

ITEM-3

**POST EXHIBITION - PLANNING PROPOSAL, DRAFT
DCP AND DRAFT VPA - 55 COONARA AVENUE, WEST
PENNANT HILLS (1/2018/PLP)**

Proceedings in Brief

Jan Primrose (Objector) representing Protecting Your Suburban Environment Inc. addressed Council regarding this matter.

Jacqui Goddard (Objector) representing Resident's Infrastructure and Planning and Alliance (RIPA) addressed Council regarding this matter.

Adrian Checchin (Applicant) of Mirvac addressed Council regarding this matter.

A MOTION WAS MOVED BY COUNCILLOR UNO AND SECONDED BY COUNCILLOR HASELDEN THAT the Recommendation contained in the report be adopted.

THE MOTION WAS PUT AND LOST.

Being a planning matter, the Mayor called for a division to record the votes on this matter

VOTING FOR THE MOTION

Clr R A Preston
Clr A N Haselden
Clr J Jackson
Clr E M Russo
Clr F P De Masi
Clr S P Uno

VOTING AGAINST THE MOTION

Mayor Dr M R Byrne **(Casting)**

Clr R Jethi
Clr M G Thomas
Clr A J Hay OAM
Clr R M Tracey
Clr Dr P J Gangemi

MEETING ABSENT

Clr B L Collins OAM

A MOTION WAS MOVED BY COUNCILLOR THOMAS AND SECONDED BY COUNCILLOR TRACEY THAT

1. The planning proposal for land at 55 Coonara Avenue, West Pennant Hills not progress to finalisation. Council write to the Minister for Planning and Public Spaces and request that the Minister determine that the planning proposal not proceed.
2. Draft The Hills DCP Part D Section 22 – 55 Coonara Avenue, West Pennant Hills (Attachment 4) not be adopted.
3. The draft Voluntary Planning Agreement (Attachment 5) not be entered into.

THE MOTION WAS PUT AND CARRIED.

647 RESOLUTION

1. The planning proposal for land at 55 Coonara Avenue, West Pennant Hills not progress to finalisation. Council write to the Minister for Planning and Public Spaces and request that the Minister determine that the planning proposal not proceed.
2. Draft The Hills DCP Part D Section 22 – 55 Coonara Avenue, West Pennant Hills (Attachment 4) not be adopted.
3. The draft Voluntary Planning Agreement (Attachment 5) not be entered into.

Being a planning matter, the Mayor called for a division to record the votes on this matter

VOTING FOR THE MOTION

Mayor Dr M R Byrne **(Casting)**

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VOTING AGAINST THE MOTION

Clr R A Preston

Clr A N Haselden

Clr J Jackson

Clr E M Russo

Clr F P De Masi

Clr S P Uno

MEETING ABSENT

Clr B L Collins OAM

9.03pm Councillor Russo left the meeting and returned at 9.06pm during Item 7.

9.06pm Councillor Thomas left the meeting and returned at 9.08pm during Item 7.

9.12pm Councillor De Masi left the meeting and returned at 9.17pm during Item 7.

ITEM-7**WARWICK PARADE CASTLE HILL - REVIEW OF ROAD CLOSURE****Proceedings in Brief**

Sandra Yeo (Objector) of Parsonage Road, Castle Hill addressed Council regarding this matter.

Wayne Kealy (Objector) of Verletta Avenue, Castle Hil addressed Council regarding this matter and tabled a petition from surrounding residents not to reopen Warwick Parade, Castle Hill

A MOTION WAS MOVED BY COUNCILLOR HASELDEN AND SECONDED BY COUNCILLOR UNO THAT

1. Council approve the re-opening of Warwick Parade in accordance with Option 2 as outlined in the report, for a trial period of 12 months subject to the endorsement of the proposal by the Local Traffic Committee.

