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14 December 2020

Jane Grose
Director Western
DPIE
Submitted via the submission portal

Dear Jane,

SUBMISSION ON DRAFT MAMRE ROAD DCP

This letter has been prepared on behalf of the GPT Group (**GPT**) in response to the release of the draft Mamre Road Development Control Plan (**the DCP**) which is on public exhibition from 10 November to 17 December 2020.

This submission is made in respect to GPT landholdings as the owner of **Lot 59-60 in DP 259135, Kemps Creek** (**the site**).

We understand that the DCP seeks to provide fine grain planning controls for development in the Mamre Road Precinct and GPT commends the Department of Planning, Industry and Environment and Penrith City Council on finalising the planning for the Mamre Road Precinct in 2020.

As a major landowner in the Mamre Road Precinct, and an active member of the Mamre Road Precinct Landowner Group, GPT seek to support the Mamre Road Landowner Group's submission, which discusses collective issues to be addressed to unlock the Mamre Road Precinct for development.

The Mamre Road Landowner Group submission is attached and should be read in conjunction with this submission to ensure a comprehensive understanding of GPT's site-specific concerns and recommendations.

1. ABOUT THE GPT GROUP

GPT is a Real Estate Investment Trust and have been publicly listed in Australia since April 1971. GPT are now one of Australia's largest diversified listed property groups with assets across retail, office, logistics and commercial development. GPT has delivered over $500 million of logistics and business park assets over the past three years in NSW, VIC and QLD and is committed to delivering product excellence with the scale, skill and funds to take a project from conception to completion.

2. THE SITE

The site located at Lot 59-60 in DP 259135, Kemps Creek forms an important landholding within the Mamre Road Precinct of the Western Sydney Employment Area. Envisaged for future employment uses, GPT Group is in the process of submitting an Environmental Impact Assessment for a State Significant Development Application (**SSDA**) to the Department of Planning Industry and Environment (DPIE) for the staged development of an industrial logistics warehouse estate.

The site has an area of approximately 33.35 hectares and fronts Mamre Road. The majority of the site is cleared with scattered vegetation and three farm dams. **Figure 1** below shows the site outlined in red.

Figure 1 Site Aerial

Source: Near Maps / Urbis

3. COMMENTS ON THE DRAFT DCP

GPT has a number of significant concerns with the proposed DCP that require clarification or reconsideration prior to finalisation of the exhibition package. These issues are critical to the timely delivery and resulting success of Mamre Road Precinct. The cumulative requirements of the DCP, both in terms of non-developable land area and infrastructure requirements would result in much more significantly greater financially onerous development obligations being imposed on development which would eliminate the competitiveness of this precinct and its ability to secure occupiers at a time where capacity to pay is significantly diminished. Ultimately be either passed on to tenants in the form of higher rents, or see those tenants seek alternate locations such as VIC or QLD. This is directly contrary to the Government's vision for the precinct to provide employment generating development which supports the competitiveness of Sydney and provides much needed jobs in Western Sydney.

4. KEY RECOMMENDATIONS ON THE EXHIBITION PACKAGE

4.1. CONSISTENCY WITH THE MAMRE ROAD LANDOWNER GROUP SUBMISSION

This submission supports the following recommendations outlined in the Landowner Group (LOG) submission, including :

Section 4.1 LOG Vision for Mamre Road Precinct

> **The overall vision is supported but requires amendments in relation to the dedicated freight line route and 40% tree canopy target.**
>
> These matters are addressed in detail within Section 3.3 and 3.7 of this submission.

Section 4.2 LOG Biodiversity

> **The Cumberland Plain Conservation Plan (CPCP) must not be adopted and reflected in the DCP until on-the-ground investigations of biodiversity value occur in the post exhibition phase.**

This matter is addressed in Section 3.2 of this submission as it relates to the site.

Section 4.4 LOG Riparian Lands

The DCP must remove reference to all controls related to 'avoid modifications to natural watercourse'. If these controls are implemented, they will significantly impact the ability to deliver industrial uses within the precinct.

Table 4 of the DCP must be amended to remove reference to '+ channel width'. Channel width is included in the total riparian corridor width reservation.

Refer to Section 3.2 of this submission for detailed discussion of these matters.

Section 4.5 LOG Integrated Water Cycle Management

The impervious surface target is not achievable for industrial development, the location of trunk drainage contained within Figure 6 is premature and should be removed from the DCP and the proposed Water Sensitive Urban Design controls need to be considered in terms of the financial viability.

Refer to Section 3.5 of this submission for further discussion of these matters.

Section 4.12 LOG Dedicated Freight Network

Further analysis and clarification on the dedicated freight road network is required prior to introducing controls in the DCP.

Refer to Section 3.3 of this submission for further discussion.

Building off the recommendations made in the Mamre Road Landowner Group Submission, GPT seek to address the following controls contained within the DCP as they apply to the site:

Biodiversity and Riparian Lands;

Proposed Dedicated Freight Network

Road Network, Hierarchy and Design

Integrated Water Cycle Management;

Earthworks and Retaining Walls

Landscaping; and

Building Design.

4.2. BIODIVERSITY AND RIPARIAN LANDS

The DCP sets principles, objectives and controls for biodiversity conservation across the precinct. Although GPT recognises the importance of biodiversity conservation, it is necessary that there is sufficient evidence base for the identified environmental conservation areas to ensure that the appropriate areas are conserved.

Limited information is provided in the Mamre Road Precinct exhibition package to understand the NSW Government's identification of E2 Environmental Conservation zones in the Mamre Road Precinct. It is understood that inputs from the Cumberland Plain Conservation Plan (**CPCP**) were received which are yet to be released.

An Ecological Assessment was undertaken by Cumberland Ecology for the mapped 40 metre E2 Environmental Conservation zone that traverses the south west portion of the site. The assessment confirmed the ecological conditions for the site which contains an unnamed 2nd order watercourse as mapped under the Strahler Stream order classification system (refer **Figure 2** below) and three farm dams. Despite the presence of a 2nd order mapped watercourse, the NRAR have confirmed that the site is not considered to conform to waterfront land as defined by the NSW Water Management Act 2000. The assessment also confirmed that the existing vegetation includes scattered Cumberland Plain Woodland, and no such biodiversity corridor exists.

Figure 2 Location of subject site and E2 zone

Source: Ecological Australia

Cumberland Ecology confirmed that the establishment of a realigned 25 metre riparian corridor would improve the Floristic Connection between South Creek and Ropes Creek and, a 5 metre channel within a 25 metre E2 Environmental Conservation zone will be sufficient for the relevant upstream flows.

GPT's engineering consultants, Costin Roe have designed the corridor to include integration of naturalised watercourse elements such as a low flow channel, channel meander, pools and riffles, bank scour protection and rock deflectors. The methodology will provide a velocity and flow environment which ensures the safe and efficient flow of water which does not create erosion or overbanking.

