



3.1.3 Conservation Significance Assessment

Based on the findings of a conservation significance assessment process, the areas of the site were assigned a High, Medium or Low Conservation Significance/Development Constraint Value, as follows:

High Conservation Significance - areas containing:

- Remnant or maturing, regenerating EEC listed under the NSW TSC Act and/or EPBC Act with high recovery potential.
- Known habitat or habitat features for threatened fauna species listed under the NSW TSC Act and/or EPBC Act.
- Habitat or habitat features (e.g. large hollow-bearing trees/stags) of potential relevance to threatened fauna species known to occur within the locality.
- Significant canopy stratum that contributes to the connectivity of vegetation within the site and with surrounding vegetation.
- Creek lines and associated riparian vegetation.

Medium Conservation Significance – areas containing:

- Dense weed regrowth with component EEC species, important for maintaining the connectivity of EEC's on the site.
- Native or other vegetation (not part of an EEC) known to provide habitat (food and refuge) for native fauna species, occurring on the site and within the locality.

Low Conservation Significance – areas containing:

- Predominately exotic vegetation of a highly modified nature (e.g. maintained open grassland/lawns and residential gardens).
- Scattered pockets of dense weed thickets, that whilst potentially providing some food sources and habitat for fauna species, are not considered critical for the conservation of native fauna species on site or in the locality.
- A lack of canopy stratum or connectivity values.

The resulting ecological constraints map (refer to Figure 3-2) shows that the majority of the vegetated portion of the site presents a high development constraint, predominately due to it comprising species indicative of the critically endangered ecological communities (Blue Gum High Forest and Sydney Turpentine – Ironbark Forest) (even though weed invasion and their condition is generally low), providing known habitat for threatened fauna species (the Eastern Bent-wing Bat and Grey-headed Flying-fox) and contributing to local and regional vegetation corridors. As such, there is a potential for future development of these areas to have a significant impact (direct and indirect) on threatened species, ecological communities and their habitats listed under both State and Federal legislation and to further fragment vegetation and vegetation links.



The existing cleared areas of the site and residences and surrounding gardens are considered of low conservation significance and provide opportunity for future development. However, any future development in these areas would have to take into account the potential for adverse impacts on retained vegetation, habitat and drainage lines and incorporate appropriate impact mitigation and environmental management measures to ensure impacts were avoided or reduced to an acceptable level.