ITEM-3	POST EXHIBITION - PLANNING PROPOSAL, DRAFT DCP AND DRAFT VPA - 55 COONARA AVENUE, WEST PENNANT HILLS (1/2018/PLP)
THEME:	Shaping Growth.
OUTCOME:	5 Well planned and liveable neighbourhoods that meets growth targets and maintains amenity.
STRATEGY:	5.1 The Shire's natural and built environment is well managed through strategic land use and urban planning that reflects our values and aspirations.
MEETING DATE:	26 NOVEMBER 2019 COUNCIL MEETING
GROUP:	SHIRE STRATEGY, TRANSFORMATION AND SOLUTIONS
AUTHOR:	MANAGER – FORWARD PLANNING NICHOLAS CARLTON
RESPONSIBLE OFFICER:	GROUP MANAGER – SHIRE STRATEGY, TRANSFORMATION & SOLUTIONS DAVID REYNOLDS

EXECUTIVE SUMMARY

This report recommends that the planning proposal to rezone land at 55 Coonara Avenue, West Pennant Hills be forwarded to the Department of Planning, Industry and Environment for finalisation. It is also recommended that Council adopt the associated site-specific Development Control Plan ('DCP') and execute the draft Voluntary Planning Agreement ('VPA') which secures contributions towards local infrastructure arising from the proposed development.

Delegation to finalise the planning proposal was not issued to Council by the Department due to the site's proximity to the Cumberland State Forest and the significant vegetation present on the site. Accordingly, the Department would ultimately be responsible for the finalisation of the proposal and as part of this process, may undertake further consultation with the Environment, Energy and Science Group ('EES' - formerly the Office of Environment and Heritage) to resolve any outstanding issues, as detailed further within this report.

The key elements of the proposal are as follows:

Planning Proposal

Currently the site is zoned in its entirety as B7 Business Park with a Height of Building of 22m and Floor Space Ratio of 0.2:1. The planning proposal will amend the zoning and primary development controls applicable under LEP 2012 to facilitate a medium to high density residential development incorporating 600 dwellings on the site as well as the identification of land for public open space (a sporting field) and a large portion as environmental protection. The proposal will include 400 apartment dwellings and 200 medium density dwellings including 'micro-lot housing' and terrace style dwellings ranging

from 86m² to 300m². A detailed description of the planning proposal is provided in Section 1.1 of this report.

Development Control Plan

The site-specific DCP will deal with future development outcomes on the site to ensure that the intended built form outcome that supports the planning proposal is delivered. The development controls relate to matters such as streetscape, character, setbacks, access to the site, vegetation management, parking and the preservation of a vegetated setback along the Coonara Avenue frontage.

Voluntary Planning Agreement

The Voluntary Planning Agreement (VPA) provides for the dedication of 2.49ha for a new public park and an adjoining open air car park, construction of a playing field (currently specified as synthetic) and dedication and construction of a perimeter road to provide access to the playing field. It is recommended that Council execute the VPA provided at Attachment 5. No additional monetary contribution is proposed under the VPA.

The planning proposal, draft DCP and draft VPA were subject to consultation with public authorities and were publicly exhibited from 30 April 2019 to 31 May 2019. Council received:

- Submissions from eight (8) public authorities. As discussed further within Section 3.1 of this report, there remains unresolved issues raised by EES (formerly OEH) and Hornsby Council. In particular, EES have requested additional information from the proponent with respect to biodiversity. While some of EES' issues can be addressed through post-exhibition amendments to the site-specific DCP, any outstanding matters would need to be resolved by the Department of Planning, Industry and Environment as part of the finalisation process; and
- 4,130 submissions from the community. Key issues raised in submissions relate to the appropriateness of the proposed development, impact on local character, consistency with the strategic planning framework, traffic generation, environmental impacts, availability of local services and jobs, impacts associated with the proposed synthetic playing fields and adequacy of the VPA offer. Further discussion with respect to the key issues raised is contained within Section 3.2 of this report.