GPT requests that this updated information be used to inform the final planning package. The 'indicative riparian buffer' on the Structure Plan and E2 Environmental Conservation zoning should be removed from areas identified as 'not a watercourse' to reflect the on-ground-truthed site information.

Furthermore, the draft DCP shows the indicative location of riparian corridors on **Figure 3** however, corridor widths are described in **Table 4**.

The DCP shows the Precinct Structure plan on **Figure 2** which illustrates some E2 Environment Conservation zones are also Riparian Lands. The DCP needs to ensure that the controls relating to the E2 and Riparian Lands are aligned and consistent.

GPT proposes the following recommendations:

1. **Remove the 'indicative riparian buffer' and E2 Environmental Conservation zone on land identified as 'not a watercourse'**
2. **Allow for the relocation of validated watercourses if they provide a better environmental outcome for the precinct.**
3. **Remove the requirement for 5m landscape setback from the edge of the E2 in section 4.2.3 of the Draft DCP. GPT view this as unnecessary and double up of landscaping requirements.**
4. **References to Watercourse names in Table 4 be included in Figure 3 to make clear what widths apply and their relevant location.**
5. **Allow for Road Infrastructure to be included in a E2 Environmental Conservation Zone in line with the Riparian Controls.**

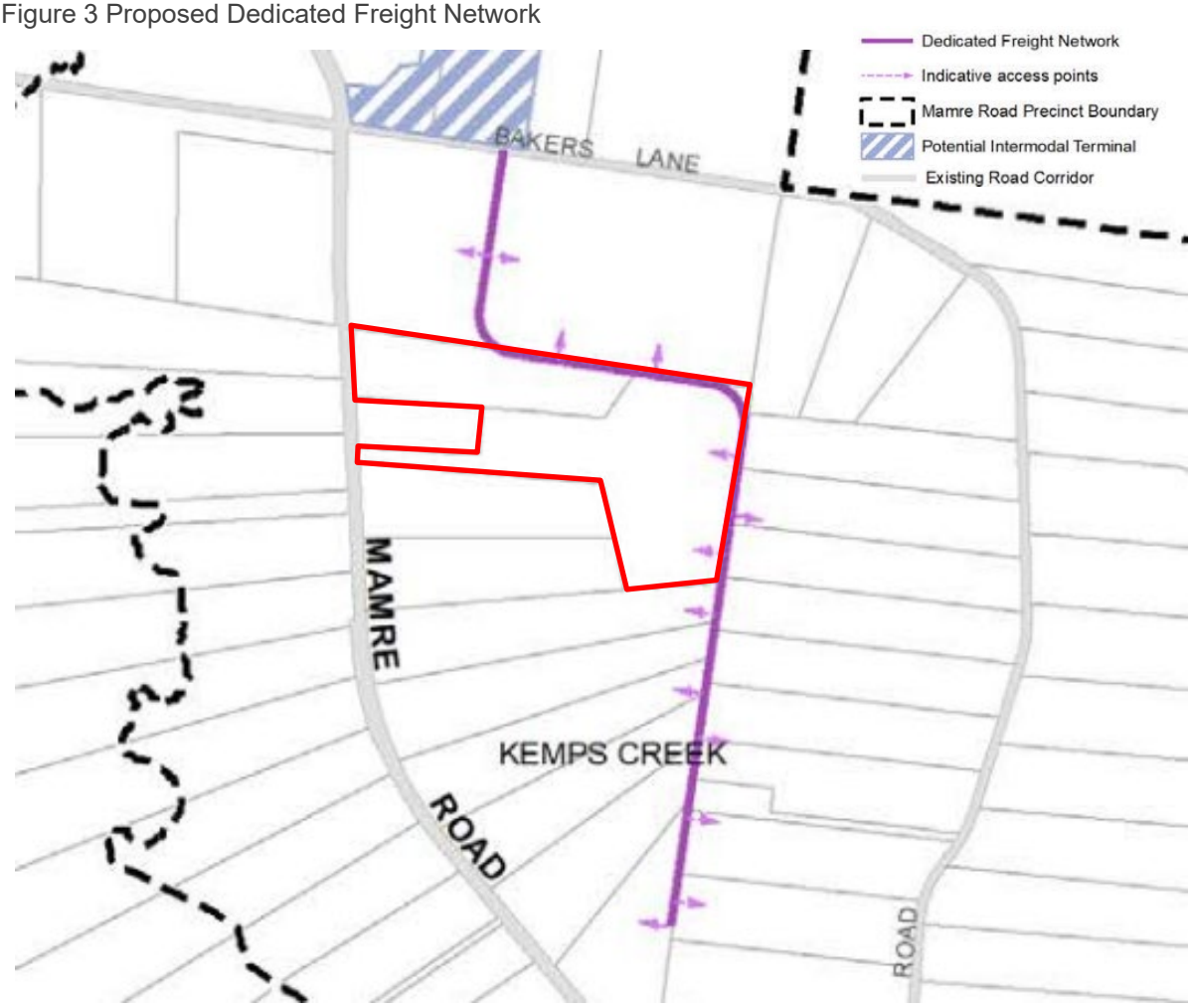
4.3. PROPOSED FREIGHT NETWORK AND AGV ROUTE

Further to the comments made in the Mamre Road Landowner Group submission, GPT raises significant concern to the identified Dedicated Freight Network (Network) The DCP identifies that the Network will service the future intermodal terminal, however GPT considers that the feasibility and practicality of the Network has not been adequately considered.

GPT supports the intermodal however believe the intermodal will support the broader WESEA area meaning containers will be transported using Heaving Vehicles rather than the AGV. Therefor the AGV route is impracticable.

The Network route adjoins the north and east boundaries of GPT's site (refer **Figure 3** below).

Figure 3 Proposed Dedicated Freight Network



Source: DPIE

The cost to acquire the required land for the Network, estimated construction costs for the initial corridor by developers and then the eventual Network by the Intermodal Terminal operator, contrasted against the real requirement for the network, it is likely that the Network will be cost prohibitive and not financially viable. This financial burden on the land owners as a result of losing developable land and ultimately loss of employment for Western Sydney. Further to this the additional costs required to construct for this corridor despite the fact that the Freight Network may never come to fruition is concerning.

The Mamre Road Precinct is heavily constrained by topography creating engineering challenges. The land is undulating and has somewhat steep terrain with level changes of over 60m across the precinct. Initial bulk earth work design has indicated wall heights averaging 5m across the precinct would be common and in areas where the existing terrain is steeper, some walls could exceed 20m. GPT questions the practical

delivery of the Network and more so the eventual connection to each “co-located” warehouse based on these constraints.

