



Our ref: DOC19/1069600

Deanne Frankel
A/Director Aerotropolis
Western Sydney Planning Partnership
PO Box 257
Parramatta NSW 2124

Dear Ms Frankel,

Draft Western Sydney Aerotropolis Plan

I refer to the Draft Western Sydney Aerotropolis Plan, Discussion Paper on the proposed State Environmental Planning Policy (SEPP) and Development Control Plan (DCP) Phase 1 (draft Aerotropolis Planning Package) exhibited by the Western Sydney Planning Partnership (WSPP). The Environment, Energy and Science Group (EES) understands that the draft Aerotropolis Planning Package seeks to introduce planning controls for development of the initial precincts within the Growth Area.

EES provides comments on the following matters at Attachment A:

- implementation of the Growth Centres Biodiversity Certification
- biodiversity and waterway health
- National Parks Estate
- floodplain risk management.

Given the potential impact on threatened species and ecological communities, EES seeks clarification as to whether the WSPP intends to consult with EES under Section 3.25 of the *Environmental Planning and Assessment Act 1979* prior to finalisation of the draft Aerotropolis Planning Package.

EES recommends that a meeting be held to further discuss biodiversity matters in the Aerotropolis Growth Area including the requirements under the Growth Centres Biodiversity Certification Order.

Please note that while EES is unable to provide advice on Aboriginal cultural heritage, it will still need to be considered in the planning for the Aerotropolis.

Should you have any queries regarding this matter, please contact Dana Alderson, Senior Project Officer Planning on [REDACTED]

Yours sincerely

24/03/2020

Daylan Cameron
**A/Director Greater Sydney Branch
Climate Change and Sustainability**

Attachment A – Environment, Energy and Science Group’s comments on Draft Western Sydney Aerotropolis Planning Package – March 2020

EES has reviewed the following documents:

- Draft Western Sydney Aerotropolis Plan (Plan)
- Draft Western Sydney Aerotropolis Development Control Plan (DCP)
- Western Sydney Aerotropolis proposed SEPP Discussion Paper (Discussion Paper)
- Draft Aerotropolis SEPP Maps (Maps)
- Draft Western Sydney Aerotropolis Wildlife Management Assessment Report (Wildlife Management Report)

and provides comments as follows.

Implementation of Growth Centres Biodiversity Certification

The Growth Centres Biodiversity Certification (GC certification) has been preserved¹ and continues to apply to land mapped in the now repealed *Threatened Species Conservation Act 1995* (Attachment B). Accordingly, part of the Aerotropolis Growth Area is subject to:

- GC certification Order, available at: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/Orders-register/western-sydney-growth-centres-order.pdf>
- *SEPP Sydney Region Growth Centres 2006* (Growth Centres SEPP).

Requirements of the GC certification

The draft Aerotropolis Planning Package must give effect to the certification by addressing the requirements of the certification, which are known as Relevant Biodiversity Measures (RBMs). The key RBMs are outlined below.

Please note the commitments under the Commonwealth Growth Centres Strategic Assessment Program must also be addressed, in consultation with the Commonwealth Department of Agriculture, Water and the Environment [Strategic assessment of the proposed western Sydney growth centres](#).