In response to the submissions received, this report recommends a number of post-exhibition amendments to the planning proposal and site-specific DCP:

- The identification of developable areas of the site on the 'Urban Release Area Map' under LEP 2012 to ensure satisfactory arrangements are made for contributions to designated State infrastructure; and
- Amendments to the site-specific DCP to achieve the following:
 - Landscaping and building design requirements have been strengthened for better streetscape and character outcomes;
 - Greater clarification of desired built form outcomes for medium density and residential flat buildings;
 - New images have been included to provide greater certainty of the intended development outcomes on the site;

- Particular consideration has been given to the residential flat building precinct in response to concerns regarding high density development on the site;
- New objectives and controls that give consideration to issues such as dwelling size and mix, and promote built form outcomes that are more suitable to the adjoining properties;
- Further consideration has been given to local character to ensure that new development is sensitive to the landscape setting and environmental conditions of the locality; and
- New controls have been included to encourage high quality landscaping, native street trees, and colours and materials that are compatible with the landscape and streetscape.

The issues raised in submissions have been addressed in part via amendments to the Development Control Plan where appropriate. It is recommended that The Hills DCP 2012 Part D Section 22 – 55 Coonara Avenue, West Pennant Hills be adopted (with amendments outlined in the report) and come into force with the notification of the planning proposal.

PROPONENT	Mirvac Capital Pty Limited
OWNERS	Mirvac Projects (Retail and Commercial) Pty Limited
POLITICAL DONATIONS	Nil disclosures by the Proponent

THE HILLS LEP 2012

	Current	Proposed
Zone	B7 Business Park	R3 Medium Density Residential R4 High Density Residential RE1 Public Recreation E2 Environmental Conservation
Min. Lot Size	8,000m ²	700m ² (R3 Medium Density Residential) 1,800m ² (R4 High Density Residential) 2 hectares (RE1 Public Recreation) 10 hectares (E2 Environmental Conservation)
Max. Building Height	22 metres	9 metres 12 metres 22 metres
Max. Floor Space Ratio	0.2:1	Nil – density proposed to be limited through site-specific clause (see below).
Site Specific Clause	Nil	Clause to cap the maximum yield at 600 dwellings and enable 'micro-lot housing' subject to submission of an application for both subdivision and dwelling design.
Urban Release Area Map	Not Applicable	Residential areas on the site to be identified on the Urban Release Area Map to facilitate arrangements for contributions towards State infrastructure.

Table 1
Proposed LEP Amendments

REPORT

The purpose of this report is to consider the outcomes of public authority consultation and public exhibition of the planning proposal, draft DCP and draft VPA for land at 55 Coonara Avenue, West Pennant Hills. A detailed history of the proposal, draft DCP and draft VPA is provided as Attachment 1.

THE SITE

The site is known as 55 Coonara Avenue, West Pennant Hills and has an area of approximately 25.87 ha. It is approximately 860 metres walking distance from Cherrybrook Railway Station, 430 metres walking distance to Coonara Shopping Village and 1.7km walking distance to shopping facilities at Thompsons Corner. The site is within the Precinct Study boundary for the Cherrybrook Metro Station.



Figure 1
Aerial view of the site and surrounding locality

The topography forms a south facing “amphitheatre”, located below the east-west ridgeline of Castle Hill Road and the north-south ridgeline of the adjoining State Forest. The site slopes away from Coonara Avenue, with two watercourses traversing the land.

The entire site is currently zoned B7 Business Park with existing development comprising seven (7) interconnected commercial low-rise buildings with a total commercial gross floor area of 36,000m², two (2) car parks comprising 1,687 car spaces and a levelled grass area. The footprint of the development is surrounded by ecologically significant vegetation, including Blue Gum High Forest and Sydney Turpentine Ironbark Forest, which are identified as critically endangered ecological communities. The land is also identified as bushfire prone land (both category one (1) and bushfire buffer).

