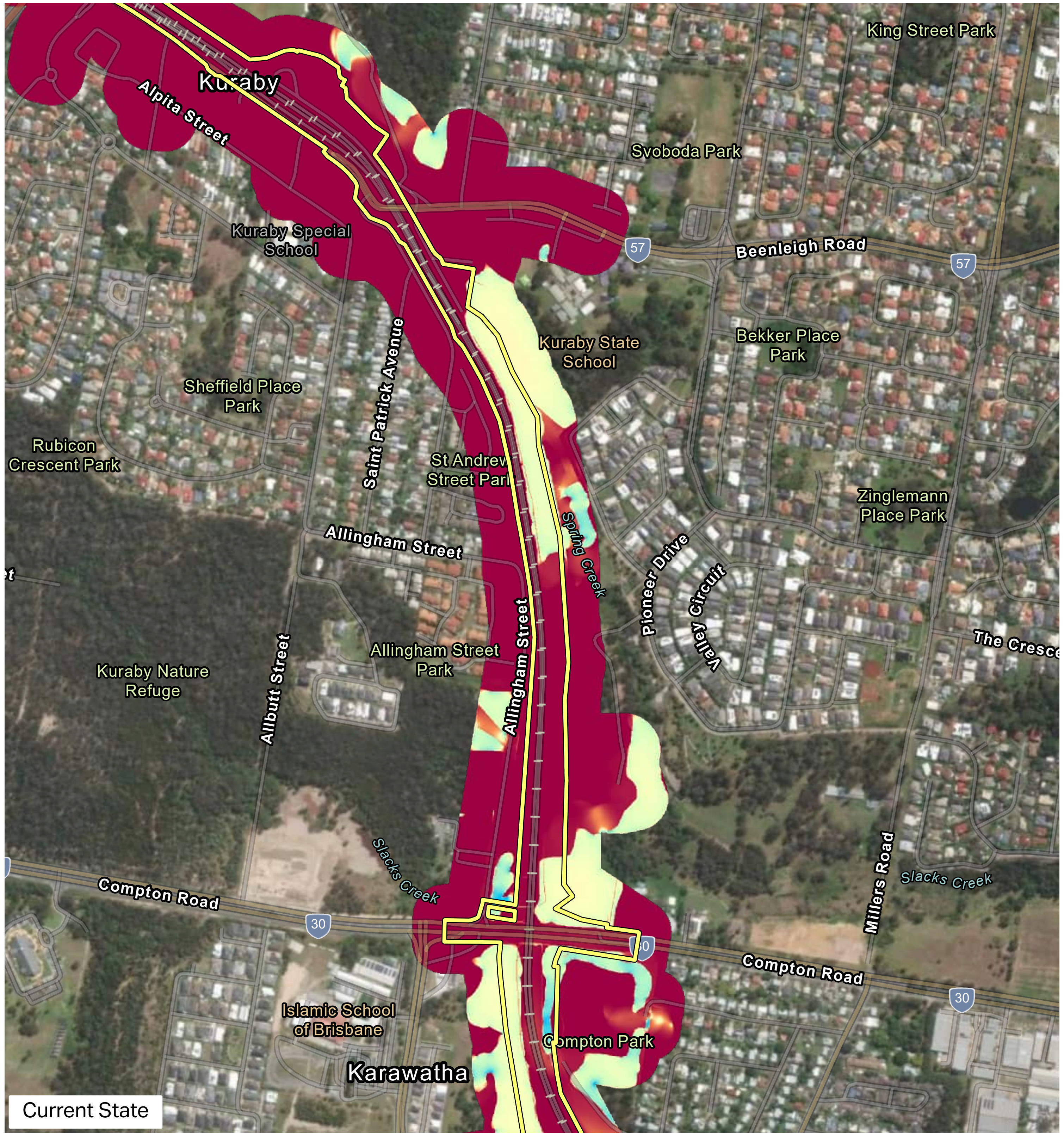
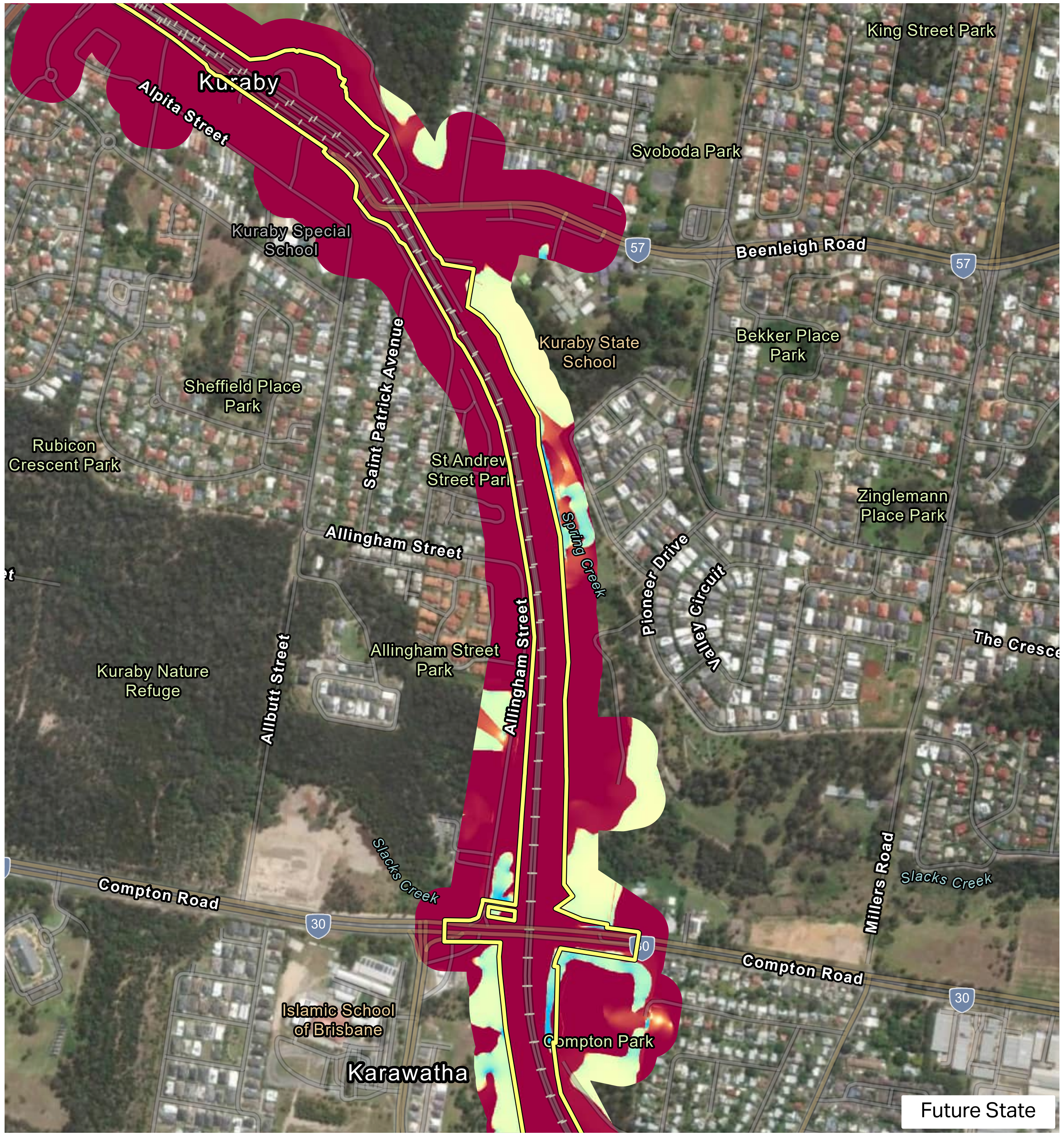


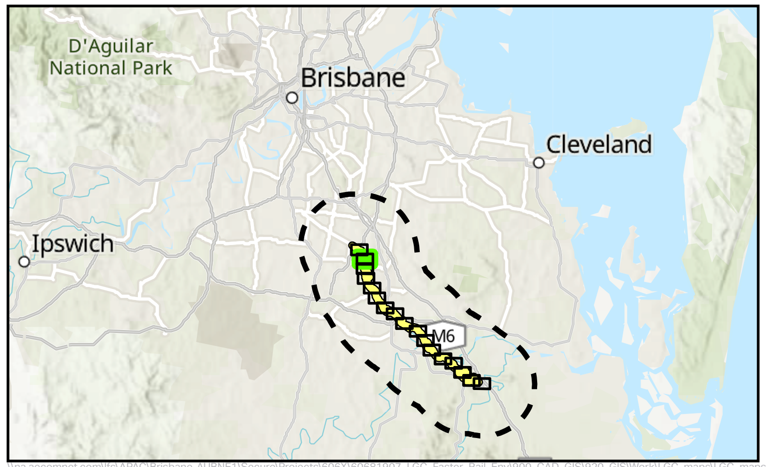


Appendix G Figure 3 Gliders landscape connectivity model

Page 2 of 17

- Channelised, species movement is narrowed to conduits
- Diffuse, species movement is unimpeded
- Impeded, species movement is restricted

- Study area
- Impact area



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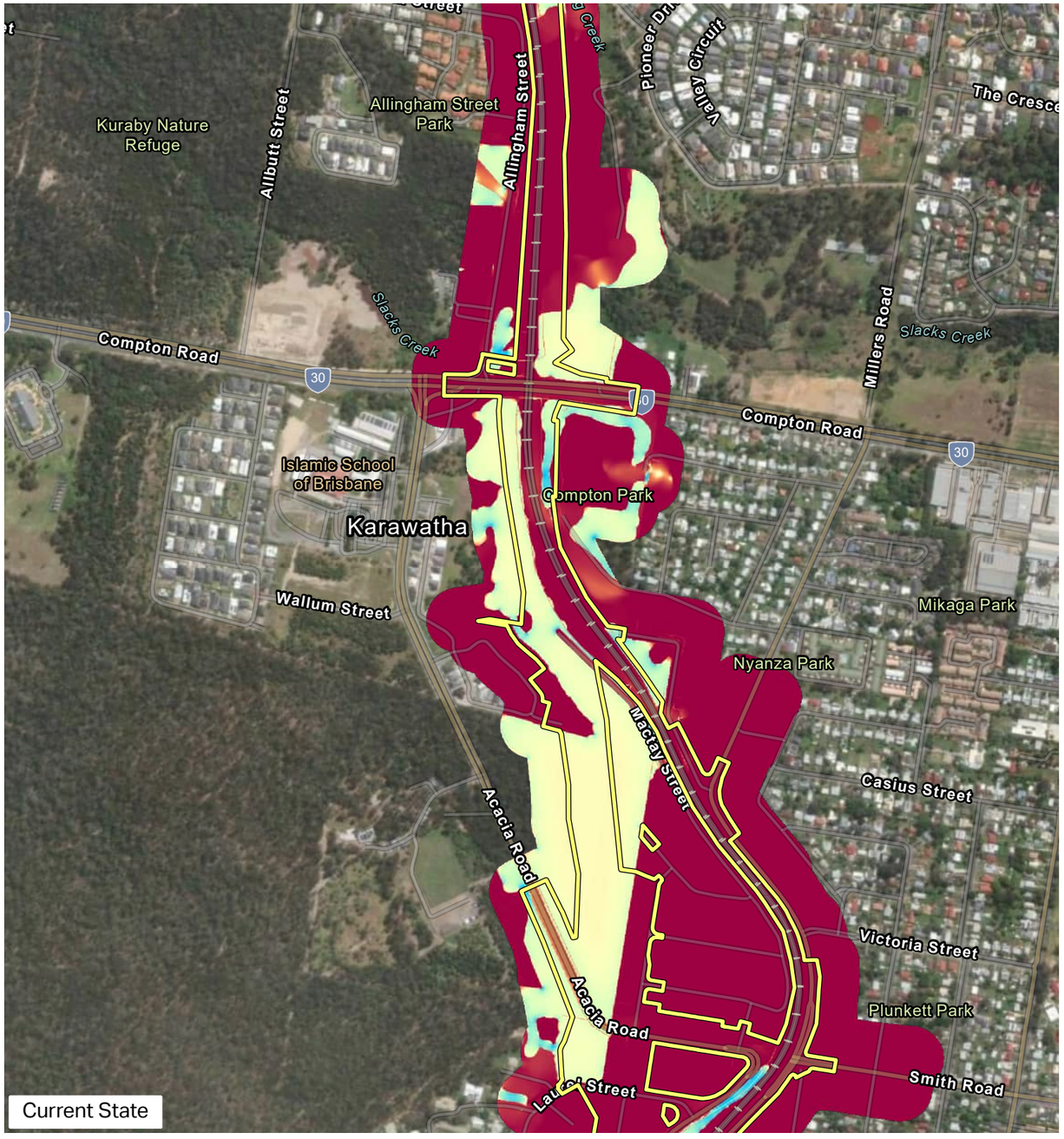
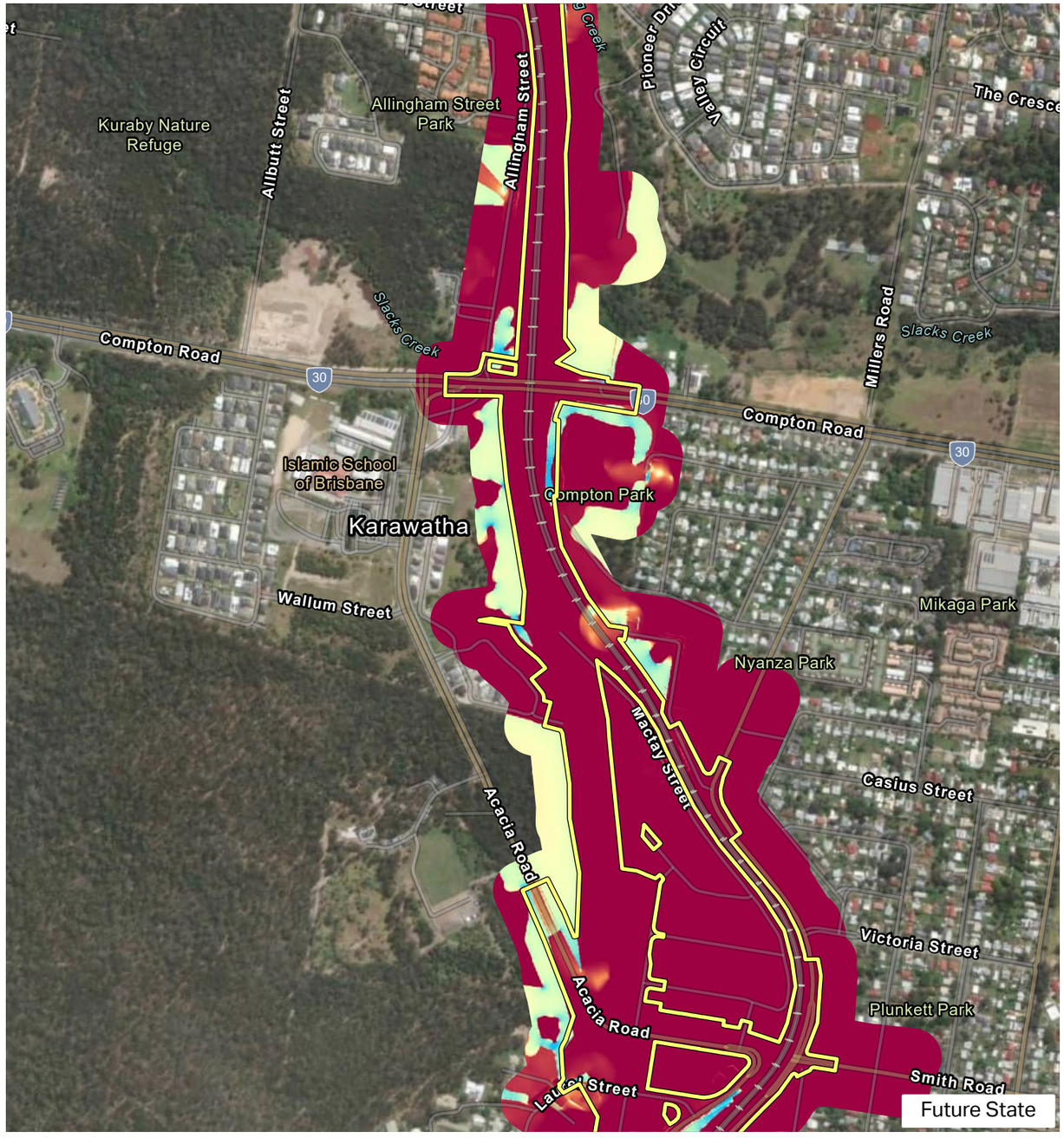