The Network is intended to be designed for designed to accommodate heavy vehicles including B-double and B-triple vehicles. GPT views that the scope has changed from an AGV network and will now result in a duplication of road networks.

Initial traffic modelling indicates that movements between the Intermodal Terminal and co-located warehousing would be low, and these movements could be accommodated within the adjoining local road network. The proposed Network sterilises developments lands resulting in loss of employment and investment, due to the requirements the Network enforces on landowners. Until the practical implications of the proposed Network are considered and a rationale is provided by Transport for NSW, the dedicated freight network cannot be supported.

GPT proposes the following recommendations:

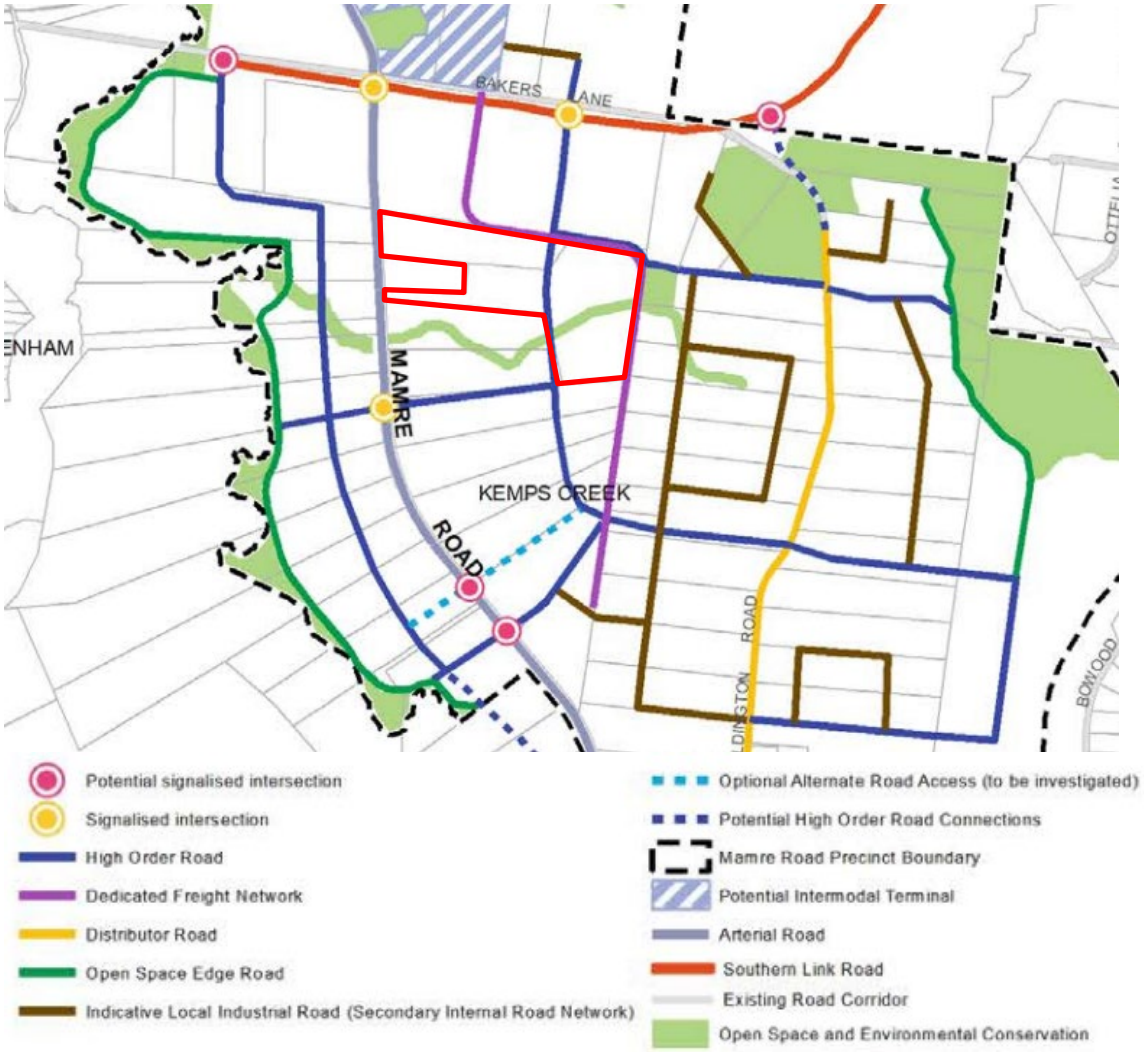
1. **Removal of all controls and identification of a Dedicated Freight Network from the DCP until further analysis is provided that considers the feasibility and practical implications associated with the proposed route.**

4.4. ROAD NETWORK, HEIRACHY AND DESIGN

4.4.1. East West Road Connection

The draft DCP proposes an east west road connection from Aldington to a proposed High Order Road dissecting GPT's land (refer **Figure 4** below).

Figure 4 Mamre Road Precinct Road Network Map



Source: DPIE

This east west road is a replacement of the Aldington entry / exit to the Southern Link Road. ASON Group are undertaking traffic modelling-which is due in late January / early February 2021. Further clarification is required for road reserve widths for 'High Order Roads' or 'Open Space Edge Roads'.

Initial traffic modelling forecast's the East West Connection will carry low levels of traffic movements. It is also suggested that the Aldington entry exit to Southern Link Road (SLR) is required. The road structure plan must consider the final endorsed modelling results as well as the impacts of the cost to deliver and the loss of developable land which subsequently reduces employment.

GPT proposes the following recommendations:

1. **Clarification of road reserve widths for 'High Order Roads' and 'Open Space Edge Roads' should be provided in the DCP.**
2. **The DCP should provide flexibility to enable variations to the road network and road defined functions subject to final LU19 Traffic modelling.**

4.5. INTEGRATED WATER CYCLE MANAGEMENT AND WATER QUALITY

The draft DCP proposes strict controls relating to Integrated Water Cycle Management and Water Quality.

4.5.1. Stormwater Management

The DCP adopts strict stormwater management controls which do not consider the impacts to financial viability of employment lands in the Mamre Road Precinct.

The DCP establishes a maximum 1.9ML/ha/year mean annual runoff control which is a vast misalignment with that typically adopted by Penrith City Council and other Growth Centre DCP's.
It is recommended that a Stream Erosion Index (SEI) criteria be applied rather than a flow limiting value.

Additionally, the DCP establishes an impervious surface target of 35%. Further clarification is required pertaining to whether the target applies to the entire site or lot by lot. As indicated in the Landowner Group's submission, the current industry standard is maximum 15% which is achievable on an estate level. The Department of Planning, Industry and Environment must recognise that the 35% target is a major shift from current industry standards which requires significant consultation with landowners prior to implementation.