1. SUMMARY OF PROPOSAL, DCP AND VPA

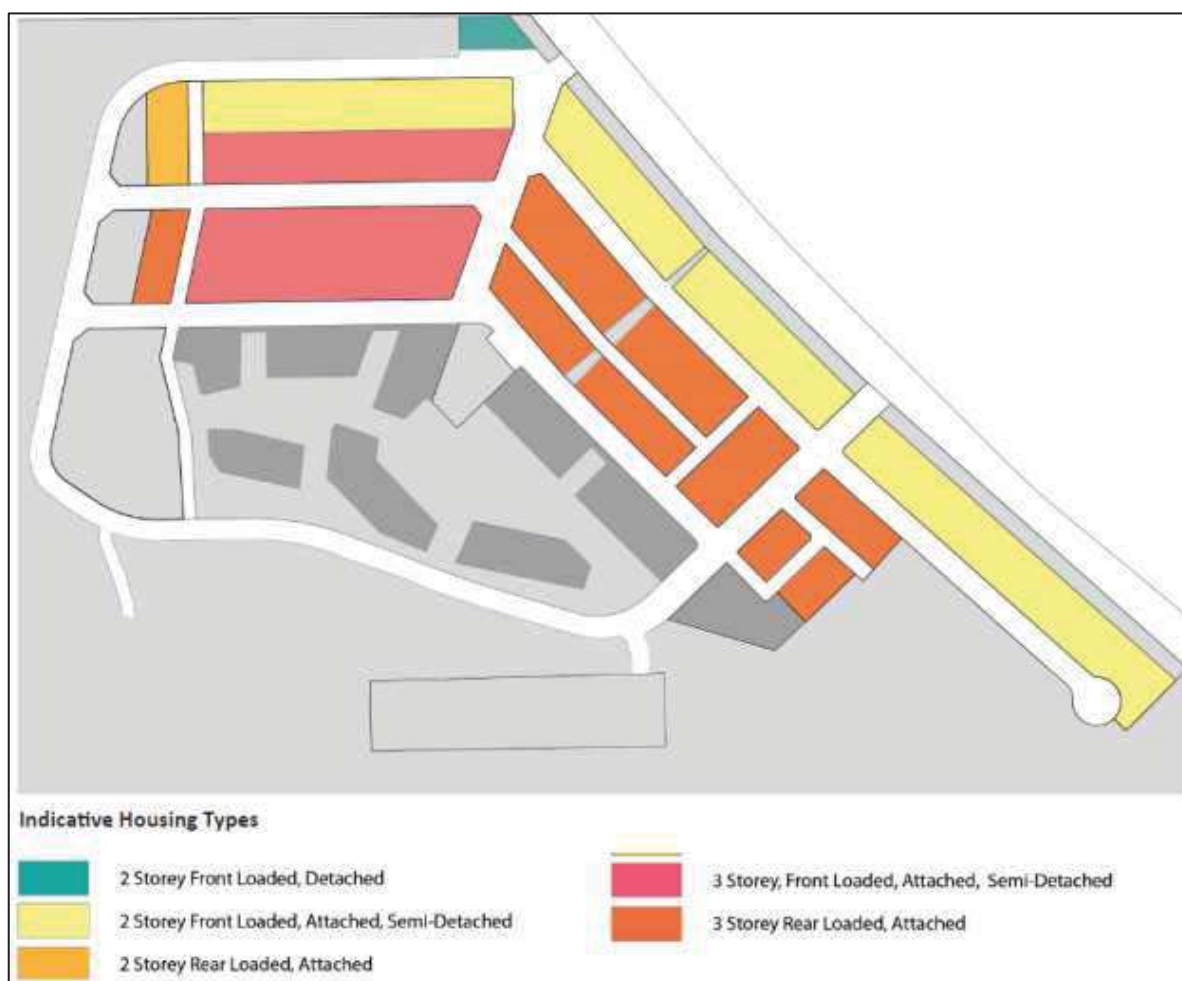
1.1 PLANNING PROPOSAL

The planning proposal seeks to facilitate a residential development on the site, comprising 400 apartment dwellings and 200 medium density dwellings with a built form ranging in height from two (2) to six (6) storeys. The proposal also includes a new public park (sports field) with an adjoining open air car park and seeks to identify approximately 11ha of land (43% of the site) for environmental protection.