Protection of Existing Native Vegetation

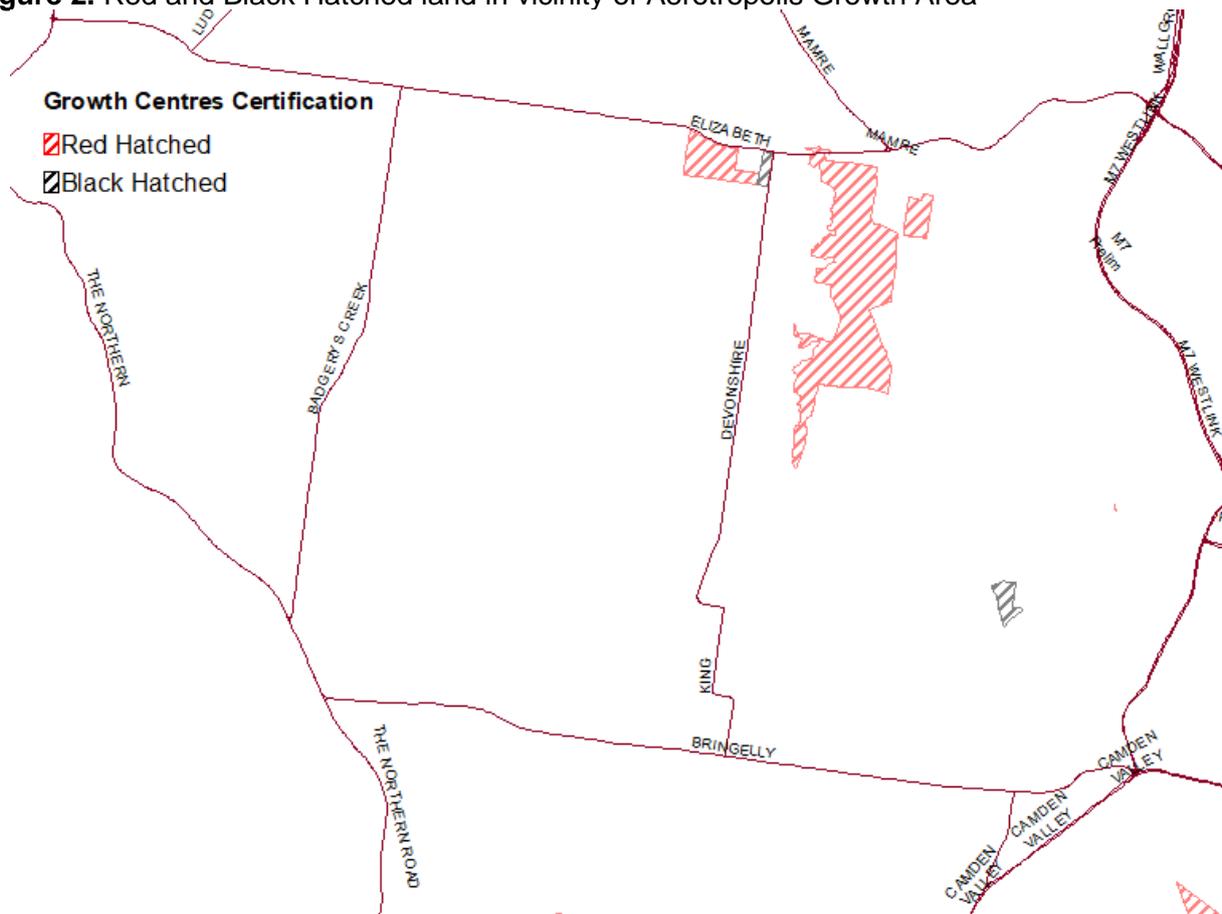
Existing native vegetation (ENV) within the Aerotropolis Growth Area is shown in map 5 of the Growth Centres Draft Conservation Plan 2007 (Conservation Plan), available at: <https://www.planning.nsw.gov.au/~media/Files/DPE/Plans-and-policies/growth-centres-conservation-plan-exhibition-draft-2007-02.ashx>. See also Figure 1 below.

When undertaking planning of land to which the certification applies, the following requirements must be met:

1. A minimum of 2000 ha of ENV must be retained and protected within the North West and South West Growth Areas (RMB 6)
2. Protection of ENV, either within the certified areas and/or the non-certified areas (RBMs 6, 7 and 8)
3. During or before the exhibition of a plan, an assessment of consistency of the proposed precinct plan with the conditions of biodiversity certification must be made publicly available (RBM 35).

¹ See clause 43 of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*.

Figure 2. Red and Black Hatched land in vicinity of Aerotropolis Growth Area



Black Hatched lands

There is a potential *Acacia pubescens* population on the Christadelphian Heritage College Sydney school site at 110 Cross Street, Kemps Creek (the northern Black Hatched land on Elizabeth Drive in Figure 2). RBM 17 of the certification requires confirmation of the presence of the species and provide for the protection of the area of suitable habitat for the species to EES' satisfaction.

EES recommendations

As advised at the meeting with WSPP held on 6 February 2020, EES recommends that further consideration be given to how the Aerotropolis planning package will implement the existing Growth Centres biodiversity certification, with respect to:

- land use zoning
- ENV protection
- Red and Black Hatched land
- essential infrastructure.

EES provides summary advice below and looks forward to working through these issues with WSPP to ensure that the integrity of the certification is maintained via the planning controls for the Aerotropolis Growth Area.

Land use zoning

The presence of ENV in the Aerotropolis must be confirmed through ground-truthing, which will then determine whether enough ENV is available for protection in non-certified lands to meet the ENV target. If there is a shortfall, it may be necessary to protect ENV in certified lands. Further, the protection of additional ENV within certified areas should also be considered to address the existing ENV shortfalls (in meeting the 2000 ha target) from other precincts across the Growth Centres. If it is not possible to undertake ground-truthing prior to the rezoning of non-certified land containing ENV, it is recommended that WSPP protect the ENV mapped in the Conservation Plan as an interim measure.

As discussed at the meeting, EES is concerned that the proposed Environment and Recreation zone permits a range of uses inconsistent with the protection of ENV. EES remains of the view that ENV should be zoned for environmental conservation purposes as this would provide the best prospect for its long-term conservation consistent with the requirements of the biodiversity certification order. The E2 zone reflects the objectives EES considers appropriate, with permitted uses limited to those that are consistent with the protection of the ENV.

ENV protection clauses

EES recommends that clauses relating to the protection of ENV be included in the Aerotropolis SEPP to ensure that requirements for development are clearly spelled out. These clauses and mapping would need to address:

- prohibition of clearing of ENV
- native vegetation retention and riparian protection areas
- rehabilitation and revegetation of conservation land.

An example of these clauses in the Growth Centres SEPP are cl.6.3, 6.4, 6.5 and 6.6 of Appendix 12 Blacktown Growth Centres Precinct Plan.

