

The background of the page is an abstract composition of overlapping, curved shapes in shades of orange, red, and grey. The shapes create a sense of depth and movement, with some areas appearing more prominent than others.

OPTIONS DEVELOPMENT REPORT
CHRISTMAS HILLS LAND USE STUDY

MARCH 2018

PREPARED FOR MELBOURNE WATER

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Acknowledgements and Recognition

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1. CHRISTMAS HILLS LAND USE STUDY

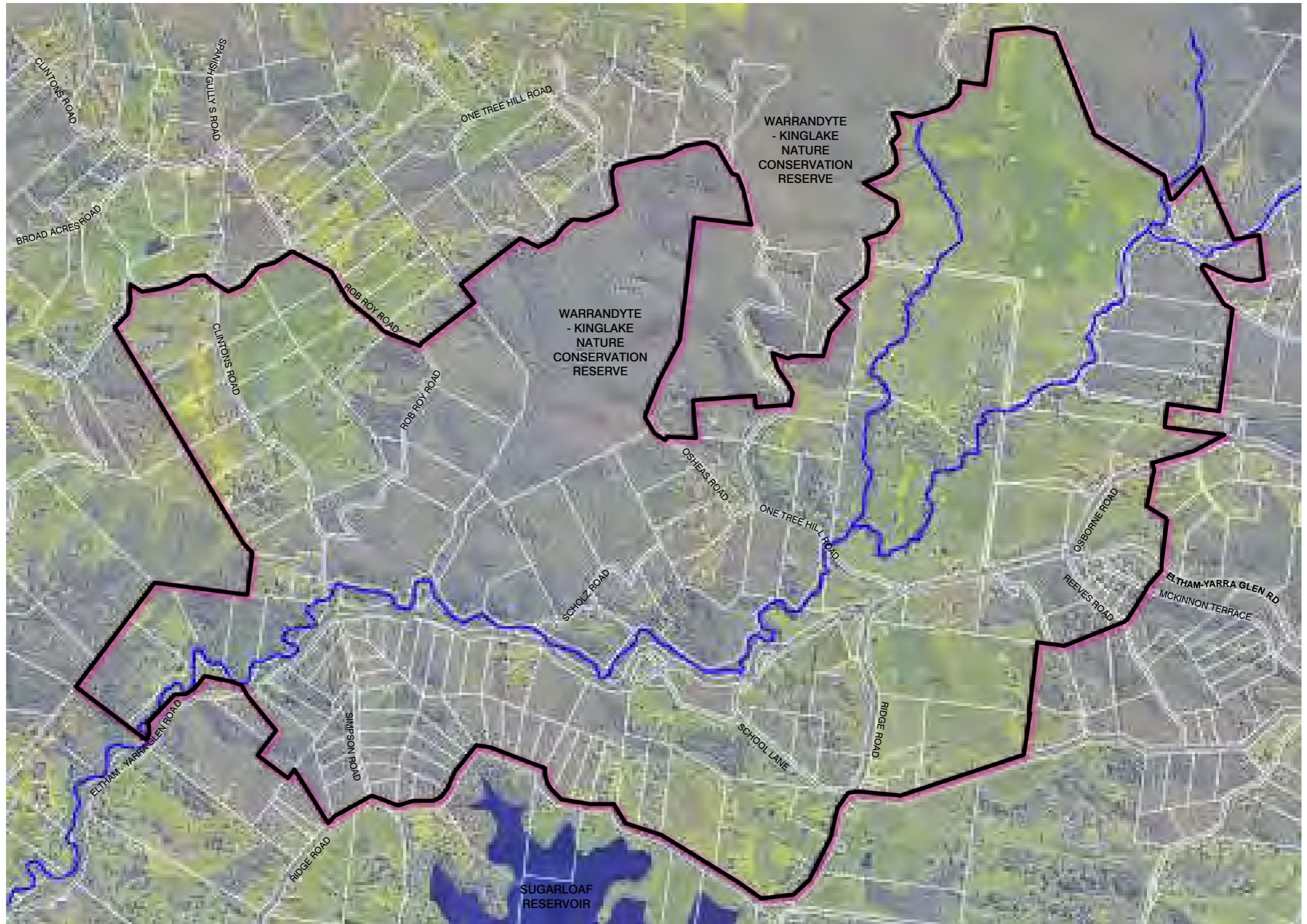
The Christmas Hills Land Use Study (LUS) is to take a comprehensive look at the Study Area and identify areas of opportunity and constraint when considering the future development of the area. It will include a Master Plan to guide subdivision and development and be implemented through a Planning Scheme Amendment.

The LUS Study Area comprises land currently owned by Melbourne Water for the purposes of the previously proposed Watsons Creek storage reservoir or privately owned land to be acquired for the reservoir. The Study Area is shown on Page 6 of this Report.

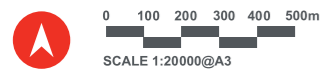
Spiire has previously completed a Background Report outlining key features of the Study Area as well as key planning considerations which will guide the LUS. The aim of the options development phase of the project, (this report) is to determine the most appropriate option for rezoning and potential subdivision in the Study Area.

This Options Development Report (ODR) includes a Design Response and Land Use Options Plan (Design Response), refer Appendix C. The purpose of the ODR Report is to outline the key considerations in developing options for the Christmas Hills LUS. The ODR identifies key constraints and opportunities, community feedback on the Study Area and provides principles for the development of options. It also outlines planning considerations for the choice of zone controls in the Study Area to replace the existing Public Use Zone (applied to Melbourne Water owned land).

The options outlined in this ODR and the Design Response are provided for consideration and decision making. These options are based on application of the identified and agreed principles for the Study Area which are detailed in Section 5.



LEGEND
 — Study Area
 — Watercourse



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1.1 PRECINCTS

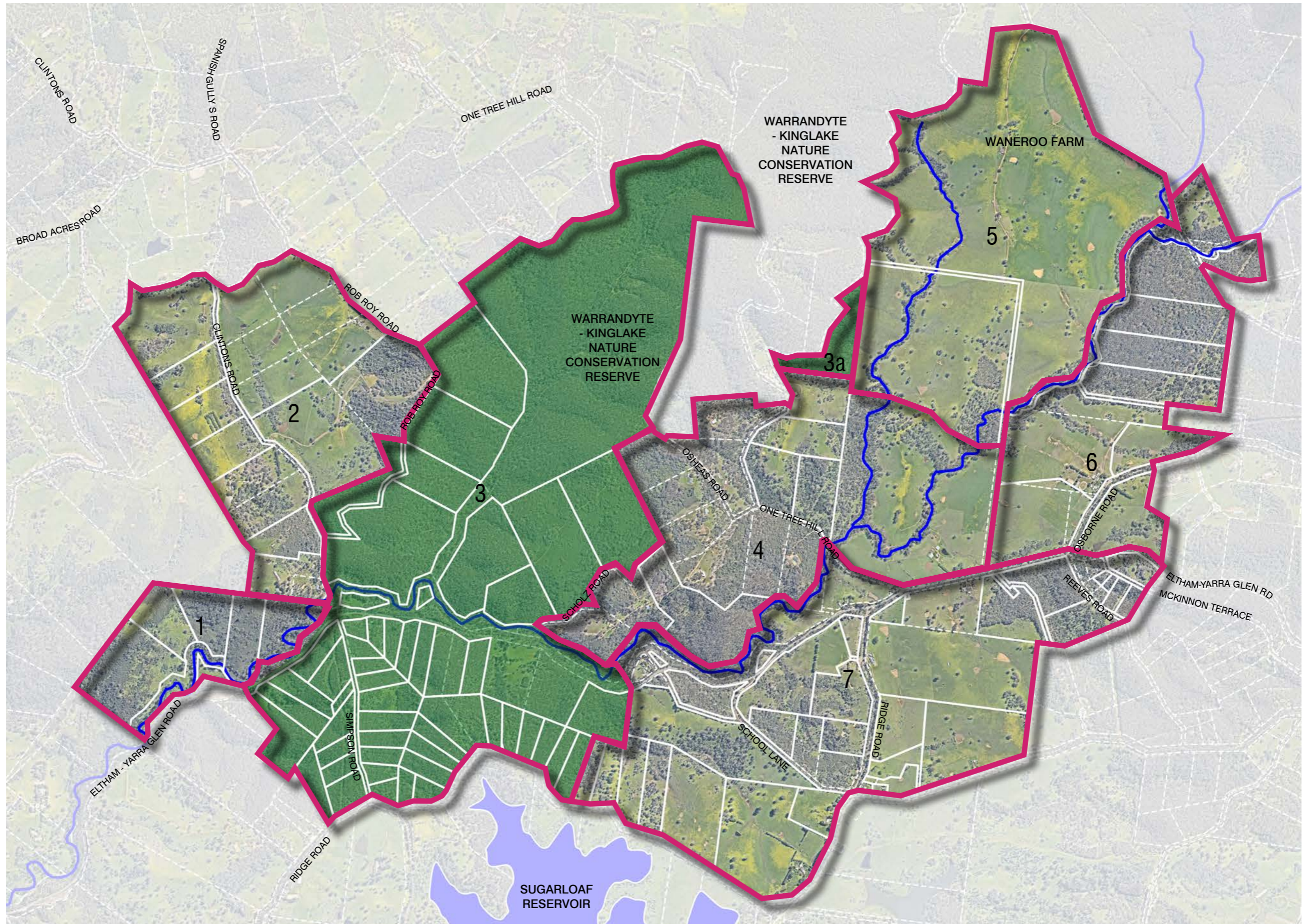
The Study Area is broken into seven distinct Precincts which were developed for the Background Report. These Precincts are further analysed in the Option Report and recommendations are proposed at precinct level.

The land grouped within these Precincts includes land that is not owned by Melbourne Water to provide a holistic understanding of the Study Area.

The Precincts were determined using a number of principles applied in order of priority:

1. Study Area boundary set by Melbourne Water reflecting the proposed Watsons Creek Reservoir extent and existing planning controls (Public Acquisition Overlay and Public Use Zone 1).
2. All precinct boundaries and extents are determined by the existing cadastre and drawn to lot boundaries and road extents.
3. Land that has been nominated for the biodiversity conservation link is grouped in the same Precinct.
 - ▶ The land proposed to be transferred to the Crown for the Warrandyte Kinglake Nature Conservation Reserve (WKNCR) is located within the Precincts 3 and 3a, with the exception of some identified biodiversity conservation land within Precinct 1 which will need to be extracted from the existing land titles and transferred to the Crown.
4. Location of land to the north and south of the main access road, Eltham-Yarra Glen Road.
5. Council Heritage Overlay affected properties were grouped together where possible as a reflection of existing community infrastructure locations.
6. Surrounding Road Access:
 - a. Access from the eastern Study Area boundary roads which are outside of the Study Area (Osborne Road, Dean Road and Buttermans Track).
 - b. Access from secondary roads to the north of Eltham-Yarra Glen Road (One Tree Hill Road and Scholz Road).
 - c. Land without direct road access has been grouped together.
7. Land that currently makes up the extent of the existing Wanneroo Farm property.
8. Land ownership patterns where possible land owned by Melbourne Water is grouped together where possible.

The Precinct Plan is shown on Page 8.



LEGEND

- Precinct boundary
- Watercourse
- Melbourne Water Titles
- Cadastre
- Land for Biodiversity Link



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Precinct Plan



2. CONSTRAINTS ANALYSIS

A detailed description of the physical constraints which may impact on potential subdivision layouts and associated development of the Study Area is provided. Whilst they are termed constraints, it is recognised that some of these constraints are a reflection of the value placed on the Study Area's environment and are aspects to be protected and valued. Constraints discussed include:

- ▶ Environmental Significance Overlays / Vegetation.
- ▶ Bushfire risk.
- ▶ Slope.
- ▶ Heritage.
- ▶ Waterways.
- ▶ Access.
- ▶ Servicing requirements.
- ▶ Existing planning controls.

An analysis of how each constraint impacts the seven Precincts is also provided as some of the constraints are not experienced to the same degree across the Study Area.

2.1 ENVIRONMENTAL SIGNIFICANT OVERLAYS (ESO) AND VEGETATED LAND

Two schedules to Clause 42.01 Environmental Significance Overlay (ESO) apply within the Study Area, Schedule 1: Sites of Faunal and Habitat Significance and Schedule 4: Waterways.

The overall purpose of the ESO is:

- ▶ To identify areas where the development of land may be affected by environmental constraints.
- ▶ To ensure that development is compatible with identified environmental values.

Schedule 1 to the ESO (ESO1) specifically relates to the protection and preservation of Sites of Faunal and Habitat Significance and affects much of the forested land within the Study Area. The environmental objectives of ESO1 are:

- ▶ To protect and enhance sites of faunal and habitat significance identified in (Beardsell 1997) Sites of Faunal and Habitat Significance in North East Melbourne.
- ▶ To protect and enhance regional and strategic habitat links identified in (Beardsell 1997) Sites of Faunal and Habitat Significance in North East Melbourne.

The 1997 Sites of Faunal and Habitat Significance report identifies the land within the Study Area as Site 64: Watsons Creek to Christmas Hills and notes that its natural heritage values are due to its landscape. It is listed as the most intact foothills streamway landscape in North East Melbourne and notes that its habitat connectivity role in the area is considerable.

Schedule 4 to the ESO (ESO4) relates to the protection and enhancement of Waterways. The ESO4 affects the entirety of Watsons Creek.

The land affected by an ESO is shown on Page 11.

The existence of these overlays in the Study Area leads to a requirement to protect the environmental assets in any development option. Development including significant

subdivision will need to be sensitively designed and managed in land affected by an ESO in recognition of the environmental significance.

The ESO1 in particular appears to be used within the Study Area where land is heavily vegetated. Land that is heavily vegetated throughout the Study Area is generally constrained by the following elements:

- ▶ Environmentally significant land.
- ▶ Bushfire concerns regarding achieving an appropriate defendable space area.

Heavily vegetated land throughout the Study Area is depicted on Page 12.

Generally, land that is heavily vegetated throughout the Study Area will be avoided in the options development phase. If development and subdivision requires the removal of native vegetation a permit will be required and the applicant will need to show how they have avoided and minimised the removal.

2.1.1 IMPACT ON PRECINCTS

The ESO4 runs through all Precincts other than Precinct 2 which is located in the north west of the Study Area away from Watsons Creek.

The ESO1 also runs through all Precincts encompassing all of Precinct 3; the majority of Precinct 4 and Precinct 1; and generally follows land along the alignment of the waterways include through Precincts 5 and 6 (Five Mile Creek and Watsons Creek).

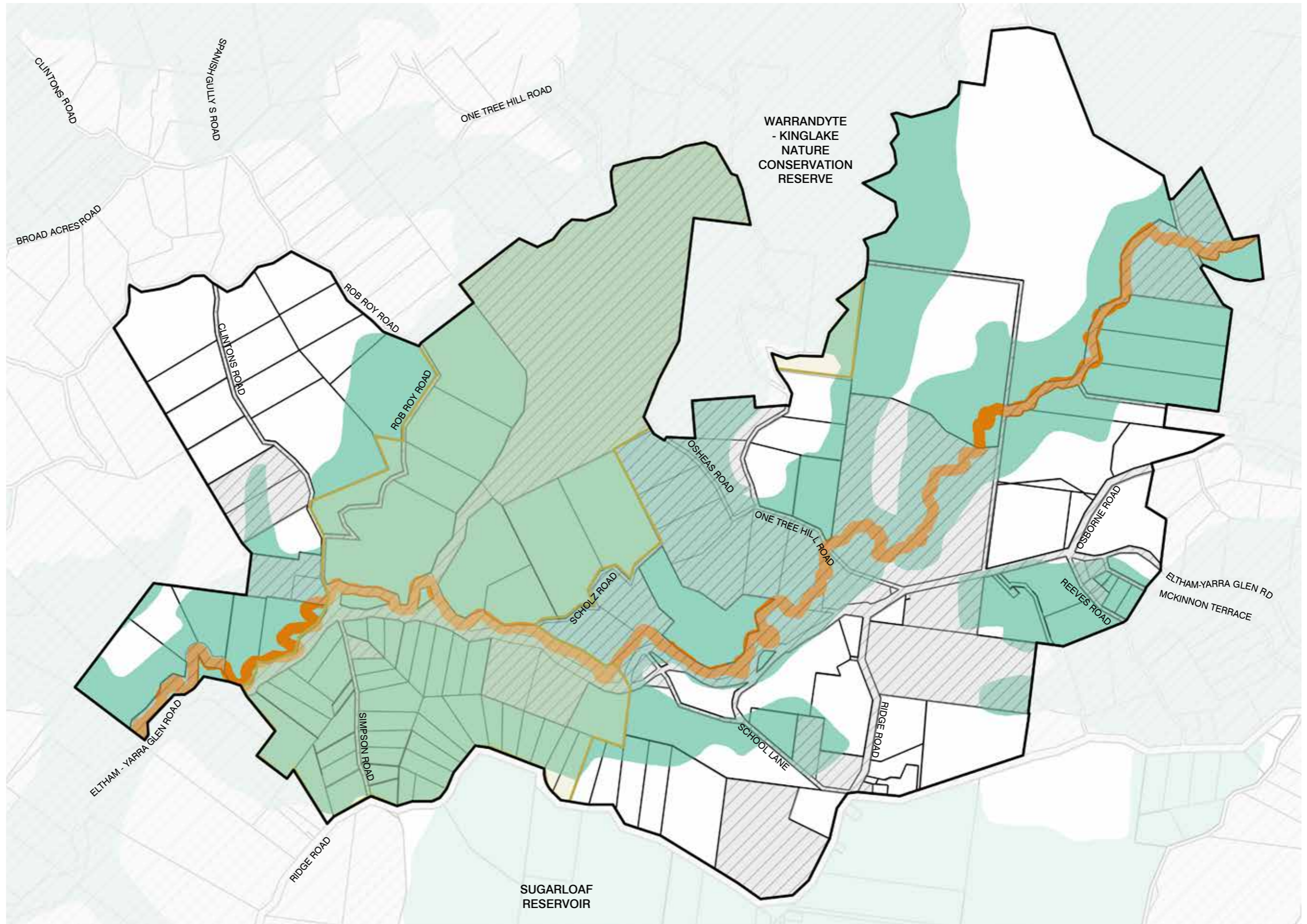
In Precinct 2 land along the edge of the future WKNCR area is within the ESO1, this includes land used for the Rob Roy Hill Climb.

In Precinct 6 land in the north is within the ESO1, lots along Dean Rad are completely affected by this control. Much of the land in the south of Precinct 6 is unaffected.





In Precinct 7 land to the west of McKinnon Terrace is affected as well as a small portion of land along School Lane. The rest of Precinct 7 is generally free from the ESO1 control.

Heavy vegetation is present along much of the creek alignment and as such Precincts which include or border the creeks are most affected, as follows:

- ▶ Precinct 1: heavy vegetation throughout.
- ▶ Precinct 2: heavy vegetation along the Rob Roy Road interface and immediately west of Clintons Road.
- ▶ Precinct 4: heavy vegetation in the southern Melbourne Water lot on Scholz Road and relatively cleared land across the northern Melbourne Water lots on One Tree Hill Road other than in the south west corner towards Five Mile Creek.
- ▶ Precinct 5: relatively cleared land.
- ▶ Precinct 6: heavy vegetation in the balance of lots fronting Dean Road with more cleared areas toward the road frontage; heavy vegetation on small lot on Wallace Road in the north.
- ▶ Precinct 7: heavy vegetation in the eastern lots and south of the creek including land to the south west of the community hall; the rest of the Precinct is relatively cleared particularly along Ridge Road and Muir Road.



LEGEND

-  Private Land
-  Land for biodiversity link
-  Environmental Significance Overlay 1 (Fauna Habitat)
-  Environmental Significance Overlay 4 (Waterway)



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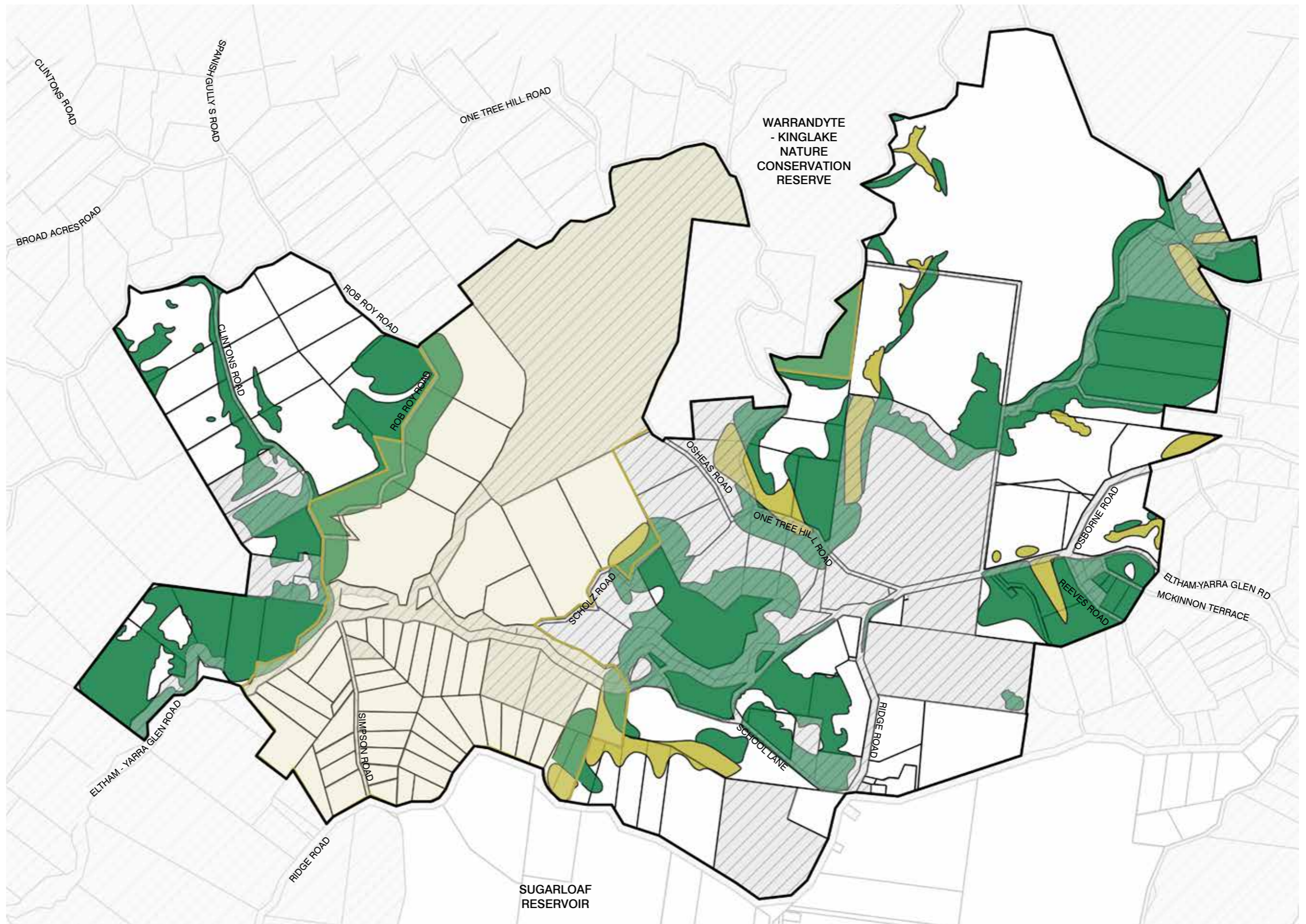
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Environmental Significance Overlay Controls





LEGEND

-  Private Land
-  Land for biodiversity link
-  Existing Dense Vegetation (Forest) Source: Terramatrix Report
-  Existing Dense Vegetation (Woodland) Source: Terramatrix Report



2.2 HIGH RISK BUSHFIRE ENVIRONMENT

A Bushfire Development Report prepared by Terramatrix has identified that the Study Area is in an area of significant bushfire risk. It is also noted that the entirety of the Study Area is affected by a Bushfire Management Overlay (BMO). The following factors have led to the risk identified in the Terramatrix report including (but not limited to):

- ▶ The relative remoteness of the area and its location surrounded by forest vegetation on rugged terrain.
- ▶ The reliance on one main road, Eltham-Yarra Glen Road, means access and egress options are poor.
- ▶ Long fire runs (more than 10km in length) through forest vegetation towards the Study Area are possible. These are particularly possible from the north-northwest and south west which are also the directions typically associated with severe and extreme fire behaviour.
- ▶ The steep and variable topography will exacerbate fire behaviour.

The Bushfire Development Report suggested future development should avoid areas of environmental significance, be located away from all vegetation and sited in areas where vegetation can be managed to create and maintain defensible space.

Particularly high areas of bushfire risk will be avoided in all development options. Further, future development would only be able to proceed where adequate defensible space can be provided entirely within the boundaries of a property.

The Country Fire Authority (CFA) in correspondence to Spiire, dated 30 October 2017 advised that they largely concurred with the assessment undertaken by Terramatrix and considered that careful development opportunities existing in the Study Area if certain considerations are addressed.

2.2.1 CHANGES TO BUSHFIRE REQUIREMENTS

We note that there has been a significant change to how bushfire is dealt with within Victoria's planning schemes during the latter part of 2017. The whole Study Area was included in a revised Bushfire Management Overlay in October 2017. In December 2017 changes were made to Clause 13.05 Bushfire of all Planning Schemes *to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life*. Specifically, revised planning strategies were introduced which impact the Study Area including:

- ▶ Protection of Human Life – Give priority to the protection of human life by:
 - Prioritising the protection of human life over all other policy considerations.
 - Directing population growth and development to low risk locations and ensuring the availability of, and safe access to, areas where human life can be better protected from the effects of bushfire.
- ▶ Settlement planning – Plan to strengthen the resilience of settlements and communities and prioritise protection of human life by:
 - Directing population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metre under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009).
 - Ensuring the availability of, and safe access to, areas assessed as a BAL-LOW rating under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas

(Standards Australia, 2009) where human life can be better protected from the effects of bushfire.

- Ensuring the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development.
 - Achieving no net increase in risk to existing and future residents, property and community infrastructure, through the implementation of bushfire protection measures and where possible reduce bushfire risk overall.
 - Assessing and addressing the bushfire hazard posed to the settlement and the likely bushfire behaviour it will produce at a landscape, settlement, local, neighbourhood and site scale, including the potential for neighbourhood-scale destruction.
 - Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.
 - Not approving any strategic planning document, local planning policy, or planning scheme amendment that will result in the introduction or intensification of development in an area that has, or will on completion have, more than a BAL-12.5 rating under AS 3959-2009.
- ▶ Areas of high biodiversity conservation value:
- Ensure settlement growth and development approvals can implement bushfire protection measures without unacceptable biodiversity impacts by discouraging settlement growth and development in bushfire affected areas that are of high biodiversity conservation value.

The result of this change for future planning and development within the Study Area is that any dwellings will need to achieve BAL-12.5 ratings rather than the previously allowable BAL-19 ratings. Therefore, Terramatrix was requested to reinvestigate the fire risk areas to determine where development may still be feasible based on achieving BAL-12.5 ratings and ensuring the larger defendable space areas can be contained wholly within lot boundaries.

Terramatrix' revised assessment has shown there are additional lots which can now not be supported for dwelling development. A copy of the revised assessment is provided as Appendix D to this report. In particular the assessment confirmed the difficulties of achieving defendable space in Precinct 1 and on small lots in Precinct 7 as well as the need to slightly alter boundaries or consolidate lots to facilitate defendable space. The assessment also shows that whilst some sites can meet defendable space requirement for a BAL-12.5, to do so would require the removal of significant areas of vegetation. The balance between meeting fire requirements and the protection of environmental significance needs to be considered in Options development.

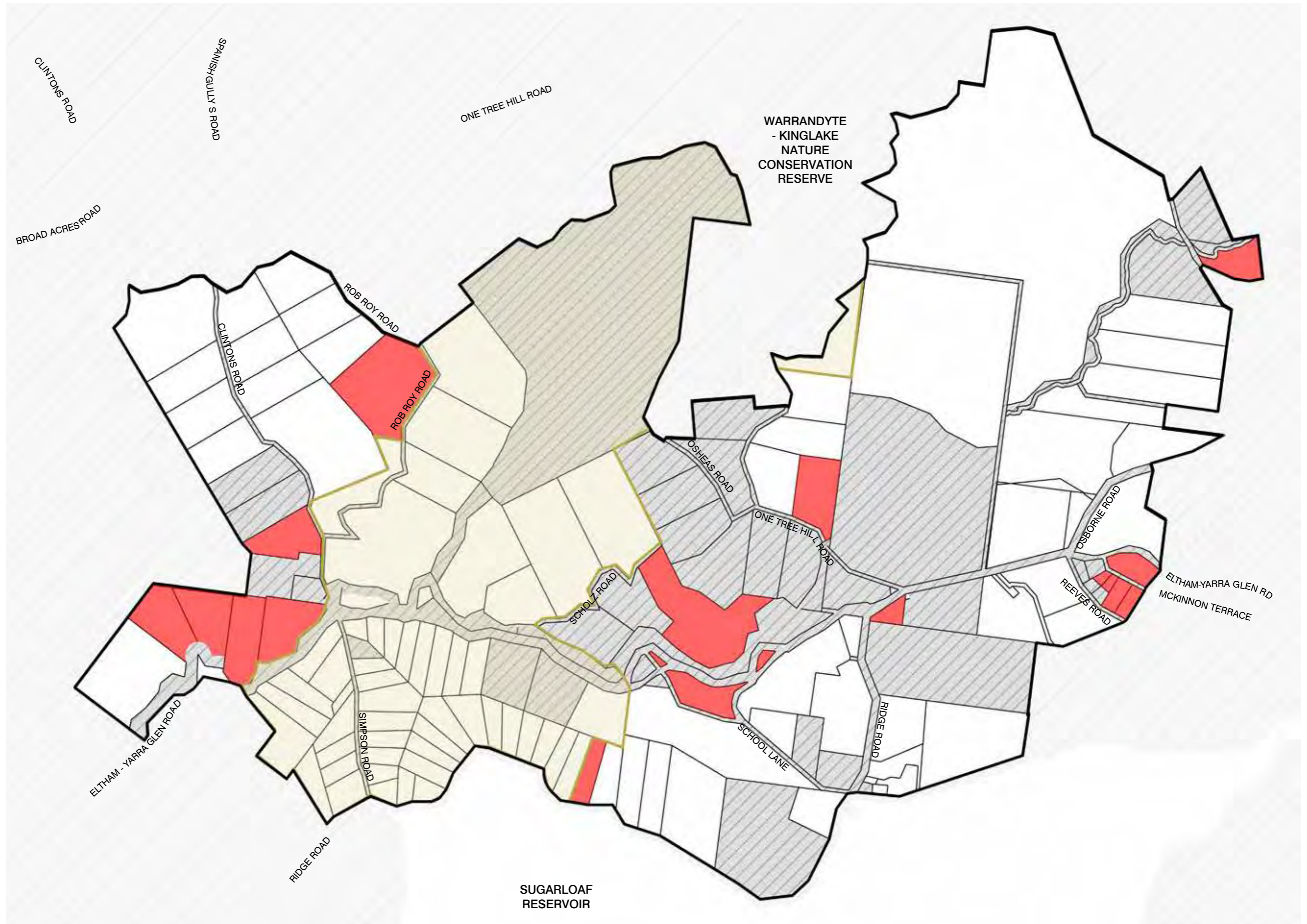
The Figure below on Page 16 depicts areas of high bushfire risk based on Terramatrix' revised assessment.




2.2.2 IMPACT ON PRECINCTS

As with the ESO1 and vegetation, high bushfire risk within the Study Area is generally evident in close proximity to the heavily vegetated areas proposed for including in the WKNCR. Land identified by Terramatrix as having no viable defendable space (at BAL 12.5) includes:

- ▶ Precinct 1: The majority of existing lots are considered high risk and unable to provide the necessary defendable space envelopes due to slope and vegetation characteristics. The western lot may be able to meet defendable space requirements subject to the removal of vegetation and provision of access.

- ▶ Precinct 2: Two lots are considered high risk being the Melbourne Water owned lot near Watsons Creek in the south which is highly vegetated and the steep area currently used for the Rob Roy Hill Climb which adjoins the future WKNCR.
- ▶ Precinct 4: The lot on Scholz Road cannot meet defensible space requirements. One of the four lots on One Tree Hill Road is also considered high risk due to the degree of vegetation cover.
- ▶ Precinct 6: The lot adjacent to Watsons Creek in the north east corner is unable to meet defensible space requirements due to its small size and vegetation cover. The three lots along Deans Rad can only each achieve defensible space requirements if significant areas of vegetation are removed, it is more likely that lots will need to be consolidated to reduce fire risk.
- ▶ Precinct 7: The lot on Ridge Road adjoining the WKNCR area (Precinct 3) cannot meet defensible space requirements without consolidation, likewise with the lot at the corner of Eltham Yarra Glen Road and Ridge Road. The lot to the northern side of School Lane is too heavily vegetation to meet defensible space requirements, similarly the lots on either side of McKinnon Terrace are too heavily vegetated and too small and are thus considered high risk from a bushfire perspective.



- LEGEND**
-  Private Land
 -  Land for biodiversity link
 -  No viable defensible space envelope (Source: Terramatrix Bushfire Report)



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High Risk Bushfire Environment



2.3 SERVICING

As confirmed in the Background Report the extent and capacity of existing service infrastructure in the Study Area is extremely limited. Reticulated services are unavailable within most of the Precincts. Thus either provision will need to be extended into the Study Area or each site will need to be serviced through on-site measures. The Master Plan will identify how sites are to be serviced to support any future dwellings as required by the Nillumbik Planning Scheme. Consideration of servicing will be made in determining options.

In particular, the provision of wastewater treatment infrastructure/systems should be carefully considered so as to not impact on environmental features.

A water supply for firefighting purposes (10kl capacity tank) must be provided on site and be no more than 4m from the driveway. Dwellings will also require a 25kl rainwater tank for supplying potable water or provide an alternative supply.

Electricity supply infrastructure and connections to sites may need to be upgraded on a case by case basis.

2.4 SEPTIC TREATMENT

As the Study Area is not capable of being connected to a reticulated sewage system, waste water must be treated and retained on-site in accordance with the State Environmental Protection Policy (Waters of Victoria) under the Environment Protection Act 1970.

A septic sewerage system footprint must typically consider:

- ▶ 4m diameter of septic system (underground).
- ▶ 5m radius away from the building envelope.
- ▶ Leach field for septic system around 300-400m² in size (adequate for 4 and 5 bedroom dwellings).
- ▶ 100m buffer from any waterways.

The 100m buffer from all waterways in the Study Area is shown on Page 19.

Future development should avoid areas within a 100m buffer from any waterways, otherwise a package treatment system or alternative will be needed.

2.4.1 IMPACT ON PRECINCTS

Due to the location of the Precincts the septic buffer will not impact lot development in many of the Precincts.

In Precinct 1, approximately a quarter of the land is affected by the septic buffer.

There is no significant impact on Precinct 2 or Precinct 7 due to the distance from the Creek.

In Precincts 4, 5 and 6, the large lot size of properties adjoining the creek means the septic buffer will not preclude development using standard septic treatment systems.

2.5 CULTURAL HERITAGE

Archaeology at Tardis undertook a Cultural Heritage Desktop Assessment (Heritage Report) to outline the Aboriginal and historical heritage of the Study Area. From an Aboriginal heritage perspective the Study Area includes areas of cultural heritage sensitivity including: land within

200 metres of named waterways (Watsons Creek, Happy Valley Creek and Five Mile Creek); registered cultural heritage places; and parks.

The figure on Page 19 depicts a 200m buffer from named waterways, registered cultural heritage places and parks in the Study Area.

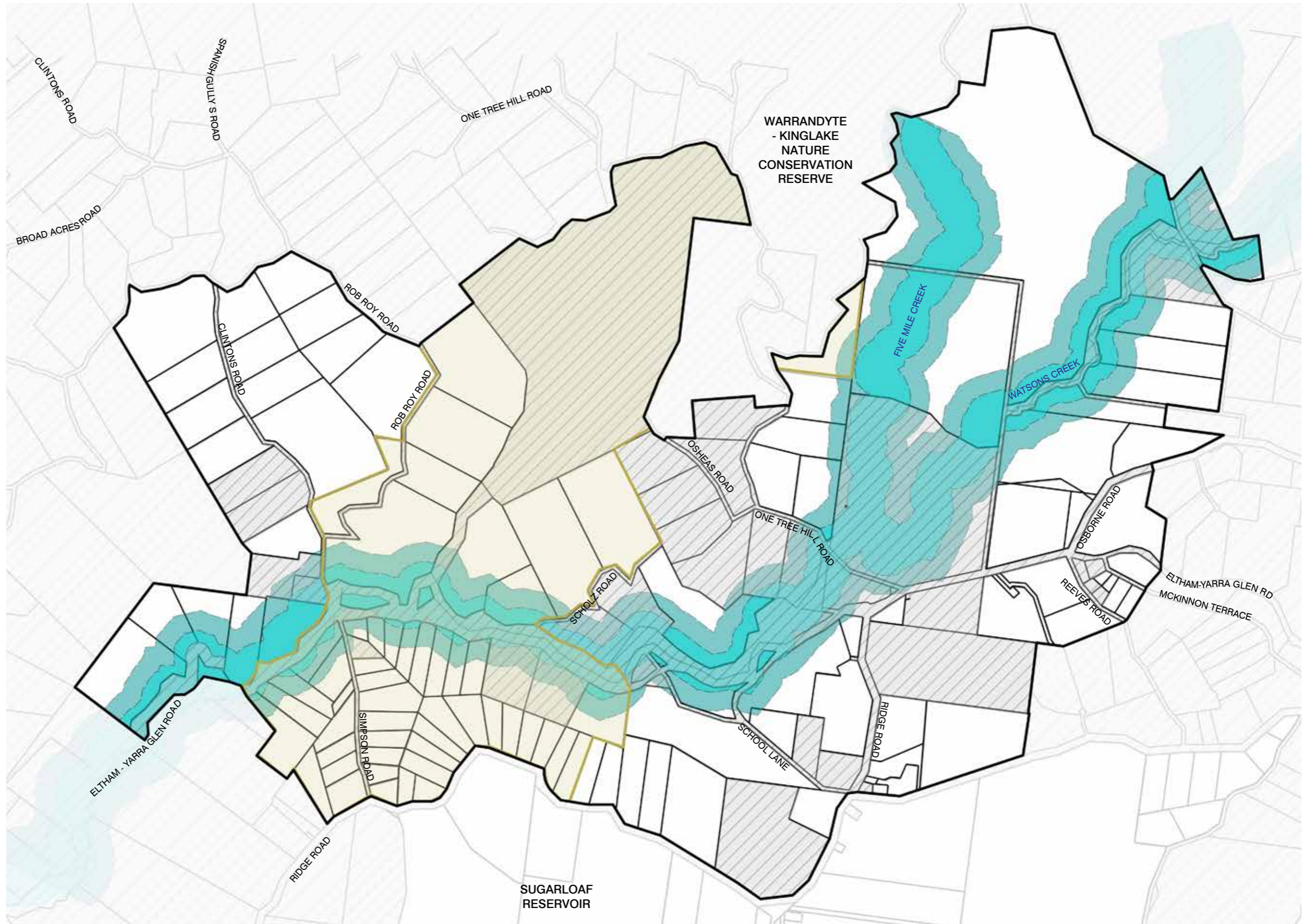
The development of land within these areas should be avoided to minimise impacts on cultural heritage significance or artefacts.

Areas shown in the Figure below are cultural significance areas.

2.5.1 IMPACT ON PRECINCTS

Cultural heritage impacts the Precincts in a similar manner to the Septic Buffer.

- ▶ Half of Precinct 1 is within the cultural heritage significance area.
- ▶ There is no impact on Precinct 2.
- ▶ Lots in Precincts 4, 5 and 6 are large enough to not be affected.
- ▶ The development of vegetated land on School Lane in Precinct 7 and land fronting Eltham Yarra Glen Road to the north west of the hall may be impacted by the presence of cultural heritage significance areas unless dwellings are carefully located to avoid these areas.



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2.6 HERITAGE OVERLAYS

There are seven (7) Heritage Overlays applying to land within the Study Area. The majority of these overlays will not significantly impact on development options as they are on private or non-Melbourne Water land.

The Heritage Overlay applying to the Clintons Pleasure Grounds (Rob Roy Hill Climb) located within Precinct 2 however is on Melbourne Water land. This overlay currently falls across two crown allotments (Crown Allotments 46 and 47, Section B, Parish of Queenstown both on TP54059). The inclusion of the heritage place within one property (title) should be facilitated in the options, the mechanisms to achieve this will need to be determined by a Licensed Surveyor.

Heritage Overlay 177 is also on Melbourne Water land in Precinct 7 at 1524 Eltham-Yarra Glen Road. The overlay recognises the significance of the dwelling on the site which was formerly used as the Christmas Hills Post Office Store. It is not considered that this heritage control will impact future use of the site.

2.7 CHARACTER

The mix of cleared grazing land and dense vegetation in an undulating landscape are valued characteristics of Christmas Hills and the Study Area. The LUS needs to consider the impact of any additional subdivision or development on this feature. Thus, key view lines should be recognised. View lines are present to various degrees in all Precincts with different views enjoyed across the Study Area. In particular, Precinct 2 benefits from views down from Rob Roy Road to the south west and Precinct 5 benefits from views down from Buttermans Track across Wanneroo Farm towards Melbourne.

2.8 SLOPE

Due to the undulating nature of the Study Area, consideration must be given to the slope and fall of the land. Future development should generally be located away from steep slopes to enable the provision of an appropriate defensible space as slope can exacerbate fire spread. Further, significant slope can make it difficult to develop land with dwellings and supporting service infrastructure.

The figure on Page 21 depicts areas of steep slope throughout the Study Area.