The development concept submitted in support of the proposal illustrates the intended future development outcomes on the site (Figures 2 and 3 below). The proposed development outcome is located primarily within the footprint of the existing development.



Figure 2
Indicative development concept

**Figure 3**

Proposed housing products and their distribution on the site

To facilitate these outcomes, the proposal seeks to amend LEP 2012 as follows:

- a) Rezone the site from B7 Business Park to part R3 Low Density Residential, part R4 High Density Residential, part E2 Environmental Conservation and part RE1 Public Recreation;
- b) Apply minimum lot sizes of 700m² - across the 'Housing Precinct', 1,800m² - across the Residential Flat Building Precinct, 2ha - across the public open space area and 10ha - across the forested areas of the site;
- c) Apply a maximum height of buildings of nine (9) metres - to the Coonara Avenue frontage, forested areas and open space, 12 metres – to the remaining part of the 'housing precinct' and 22 metres – to the residential flat building precinct; and
- d) Include a new site specific local provision which imposes a dwelling cap of 600 dwellings and, where a single application is lodged for both the subdivision and dwelling design, permits small lot housing outcomes with minimum lot sizes of:
 - i. 180 square metres – for detached dwellings; and
 - ii. 86 square metres – for attached or semi-detached dwelling.

- e) Amend the Floor Space Ratio map to delete any reference to an FSR for the subject site.

The mapping amendments, as exhibited, are provided as Attachment 2 to this report. The draft site specific local provision is provided as Attachment 3 to this report.

As detailed within Section 4(a) of this report, it is recommended that if Council resolves to proceed with the proposal, it should be amended post-exhibition to also identify the developable residential areas of the site on the Urban Release Area Map – to ensure that satisfactory arrangements are made for the provision of contributions towards State infrastructure under Part 6 of LEP 2012.

The Proponent's concept designs are indicative of the likely outcomes that would be facilitated by the proposed amendments to LEP 2012. It is important to note that the planning proposal and draft DCP set the framework against which future development will be assessed and do not provide development consent for a specific outcome. Should the planning proposal proceed to finalisation, the proposed development concept and building designs may require further refinement through the development assessment process.

1.2 DRAFT DEVELOPMENT CONTROL PLAN

The site-specific DCP articulates the vision and desired future character for the site and seeks to ensure that new development is sensitively integrated with the landscape setting and environmental conditions of the locality. The DCP includes controls relating to streetscape and character, setbacks, access to the site, vegetation management, parking and the preservation of a vegetated setback along the Coonara Avenue frontage.

As detailed within Section 4(b) of this report it is recommended that if Council resolves to proceed with the proposal, a number of post-exhibition changes should be made to the draft DCP post-exhibition, in response to the submissions received.

A copy of the publicly exhibited draft DCP, incorporating recommended post-exhibition amendments (in red and blue text) is provided as Attachment 4 to this report.

1.3 DRAFT VOLUNTARY PLANNING AGREEMENT

The draft VPA submitted in association with the planning proposal responds to the demand for additional infrastructure that would be generated by the proposed residential development on the site. The draft VPA requires the developer to deliver the following public benefits:

- Dedication of 2.49ha of land for a new public park and an adjoining open air car park;
- Construction of a new synthetic playing field within the dedicated land; and
- Construction and dedication of a 'perimeter road' to provide access to the playing field.

The estimated value of public benefits secured through the draft VPA is detailed below.

Material Public Benefit	Contribution Value
Dedication of public open space, car park and access road	\$25 million
Synthetic soccer field – capital costs	\$2.2 million
Perimeter access road – land and capital costs	\$19.3 million
Total	\$46.5 million

Table 2

Summary of Developer's Voluntary Planning Agreement Offer

If the development were levied under the Shire-wide Contributions Plan that applies to the site (which levies development at a rate of 1% of the cost of works), the contributions payable would be approximately \$2.6 million (equating to around \$4,300 per dwelling). Under the Voluntary Planning Agreement, the total contribution (excluding costs associated with the perimeter access road) would equate to approximately \$45,300 per dwelling.