Red and Black Hatched land

Under the Conservation Plan, planning for Red Hatched lands in the Aerotropolis must ensure that:

- land is in public ownership or identified for acquisition by a public authority
- land will be wholly managed for conservation or recreation purposes
- any development is restricted, and native vegetation is to be retained and protected.

For the school site at Kemps Creek (Black Hatched), a survey is required to determine if *Acacia pubescens* is present, however EES notes that vegetation on the site may have been cleared.

Essential infrastructure

EES recommends that the provisions of clause 18A of the Growth Centres SEPP continue to apply to land within the Aerotropolis.

Biodiversity and waterway health

EES understands that the urban development footprint for the Growth Area has been informed by the 1:100 flood extent, the GC certification, and work undertaken by Place, Design and Public Spaces Group for the draft Cumberland Plain Conservation Plan (CPCP) strategic biodiversity certification.

Biodiversity

Environment and Recreation Zone and SEPP controls

EES understands that a proposed Environment and Recreation zone will be applied to the following land:

- all land affected by the 1:100 flood
- vegetation protected under the GC certification and Strategic Assessment Program
- all Cumberland Plain Conservation Plan vegetation
- some land along Thompsons Creek for a new regional park.

It is noted that the Environment and Recreation zone permits a range of land uses including:

Environmental facility; Flood mitigation work; Information and education facility; Kiosks; Recreation area; Recreation facilities (indoor); Recreation facilities (outdoor); Water recreation structure; Roads.

EES further understands that the draft SEPP will include additional planning controls for 'mapped land of high biodiversity value' to prevent the clearing of vegetation or broader uses and activities that are not consistent with conservation. The high biodiversity value map is not included in the Aerotropolis Planning Package, so it is not clear where land with conservation values is located within the Growth Area. In addition, EES has not reviewed the draft CPCP biodiversity assessment, so is unable to comment on its adequacy at this stage.

EES' specific recommendations regarding land use zoning and SEPP clauses to implement the existing Growth Centres Biodiversity Certification are provided above. In addition to these, EES provides the following recommendations to support the conservation of biodiversity within the Aerotropolis more broadly:

- Land with biodiversity values plus a buffer should be mapped so that future development can be designed to avoid impacts. EES has prepared mapping which identified areas recommended to be "protected or improved" within the Aerotropolis Growth Area (see Attachment C) which could be used to inform planning going forward.
- Land use zoning for the Aerotropolis should provide clarity as to which land is intended to provide recreation opportunities and that which must be conserved and managed for biodiversity. The proposed Environment and Recreation Zoning will prevent the CPCP from proposing land in the Aerotropolis as a conservation measure in the biodiversity certification application. As such, EES recommends land to be conserved and managed for biodiversity under the CPCP be zoned E2 Environment Conservation.
- Development controls must require infrastructure such as drainage lines, stormwater basins, pathways, retaining walls/batters and flood mitigation works be sited outside areas with biodiversity values, with a preference for these works to occur in the buffer area.
- Development controls for landscaping species selection (particularly within the Agribusiness and Environment and Recreation zones but also in the landscape plans for the urban and flexible employment areas) should avoid species which have the potential to become weeds in conservation areas.
- Land along South Creek should be brought into public ownership, as per land in the Mamre Road Precinct adjacent to South Creek, to ensure the appropriate management of this land to achieve outcomes for biodiversity.

Wildlife Buffer Zone (WBZ)

EES notes that a Wildlife Buffer Zone (WBZ) is proposed to minimise aircraft-wildlife strikes in the vicinity of the future airport, through the management of existing and future land uses up to 13 km from the runways. EES further understands that this will influence the location of biodiversity conservation sites, waterbodies, as well as the nature of landscaping.

EES is keen to ensure that the proposed WBZ controls do not adversely affect the values of National Parks estate, conservation land identified under the existing Growth Centres biodiversity certification, any future conservation areas proposed by the CPCP and the management of urban heat. In relation to the draft Wildlife Management Report, EES has the following recommendations:

- Existing conservation land which will not be subject to management within the WBZ should be clearly identified and mapped in the DCP.
- EES seeks assurance that the airport operator will not impose requirements for management of vegetation and waterbodies for the purposes of reducing wildlife strike within existing conservation land, specifically existing National Parks estate (Attachment D), land to be conserved under the existing Growth Centres certification approval (Figures 1 and 2) and existing BioBanking or Biodiversity Stewardship Sites.
- Responsibility for preparing and implementing Wildlife Management Plans, as well as undertaking mitigation measures and monitoring needs to be clarified.

EES looks forward to continuing to work with WSPP on the development of the planning controls to implement the WBZ.

Waterway health

The intensification of land use in the Growth Area has the potential to significantly impact on existing watercourses, particularly in relation to water quality and water flows. The focus on agribusiness in the Rossmore Precinct has the potential to impact nutrient levels entering water bodies, as well increasing the volume and duration of flows. This is already recognised as an issue for Kemps Creek Nature Reserve.