GPT proposes the following recommendations:

1. **A Stream Erosion Index (SEI) criteria be adopted in the DCP rather than a flow limiting value, consistent with most Growth Centre DCP's.**
2. **The proposed impervious surface target of 35% be reduced to 15%, consistent with industry standards.**

4.5.2. Trunk Drainage Infrastructure

The DCP identifies the location of major trunk drainage elements across the precinct. The mapping of trunk drainage elements within **Figure 6** is considered premature due to the limited modelling that has been undertaken by the NSW Government. Further the DCP states that trunk drainage infrastructure is to be retained in private ownership, unless otherwise agreed by Council. This conflicts with the draft Section 7.11 Contribution Plan for Mamre Road Precinct which identifies that all basins are to be owned and maintained by Penrith City Council. GPT recommends that trunk drainage should be paid for as part of the infrastructure contributions (or as an offset to the developer) and that the trunk drainage be owned and maintained by Penrith City Council.

GPT proposes the following recommendation:

1. **Further modelling be undertaken by the NSW Government prior to the mapping of trunk drainage elements in the DCP.**
2. **Control 15 of Section 2.6.1 be amended to ensure consistency with the draft Section 7.11 Contribution Plan for Mamre Road Precinct.**

4.5.3. Stormwater Quality

Specifically, the draft DCP proposes the introduction of stormwater quality concentration values in addition to pollutant reduction targets (captured within **Table 6** of the draft DCP).

Modelling undertaken by Costin Roe indicates that mean and median values can meet the new concentration values within Table 6, however, they cannot meet the maximum concentration values as the outliers can be significantly higher than the mean. GPT recommends that the target values be changed to a 95% percentile, which would meet the intent of the control without being onerous to the developer. The pollutant reduction targets within **Table 7** of the DCP are significantly higher than that of the current Penrith City Council DCP and those typically adopted elsewhere, therefore, GPT recommends that the pollutant reduction targets be reduced as they are well above the normal range.

Furthermore, proposed soil recharge through Wianamatta Street Trees is not recommended in the Precinct due to the geological profile which is of low permeability and highly reactive clays (to approximately 1.5m) over shale. The DCP's intent for the groundwater recharge would not be met and wetting of subgrades would result in reduced support and ongoing maintenance for heavy vehicle pavements and properties. The proposed arrangements would be suitable in a residential and possibly commercial development; however, it is not suitable for an industrial precinct.

GPT proposes the following recommendations:

1. **Quality concentration values should be changed to a 95% percentile.**
2. **Pollutant reduction targets should be remain consistent with industry standard and align with those in the Penrith Council DCP. The targets currently proposed in the Precinct DCP are significantly higher than those commonly adopted in growth centre DCP's and Councils (including Penrith City Council, Blacktown City Council and Liverpool City Council) and place significant onus on systems to meet the higher targets.**
3. **Control 3 of Section 2.6.2 of the DCP be amended to remove requirement of soil recharge through Wianamatta Street Trees.**

4.6. EARTHWORKS AND RETAINING WALLS

The DCP includes controls relating to earthworks and retaining walls which are a critical aspect in the successful delivery of the Mamre Road Precinct. Consistent with the comments provided within the Landowner Group submission, GPT raises concern to the proposed controls for earthworks and retaining walls.

Clarification is required regarding the intent and operation of the following controls:

Control 4 – Finished ground levels adjacent to the public domain or public road dedication be no greater than 1.0m above the finished road level (or public domain level).

Control 5 – Where a level difference must exceed 1.0m and adjoins the public domain or public road dedication, the resulting landscape setback must be increased to accommodate tiered retaining walls.

Control 6 – Cut or fill retaining walls up to 3.0m in height are to be setback 2.0m into the property boundary and the setback is to be suitably landscaped.

Control 7 – Fill retaining walls exceeding 3.0m in height, are to be provided with a 1.5m deep soil zone setback and landscaping from the property boundary, with the retaining wall stepped and a deep soil zone is to be provided between each tier. A maximum height of 3.0m for each retaining wall element is permitted.

The above controls are impractical as the slope of the precinct varies up to 120 metres. Given the steeply sloping nature of the precinct, the controls need to be adjusted as they reflect that of an existing flat terrain.

GPT proposes the following recommendations:

1. **Delete or amend Control 4 to allow for finished ground levels to be up to 4 metres.**
2. **Amend Control 5 to 3 metres.**
3. **Amend Control 6 to 1 metre from the boundary with deep soil planting between the boundary and the wall.**
4. **Amend Control 7 to allow shallow soil planting between each tier for walls on public domain and no tiering or deep soil planting particularly along side and rear boundaries.**

4.7. LANDSCAPING

The DCP proposes an ambitious landscaping target of 40% canopy cover. This target is contained within the landscaping controls in Section 4.2.3 of the DCP.The 40% target should be removed from the controls and reinstated into the objectives as a target with further clarity on its application, being that for Metropolitan Sydney overall. Instead, a control can be inserted requiring development applications to clearly state how they are contributing to the 40% tree canopy target by retaining existing trees or delivering additional trees through landscaping across the estate for example the 20m Landscape setback form Mamre Road which is supported by GPT.

GPT proposes the following recommendations:

1. **The 40% canopy cover target should be an objective of the DCP and should be removed from the controls contained withing Section 4.2.3.**

2. **Clarity should be provided confirming that it is an overall metropolitan-wide target and not a site-by-site target.**

4.8. BUILDING DESIGN

The DCP introduces building design controls that relate to minimum glazing requirements and material variation in industrial developments. Specifically, Control 15 of Section 4.2.4 of the DCP requires facades along main street frontages to provide a minimum of 30% glazing to strengthen passive surveillance and streetscape character. This requirement does not align with current practice of architectural design in industrial estates and is not supported.

Further, Control 22 restricts the use of a single construction material to maximum 50% of a wall surface area. Similar to the glazing requirement, the control is an impractical imposition that will increase construction costs for industrial projects. Modern industrial precincts can achieve attractive industrial and warehouse buildings whilst still using a single construction material along a façade. GPT proposes the following recommendations:

1. **The DCP must not dictate the percentage of building materials to be used on a development, including % coverage of glazing or single materiality.**
2. **Remove the restriction on the number of car spaces fronting the street in line with industry standard operations.**
3. **Remove the restriction on the location of loading in line with industry standard operations.**

5. CONCLUSION

GPT commends the Department of Planning, Industry and Environment for exhibiting the draft DCP in 2020 and advancing the planning for the Mamre Road Precinct. GPT appreciates the opportunity to comment on the draft DCP and appreciates the NSW Governments response to the industrial shortfall and growing need of employment lands in Greater Sydney.