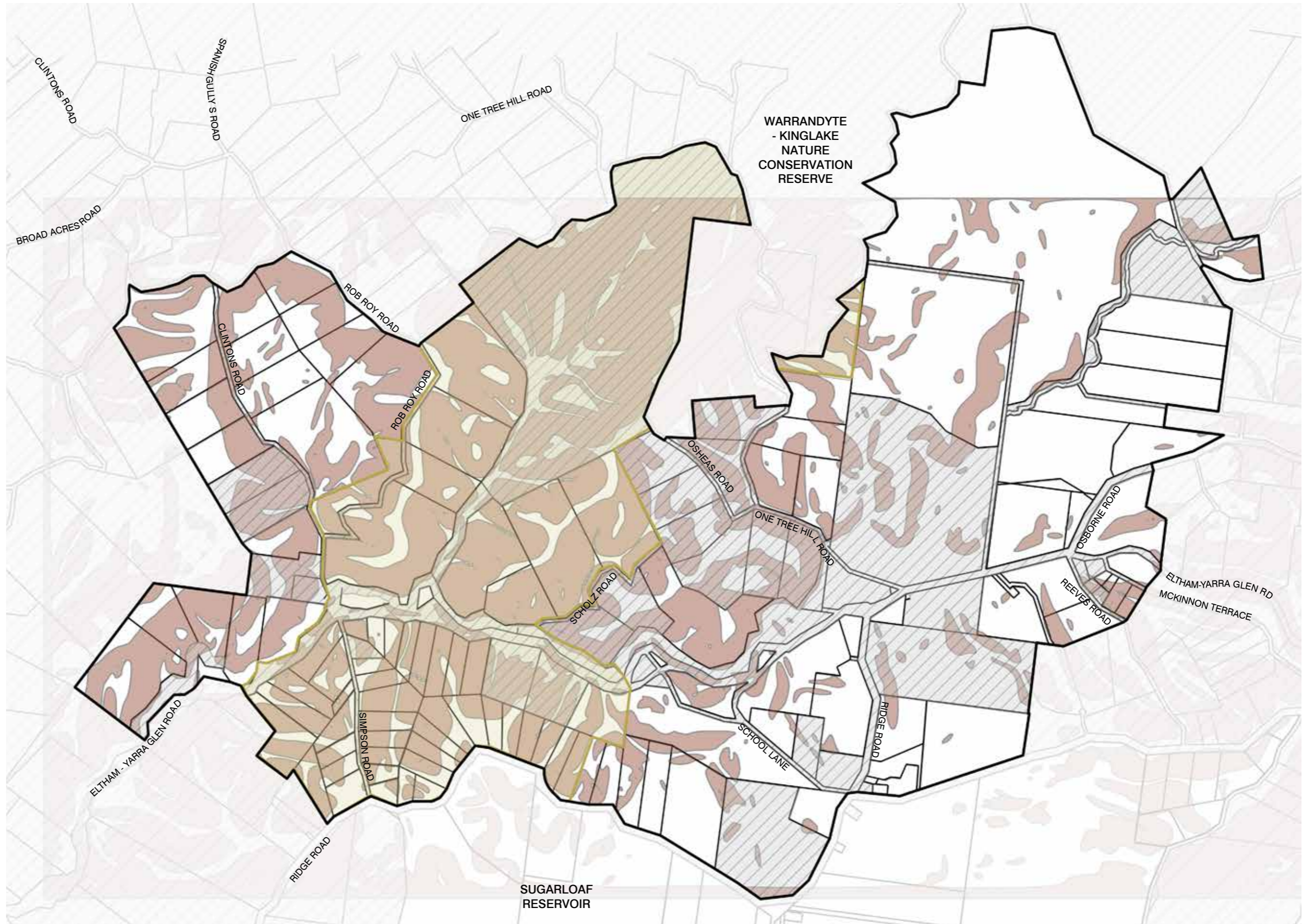
Areas shown on the slope plan below as having a slope steeper than a 1 in 5 gradient (grade over 20%) are generally considered too steep to develop and will be avoided in development options due to the undulating topography of the land.

2.8.1 IMPACT ON PRECINCTS




Slope is particularly steep in the central and western Precincts of the Study Area with significant parts of Precinct 1, Precinct 3 and Precinct 4 subject to slopes in excess of a 1 in 5 gradient.

Precinct 2 also has steep slopes along the alignment of Clintons Road and to the south of Rob Roy Road with more developable land present beyond those ridges.

Precinct 5, Precinct 6 and Precinct 7 include areas of isolated steep slopes. The majority of these three Precincts are not subject to significant slope which would preclude sporadic dwelling development.



LEGEND

-  Private Land
-  Land for biodiversity link
-  Land unsuitable for development (>1 in 5 slope)



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2.9 CROWN ALLOTMENTS AND TITLES

In some cases there is a discrepancy between the numbers of titles issued for land in the Study Area and the number of Crown Allotments which existing in the same area.

In Precincts 2, land on the eastern side of Clintons Road includes eight Crown Allotments (38-47, Section B, Parish of Queenstown), however only two title plans have been issued for the lots: TP54059 and TP322432.

Similarly, the land comprising Wanneroo Farm in Precinct 5 of the Study Area includes one title, TP350263, and two Crown Allotments.

In seeking to transfer parts of these titles or the separate Crown Allotments, advice from a Licensed Surveyor is likely to be required. This will confirm the process for arranging transfers including if new/separate titles will be required.

2.10 HIGH PRESSURE GAS PIPELINE

APA's Pakenham to Wollert Gas Pipeline (PWP) is located on the eastern periphery of the Study Area. It is a 750dia gas transmission pipeline, and sits within a 27m wide easement.

The pipeline has a measurement length of 700 metres. The measurement length is defined as –The 4.7kW/m² radiation contour for a full bore rupture, as defined in AS2885 Clause 4.3.2. This radiation intensity is sufficient to cause fatality after 30 seconds exposure. Sensitive uses are not encouraged within the measurement length. APA Gas advises that development density which alters the categorisation from rural (defined as farming with subdivision sizes above 5 hectares in size) will require considerable additional investigation and justification.

The high pressure gas pipeline, its easement and the measurement length of 700m are shown on Page 23.

Development and subdivision within the measurement length for the pipeline will need to be carefully considered and should avoid introducing lots which would not be considered rural by APA standards.

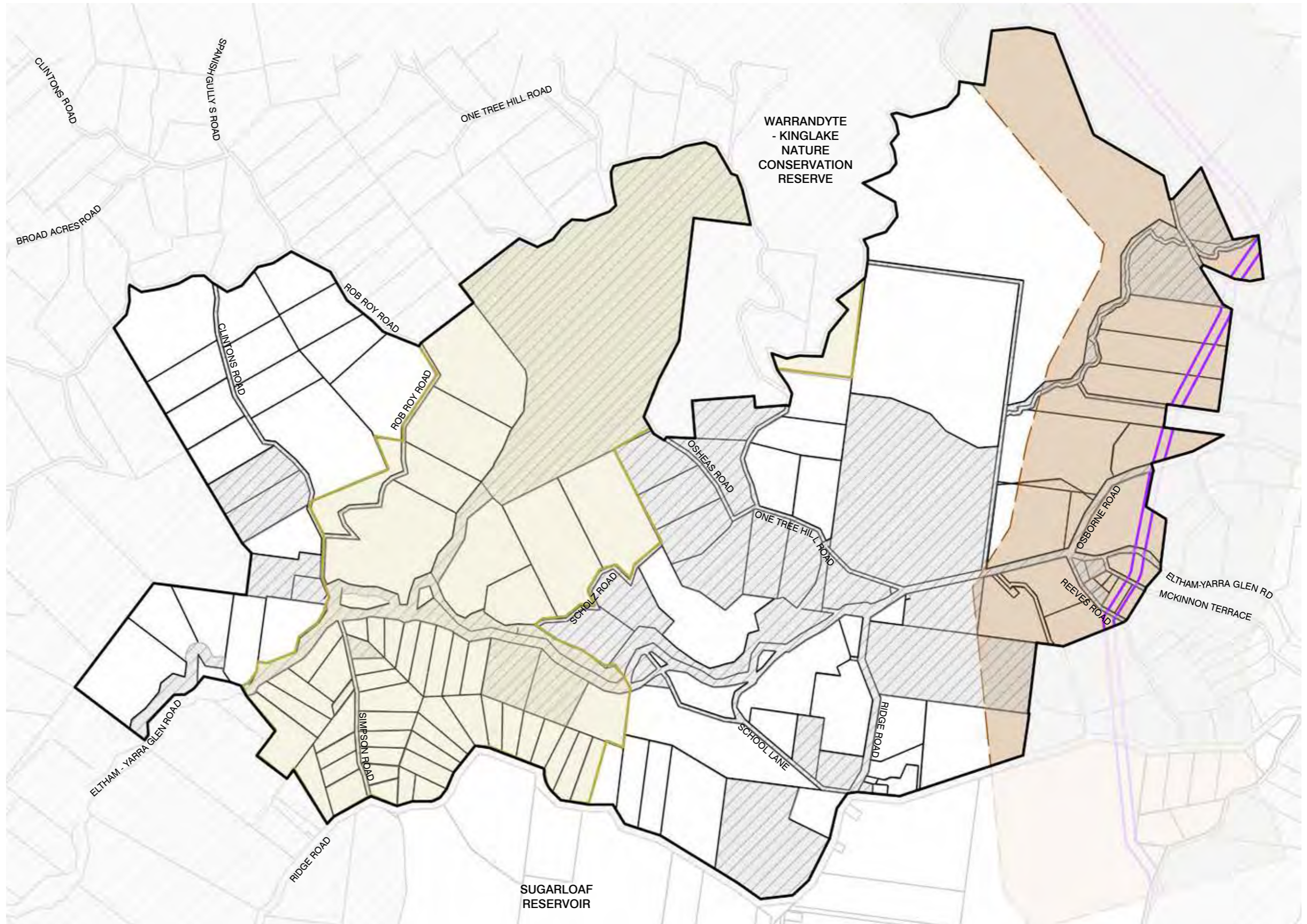
The easement itself is a significant width at 27m, however it will have a limited impact on properties as access can generally be provided across it.

2.10.1 IMPACT ON PRECINCTS





The high pressure gas easement and associated measurement length do not affect land in Precincts 1, 2, 3 or 4.

Land along the western edges of Precincts 5, 6 and 7 are within the measure length, whilst the easement itself goes through land in Precinct 6 and Precinct 7.

The location of the gas easement would prevent the development of lots in Precinct 7 located on McKinnon Terrace and may impact development of lots on Dean Road in Precinct 6.



LEGEND

-  Private Land
-  Land for biodiversity link
-  High Pressure Gas Pipeline (27m easement)
-  High Pressure Gas Pipeline (With 700m measurement length)



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High Pressure Gas Pipeline



2.11 ROAD ACCESS

All future lots within the Study Area must be provided access to an all-weather road with dimensions adequate to accommodate emergency vehicles.

The existing road network within the Study Area is shown on Page 25.

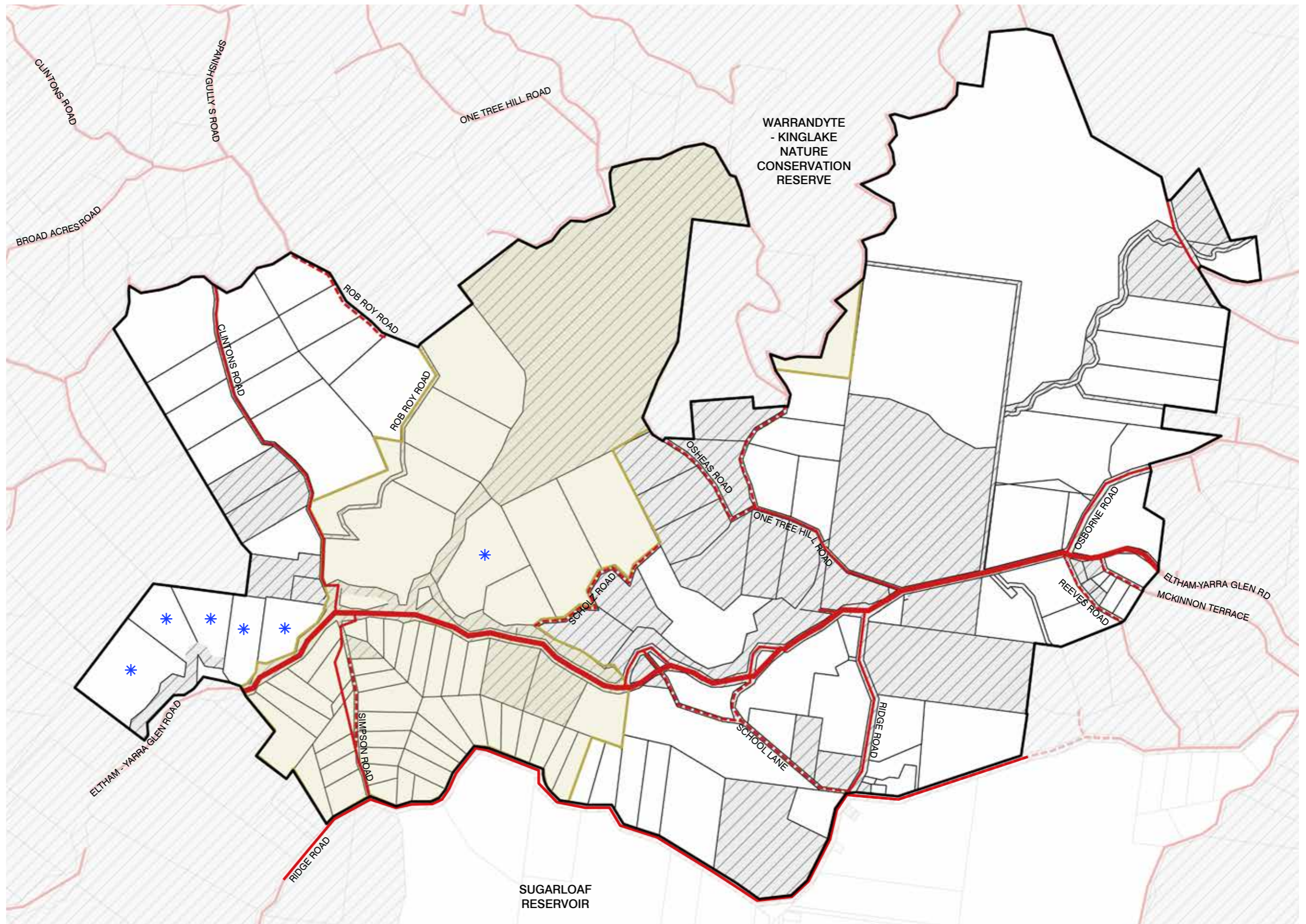
Lots that cannot be accessed via a road will not be considered for development in the options phase, rather they will be earmarked for consolidation.

For CFA access future building envelopes for dwellings should be no more than 30m away from access roads. Otherwise, additional water and access requirements will need to be met for fire protection.

2.11.1 IMPACT ON PRECINCTS

Access is generally good within the Study Area however we note the following Precinct impacts:

- ▶ Precinct 1: currently not accessible by road.
- ▶ Precinct 2: access only from Clintons Road and parts of Rob Roy Road. Slope may present issues for the creation of new access ways for lots to the west of Clintons Road.
- ▶ Precinct 3: minor anomalies to be resolved with regards to the location of roads and Melbourne Water titles.
- ▶ Precinct 4: access is limited to narrow roads with Scholz Road considered to be problematic during fire events.
- ▶ Precinct 5: currently only accessible from Buttermans Track to the north with no access to the western side of Wanneroo Farm. Access may impact the ability to easily subdivide the property.
- ▶ Precinct 6: slope issues in accessing Dean Road from the south. Osborne Road is the key access for the other lots.
- ▶ Precinct 7: access is provided to all existing lots from the road network with most roads of a good size and condition.



LEGEND
















-  Private Land
-  Land for biodiversity link
-  No vehicle access
-  Sealed Road
-  Unsealed Road

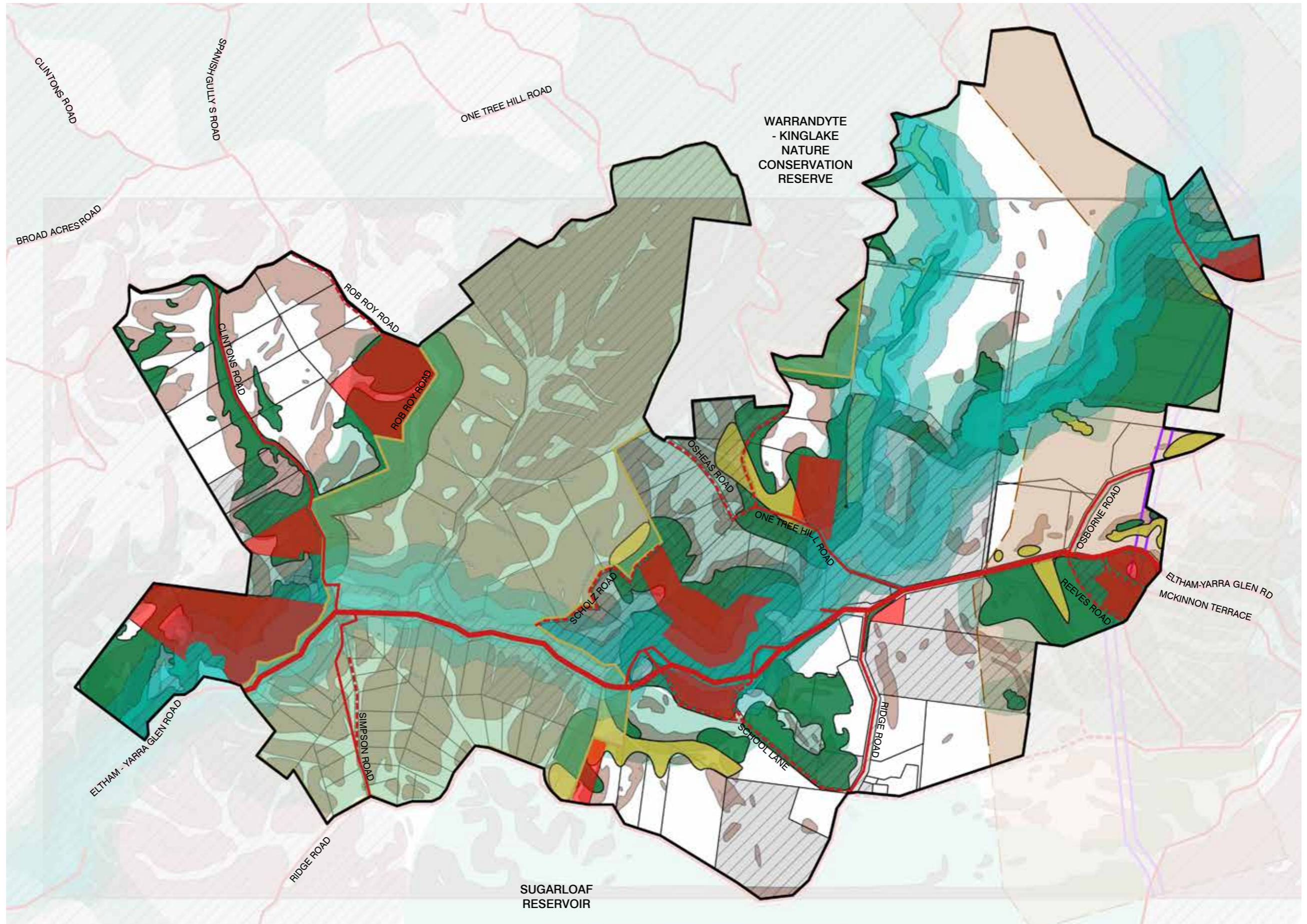


2.12 OVERALL CONSTRAINTS PLAN

The Overall Constraints Plan shown on Page 27 depicts the range of constraints that have been detailed in this report as a single image. This assists in understanding the complexity of some of the sites.

LEGEND

-  Private Land
-  Land for biodiversity link
-  High Pressure Gas Pipeline (With 700m buffer)
-  High Pressure Gas Pipeline (27m easement)
-  Environmental Significance Overlay 1
-  Environmental Significance Overlay 4
-  No viable defendable envelope (Source: Terramatrix Bushfire Report)
-  Existing Dense Vegetation (Forest)
-  Existing Dense Vegetation (Woodland)
-  100m waterway buffer (septic tanks)
-  200m waterway buffer (cultural heritage)
-  Sealed Road
-  Unsealed Road
-  No vehicle access
-  Land unsuitable for development (>1 in 5 slope)



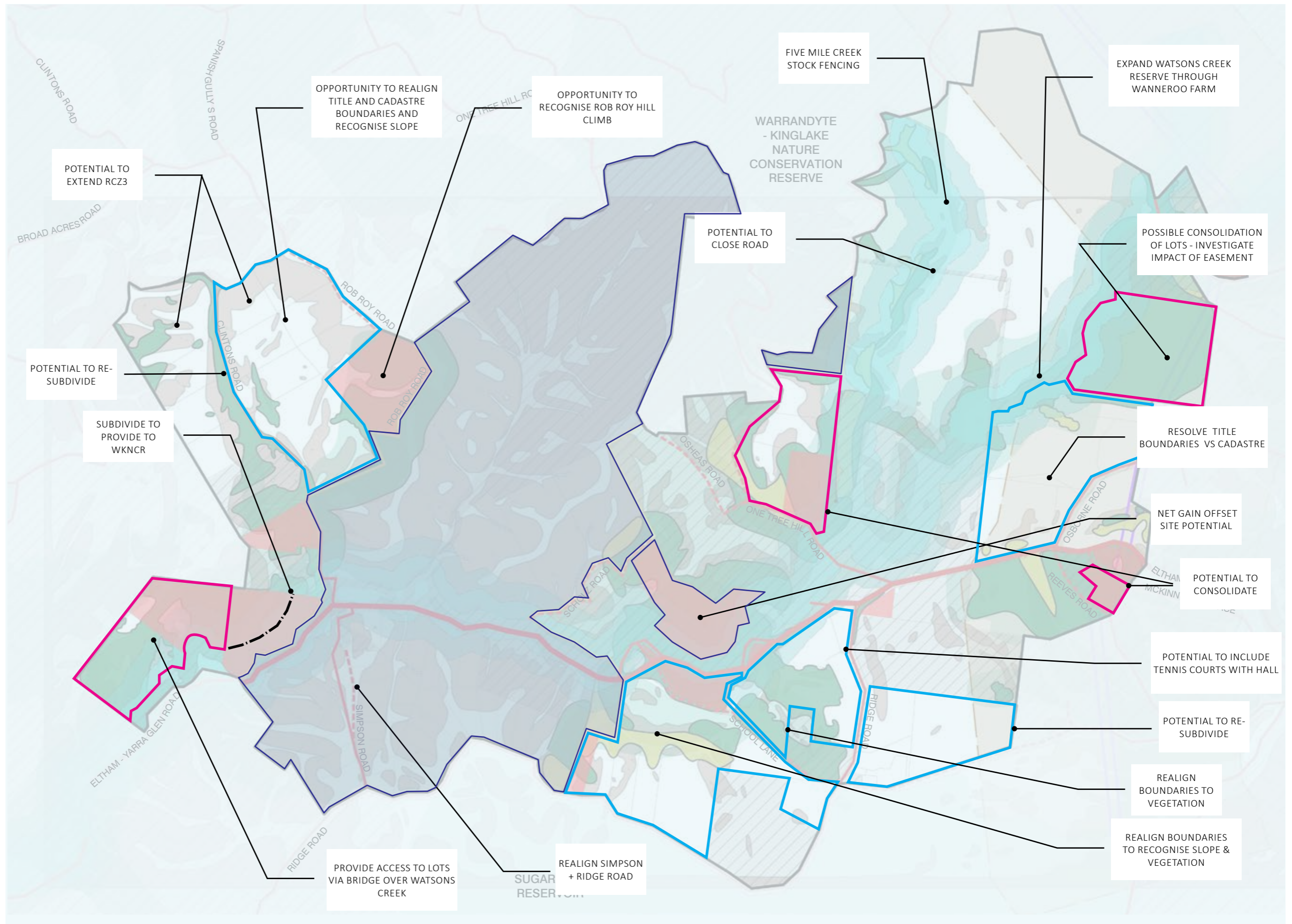
3. OPPORTUNITIES ANALYSIS

There are a number of opportunities to alter the existing situation within the Christmas Hills Study Area. These opportunities range from changes to subdivision boundaries, to rectify anomalies, to providing for additional environmental land.

Opportunities for change include:

- ▶ Management of bushfire risk by locating dwellings away from areas of particularly high risk.
- ▶ Consolidation of small lots, particularly in locations where land is heavily vegetated, of high biodiversity value, undevelopable due to steepness or of high bushfire risk.
- ▶ Greater protection of waterways through changes to Watsons Creek and Five Mile Creek. Extension of the crown reserve either side of Watsons Creek including through Wanneroo Farm. Recognition of the environmental value of Five Mile Creek through Wanneroo Farm by installing stock fencing and applying management / access agreements to apply to the land title.
- ▶ Resolution of title and ownership anomalies. There are a number of land titles which do not align with the physical boundaries or included a number of individual crown allotments. In addition parts of Ridge Road and Simpsons Road are built on Melbourne Water land rather than the titled road location.
- ▶ Access to reticulated services (water & power) improvements where possible.
- ▶ Re-alignment boundaries (avoid high significance areas/constraints).
- ▶ Excision of the community tennis courts adjoining the Hall location to enable their continued use and management by the local community with support from Council.
- ▶ Provision of land for community uses.
- ▶ Provision of land for enhancing the Warrandyte Kinglake Nature Conservation Reserve (WKNCR). Agreement with DELWP to transfer 280 hectares of environmentally significant land to the Crown for the WKNCR.
- ▶ Potential Offset site identification. A number of sites are heavily vegetated and environmentally significant and would be suitable as offset sites.
- ▶ Tourism opportunities facilitated through changes from the Public Use Zone to an appropriate planning control for the Nillumbik Green Wedge.
- ▶ Protection of heritage and community features. Heritage features such as the Rob Roy Hill Climb (Clintons Pleasure Grounds – HO183) can be further recognised through subdivision and/or ownership changes.
- ▶ Enhancement of trail networks by identifying existing and future networks through or proximate to the Study Area.
- ▶ Identification of location which can be developed for specific land use when considering the impacts of the identified constraints in the Study Area, i.e. giving the potential purchaser and Council (or other decision makers) certainty that the land can be developed and to what extent.

Commentary on opportunities in the Study Area is shown on the Opportunities Analysis Plan on Page 29.



LEGEND

- Lots suitable to consolidate due to size and vegetation extent
- Potential lots to resubdivide
- Land to WKNCR



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4. COMMUNITY VIEWS

Spiire and Melbourne Water have undertaken engagement with the local Christmas Hills community to help inform and guide the Land Use Study. To date this has included:

- ▶ Meetings with existing Tenants.
- ▶ Letters to Private Owners in the Study Area currently affected by the Public Acquisition Overlay (PAO).
- ▶ Bulletin to the Study Area and surrounding area informing of the project.
- ▶ Community Information Session on the Project, attended by approximately 90 people.
- ▶ Submissions and Feedback forms (web-based, emails and post).

This engagement forms part of a community consultation strategy which will include additional opportunities for comment and involvement during finalisation of the Land Use Study. There will also be a public exhibition and submission process during the Planning Scheme Amendment Process.

Initial engagement with the community has provided a range of considerations for the project which assists in guiding the development of options. Community comments are provided as an Appendix and are summarised below and in Table 1.

Early community views focused on:

- ▶ Maintaining larger blocks as a means of maintaining the intent of the Green Wedge.
- ▶ Creating wildlife corridors and maintaining environmental values of the area.
- ▶ Recognising the issue of fire danger/escape is an issue that needs to be considered – potential for this to be worse with increased development.
- ▶ Opportunity to develop the town centre and create a central hub, however this needs to be balanced.
- ▶ Tennis Court and Christmas Hills Hall land – needs to be retained/maintained for the community.
- ▶ Support of Rob Roy Hill Climb and Yarra Valley Trails to retain land.

Table 1: Feedback Summary

Comments	Values Held	Lots Sizes	Specific Sizes
Additional road connections required for Precinct 4 Fire escapes	Combination of rural and bush blocks	Wants ability to subdivide to 10 acres	Community strip needed Central hub A potential town centre area.

Comments	Values Held	Lots Sizes	Specific Sizes
Remove planning restrictions	<p>Want things left as is.</p> <p>Want it to remain natural and concerned about development.</p> <p>Does not want MW to do anything in area and is against all development.</p>	Limited block sizes to be allowed	<p>Wants something done with regards to the tennis courts land.</p> <p>Maintenance of area around hall for community use.</p> <p>Tennis courts/hall</p>
Access to park areas to be improved	Concerned re preserving environmental values of area	<p>Retain larger blocks (40Ha blocks retained)</p> <p>Wants land to remain on the side of the larger blocks.</p> <p>Retain large blocks with no township.</p> <p>Large 40Ha blocks</p>	Wants school buildings relocated to near tennis courts and the area can be the village centre.
In favour of the CHLG proposal	Protection of native vegetation for habitat	Area needs more development	Greater space for public use retained for walking trails etc.
<p>Concerned re fire danger and increase in development</p> <p>Bushfire risks from poorly managed land an issue.</p>	Character and environmental qualities of Christmas Hills preserved	No growth option	Rob Roy Hill Climb protected.
Concerned with impact on local roads if development were to occur.		Would like to see some tasteful rezoning	<p>No township along Eltham Yarra Glen Road</p> <p>No township but small café/meeting place</p> <p>No township</p>
Weed management		20-40 acres minimum lot sizes.	Accounting for fire risk management when native vegetated land is set aside or covenanted.
Green Wedge must be adhered to and no over-development of land.		Against small blocks – against McMansions	Fire refuge area needed

Comments	Values Held	Lots Sizes	Specific Sizes
Create wildlife corridors		Retaining the RCZ4 zoning	Retain Yarra Valley Trails as one entity

4.1 CONSIDERATION OF COMMUNITY VIEWS

It is clear from the above that community views regarding the Study Area’s future direction and values held are not consistent. These views will be further development during future consultation to provide an appropriate planning outcome for the Study Area.

The ODR and Development Options Plans have taken into account the range of views expressed in initial phases of the Land Use Study. This includes preferences for development in some areas and no development in others. However, the options are guided by the need to provide an appropriate planning outcome first and foremost.

5. PRINCIPLES FOR OPTIONS DEVELOPMENT

The principles to guide options development in the Christmas Hills Land Use Study are outlined in Table 2: Overarching Principles for the Study Area and Table 3: Site Specific Principles for the Study Area.

Table 2 provides overarching principles for the whole Study Area. Table 3 provides more detailed site specific principles.

Table 2: Overarching Principles for the Study Area

Key Direction	Principle
Social	<ul style="list-style-type: none"> ▶ Ensure options do not detract from the character of the area. ▶ Have consideration to existing cultural and historic heritage values within the Study Area.
Economic	<ul style="list-style-type: none"> ▶ Ensure future lots have the potential to be developed with a dwelling (exceptions may apply). ▶ Facilitate the sale or transfer of land that is of high conservation/community value to the Government or Council.
Environment	<ul style="list-style-type: none"> ▶ Ensure development does not negatively impact on water quality including Watsons Creek. ▶ Avoid development in areas of significant slope. ▶ Avoid development that results in a net loss of environmentally significant land and native vegetation. ▶ Avoid development in areas of particularly high bushfire risk.
Planning	<ul style="list-style-type: none"> ▶ Prioritise the protection of human life over all other policy considerations. ▶ Ensure options are in line with the Green Wedge Core Planning Provisions outlined at Clause 57 in the Nillumbik Planning Scheme. ▶ Recognise the Study Area is outside the Urban Growth Boundary and that development should reflect its location by being non-urban in scale. ▶ Options should reflect strategic planning for the area and proposed zone changes should be in accordance with directions from Plan Melbourne and other relevant strategies.

Table 3: Site Specific Principles for the Study Area

Key Direction	Principle
Social	<ul style="list-style-type: none"> ▶ Provide for a resilient community by improving connections and infrastructure within the area. ▶ Recognise the value of the existing landscape including views and the valued mix of rural land and bush areas. ▶ Facilitate community access throughout the Study Area. ▶ Recognise the location of heritage overlays and the value they provide. ▶ Direct population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metre under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009). ▶ Ensure the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development. ▶ Achieve no net increase in risk to existing and future residents, property and community infrastructure, through the implementation of bushfire protection measures and where possible reduce bushfire risk overall. ▶ Recognise existing uses of land for community purposes.
Economic	<ul style="list-style-type: none"> ▶ Avoid development where slope is steeper than a 1 in 5 gradient to enable the provision of services and building sites. ▶ Consolidate lots where constraints limit development to enable divestment. ▶ Recognise land that is suitable for use as biodiversity offset sites as a means of retaining significant vegetation.
Environment	<ul style="list-style-type: none"> ▶ Provide for adequate buffers between the Warrandyte-Kinglake Nature Conservation Reserve and private land to minimise risk such as environmental damage and bushfire. ▶ Avoid development within 200m of named waterways (Watsons Creek, Happy Valley Creek and Five Mile Creek), registered cultural heritage places and parks

	<p>to preserve the cultural heritage and historical heritage of the area.</p> <ul style="list-style-type: none"> ▶ Avoid development in areas of particularly high bushfire risk. ▶ Consider providing alternative access for lots in a bushfire scenario where possible. ▶ Preserve significant environmental and habitat values in the Study Area by avoiding the development of land that is significantly affected by an Environmental Significant Overlay or heavily vegetated. ▶ Provide for additional crown reserve along Watsons Creek where feasible. ▶ Consider the impact of boundaries and boundary fences on biodiversity movements (particularly fauna). ▶ Ensure defensible space can be achieved on each future lot within its boundaries. ▶ Preserve Five Mile Creek by providing stock proof fencing.
<p>Planning</p>	<ul style="list-style-type: none"> ▶ Ensure only one zone is applied to each lot, where appropriate. ▶ Avoid development within 100m of all waterways to allow waste water to be treated and retained on site, or require a package treatment plant to be provided. ▶ Ensure future dwellings meet the requirements for dwellings in rural locations: <ul style="list-style-type: none"> – Provide future lots with access via an all-weather road with dimensions adequate to accommodate emergency vehicles. – Ensure waste water is treated and retained on-site in accordance with the State Environment Protection Policy (Waters of Victoria) under the Environment Protection Act 1970. – Ensure future dwellings are connected to a reticulated potable water supply or have an alternative potable water supply with adequate storage for domestic use as well as for firefighting purposes. – Ensure future dwellings are connected to a reticulated electricity supply or have an alternative energy source. ▶ Maintain subdivision sizes and potential lots with dwellings within APA Gas' rural definition within the

	<p>measurement length of the Pakenham to Wollert High Pressure Gas Pipeline.</p> <ul style="list-style-type: none"> ▶ Realign property boundaries to reflect existing situations including road locations, slope and vegetation to fix issues between cadastre and land title alignments.
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6. OPTIONS: PLANNING CONSIDERATIONS

Options for the Christmas Hills Land Use Strategy are influenced by a number of planning considerations in addition to the principles outlined in the previous section. These relate to the planning controls that apply to the area and are summarised below.

6.1 ZONE OPTIONS IN A GREEN WEDGE

The Study Area is located within the Nillumbik Green Wedge which is identified in both Plan Melbourne and the *Planning and Environment Act 1987*. The Nillumbik Green Wedge Management Plan (Nillumbik GWMP) provides a long term vision for the Nillumbik Green Wedge which guides decision making in the area in line with the requirements for planning including Planning Practice Note 62: Green Wedge Core Planning Provisions (PN62) and particular provision Clause 57: Metropolitan Green Wedge Land.

Clause 57 provides additional controls on land use and subdivision in the Green Wedge which must be considered. Land uses are controlled through outright prohibition or requiring conditions to be met for the use, these requirements override the land use tables in the three zones which can be applied to green wedge land.

Further, it is noted that Clause 57 also limits subdivision in all three zones as follows:

- ▶ The subdivision of land to create a lot that is smaller in area than the minimum area specified for the land in the zone is prohibited unless:
 - The subdivision is the re-subdivision of existing lots, the number of lots is not increased, and the number of dwellings that the land could be used for does not increase.
 - The subdivision is by a public authority or utility service provider to create a lot for a utility installation.

These additional controls for green wedge land will influence the application of zone controls within the study area. In particular, the subdivision prohibition prevents the further subdivision of existing zoned land, i.e. land in the Rural Conservation Zone 4, to a size under the 40 hectare minimum. Thus, subdivision of the Melbourne Water land in the Study Area which creates small lots may need to occur prior to rezoning land.

PN62 identifies that the following zones can be applied to green wedge land:

- ▶ Green Wedge Zone
- ▶ Green Wedge A Zone
- ▶ Rural Conservation Zone

A discussion of each zone that can be applied in the Study Area is provided below. A detailed analysis of the zone options is provided in Appendix A to this report.

6.1.1 GREEN WEDGE ZONE

The Green Wedge Zone (GWZ) is primarily concerned with protecting and conserving non-urban land outside of the Urban Growth Boundary (UGB) for its agricultural, environmental, historic, landscape, or recreational values, or mineral and stone resource attributes.

The GWZ provides opportunity for all agricultural uses and limits non-rural uses to those that either support agriculture or tourism, or that are essential for urban development but cannot locate in urban areas for amenity and other reasons (such as airports, schools, waste treatment plants, landfills and reservoirs).

The GWZ is designed to be applied to green wedge land where:

- ▶ Agriculture and farming is an important activity in the area, complemented by other land uses.
- ▶ A mixed-use function would support farming activities in the area, assist in preventing the unplanned loss of productive agricultural land elsewhere, or allow for the logical and efficient provision of infrastructure to service urban areas.
- ▶ The use of land in the area for non-farming purposes, such as tourism uses, would support the long term productivity of surrounding farmland.
- ▶ The protection of the environmental features of the land is important including, for example, native vegetation, flora and fauna, cultural heritage, significant habitats, or they could relate to the landscape and visual qualities of the land.
- ▶ Significant mineral and stone resources are located in the area.

A dwelling requires a permit and is restricted to one dwelling per lot. The zone provides a minimum lot size of 40 hectares unless an alternative is specified in a schedule to the zone.

6.1.2 GREEN WEDGE ZONE A

The Green Wedge A Zone (GWAZ) is appropriate to apply to areas recognising and protecting non-urban land outside the UGB in the metropolitan area for its agricultural, environmental, historic, landscape, infrastructure, natural resource and rural living attributes.

The zone provides opportunity for all agricultural uses and limits non-rural uses to those that either support agriculture or tourism, schools, major infrastructure or rural living. A dwelling requires a permit and is restricted to one dwelling per lot.

The GWAZ is designed to be applied to green wedge land in similar situations to the GWZ with the addition of rural living areas with lot sizes of around eight hectares or greater located on the periphery of, or between, townships.

The zone provides a minimum lot size of eight hectares unless an alternative is specified in a schedule to the zone.

6.1.3 RURAL CONSERVATION ZONE

The Rural Conservation Zone (RCZ) should be applied to conserve, maintain and enhance the environment. The zone recognises the opportunity for agricultural production while seeking to also protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values. The zone can also be applied to rural areas degraded by environmental factors such as salinity or erosion.

The RCZ is designed to be applied to rural areas where:

- ▶ The protection of the environmental features of the land is of primary strategic importance including, for example, native vegetation, flora and fauna, significant habitats, or they could relate to the visual qualities of the land.
- ▶ The environmental features of the land are scarce and strict controls are required to prevent the further loss or decline of those features.
- ▶ Land use and development could directly or indirectly threaten the environmental values of the land and strict controls are required to manage this. If the environmental or landscape features cover a large rural area, the Rural Conservation Zone is likely to be suitable. However, if the features are widely dispersed or fragmented and the surrounding

land has been substantially altered (for example, broadacre farming areas with wildlife corridors), the other rural zones may be more appropriate supplemented with overlays.

Restrictions apply to development and the range of discretionary uses is limited to those that support farming, agriculture and tourism. A schedule to the zone requires specific environmental values of the land to be listed.

The zone provides a minimum lot size of 40 hectares unless an alternative is specified in a schedule to the zone.

6.2 SUMMARY OF DIFFERENCES

6.2.1 PURPOSES

The purposes of the three zones are provided in the Zone Analysis (Appendix A).

The key differences in the purposes of the three available green wedge zones is the emphasis placed on conservation in the RCZ with agriculture and other green wedge uses considered to be secondary to the value of the environment. Whilst some of the purposes in each zone are similar there are specific and discreet differences, including the absence of “heritage” in the cultural significance and character purpose in the RCZ in comparison to a similar purpose in the GWZ.

6.2.2 USE OF SCHEDULES

Whilst the RCZ and the GWZ and GWAZ can all have specific schedules, only the RCZ can be used to identify specific conservation values to be protected. The GWZ schedule on the other hand can provide specific restrictions to certain land uses including restaurants.

6.2.3 TABLE OF USES

The three zones also have slightly different requirements for land use. These are discussed in the zone analysis at Appendix A.

Clause 57, as noted above, provides additional limitations on uses which override the zone provisions unless a certain zone, such as a Public Use Zone, is applied to the land. Clause 57 prohibits a number of uses unless they meet particular conditions including the need for some uses (restaurants, functions centres, residential hotel) to be used in conjunction with other uses such as agriculture. It also prohibits uses such as most warehouses, most retail premises, office and a motor racing track.

Uses which are allowed, permissible (with a permit) and prohibited are quite similar across the three zones with the key differences being:

- ▶ Additional conditions for some uses (including residential building and restaurant) depending on the zone. In particular, restaurants, residential hotels, group accommodation and function centres *must be used in conjunction with Agriculture, Natural systems, Outdoor recreation facility, Rural industry or Winery* within the GWZ and GWAZ but not within the RCZ.
- ▶ Motor racing tracks being a permissible use in the RCZ and prohibited in GWZ and GWAZ, however Clause 57 prohibits the use.
- ▶ Agriculture and rural stores are both as of right (allowed) uses in the GWZ and GWAZ but only permissible in the RCZ. Intensive animal husbandry is also prohibited in the RCZ and the GWAZ but permissible in the GWZ.
- ▶ Places of assembly is similarly more restricted in the RCZ, being generally prohibited where it is permissible subject to conditions in the other zones.

6.2.4 DECISION GUIDELINES

There are also some key differences with regards to the decision guidelines of each zone for permit applications. These include:

- ▶ Requiring consideration of the maintenance of agricultural production and the impact on the rural economy within the GWZ and GWAZ (Rural Issues).
- ▶ The RCZ requiring consideration of how the use or development conserves the values identified for the land in a schedule to the RCZ and whether it protects and enhances the environmental, agricultural and landscape qualities of the site and its surrounds. Whilst in the GWZ and GWAZ the emphasis is on minimising adverse impacts on the character and appearance of the area or features of architectural, scientific or cultural heritage significance, or of natural scenic beauty.
- ▶ In the GWZ whether the use or development is essential to the health, safety or well-being of the State or area but is not appropriate to locate in an urban area because of the effect it may have on existing or proposed urban areas or the effect that existing or proposed urban areas may have on the proposed use or development.

6.3 OPTIONS REQUIRING PARLIAMENT RATIFICATION

As the Study Area is located in the Nillumbik Green Wedge, applicable zones (without Parliament Ratification) are limited to the Green Wedge Zone, Green Wedge A Zone or the Rural Conservation Zone.