Appendix G Figure 3 Gliders landscape connectivity model

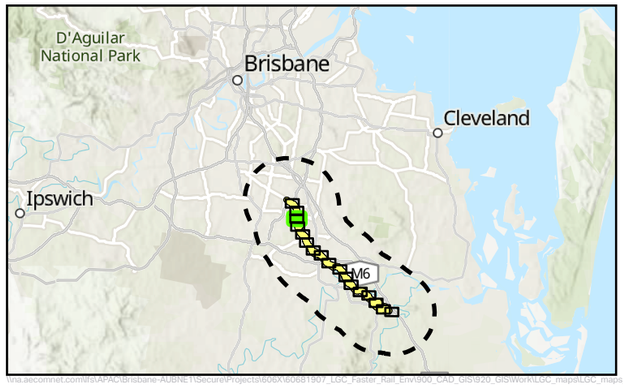
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



AECOM

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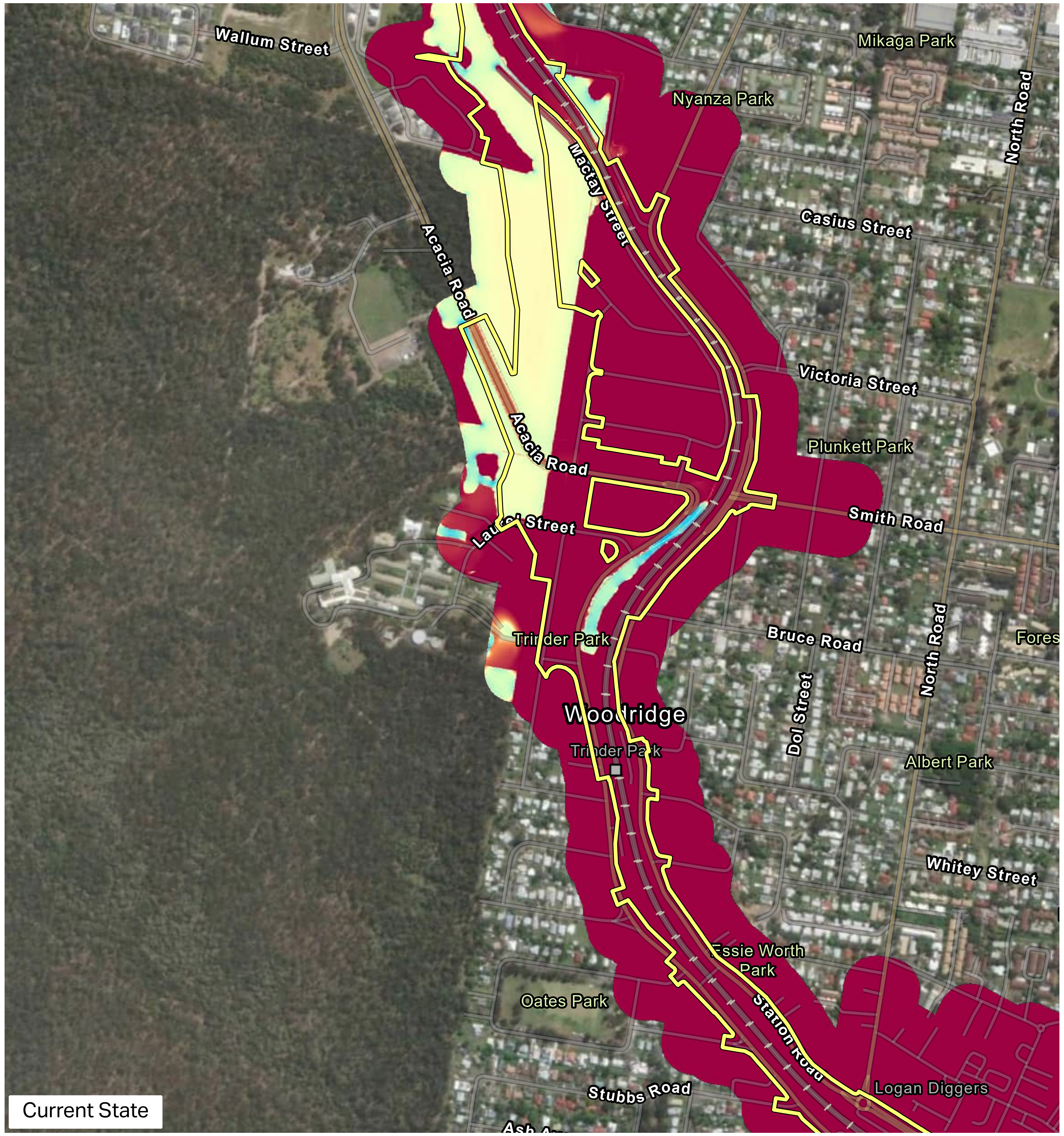
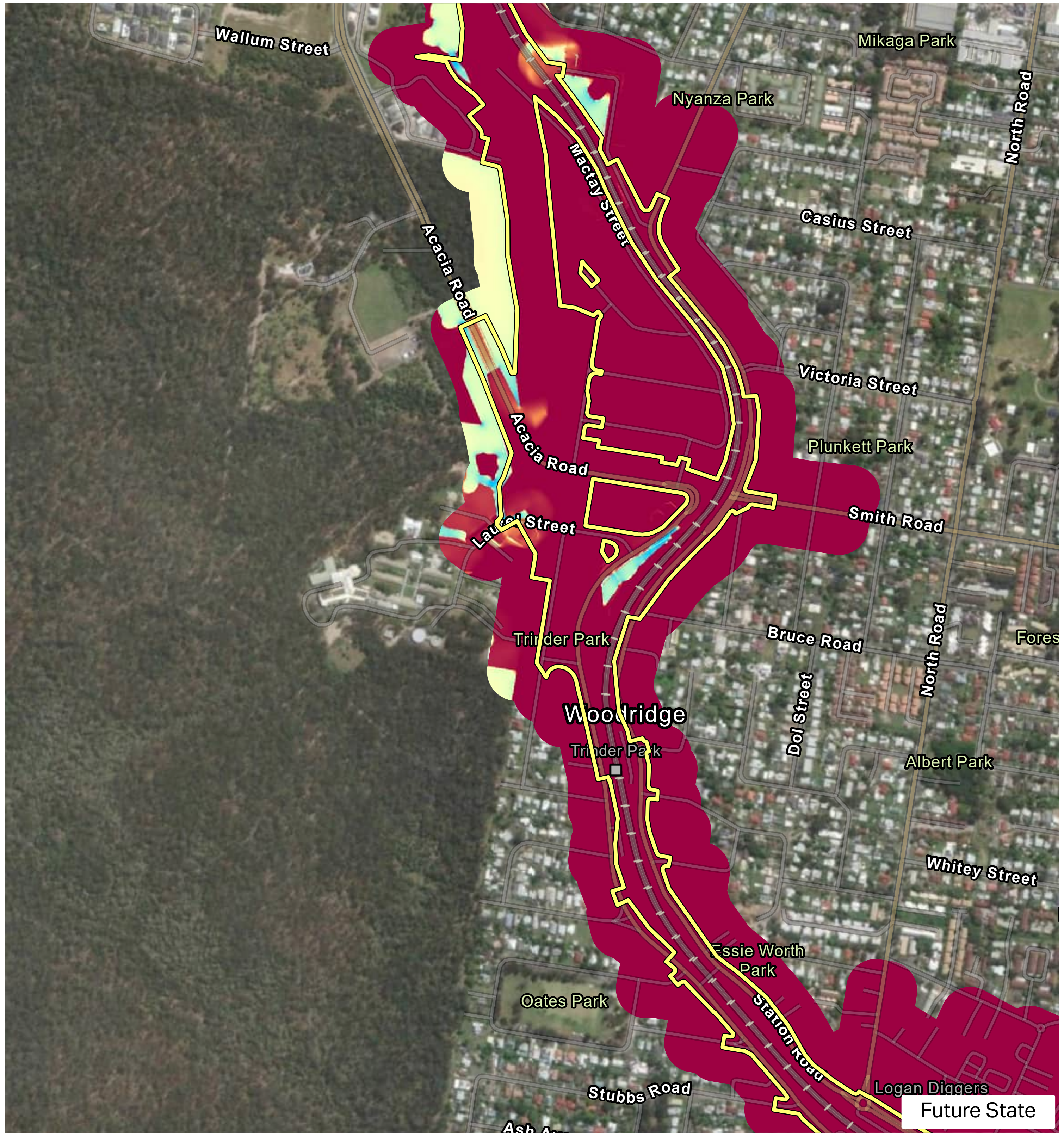




Appendix G Figure 3 Gliders landscape connectivity model

Page 4 of 17

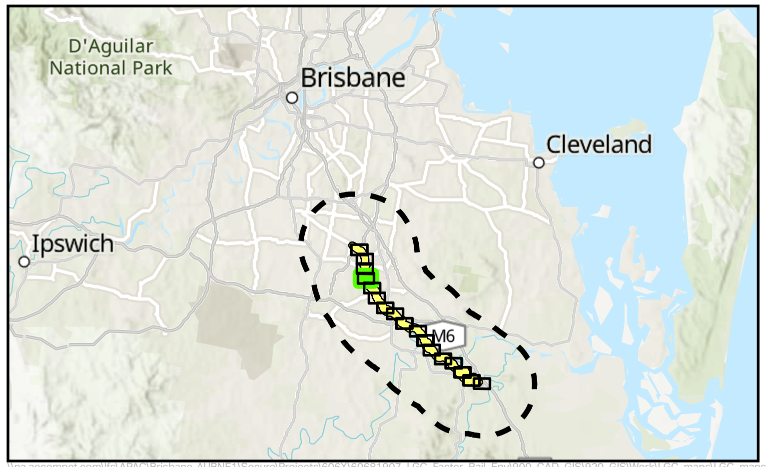
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



AECOM

N

0 250 500 m

Project: Logan and Gold Coast Faster Rail
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Project Number: 60681907
Date: 12/02/2025

Current State

Future State

Appendix G Figure 3 Gliders landscape connectivity model

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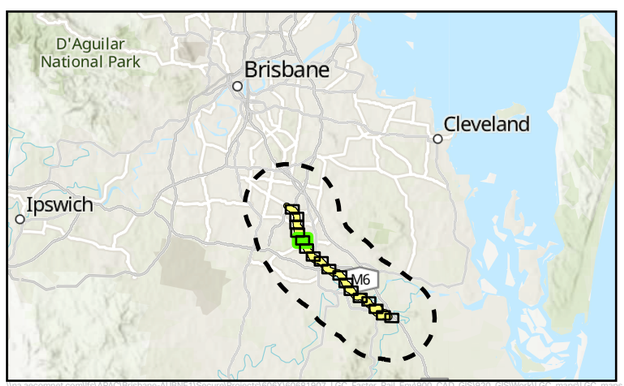
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