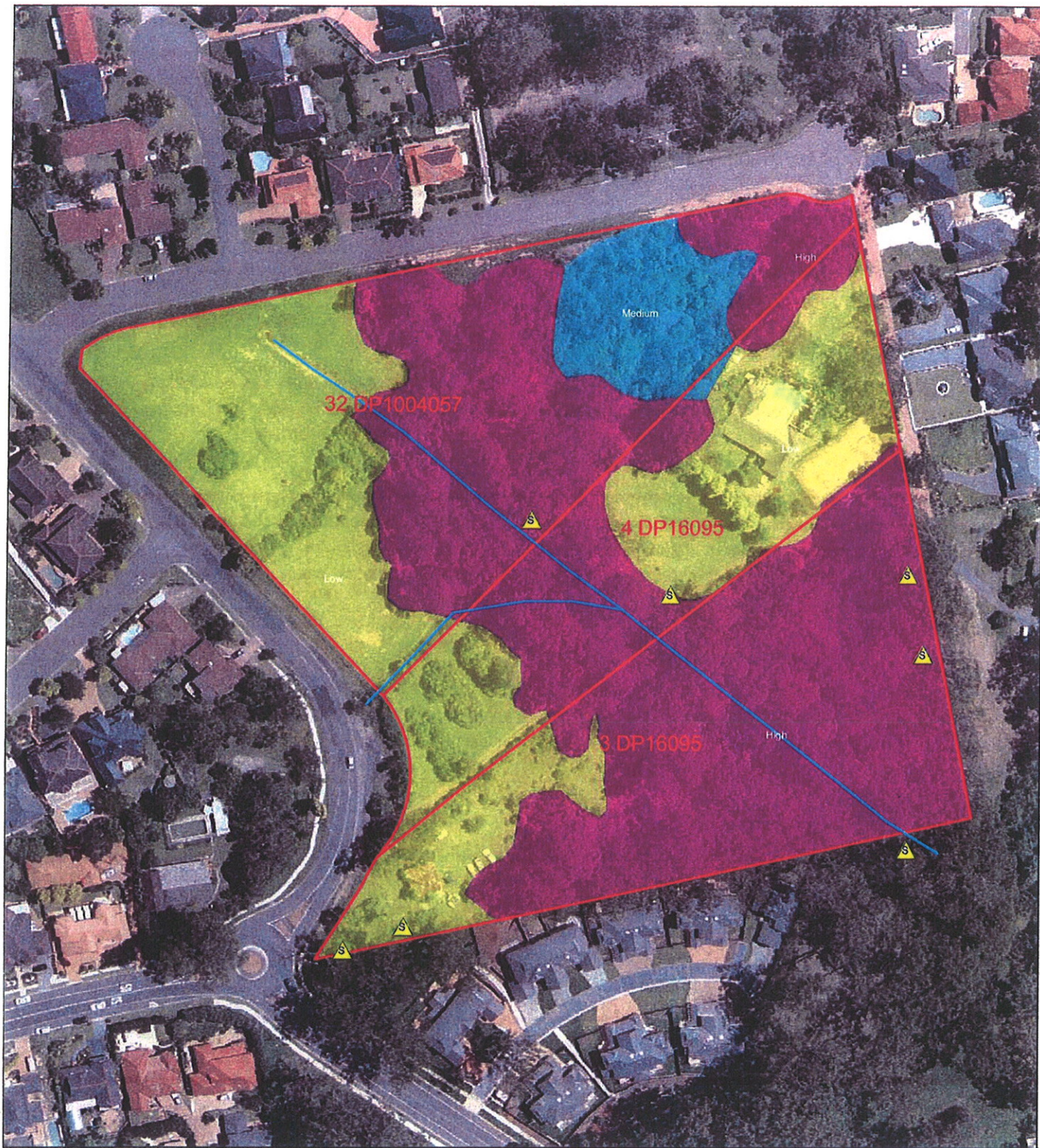
Future development options for the site would require assessment pursuant to Section 5A of the TSC Act and the EPBC Act, at the development application stage, to determine the significance or otherwise of likely impacts in order to determine the requirement or otherwise for the preparation of a Species Impact Statement and/or referral to the Commonwealth (DEWHA) respectively. The potential for future development to impose a significant impact would be dependent on the type and location of development proposed, the areas of vegetation and habitat features to be removed and/or retained and the impact mitigation and environmental management measures, including consideration of appropriate compensatory offset, to be implemented.

3.1.4 Summary

The site contains a number of ecological features, which represent a high constraint in terms of future development capability. However, existing cleared and modified areas of the site are considered of low conservation significance/development constraint and provide some opportunity for development. Future development of these areas would need to incorporate appropriate impact mitigation and environmental management measures to reduce the potential for adverse impacts on retained areas.

From an ecological perspective there is the opportunity for future use of the site to make a substantial contribution to the conservation of biodiversity in the locality through the protection and enhancement of vegetation and habitat and consolidation of, and contribution to, the local and regional corridor network. Whilst the site has a reasonably high level of noxious weed and woody weed infestation, there remains a suitable diversity of native species present within the EEC's to facilitate effective regeneration and long-term viability if appropriate weed control measures and revegetation plans are implemented.

Any development opportunities for the site will need to address all issues pertaining to the protection and management of native vegetation, EEC's and threatened fauna species and their habitats present on the site.



Legend

— Creek Line

□ Subject Site Cadastre



Stag

Conservation Significance

High

Medium

Low

1:1,200
0 25 50
Metres
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1984
Grid: Map Grid of Australia, Zone 55



BAULKHAM HILLS SHIRE COUNCIL
Hill Road Reserve

Job Number 21-17235
Revision A
Date 9 April 2008

Conservation Significance

Figure 3-2

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3.2 Bushfire

A bushfire assessment has been completed by GHD and is included as Appendix B. A summary of the assessment is provided below.

3.2.1 Assessment Criteria

An assessment has been prepared in accordance with Clause 46 of the *Rural Fires Regulation 2002* and Appendix 4.2 of *Planning for Bushfire Protection 2006* (NSWRFS 2006). The assessment has been prepared giving consideration to determining the constraints on development in lieu a specific assessment of a potential physical building.

GHD undertook a bushfire assessment of the site which included land maps and analysis of vegetation, bushfire issues and hazards and flora and fauna habitat features. A site inspection was conducted in order to identify bushfire issues, determine appropriate urban/bushland interfaces; potential fire protection zones (APZs) and any measures that are required where appropriate.