The Discussion Paper provides principles and objectives for protecting waterway health that are in keeping with the Greater Sydney Region Plan policy requirements for a Western Parkland City, and the INSW South Corridor Strategy. There is a large focus on South Creek-Wianamatta itself, as the central spine supported by water in the landscape within each precinct. The principles and objectives are consistent with requirements for waterway health protection and enhancement under the *Marine Estate Management Strategy 2018-2028*.

SEPP Waterway health clauses

Place Design and Public Spaces is proposing to include waterway health clauses in the *SEPP (Western Sydney Employment Area) 2009* for the Mamre Road Precinct to protect and improve natural processes, natural character, scenic value, biodiversity and ecosystem integrity of South Creek and the Hawkesbury Nepean. EES recommends that the Aerotropolis SEPP include the same clauses, to ensure a consistent approach to waterway health across the Aerotropolis. Recommended clauses are provided at Attachment E.

Development controls

EES recommends that the DCP performance outcome related to 'High Ecological Value Waterways': PO3 page 29 in the 'Draft Western Sydney Aerotropolis Development Control Plan 2019', the word 'target' should be replaced with 'objectives' to ensure there is explicit reference to the state government policy as highlighted in the SEPP.

In relation to the development of waterway health targets, EES looks forward to working with WSPP.

National Parks Estate

Near the Aerotropolis, there are several areas that have been reserved or acquired under the *National Parks and Wildlife Act 1974* (NPW Act). These NPW Act parks include the Kemps Creek Nature Reserve which immediately adjoins the Aerotropolis' eastern boundary, as well as the following (see Attachment D):

- Gulguer Nature Reserve
- Bents Basin State Conservation Area
- Mulgoa Nature Reserve
- Prospect Nature Reserve
- Western Sydney Regional Park.

Other parks within 10km of the Aerotropolis include Blue Mountains National Park, Burratorang State Conservation Area and Edmondson Regional Park. The entire catchment of the Aerotropolis drains into Wianamatta-South Creek which flows past and through Wianamatta Regional Park, about 15km downstream.

EES recommends that the draft Planning Package highlights the location of the Aerotropolis within a larger context that recognises the values of adjoining and nearby land and the need to conserve these values, particularly Kemps Creek Nature Reserve. The interface of the Wianamatta-South Creek Precinct with Kemps Creek Nature Reserve should be another key consideration for the planning of this Precinct, in addition to the 'proposed M12 Motorway, proposed Sydney Metro Greater West Stage 1, the proposed Outer Sydney Orbital and potential Western Sydney Freight Line' (Plan, p. 66).

Given the proximity of the Aerotropolis to existing parks, the impacts on parks in subsequent planning stages will need to be considered. As part of the preparation of its planning responses, EES will address these issues.

Increasing pressures on existing parks from recreation and impacts of intensification of land use

The anticipated development of the Aerotropolis will increase the number of people living and working close to the parks listed above. This presents an opportunity to encourage and promote park use and appreciation of the National Parks estate, however it also presents a challenge whereby open and natural spaces and opportunities for recreation (such as provided by certain categories of National Park) will be in greater demand, placing increased recreation or access pressures on the parks in the locality. Experience shows that increasing the population near existing National Parks increases impacts from illegal and inappropriate uses such as the illegal dumping of rubbish.

While the Environment and Recreation Zone provides a buffer between the nature reserve and the areas to be subject to more intensive development (the Kemps Creek and Rossmore Precincts), EES remains concerned regarding the cumulative impacts of development associated with the Aerotropolis over time, and requests that appropriate mitigation measures are imposed in any development to ensure no unreasonable impact on Kemps Creek NR results.

It is therefore recommended that the DCP reference the *Guidelines for developments adjoining land managed by OEH* (Guidelines), and acknowledge that, as the Aerotropolis borders a nature reserve to the east, these guidelines should be considered for certain developments, particularly towards the eastern portion of the Aerotropolis). The Guidelines are available at: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Development-guidelines/guidelines-for-developments-adjoining-land-managed-by-OEH-130122.pdf>

Obstacle Limitation in operational airspace

The Obstacle Limitation Surface (OLS) Chart on page 46 of the Plan indicates that height restrictions will extend to several NPWS parks located in the Outer Horizontal Surface (RL 230.5m AHD). Although this will likely have no impact on NPWS park management operations, EES seeks clarification as to whether the mapping of this airspace surface has considered the topographic features and vegetation present in Blue Mountains National Park and Burratorang State Conservation Area. The easternmost areas of these two parks within the outer horizontal surface include highpoints in excess of 250m and 300m respectively. EES does not support clearing of vegetation on these highpoints as part of airspace safeguarding.

Potential for new regional parks

The Structure Plan on page 27 and Blue Green Infrastructure map on page 34 of the WSAP show two areas within the Aerotropolis as 'Regional Parkland (Investigation)'. Elsewhere in the Plan (e.g. page 32) and the Discussion Paper make reference to the creation of two 'regional parks'.