GPT has worked in collaboration with the Mamre Road Landowner Group and have prepared a joint submission which comments on key issues arising within the Precinct. GPT supports the recommendations made within the Landowner Group submission and seeks to build off the broader precinct concerns within this submission as it relates to GPT's site. It is requested that the NSW Government reviews both the Landowner Groups and this submission collectively and consider the concerns raise holistically. Collectivley, the controls make the development of the Mamre Road Precinct financially unviable without increasing rents which will drive tenants to Melbourne and Brisbane. This contravenes the rezoning of the Mamre Road Precinct.

GPT has outlined a number of concerns, however the two critical issues are:

1. Removal of the AGV route from the draft DCP until it can be proven that this is actually needed from a practical implementation perspective. The land take impacts are highly significant and unacceptable. The land take cannot be justified for such a long term proposal from an undetermined future private operation of an Intermodal Terminal.
2. Removal of the riparian buffering restrictions within the DCP. The riparian corridor as proposed by GPT has been justified from an ecological, riparian and hydraulic perspective. The proposed corridor width is sufficient for meeting the riparian objectives of the WSEA SEPP and the Mamre Road Structure Plan.

GPT requests that the post-exhibition process comprises a series of workshops to resolve issue raised within this submission and the broader precinct concerns raised within the Landowner Group submission.

Yours sincerely,

Darren Hunt

Head of Development - Logistics

APPENDIX A MAMRE ROAD PRECINCT LANDOWNER GROUP SUBMISSION (Provided via Mamre Road Precinct Land Owners Group via NSW Government Planning Portal)

APPENDIX B ECOLOGICAL ASSESSMENT

8 October 2020

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Realignment and modification of the E2 Zone within the Mamre Road Precinct, Kemps Creek

Dear Stephanie,

The purpose of this letter is to provide an assessment of the impacts associated with the proposed realignment and modification of the E2 Environmental Conservation zone within Lot 59 DP 259135 located within the Mamre Road Precinct, Kemps Creek. The proposed realignment and modification requires moving the mapped E2 zone to the north whilst also reducing the width of the E2 zone. This assessment has been undertaken with consideration of both the NSW *Biodiversity Conservation Act 2016* (BC Act) and the NSW *Water Management Act 2000* (WM Act).

If you have any questions or wish to discuss the contents of this letter further, please do not hesitate to contact me or Katrina Wolf on (02) 9868 1933.

Yours sincerely,

Matt Freeman
Project Manager/Ecologist
matt.freeman@cumberlandecology.com.au

APPENDIX A :

Realignment and Modification of the E2 Zone – Ecological Assessment

A.1. Introduction

Cumberland Ecology was commissioned by GPT Group Pty Ltd to undertake an assessment of the E2 Environmental Conservation zone located within Lot 59-60 DP 259135 (hereafter referred to as the 'subject site'). The E2 Zone falls within the Mamre Road Precinct, Kemps Creek. The subject site is located within the Western Sydney Employment Area (WSEA), approximately 40 km west of the Sydney CBD and 12 km southeast of the Penrith Central Business District (CBD). The subject site is located within the Penrith Local Government Area (LGA) and covers an area of approximately 33.35 hectares.

The subject site has recently been rezoned under the WSEA State Environmental Planning Policy (SEPP) whereby much of the land has been zoned IN1 – General Industrial, with a creek line that intersects the subject site zoned E2 – Environmental Conservation (**Figure 1**). Furthermore, the subject site is located within the planned area for the Cumberland Plain Conservation Plan (CPCP). The CPCP is a conservation plan that is being developed for Western Sydney to help meet the future needs of the community while protecting threatened ecological communities and threatened flora and fauna species listed under the New South Wales (NSW) *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The CPCP is being developed to meet requirements for strategic biodiversity certification under the BC Act and strategic assessment under the EPBC Act. It will facilitate the biodiversity approvals required to deliver four nominated areas for development in Western Sydney and supporting major transport infrastructure. The subject site is located within the area identified as the Western Sydney Aerotropolis. The draft CPCP Spatial Viewer has identified the majority of the subject site as 'certified – urban capable land' with the exception of the E2 – Environmental Conservation corridor which has been identified as 'non-certified land – avoided for other purposes' (**Figure 2**). Future development on land mapped as certified-urban capable land does not require further site by site biodiversity assessment; however, the draft CPCP does not alter the proposed environmental conservation zoning within non-certified land (DPIE, 2020).

The NSW Department of Planning, Industry and Environment (DPIE) have identified the need to establish a suitable biodiversity corridor that provides floristic and habitat connectivity between Ropes Creek to the east of the subject site and South Creek to the west, hence the identification of an E2 zone as part of the Mamre Road Precinct rezoning in June 2020. The E2 zone within the subject site has been heavily modified for agricultural uses with the majority of native vegetation cleared and now consists primarily of exotic grassland. The E2 zone contains low biodiversity value due to the absence of riparian vegetation and modification for previous land uses and does not serve as a suitable biodiversity corridor in its current form. As such, GPT have proposed a realigned E2 zone which contains an approximately 25m wide corridor to become a functional biodiversity corridor in the future. The biodiversity corridor will include a reconstructed watercourse with a defined bank and channel that mimics natural stream design as well as a vegetated riparian corridor that provides floristic and habitat connectivity across the subject site.

Several iterations of the master plan have been prepared for the subject site after consultation with the NSW Natural Resources Access Regulator (NRAR) and DPIE in order to reduce potential impacts on biodiversity whilst facilitating future development of the subject site. The master plan that is now proposed has been designed to better service the industrial land zoning of the subject site whilst ensuring a suitable biodiversity

corridor is established across the subject site and into adjoining lands. The proposed master plan is shown in **Figure 3**.

A.2. Methodology

1.1.1. Desktop Assessment

A review of the NSW Government Spatial Information Exchange Maps (NSW Government Spatial Services, 2019) as well as DPIE's Environmental Planning layers was undertaken to determine the vegetation communities mapped within the subject site as well as the location of a watercourse and its stream order. Additionally, documents prepared for the Mamre Road Precinct Rezoning were reviewed to assist in determining the potential for realignment and modification to the E2 zone. This included but was not limited to the following:

- Mamre Road Precinct Structure Plan (NSW Government, 2020);
- Mamre Road Precinct Finalisation Report (NSW Government, 2020);
- Mamre Road Precinct Rezoning Discussion Paper (NSW Government, 2020); and
- Mamre Road Precinct Rezoning: Waterway Assessment – Kemps Creek and Mount Vernon (CTENVIRONMENTAL, 2020).

1.1.2. Site Inspection

A site inspection was undertaken on 25 June 2020 by Bryan Furchert (botanist) and Matthew Freeman (Ecologist) from Cumberland Ecology. The site inspection involved a random meander survey within the subject site to identify and map vegetation communities and assess the condition of the mapped E2 zone. Notes were taken at multiple locations within the subject site and locations were recorded using a hand-held GPS.