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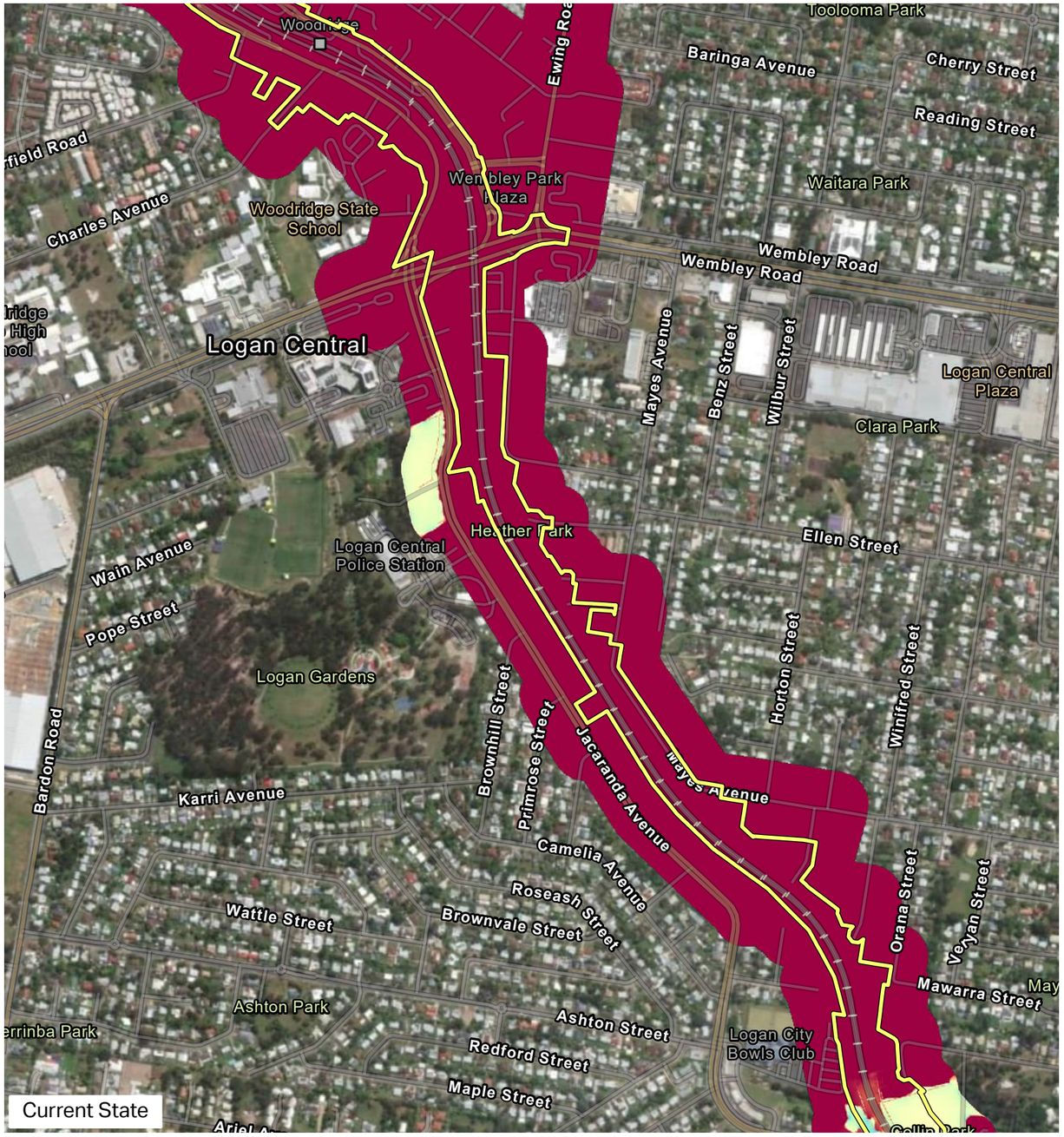

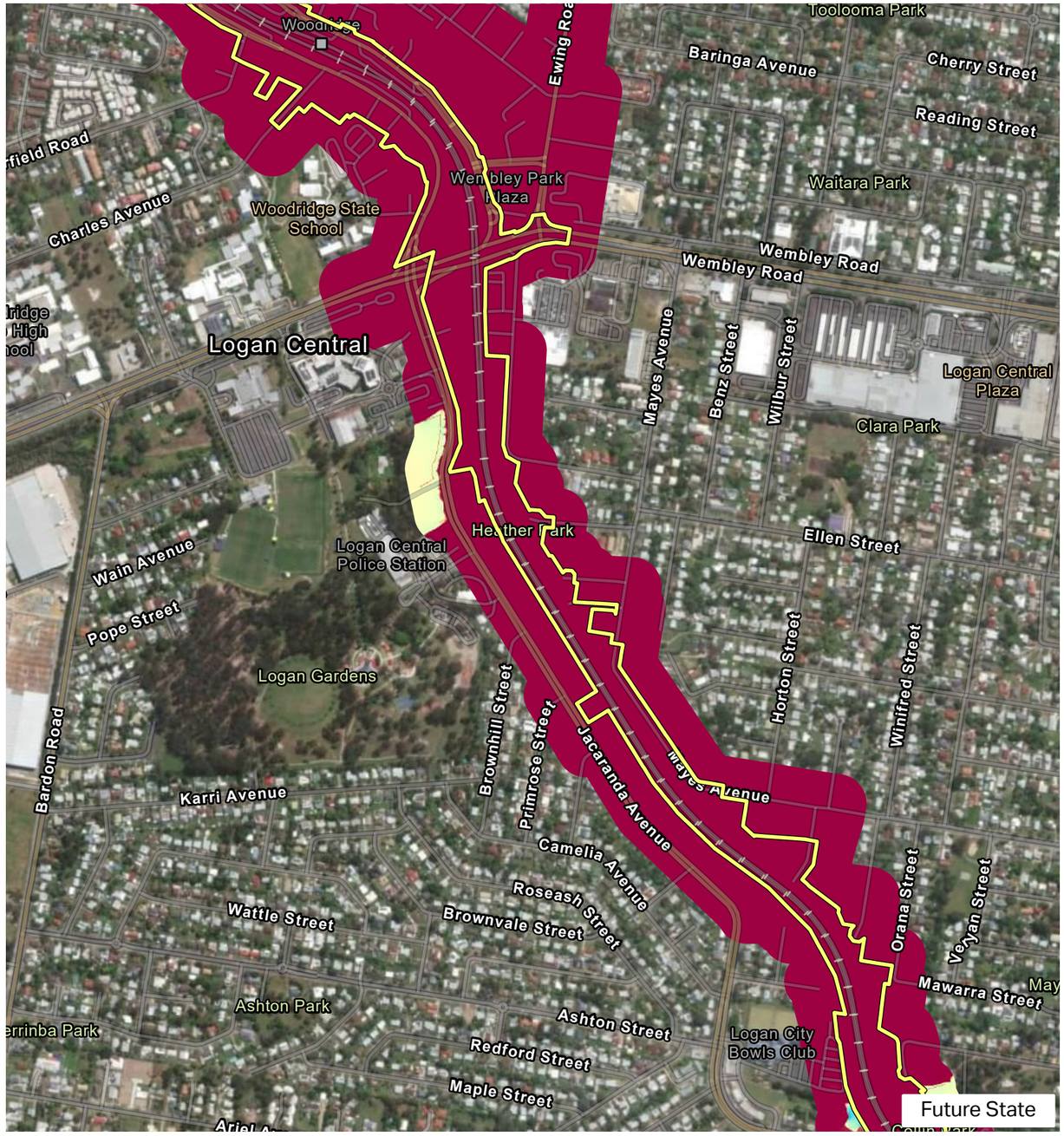

Appendix G Figure 3 Gliders landscape connectivity model

Page 6 of 17

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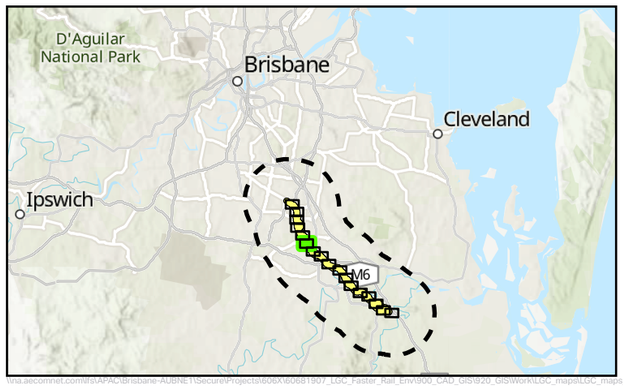
Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



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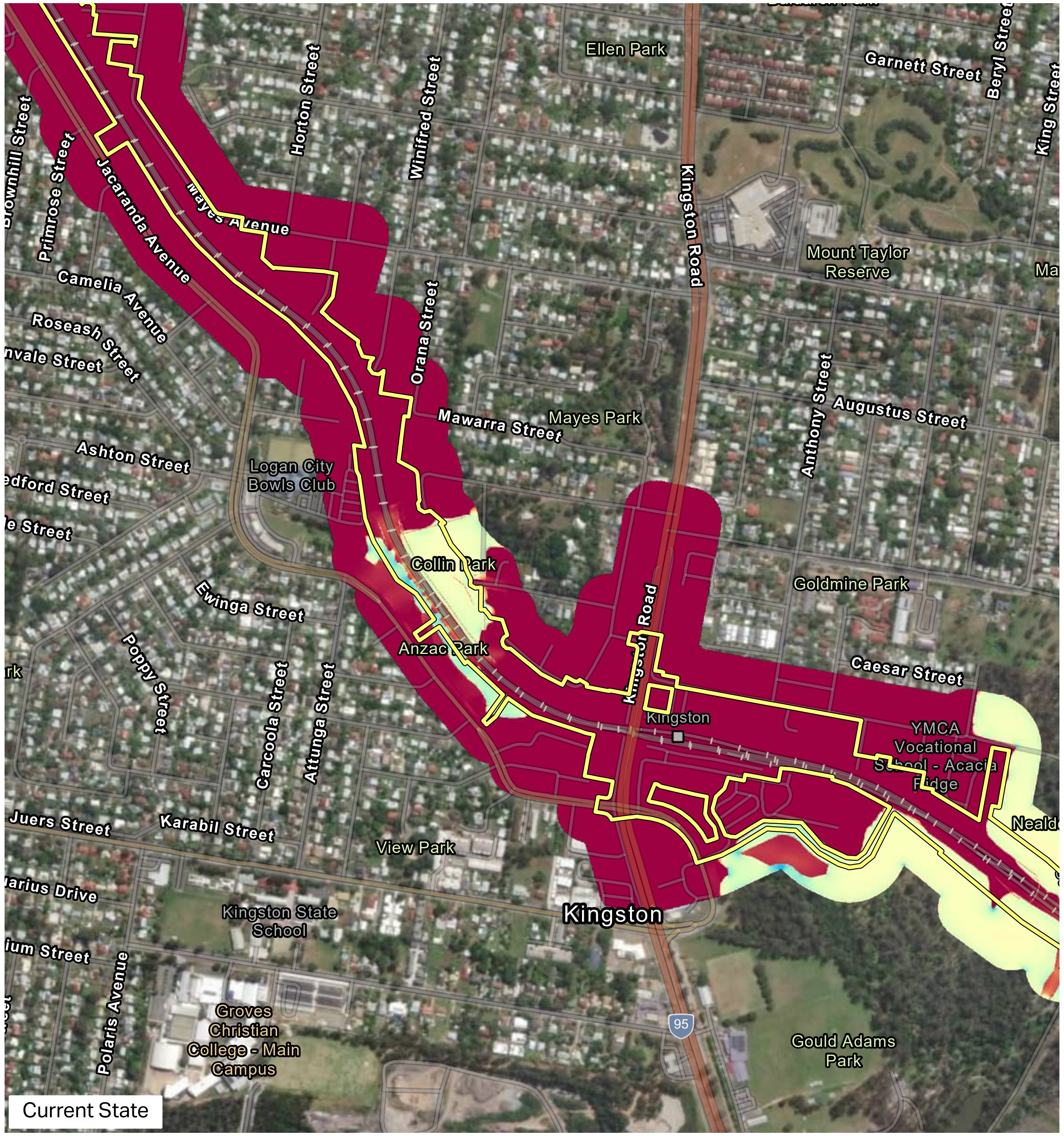