EES seeks clarification as to whether the proposed 'regional parks' are intended to be regional parks reserved under section 47P of the NPW Act. If these areas are being investigation for potential reservation under the NPW Act, the term 'regional park' rather than 'regional parkland' should be used. If not, then the term 'regional park' should be avoided, and replaced by another appropriate term, such as 'district parkland'.

Floodplain risk management

South Creek Sector Review

INSW South Creek Project is currently being undertaken as part of the South Creek Review Stage 2 and overseen by an Agency working Group (AWG). The project is to assess the cumulative implications of floodplain modification considering climate change. This includes analysis of the implications of cut and fill, blue-green grid infrastructure and development scenarios on flooding in the South Creek catchment and to develop a strategic flood assessment model to inform land use planning in South Creek Catchment.

Specific comments on the Plan

Page	Statement	Comment/Recommendation
20	create a functional Blue–Green city structure that contributes to flood management and human safety	Blue-green Grid is not a floodplain mitigation option. Rather, it alters the roughness of the catchment which would result in adverse impact on flooding. The impact of the blue-green grid infrastructure is being undertaken as part of INSW South Creek Flood Project, which should inform this Plan.
23	Retaining water in the catchment will improve creek flow, reduce flooding risk ,	Urban Typologies that aim to retain water within the catchment is not a flood mitigation measure. Rather it might exacerbate flooding problem and their impacts on existing flooding behaviour should be assessed.

23	provides sufficient pervious areas to retain water to optimise stormwater management, flood protection and waterway health;	Providing pervious areas are not a flood protection measure, it may have some benefit for smaller very frequent events as they can be considered as stormwater management measures.
33	Multi-functional linear parks created alongside infrastructure corridors and minor creeks will offer quality local open spaces along creeks and between ridges and the floodplain.	Locating these multifunctional structures in the floodway should be reviewed as they are likely to be significantly damaged in frequent/small flood events. On the other hand, they will block flood flow worsening flooding behaviour.
54	The Blue–Green Grid provides an ideal opportunity to accommodate and manage flooding through innovative stormwater retention strategies without unnecessarily sterilising land. Flood management infrastructure and planning should account for climate change and the reforestation of the Blue–Green Grid as part of the landscape-led approach.	Blue-green Grid is not a floodplain mitigation option. Rather, it alters the roughness of the catchment which would result in adverse impact on flooding. The impact of the blue-green grid infrastructure will be determined as part of INSW South Creek Flood Project, which should inform this Plan.
54	Development controls will apply to land within the 1 in 100-year flood area in line with each Council’s relevant policy.	Development controls applies to flood planning area i.e. areas below the 1 in 100-year flood plus freeboard.
90	Definition Floodplain: An area of land which is subject to inundation by floods.	Area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land
Appendix – Planning Principles		
93-SU15	Plan for compatible land uses within the floodplain, provide safe evacuation and egress from flood events and consider climate change, culvert blockage and floodplain revegetation.	Design for greater resilience to flooding by planning for compatible land uses within the floodplain, including safe evacuation of the entire floodplain considering climate change. Limiting floodplain modifications that alters flood behaviour including impacting on floodways and flood storage areas.
93 SU16	Prohibit cut and fill to alter the 1% AEP flood extent.	cut and fill policy and other modification of the floodplain will be determined by INSW South Creek Project.

		<p>SU16 should reflect this work:</p> <p>Incorporate the findings of the INSW south creek flood project on setting allowable floodplain modifications.</p>
<p>93 SU17</p>	<p>Design, build and manage flood management assets to benefit native habitat, aesthetics, public recreation and amenity.</p>	<p>without compromising their primary flood mitigation function</p>

Attachment B – Land where the Growth Centres Certification applies showing certified land



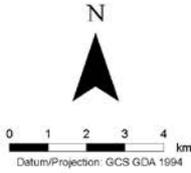
Threatened Species Conservation Act 1995