A.3. Realignment of the E2 Zone

The E2 zone within the subject site and wider Mamre Road Precinct has been mapped based on the location of an existing creek line and its potential to serve as a biodiversity corridor between patches of native vegetation to the east of the subject site and the South Creek riparian corridor to the west.

The E2 zone within the subject site has been heavily modified for agricultural uses with the majority of native vegetation cleared and now consists primarily of exotic grassland. Some scattered remnant paddock trees are present within the subject site that conform to the threatened ecological community (TEC) Cumberland Plain Woodland including a few trees along the eastern boundary of the E2 zone. Cumberland Plain Woodland is listed under both the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (**Photograph 1**). Furthermore, a large farm dam has been constructed within the E2 zone which alters water flow within the creek line (**Photograph 2**). Within the subject site, the creek line currently shows no bank structure and consists primarily of a drainage depression with evidence of overland flow from the dam at the eastern side of the subject site downstream to the dam on the adjacent lot, west of the subject site (see **Photograph 3**)

Photograph 1 Scattered paddock trees conforming to Cumberland Plain Woodland

Photograph 2. Large dam on eastern boundary of the subject land.

Photograph 3 Aerial view of the drainage depression below the large dam (Source CTENVIRONMENTAL (2020))

The current E2 zone contains low biodiversity value due to the absence of riparian vegetation and modification for previous land uses and does not serve as a suitable biodiversity corridor in its current form. Furthermore, the E2 zone within the subject site would be subject to complete clearance and earthworks to ensure that it can service future development of the subject site.

The proposed development is seeking to realign the E2 zone. The realignment plans to pick up the current location of the E2 zone in the east and then connect to the E2 zone proposed to be realigned on the adjacent property (Lot 58 DP259135). Changing the alignment of the E2 zone is not considered to increase the impacts on biodiversity. The land proposed for the realignment is zoned IN1 and contains exotic grassland with some scattered paddock trees. As with the current alignment, the proposed realignment will also require clearance of vegetation and earthworks to create a defined creek bank and channel and also allow for landscaping and planting of native riparian vegetation.

Furthermore, the proposed realignment has been designed to provide a naturalised, meandering environment, avoiding sharp turns within the E2 zone. The proposed realignment is not considered likely to result in any additional impacts on the biodiversity values of the subject site. Furthermore, replanting of native vegetation within the E2 zone is proposed to be undertaken as part of the proposed development to establishment a biodiversity corridor, providing floristic and habitat connectivity across the subject site.

The proposed biodiversity corridor will consist of vegetation that is broadly representative of the locally occurring native vegetation communities, including the threatened ecological communities (TECs) Cumberland Plain Woodland, River-Flat Eucalypt Forest and Swamp Oak Floodplain Forest and Freshwater Wetlands, which are all listed under the NSW *Biodiversity Conservation Act 2016* (BC Act). Furthermore, Cumberland Plain Woodland and Swamp Oak Floodplain Forest are also listed as TEC's under the Commonwealth *Environment*

Protection and Biodiversity Conservation Act 1999. Revegetation will include the planting of canopy, shrub and ground cover species throughout the biodiversity corridor, including aquatic species within the watercourse.

Additionally, the masterplan has been amended to address concerns that were raised regarding shading on the biodiversity corridor. Shading not only reduces the amount of light received by plants but also changes other small environmental conditions such as temperature, humidity and carbon dioxide concentrations (Pierson *et al.*, 1990; Hou *et al.*, 2018). To reduce impacts of shading, the warehouse (with 13m high walls) that was previously located adjacent to the biodiversity corridor has been reorientated. A 38m hardstand is now proposed on the southern side of Warehouse 3 adjacent to the biodiversity corridor (see **Figure 3**). The hardstand will enable suitable light to filter into the biodiversity corridor to facilitate plant growth. As such shading is not considered likely to have a significant impact on the establishment of the biodiversity corridor.

A.4. Modification and Assessment under the Water Management Act

The NSW *Water Management Act 2000* is administered by Natural Resources Access Regulator (NRAR) and establishes an approval framework for activities within waterfront land which is defined as land 40 m from the highest bank of a river, lake, wetland or estuary. As such, any work undertaken within waterfront land would need a Controlled Activity Approval (CAA) administered by NRAR. However, the NRAR have confirmed that despite the presence of a 2nd order mapped watercourse, the subject site was not considered to conform to waterfront land as defined by the NSW *Water Management Act 2000* (WM Act), and therefore a CAA is not required for the proposed development (NRAR, 2020). Furthermore, The GPT Group (GPT) have confirmed that the proposed development is being lodged through the State Significant Development (SSD) process and is therefore exempt for the need to obtain a CAA. This has also been confirmed by NRAR.

The *Guidelines for Controlled Activities on waterfront land—Riparian corridors* (DPI, 2018) (the 'Guidelines') provides guidance to establish Vegetated Riparian Zones (VRZ) along watercourses. The creek line within the subject site has been mapped as a 2nd order stream based on the Strahler stream ordering system and based on these guidelines a VRZ of 20 metres (m) on either side of the creek is required. The E2 land zoning within the subject site has been mapped based on the 20 m VRZ. However, as the proposed development is not located on waterfront land and does not require a CAA, the NRAR Guidelines do not apply. Nevertheless, the proposed development has been designed to meet the overall objectives of these guidelines.

Additionally, the guidelines allow for flexibility in the allowable uses and works permitted within riparian corridors and the proposed development seeks to modify the width of the VRZ within the subject site. An assessment of the creek line within the subject site indicated that the creek is highly modified, there is no evidence of a bed or bank structure and that the creek line is located within a broad and shallow drainage depression that would only contain water when rainfall is sufficient to trigger overflow from the dam. The drainage depression is dominated by exotic species including *Paspalum dilatatum* (Paspalum), *Cynodon dactylon* (Common Couch), *Setaria parviflora* and *Senecio madagascariensis* (Fireweed). Native species are uncommon and included scattered occurrences of *Bothriochloa decipiens* (Pitted Bluegrass).

The proposed development seeks to create an artificial creek line with a 10 m VRZ either side of the creek within the proposed realignment. The creek line will contain engineered shaping which uses soft, permeable surfaces and the avoidance of hard surfaces. Furthermore, rocks are proposed to be used in a naturalised way

for scour protection. The re-creation of the creek line will aim to provide bed and bank stability, control the direction and flow of water and reduce channel erosion, sedimentation and nutrient runoff. Additionally, a riparian corridor will be established within the VRZ to provide floristic and habitat connectivity across the subject site.

As the proposed development will substantially modify the riparian corridor, its restoration and rehabilitation will be implemented under a Vegetation Management Plan (VMP). The VMP will assist in providing a stable watercourse and riparian corridor which will emulate local native vegetation communities, in particular the TEC Cumberland Plain Woodland.