The following zones are capable of being applied to the Study Area via Ratification from Parliament:

- ▶ Rural Living Zone (RLZ)
- ▶ Farming Zone (FZ)
- ▶ Township Zone (TZ)

The Rural Living Zone (RLZ) provides for residential uses in a rural environment. It is designed to cater for lots in a rural setting that are large enough to accommodate a dwelling and a farming use. The farming use is likely to be carried on for reasons other than the need to provide a significant source of household income.

The Farming Zone (FZ) is primarily concerned with keeping land in agricultural production and avoiding land uses that could limit future farming or constrain agricultural activities. In this zone farming is the dominant land use and all other land uses are subordinate to farming. Non-farm dwellings and land uses not related to farming may be considered but should not limit the operation and expansion of agricultural uses.

The Township Zone (TZ) provides for residential development and a range of commercial, industrial and other uses in small towns.

These three zones may be seen to be significantly altering the use and scale of development within the Christmas Hills area and to be a departure from the purposes of the Nillumbik Green Wedge. However, if used in the appropriate location they could facilitate development without detracting from the ability to conserve the green wedge land. The use of these three zones in the Study Area is unlikely to be supported by Council or State Government.

6.4 GREEN WEDGE ZONES IN USE IN NILLUMBIK AND YARRA RANGES

In determining the appropriate zone controls that should apply to land in the Study Area, it is important to note the zones that are in place in the surrounding areas. Given Christmas Hills

is located on the edge of the Nillumbik and Yarra Ranges municipalities, zones applying in both these locations and planning schemes have been reviewed.

Nillumbik utilises the GWZ (one schedule) and four schedules to the RCZ. Minimum lot sizes implemented by these schedule include: RCZ1: 1 hectare, RCZ2: 2 hectares, RCZ 3: 8 hectares and RCZ4: 40 hectares. Conservation values identified also vary and include:

- ▶ Providing for rural residential development (RCZ1 and RCZ2).
- ▶ Reducing adverse impacts on landscape or strategic environmental values of the land (RCZ3).
- ▶ Seeking to conserve and permanently maintain the existing rural character by encouraging protection of the environmental and landscape values of the major environmental assets such as the Plenty Gorge, Kinglake National Park and the Yarra River (RCZ4).

Yarra Ranges utilises all three green wedge zones and includes six schedules to the GWZ; two schedules to the GWAZ; and three schedules to the RCZ. Minimum lot sizes in Yarra Ranges are also varied from 1 hectare to 60 hectares, however average lot yields are also specified. Where the RCZ is applied the purpose is expressed as being to retain and protect the scenic landscapes, rural character and special environmental features of the Shire and to provide protection of the environmental and conservation values of private rural land.

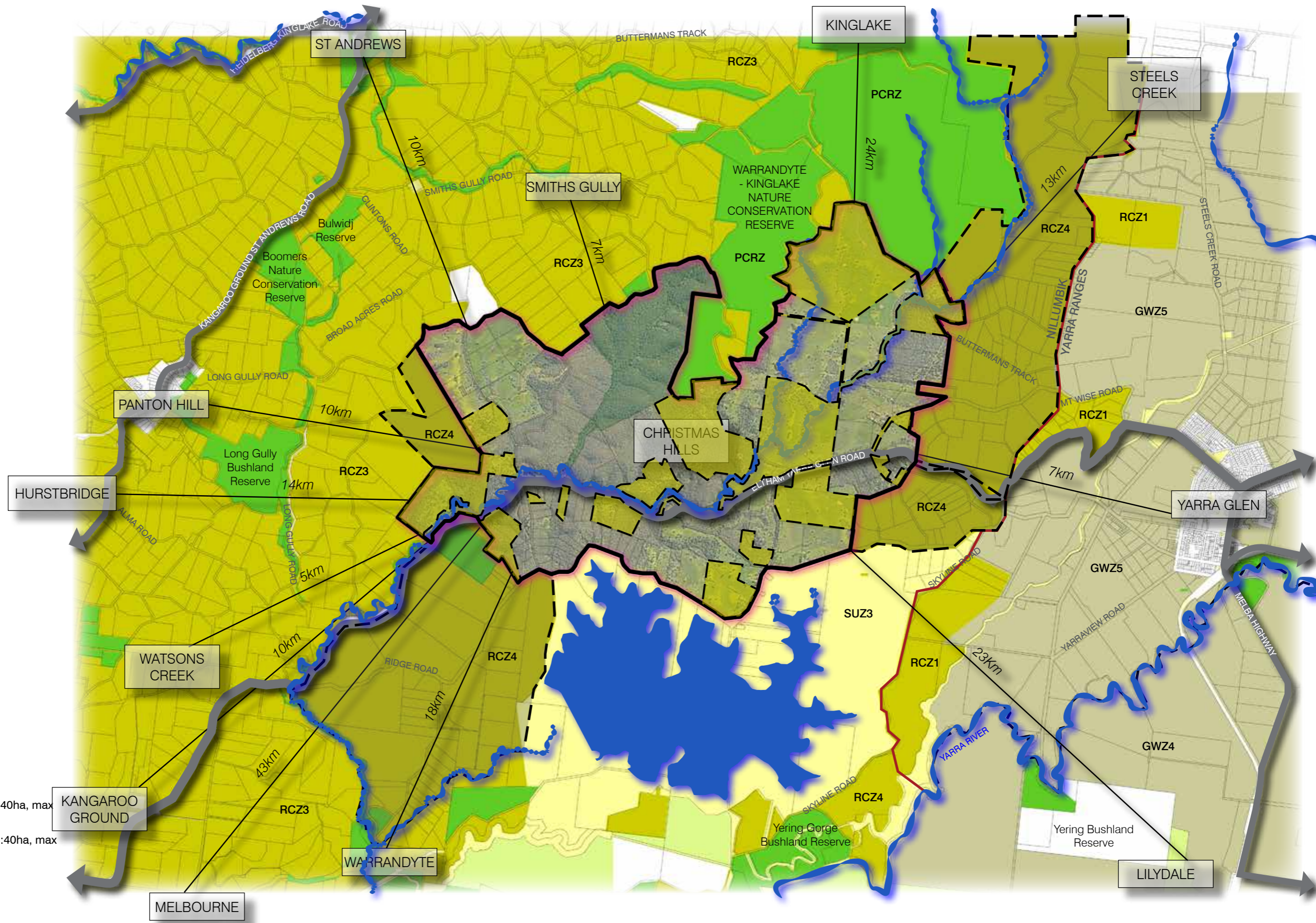
It is often appropriate to extend zones already applying in an area to adjoining land. This is particularly relevant where areas may share characteristics. Thus the zones applying to land immediately outside the Study Area provide some level of direction to the selection of lot size and zones within the Study Area. This ensures a gentle transition between areas through the provision of similar lot sizes and associated characteristics.

Of particular note is the:










- ▶ Location of the Nillumbik RCZ3 to the north west of the Study Area (above Precinct 2).
- ▶ Application of the Nillumbik RCZ4 to non-park land to the north and north east of the area.

The Nillumbik RCZ4 seeks to protect major environmental assets including the Kinglake National Park. It has also been applied to privately owned land within the Study Area. It can be hypothesised that this zone was chosen for private land within the proposed Watsons Creek Reservoir area to reflect both the significant environmental features of parts of the area and the need to minimise further subdivision of the future reservoir land by applying a 40 hectare minimum. The location of the RCZ4 on existing private land will be considered when applying zones to Melbourne Water's publicly zoned land in the Study Area.

The zones applying to land around the Study Area are indicated on the Zoning Context Plan on Page 42.



LEGEND

-  Study Area
-  Watercourse
-  Major Roads
-  RCZ4 (40HA)
-  RCZ3 (8HA)
-  RCZ1 (30HA) 1:40ha, max 50ha
-  GWZ5 (30HA) 1:40ha, max 70ha
-  PCRZ
-  SUZ3



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7. OPTIONS DEVELOPMENT

The Study Area currently comprises:

- ▶ 112 titles owned by Melbourne Water.
- ▶ Land totalling 280 hectares owned by Melbourne Water which will be transferred to the Crown as part of the Warrandyte Kinglake Nature Conservation Reserve (WKNCR).
- ▶ 59 titles owned by Melbourne Water excluding land for the WKNCR.
- ▶ Crown Reserve along parts of Watsons Creek.

At a precinct level the Melbourne Water owned titles are as follows:

Table 4: Land Ownership by Precinct

Precinct	Titles owned by Melbourne Water	Crown Allotments owned by Melbourne Water	Existing Dwellings (on Melbourne Water Land)
Precinct 1	6	6	0
Precinct 2	7	13	3
Precinct 3	53	53	2
Precinct 4	5	5	1
Precinct 5	1	2	0
Precinct 6	8	8	1
Precinct 7	32	32	7
Total	112	119	14

This is the base level from which the options are developed and assessed.

7.1 HIGH LEVEL GENERAL OPTIONS

High level General Options for the Study Area are guided by the principles outlined in Section 5 of this report and the provisions of the green wedge. These general options can be summarised as:

- ▶ Option 1: No significant change
- ▶ Option 2: Alter some
- ▶ Option 3: Alter all

Whilst three different options were considered there are a number of minor changes to the Study Area which would be common to all three. These include:

- ▶ Remove the PAO from Private land.

- ▶ Apply the PCRZ to the 280 hectares of land to be transferred to the Crown for the WKNCR. This includes the minor subdivision of land adjoining the new WKNCR to facilitate the transfer (Precinct 1).
- ▶ Extend the Crown reserve along Watsons Creek through Wanneroo farm (Precinct 5).
- ▶ Increase protection of Five Mile Creek through stock fencing and title agreements.
- ▶ Changes to Simpson Road and Ridge Road titles to resolve anomalies.
- ▶ Consolidation of some small lots including in Precinct 7.
- ▶ Provision of access to land comprising the Clintons Pleasure Ground Heritage Overlay HO183 (via a carriageway easement or battle axe re-subdivision) should the adjoining land not all be retained for the use.
- ▶ Tennis courts adjoining the Memorial Hall to be excised and the land surrendered to the Crown and either Nillumbik Shire Council or the Christmas Hills Mechanics Institute Hall Committee of Management Inc. designated as the committee of management to retain the tennis courts as part of the community facility.
- ▶ Rezone land currently within the PUZ to an appropriate alternative zone.

7.2 NO SIGNIFICANT CHANGE

General Option 1 for the Study Area would be to:

Planning Changes

- ▶ Apply the existing RCZ4 (with a 40 hectare subdivision size) to all remaining PUZ1 land.

Subdivision Changes

- ▶ Consolidate land to create lots closer to 40 hectares in size where possible, to retain existing dwellings and to facilitate dwellings on undeveloped lots.
- ▶ Re-subdivide land to resolve anomalies and issue titles for existing Crown Allotments.

Table 5: Option 1 Analysis

Benefits	Issues
Applies a single zoning control to land to be sold and mimics the zoning control on existing private land in the Study Area.	Provides a blanket planning control which does not necessarily reflect the differences in the Study Area.
Minimises community concerns regarding the level of change.	Unnecessarily locks up most of the land from additional dwelling development.

The impact of Option 1 on each of the seven Precincts is shown in the accompanying plan set **RCZ4 Option (Appendix B)**. Due to the existing subdivision and road patterns this option would result in the consolidation of some lots to 40 hectare parcels and the application of the RCZ4 to lots under the 40 hectare minimum lot size (where lots cannot be easily consolidated). In developing this option we have sought to minimise unnecessary subdivisions and to retain the lots with existing dwellings within the Study Area where appropriate.

Within Option 1 there are specific choices regarding consolidation or retention of existing subdivisions which would impact the eventual lot and dwelling yield. Some of these choices may require the removal of existing dwellings. These include:

- ▶ Precinct 2:
 - Consolidate land into three lots over 40ha and small isolated lot of 6ha; or
 - Recognise existing dwellings on Clintons Road and Rob Roy Road and keep these as separate lots. Consolidate remaining lots to make a total of 6 lots.
- ▶ Precinct 4:
 - Retain southern Melbourne Water parcel as is and consolidate all of northern Melbourne Water parcel; or
 - Retain southern Melbourne Water parcel as is and retain existing lot layout for northern Melbourne Water parcel with the exception of consolidating the southern two lots to reflect existing dwelling location and bushfire risk.
- ▶ Precinct 6:
 - Consolidate land into four lots reflecting existing boundaries and fire risk/vegetation extent along Dean Road; or
 - Consolidate Precinct into six lots by consolidating land along Dean Road due to fire risk/vegetation extent and retaining three existing parcels along the northern side of Osborne Road in recognition of cleared nature of the parcels and ability to provide for additional dwellings.
- ▶ Precinct 7:
 - Consolidate land where possible to reflect defensible space requirements and to create lots closer to 40ha in size. This will create a total of 11 lots for divestment, however two existing dwellings will need to be demolished along Ridge Road; or
 - Consolidate land where possible to reflect defensible space requirements whilst retaining existing dwellings and recognising the ability for land around the Hall to cater for up to two additional dwellings. This will create a total of 16 lots for divestment.

7.3 ALTER MELBOURNE WATER LAND ONLY

General Option 2 for the Study Area would be to:

Planning Changes

- ▶ Apply a new zone to all remaining PUZ1 land:
 - Apply the RCZ4 to some land.
 - Apply the RCZ3 to some land.
- ▶ Retain the RCZ4 where it currently applies within the Study Area (on private land and Melbourne Water land).

Subdivision Changes

- ▶ Consolidate land to create lots closer to 40 hectares in size where possible in land to the north of Eltham-Yarra Glen Road and east of the WKNCR.
- ▶ Re-subdivide land to resolve anomalies and issue titles for existing Crown Allotments.
- ▶ Re-subdivide land to facilitate additional dwelling lots in Precinct 2 and Precinct 7.

- ▶ Re-subdivide land to provide more appropriate boundaries and lot layouts.
- ▶ Consolidate small lots to meet defensible space requirements.

Table 6: Option 2 Analysis

Benefits	Issues
Allows for a level of change and development in parts of the Study Area.	Need to carefully manage the interface between the existing use of RCZ4 on private land and the proposed use of RCZ3 zone controls on existing Melbourne Water land to be divested..
Recognises the environmental significance of land by restricting development in these areas.	Balance between bushfire defensible space envelopes and clearing requirements within the ESO1 will need to be considered in determining exact location/number of dwelling sites.
Retains larger grazing areas in parts of the Study Area while facilitating increased dwelling development in other areas.	

7.4 ALTER ALL LAND

General Option 3 for the Study Area would seek to alter planning controls across all land within the Study Area (public and private). Actions to facilitate this option would be to:

Planning changes

- ▶ Apply a new zone to all remaining PUZ1 land.
- ▶ Apply a new zone to Melbourne Water land already zoned RCZ4.
- ▶ Apply a new zone to privately owned land.
- ▶ New zone choice would most likely be an existing or new schedule to the Rural Conservation Zone.

Subdivision changes

- ▶ Consolidate land to create lots closer to 40 hectares in size where possible in land to the north of Eltham-Yarra Glen Road and east of the WKNCR.
- ▶ Provide for additional Crown Reserve along Watsons Creek and on-title agreements for Five Mile Creek.
- ▶ Re-subdivide land to resolve anomalies and issue titles for existing Crown Allotments.
- ▶ Re-subdivide MW land to the south of Eltham-Yarra Glen Road to allow for smaller lots.

Table 7: Option 3 Analysis

Benefits	Issues
Allows for zone choice to be based on strategic reasons for all properties and minimises potential conflict between zones on private land and Melbourne Water land.	Would require parliamentary ratification and significant community support to alter existing zones should it facilitate the creation of more or smaller lots. This would be harder to justify and have approved given Parliament's stated stance on the Green Wedge.
Choice of new zone could include a mix of existing Nillumbik zones or the creation of one zone to apply to the whole site. A schedule to the RCZ could be drafted to reflect the characteristics and values of the area to be protected.	Existing residents on privately owned land may not wish to have their land rezoned.
	Creation of a new schedule to the RCZ may be considered superfluous when existing schedules may be suitable. One schedule may also be unsuited to the variety of landscapes and environmental qualities present in the Study Area.

7.5 PREFERRED OPTION: ALTER MELBOURNE WATER LAND ONLY

Based on an analysis of each of the three options it is clear that Option 2: Alter Melbourne Water Land Only is the most appropriate option for the Study Area. Option 2 allows for changes in the Study Area by altering planning controls on the majority of Melbourne Water land whilst retaining existing zoning controls where appropriate. It also allows the re-alignment of existing Melbourne Water parcel title boundaries and the titling of existing Crown Allotments prior to or immediately following the rezoning to facilitate an appropriate level of change and development in the Study Area.

Option 2 would essentially create between 95 and 106 lots for divestment from the 112 Melbourne Water parcels, with 54 of these lots being transferred to the WKNCR. The final yield would depend on the detailed subdivision decisions within Option 2 (discussed below). The reduction in overall lot numbers is a result of consolidation throughout the Study Area.

Option 1 would apply the RCZ4 to the whole Study Area and consolidates land based on existing dwelling locations, existing subdivisions and/or creating lots of 40 hectares where possible.

Option 1 would create 81 lots and 92 lots for divestment depending on specific choices in each Precinct. A number of these lots for divestment already comprise dwellings whilst some choices will required the removal of existing dwellings to be removed. Of these divestment lots 62 will be undevelopable with between 20 and 30 dwellings available (existing or future) on Melbourne Water land in the Study Area.

Option 3 would possibly create additional lots in the Study Area compared with Options 1 and 2, however it would be difficult to achieve given the requirement for parliament ratification to approve any change to the existing RCZ4 land. Additional lots would be able to be created through the additional subdivision of private land particularly within Precincts 4 and 7.

Option 2 is also considered to best implement the principles for Option Development outlined in Section 5 of this report. An analysis of how Option 2 implements the overarching and site specific principles is provided below:

Table 8: Option 2 Principles Analysis

Principles	Option 2 Implementation	
Social	<ul style="list-style-type: none"> ▶ Ensure options do not detract from the character of the area. ▶ Have consideration to existing cultural and historic heritage values within the Study Area. 	<ul style="list-style-type: none"> ▶ Allows for larger lots to be retained or lot to be consolidated particularly in Precincts 4, 5 and 6 which is consistent with the mix of open grazing land and bush blocks valued in this area. ▶ Provides for additional dwelling lots where impacts on character will be minimal. ▶ Ensures lots near Watsons Creek (cultural significance area) are large enough to enable dwelling development without impacting on heritage potential. ▶ Retains Rob Roy Hill Climb through transfer to Council in recognition of the community and heritage value of the site.
Economic	<ul style="list-style-type: none"> ▶ Ensure future lots have the potential to be developed with a dwelling (exceptions may apply). ▶ Facilitate the sale or transfer of land that is of high conservation / community value to the Government or Council. 	<ul style="list-style-type: none"> ▶ Lots for dwellings have been determined based on ability to meet dwelling access, servicing and fire requirements. ▶ Provides for transfer of Rob Roy Hill Climb and land currently used for tennis courts to Council for continued community use. ▶ Transfers 280 hectares of high value conservation land to Parks Victoria as part of the WKNCR.

Principles	Option 2 Implementation	
Environment	<ul style="list-style-type: none"> ▶ Ensure development does not negatively impact on water quality including Watsons Creek. ▶ Avoid development in areas of significant slope. ▶ Avoid development that results in a net loss of environmentally significant land and native vegetation. ▶ Avoid development in areas of particularly high bushfire risk. 	<ul style="list-style-type: none"> ▶ Additional dwelling development in close proximity to Watsons Creek is avoided. ▶ Dwelling envelopes are located away from slopes in excess of 1 in 5 gradient due to the difficulty of developing at such a slope and the flow on effects on the environment. ▶ Significant vegetation removal is avoided by avoiding dwellings and associated vegetation removal in heavily vegetated areas including where the ESO1 applies. ▶ Lots have been assessed to ensure they can comply with BAL 12.5 defensible space requirements.
Planning	<ul style="list-style-type: none"> ▶ Prioritise the protection of human life over all other policy considerations. ▶ Ensure options are in line with the Green Wedge Core Planning Provisions outlined at Clause 57 in the Nillumbik Planning Scheme. ▶ Recognise the Study Area is outside the Urban Growth Boundary and that development should reflect its location by being non-urban in scale. ▶ Options should reflect strategic planning for the area and proposed zone changes should be in accordance with directions from Plan Melbourne and other relevant strategies. 	<ul style="list-style-type: none"> ▶ Areas of significant bushfire risk are not proposed for development or subdivision. ▶ The RCZ (schedules 3 and 4) are proposed in line with the Green Wedge. Public land zones will be used where appropriate. ▶ Subdivision size is to a minimum of 8 hectares or 40 hectares depending on the area. This is consistent with rural subdivision patterns in this part of Nillumbik. Development of dwellings may be guided through the Master Plan. ▶ The limited additional subdivision and dwelling potential as a result of this option is consistent with strategic direction to guide significant development to towns while facilitating minor changes in the Study Area.

8. OPTION 2 DETAILS

Whilst the overall changes for Option 2 are clear, there are a number of individual changes which can be made in each Precinct to determine the final Master Plan. These are outlined in the Option 2 plan set (Design Response and Land Use Options Report) and discussed below where further detail is needed.

8.1 PRECINCT SPECIFIC CHANGES

8.1.1 PRECINCT 1

- ▶ Subdivide a small part of the far eastern land title to be transferred to the Crown for the purpose of the WKNCR. Rezone this portion to the PCRZ.
- ▶ A defensible space envelope can be achieved in the site's north-west corner, however this location would require the removal of vegetation within the ESO and the significant slope would need to be dealt with. Access would also need to be created across Watsons Creek from Eltham-Yarra Glen Road which would require a feasibility assessment. On balance, development of this site for a dwelling is not supported but may be possible.
- ▶ Consolidate the remaining lots due to the extent of dense vegetation, an inability to achieve a defensible space envelope (on the majority of land), location within the ESO1, ESO4 and BMO. Consolidation of the remaining lots in some form where appropriate. The land should be considered for divestment to neighbours where feasible.
- ▶ Retain and extend the RCZ4 over the whole site.

8.1.2 PRECINCT 2

Precinct 2 presents as an opportunity to re-align the existing land holdings to provide a more strategic alignment when factoring in the constraints present.

- ▶ Land in the northern portion of the Precinct will be rezoned to RCZ3 which allows a minimum subdivision size of 8ha, this is consistent with the existing lot sizes in the Precinct and in surrounding land to the north and west. The application of the RCZ3 is considered appropriate in this Precinct as it seeks *to ensure land use changes do not have an adverse impact on the landscape or strategic environmental values of the land*. The RCZ3 is currently applied to land immediately north of Precinct 2 which typically comprises similarly sized land parcels and a mix of grazing and dwelling uses.
- ▶ The large 48ha parcel between Clintons Road and Rob Roy Road comprises six Crown Allotments however only a single title has been issued. These titles should be issued and the boundaries realigned to reflect constraints. The reconfiguration of lots will ensure lots are at least 8ha in size where possible in line with the minimum subdivision size within the RCZ3. This will ensure dwelling development on these lots is on fit for purpose land. The configuration of new lot boundaries will be dependent on the availability of land to the immediate south for inclusion in the property divestment. A surveyor will be consulted on the best way to create titles for the lots.
- ▶ The four (4) existing titles west of Clintons Road and north of the privately owned land will be re-subdivided to form five (5) titles to reflect the development potential at this location. Site access for each of the lots will need to be provided in a manner which responds to the slope at Clintons Road. Dwellings can be provided on the cleared areas of land to the rear of the sites. The northern most lot will be split in half to create two lots over 8ha.
- ▶ The RCZ4 will extend over the land title in the southern portion of the Precinct (between privately owned land) due to the site's inability to achieve an appropriate defensible space area and the presence of dense vegetation. This will also best reflect the zoning of the adjoining land.

- ▶ The MG Car Club currently leases the south eastern title for the Rob Roy Hill Climb. This site also comprises a separately leased dwelling with access to both uses provided from Clintons Road. The property is on one title however there are two crown allotments. The heritage overlay for the Clintons Pleasure Grounds (Rob Roy Hill Climb) currently falls across both crown allotments. Nillumbik Council has expressed interest in retaining the use of the hill climb for community purposes, a view supported by the wider community. Options for this site include:
 - Transferring the whole site (both crown allotments) to the Crown and making Council the Committee of Management; or
 - Issuing a new title for the area subject to the Heritage Overlay and transferring this land to the Crown, with the adjoining land subdivided into a new access way and two 8ha lots with access from Clintons Road.

Both options enable the retention of the Rob Roy Hill Climb as a community resource. The chosen option will impact the choice of zoning (RCZ3 or a public purpose zone). Should the land be subdivided the RCZ3 should be applied to the land to be sold. The application of this zone to the new heritage lot would allow for the continuation of the Rob Roy Hill Climb as an existing use, however as the Core Planning Provisions in Clause 57 prohibit Motor Racing Track a public land zone should be considered. Should the whole site be transferred to the Crown a public land zone (such as the PPRZ) for the whole site may be more appropriate.

Land currently utilised for the Rob Roy Hill Climb (generally land within the Heritage Overlay) is not an appropriate location to intensify development as the site cannot achieve a viable defensible space envelope from a bushfire perspective due to its slope, vegetation extent and location adjoining the future WKNCR area. Thus, the continuation of a community use on this land is considered to be an appropriate outcome for the site and the community.

8.1.3 PRECINCT 3 AND 3A

- ▶ Rezone to PCRZ to facilitate use of the land for the WKNCR.
- ▶ Transfer to the Crown for the WKNCR.
- ▶ Minor subdivision changes to facilitate road creation.

8.1.4 PRECINCT 4

- ▶ The lot in the southern portion of the site, off Scholz Road, is heavily constrained and unable to achieve an appropriate defensible space area for a future dwelling. It is also isolated from other Melbourne Water parcels. This parcel will be nominated to be sold to a neighbour immediately adjacent to the site or investigated for sale as an offset site to an appropriate bush broker/offset scheme.
- ▶ The four (4) lots in the northern section of Precinct 4 have been assessed from a bushfire perspective to determine if each existing lot can meet defensible space requirements. This assessment shows the south eastern lot cannot meet BAL 12.5 requirements. The adjoining south western lot is currently developed with a dwelling, should a new dwelling be required a defensible space area can be achieved subject to the removal of vegetation along parts of the sloped area. The remaining two lots could both achieve defensible space envelopes as the land is relatively cleared. Options for these lots are:
 - Consolidate all four lots into one property and identify alternative dwelling locations within the northern area of the property.
 - Consolidate the two southern lots to provide a total of three lots, each lot with a possible dwelling site.

- ▶ Rezone PUZ land to the RCZ4 (with a 40ha minimum lot size). This zone will best reflect neighbouring privately owned land, recognise the environmental significance of the land and ensure an appropriate buffer to the adjoining existing and proposed park areas. It is noted that the Melbourne Water lots will still be under the minimum lot size of the RCZ4, however this is consistent with other private lots in the Precinct.

8.1.5 PRECINCT 5

- ▶ The two parcels (one title) within Precinct 5 are currently utilised as one agricultural property known as Wanneroo Farm with an approximate area of 220ha. The property could either be retained as one lot or split into up to five (5) separate lots each with a minimum area of 40ha. The cleared nature of the land would enable new lots to comprise ample grazing land as well as dwellings. Access provision to the western side of the Precinct will influence the final yield and configuration of lots. This will be subject to financial and civil engineering analysis.
- ▶ Extend RCZ4 over the whole site, placing the Wanneroo farm property in one zone. We note the northern part of the Precinct is partially already within the RCZ4. The application of the RCZ4 will also ensure the Precinct's significant environmental role is maintained.
- ▶ Provide for additional Crown Reserve along Watsons Creek and on-title agreements for Five Mile Creek to increase environmental protection of these waterways.

8.1.6 PRECINCT 6

- ▶ Lot on Wallace Road (119 Wallace Road, Christmas Hills): no change, retain in RCZ4 and seek to divest as a small bush lot. The property is unable to meet the defensible space requirements for a dwelling due to the small size and extent of slope and vegetation cover.
- ▶ Three 12ha lots fronting Dean Road are to be consolidated into one parcel. The lots are dissected towards the eastern edge by the APA Gas pipeline. They are also heavily vegetated as recognised by application of the ESO1. Whilst each individual lot is essentially large enough to accommodate the required defensible space envelopes, doing so would require significant clearing of existing vegetation. Consolidation will help to maximise the conservation values of these lots, it may also assist in facilitating the approval of a dwelling in the south east corner where land is relatively cleared.
- ▶ The property to the western side of Osborne Road, currently leased to Yarra Valley Trails, comprises three (3) titles (each with multiple lots) and is developed with one dwelling. This land could be consolidated into one lot or the existing three titles. Retaining the existing three title configuration would provide for minimal change to subdivision patterns in the Precinct whilst providing for a potential two extra dwellings. Each of the existing titles are under the 40ha minimum subdivision size in the RCZ4, however the relatively cleared nature of the land ensures defensible space requirements can be met.
- ▶ The property to the eastern side of Osborne Road is able to meet defensible space requirements.
- ▶ The RCZ4 will be extended over the entire Precinct in recognition of its location in proximity to parkland, including the Kinglake National Park to the north, the environmental significance of the habitat and bushfire risk. It also reflects the zone applied to land already and to neighbouring properties.

8.1.7 PRECINCT 7

- ▶ Some of the smaller properties within Precinct 7 which front Eltham-Yarra Glen Road are too small to develop or cannot meet the requirements for defensible space. The specific properties are:

- Small lot between Watsons Creek and Eltham-Yarra Glen Road adjoining the Christmas Hills Primary School. (Labelled J on Design Response Plans in Appendix C)
- Small lot to the north of Eltham-Yarra Glen Road, opposite School Lane intersection. (Labelled K on Design Response Plans in Appendix C)

These properties should be zoned within the RCZ4 in recognition of their environmental significance, including proximity to Watsons Creek.

- ▶ The property on the eastern side of McKinnon Terrace is similarly constrained and will be unable to be developed for a dwelling. The lot should be considered for divestment or as an offset site. The RCZ4 should be extended to apply over the land. (Labelled A on Design Response Plans in Appendix C)
- ▶ Consolidate the four (4) small lots between McKinnon Terrace and Reeves Road due to small size, extent of dense vegetation, significant slope, location within the ESO1 and BMO and alignment of the APA Gas pipeline through the site. Consolidation will create a double fronted lot of approximately 3.57 hectares however its dimensions do not enable it to meet defensible space requirements. One of the four existing lots is already within the RCZ4 which should be extended over the consolidated lot or remaining three PUZ1 lots. The consolidated lot should be considered for divestment or as an offset site. Alternatively the lots could be divested in the current configuration should there be interest from multiple neighbouring owners. (Labelled B on Design Response Plans in Appendix C)
- ▶ Consolidate lots in the south western corner of the intersection between Eltham-Yarra Glen Road and Reeves Road due to the extent of dense vegetation, location within the ESO1 and BMO and alignment of the APA Gas pipeline through the site. The consolidated lot will comprise approximately 23 hectares and should be rezoned to the RCZ4 to reflect surrounding controls. A dwelling could be achieved on the consolidated site subject to the removal of some vegetation. (Labelled C on Design Response Plans in Appendix C)
- ▶ Land to the north of Muir Road (Labelled D on Design Response Plans in Appendix C):
 - This area is relatively unconstrained and cleared with six lots of various size. The CFA Station is located on a small excised lot in the south western corner of these lots.
 - Two dwellings exist on the land one fronting Muir Road and the other fronting Ridge Road opposite the Hall.
 - Re-subdivide into three (3) or four (4) lots each with a minimum of 8ha.
 - Apply the RCZ3 in recognition of the unconstrained nature of the land and ability to develop dwellings with minimal impact on environmental significance or character.
- ▶ Land either side of School Lane (Labelled E on Design Response Plans in Appendix C):
 - This land to the north of School Lane is highly constrained from a bushfire perspective due to the extent of existing vegetation. It is also within 200m of Watsons Creek. It would not be able to be developed and should be divested as a possible offset site or joined to land to the south of School Lane.
 - Land to the south of School Lane comprises generally cleared land with vegetation towards the south where it enters a slight gully. The ESO1 applies to the western portion of the site and is partly subject to significant slope changes.
 - The land should either be retained as a single lot with a dwelling located in the more cleared areas in the east or the land should be subdivided into two lots.

- Should a dwelling be located in the western portion of the land it will require vegetation clearance in the ESO1. This portion of the site also adjoins the existing Christmas Hills Bushland Reserve and may require buffer consideration.
- Apply the RCZ3 to the land in recognition of the ability for this part of Precinct 7 to provide for additional development.
- ▶ Land located on western side of Ridge Road (Labelled F on Design Response Plans in Appendix C) is an existing small lot developed with a dwelling. The RCZ3 should be applied to the land and it should be divested as is.
- ▶ The small lot at the south eastern corner of the Ridge Road and Eltham-Yarra Glen Road intersection is too small to meet defensible space requirements. This lot should be rezoned RCZ4 to reflect adjoining private land zoning and the lot divested to neighbours if possible. (Labelled G on Design Response Plans in Appendix C)
- ▶ Land fronting Ridge Road (along the Precinct’s southern boundary) (Labelled H on Design Response Plans in Appendix C):
 - The existing five lots are developed with three dwellings which all gain access from Ridge Road. With the exception of the western lot, all the lots are relatively cleared and unaffected by significant slope.
 - Consolidate land into three lots, each in excess of 8ha with boundaries determined by existing dwelling locations and defensible space envelopes.
 - Apply the RCZ3 in recognition of the existing extent of development.
- ▶ Land between School Lane and Ridge Road currently comprising four lots and the hall (Labelled I on Design Response Plans in Appendix C):
 - Excise land comprising the tennis courts and the land surrendered to the Crown and either Nillumbik Shire Council or the Christmas Hills Mechanics Institute Hall Committee of Management Inc. designated as the committee of management to retain community use of the facility. Apply an appropriate public land zone or the RCZ3.
 - Re-align the remaining Melbourne Water land into three (3) or four (4) lots. The re-alignment of the existing lot boundaries will ensure each lot meets is at least 8ha in size. There are currently four (4) lots in this area. Each lot will be capable of providing a defensible space area within the proposed boundaries. The density proposed is consistent with or larger than the size of existing private lots in this area.
 - The new western lot may require the removal of some vegetation within the ESO1 to facilitate dwelling development and careful location of defensible space should be considered.
 - Apply the RCZ3 to facilitate dwelling development at this scale. The higher density of the RCZ3 as opposed to the RCZ4 will support the location of community facilities and additional growth in this area.

8.2 POTENTIAL LOT AND DWELLING YIELD

Option 2 provides for both a low yield and a high yield scenario for changes to the existing subdivision pattern in the Study Area.

An analysis of the low and high yield scenarios against the existing base case of lots and dwellings currently found in the Study Area has been made . This analysis is shown in Table 9 and Table 10 on Page 56 of this Report and discussed below.

The low scenario will reduce the existing Melbourne Water lots significantly to 91 lots with two thirds being lots which are unable to be developed including the land to be transferred to the WKNCR (54 lots). An additional 18 dwellings will be created whilst three (3) existing dwellings will be demolished, one on Clintons Road and two within the future WKNCR. Total dwelling yield on existing Melbourne Water land will increase by 15 dwellings.

The high scenario will also slightly reduce the number of Melbourne Water owned lots to 103. The undevelopable lots will be consistent with those in the low yield scenario (63 lots). Total dwelling yield will increase by 30 dwellings.

Table 9: Low Yield Scenario

Precinct	Lots to be divested	Additional dwelling potential	Total dwellings on Melbourne Water land	Un-developable land to be divested	Developable Area to be divested
1	2	1	1	1	0*
2	13	9	11**	2	90.3
3	53	0	0***	53	0
4	2	0	1	1	19.17
5	1	1	1	0	223.46
6	4	2	3	1	106.99
7	16	5	12	5	149.01
Total	95	18	29	63	588.93

Table 10: High Yield Scenario

Precinct	Lots to be divested	Additional dwelling potential	Total dwellings on Melbourne Water land	Un-developable land to be divested	Developable Area to be divested
1	2	1	1	1	55.05*
2	15	10	13	2	119.23
3	53	0	0***	53	0
4	4	2	3	1	51.04
5	5	5	5	0	223.46
6	6	4	5	1	111.36
7	18	8	15	5	162.47
Total	106	30	42	63	722.61

* Note: Exact area of land to be divested for potential development is subject to future confirmation following the subdivision of part of the Precinct for the WKNCR.

** Assumes the dwelling to the south of the Rob Roy Hill Climb will be demolished.

*** Two existing dwellings in this area will be demolished prior to transfer.

8.3 PROPOSED PLANNING CONTROLS FOR OPTION 2

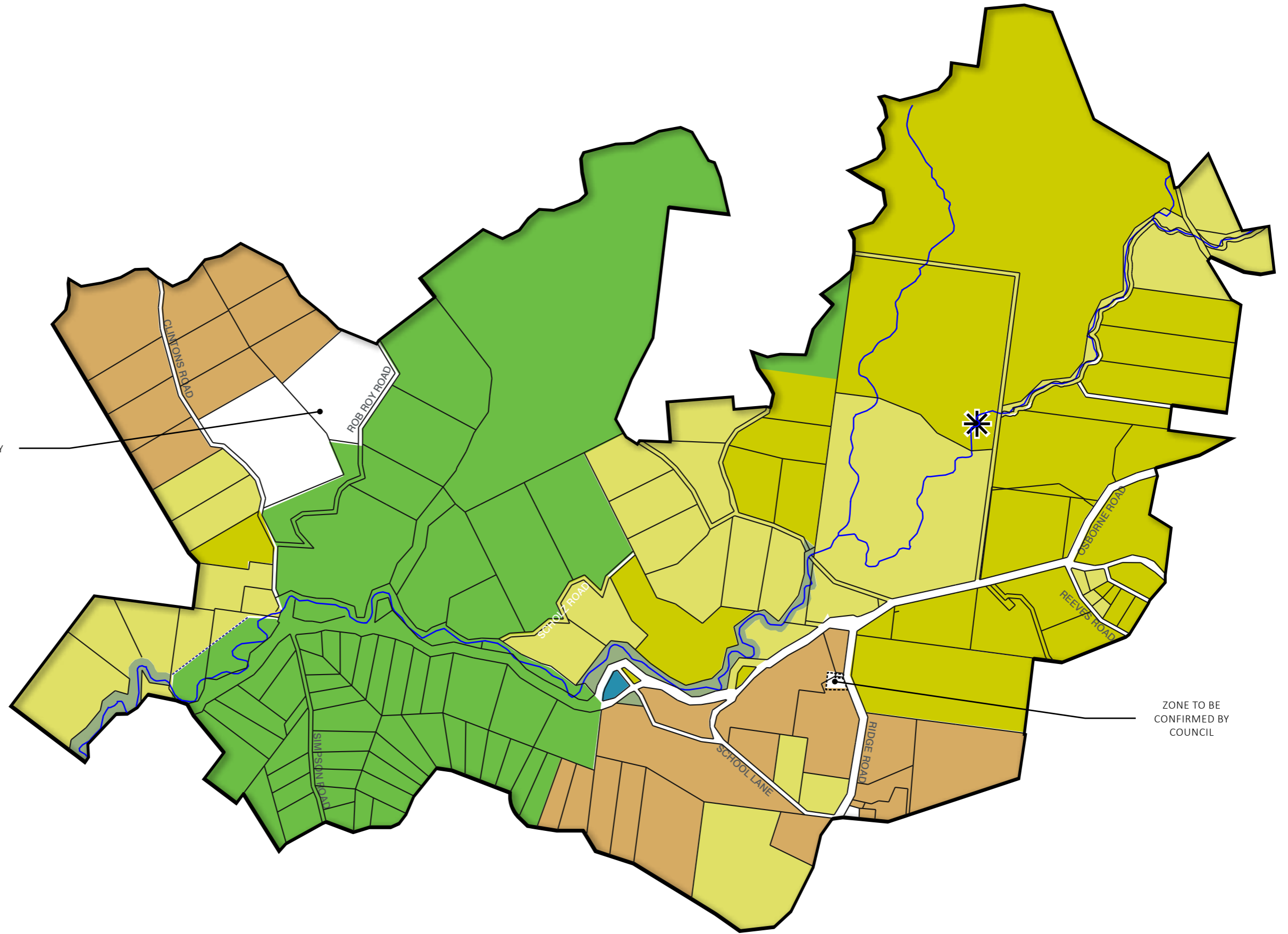
The planning controls applied to the Study Area are just as important in guiding land use and development in the area as the proposed subdivision component of the Master Plan. In particular application of appropriate planning controls can serve to protect and enhance biodiversity and landscape values.

Option 2 provides for change within the Study Area whilst minimising the impact on the Green Wedge. It also allows for planning controls to be altered without the need for Parliament Ratification.

The zoning controls proposed for Options 2 are summarised below:

- ▶ PCRZ: will be applied to land to be transferred to the Crown for extension of the WKNCR. Land is located in Precinct 3 and partly in Precinct 1.
- ▶ RCZ3: will be applied to parts of Precinct 2 and Precinct 7.
- ▶ RCZ4: will be retained where currently present in the Study Area and will be extended to cover land in Precincts 2, 4, 5, 6 and 7 where appropriate.
- ▶ A public land or special use zone control to be applied to Rob Roy Hill Climb land in Precinct 2, subject to Council acquisition and possibly to land encompassing the hall and tennis courts.

In addition to zoning changes it may be appropriate to apply secondary planning mechanisms to the Study Area to ensure future development and land use is managed to minimise impacts on the environment and cohesion of the area. The final master plan will provide specific direction for subdivision and dwelling development in the Study Area. This is likely to include design guidelines and land use direction. Implementation of the master plan through the Nillumbik Planning Scheme is considered to be an appropriate outcome.



LEGEND

- Existing PCRZ
- Proposed PCRZ
- Proposed RCZ3
- Existing RCZ4
- Proposed RCZ4
- Existing PUZZ
- * Watsons Creek Reserve expansion through Wanneroo Farm
- New Subdivision (surveying not complete)



DRG NO. UD ID 01 DATE 19/03/2018 DES TR

9. NEXT STEPS

The next steps for the Christmas Hills Land Use Study are as follows:

- ▶ Undertake consultation with Nillumbik Council on proposed options to assist Melbourne Water in confirming the details of subdivision change in Option 2.
- ▶ Confirmation of preferred Melbourne Water option.
- ▶ Consultation with DELWP and the CFA on preferred option for the Master Plan.
- ▶ Consultation with the local community regarding the preferred option and reasons for selection.
- ▶ Undertake preparation of a Master Plan for the preferred option.
- ▶ Preparation of subdivision plans to facilitate the preferred option and Master Plan.
- ▶ Preparation of Planning Scheme Amendment to rezone the land within the Study Area.