South West Growth Centre - Biodiversity Certification

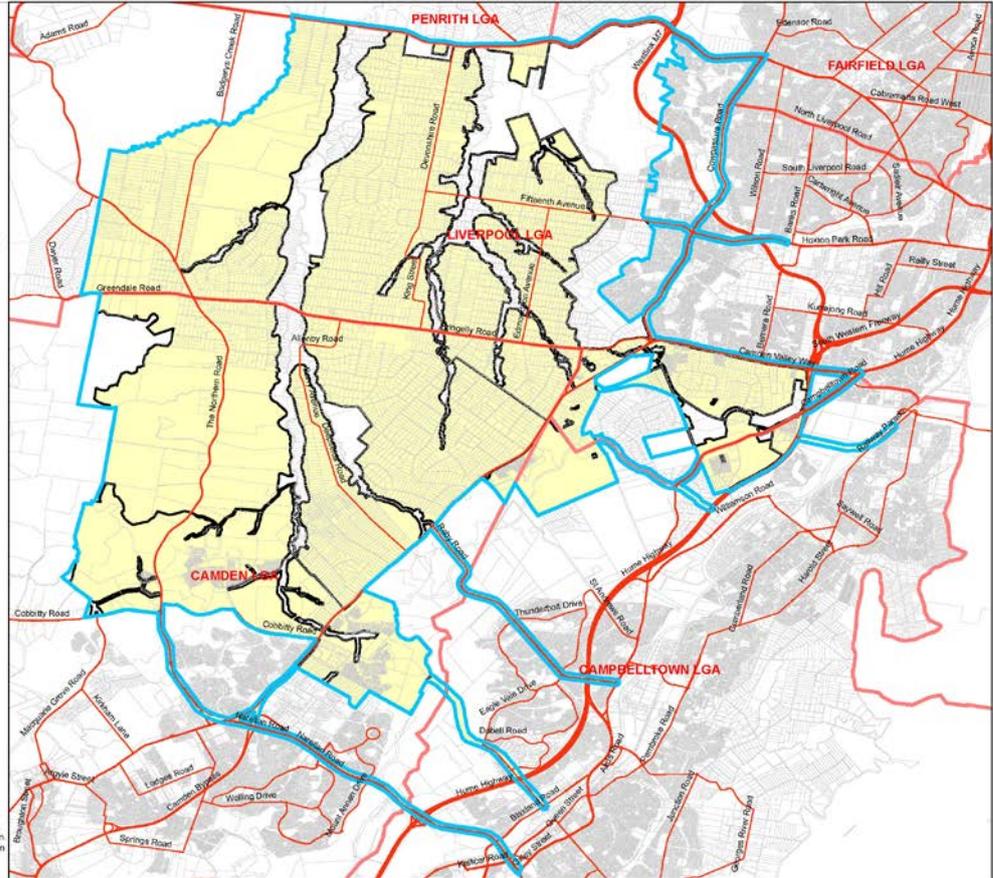
Amendment No. 2



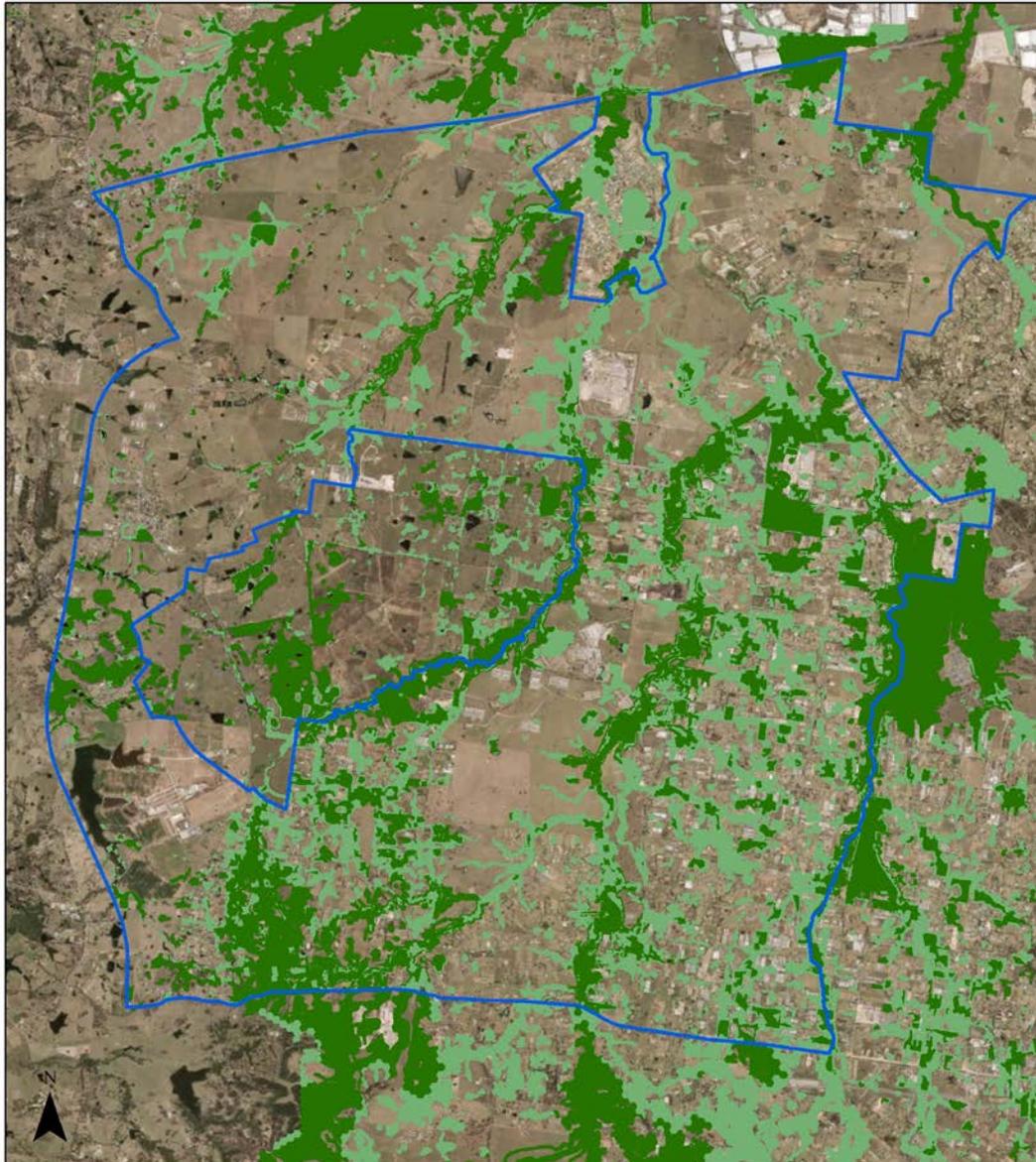
This is the map that is referred to in the Clause 17(1) of Schedule 7 to the Threatened Species Conservation Act 1995 and deposited in the head office of the Office of Environment and Heritage.