3.2.2 Hazard Assessment

The majority of the subject land is classified as bushfire prone land (Category 2) and bushfire prone land buffer (30m) (refer to Figure 3-3) as the vegetation type constitutes a potential threat to the existing residential development within and adjoining the site. The exception to this is the cleared western end of Hill Road Reserve that is not classified as bushfire prone.

3.2.3 Predominant Vegetation Class

Survey transects, 140 m in length, were utilised to determine the "Predominant Vegetation Class Formation, consistent with A2.3 of *Planning for Bushfire Protection*. Sydney Turpentine Ironbark vegetation corresponds with Northern Hinterland Wet Sclerophyll Forest (Keith 2004), and *Wet Sclerophyll Forest – grassy sub formation* (NSWRFS 2006). The Blue Gum High Forest is classed as the North Coast Wet Sclerophyll Forest type (Keith 2004) corresponding to the description of *Wet Sclerophyll Forest – shrubby sub formation* (NSWRFS 2006).

For the purposes of this assessment the predominant vegetation class across the site used is *Wet Sclerophyll Forest – shrubby sub formation* as:

- ▮ There is a high open tree canopy dominated by tall straight trunked eucalypt species;
- ▮ Whilst a component of the understorey is comprised of predominantly of exotic weeds, native elements include soft leaved shrubs and small trees in the understorey; and
- ▮ Found on moderately fertile soils in areas of high (>900 mm) rainfall.



Legend

----- 2mContours

Subject Site Cadastre

Bush Fire Vegetation Categories

1

2

Bush Fire Protection Buffer

1:2,000
0 50 100
Metres
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 56



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Bushfire Prone Land Map

Figure 3-3



3.2.4 Effective Slope

"Effective Slope", in accordance with A2.3 of *Planning for Bushfire Protection*, was confirmed during survey transects and traverses across the site. Across the subject land the overall slope falls from north to south. Within the subject land slope falls inward towards a drainage line running across the centre of the subject land from north-west to south-east. The slope is less than 5 degrees across the majority of southern part of the subject land, increasing to 5-10 degrees across the northern part of the site, with small pockets of 10-15 degrees adjacent to the creek line. The effective slope that is most likely to influence fire behaviour, as confirmed in the field and used as the basis for this assessment, is 5-10 degrees.

3.2.5 Bushfire Protection Measures

An Asset Protection Zone (APZ) is an area surrounding a development or asset managed to reduce overall fuel levels to decrease bushfire hazard to an acceptable level

Based on the current vegetation formation, effective slope and fire area the APZ required in developing the subject land is:

- ▶ 35 metres for areas upslope of the hazard in the south-east corner, comprising a 20 metre inner protection area and 15m outer protection area.
- ▶ 20 metres for areas down slope of the hazard where an APZ is required in the north east corner of the site comprising a 10 m inner protection area and 10m outer protection area.

Planning for Bushfire Protection (RFS 2006) identifies that bushfire protection measures should be contained within an overall development and not on adjoining lands unless exceptional circumstances apply.

The location and extent of APZ required for the site is based on the current vegetation (bushfire hazard) identified in the ecological report as high conservation value. Refer to Figure 3-3 for APZ Layout with existing high priority canopy.



Legend

- Riparian Corridor
- Subject Site Cadastre

APZLayout - High Priority Canopy

- APZ (35m)
- Vegetation

1:1,200 at A3
0 25 50
Metres
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 56



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APZ Layout -
High Priority Canopy