The Master Plan, subdivision and Planning Scheme Amendment preparation stages are anticipated to occur by the middle of 2018.



APPENDIX A
ZONES ANALYSIS

1. ZONE ANALYSIS

There are three zones which can readily be applied within Melbourne's Green Wedges, these are the Rural Conservation Zone, Green Wedge Zone and Green Wedge A Zone.

Table 1 below provides an analysis of the following zones:

- ▶ Rural Conservation Zone (RCZ)
- ▶ Green Wedge Zone (GRZ)
- ▶ Green Wedge A Zone (GWAZ)

The analysis includes a description of the specific purposes of these three green wedge zones as well as key permit requirements and options for utilising zone schedules.

Table 1: Analysis of Zones

ZONE	PURPOSE	SCHEDULE OPTIONS	PERMIT REQUIRED
Rural Conservation Zone (RCZ)	<ul style="list-style-type: none"> ▶ To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies. ▶ To conserve the values specified in a schedule to this zone. ▶ To protect and enhance the natural environment and natural processes for their historic, archaeological and scientific interest, landscape, faunal habitat and cultural values. ▶ To protect and enhance natural resources and the biodiversity of the area. ▶ To encourage development and use of land which is consistent with sustainable land management and land capability practices, and which takes into account the conservation values and environmental sensitivity of the locality. 	<p>Schedule can be developed to explicitly list the conservation values to be protected in the zone.</p> <p>Schedule options include:</p> <ul style="list-style-type: none"> ▶ Minimum subdivision area (hectares). ▶ Maximum floor area for which no permit is required to alter or extend an existing dwelling (square metres). ▶ Maximum floor area for which no permit is required to construct an outbuilding associated with a dwelling (square metres). ▶ Maximum floor area for which no permit is required to alter or extend an existing building used for agriculture (square metres). 	<ul style="list-style-type: none"> ▶ To use land for the purpose of a dwelling. ▶ To subdivide land. ▶ To construct or carry out buildings and works associated with a Section 2 use. ▶ To construct or carry out earthworks. ▶ To construct a building within certain setbacks.

ZONE	PURPOSE	SCHEDULE OPTIONS	PERMIT REQUIRED
	<ul style="list-style-type: none"> ▶ To provide for agricultural use consistent with the conservation of environmental and landscape values of the area. ▶ To conserve and enhance the cultural significance and character of open rural and scenic non-urban landscapes. 	<ul style="list-style-type: none"> ▶ Earthworks which change the rate of flow or the discharge point of water across a property boundary. ▶ Earthworks which increase the discharge of saline groundwater. 	
Green Wedge Zone (GWZ)	<ul style="list-style-type: none"> ▶ To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies. ▶ To provide for the use of land for agriculture. ▶ To recognise, protect and conserve green wedge land for its agricultural, environmental, historic, landscape, recreational and tourism opportunities, and mineral and stone resources. ▶ To encourage use and development that is consistent with sustainable land management practices. ▶ To encourage sustainable farming activities and provide opportunity for a variety of productive agricultural uses. ▶ To protect, conserve and enhance the cultural heritage significance and the character of open rural and scenic non-urban landscapes. ▶ To protect and enhance the biodiversity of the area. 	<p>Schedule options include:</p> <ul style="list-style-type: none"> ▶ Minimum subdivision area (hectares). ▶ Function centre (number of patrons). ▶ Group accommodation (number of dwellings). ▶ Residential hotel (number of bedrooms). ▶ Restaurant (number of patrons). ▶ Minimum area for which no permit is required to alter or extend an existing dwelling (square metres). ▶ Minimum area for which no permit is required to alter or extend an existing building used for agriculture (square metres). ▶ Earthworks which change the rate of flow or the discharge point of water across a property boundary ▶ Earthworks which increase the discharge of saline groundwater. 	<ul style="list-style-type: none"> ▶ To use land for the purpose of a dwelling. ▶ To subdivide land. ▶ To construct or carry out buildings and works associated with a Section 2 use. ▶ To construct or carry out earthworks. ▶ To construct a building within certain setbacks.
Green Wedge A Zone (GWAZ)	<ul style="list-style-type: none"> ▶ To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies. 	<ul style="list-style-type: none"> ▶ Minimum subdivision area (hectares). ▶ Function centre (number of patrons). 	<ul style="list-style-type: none"> ▶ To use land for the purpose of a dwelling. ▶ To subdivide land.

ZONE	PURPOSE	SCHEDULE OPTIONS	PERMIT REQUIRED
	<ul style="list-style-type: none"> ▶ To provide for the use of land for agriculture. ▶ To protect, conserve and enhance the biodiversity, natural resources, scenic landscapes and heritage values of the area. ▶ To ensure that use and development promotes sustainable land management practices and infrastructure provision. ▶ To protect, conserve and enhance the cultural heritage significance and the character of rural and scenic non-urban landscapes. ▶ To recognise and protect the amenity of existing rural living areas. 	<ul style="list-style-type: none"> ▶ Group accommodation (number of dwellings). ▶ Residential building (number of bedrooms). ▶ Restaurant (number of patrons). ▶ Minimum area for which no permit is required to alter or extend an existing dwelling (square metres). ▶ Earthworks which change the rate of flow or the discharge point of water across a property boundary. ▶ Earthworks which increase the discharge of saline groundwater. 	<ul style="list-style-type: none"> ▶ To construct or carry out buildings and works associated with a Section 2 use. ▶ To construct or carry out earthworks. ▶ To construct a building within certain setbacks.

2. ZONES USED IN THE NILLUMBIK GREEN WEDGE

Table 2 and Table 3 below provides an analysis of the green wedge zones currently applied within both Nillumbik Shire and Yarra Ranges Shire Planning Schemes.

Table 2: Green Wedge zones in use within Nillumbik Shire

Zone	Minimum Lot Size
<p>Green Wedge Zone</p>	<p>As specified in schedule. If not specified, each lot must be at least 40 hectares.</p>
<p>Schedule 1</p>	<p>Not specified.</p>
<p>Rural Conservation Zone</p>	<p>As specified in schedule. If not specified, each lot must be at least 40 hectares</p>
<p>Schedule 1 Purpose: To provide for rural residential development that is compatible with the environmental values of the land given the close proximity to the Plenty Gorge.</p>	<p>Minimum lot size of 1ha to subdivide land.</p>
<p>Schedule 2 Purpose: To provide for rural residential development that is compatible with the environmental values of the land given the close proximity to the Plenty Gorge and the potential environmental hazards in the area.</p>	<p>Minimum lot size of 2ha to subdivide land.</p>
<p>Schedule 3 Purpose: To ensure land use changes do not have an adverse impact on the landscape or strategic environmental values of the land.</p>	<p>Minimum lot size of 8ha to subdivide land.</p>

Zone	Minimum Lot Size
Schedule 4 Purpose: To conserve and permanently maintain the existing rural character by encouraging protection of the environmental and landscape values of the major environmental assets such as the Plenty Gorge, Kinglake National Park and the Yarra River.	Minimum lot size of 40ha to subdivide land (excluding certain land parcels).

Table 3: Green Wedge zones in use within Yarra Ranges Shire

Zone	Minimum Lot Size
Green Wedge Zone	As specified in schedule. If not specified, each lot must be at least 40 hectares
Schedule 1	Minimum lot size of 6 hectares with an average lot yield not exceeding 1 lot to each 8 hectares of site area and a maximum lot size of 14 hectares.
Schedule 2	Minimum lot size of 6 hectares with an average lot yield not exceeding 1 lot to each 8 hectares of site area and a maximum lot size of 14 hectares.
Schedule 3	Minimum lot size of 15 hectares with an average lot yield not exceeding 1 lot to each 20 hectares of site area and a maximum lot size of 35 hectares.
Schedule 4	Minimum lot size of 18 hectares with an average lot yield not exceeding 1 lot to each 25 hectares of site area and a maximum lot size of 44 hectares.
Schedule 5	Minimum lot size of 30 hectares with an average lot yield not exceeding 1 lot to each 40 hectares of site area and a maximum lot size of 70 hectares.

Zone	Minimum Lot Size
Schedule 6	Minimum lot size of 40 hectares with an average lot yield not exceeding 1 lot to each 50 hectares of site area and a maximum lot size of 60 hectares.
Green Wedge A Zone	Each lot must be at least the area specified for the land in a schedule to this zone. If no area is specified, each lot must be at least 8 hectares.
Schedule 1	Minimum lot size of 1 hectare with an average lot yield not exceeding 1 lot to each 2 hectares of site area and a maximum lot size of 3 hectares.
Schedule 2	Minimum lot size of 3 hectares with an average lot yield not exceeding 1 lot to each 4 hectares of site area and a maximum lot size of 7 hectares
Rural Conservation Zone	As specified in schedule. If not specified, each lot must be at least 40 hectares
Schedule 1 Purpose: To retain and protect the scenic landscapes, rural character and special environmental features of the Shire. To provide long term protection of the environmental and conservation values of those areas of private rural land which contain remnant bushland, wetlands and areas of landscape significance.	Minimum lot size of 30ha with an average lot yield not exceeding 1 lot to each 40 hectares of site area and a maximum lot size of 50 hectares.
Schedule 2 Purpose: To retain and protect the scenic landscapes, rural character and special environmental features of the Shire. To provide long term protection of the environmental and conservation values of those areas of private rural land which contain remnant bushland, wetlands and areas of landscape significance.	Minimum lot size of 40ha with an average lot yield not exceeding 1 lot to each 50 hectares of site area and a maximum lot size of 60 hectares.

Zone**Minimum Lot Size**

Schedule 3

Purpose:

To retain and protect the scenic landscapes, rural character and special environmental features of the Shire.

To provide long term protection of the environmental and conservation values of those areas of private rural land which contain remnant bushland, wetlands and areas of landscape significance.

Minimum lot size of 50 hectares with an average lot yield not exceeding 1 lot to each 60 hectares of site area and a maximum lot size of 70 hectares.

3. LAND USE TABLE ANALYSIS

Table 4 below provides an analysis of how uses are treated within each of the three green wedge zones.

For reference, the following is noted:

- ▶ Section 1 (S1) – Uses that do not require a planning permit
- ▶ Section 2 (S2) – Uses that require a planning permit
- ▶ Section 3 (S3) – Uses that are prohibited

Table 4: Use Analysis

Use	CI 57 prohibition / condition	GWZ			GWAZ			RCZ		
		S1	S2	S3	S1	S2	S3	S1	S2	S3
Animal keeping (other than animal boarding)		✓*			✓*			✓*		
Agriculture (other than other than Animal keeping, Apiculture, Intensive animal husbandry, Racing dog training, Rice growing and Timber production)		✓			✓				✓	
Bed and breakfast		✓*			✓*			✓*		
Primary Produce Sales		✓*			✓*				✓	
Rural Store		✓*			✓*				✓	
Dependent Person's unit	Condition		✓*			✓*			✓*	
Dwelling (other than Bed and breakfast)	Condition		✓*			✓*			✓*	

Use	CI 57 prohibition / condition	GWZ	GWAZ	RCZ
Function centre	Condition	✓*	✓*	#
Group accommodation	Condition	✓*	✓*	✓
Hall		✓	✓	✓
Residential hotel	Condition	✓*	✓*	✓
Intensive animal husbandry (other than Broiler farm and Cattle feedlot)		✓	✓	✓
Residential building (other than Residential hotel)	Condition	✓*	✓*	✓
Restaurant	Condition	✓*	✓*	✓
Motor Racing Track	Prohibited		✓	✓
Any other use not in Section 1 or 3		✓	✓	✓

*Indicates whether a condition is attached to the use. #Indicates use is not listed but falls into this section due to nesting within another land use term.

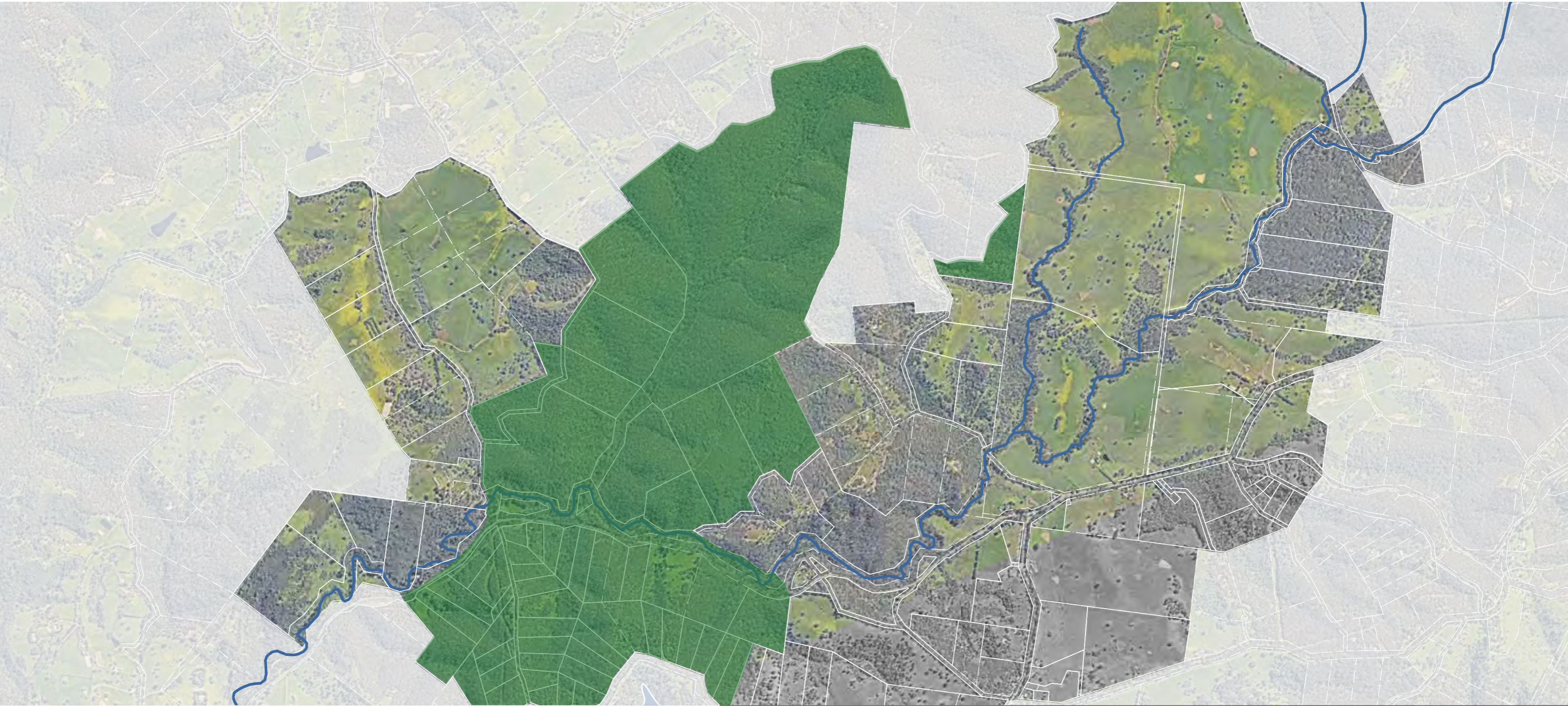
APPENDIX B
RCZ4 OPTION



APPENDIX C

DESIGN RESPONSE AND LAND USE OPTIONS

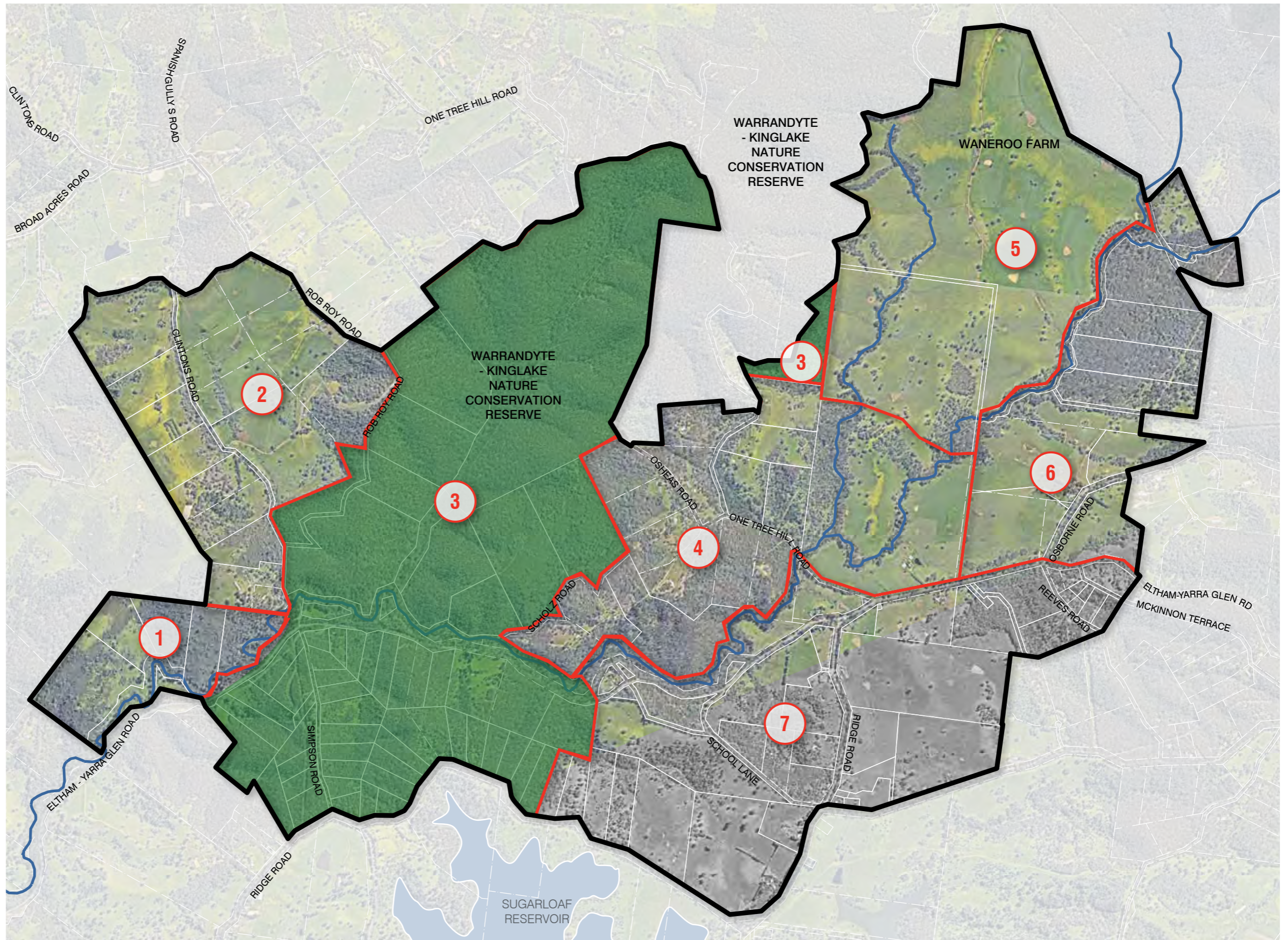
APPENDIX D
TERRAMATRIX REVISED REPORT








RCZ4 REZONING OPTIONS

CHRISTMAS HILLS
304049 | APRIL 2018

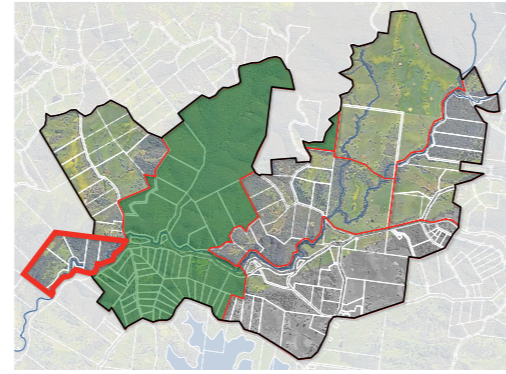
02 PRECINCT PLAN






LEGEND

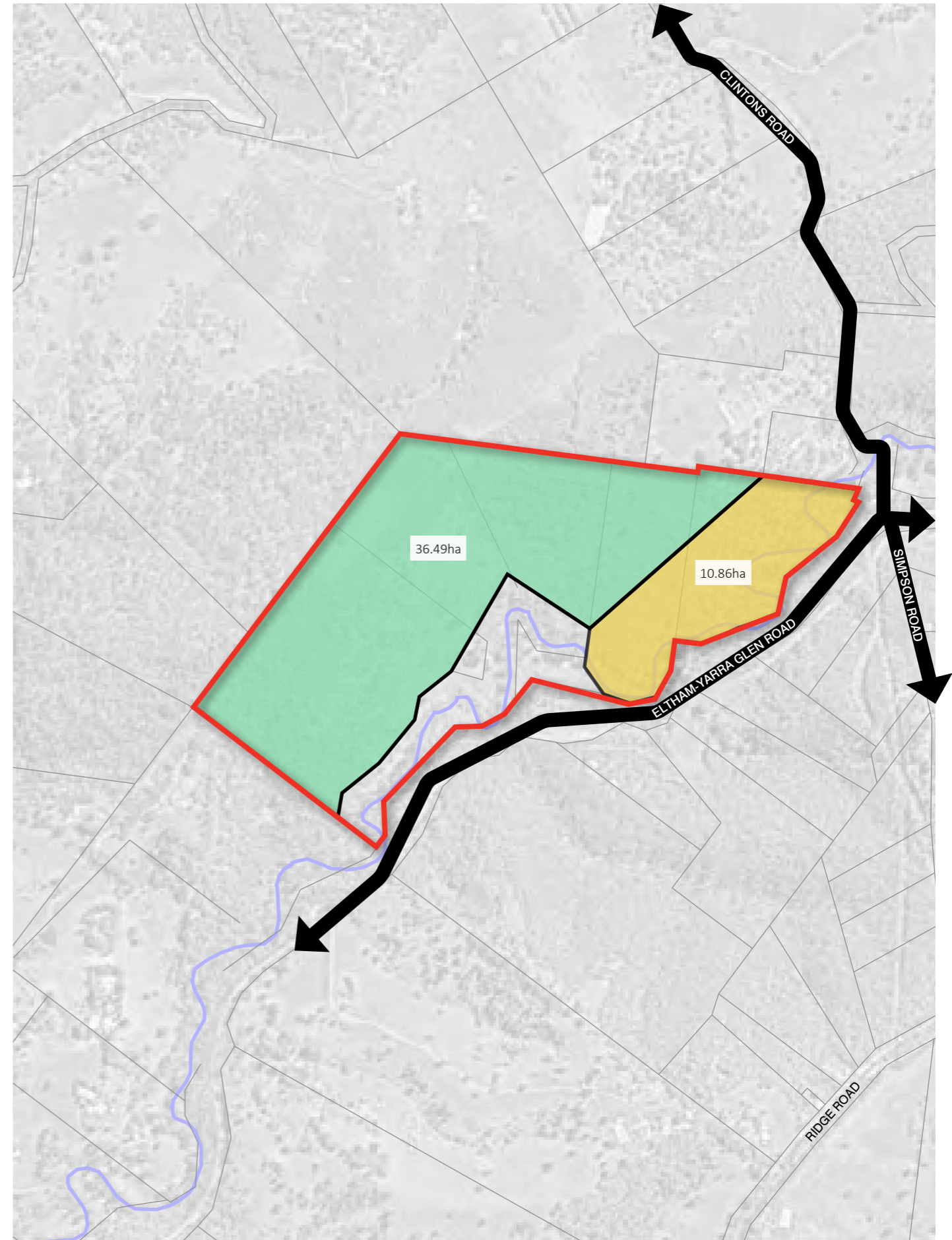
-  Precinct Boundary
-  Watercourse
-  Melbourne Water Titles
-  Cadastre
-  Land for Biodiversity Link

03 PRECINCT 1

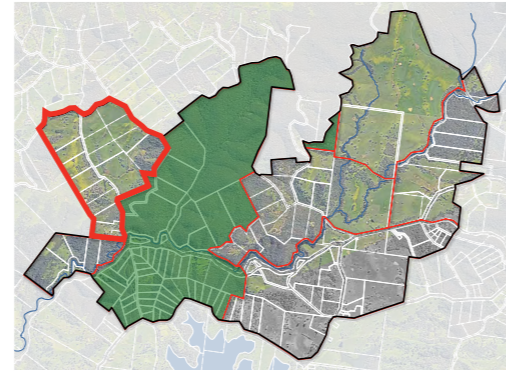


ZONING

-  RCZ4 Lots
-  RCZ4 Lots (Below 40 ha)
-  PCRZ (Exact boundary to be determined)

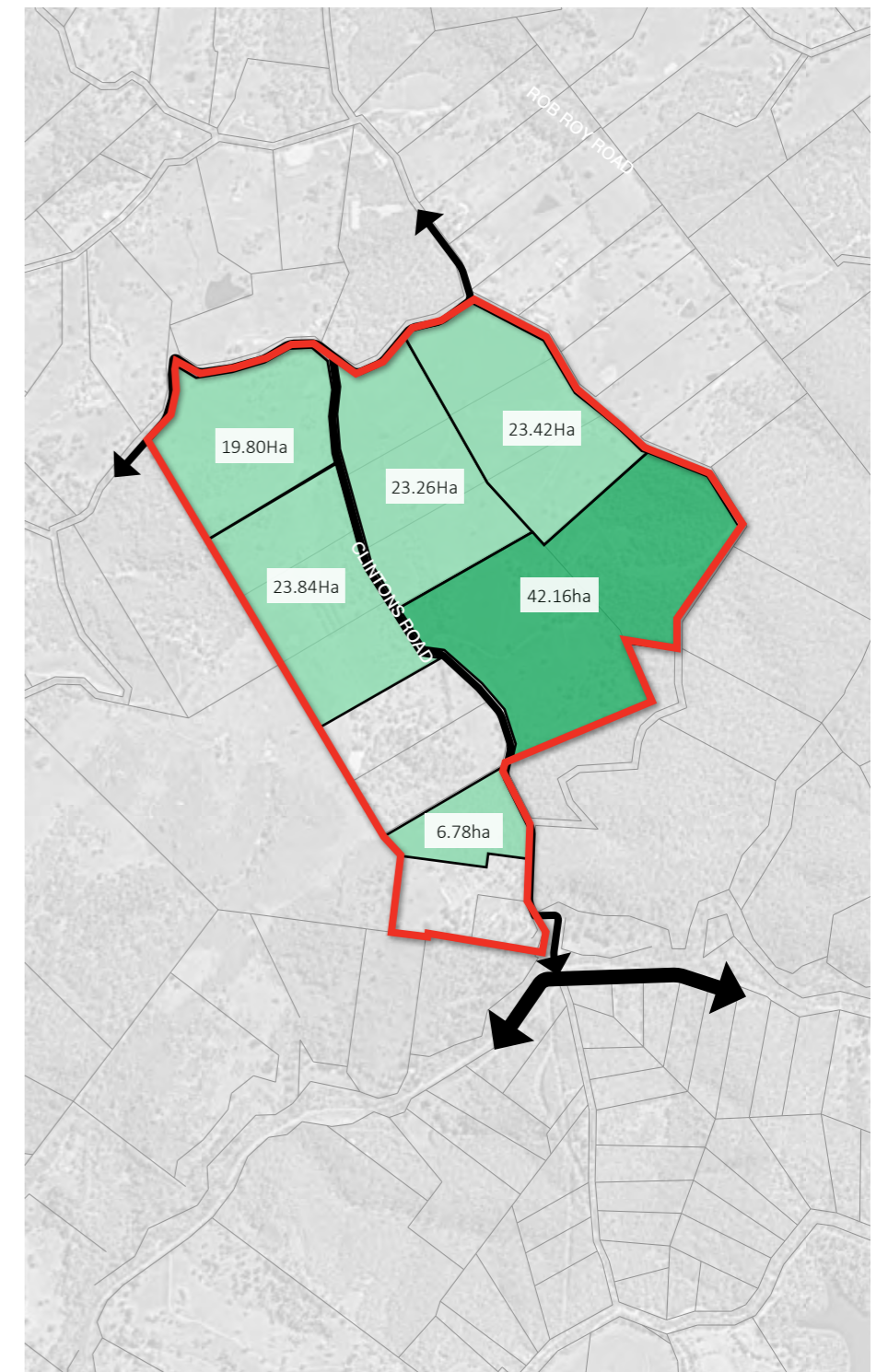
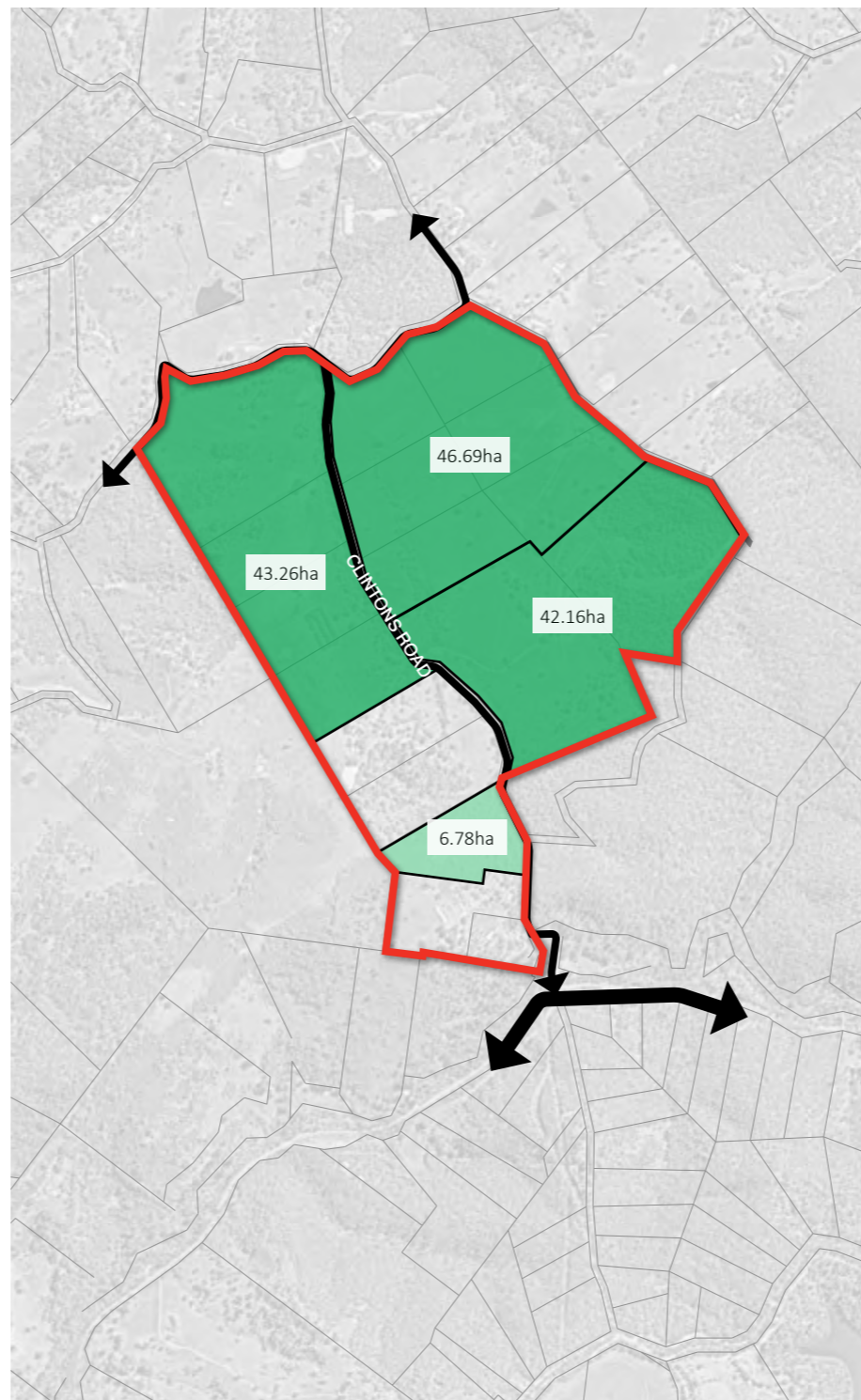


04 PRECINCT 2

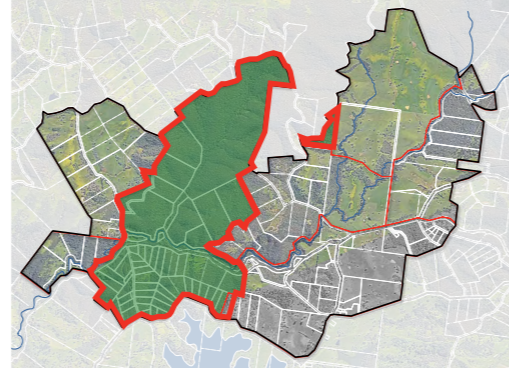


ZONING

-  RCZ4 Lots
-  RCZ4 Lots (Below 40 ha)

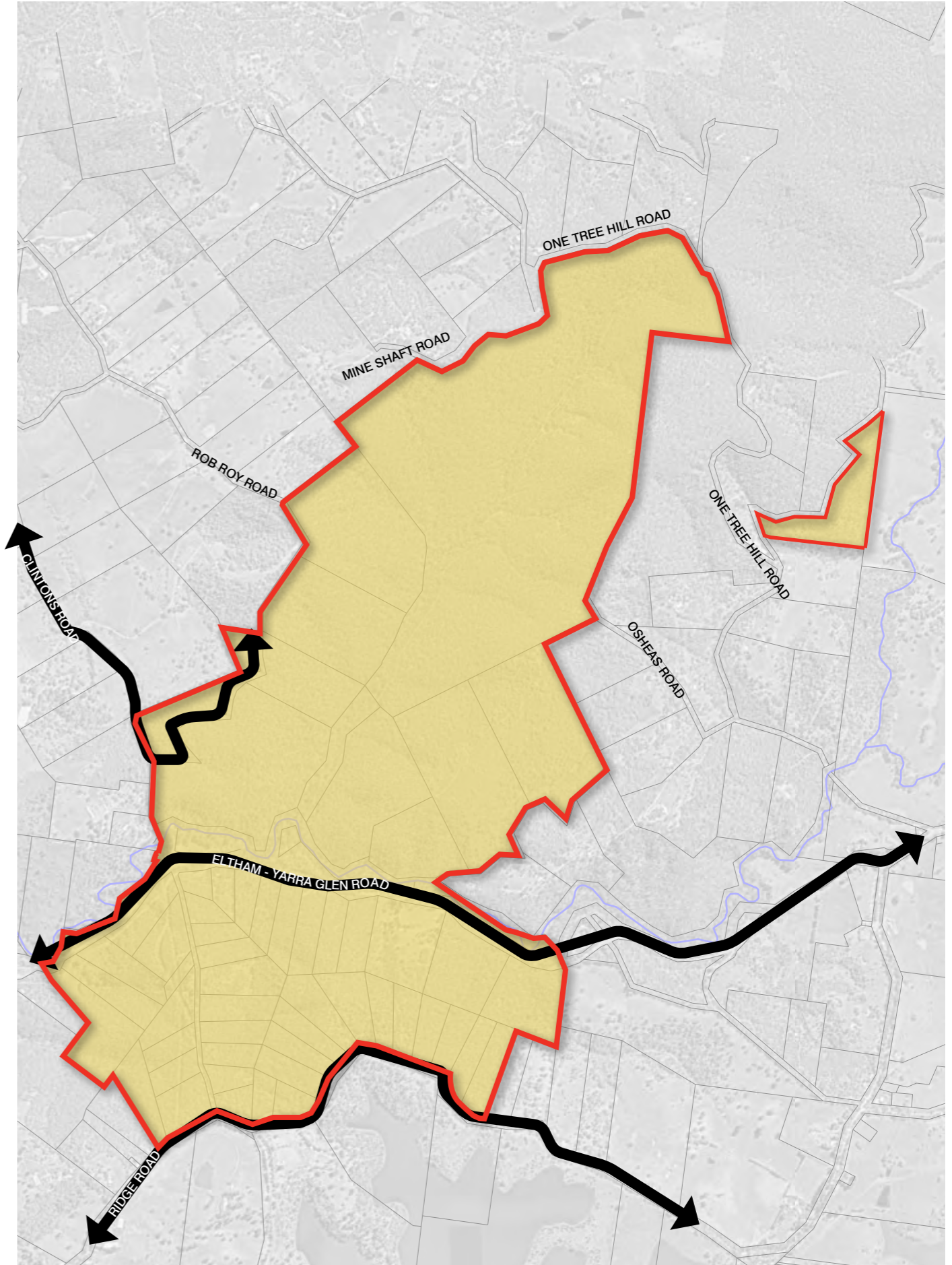


05 PRECINCT 3 zoning option

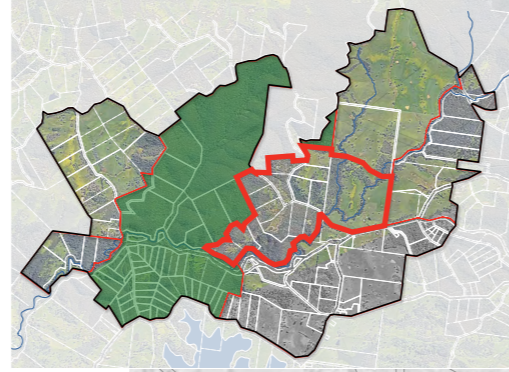


ZONING

 PCRZ

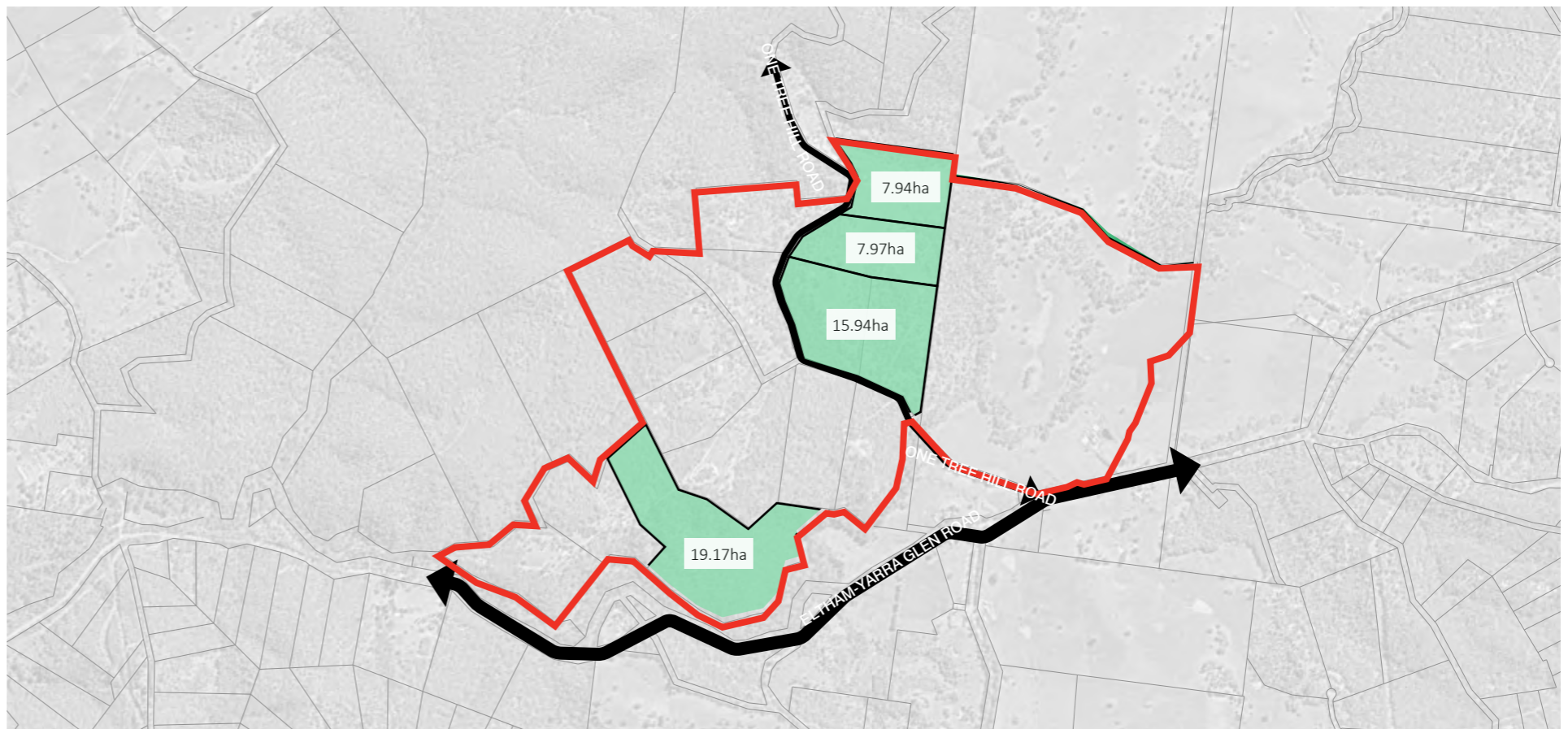
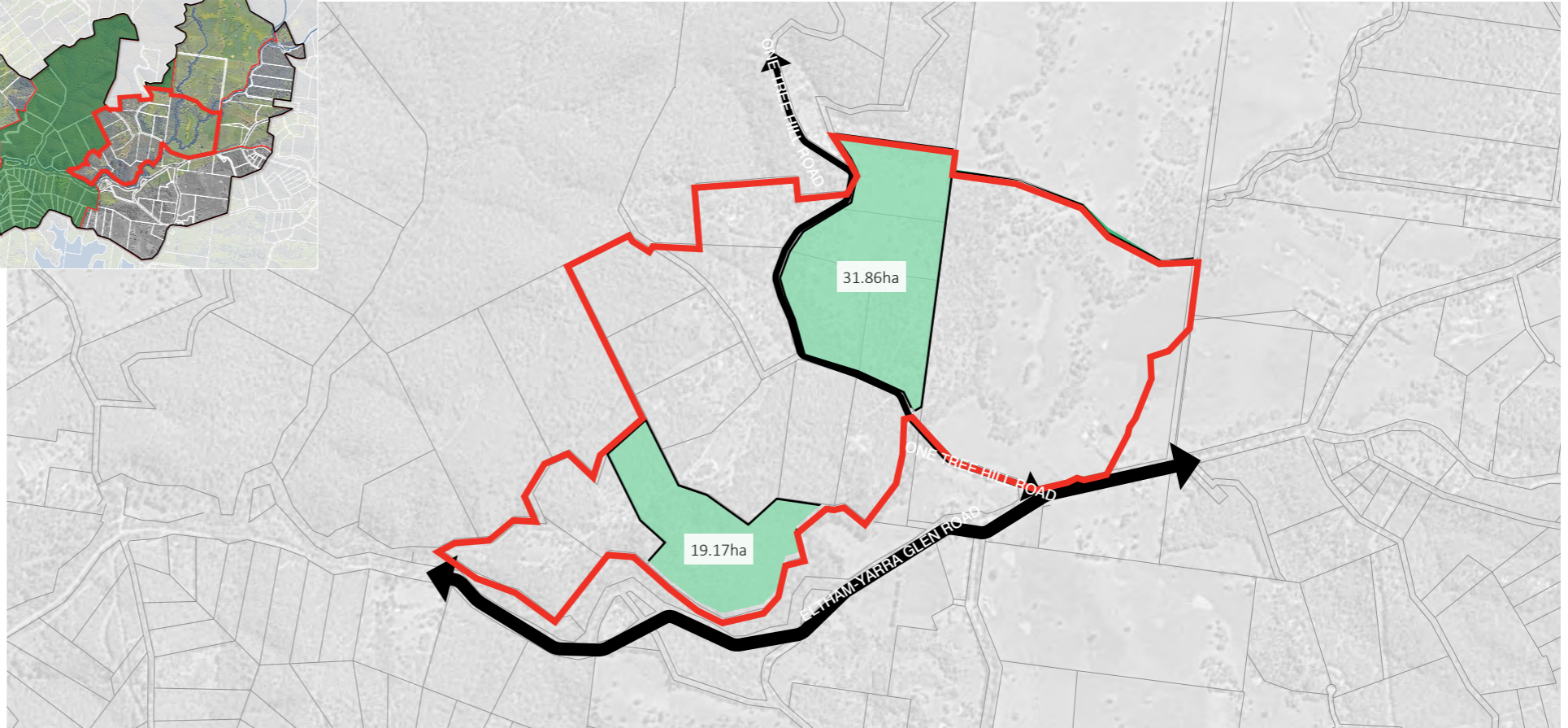