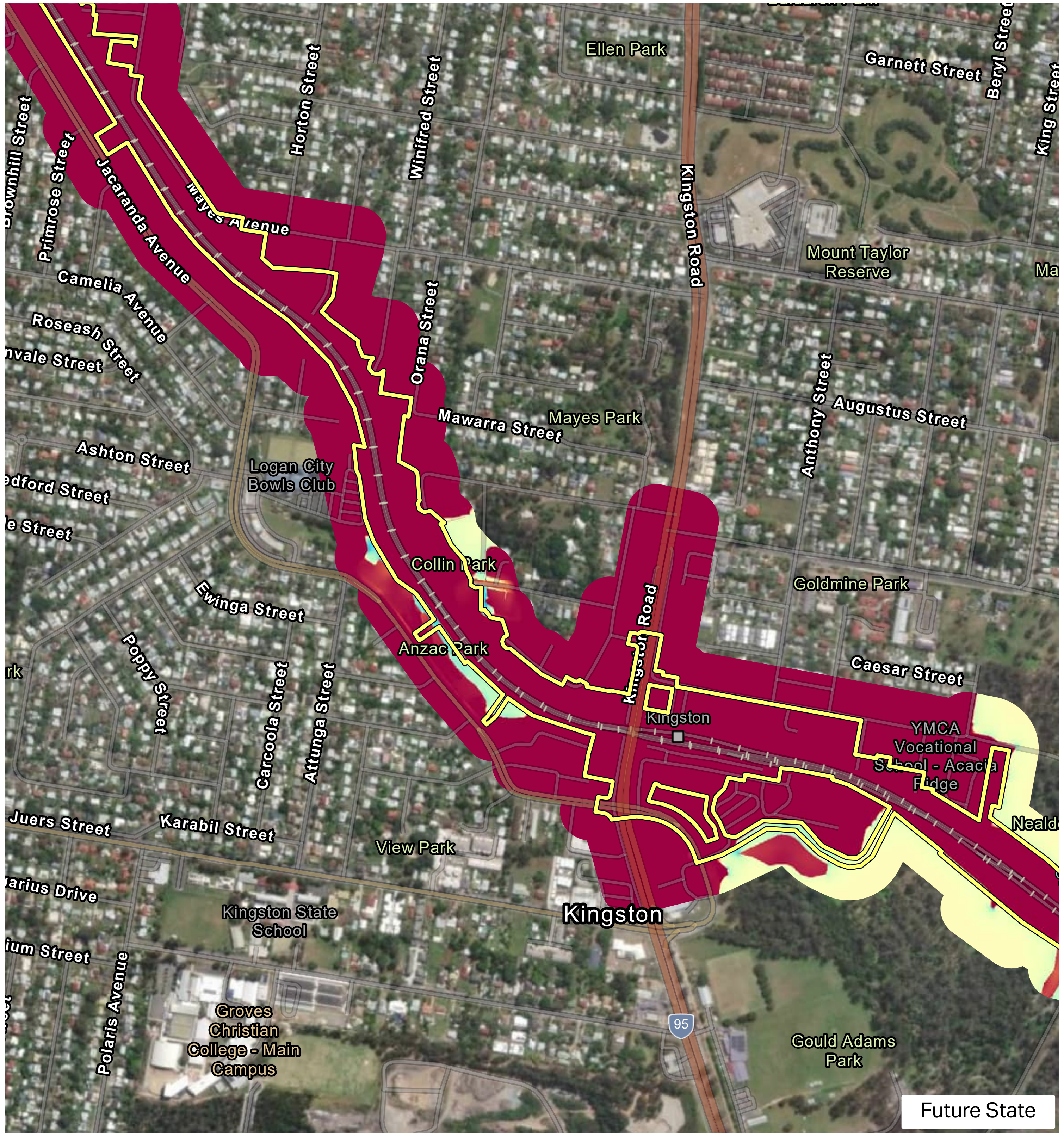

Appendix G Figure 3 Gliders landscape connectivity model

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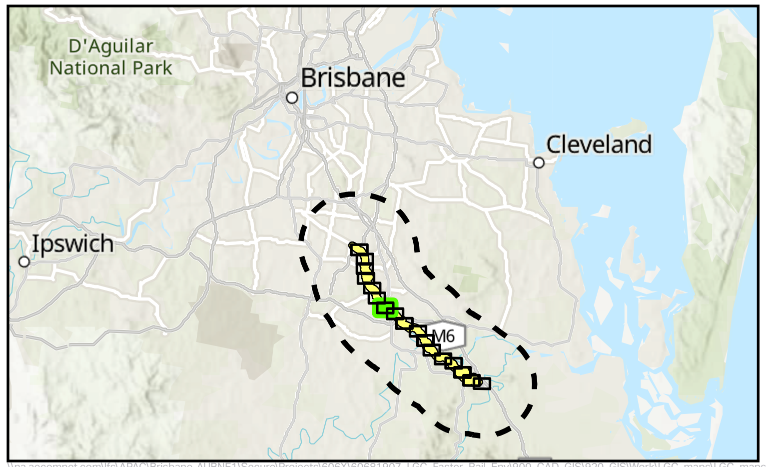
- Channelised, species movement is narrowed to conduits
- Diffuse, species movement is unimpeded
- Impeded, species movement is restricted
- Study area
- Impact area



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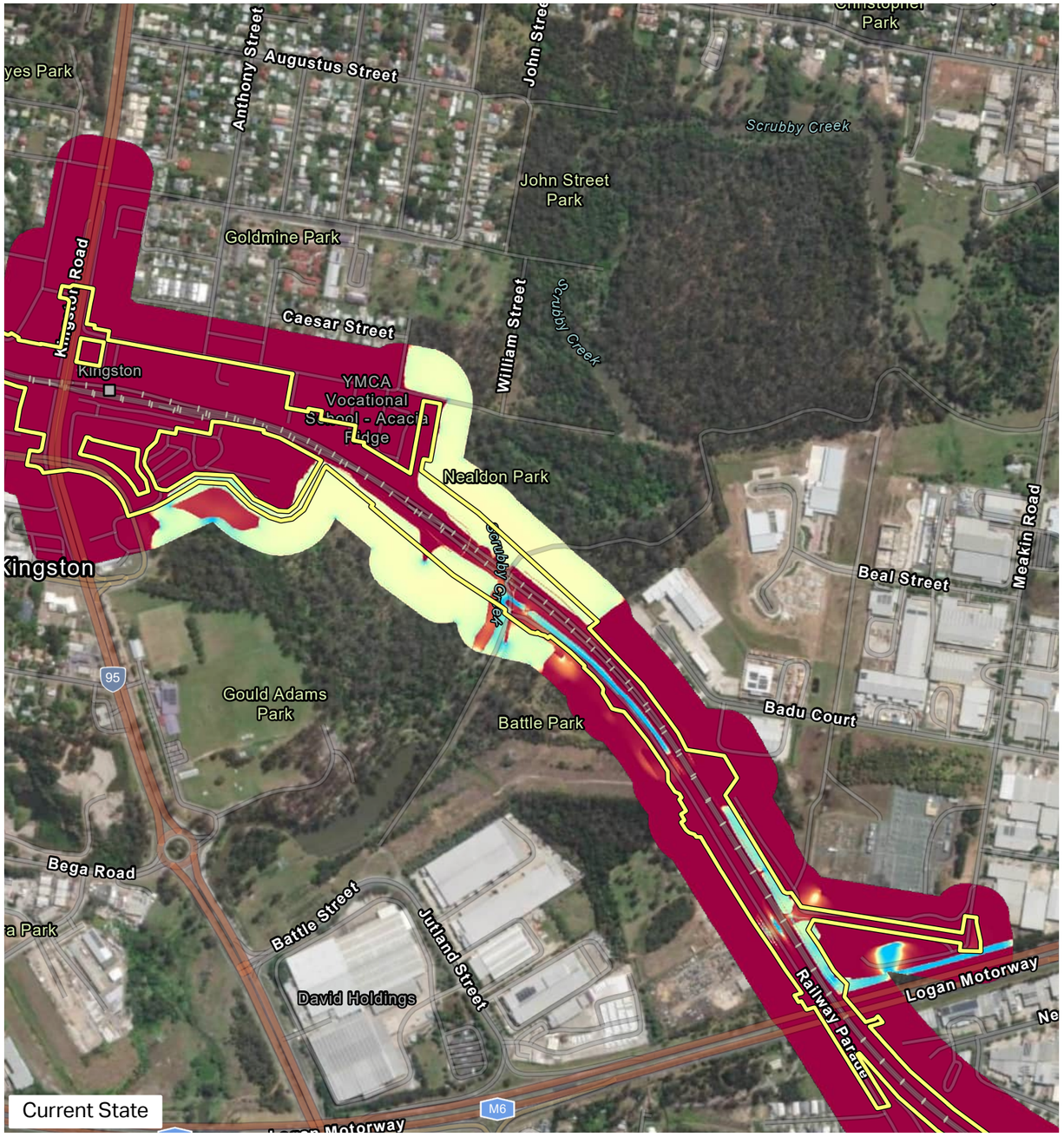
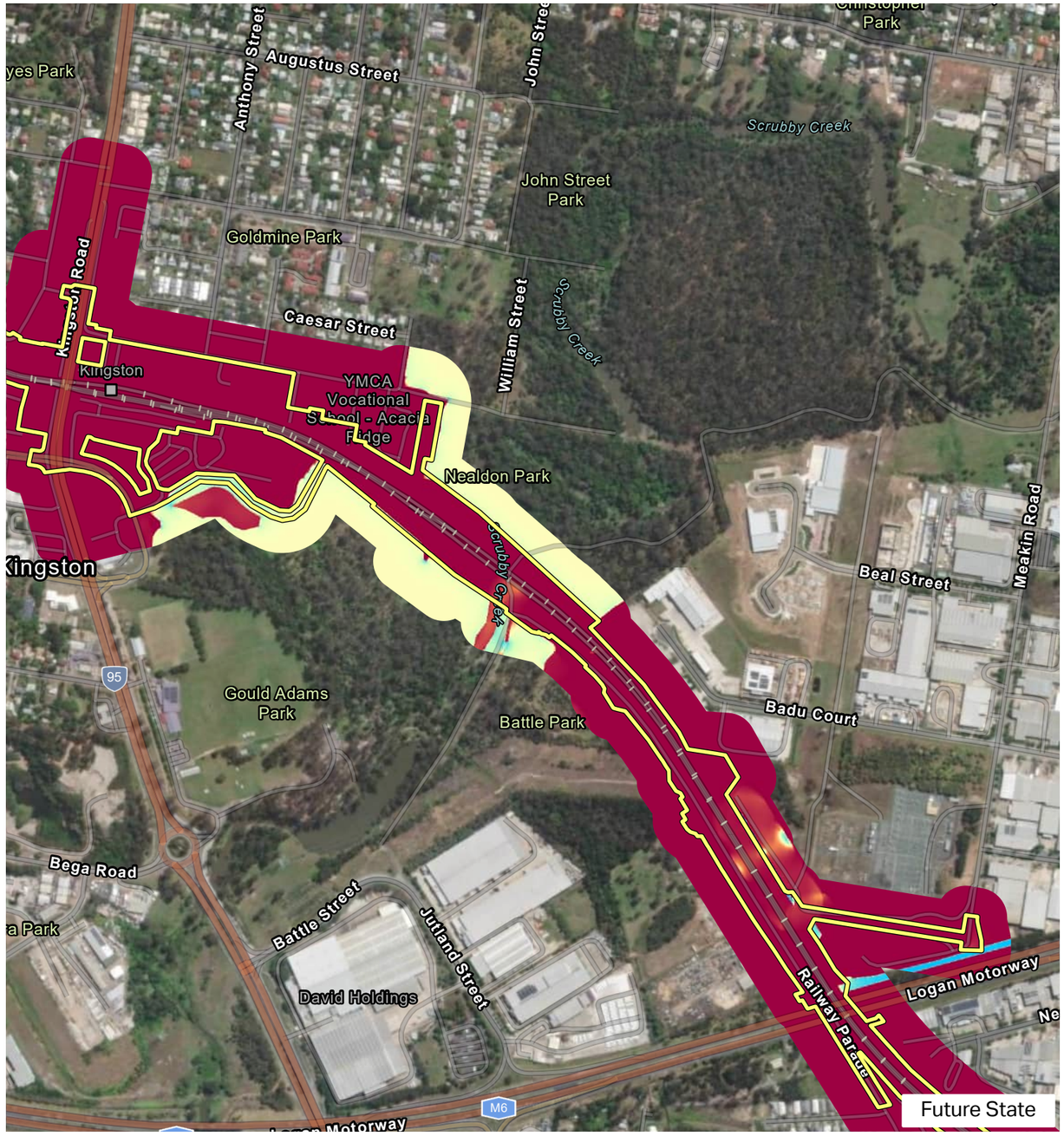




Appendix G Figure 3 Gliders landscape connectivity model

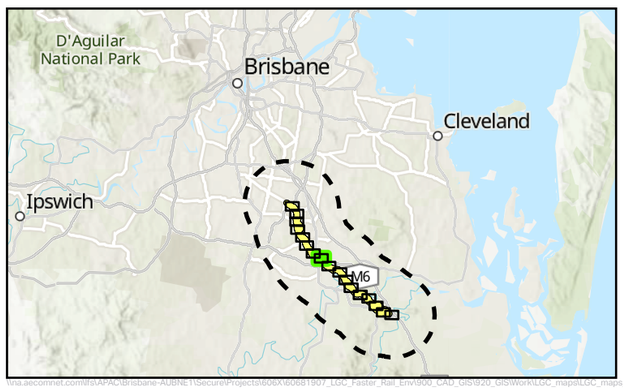
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