A.5. Conclusion

The proposed development seeks the realignment and modification of an E2 zone and associated creek line within the subject site. The creek line within the subject site has been highly modified and currently consists of a large drainage depression with no bed or bank structure. Furthermore, almost all native vegetation has been removed within the VRZ with only exotic grassland remaining. The proposed development involves shifting the E2 zone and associated creek line to the north whilst also reducing the width of the VRZ. Additionally, it is recommended that the realigned E2 zone is reflected in the draft CPCP mapping.

The proposed realignment is located in an area consisting primarily of exotic grassland in similar condition to that within the current alignment, and therefore the proposed realignment is unlikely to result in additional impacts on biodiversity.

Despite the reduction in size of the E2 zone and associated VRZ, the creation of an artificial creek line with a VRZ of 10 m on either side established under a VMP would provide important environmental functions including:

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

Furthermore, the VMP will guide the immediate and long term management of vegetation within the biodiversity corridor. The VMP will identify species suitable for planting, required planting densities, weed management strategies, key completion criteria, a schedule of roles and responsibilities, as well as a monitoring and reporting program. Provided that the biodiversity corridor is constructed in accordance with an approved VMP then it is considered suitable to provide floristic and habitat connectivity across the subject site, and resulting in a functional biodiversity corridor. As such, the proposed realignment and modification of the E2 zone is considered unlikely to result in an increase of impacts on biodiversity, and will likely result in an improvement to the biodiversity values within the site in the long-term.