06 PRECINCT 4

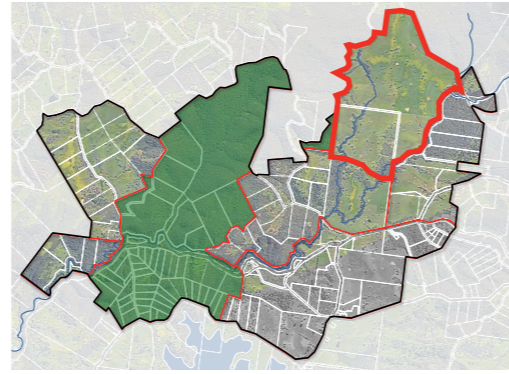


ZONING

-  RCZ4 Lots
-  RCZ4 Lots (Below 40 ha)

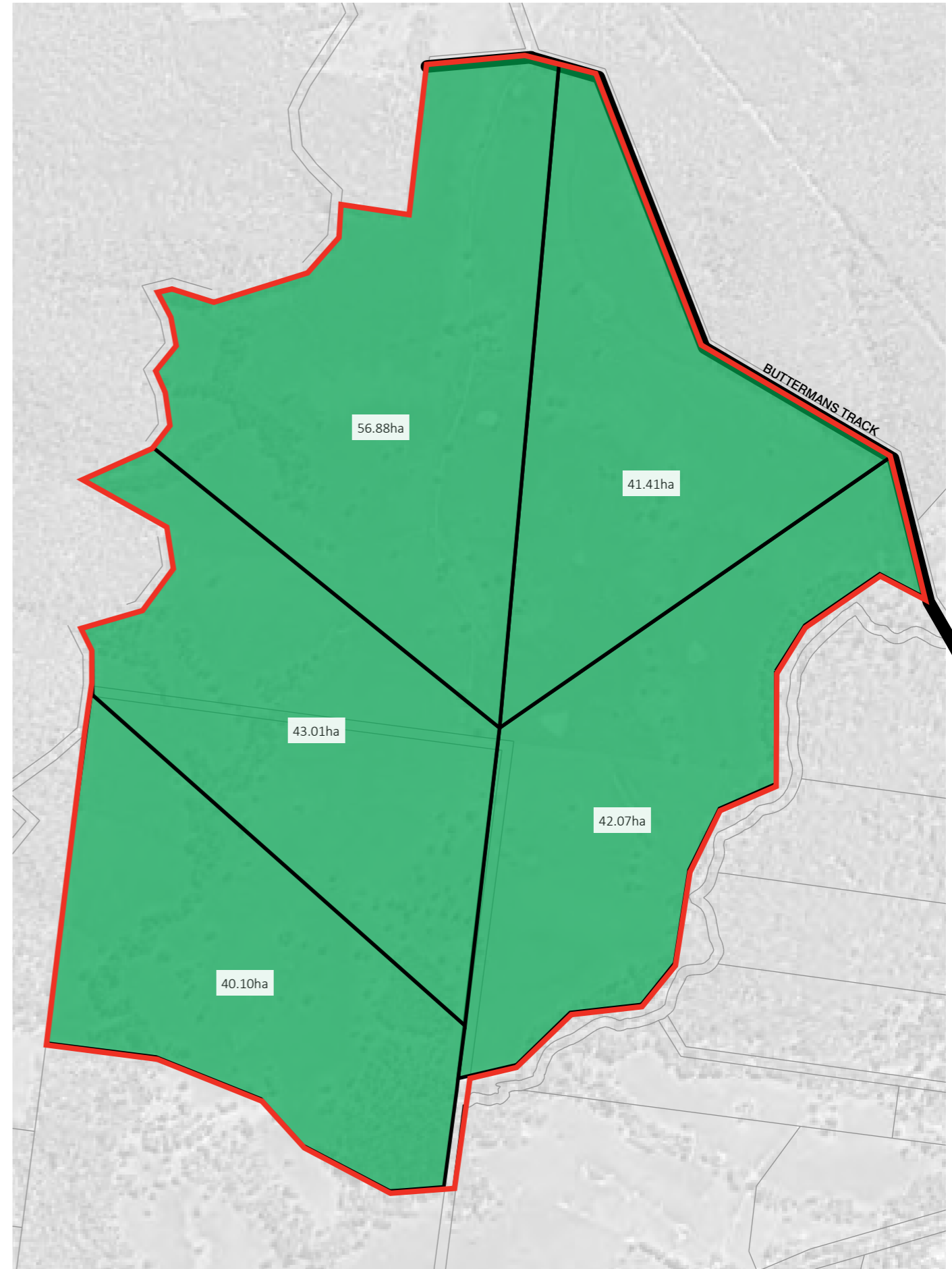


07 PRECINCT 5 zoning option

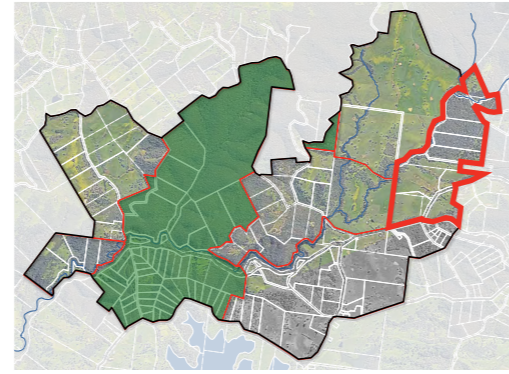


ZONING

-  RCZ4 Lots
-  RCZ4 Lots (Below 40 ha)

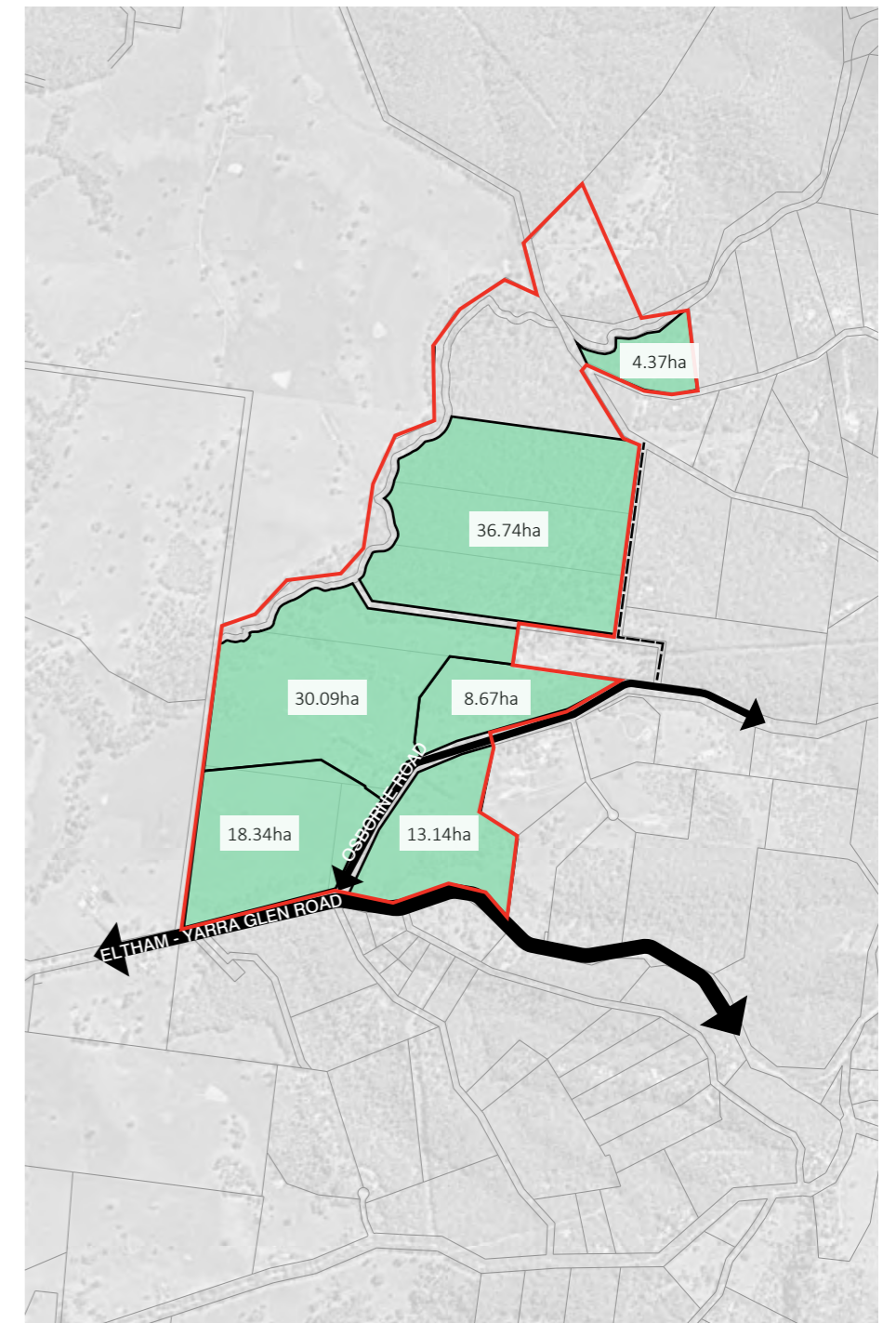
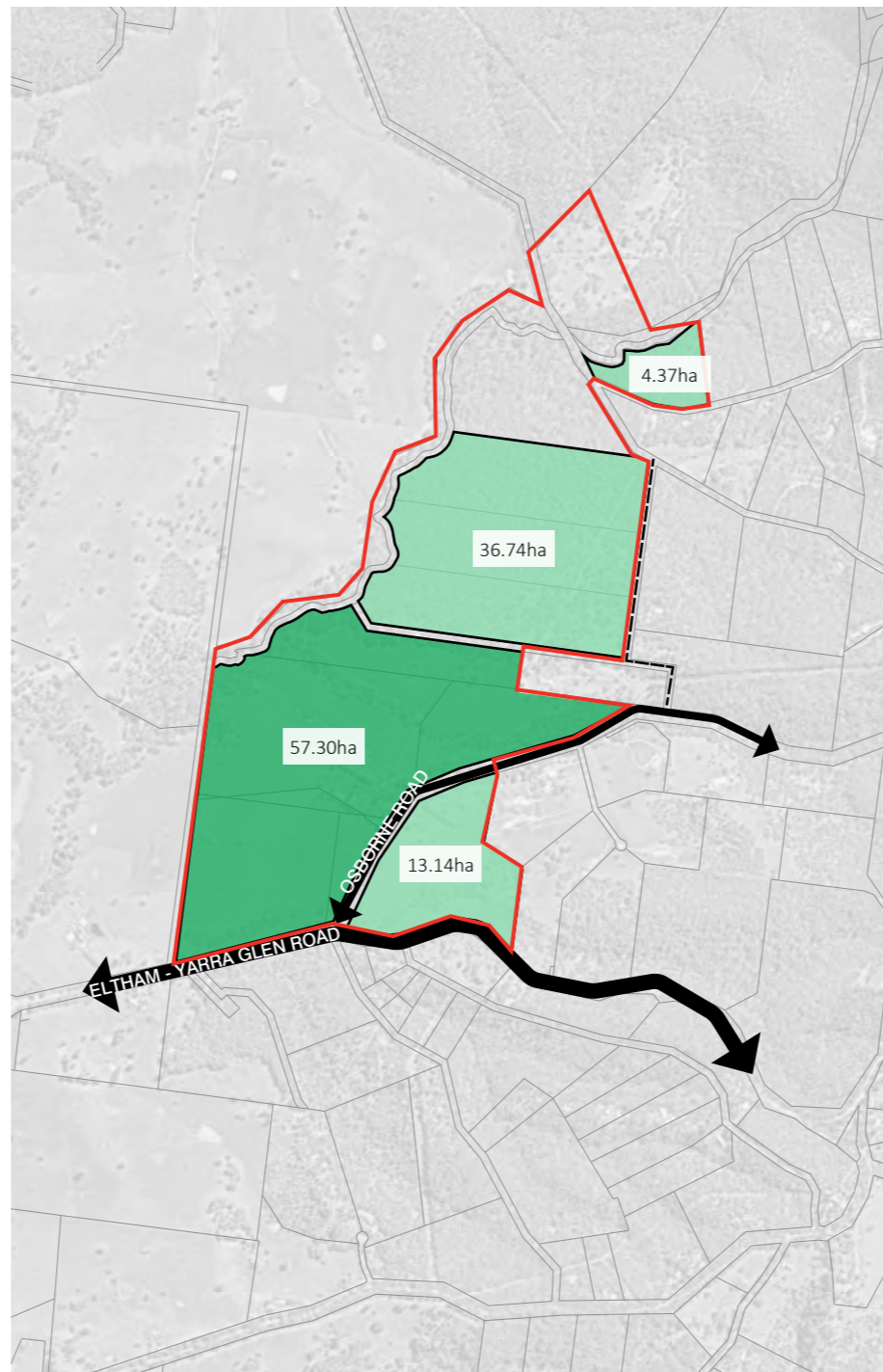


08 PRECINCT 6 zoning option



ZONING

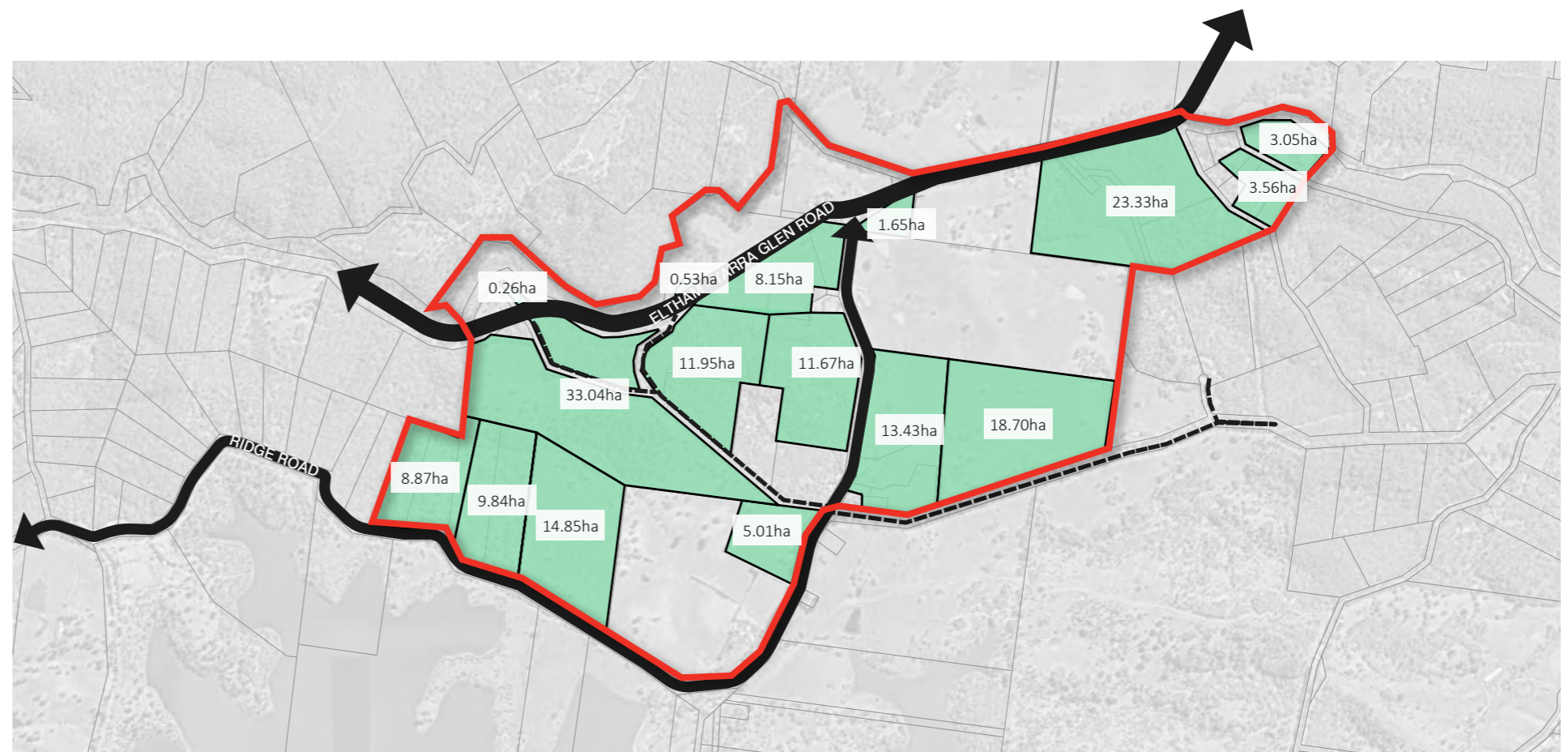
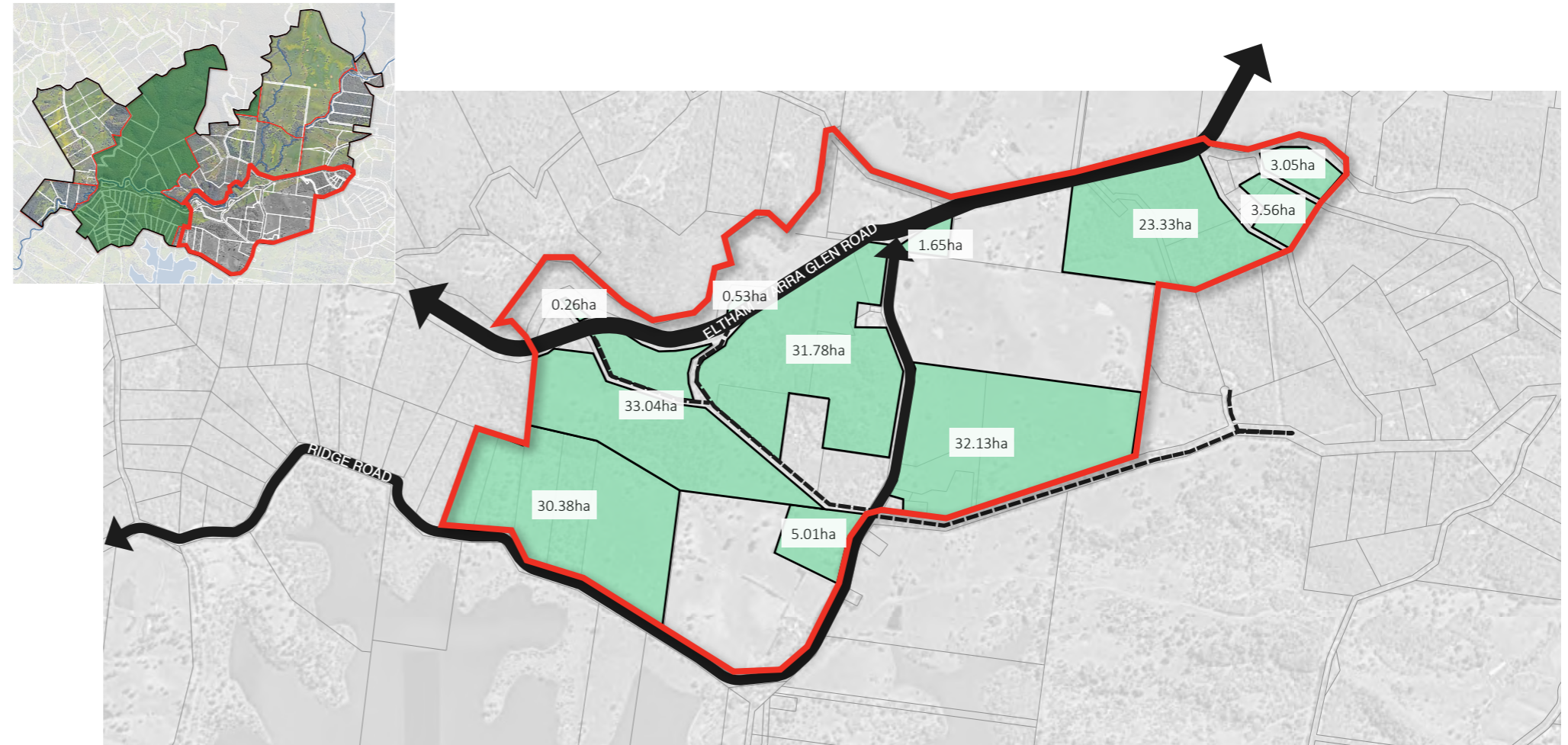
-  RCZ4 Lots
-  RCZ4 Lots (Below 40 ha)



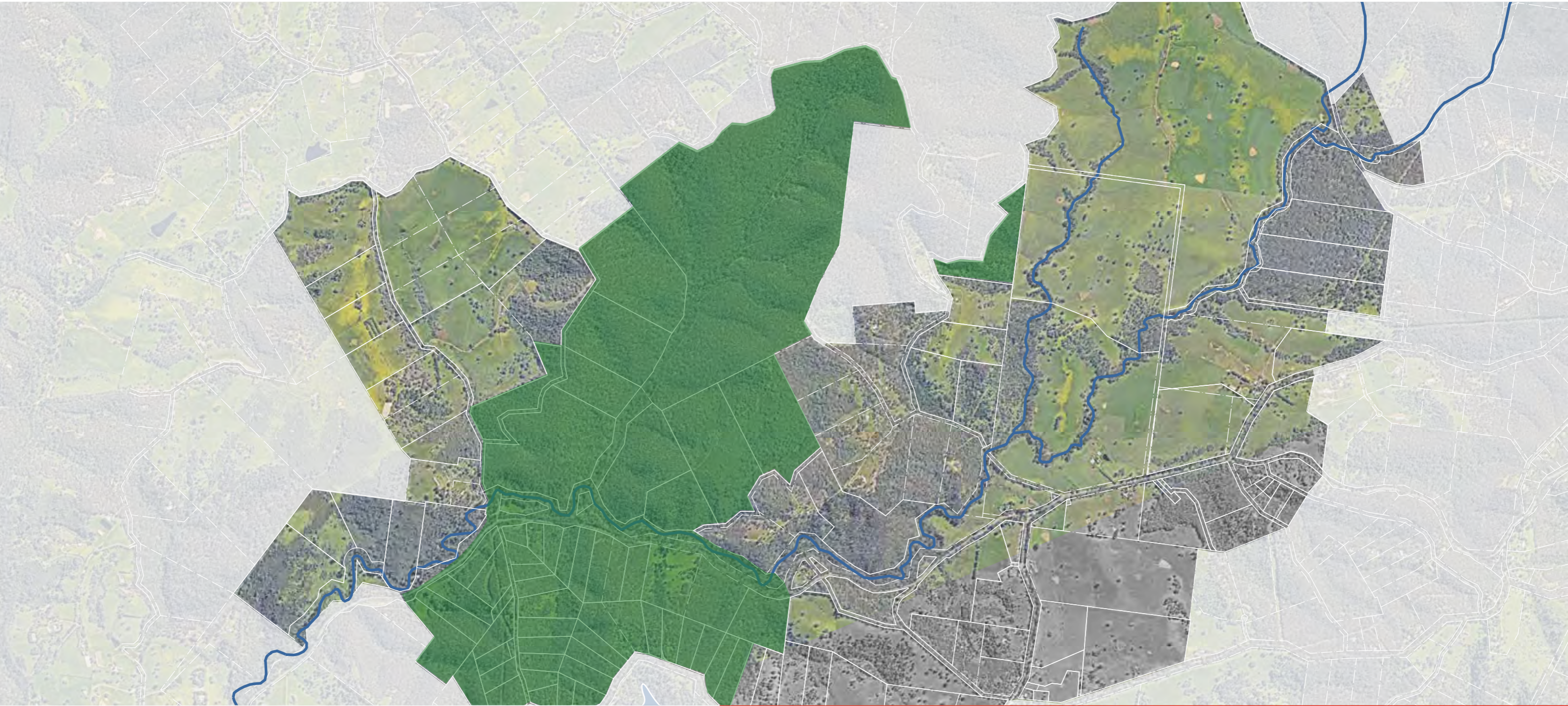
09 PRECINCT 7 zoning option

ZONING

- RCZ4 Lots
- RCZ4 Lots (Below 40 ha)



spiire

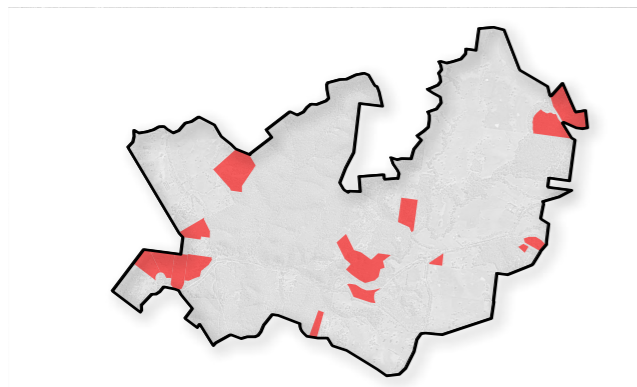


DESIGN RESPONSE AND LAND USE OPTIONS

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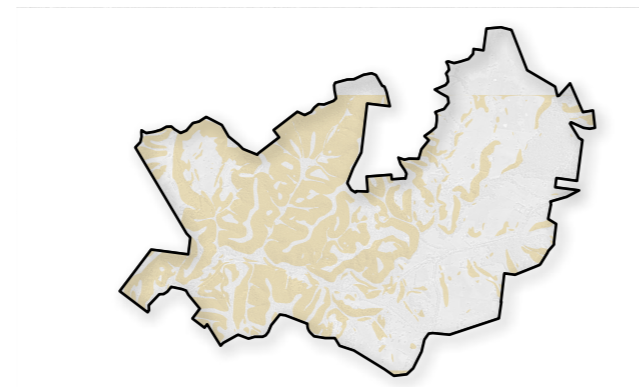
01 DESIGN PRINCIPLES

1. BUSHFIRE



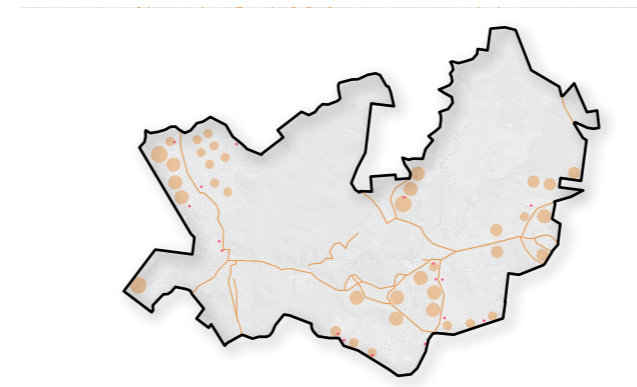
- ▶ Ensure future dwellings achieve BAL 12.5 rating
- ▶ Bushfire assessment to be updated

2. SLOPE



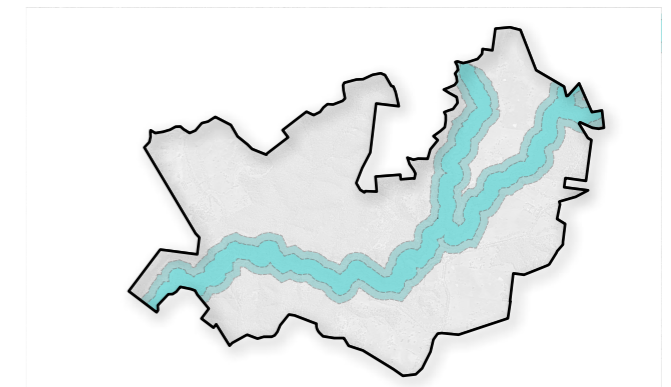
- ▶ Ensure dwelling locations are away from steep slopes to allow for defensible space and access

3. SERVICING



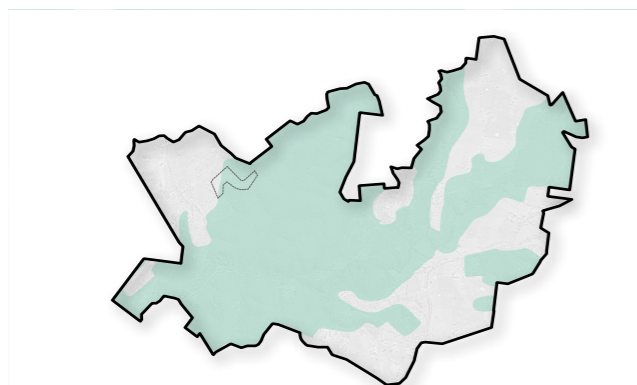
- ▶ Ensure dwellings can be powered on site
- ▶ Ensure septic can be provided

4. BUFFERS



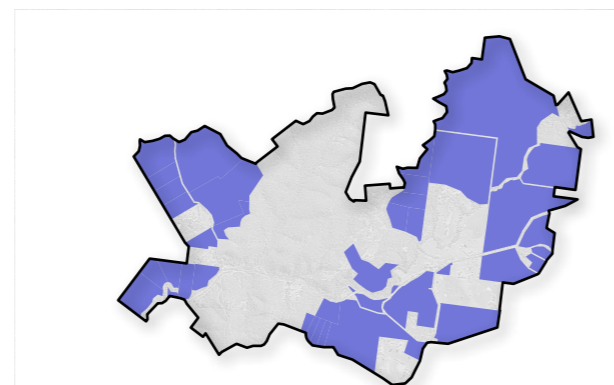
- ▶ Protect water way and cultural heritage values

5. OVERLAYS



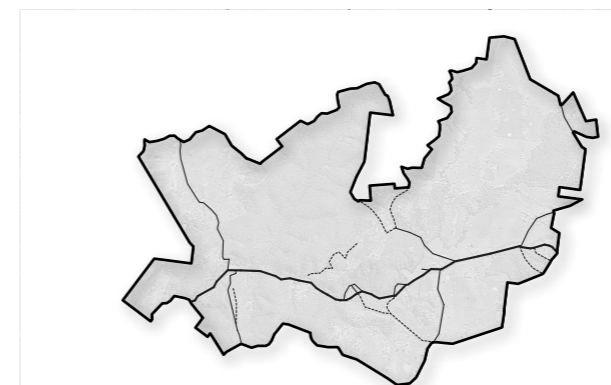
- ▶ Ensure the natural environment is protected
- ▶ Ensure heritage is protected

6. CONSOLIDATION/OWNERSHIP



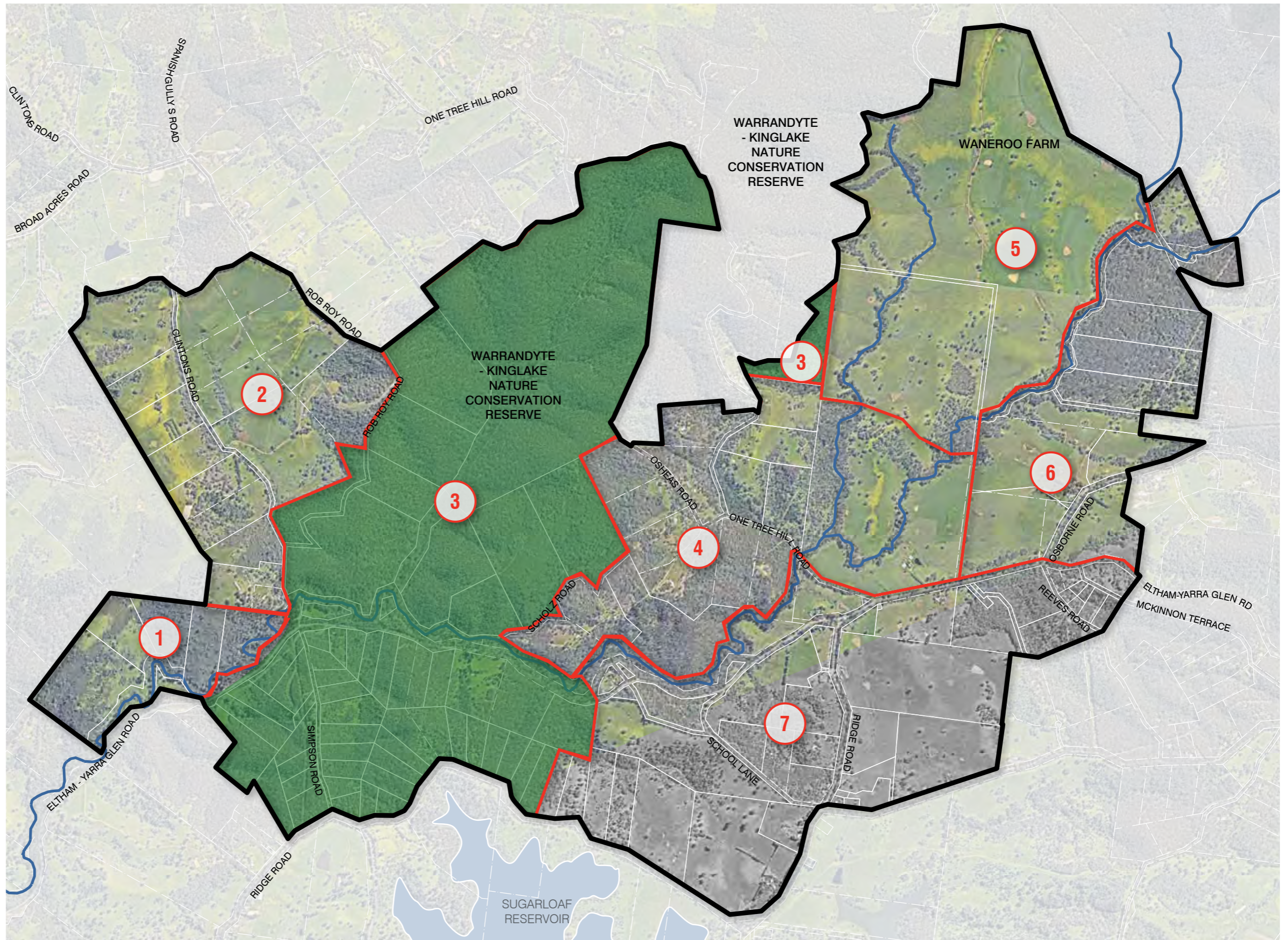
- ▶ Ensure consolidation is appropriate and accessible

7. ACCESS








- ▶ Ensure there is clear access to properties and dwelling for emergency vehicles and residents

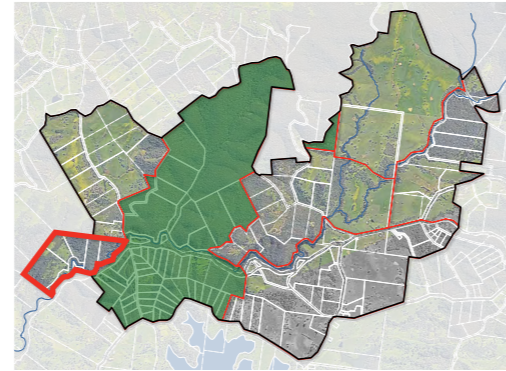
02 PRECINCT PLAN



LEGEND

-  Precinct Boundary
-  Watercourse
-  Melbourne Water Titles
-  Cadastre
-  Land for Biodiversity Link

03 PRECINCT 1 design response



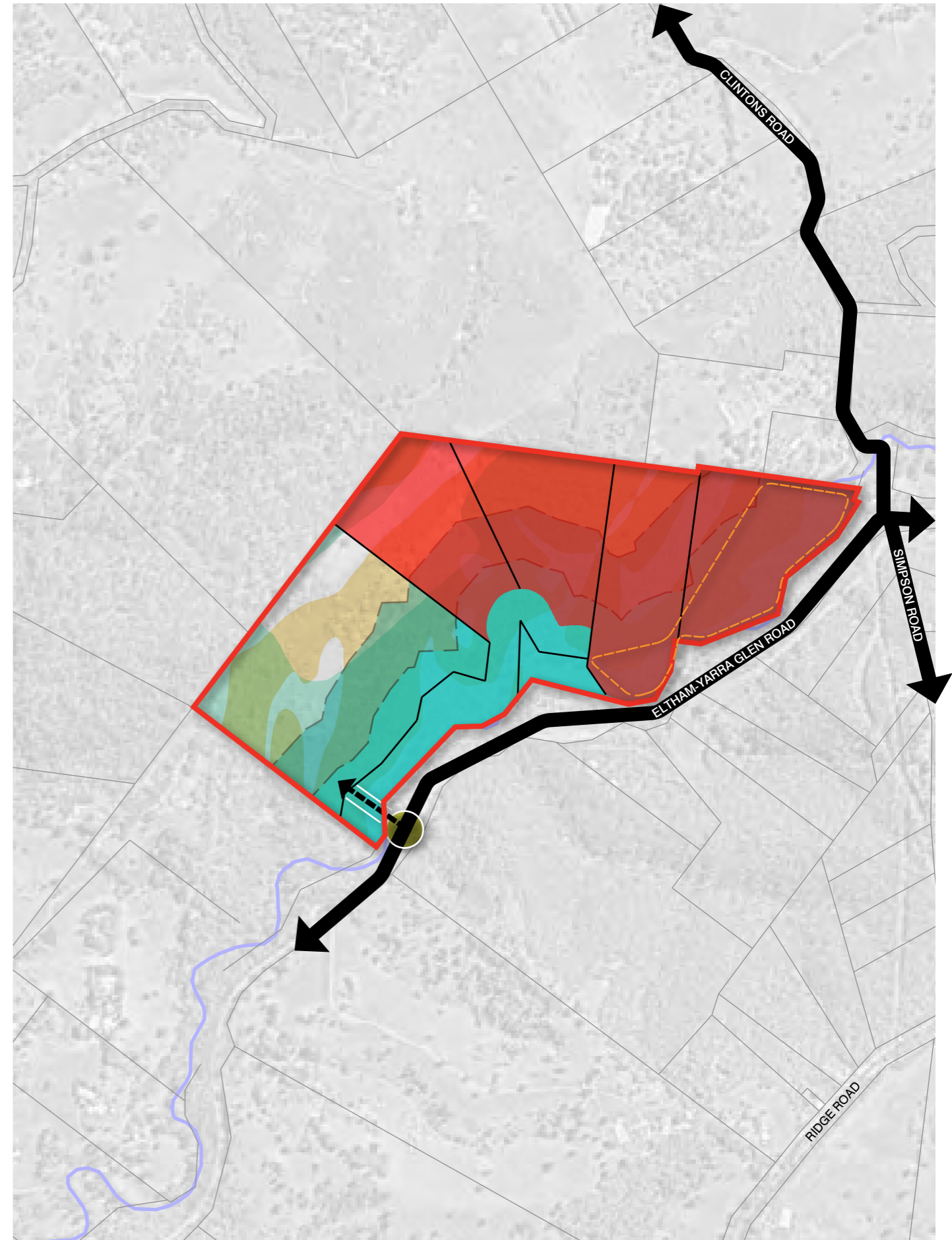
CONSTRAINTS

- Lots that cannot achieve BAL 12.5 defensible space
- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay

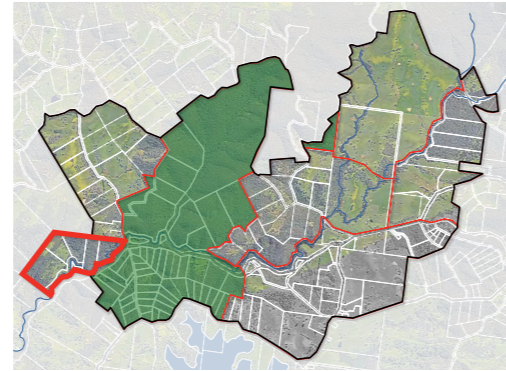
DESIGN RESPONSE

- ACCESS TO SITE
- BRIDGE CONSTRUCTION REQUIRED
- AREA TO BE TRANSFERRED TO CROWN

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	1 property can achieve BAL 12.5
SLOPE	Areas can achieve a dwelling with regards to slope
SERVICING	On site servicing Suitable buffers for septic can be achieved
BUFFERS	Suitable buffers from creek can be achieved
OVERLAYS	Precinct sits within ES01 - no further subdivision should be undertaken
CONSOLIDATE OWNERSHIP	Consolidate properties due to bushfire risk
ACCESS	Access can be achieved from Eltham-Yarra Glen Road Bridge will need to be constructed



03 PRECINCT 1 land use option



OPTION 1

There is potential to site a dwelling with the removal of extensive vegetation and construction of a bridge. It is recommended to divest the property.