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Figure 3-4



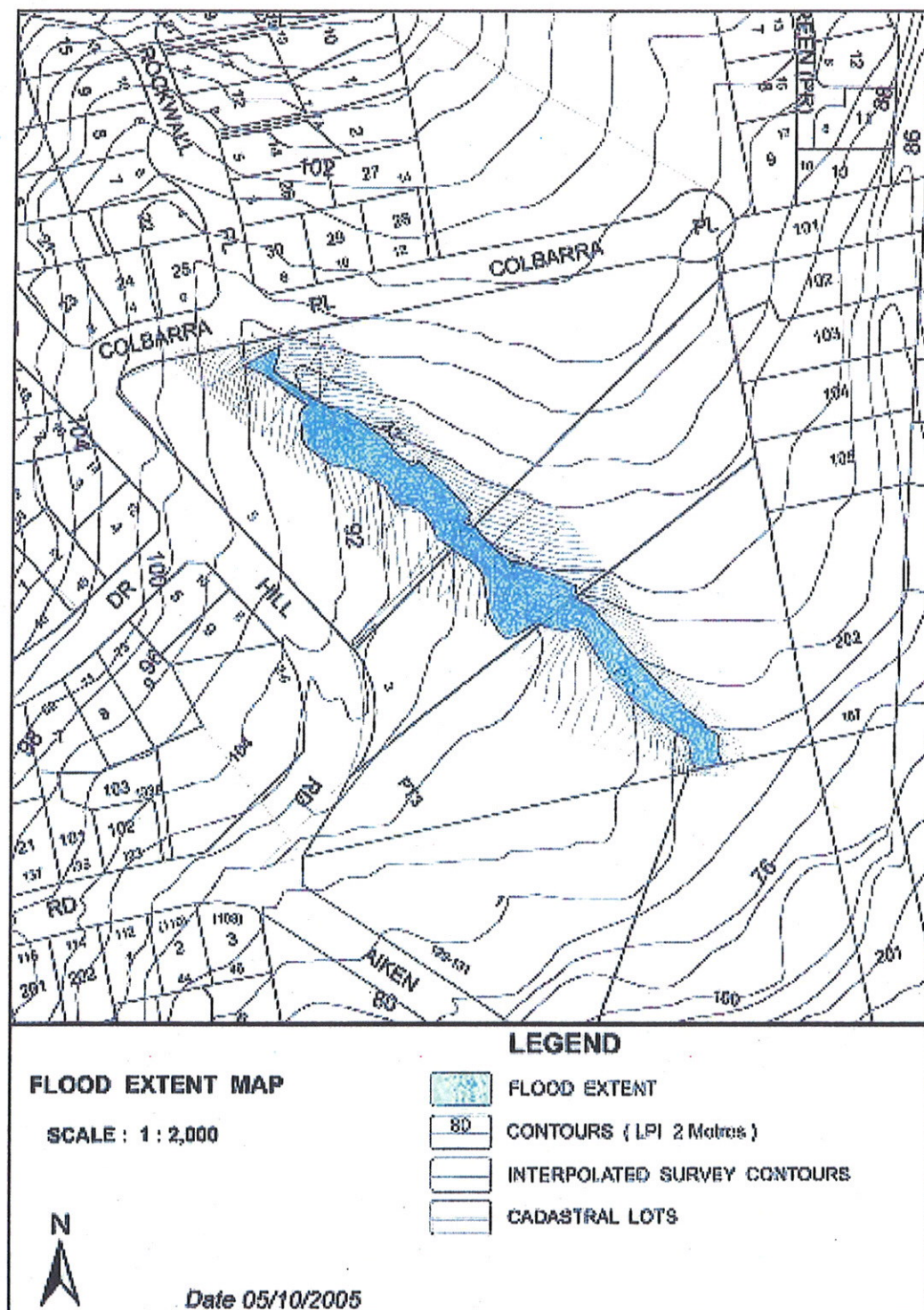
3.3 Flooding

A flood study was undertaken by Patterson Britton & Partners Pty Ltd in September 2005. The purpose of the study was to identify the 1 in 100 flood level of the site to ensure that flood prone land may be set-aside in any future development. The site was found to contain a natural watercourse that flows through all 3 lots.

The extent of a 1 in 100 year flood on the site is displayed in Figure 3-5. This land, which also forms part of the environmental protection area, would be required to be set-aside in any future development.



Figure 3-5 1 in 100-Year Flood Extent



(Source: Letter from Patterson Britton & Partners Pty Ltd to BHSC)



3.4 Heritage

GHD understand The Hills Shire Council has engaged Insite Heritage, to undertake a Heritage Assessment of the site. As such, heritage has not been considered as part of this report.

3.5 Summary of Physical Constraints Combined

All of the physical constraints of the study site have been combined into a single map and displayed in Figure 3-6. This map identifies that a section of land adjacent to Hill Road in its current formation is developable, with the majority of the subject site constrained due to vegetation and flood considerations. The constraints map is a synopsis of the constraints studies mentioned earlier in this section. The constraints are summarised as follows:

3.5.1 Area of High Conservation Significance

The ecology report identified areas of high, medium and low conservation significance. This study recommended that areas of low conservation significance be developed.