A.6. References

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FIGURES

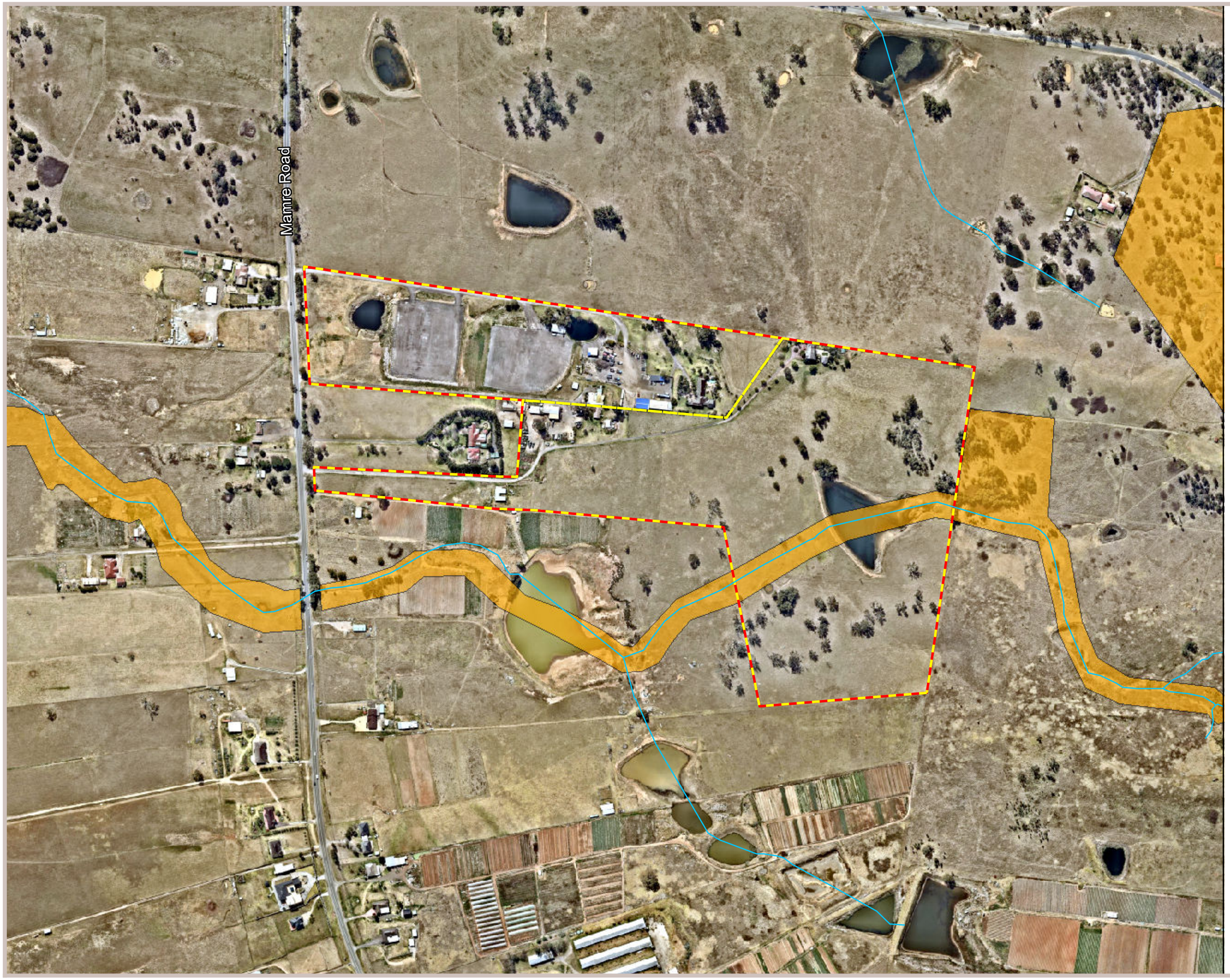


Figure 1. Location of the subject site and E2 zone

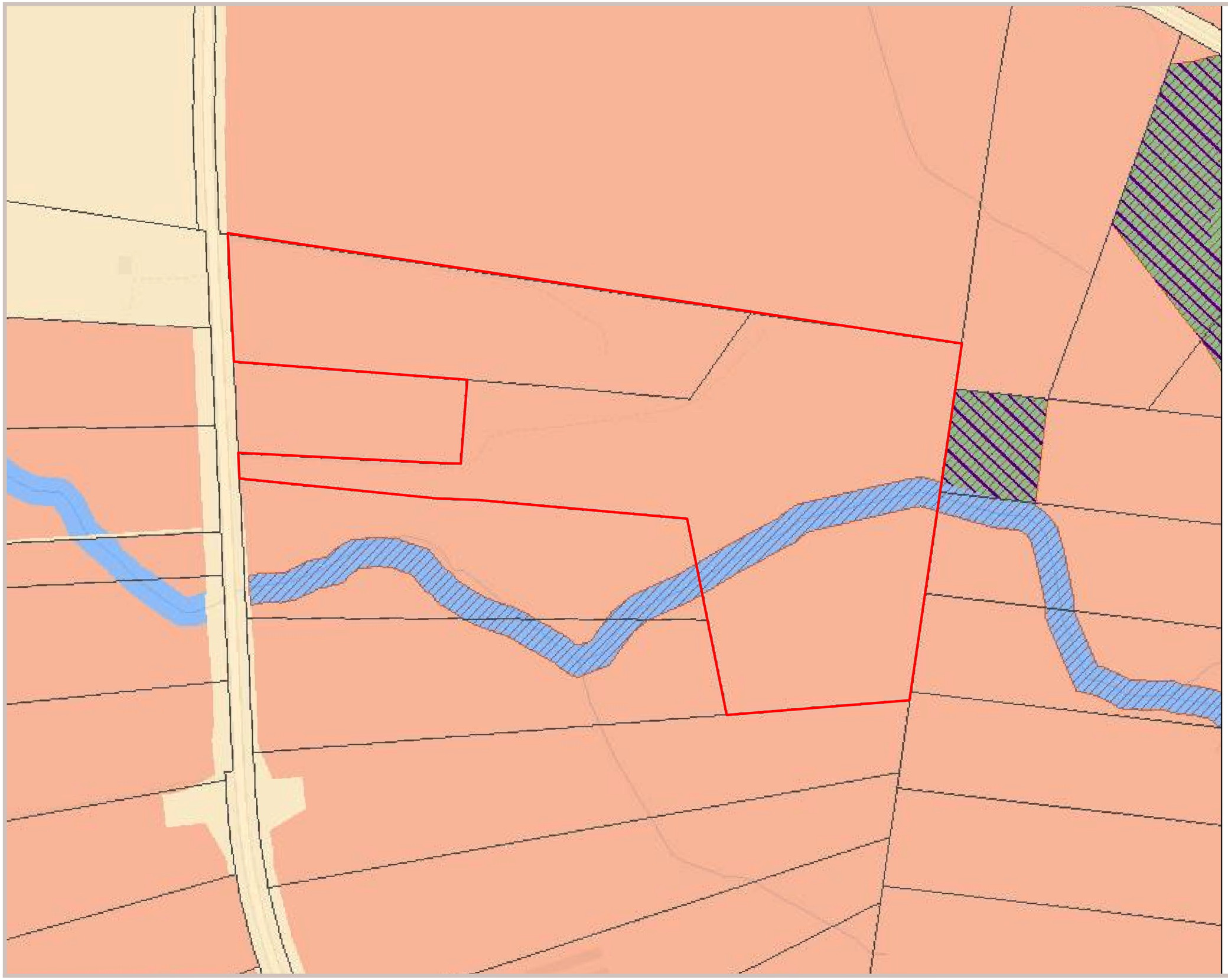
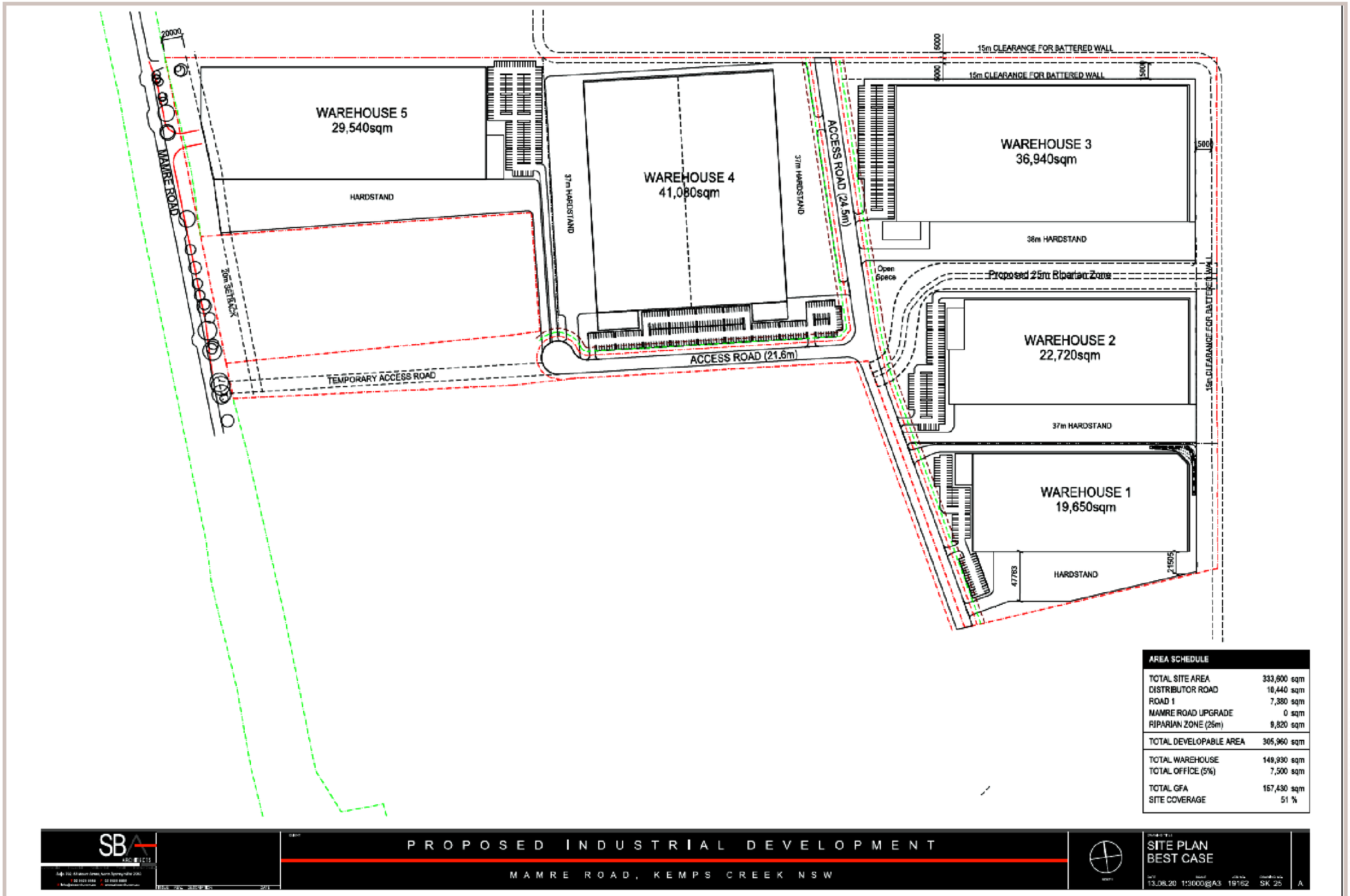


Figure 2. Draft Cumberland Plain Conservation Plan Mapping



I:\...\19200\Figures\Letter 8\20201008\Figure 3. Master Plan

Image Source: SBA Architects (2020). Drawing No: SK 25.

Figure 3. Master Plan for the Proposed Development