OPTION 2

No dwelling option, consolidate as required and divest

PROPOSED ZONES

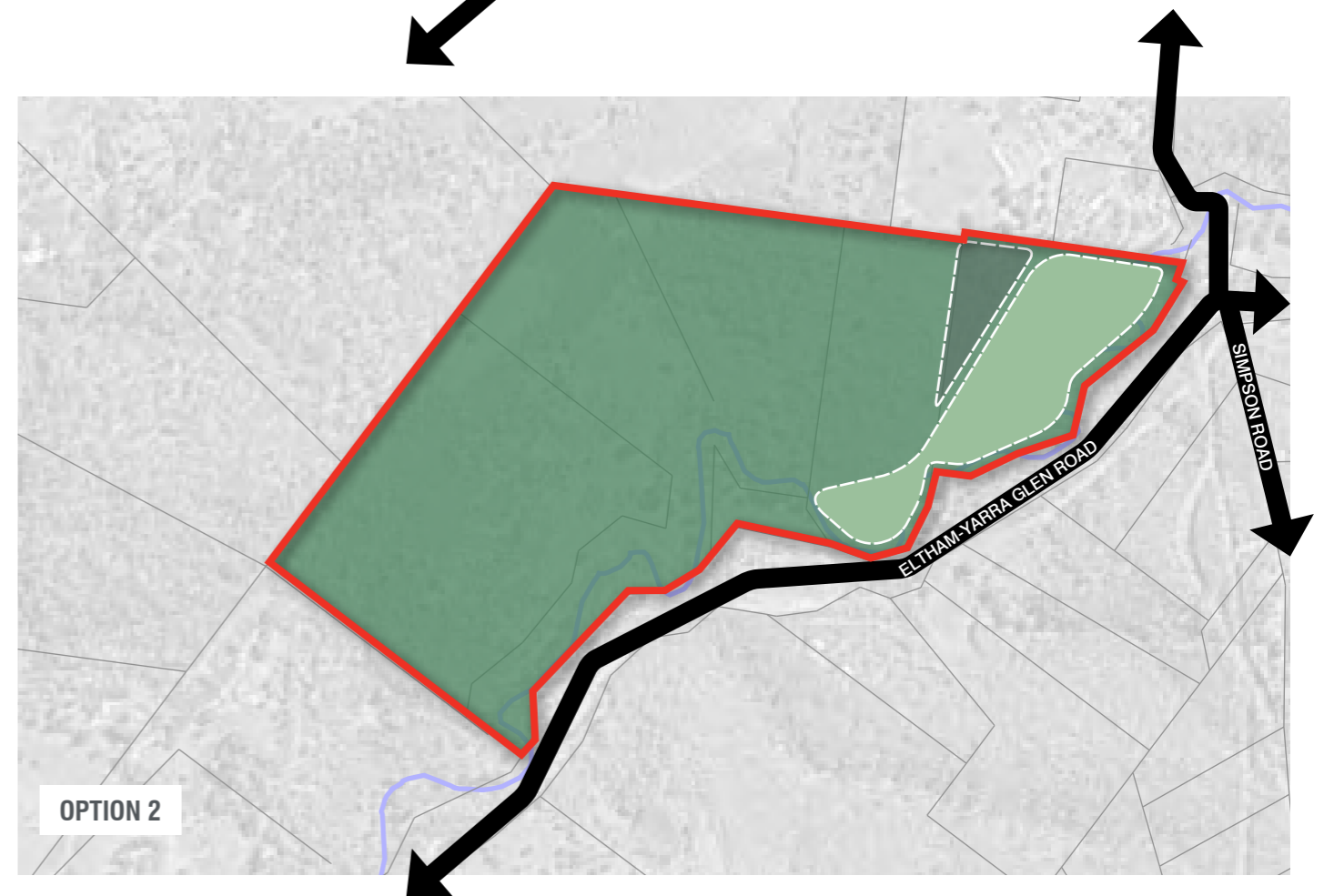
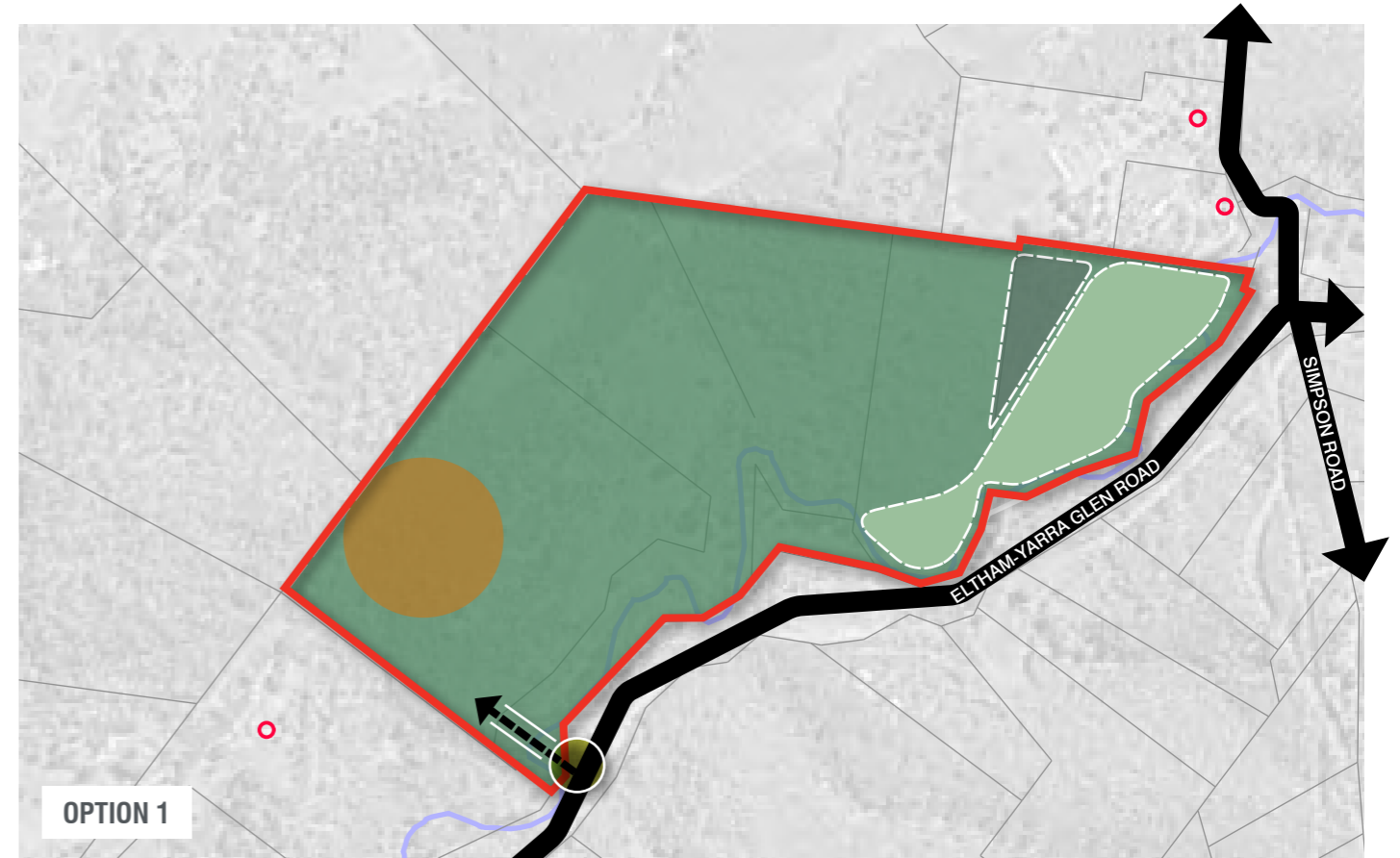
- RCZ4 - Existing
- RCZ4 - Addition
- PCRZ - Boundary to be finalised

LEGEND

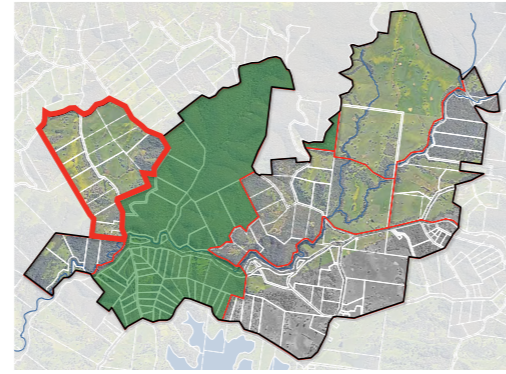
- BAL 12.5 DEFENDABLE SPACE ENVELOPE
- ACCESS
- BRIDGE CONSTRUCTION REQUIRED
- EXISTING DWELLINGS
- NEW LOT BOUNDARIES

NEXT STEPS

- ▶ Feasibility required for bridge access
- ▶ Resolve PCRZ boundary



04 PRECINCT 2 design response



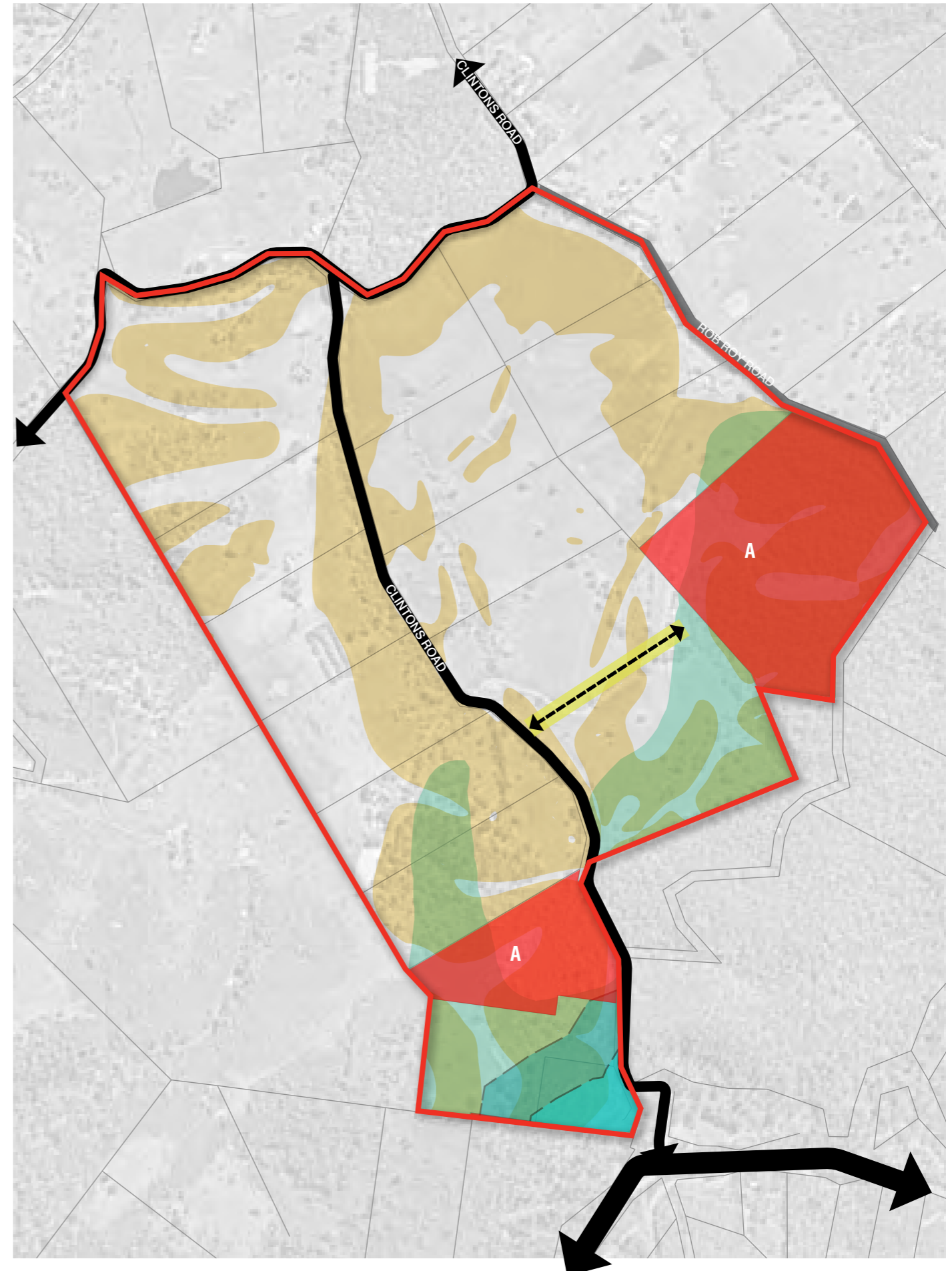
CONSTRAINTS

- Lots that cannot achieve BAL 12.5 defensible space
- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay
- Heritage Overlay

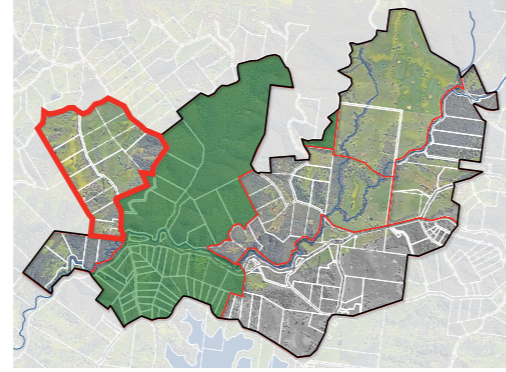
DESIGN RESPONSE

- NEW ACCESS TO HERITAGE SITE
- CONSIDER ACCESS ARRANGEMENT OFF ROB ROY ROAD

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	Likely to achieve BAL 12.5 2 areas can not achieve BAL 12.5
SLOPE	Dwellings can be developed around sloped areas
SERVICING	On site servicing Suitable buffers for septic can be achieved
BUFFERS	Suitable buffers from creek can be achieved
OVERLAYS	Limited ES01 - suitable for different zone controls The heritage overlay should be subdivided to create a separate title
CONSOLIDATE OWNERSHIP	Area is suitable for subdivision - realignment. Consolidation potential with adjoining properties in locations marked A
ACCESS	Access can be achieved from Clintons Road and Rob Roy Road Access to new heritage property should be considered from Clintons Road



04 PRECINCT 2 land use option



OPTION 1

- ▶ Realign lots to achieve RCZ3 (8ha) minimum lots where possible
- ▶ Site dwellings in BAL 12.5 defensible space envelopes and near roads
- ▶ Transfer land to Crown for Rob Roy Hill Climb, as per Option 1 figure
- ▶ Access to west of Clinton Road to be resolved

AREA A

Divest to neighbouring property/or
Offest site (ownership to be confirmed)

OPTION 2

- ▶ Realign lots to achieve RCZ3 (8ha) minimum lots where possible
- ▶ Site dwellings in BAL 12.5 defensible space envelopes and near roads
- ▶ Transfer land to Crown for Rob Roy Hill Climb and subdivide remaining land to reflect heritage overlay and facilitate divestment as per Option 2 figure
- ▶ Access to some sites west of Clinton Road to be resolved.
- ▶ Access to Rob Roy Hill Climb via Clintons Road.

AREA A

Divest to neighbouring property/or
Offest site (ownership to be confirmed)

PROPOSED ZONES

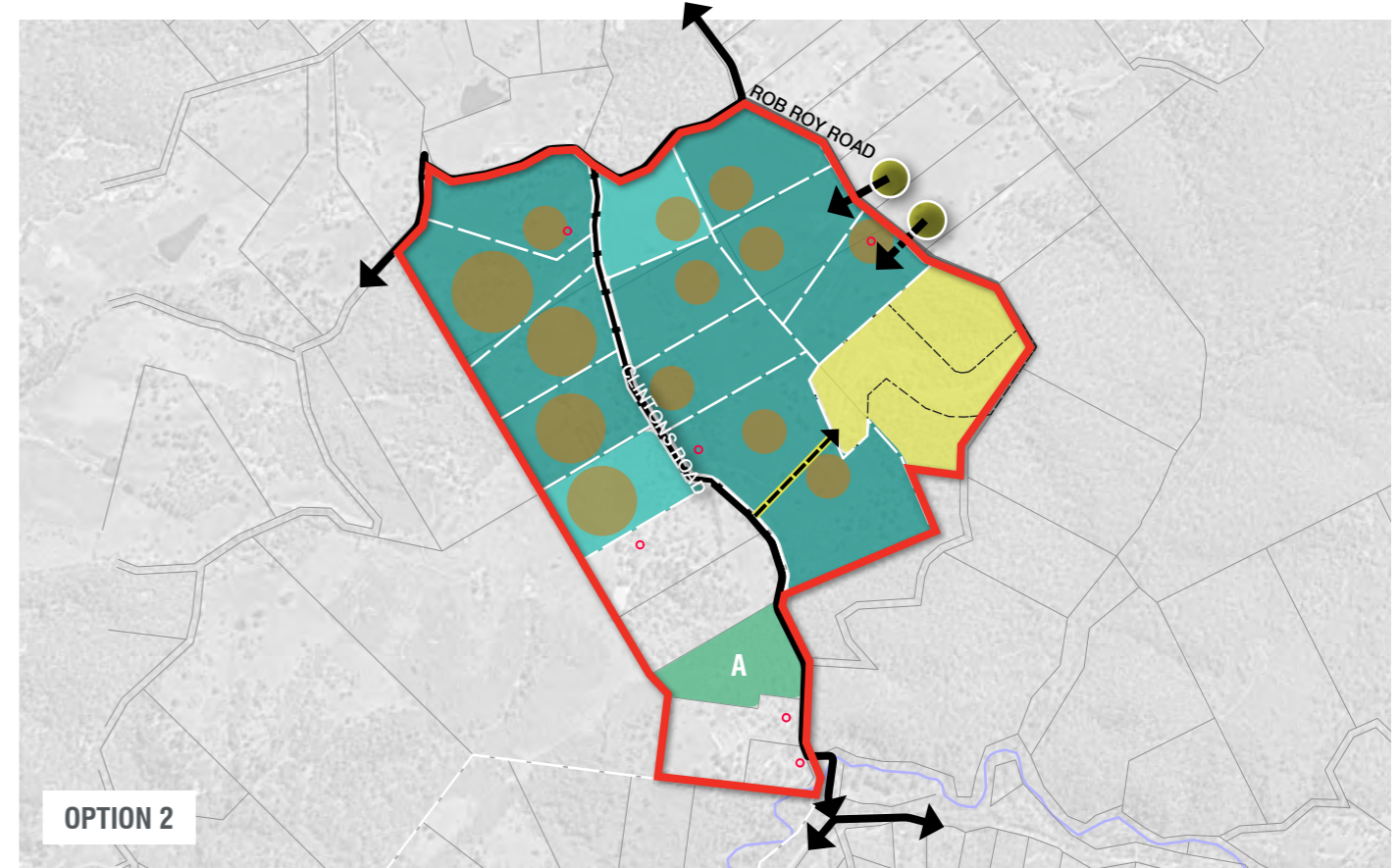
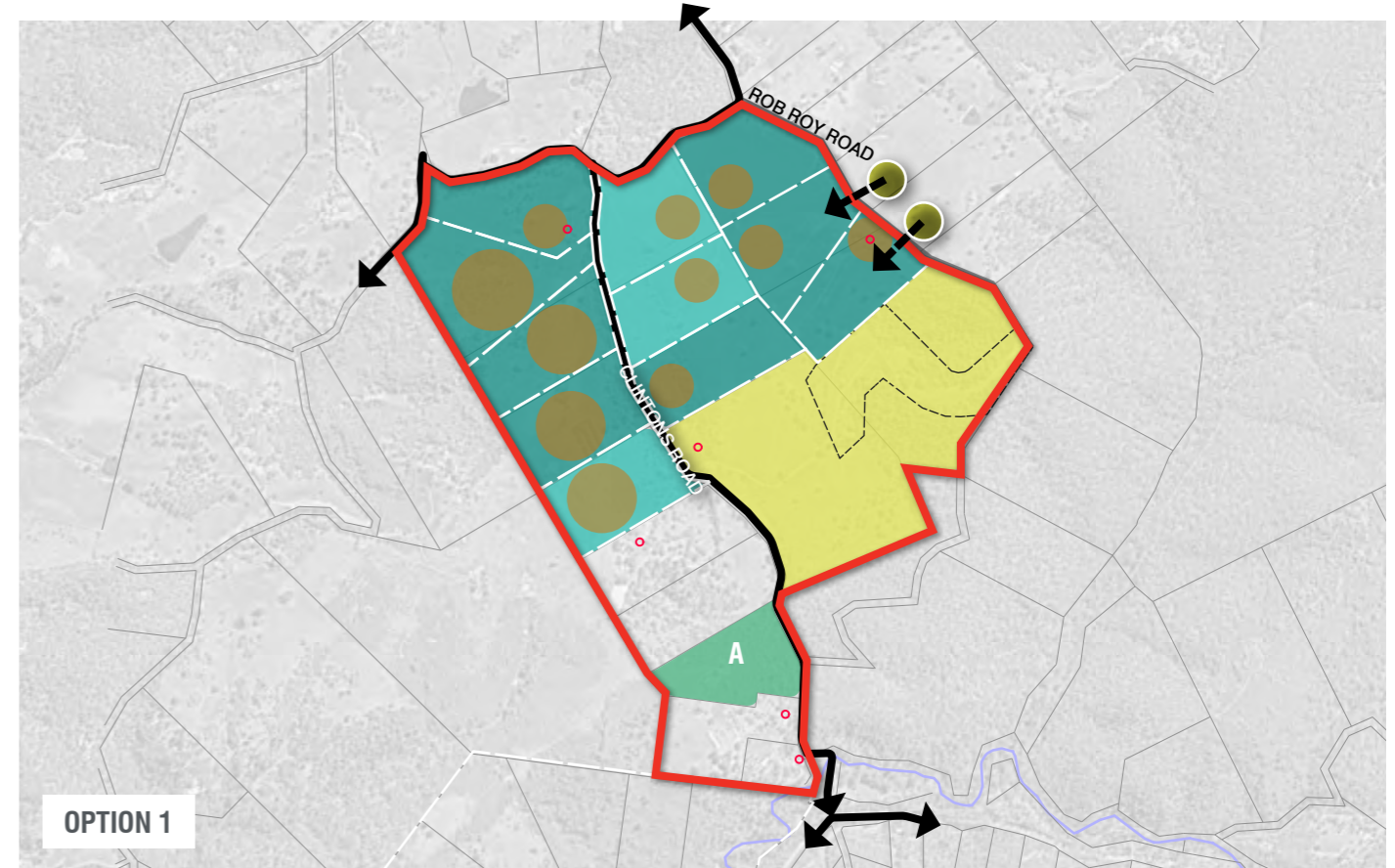
- RCZ3
- RCZ3 (Below 8ha minimum)
- RCZ4 (Below 40ha minimum)
- PUZ/RCZ4 - Heritage Overlay zoning dependent on future land ownership

LEGEND

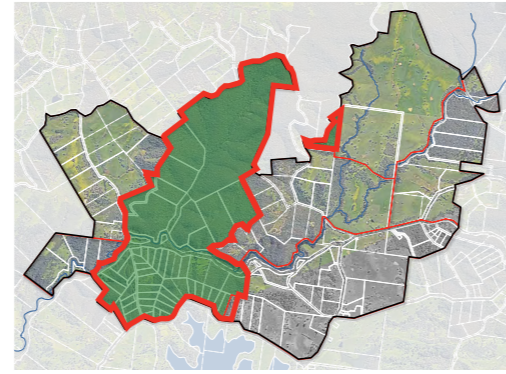
- GENERAL LOCATION ACCESS easement or within new title
- LIMIT ACCESS OF ROB ROY ROAD
- BAL 12.5 DEFENDABLE SPACE ENVELOPE
- EXISTING DWELLING
- NEW LOT BOUNDARIES

NEXT STEPS

- ▶ Access arrangements to future dwelling locations to be reviewed in regards to slope
- ▶ Access to heritage to be resolved



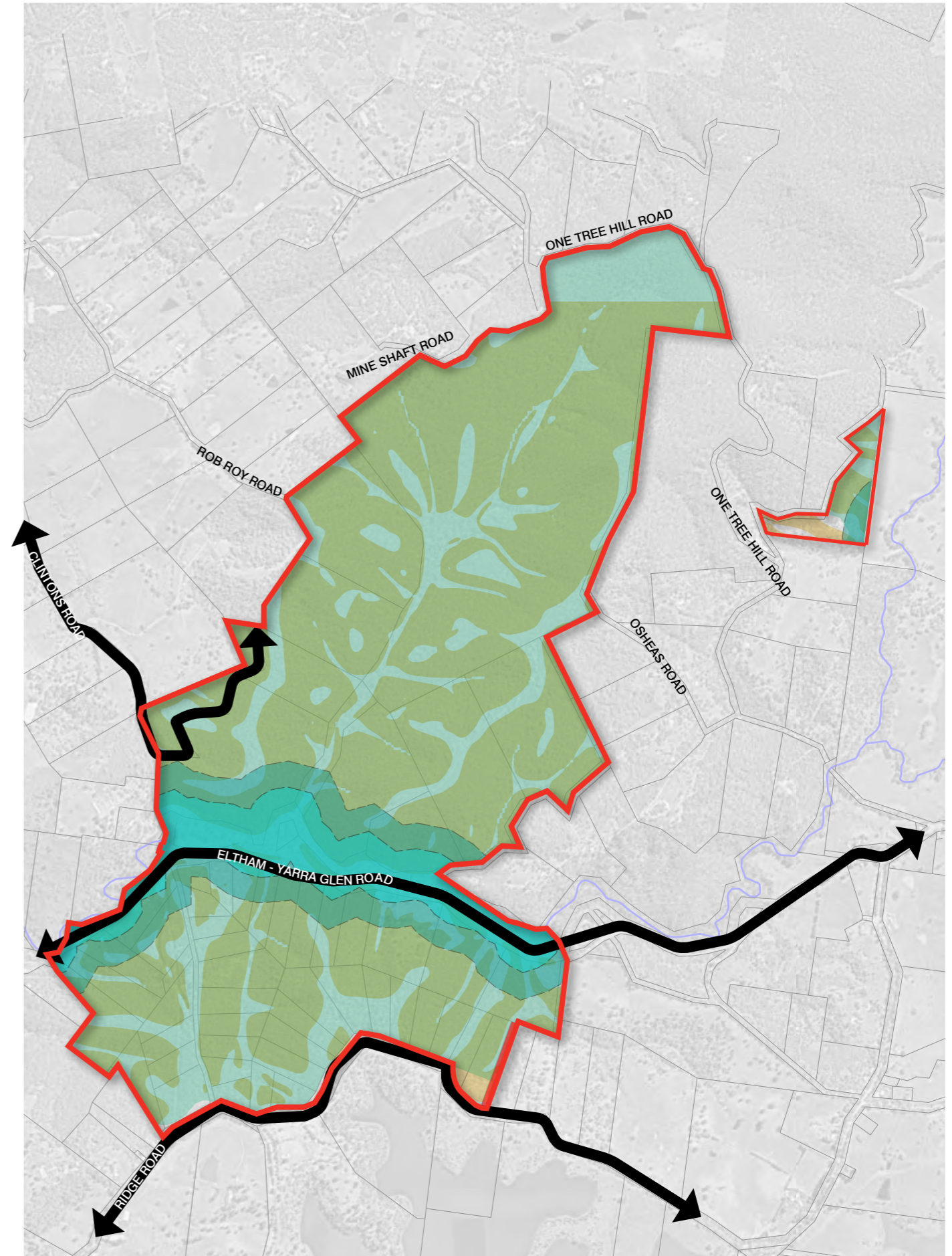
05 PRECINCT 3 design response



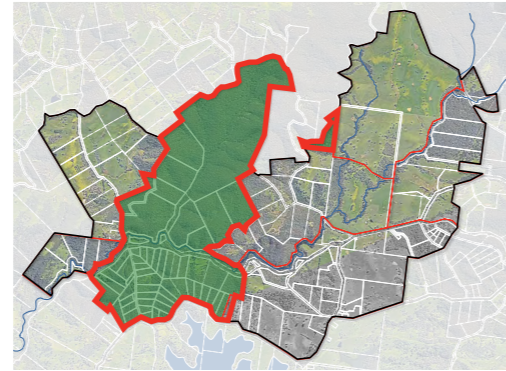
CONSTRAINTS

- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	N/A
SLOPE	N/A
SERVICING	N/A
BUFFERS	N/A
OVERLAYS	N/A
CONSOLIDATE OWNERSHIP	N/A
ACCESS	N/A



03 PRECINCT 3 land use option

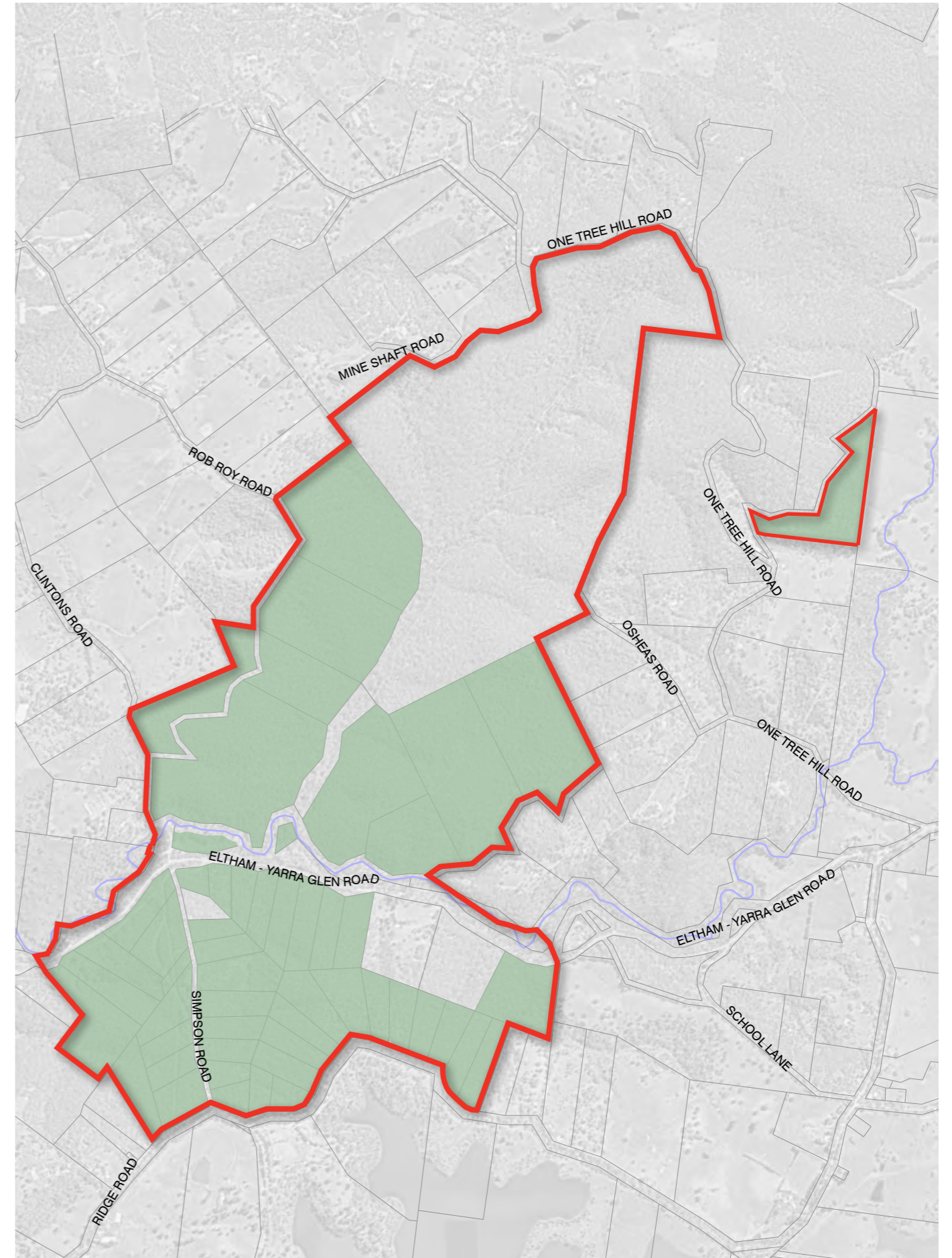


RECOMMENDATION

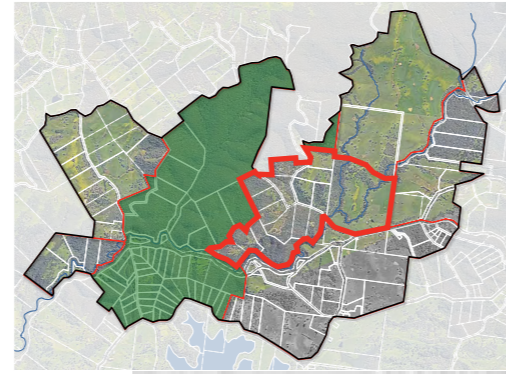
To be divested to crown for Warrandyte - Kinglake Nature Conservation Reserve, minor subdivisions for roads.

PROPOSED ZONES

■ PCRZ



06 PRECINCT 4 design response



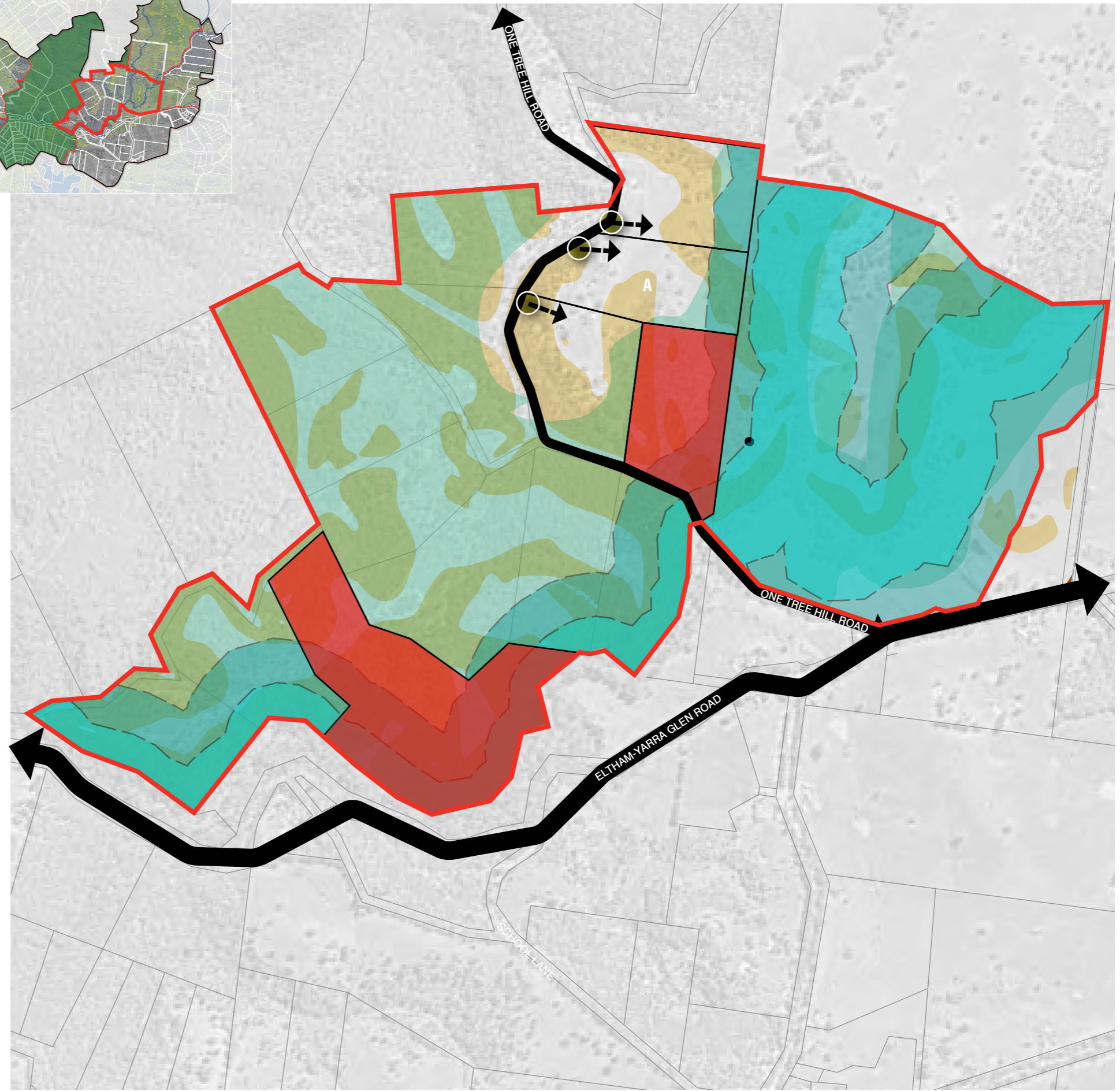
CONSTRAINTS

- Lots that cannot achieve BAL 12.5 defensible space
- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay

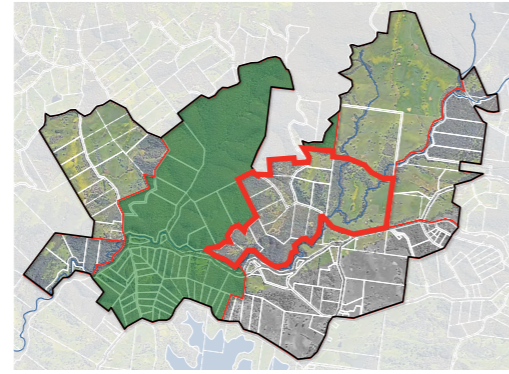
DESIGN RESPONSE

- MWC LAND OWNERSHIP
- → GENERAL ACCESS LOCATION

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	Southern parcel can not achieve BAL 12.5 Northern Likely to achieve BAL 12.5 rating
SLOPE	Areas can be developed around sloped areas
SERVICING	Servicing on site Suitable buffers for septic can be achieved
BUFFERS	Suitable buffers from creek can be achieved
OVERLAYS	Limited ES01 on northern titles
CONSOLIDATE OWNERSHIP	Area A is suitable for subdivision Consolidation potential in locations marked A
ACCESS	Access can be achieved from One Tree Hill Road



06 PRECINCT 4 land use option



OPTION 1

AREA A

Consolidate land and divest

AREA B

Divest to neighbouring property/or offest site

OPTION 2

AREA A

Maximise development potential, 3 Lots

AREA B

Divest to neighbouring property/or offest site

PROPOSED ZONES

■ RCZ4 (Below 40ha minimum)

LEGEND

● BAL 12.5 DEFENDABLE SPACE ENVELOPE

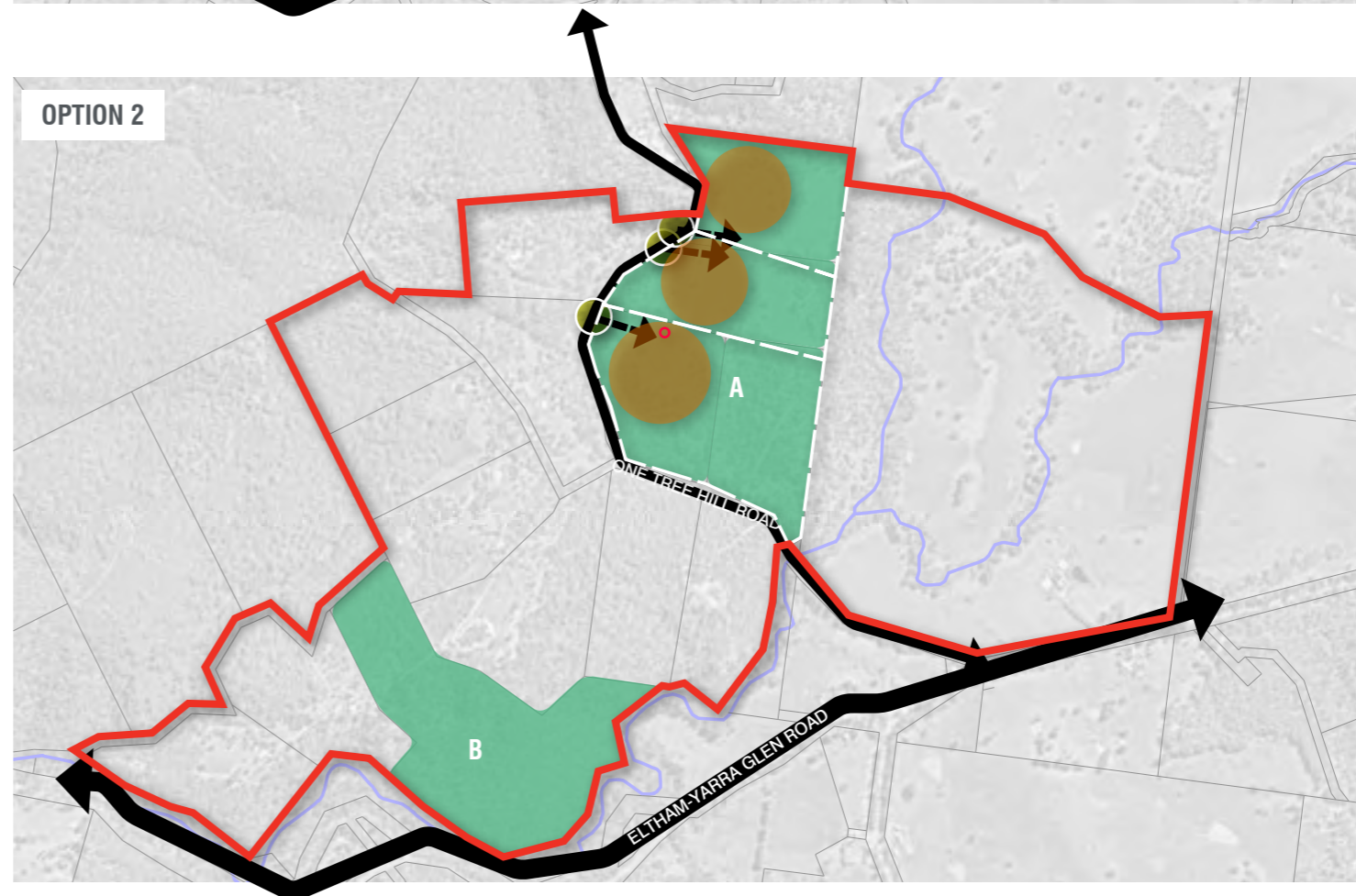
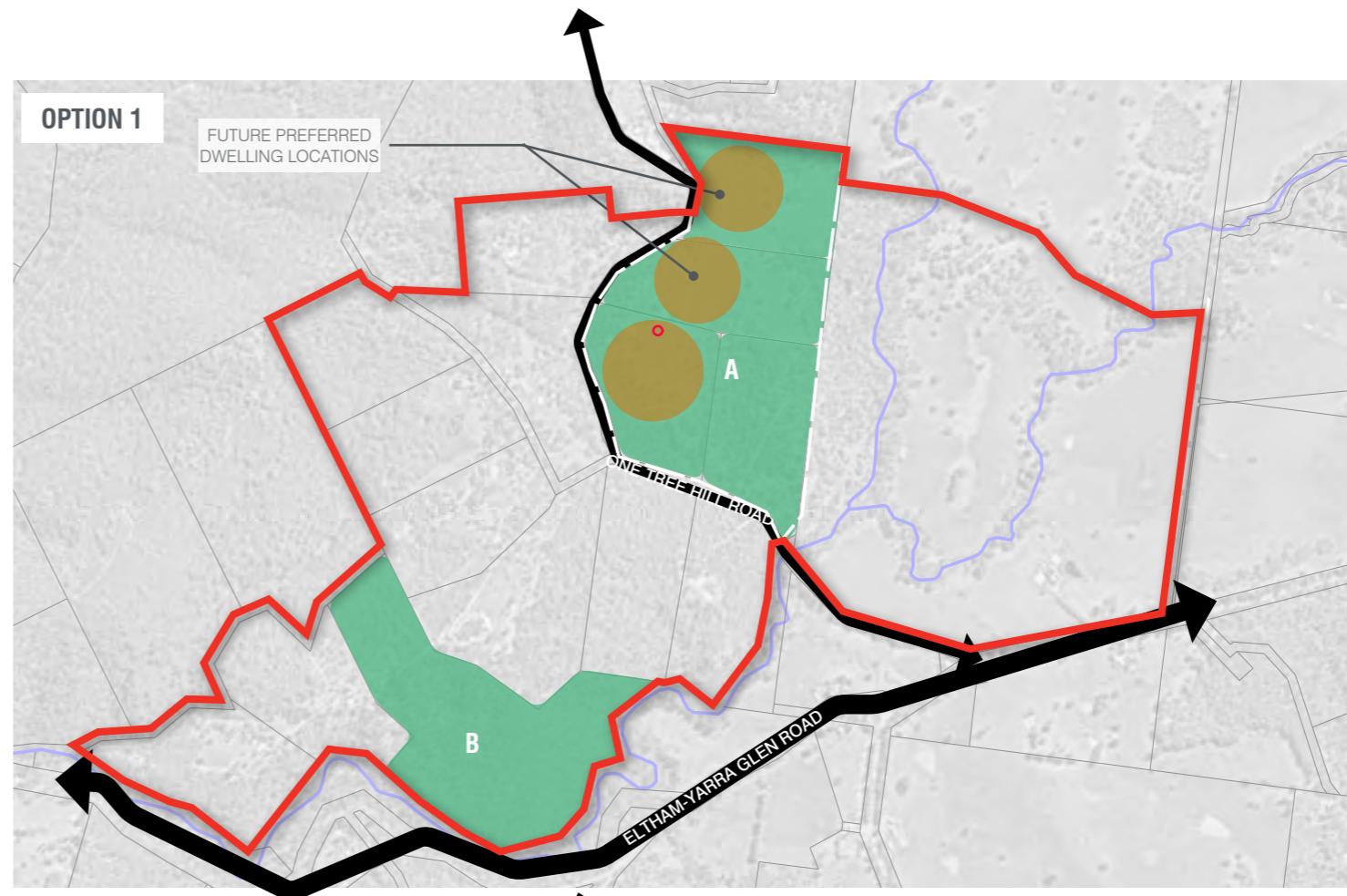
● → INDICATIVE ACCESS LOCATION