3.5.2 Asset Protection Zone

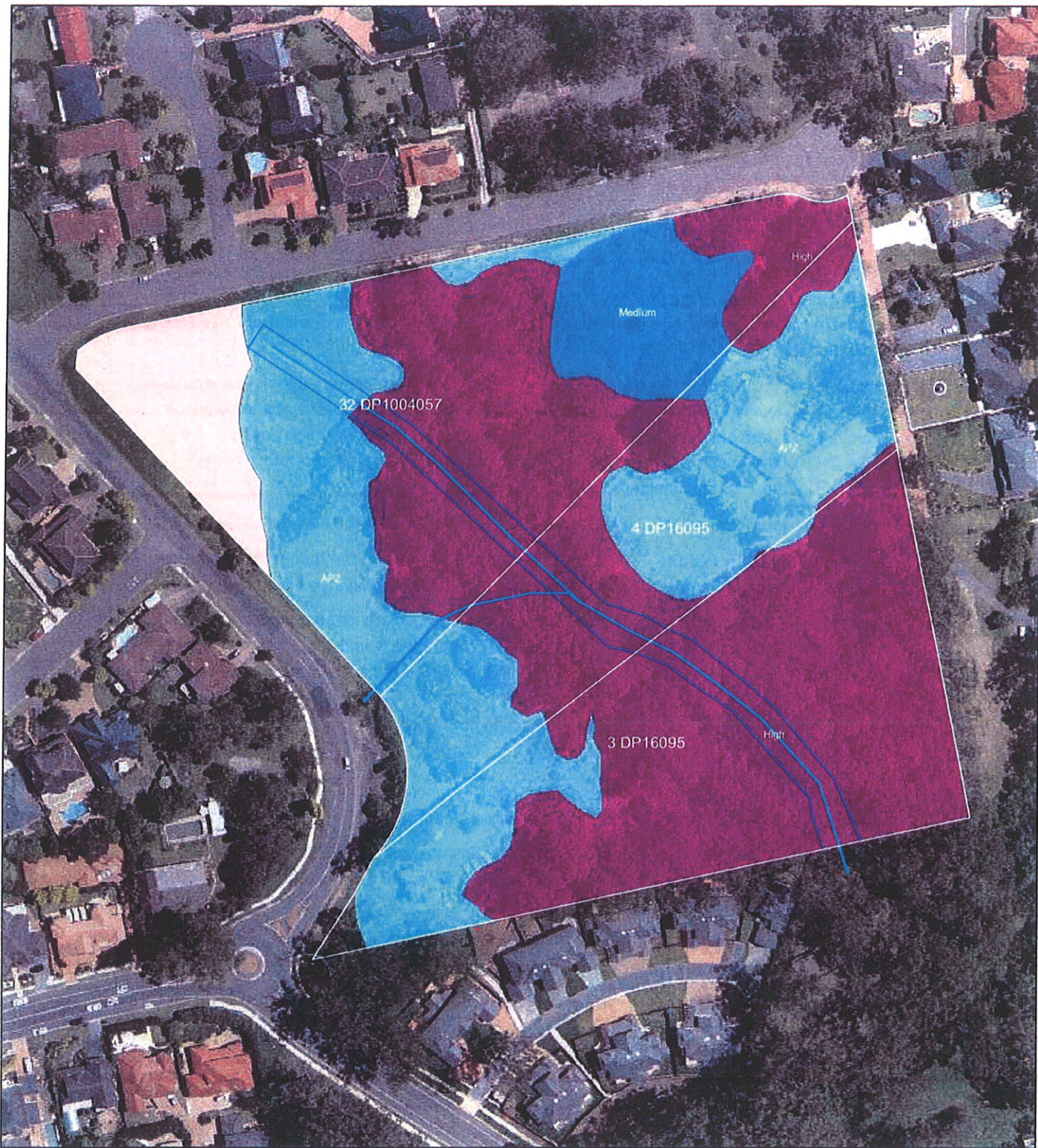
The study area was identified as bushfire prone land in the bushfire study. A Level 2 bushfire category and a Bushfire Protection Buffer exist on the site. The bushfire report has requirements to minimise bushfire hazard through the incorporation of a managed APZ (refer section 3.2.3). A 35m Asset Protection Zone (35m) (APZ) has been recommended around the high conservation area.

3.5.3 Floodprone Land

The riparian corridor is a narrow strip of land, centred on a stream that includes the floodplain as well as related riparian habitats adjacent to the floodplain. This land cuts across the entire site from a north westerly to a south-easterly direction and encompasses the existing drainage line. The existing drainage line falls within the area of high conservation significance that has been identified for environmental protection and is accordingly undevelopable.