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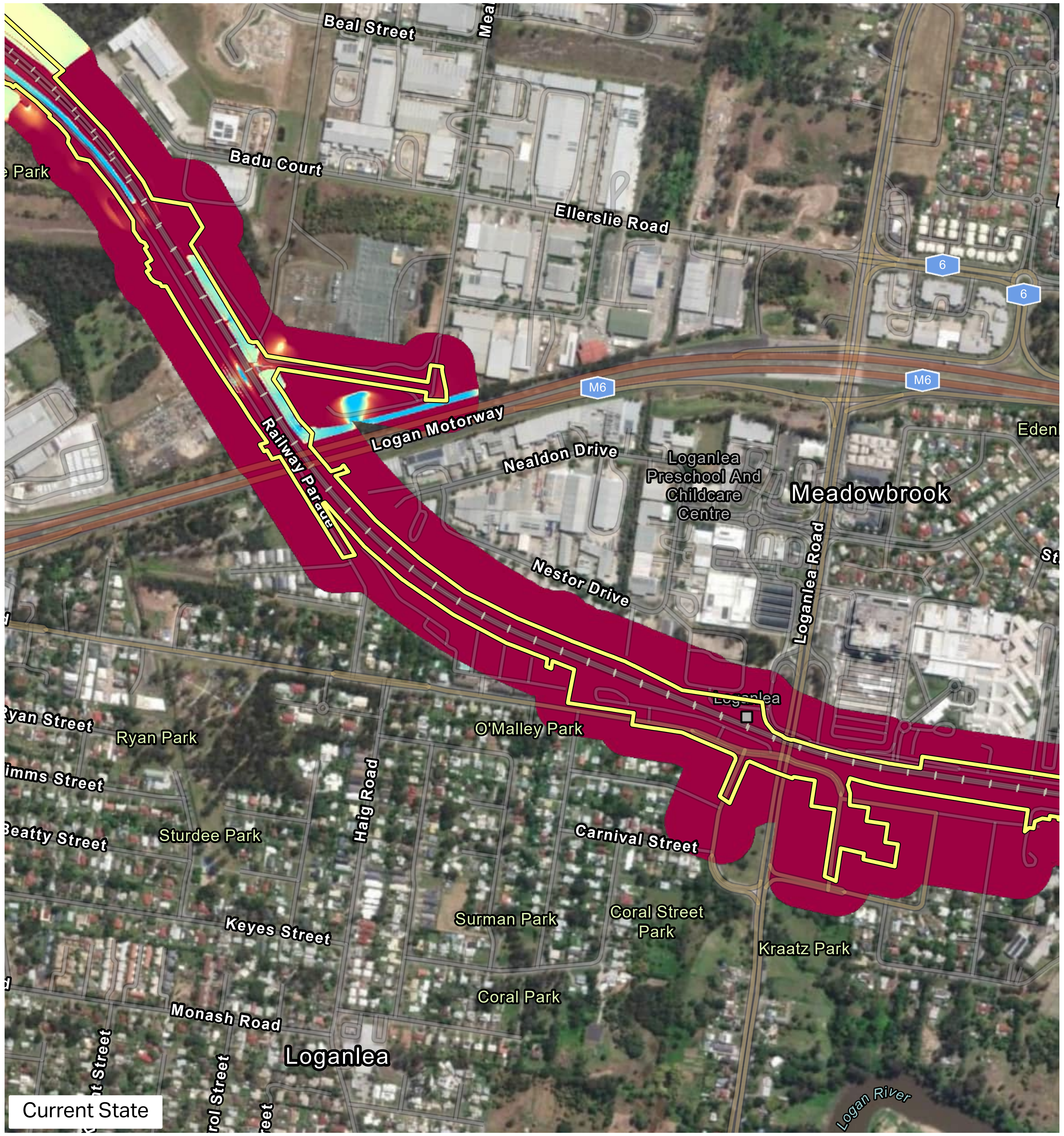

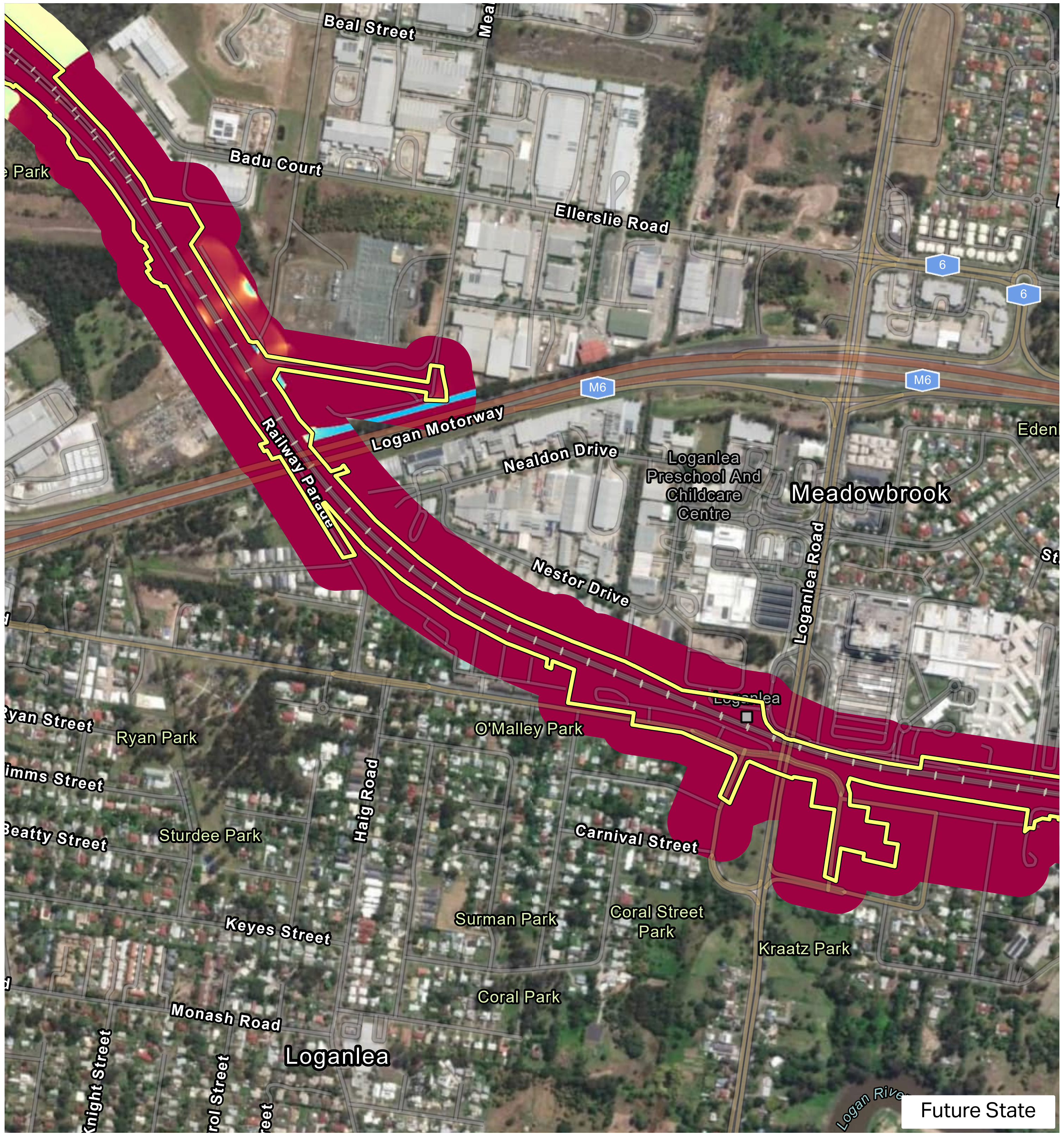

Appendix G Figure 3 Gliders landscape connectivity model

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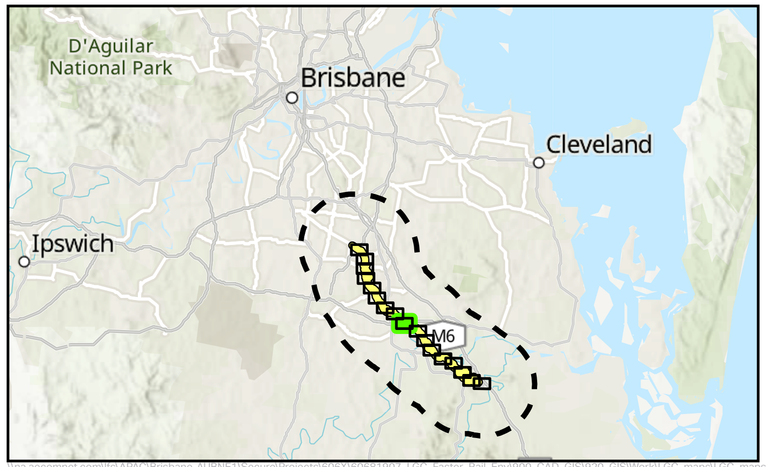
Impact area



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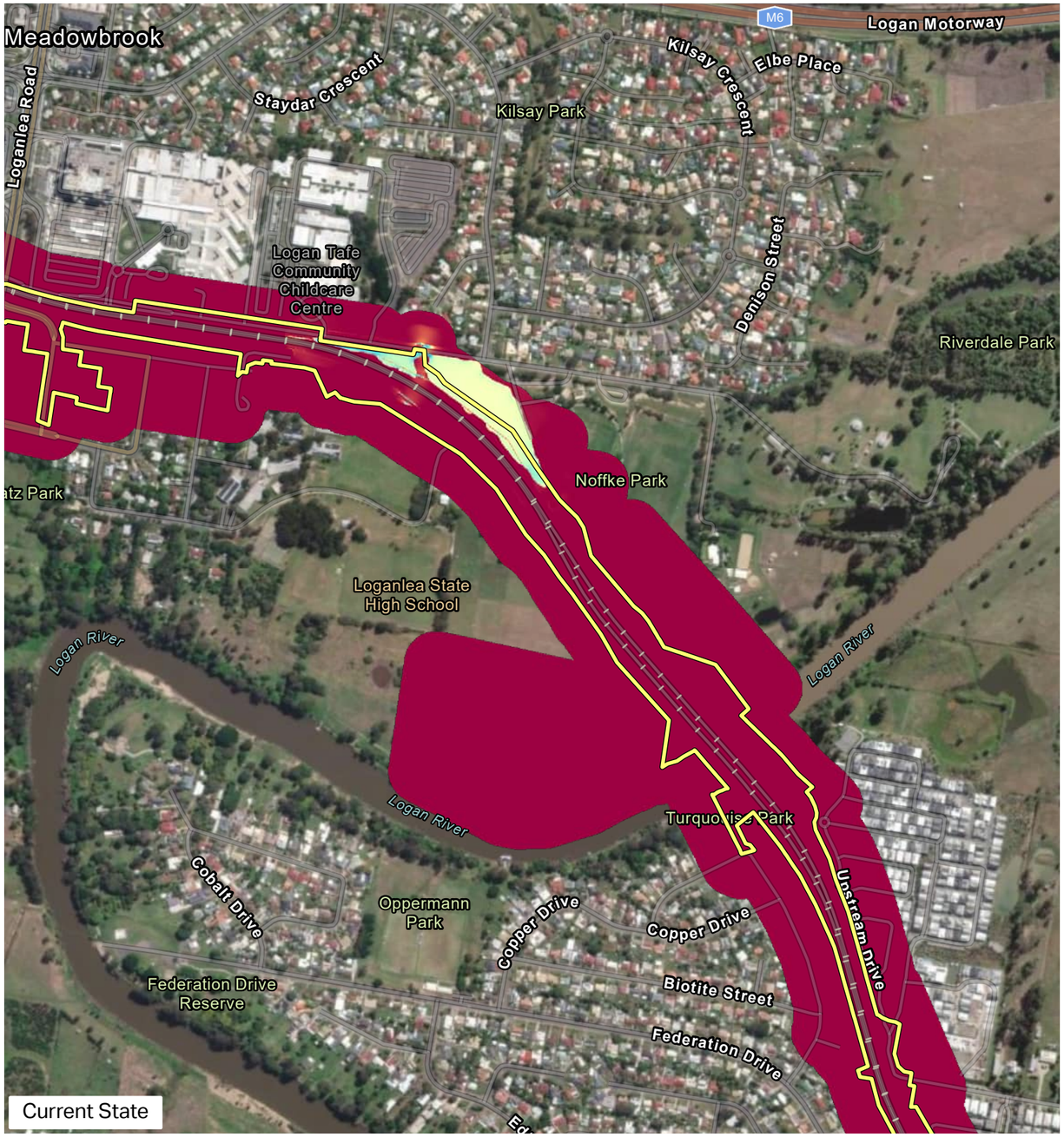