○ EXISTING DWELLING

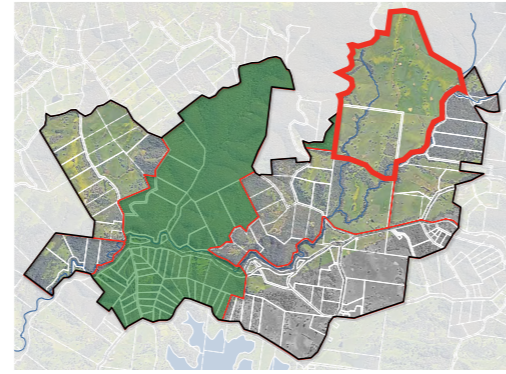
NEW LOT BOUNDARIES

NOTES

▶ Access arrangements to future dwelling location to be reviewed in regards to slope



07 PRECINCT 5 design response



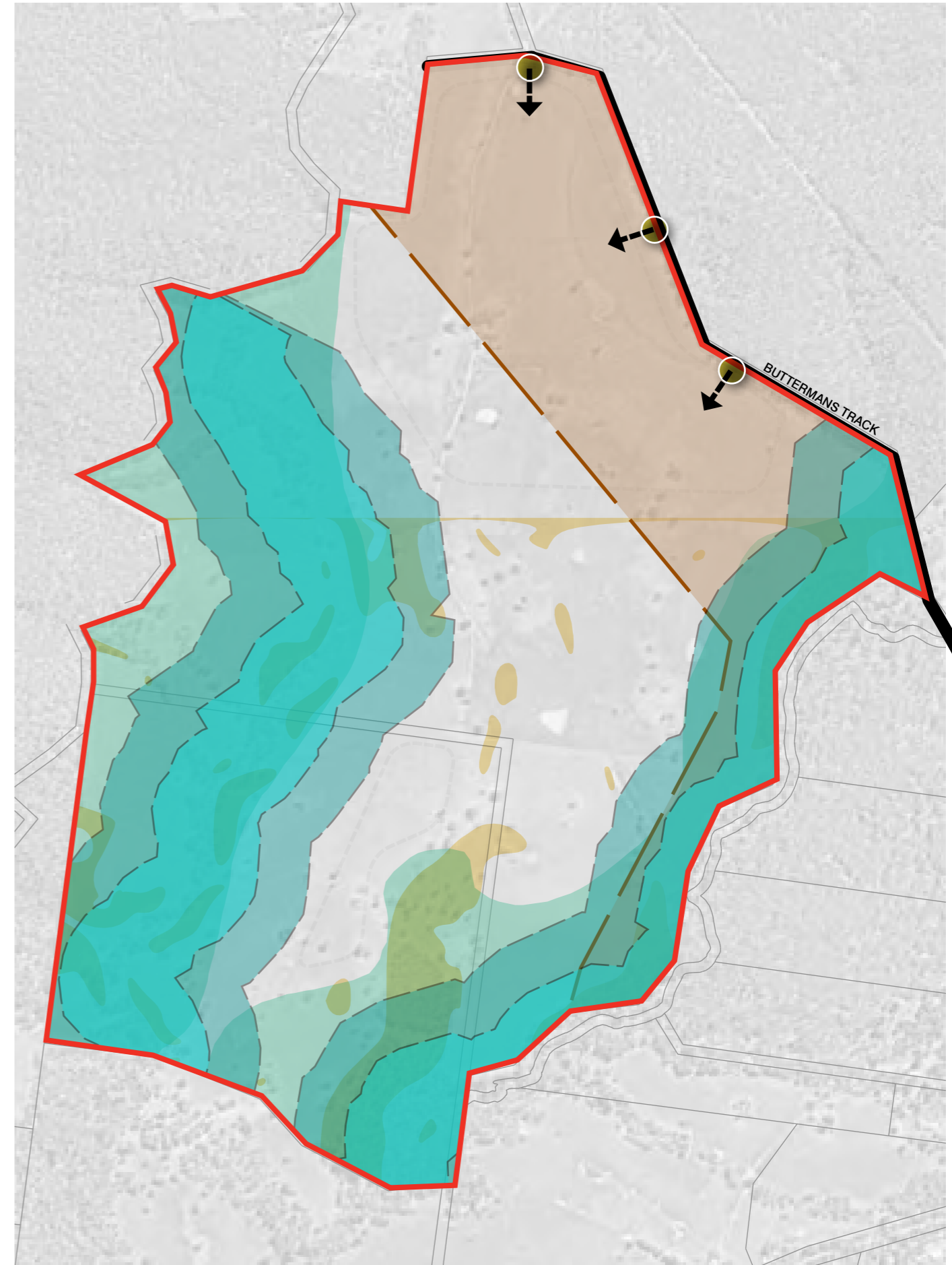
CONSTRAINTS

- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay
- 700m Gas Measurement Length

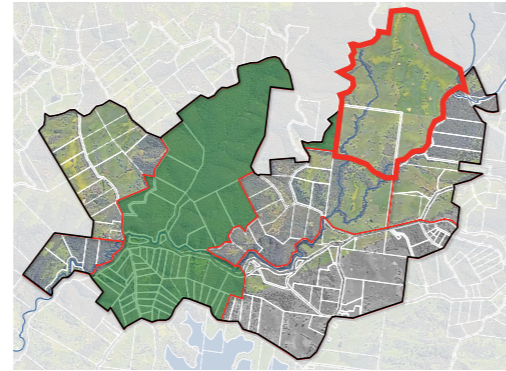
DESIGN RESPONSE

- GENERAL LOCATIONS SUITABLE FOR A DWELLING
- SUITABLE ACCESS FOR SOUTHERN LOT?
- GENERAL ACCESS LOCATION

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	Likely to achieve BAL 12.5 rating
SLOPE	Limited Slope
SERVICING	<ul style="list-style-type: none"> Servicing on site Suitable buffers for septic can be achieved
BUFFERS	Suitable buffers from creek can be achieved
OVERLAYS	Limited ES01
CONSOLIDATE OWNERSHIP	Area is suitable for subdivision
ACCESS	Access can be achieved from Buttermans Track



07 PRECINCT 5 design response



OPTION 1

Consolidate land and divest as agricultural land
Enhance protection of waterways

OPTION 2

Maximise development potential, up to 5x 40ha lots as smaller agricultural parcels
Enhance protection of waterways

PROPOSED ZONES

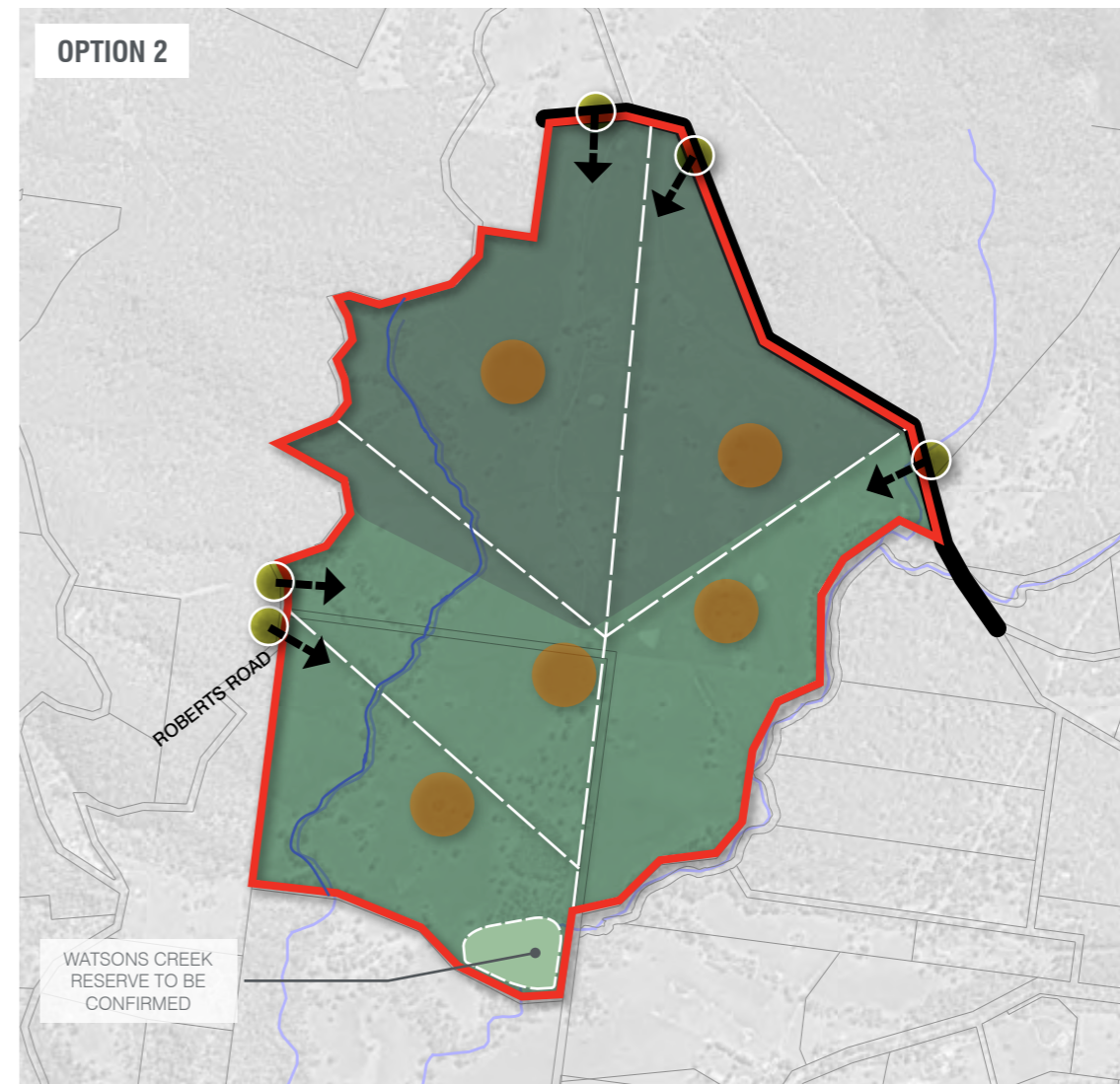
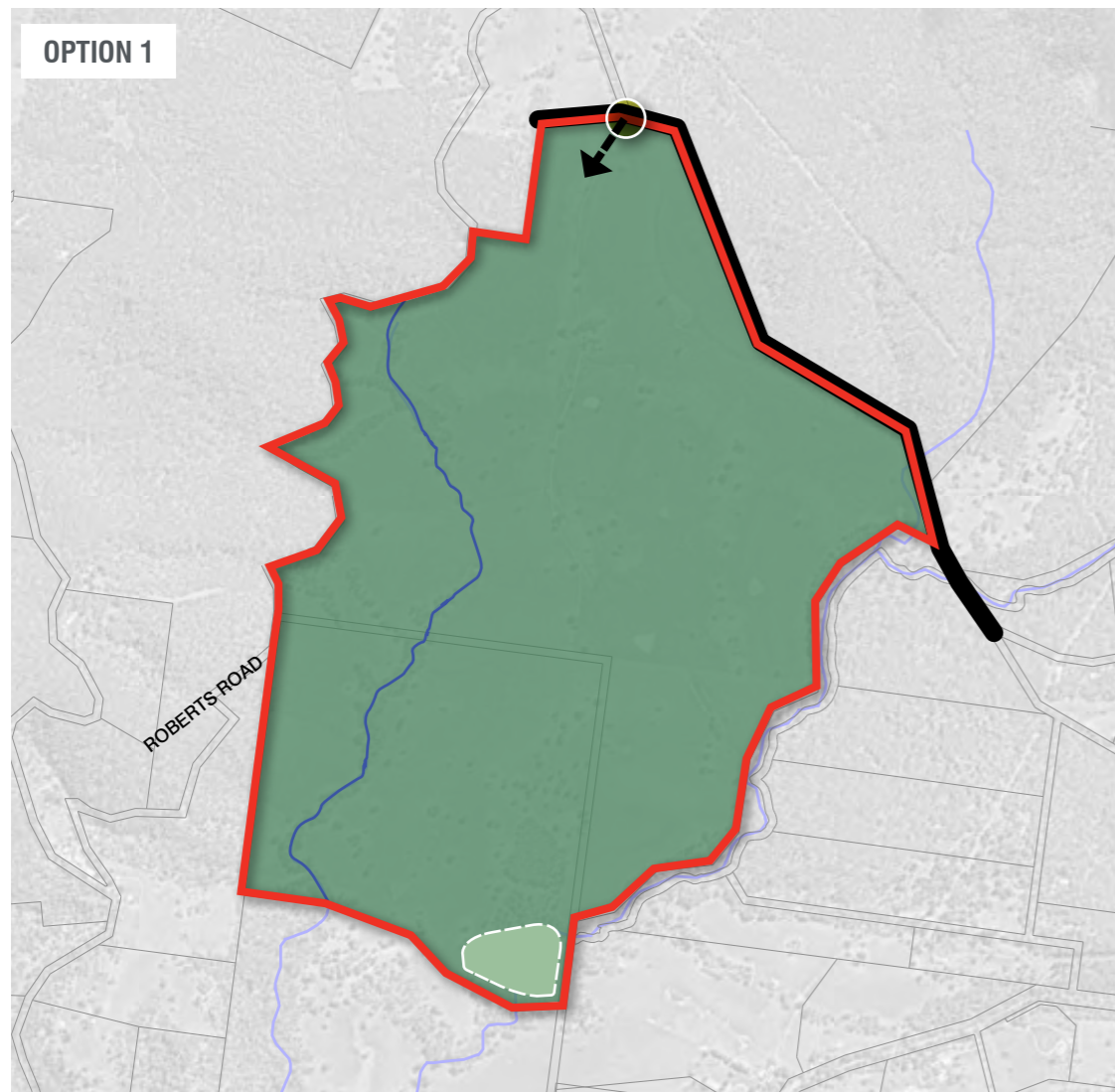
- RCZ4 - Existing
- RCZ4 - Addition

LEGEND

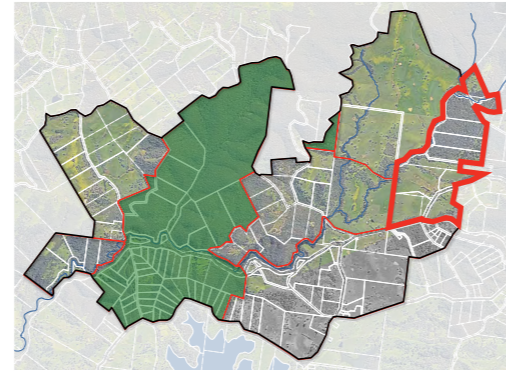
- UTILISE EXISTING ACCESS POINTS WHERE POSSIBLE
- NEW LOT BOUNDARIES

NEXT STEPS

- ▶ Investigate more regular boundaries through the introduction of an additional road
- ▶ Access from west dependent on development of Roberts Road
- ▶ Watsons Creek Reserve extent to be confirmed



08 PRECINCT 6 design response



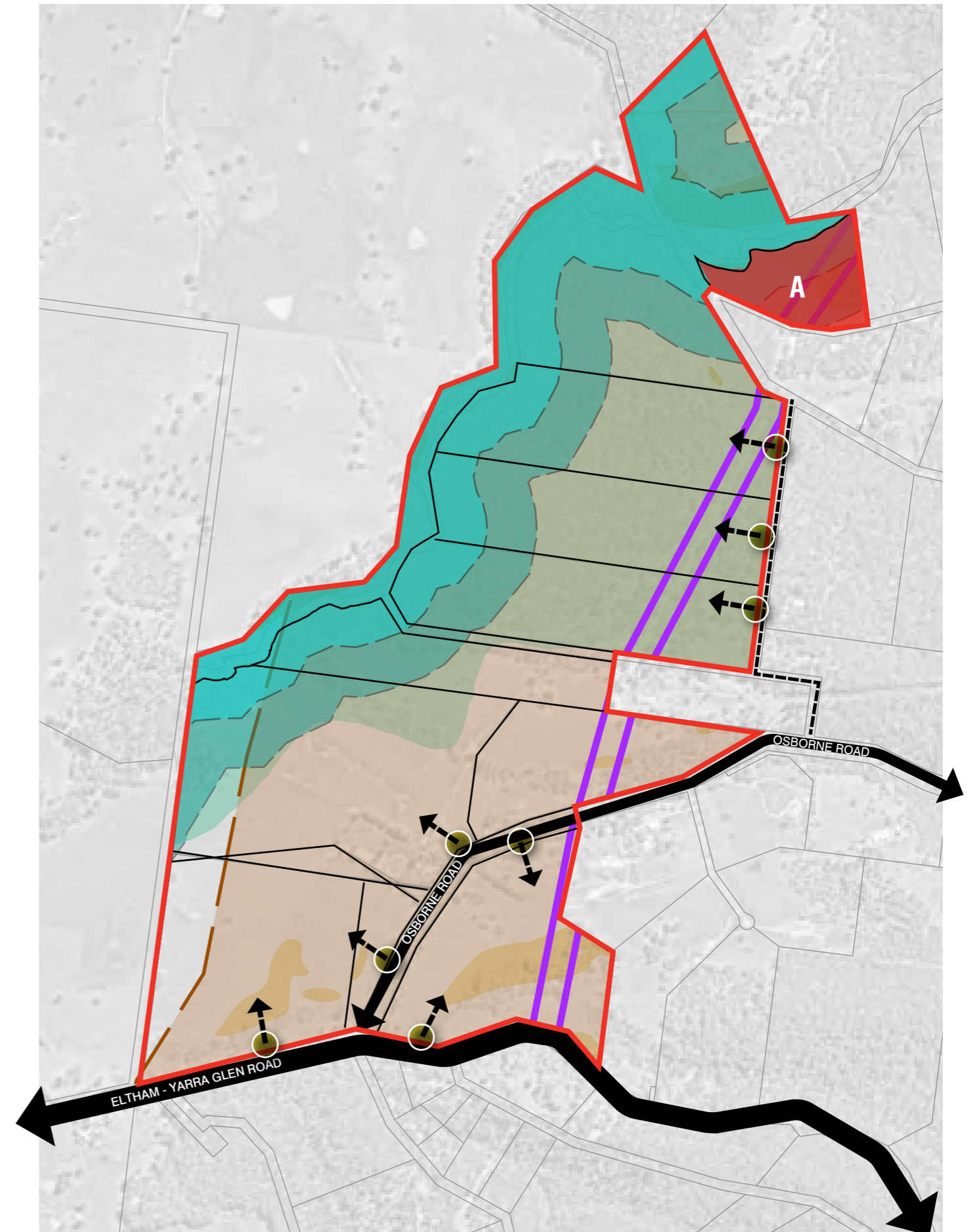
CONSTRAINTS

- Lots that cannot achieve BAL 12.5 defensible space
- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay
- High Pressure Gas Pipeline Easement
- 700m Measurement Length

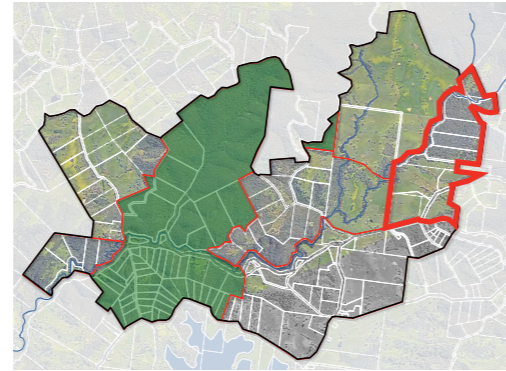
DESIGN RESPONSE

- MWC LAND OWNERSHIP
- GENERAL ACCESS LOCATION
- POTENTIAL ACCESS ISSUES

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	Northern site can not achieve BAL 12.5
SLOPE	Limited slope
SERVICING	Servicing on site Suitable buffers for septic can be achieved
BUFFERS	Buffers can not be achieved on property A Suitable buffers from creek can be achieved on all other properties
OVERLAYS	Limited ES01 on the southern properties
CONSOLIDATE OWNERSHIP	Southern areas suitable for subdivision/consolidation Northern properties to be consolidated
ACCESS	Access can be achieved from Osborne Road and Eltham-Yarra Glen Road for southern properties



08 PRECINCT 6 land use option



OPTION 1

- AREA A
Divest to neighbouring property/or offest site
- AREA B
Consolidate land to 1 property and divest
- AREA C
Retain existing lots
- AREA D
Divest as is

OPTION 2

- AREA A
Divest to neighbouring property/or offest site
- AREA B
Consolidate land to 1 property and divest
- AREA C
Consolidate land to 1 property and divest
- AREA D
Divest as is

LEGEND

- BAL 12.5 DEFENDABLE SPACE ENVELOPE
- INDICATIVE ACCESS LOCATION
- ACCESS TO BE REVIEWED
- EXISTING DWELLING
- HIGH PRESSURE GAS PIPELINE EASEMENT
- NEW LOT BOUNDARIES

PROPOSED ZONES

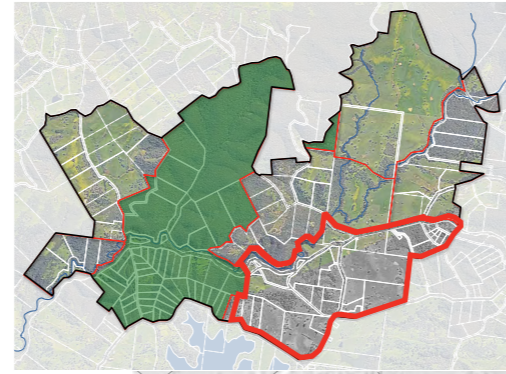
- RCZ4
- RCZ4 (Below 40ha minimum)

NOTES

- Dwelling in B would require vegetation removal within ESO



09 PRECINCT 7 design response



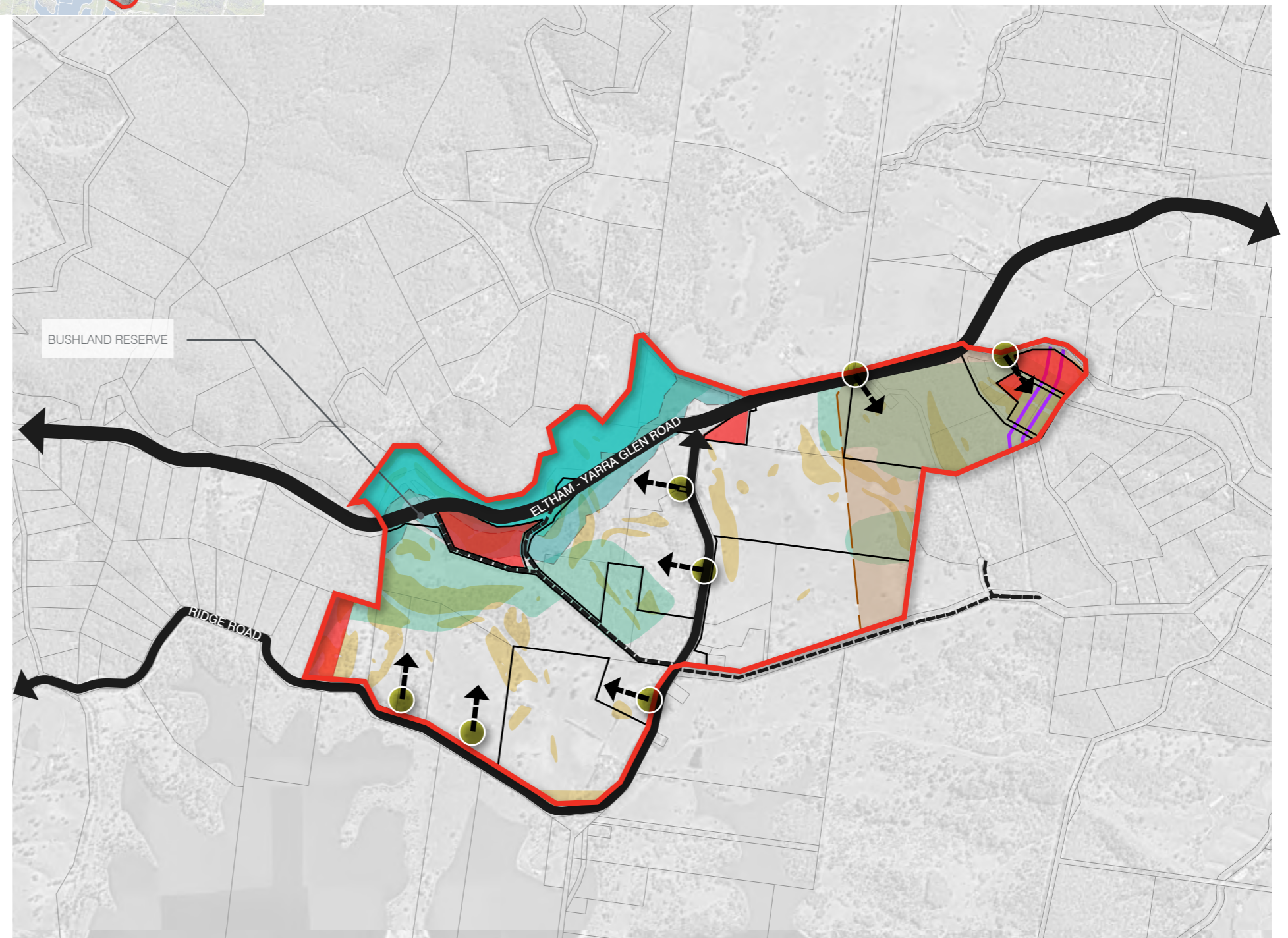
CONSTRAINTS

- Lots that cannot achieve BAL 12.5 defensible space
- 100m septic buffer from water way
- 200m cultural heritage buffer from water way
- Slope over 1:5
- Environmental Significance Overlay
- High Pressure Gas Pipeline Easement
- 700m Measurement Length

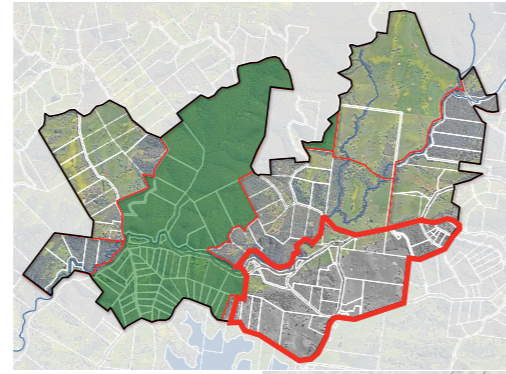
DESIGN RESPONSE

- MWC LAND OWNERSHIP
- GENERAL ACCESS LOCATION
- POTENTIAL ACCESS ISSUES

PRINCIPLE	DESIGN RESPONSE
BUSHFIRE	Likely to achieve BAL 12.5 rating
SLOPE	Limited Slope
SERVICING	Servicing on site Suitable buffers for septic can be achieved
BUFFERS	Buffers on the northern properties will need to be reviewed in final plan
OVERLAYS	Limited ES01 on the southern properties
CONSOLIDATE OWNERSHIP	Largely suitable for subdivision North east properties potential for consolidation
ACCESS	Access from Ridge Road, Eltham-Yarra Glen Road, Muir Road and Scholz Lane



09 PRECINCT 7 land use option



LEGEND

- BAL 12.5 DEFENDABLE SPACE ENVELOPE
- INDICATIVE ACCESS LOCATION
- ACCESS TO BE REVIEWED
- EXISTING DWELLING
- NEW LOT BOUNDARIES

PROPOSED ZONES

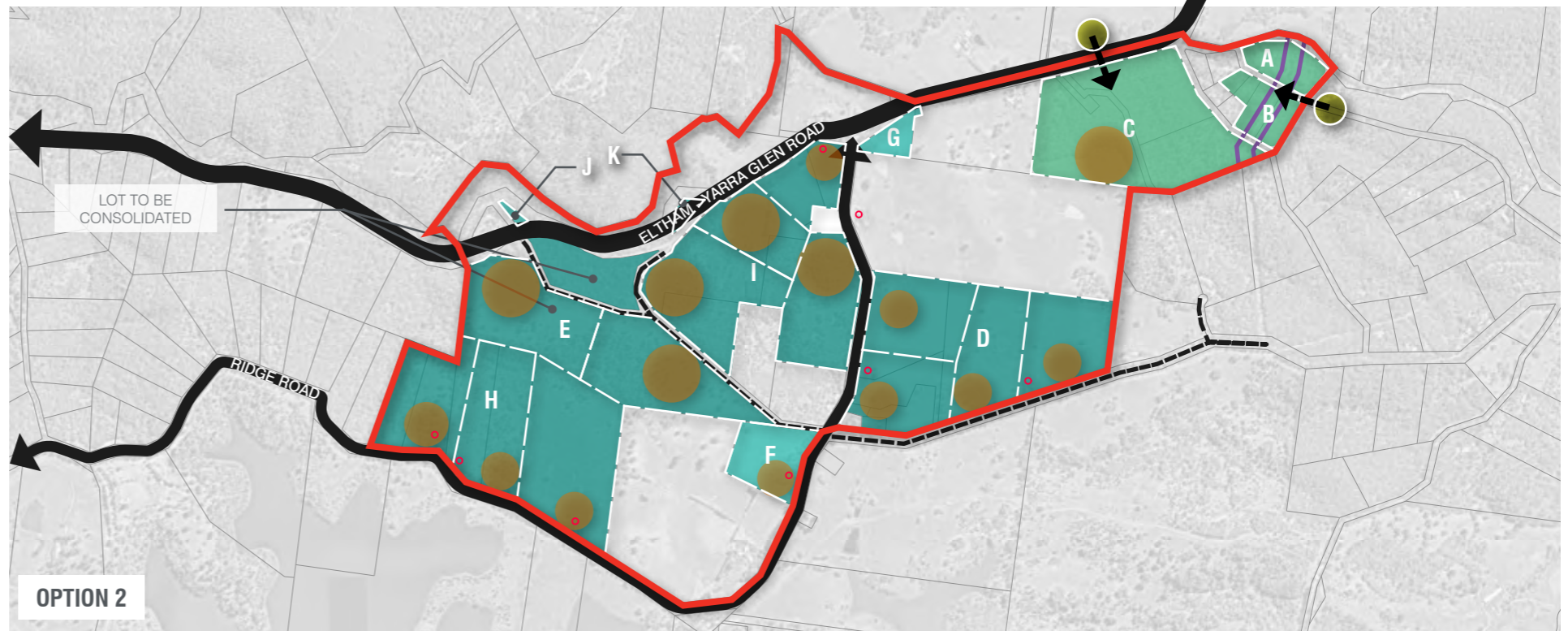
- RCZ3 (Below 8ha minimum)
- RCZ3
- RCZ4 (Below 40ha minimum)

OPTION 1

- AREA A
Divest to neighbouring property/or offest site
- AREA B
Retain as is or consolidate land to 1 property and divest to neighbours. Due to easement and envelope restrictions a dwelling is not likely viable.
- AREA C
Consolidate lots into a single property
- AREA D
Realign boundaries to create 3 lots with 8 ha minimum.
- AREA E
Consolidate lots to create single lot (including lot north of the road)
- AREA F
Retain as existing lot with dwelling
- AREA G
Divest to neighbouring property
- AREA H
Consolidate to create 8ha minimum lots with defensible space and to reflect existing house locations
- AREA I
Area can be reconfigured into 3 lots. Tennis court land to be excised for community use
- AREA J
Divest small properties to neighbours/DET
- AREA K
Divest small properties to VicRoads

OPTION 2

- AREA A
Divest to neighbouring property/or offest site
- AREA B
Retain as is or consolidate land to 1 property and divest to neighbours. Due to easement and envelope restrictions a dwelling is not likely viable.
- AREA C
Consolidate lots into a single property
- AREA D
Realign boundaries to create 4 lots with 8ha minimum.
- AREA E
Consolidate lot to the north of road to a single title. Create 2 8ha minimum lots. Western lot will require clearance of vegetation to site dwelling
- AREA F
Retain as existing lot with dwelling
- AREA G
Divest to neighbouring property
- AREA H
Consolidate to create 8ha minimum lots with defensible space and to reflect existing house locations
- AREA I
Area can be reconfigured into 4 lots. Tennis court land to be excised for community use
- AREA J
Divest small properties to neighbours/DET
- AREA K
Divest small properties to VicRoads



spiire



Supplementary Bushfire Report

for the proposed rezoning and development
of surplus land owned by Melbourne Water
at Christmas Hills VIC 3775

Prepared for
Spiire Planning Consultants
on behalf of Melbourne Water


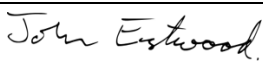
April 2018

WWW.TERRAMATRIX.COM.AU

Terramatrix project: Melbourne Water-2018-01 Watsons Creek Rezoning-Christmas Hills

Cover image: Grassy Dry Forest vegetation in the study area.

Approvals

Accountability	Name	Signature
Bushfire analysis and mapping	Hamish Allan, Manager Bushfire Planning and Design	
Report compilation		
Peer review	John Eastwood	

Version Control

Version	Date completed	Comments	Undertaken by / Distribution
1.0	16 February 2018	Preliminary draft to Spiire	HA
2.0	24 April 2018	Finalised supplementary report incorporating amended envelope locations and updated response to current bushfire planning provisions.	HA

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1 Introduction

This Supplementary Bushfire Report has been prepared for Melbourne Water and Spiire, as additional advice about the proposed re-zoning, sale and development of land in Christmas Hills, which is currently owned by Melbourne Water but is surplus to their requirements.

It comprises further work, analysis and mapping, as a supplement to the previous Bushfire Development Report (BDR) produced for the project by Terramatrix in June 2017 (Terramatrix, 2017).

This report includes a response to three planning scheme amendments that have occurred since the 2017 BDR was produced, which amended the bushfire planning provisions including Clause 13.05 *Bushfire*, Clause 44.06 *Bushfire Management Overlay (BMO)* and Clause 52.47 *Planning for bushfire*. The three amendments are:

- ! VC132, gazetted 19 September 2017, which made largely administrative corrections and relatively minor amendments to the bushfire provisions;
- ! GC13, gazetted 3 October 2017, which introduced updated BMO mapping across Victoria, resulting in the application of the BMO to the entire study area; and
- ! VC140, gazetted 12 December 2017, which made significant changes to the State Planning Policy Framework (SPPF) at Clause 10 *Operation of the State Planning Policy Framework* and Clause 13 *Environmental Risks*.

The response to these amendments is provided as an update of *Section 2 Planning and Building Controls* as provided in the 2017 BDR.

This report also provides further mapping and analysis of proposed options for dwelling sites identified in the *Design Response and Land Use Options* document (Spiire, 2018). As now required by the SPPF at Clause 13.05, for all planning scheme amendments and some types of development applications, 'indicative' or 'hypothetical' defendable space areas are identified for each proposed dwelling site, so that radiant heat flux (RHF) exposure for future dwellings does not exceed 12.5kW/m^2 i.e. the extent of defendable space that would be required for a BAL-12.5 construction standard for future dwellings. The areas are shown as defendable space distances around indicative 25m x 25m building envelopes.

It is emphasised that the siting of the envelopes is hypothetical and indicative only, and is not based on a detailed site assessment that would be required for statutory approval. Just because an envelope is shown in a location does not necessarily mean it is appropriate to site a dwelling there. Other, non-bushfire related, issues need to be fully considered, including the need to:

- ! Avoid and minimise environmental impacts including vegetation removal;
- ! Minimise earthworks and potential erosion risk;
- ! Avoid ridgelines and other visual impact considerations;
- ! Provide for appropriate effluent disposal, and

- ! Enable appropriate vehicle access.

It is also important to note that the siting and size of envelopes may not account for the landscape risk to the site. Nor does the location of the envelopes necessarily show the only or best location for a dwelling.

2 Summary of bushfire planning provision changes

This section summarises the three applicable planning scheme amendments that have occurred since the 2017 BDR was produced.

2.1 VC132

Amendment VC 132 was gazetted on 19 September 2017. Amongst changes to other planning provisions, it amended the bushfire provisions, including Clauses *13.05 Bushfire*, *44.06 Bushfire Management Overlay* and *52.47 Planning for bushfire*.

The changes to the bushfire provisions by VC 132 were all relatively minor and largely inconsequential to the proposed amendment; they were essentially technical or administrative corrections and clarifications about how the provisions operate.

There was however, a change to the wording of Approved measure (AM) 2.3, which now emphasises that building design should be responsive to the landscape risk. This wording change may strengthen the need for future dwelling applications, particularly in higher risk locations in the study area, to consider the mechanisms of bushfire attack in any design response.

However, especially for lower BALs such as BAL-12.5, specific design features for bushfire safety are not typically required, as compliance with *AS 3959-2009 Construction of Buildings in Bushfire Prone Areas* (Standards Australia, 2011) is 'deemed-to-satisfy' the performance requirement on the national construction code (building code) that a building be designed and constructed to reduce the risk of ignition from a bushfire.

Overall, it is considered that the ability of future development to comply with the BMO and associated provisions was addressed in the 2017 BDR, previously produced by Terramatrix. VC 132 did not appreciably affect the applicable bushfire protection requirements or measures, including BAL construction standard, defendable space, water or access.

2.2 GC13

This amendment was gazetted 3 October 2017 and introduced new BMO mapping, consistent with statewide hazard mapping criteria, into 64 planning schemes. A range of BMO schedules were also introduced and references to the old Wildfire Management Overlay (WMO) were deleted.

GC13 extended BMO coverage over the entire study area, whereas previously the BMO did not apply to 10 parcels in the south and southeast of the study area (See Map 1 in the 2017 BDR).

2.3 VC140

VC140 was gazetted 12th December 2018. This amendment made the SPPF more directive and clearer about bushfire risk, including establishing 12.5kW/m² as a maximum Radiant Heat Flux (RHF) safety threshold for planning scheme amendments, settlement planning and certain types of development applications in a bushfire prone area, such as vulnerable uses and subdivisions of more than 10 lots. The changes include requirements for planning and responsible authorities to:

- ! *‘Prioritise the protection of human life and the management of bushfire impact.*
- ! *Avoid any increase in the risk of bushfire to people, property and community infrastructure.*
- ! *Direct population growth and development to low risk locations and also to ensure safe access to areas where human life can be better protected.*
- ! *At a settlement level, achieve no net increase in bushfire risk, and where possible reduce bushfire risk overall.*
- ! *Ensure new development can implement bushfire protection measures without unacceptable biodiversity impacts.*
- ! *Ensure that development has addressed relevant policies, satisfied performance measures or implemented bushfire protection measures.*
- ! *Consider bushfire risk in bushfire prone areas when assessing a planning permit application for specified uses and development such as accommodation, childcare and hospitals, etc.’ (DELWP, 2017).*

A summary response to the new objectives and strategies in the SPPF that relate to bushfire, is provided in the following section, which comprises an update of that provided in the 2017 BDR.

3 Planning and building controls

This section identifies the bushfire planning and building controls that apply to the study area. It provides a response to the current bushfire controls and/or references where appropriate, other sections in the 2017 BDR (Terramatrix 2017) that provide a response.

3.1 State Planning Policy Framework (SPPF) – Clause 13.05

Clause 13.05 Bushfire has the objective *‘To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life’* (Nillumbik Planning Scheme, 2017a). The policy must be applied to all planning and decision making, under the Planning and Environment Act 1987, relating to land which is:

- ! Within a designated Bushfire Prone Area;
- ! Subject to a Bushfire Management Overlay; or
- ! Proposed to be used or developed in a way that may create a bushfire hazard.