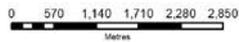
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Attachment C – Areas to protect or improve for terrestrial biodiversity and waterway health in Aerotropolis Growth Area



-  Aerotropolis GA (approx)
-  Protect
-  Improve



Aerotropolis Growth Area

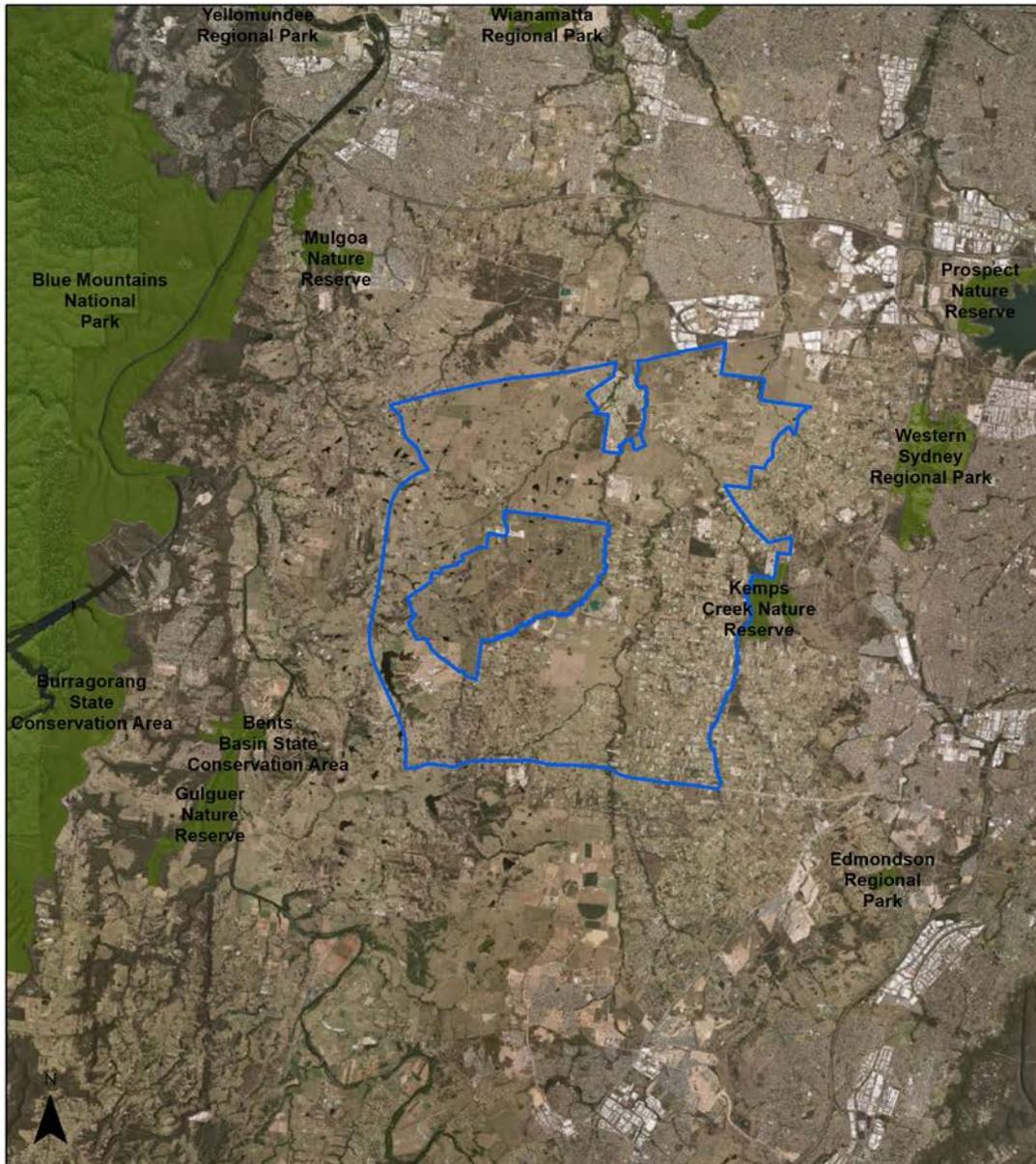
**Areas to protect or improve
for terrestrial biodiversity and waterway health**