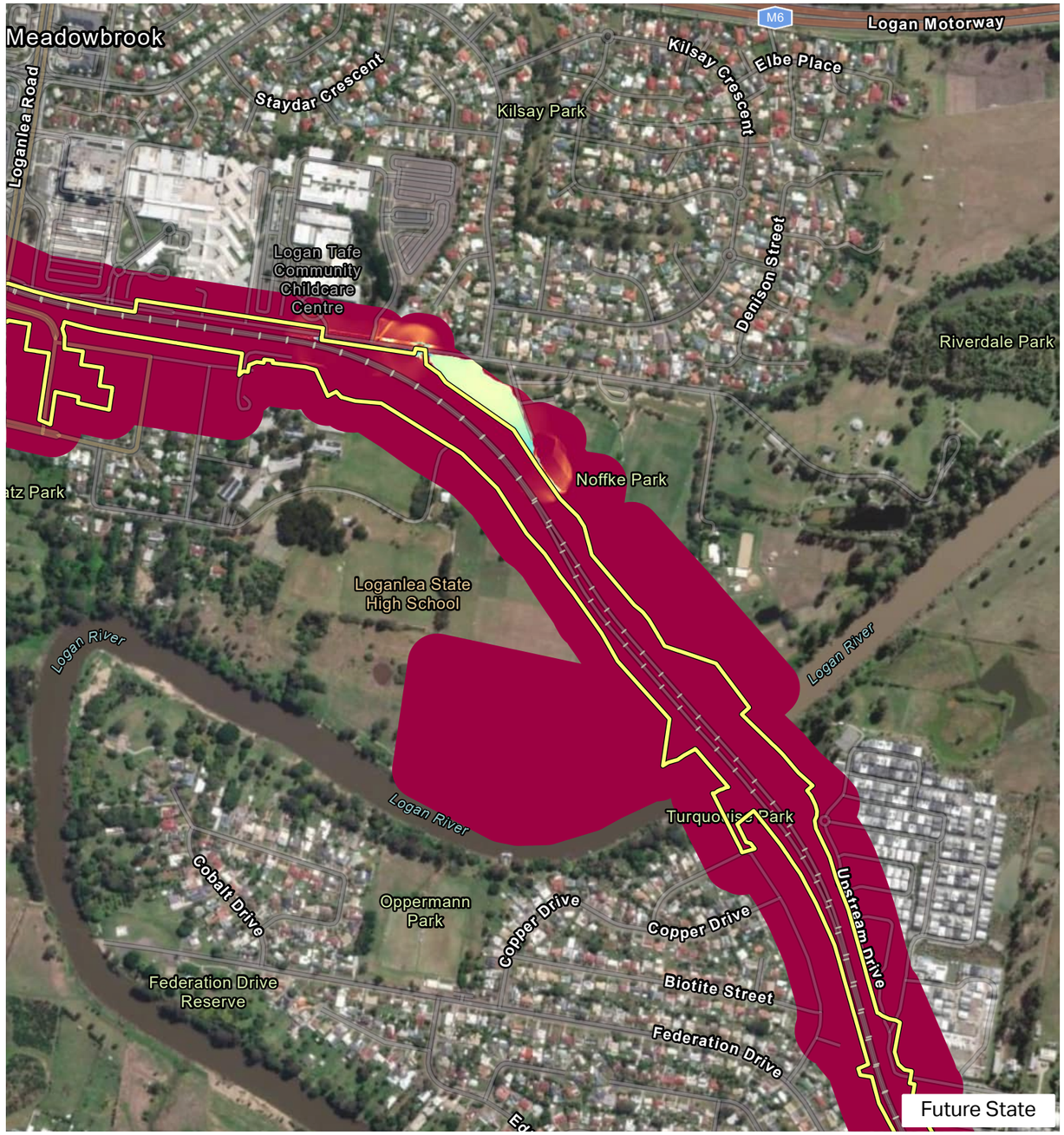

Appendix G Figure 3 Gliders landscape connectivity model

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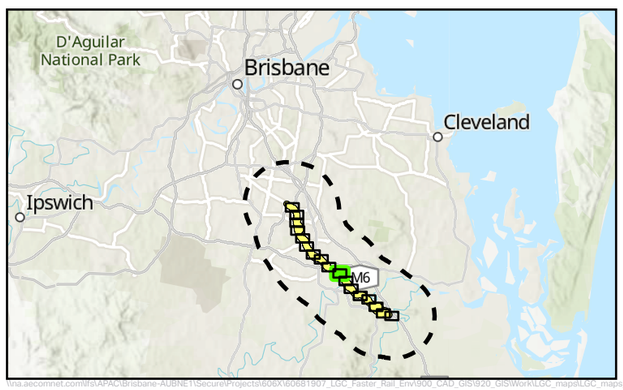

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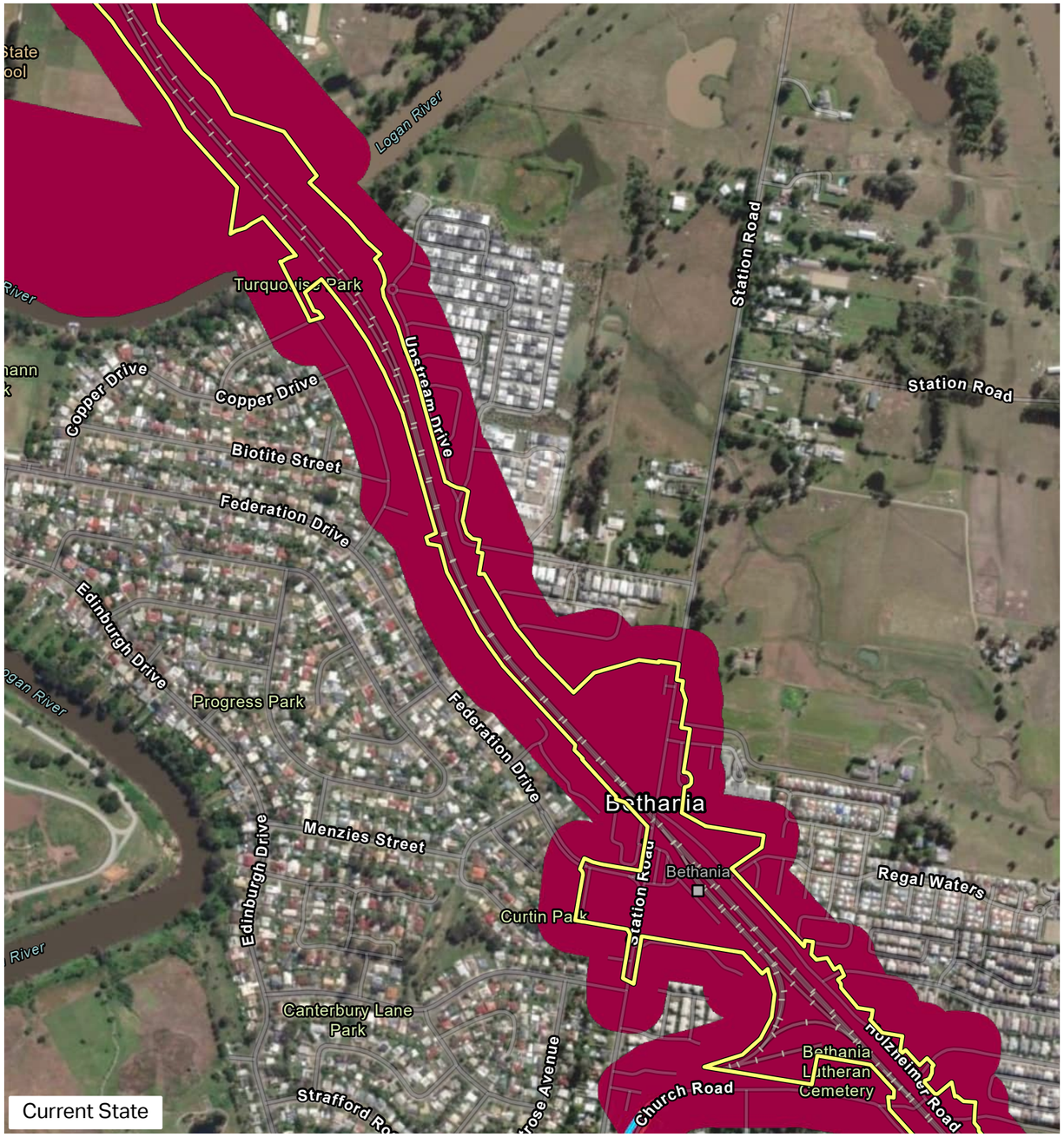

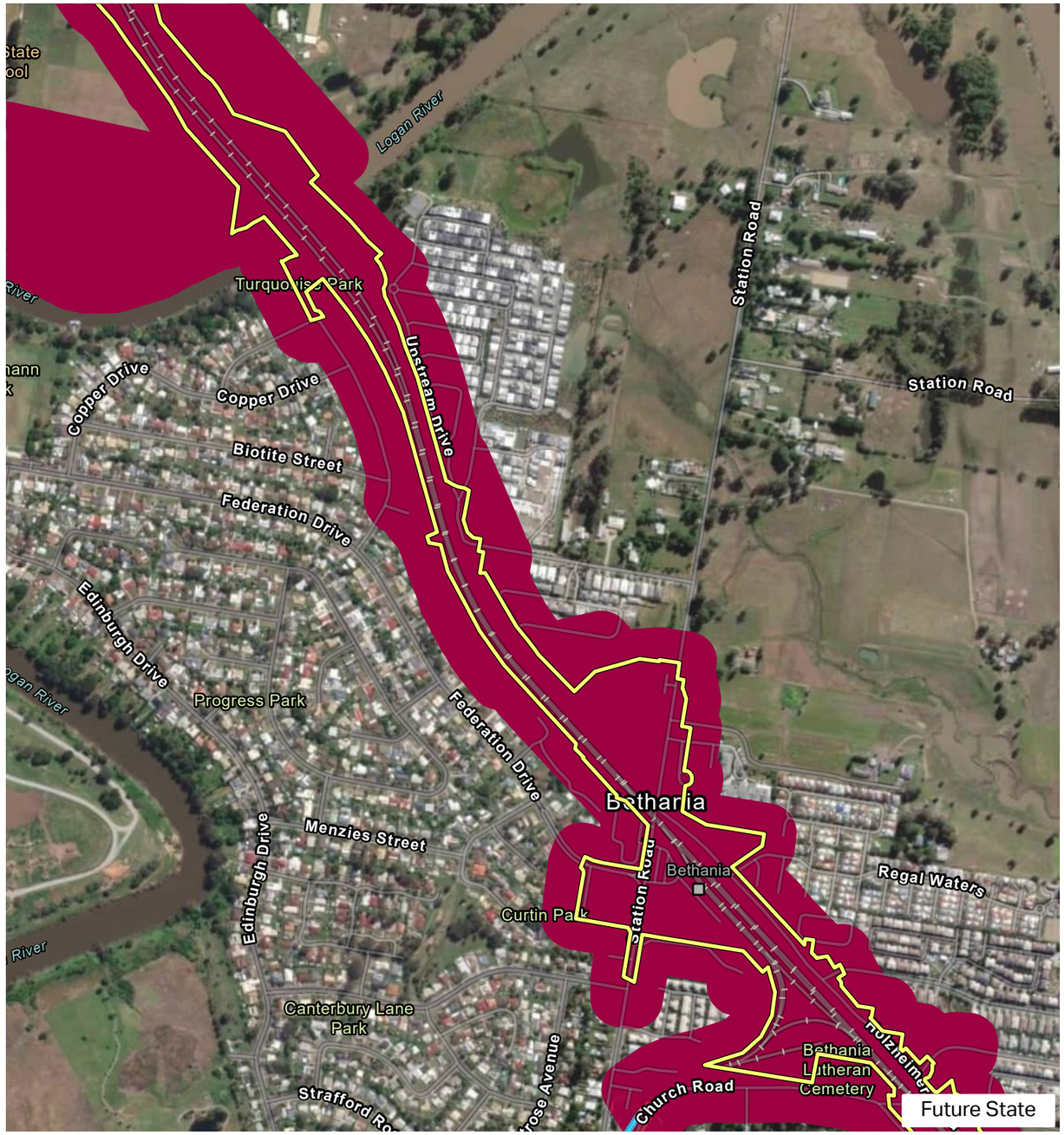

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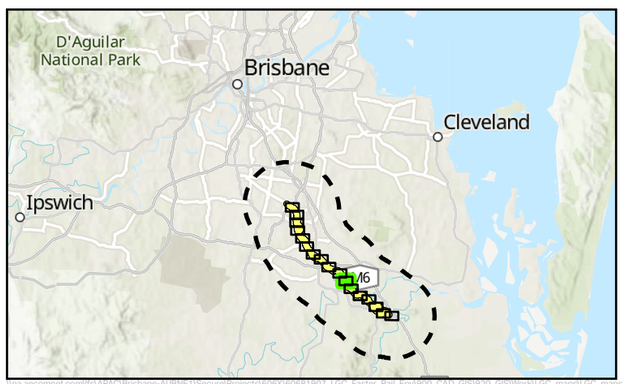
Study area

Impact area



AECOM

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Project: Logan and Gold Coast Faster Rail
Report: Preliminary Documentation - Supplementary MNES Report
Client: Department of Transport and Main Roads
Project Number: 60681907
Date: 12/02/2025

Current State

Future State

Appendix G Figure 3 Gliders landscape connectivity model

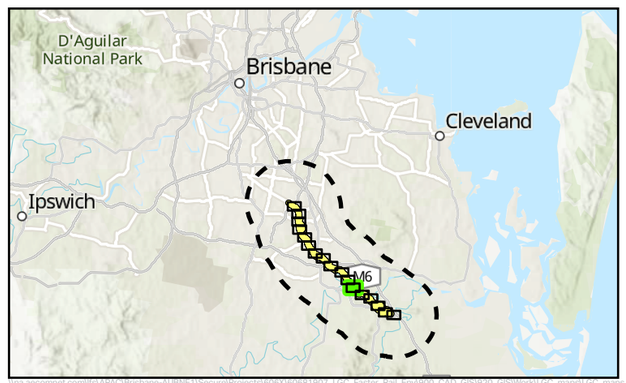
Channelised, species movement is narrowed to conduits