To achieve the objective, a number of strategies are stipulated in Clause 13.05, as detailed in the following sub-sections, which summarise how the proposed amendment and subsequent development can respond to the strategies.

3.1.1 Protection of human life

Clause 13.05 requires that priority be given to the protection of human life by:

- ! *‘Prioritising the protection of human life over all other policy considerations.*
- ! *Directing population growth and development to low risk locations and ensuring the availability of, and safe access to, areas where human life can be better protected from the effects of bushfire.*
- ! *Reducing the vulnerability of communities to bushfire through consideration of bushfire risk in decision-making at all stages of the planning process’* (Nillumbik Planning Scheme, 2017a).

The protection of human life can be prioritised by ensuring development in higher risk parts of the study area is avoided, future dwelling sites are located only where the minimum BAL-12.5 construction standard can be achieved without significant biodiversity impacts (i.e. achieving setbacks for future buildings from unmanaged vegetation, such that radiant heat will be below 12.5kW/m^2), and ensuring there is no increased risk to existing residents and infrastructure associated with future development.

The nearest low risk locations are considered to be those areas in the surrounding landscape which are not in a designated Bushfire Prone Area (BPA). These are shown in Figure 1, and include the following township areas, with the approximate distance and direction by road from the study area:

- ! Yarra Glen, 4km to the east;
- ! Research, 12.5km to the southwest; and
- ! Diamond Creek, 13km to the west-southwest.

Travel to these lower risk areas would be problematic in the event of a large bushfire in the landscape, due to the windy roads, the extent of hazardous vegetation abutting the roads and the few route options that are available for travel to them.

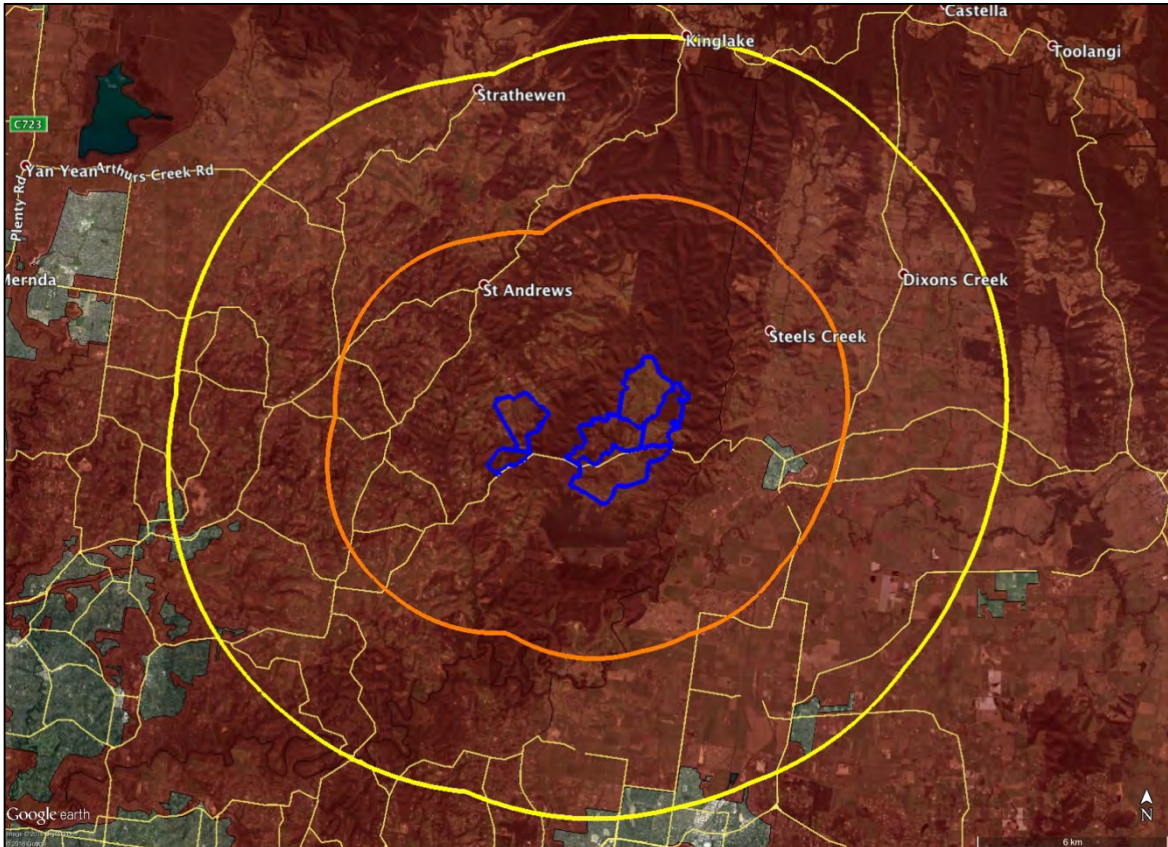


Figure 1 – Extent of the designated bushfire prone area (shown as transparent red shading) in the surrounding landscape. The precincts of the study area are shown in blue outline, 5km and 10km buffers are shown in orange and yellow outline respectively. (Google Earth image 2017).

The 2017 Bushfire Development Report by TerraMatrix, and this supplementary report, provide the basis for incorporating bushfire risk into decision making associated with development in the study area.

The CFA consider that community resilience to bushfire will be strengthened (and hence, presumably, vulnerability to bushfire will be reduced) when a strategic planning proposal demonstrates that Clause 13.05 strategies have been applied, and where a proposal takes advantage of existing settlement patterns so that new development will not expose the community to increased risk from bushfire.

The CFA provide principles to respond to Clause 13.05 including that settlement planning decisions should;

- ! *‘Direct development to locations of lower bushfire risk.*
- ! *Carefully consider development in locations where there is significant bushfire risk that cannot be avoided.*
- ! *Avoid development in locations of extreme bushfire risk.*
- ! *Avoid development in areas where planned bushfire protection measures may be incompatible with other environmental objectives’ (CFA, 2015).*

Section 4 of the 2017 BDR comprises a risk assessment of the study area at the landscape (regional) scale and Section 5 details the risk at the site level. The significant bushfire risk to the study area may be a major obstacle to achieving agreement that the proposed amendment and development proposal meets the intent of Clause 13.05 and the CFA strategic planning principles for bushfire.

3.1.2 Bushfire hazard identification and assessment

Clause 13.05-1 requires that the bushfire hazard be identified and appropriate risk assessment be undertaken by:

- ! *‘Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.*
- ! *Considering the best available information about bushfire hazard including the map of designated bushfire prone areas prepared under the Building Act 1993 or regulations made under that Act.*
- ! *Applying the Bushfire Management Overlay in planning schemes to areas where the extent of vegetation can create an extreme bushfire hazard.*
- ! *Considering and assessing the bushfire hazard on the basis of:*
 - ! *Landscape conditions - meaning the conditions in the landscape within 20 kilometres and potentially up to 75 kilometres from a site;*
 - ! *Local conditions - meaning conditions in the area within approximately 1 kilometre from a site;*
 - ! *Neighbourhood conditions - meaning conditions in the area within 400 metres of a site; and,*
 - ! *The site for the development.*
- ! *Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.*
- ! *Ensuring that strategic planning documents, planning scheme amendments, planning permit applications and development plan approvals properly assess bushfire risk and include appropriate bushfire protection measures.*
- ! *Not approving development where a landowner or proponent has not satisfactorily demonstrated that the relevant policies have been addressed, performance measures*

satisfied or bushfire protection measures can be adequately implemented' (Nillumbik Planning Scheme, 2017a).

The 2017 BDR and this supplementary report apply the best available science to identify the hazard. The type and extent of (hazardous) vegetation has been classified into AS 3959-2009/BMO vegetation groups based on Ecological Vegetation Class (EVC) mapping, aerial imagery, site visits, published guidance on vegetation assessment for bushfire purposes and experience with the fuel hazard posed by these vegetation types within this region.

GIS analysis of sub-metre contour data for the area (client supplied) has been applied to create a Digital Elevation Model (DEM) of the topography. A GIS Triangular Irregular Network (TIN) was also created from which slope values were derived and grouped into the BMO slope classes (5° increments) (see Maps 5 and 6 and Section 4.2 of the 2017 BDR) for determining the extent of defensible space that might apply around a hypothetical 25m x 25m development envelope.

In relation to fire weather and climatic conditions, the BMO presumption of a Forest Fire Danger Index¹ (FFDI) = 100 has been followed, which equates to 'Code Red' fire weather conditions. The BMO benchmark of an FFDI 100 represents a 'one size fits all' model of extreme fire weather conditions applied across the state, but which was exceeded for periods of time at some locations on Black Saturday. Therefore, it is important to note that this is not necessarily the *worst-case* conditions for any particular location, including the study area.

The hazard has been assessed and described at the regional, municipal and local scale (see Sections 3 and 4 of the 2017 BDR). At the local (site) scale the assessment follows the BMO methodology of classifying vegetation and topography within 150m of the development boundaries. At the landscape scale a 20km, 10km and 1km radius of the site was applied (see Figure 1 and Map 2 in the 2017 BDR) in accordance with guidance about assessing risk for planning scheme amendments in Planning Practice Note 64 (DELWP, 2015).

The BMO coverage of the entire study area² is appropriate to the risk. This control delineates the hazard in the Nillumbik Planning Scheme and ensures development must respond appropriately.

The extent of the bushfire prone area in the surrounding landscape is shown in Figure 1 of this report.

¹ The FFDI is used to represent the level of bushfire threat on a given day based on a set of fuel and weather conditions (Noble *et al.*, 1980). The FFDI is most commonly used by fire services to forecast bushfire threat and predict potential fire behaviour, which is then used to undertake operational planning and preparedness. The CFA also use the FFDI to issue fire warnings to communities, scaling the FFDI into a set of Fire Danger Ratings (FDRs) that correspond with the level of threat. An FFDI = 100 is also one of the inputs used to calculate defensible space setbacks in response to Forest and Woodland vegetation.

² Updated BMO mapping to that shown in the 2017 BDR (see Map 1, Terramatrix, 2017) was gazetted by GC13 on 3/10/2017, which now applies the BMO to the entire study area.

The views of the relevant fire authority (CFA) have been sought. They have reviewed and commented on the 2017 BDR prepared by Terramatrix, and advised that they “..largely concur with the assessment..” (CFA, 2017).

Clause 13.05, the BMO coverage of the whole study area and accompanying Clause 52.47 including the bushfire hazard landscape assessment, specify the general requirements and standards for assessing the risk. However, it should be noted that except for the 12.5kW/m² RHF threshold specified in the SPPF, the planning scheme does not provide criteria for what constitutes an acceptable risk.

In all but extreme risk landscapes, it is reasonable to assume that compliance with the BMO approved or alternative measures can be deemed to acceptably mitigate the risk such that development can proceed. In higher risk landscapes development may be inappropriate or may need additional bushfire protection measures. The CFA specify that areas where development should be avoided could include:

- ! *‘Isolated settlements where the size and/or configuration of the settlements will be insufficient to modify fire behaviour and provide protection from a bushfire.*
- ! *‘Where bushfire protection measures will not reduce the risk to an acceptable level.*
- ! *‘Where evacuation (access) is severely restricted.*
- ! *‘Where the extent and potential impact of required bushfire protection measures may be incompatible with other environmental objectives or issues, e.g. vegetation protection, land subject to erosion or landslip’ (CFA, 2015).*

‘Fire Risk’ is also recognised as an environmental hazard in Nillumbik’s Municipal Strategic Statement, *‘Development in these areas needs to minimise the risk to life and property’* (Nillumbik Planning Scheme, 2014).

Additionally, *Clause 22.13 Wildfire Management Policy* in the Local Planning Policy Framework (LPPF), which applies to all BMO affected land in the Shire, acknowledges that wildfire risk is a significant issue. The objectives of the policy are:

- ! *‘To guide discretionary decision-making about the use of land, the design of subdivisions, the siting and design of buildings and the management of land in bushfire prone areas*
- ! *‘To avoid intensifying local wildfire risk to people and property through inappropriately located, designed or managed uses or developments’ (Nillumbik Planning Scheme, 2006).*

Where a permit is required, it is Nillumbik policy to:

- ! *‘Strongly discourage subdivisions, including boundary realignments, that would result in additional development that would intensify wildfire risk to people and property*
- ! *‘Encourage safe siting and design of buildings in locations where the impact on the environment is minimal*
- ! *‘Encourage siting and design at the base of slopes or on gentle south or south-east facing slopes’*

- ! *Strongly discourage the siting of buildings on north or north-west facing slopes, particularly steeper slopes and the ridges above these slopes. (ibid.).*

3.1.3 Settlement planning

'Plan to strengthen the resilience of settlements and communities and prioritise the protection of human life by:

- ! *Directing population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metre under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009).*
- ! *Ensuring the availability of, and safe access to, areas assessed as a BAL-LOW rating under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009) where human life can be better protected from the effects of bushfire.*
- ! *Ensuring the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development.*
- ! *Achieving no net increase in risk to existing and future residents, property and community infrastructure, through the implementation of bushfire protection measures and where possible reduce bushfire risk overall.*
- ! *Assessing and addressing the bushfire hazard posed to the settlement and the likely bushfire behaviour it will produce at a landscape, settlement, local, neighbourhood and site scale, including the potential for neighbourhood-scale destruction.*
- ! *Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.*
- ! *Not approving any strategic planning document, local planning policy, or planning scheme amendment that will result in the introduction or intensification of development in an area that has, or will on completion have, more than a BAL-12.5 rating under AS 3959-2009' (Nillumbik Planning Scheme, 2017a).*

The envelope locations assessed in this supplementary report, direct development to the lower risk parts of the site where RHF is calculated to be below 12.5kW/m² and therefore, where BAL 12.5 dwellings could potentially be sited.

As identified above and shown in Figure 1, the nearest low risk area assessed as BAL-LOW, is the Yarra Glen township area that is not designated as Bushfire Prone, which is located 4kms to the east. However, travel to there from the study area, during a landscape scale bushfire event or even a more localised fire, may be problematic.

There will be no increase in risk to existing residents or community infrastructure if:

- ! Future development can achieve defensible space setbacks from hazardous vegetation for BAL-12.5 construction, within the property boundaries of any existing or new lots;
- ! New buildings are sited away from existing structures; and

- ! Any revegetation or re-establishment of vegetation does not create increase the hazard to neighbouring properties.

Arguably, the risk to existing residents could even be reduced by the development of additional properties with rural residences and associated defensible space, through the creation of more non-vegetated and low threat land within the area.

Where any new areas of defensible space are created there may be an overall decrease in risk if an existing hazard is reduced i.e. if new development results in the removal of an area of classified vegetation.

No alternative low risk development locations have been identified or assessed.

3.1.4 Areas of high biodiversity conservation value

‘Ensure settlement growth and development approvals can implement bushfire protection measures without unacceptable biodiversity impacts by discouraging settlement growth and development in bushfire affected areas that are of high biodiversity conservation value’
(Nillumbik Planning Scheme, 2017a).

Future development should aim to avoid areas of biological significance, primarily by siting development away from native vegetation, in existing cleared areas or areas of lesser significance where vegetation can be managed to create and maintain BAL-12.5 defensible space and maximise setbacks from hazardous vegetation.

It is noted that the Nillumbik *‘Siting and Design Policy for Buildings and Works in Non-Urban Areas’* specifies that dwelling envelopes should be designated for properties where they will ensure that building occurs on favourable sites, and conversely building does not occur on sites which would be prejudicial to landscape or environmental values (Nillumbik Planning Scheme, 2011).

It is envisaged that development would only be able to proceed on those properties where BAL-12.5 defensible space can be provided entirely within the boundaries of the subject property, to allow it to be readily created and maintained by the property owner.

3.2 Bushfire Management Overlay (BMO)

The entire study area is now in the BMO following the BMO mapping changes of October 2017. The purposes of the BMO are:

- ! *‘To implement the State Planning Policy Framework and Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.’*

- ! *To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.*
- ! *To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.*
- ! *To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level' (Nillumbik Planning Scheme, 2017b).*

The BMO largely applies to patches of treed vegetation greater than 4ha in size, where head fire intensity has been modelled to be 30,000kW/m or more. It also extends over land 150m around those areas, based on research into house loss from bushfires which has found that 92% of house loss occurs within 150m of the bushfire hazard (DTPLI, 2013).

Clause 52.47 *Planning for bushfire* applies to BMO applications and contains:

- ! **Objectives:** An objective describes the outcome that must be achieved in a completed development.
- ! **Approved measures:** An approved measure meets the objective.
- ! **Alternative measures:** An alternative measure may be considered where the responsible authority is satisfied that the objective can be met. The responsible authority may consider other unspecified alternative measures.
- ! **Decision guidelines:** The decision guidelines set out the matters that the responsible authority must consider before deciding on an application, including whether any proposed alternative measure is appropriate (Nillumbik Planning Scheme, 2017c).

Section 5 of the 2017 BDR identifies how the proposed development responds to the BMO objectives.

3.3 Bushfire Prone Area (BPA)

The entire study area is designated as a Bushfire Prone Area (BPA) (see Figure 1). BPAs are those areas subject to or likely to be subject to bushfires, as determined by the Minister for Planning. Those areas of highest bushfire risk within the BPA are designated as BMO areas.

The Building Act 1993 and associated Building Interim Regulations 2017, through application of the National Construction Code (NCC), require bushfire protection standards in BPAs, for Class 1, 2 and 3 buildings, 'Specific Use Bushfire Protected Buildings' and associated Class 10A buildings or decks. The applicable performance requirement in the NCC is:

'A building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the—

- potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and*
- intensity of the bushfire attack on the building'* (ABCB, 2016).

Compliance with AS 3959-2009 *Construction of Buildings in Bushfire Prone Areas* (Standards Australia, 2011) is 'deemed-to-satisfy' the performance requirement.

In Victoria, applicable buildings must be constructed to a minimum Bushfire Attack Level (BAL³)-12.5, or higher, as determined by a site assessment or planning scheme requirement.

3.4 Other Development Controls

3.4.1 Zoning

The proposed amendment intends to rezone Public Use Zone (PUZ) land to Rural Conservation Zone (RCZ). Under the BMO, some residential and rural residential zones are deemed to be 'existing settlements', which are assumed to have a lower bushfire risk as evidenced by the 'simple Pathway 1' option available for single dwelling applications in these areas, via Clause 52.47-1. However, the RCZ is not a rural residential zone that is considered to be an 'existing settlement' area.

In and of itself, the RCZ has no inherent bushfire safety implications. It is noted though, that the intent of the RCZ4 is to provide for large allotments (40ha minimum subdivision size) that can retain significant vegetation and protect environmental and landscape values, which may in particular, discourage development on the smaller vegetated lots in the study area.

It should be noted that the increased density of development arising from the proposed change in zoning would increase the number of dwellings and people exposed to a bushfire hazard.

3.4.2 Overlays

Apart from the BMO, the overlays that apply to the study area have no direct or significant implications for bushfire safety and compliance. The ESO1 and ESO4 however, control development that would have a significant impact on sites of fauna and habitat significance, and removal of native vegetation. It is noted that the need for the establishment/maintenance of native vegetation is a decision guideline in the ESOs, which may increase the bushfire hazard.

³ A BAL is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact. There are six BALs defined in AS 3959-2009, which range from BAL-LOW, which has no bushfire construction requirements to BAL-FZ (Flame Zone) where flame contact with a building is expected.

4 Precinct assessment of BAL-12.5 development envelopes

The 2017 BDR included mapping that identified, as a preliminary and strategic assessment only, which properties in the study area may or may not be suitable for future development with a dwelling, to meet the BMO objective for construction and defensible space, in compliance with AM 3.1. The siting of the envelopes was hypothetical and indicative only, as it was not based on a detailed site assessment that would be required for statutory approval.

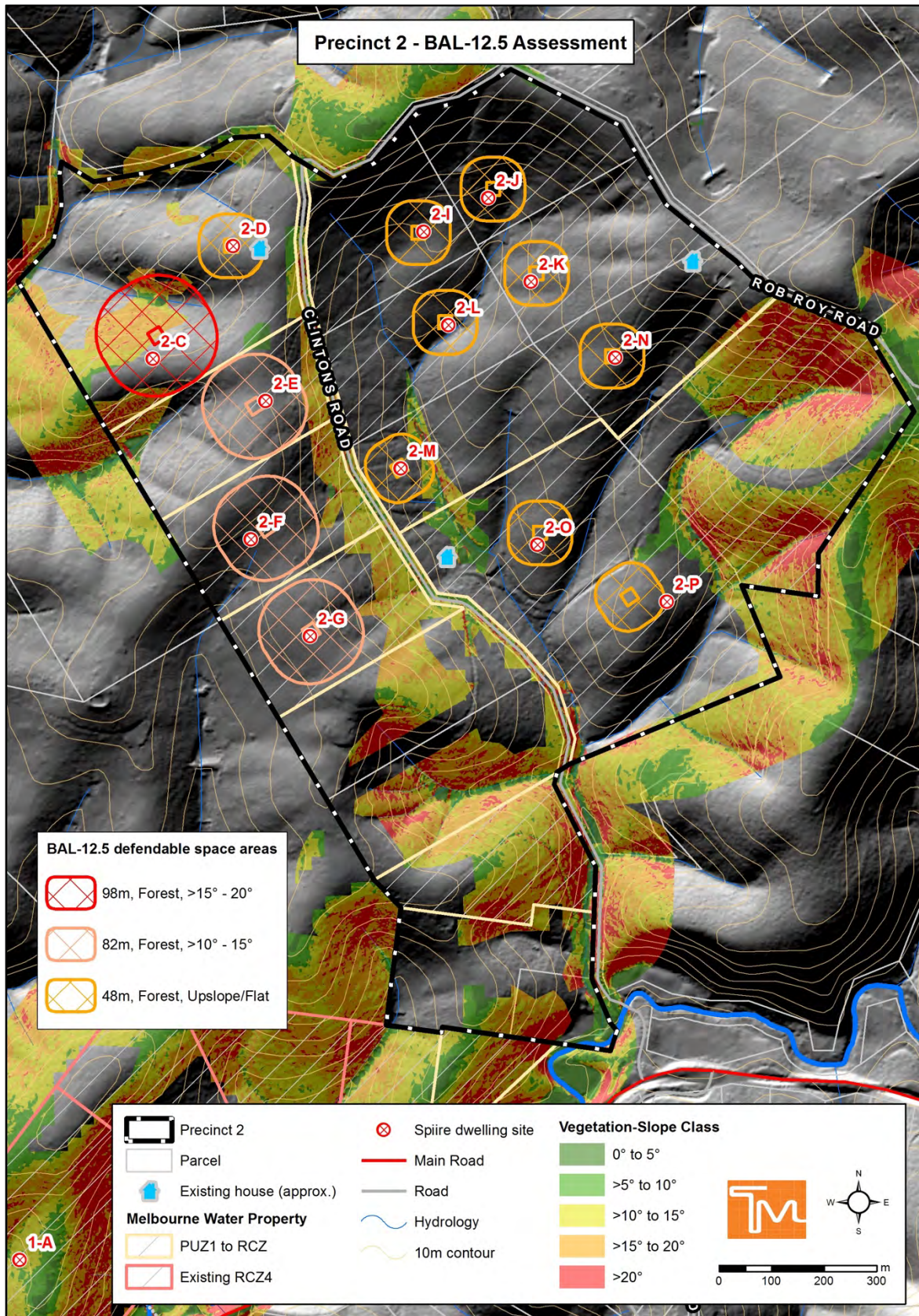
The mapping in this section comprises a refinement of envelope locations following gazettal of VC140 and consideration of a range of other matters besides bushfire risk that will influence future development. It is based on proposed options for dwelling sites identified in the *Design Response and Land Use Options* document (Spiire, 2018).

The analysis shows the possible extent of defensible space required for BAL-12.5 dwellings, to meet the defensible space objective in the Bushfire Management Overlay (BMO) that applies the whole study area.

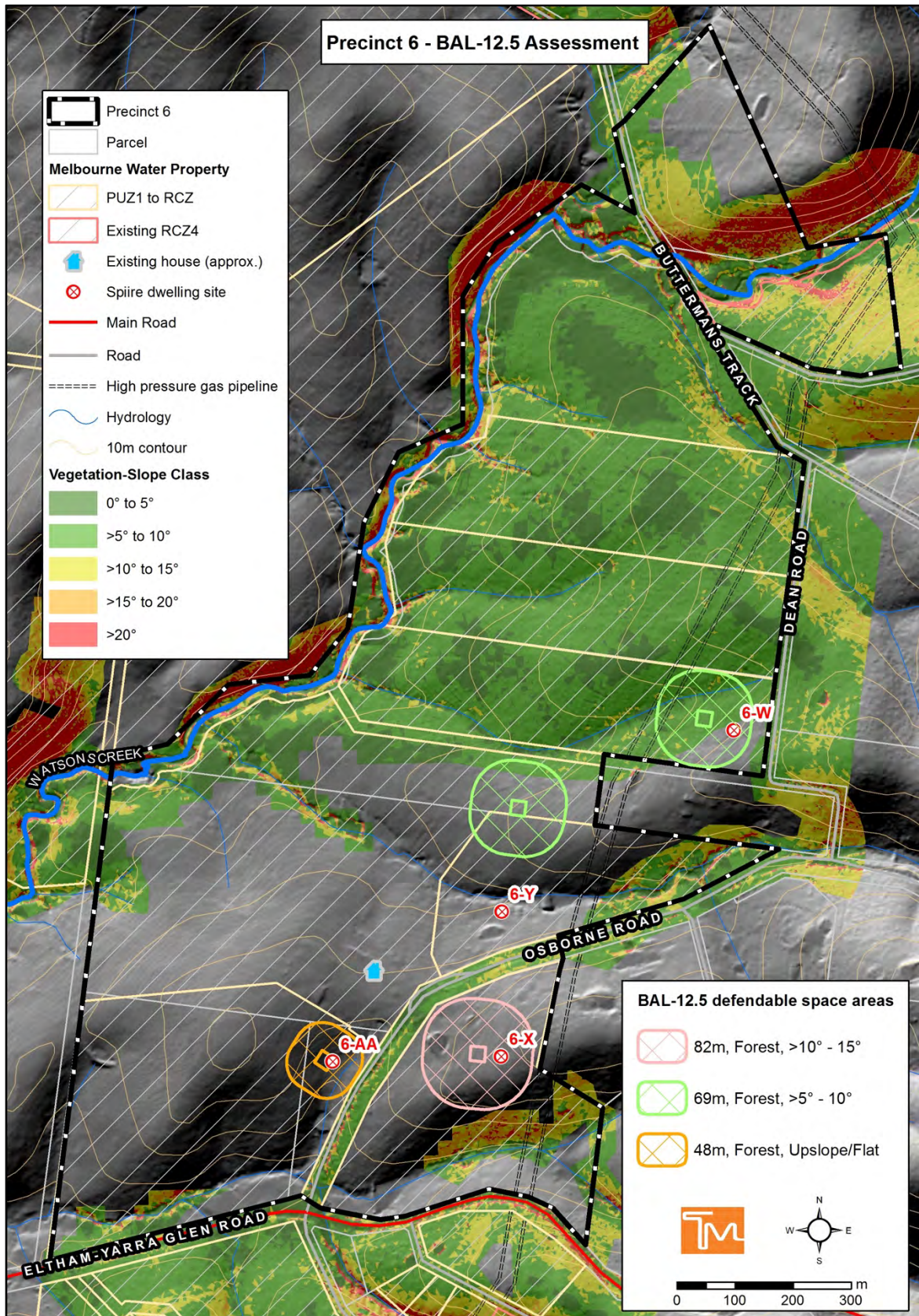
The analysis attempts to site development as far as practicable from classified vegetation and is based on the GIS analysis of slope and vegetation undertaken for the 2017 BDR (Terramatrix, 2017).

Note that the slope mapping shown, has been clipped to the extent of mapped vegetation to display the effective slopes (the slope under the classified vegetation). As per Table 2 in Clause 52.47-3, the assumption that the site slope is the same as the effective slope, has been applied. A black and white digital elevation model is shown as the underlying imagery in the maps, to best illustrate the topography.

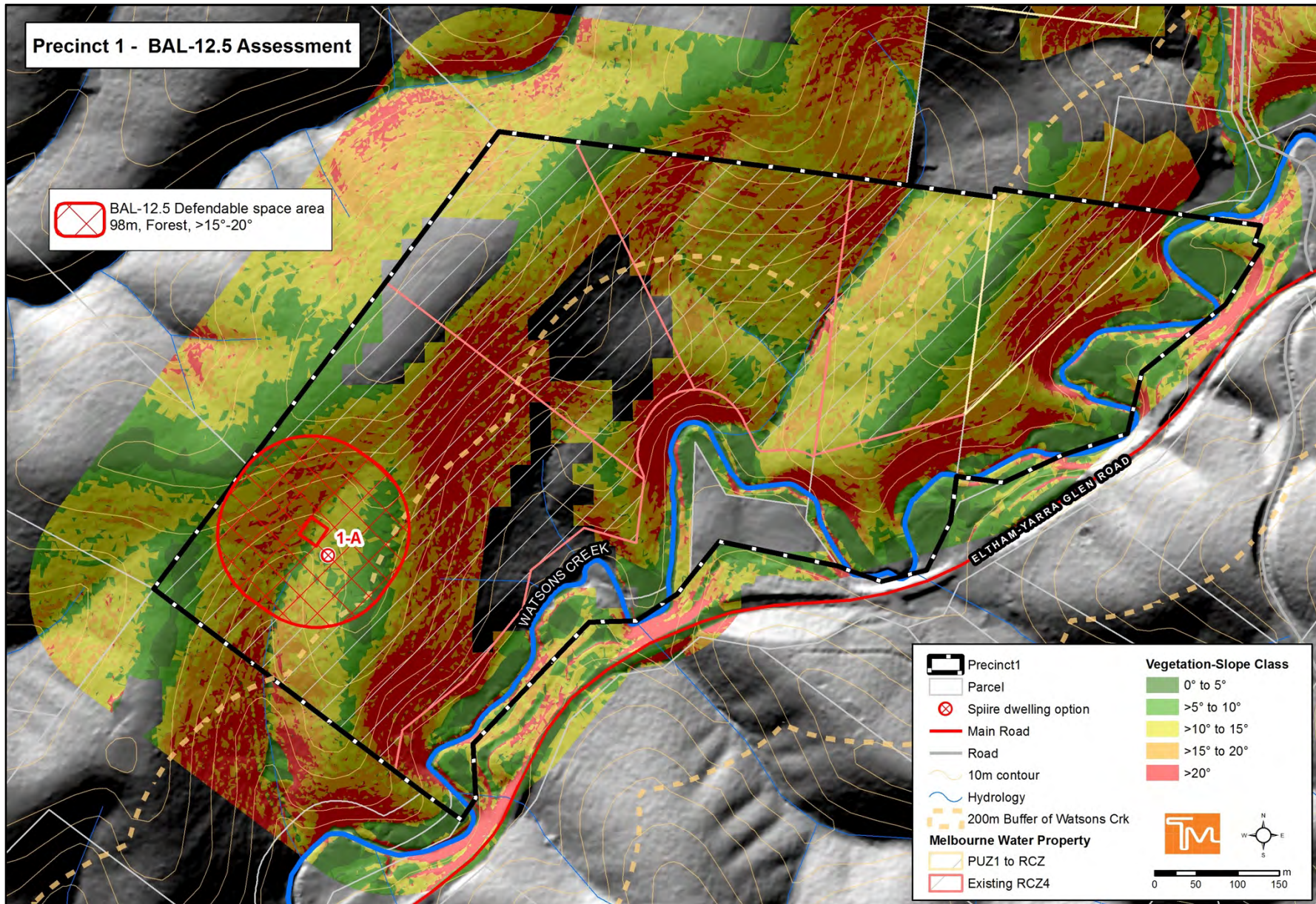
The distance (radius) of each defensible space area around an indicative 25m x 25m building envelope is shown in the map legends and in Table 1 following the maps, with additional comments where appropriate.



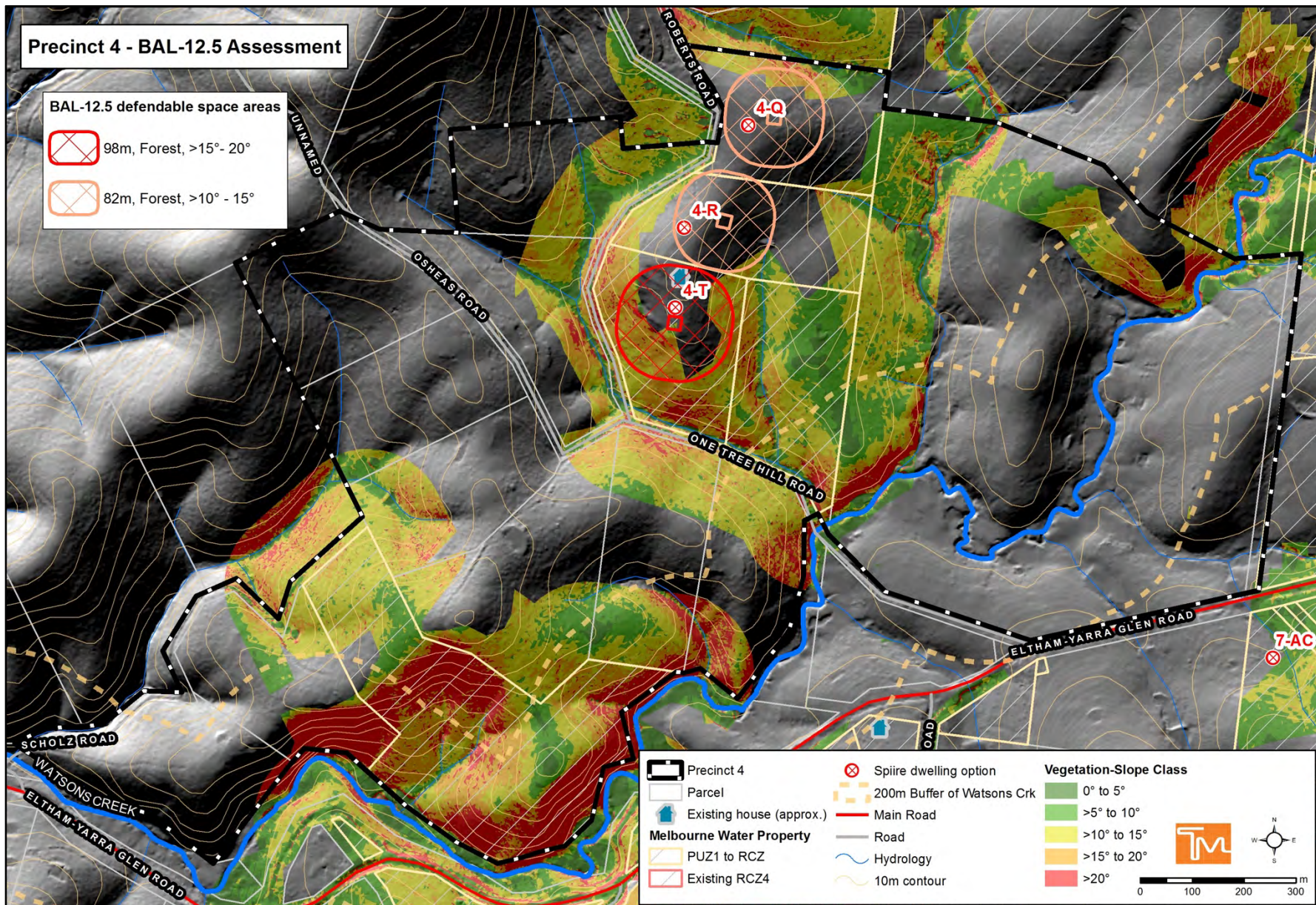
Map 1 - Precinct 2



Map 2 - Precinct 6



Map 3 - Precinct 1



Map 4 - Precinct 4

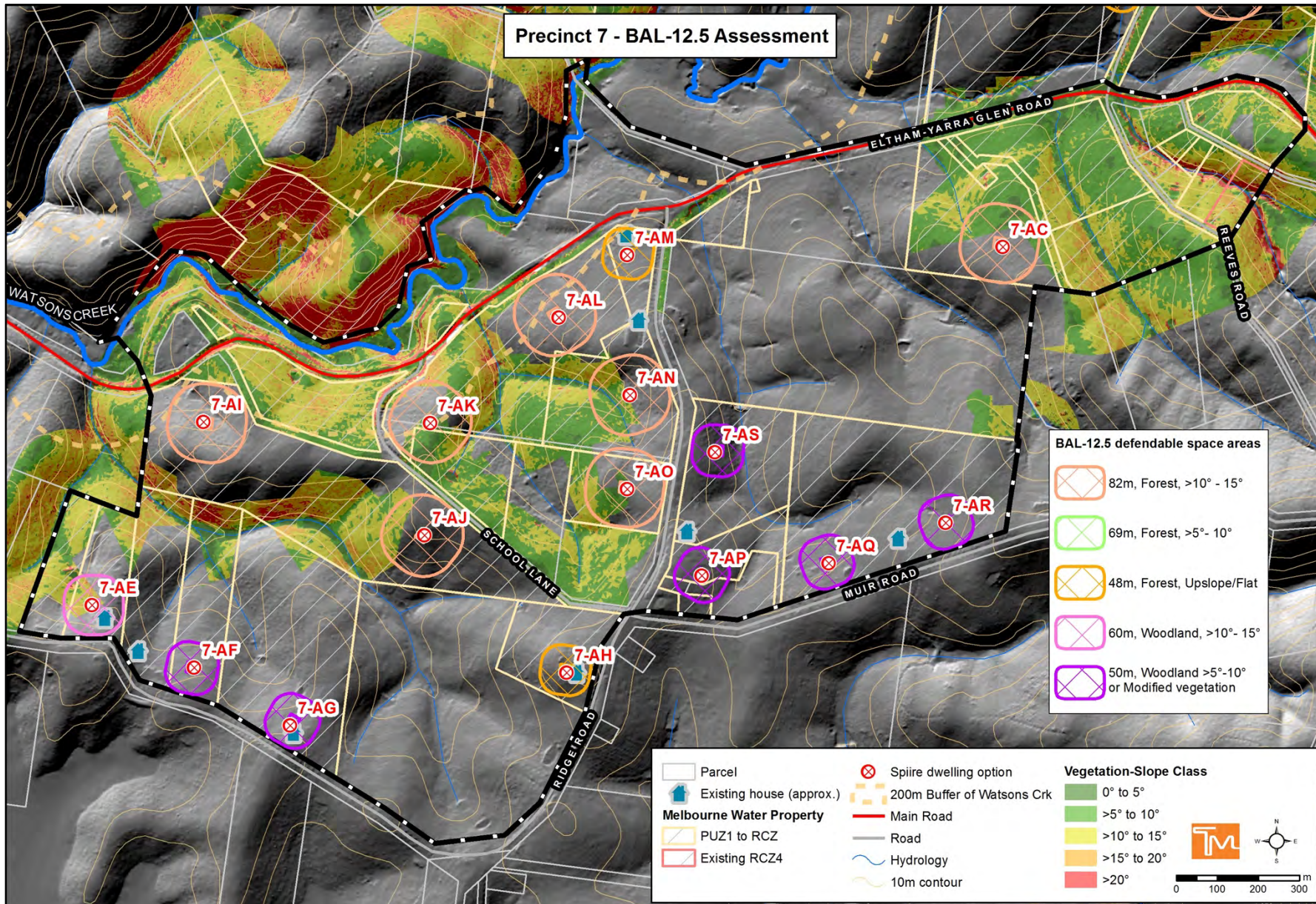


Table 1 - Summary table of precinct analysis and mapping (see Spiire, 2018).

Precinct & Option	Dwelling site (Terramatrix label)	Effective Slope Class	BAL-12.5 Def. Space distance (m)	Comments - potential for a BAL-12.5 dwelling
1	1-A	>15°-20°	98	Maybe. Defendable space marginally within 200m Creek buffer, exposure to >20° slopes may require increased defendable space.
2 Options 1-2	2-C	>15°-20°	98	Possible.
	2-D	Flat/Upslope	48	Possible, mainly Grassland exposure.
	2-E	>10°-15°	82	Possible.
	2-F	>10°-15°	82	Possible.
	2-G	>10°-15°	82	Possible.
	2-I	Flat/Upslope	48	Possible, mainly Grassland exposure.
	2-J	Flat/Upslope	48	Possible, mainly Grassland exposure.
	2-K	Flat/Upslope	48	Possible, mainly Grassland exposure.
	2-L	Flat/Upslope	48	Possible, mainly Grassland exposure.
	2-M	Flat/Upslope	48	Possible, mainly Grassland exposure.
	2-N	Flat/Upslope	48	Possible, mainly Grassland exposure Option 1 for existing dwelling likely the same.
	2-O	Flat/Upslope	48	Possible, mainly Grassland exposure.
2-P	Flat/Upslope	48	Possible, mainly Grassland exposure. Nudged west to avoid steep slope.	
4 Options 1-2	4-Q	>10°-15°	82	Possible.
	4-R	>10°-15°	82	Possible, but lot layout needs altering to get Def Space all within the lot boundary.
	4-T	>15°-20°	98	Perhaps, but Def Space and veg removal required on very steep slopes.
6 Options 1-2	6-W	>5°-10°	69	Possible.
	6-X	>10°-15°	82	Possible. Some steeper slopes to south >15°, but these are short and may justify the lesser >10°-15° def space.
	6-Y	>5°-10°	69	Possible.
	6-AA	Flat/Upslope	48	Possible, mainly Grassland exposure.
7 Options 1-2	7-AC	>10°-15°	82	Possible.
	7-AE	>10°-15°	60	Possible.

Precinct & Option	Dwelling site (Terramatrix label)	Effective Slope Class	BAL-12.5 Def. Space distance (m)	Comments - potential for a BAL-12.5 dwelling
	7-AF	>5°-10°	50	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AG	>5°-10°	50	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AH	Flat/Upslope	48	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AI	>10°-15°	82	Possible.
	7-AJ	>10°-15°	82	Possible.
	7-AK	>10°-15°	82	Possible.
	7-AL	>10°-15°	82	Possible.
	7-AM	Flat/Upslope	48	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AN	>10°-15°	82	Possible.
	7-AO	>10°-15°	82	Possible.
	7-AP	>5°-10°	50	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AQ	>5°-10°	50	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AR	>5°-10°	50	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .
	7-AS	>5°-10°	50	Possible. Likely only grassland exposure or modified vegetation along road reserve, which requires 50m defendable space or to property boundary ¹ .

¹ Modified vegetation in the BMO invokes a minimum BAL-29 construction standard, however, subject to the nature of the hazard and the proximity of future dwellings, BAL-12.5 is likely to be achievable.

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