**Planning,
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Attachment D – National Parks in the vicinity of the Aerotropolis Growth Area



<p> Aerotropolis GA (approx)</p> <p> National Parks & Reserves</p>	<p style="text-align: center;">Aerotropolis Growth Area</p> <p style="text-align: center;">Natioinal Parks Estate</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="text-align: left;"> <p>Planning, Industry & Environment</p> </div> </div> <p style="font-size: small; text-align: center;">Copyright Environment, Energy and Science Group (EES) This map is not guaranteed to be free from error or omission. EES and its employees disclaim liability for any act done on the information in the map and any consequences of such acts or omissions.</p>
<p>0 1,250 2,500 3,750 5,000 6,250 Metres</p>	

Attachment E – Waterway health clauses

Riparian land and adjoining waterways

(1) *The objectives of this clause are as follows—*

(a) *to protect or improve—*

- (i) *water quality within waterways, and water quality entering the waterways*
- (ii) *stream geomorphology including the stability of the bed and banks of waterways*
- (iii) *the aquatic environment and riparian land (including aquatic and riparian species, communities, populations and habitats) to mimic natural systems from the local area, and*
- (iv) *ecological processes within waterways and riparian lands, and*
- (v) *scenic and cultural heritage values of waterways and riparian lands*
- (vi) *the natural flow regime and the quantity of water entering a waterway mimics pre development*

(b) *where practicable, to provide for the rehabilitation of existing piped or channelised waterways to a near natural state.*

(2) *This clause applies to land identified on the Riparian Lands and Watercourses Map as—*

- (a) *“Riparian Land Category 1”, or*
- (b) *“Riparian Land Category 2”, or*
- (c) *“Riparian Land Category 3”, or*
- (d) *“Riparian Land Category 3a”.*

Note.

Some development types within 40 metres of this land will still require referral to the NSW Natural Resources Access Regulator as integrated development.

(3) *In deciding whether to grant development consent for development on land to which this clause applies, the consent authority must consider—*

(a) *whether the development is likely to have an adverse impact or beneficial improvement on the following on the following—*

- (i) *the water quality in any waterway, or entering the waterway and the quantity of water entering any waterway,*
- (ii) *the natural flow regime, including groundwater flows to any waterway,*
- (iii) *the aquatic environment and riparian land (including aquatic and riparian species, populations, communities, habitats),*
- (iv) *stream geomorphology including the stability of the bed, shore and banks of any waterway and uses naturalised solutions to protect and improve bed and bank stability,*
- (v) *the free passage of native aquatic and terrestrial organisms within or along any waterway and riparian land,*
- (vi) *public access to, and use of, any public waterway and its foreshores,*

(b) *any opportunities for rehabilitation or re-creation of any waterway as a naturalised system and the protection and/or restoration of its vegetated riparian areas in accordance with the riparian land categories shown on the Riparian Lands and Watercourses Map,*

- (c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.*
- (4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development—*
 - (a) is consistent with the objectives of this clause, and*
 - (b) integrates riparian, stormwater and flooding measures, and*
 - (c) is designed, sited and will be managed to avoid any potential adverse environmental impacts, and*
 - (d) if a potential adverse environmental impact cannot be avoided by adopting feasible alternatives—the development minimises or mitigates any such impact to a satisfactory extent.*

Stormwater and water sensitive urban design

- (1) The objective of this clause is to avoid or minimise the adverse impacts of urban stormwater on the land on which development is to be carried out, adjoining properties, riparian land, native bushland, waterways, groundwater dependent ecosystems and groundwater systems.*
- (2) Before granting development consent to development on any land to which this Plan applies, the consent authority must be satisfied that—*
 - (a) water sensitive urban design principles are incorporated into the design of the development, and*
 - (b) riparian, stormwater and flooding measures are integrated, and*
 - (c) the stormwater management system includes all reasonable management actions to avoid any adverse impacts on the land to which the development is to be carried out, adjoining properties, riparian land, native bushland, waterways, groundwater dependent ecosystems and groundwater systems, and*
 - (d) if a potential adverse environmental impact cannot be feasibly avoided, the development minimises and mitigates the adverse impacts of stormwater runoff on adjoining properties, riparian land, native bushland, waterways groundwater dependent ecosystems and groundwater systems.*
- (3) For the purposes of subclause (2)(a), the water sensitive urban design principles are—*
 - (a) protection and enhancement of water quality, by improving the quality of stormwater runoff from urban catchments,*
 - (b) minimisation of harmful impacts of urban development on water balance and on surface and groundwater flow regimes,*
 - (c) integration of stormwater management systems into the landscape in a manner that provides multiple benefits, including water quality protection, stormwater retention and detention, public open space, habitat improvement and recreational and visual amenity,*
 - (d) retention, where practical, of on-site stormwater for use as an alternative supply to mains water, groundwater or river water.*

(END OF SUBMISSION)