Diffuse, species movement is unimpeded

Impeded, species movement is restricted

Study area

Impact area



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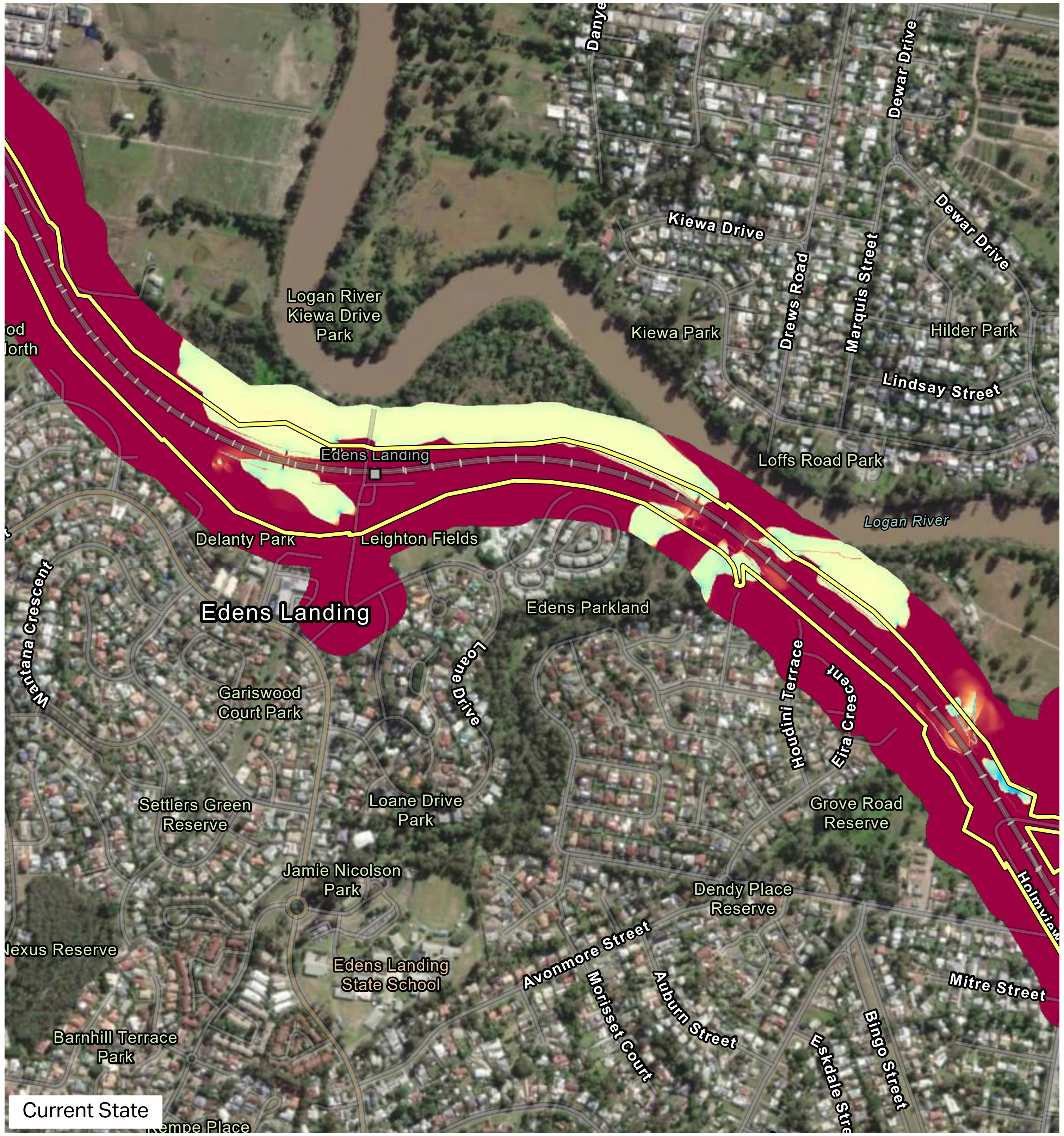
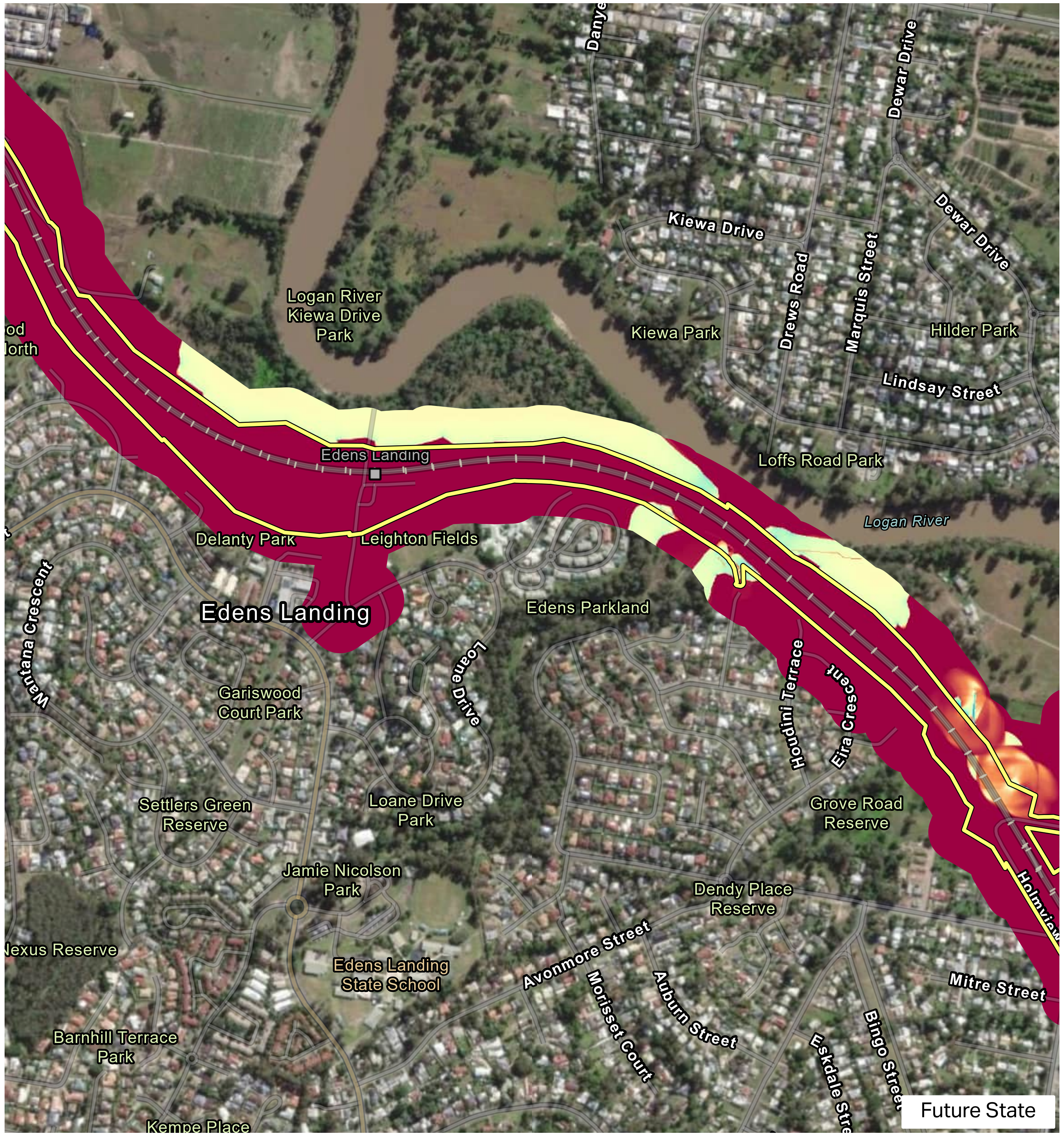
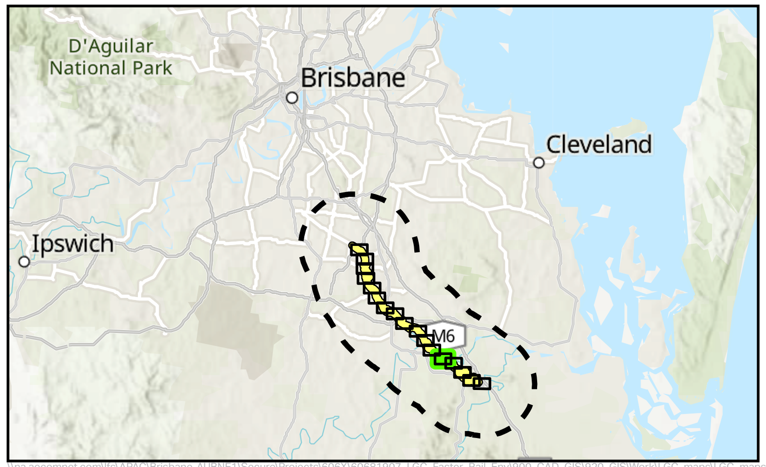




Appendix G Figure 3 Gliders landscape connectivity model

Page 13 of 17

- Channelised, species movement is narrowed to conduits
- Diffuse, species movement is unimpeded
- Impeded, species movement is restricted
- Study area
- Impact area



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Appendix G Figure 3 Gliders landscape connectivity model

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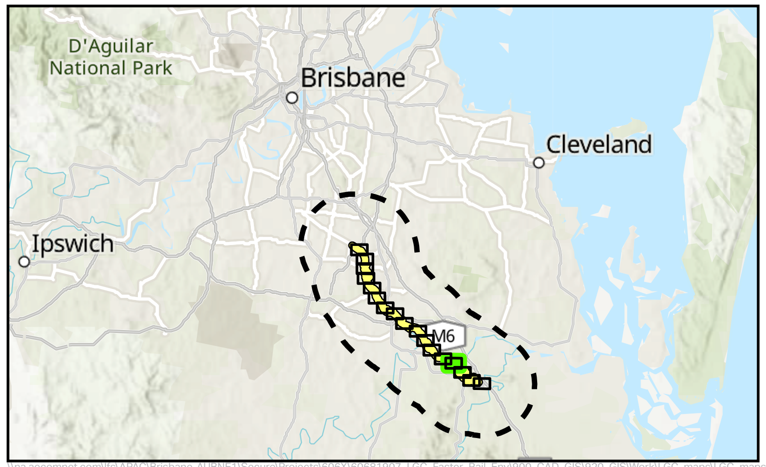

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Appendix G Figure 3 Gliders landscape connectivity model

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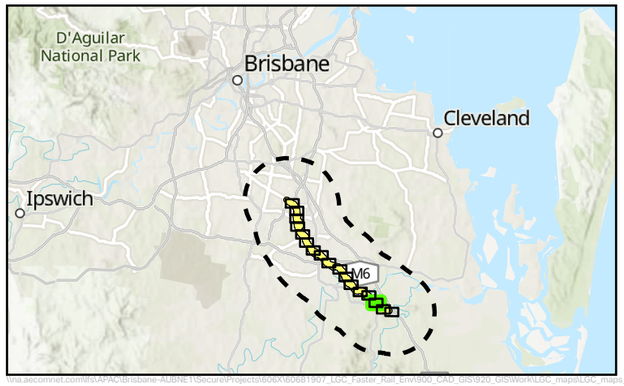
Study area

Impact area

Current State

Future State



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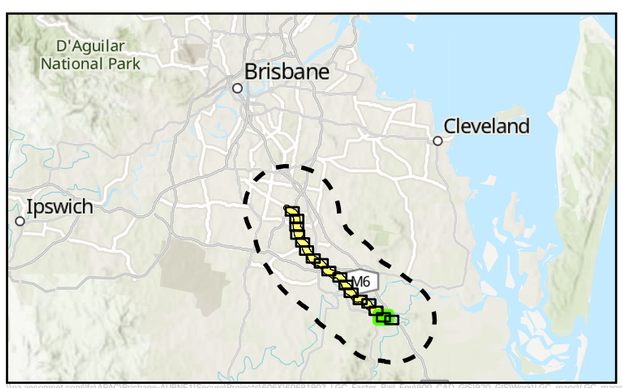

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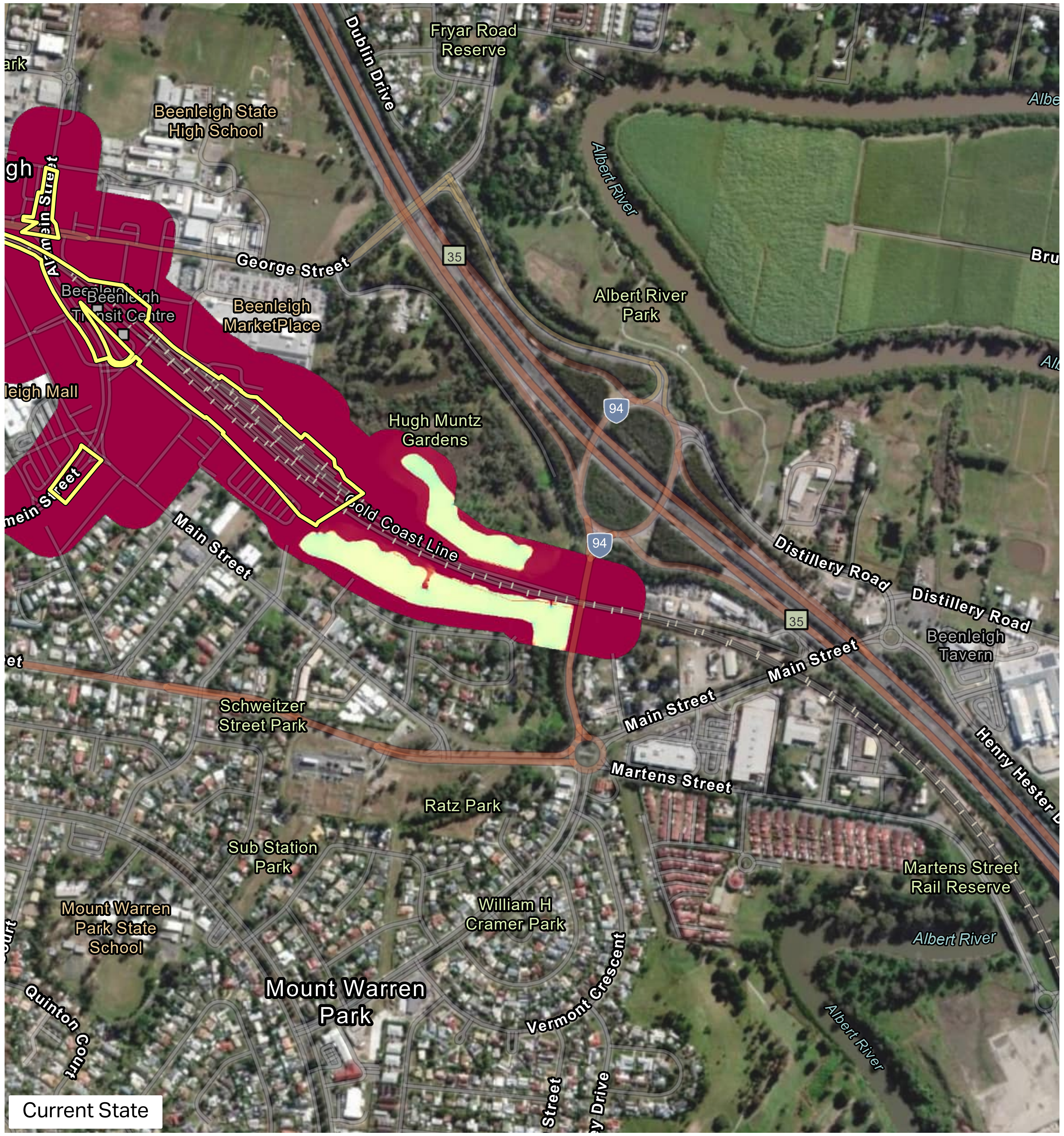