3.5.4 Slope

The developable land slopes gradually away from the street. This land ranges from as steep as 18 degrees to as flat as 0 degrees. Only a small portion of this land is overly steep and falls between 10-18 degrees.



Legend

Subject Site Cadastre	Conservation Significance
Existing Development Area (2639 m2)	High
Creek Line	Medium
Riparian Corridor	
APZ High Priority Canopy (35m)	

1:1,200
0 25 50
Metres
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 56



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Constraints Analysis Map

Figure 3-6



4. Development Opportunity

The constraints analysis indicates that of the total site area (3.25 ha), only 2,639m² of land is developable with the current site conditions and without having regard to the current site zoning. This developable land is 8.12% of the total site area.

It is evident that the current site constraints do not allow for a development option that would be economically viable when considering the acquisition costs associated with Lot 4 to deliver an economic, social and environmental benefit to the community. The acquisition cost of Lot 4 (1.1 ha or 24.25% of the total site area) plus the rehabilitation cost, with limited return on only 8.12% of the total site area, is not considered to be a viable option.

THSC has previously considered a number of alternative options for the site:

- ▶ **Private Recreation Facility** – *Not considered appropriate due to the topography, location, environmental constraints and similar facilities with a resalable distance from the site.*
- ▶ **Commercial facilities** – *Not considered appropriate as it would not be consistent with the surrounding residential area and the resultant traffic increase would have a negative impact on the area. The neighbourhood is currently serviced by Coonara Avenue Shopping Centre which is within a 1 km radius of the site.*
- ▶ **Community facilities** – *Not considered appropriate as a community facility is located at View street reserve within 500m of the site.*
- ▶ **Child Care Centre / Educational Establishment** – *Not considered appropriate due to the potential traffic impacts and difficulty in attracting a potential user.*

Council's previous considerations and recommendations are still considered to be relevant regarding the above and, as such, further investigations for these options are not considered to be warranted for the purpose of this report.

Development options to be considered are to be based on a residential development outcome providing a balance between the biodiversity, social and economic benefits.

Consideration of any development will require consultation and negotiation with the DECCW, RFS and DoP as potential development of such a constrained site will not be a straight forward approval process.

4.1 Development Option

4.1.1 Development Location

The topography, vegetation coverage and site boundaries suggest the development potential for the site is within the land fronting Hill Road and at the intersection with Colbarra Place. The area of land is generally cleared, of low conservation significance and of a continuous nature.

Consideration of development on the eastern side of the creek line is not appropriate due to the high and medium conservation significance areas and limited access to any development areas. In addition the ability to provide appropriate APZ's would severely restrict any development or result in the removal of high and medium conservation significance areas.



4.1.2 Development Density

The character of the surrounding area is made up of residential allotments of no less than 700m² up to 4,000m² in the environmentally protected areas. The character of the greater West Pennant Hills valley is made up of predominately residential allotments no less than 700m² up to 4000m² in the environmentally protected corridors, the IBM commercial facilities, Cumberland State forest and numerous recreational and passive open space reserves.

An increase in density greater than the surrounding residential allotments is not considered to be in sympathy with the existing character of the area. The size and shape of a potential higher density development is considered not be conducive to an appropriate design which would protect and enhance the biodiversity value of the overall site.

The development area identified is recommended for residential allotments no less than 700m² and of a similar nature to the surrounding area.

4.1.3 Potential Development Site

A potential development area for the site has been prepared in Figure 4-1. The development site comprises of approximately 7,900m². The site area has been prepared under the following criteria:

- ▶ Low density residential development (BHSC LEP 2(b) minimum depth of 27m).
- ▶ APZ provided in accordance with the Bush Fire report attached as Appendix B.
- ▶ Minimising the impact of the high and medium conservation significant areas.
- ▶ Suitable development site access.
- ▶ Opportunity to enhance and improve the overall biodiversity value of the total site.

The development area shown provides a functional and practical outcome with that could be developed for low-density residential housing while providing an opportunity to enhance the overall biodiversity values of the site with the appropriate long term management.



Legend

- Creek Line
- Subject Site Lots
- Riparian Corridor
- APZ 35m depth
- Potential Development Area (min depth 27m - 7883m²)
- High conservation significance to be impacted (4379m²)
- High conservation significance retained (20247m²)
- Medium Conservation significance area to be rehabilitated (privet Thicket/regrowth 2834m²)
- Rehabilitation Area (5653m²)

1:1,200
0 25 50
Metres
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55



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Development Potential

Figure 4-1