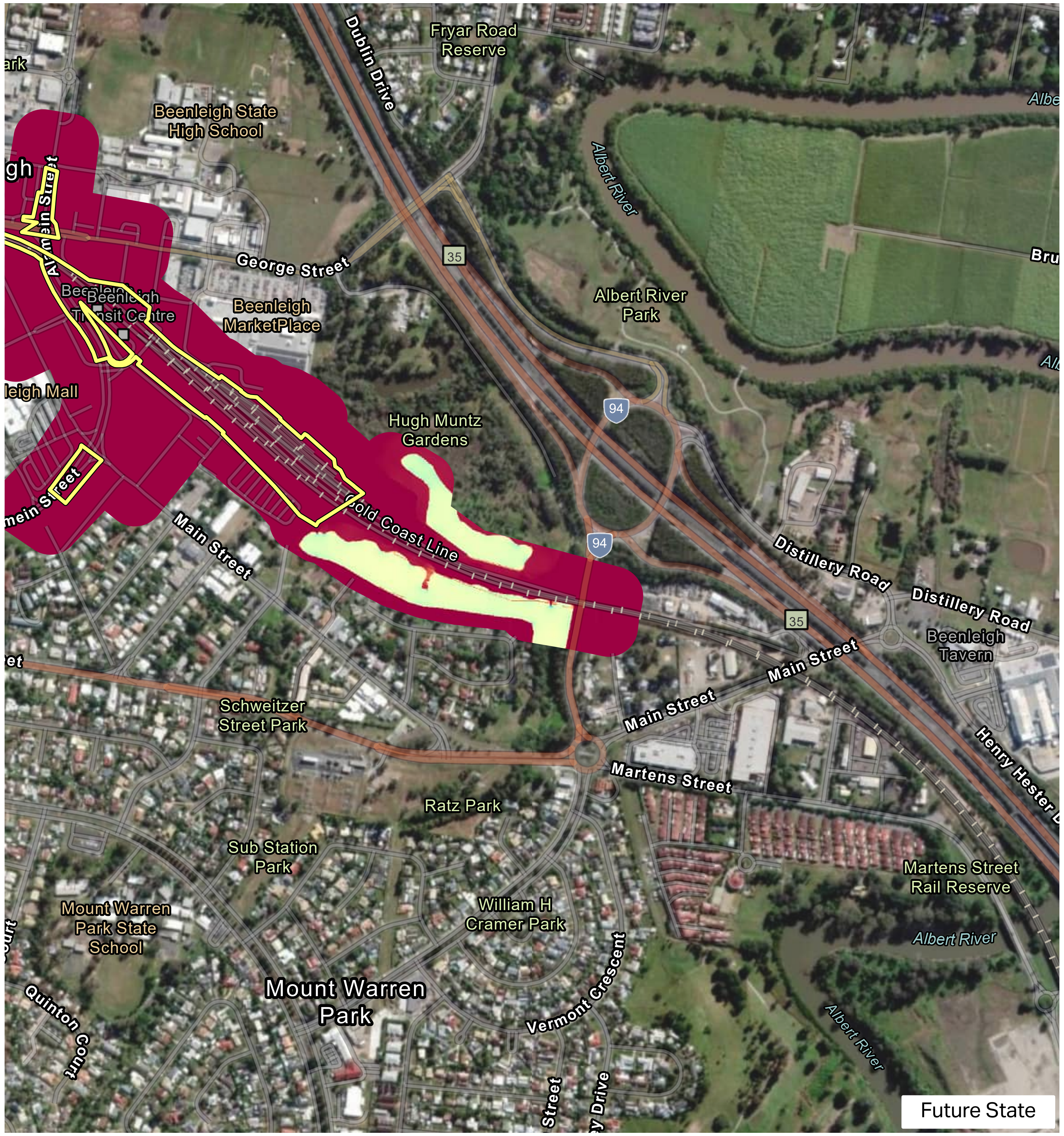

Appendix G Figure 3 Gliders landscape connectivity model

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Study area

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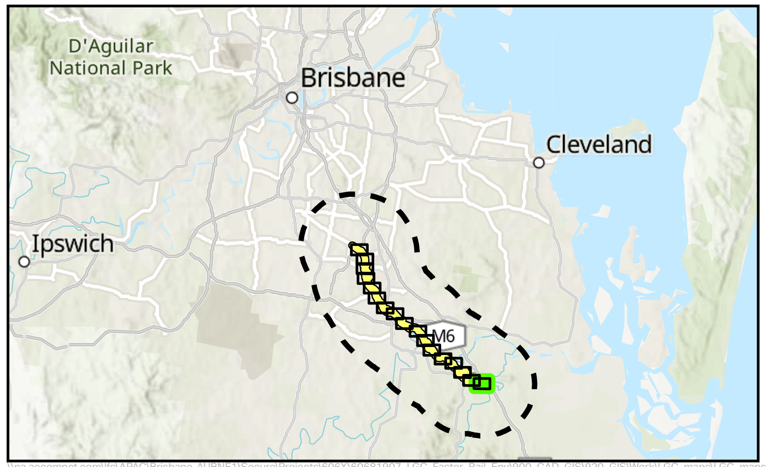

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A summary of the koala connectivity model is outlined in Figure 2 and below:

- Current Koala movement generally aligns with mapped biodiversity corridors (Figure 1 of the Supplementary MNES report) and ground truthed fauna movement corridors (Appendix B Figure 11 of the Supplementary MNES report) within Beenleigh Park/Wally Tate Park, Karawatha Forest/Acacia Forest Park, Gould Adams Park/Nealdon Park, Logan River and Albert River (for further information see Section 3.9 of the Supplementary MNES report).
- As a result of the proposed action and proposed fauna connectivity infrastructure (i.e. culverts), the following areas show diffuse ie. unimpeded koala movement are likely to be maintained as a result of the proposed action:
    - Beenleigh Road Park, near Corella Place
    - Wally Tate Park, near Winfred St
    - St Andrew Street Park, Allingham Street Park and Spring Creek, near Allingham St
    - Compton Park, near Maclay St
    - Mary Huntress Park, near Marshall St
    - Anzac Park, Kingston and Collin Park, near Railway Parade
    - Battle Park, near Meakin Road
    - Noffke Park, near Andersens Road
    - St Jude's Bethania Gardens, near Federation Drive
    - Ridgewood Reserve North, near Black Diamond Crescent
    - Eddie Avenue Park, near Pendlebury Court
    - Edens Parkland, near Rochelle Court
    - Grove Road Reserve, near Holmview Road
    - Hugh Muntz Gardens
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas show potential impedance (restrictions) to koala movement:
    - Acacia Forest Park, Gould Adams Park/Nealdon Park, Logan River in Loganlea, Loganlea and Edens Landing Station: these areas currently contain vegetation and potential koala movement, and the proposed action has the potential to disturb edges of habitat patches and create impeded north-south and east-west koala movement.
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas are unlikely to show significant changes to koala movement from existing conditions to future conditions (i.e. with the proposed action in place):
    - Kuraby: since this area is already urbanised (i.e. limited vegetation and connectivity occurs), koala movement is already channelized around Beenleigh Road Park/Wally Tate Park, and the proposed action is unlikely to significantly change these movement patterns.
    - Woodridge, Logan Central, Bethania (except for St Jude's Bethania Gardens, near Federation Drive), Holmview Road Reserve near Holmview Station and Beenleigh Station: since these areas are already urbanised (i.e. limited vegetation and connectivity occurs), koala movement are already impeded in east-west direction of the Impact area, and the proposed action is unlikely to significantly change these movement patterns.
    - Kingston Road, Kingston and Loganlea Road, Loganlea: since these areas are already urbanised along Kingston Road and Loganlea Road, koala movement are already restricted to the west and east of the Impact area, and the proposed action is unlikely to significantly change these movement patterns.
    - Bethania (except for St Jude's Bethania Gardens, near Federation Drive): since these areas are already urbanised (i.e. limited vegetation and connectivity occurs), koala movement are

already impeded to the west and east of the Impact area, and the proposed action is unlikely to significantly change these movement patterns.

A summary of the glider's connectivity model is outlined in Figure 2 and below:

- Current glider movement generally aligns with mapped biodiversity corridors (Figure 1 of the Supplementary MNES report) and ground truthed fauna movement corridors (Appendix B Figure 11 of the Supplementary MNES report) within Karawatha Forest/Acacia Forest Park, Gould Adams Park/Nealdon Park, as well as Edens Landing Station (for further information see Section 3.9 of the Supplementary MNES report).
- As a result of the proposed action and proposed fauna connectivity infrastructure, channelised glider movement is unlikely to show significant change from existing conditions to future conditions (i.e. with the proposed action in place),
- As a result of the proposed action and proposed fauna connectivity infrastructure, diffuse glider movement is unlikely to be maintained within the Impact area.
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas show potential impedance (restrictions) to glider movement within the Impact area:
    - Kuraby State School, Acacia Forest Park, Anzac Park, Kingston, Gould Adams Park/Nealdon Park, Edens Landing Station, Trinity College – Beenleigh: these areas contain vegetation which may provide for glider movement, and the proposed action has the potential to increase isolation of habitat patches and create impeded glider movement.
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas are unlikely to show significant changes to glider movement from existing conditions to proposed future conditions (i.e. with the proposed action in place):
    - Woodridge, Logan Central, Bethania, Holmview Road Reserve near Holmview Station, Beenleigh Station and Hugh Muntz Gardens: since these areas are already urbanised (i.e. limited vegetation and connectivity occurs), glider movement are already impeded to in east-west direction and north-south direction of the Impact area, and the proposed action is unlikely to significantly change these movement patterns.

Areas identified during landscape connectivity modelling to show potential impedance to koala and glider movement are proposed to be mitigated with proposed fauna connectivity infrastructure to be considered as part of Detailed Design for the proposed action. Further details are provided as part of pre-construction (design) management measures (Section 6.2 of the Supplementary MNES report).

1.5 Outcomes

The following outcomes for the koala and glider landscape connectivity models are:

- This landscape connectivity modelling method is effective in providing spatial and temporal analysis of fauna movement and ecological connectivity for development projects, especially for linear infrastructure projects.
- Current koala and glider movement generally align with mapped biodiversity corridors (Figure 1 of the Supplementary MNES report) and ground truthed fauna movement corridors (Appendix B Figure 11 of the Supplementary MNES report).
- As a result of the proposed action and proposed fauna connectivity infrastructure such as proposed culverts, several areas of diffuse koala movement occurs
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas show potential impedance (restrictions) to koala movement within the Impact area:
    - Acacia Forest Park
    - Gould Adams Park/Nealdon Park

  - Logan River in Loganlea
  - Edens Landing Station
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas are unlikely to show significant changes to koala movement from existing conditions to future conditions (i.e. with the proposed action in place):
  - Kuraby
  - Woodridge
  - Logan Central
  - Holmview Road Reserve, near Holmview Station
  - Beenleigh Station
  - Kingston Road, Kingston
  - Loganlea Road, Loganlea
  - Bethania (except for St Jude's Bethania Gardens, near Federation Drive)
- As a result of the proposed action and proposed fauna connectivity infrastructure, diffuse glider movement is unlikely to be maintained within the Impact area
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas show potential impedance (restrictions) to glider movement within the Impact area:
  - Kuraby State School
  - Acacia Forest Park
  - Anzac Park
  - Gould Adams Park/Nealdon Park
  - Edens Landing Station
  - Trinity College – Beenleigh
- As a result of the proposed action and proposed fauna connectivity infrastructure, the following areas are unlikely to show significant changes to glider movement from existing conditions to proposed future conditions (i.e. with the proposed action in place):
  - Woodridge
  - Logan Central
  - Bethania
  - Holmview Road Reserve, near Holmview Station
  - Beenleigh Station
  - Hugh Muntz Gardens.
- Areas identified during landscape connectivity modelling to show potential impedance to koala and glider movement are proposed to be mitigated with fauna connectivity infrastructure to be considered as part of Detailed Design for the proposed action. Further details are provided as part of pre-construction (design) management measures (Section 6.2 of the Supplementary MNES report).

1.6 References

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