The construction and dedication of a new playing field represents a significant contribution towards active open space infrastructure which would address a level of demand that is well beyond that associated with the proposed 600 dwellings and would assist in meeting existing demand for active open space in the broader West Pennant Hills area.

Council's Recreation Strategy provides an analysis of existing and forecast population and planned playing fields within the Shire. The planned level of service for playing fields within the Shire averages at around one playing field per 2,145 people. However, the Strategy does forecast a noticeable shortfall in West Pennant Hills, with 6,606 people per field (some 4,561 people more than the average). The new playing field offered by the proponent is proposed to be constructed and dedicated to Council as part of the VPA, and will go towards reducing this shortfall.

The draft VPA has been subject to a detailed legal review which was completed on 29 April 2019. The draft VPA was then updated prior to public exhibition to address matters arising from the legal review:

- Clarify hand-over/dedication dates for items of material public benefit;
- Include specifications for the synthetic field (including a revised indicative layout plan);
- Include a new clause protecting Council from any financial liability to acquire environmental conservation or public land;
- Include Council's 'Design Guidelines – Subdivision / Developments' to ensure that the future perimeter access road design meets Council's standards; and
- Minor amendments to various definitions and clauses based on legal advice.

As detailed within Section 4(c) of this report, it is recommended that if Council resolves to proceed with the proposal, minor post-exhibition amendments should be made to the draft VPA to ensure that the definition of 'Dedication Lands' accurately identifies the land that the Developer is required to dedicate to Council (as per Schedule 1 of the VPA), increase the cap on legal fees and clarify that Special Infrastructure Contributions would be payable for the proposed development (as required by the Gateway Determination).

A copy of the publicly exhibited draft VPA, incorporating recommended post-exhibition amendments (in red and blue text) is provided as Attachment 5 this report.

2. GATEWAY DETERMINATION

The Department of Planning, Industry and Environment issued a Gateway Determination for the subject proposal on 31 October 2017. The Gateway Determination was subsequently altered on three (3) occasions and the current Gateway Determination (incorporating all alterations) is provided as Attachment 6 to this report.

In accordance with Condition 1 of the Gateway Determination, the planning proposal was updated and submitted back to the Department for endorsement in October 2018, prior to commencing public exhibition. The Department confirmed on 29 November 2018 that the planning proposal was suitable to proceed to public exhibition.

The Gateway Determination required consultation with the following public authorities and organisations as part of the public exhibition period:

- Transport for NSW;
- Transport for NSW – Roads and Maritime Services;
- Office of Environment and Heritage;
- NSW Rural Fire Service;
- UrbanGrowth NSW;
- Hornsby Shire Council; and
- Authorities for the supply of water, electricity and disposal/management of sewage.

The planning proposal was publicly exhibited from 30 April 2019 to 31 May 2019 and the public agencies and organisations listed above (as well as Landcom and the Forestry Corporation) were consulted during this period. The outcomes of the public authority consultation and public exhibition process are discussed further in Sections 3.1 and 3.2 of this report.

All conditions of the Gateway Determination have been satisfied.

The Gateway Determination does *not* grant Council delegation to finalise the planning proposal. This decision was made by the Department on the basis that the site is in close proximity to the Cumberland State Forest and contains significant vegetation.

Accordingly, if Council resolves to progress the planning proposal to finalisation, it must be submitted to the Department of Planning, Industry and Environment who will ultimately be responsible for finalising the proposal. As detailed within Section 3.1 of this report, the Department would also need to resolve outstanding issues raised by EES (formerly OEH).

If Council resolves not to progress the proposal to the Department of Planning, Industry and Environment for finalisation, Council would then request that the Minister for Planning and Public Spaces not proceed with finalising the proposal. The Minister would be required to make a final determination and it would be open to the Proponent to seek the appointment of an alternate planning proposal authority. Such a request was recently made for a planning proposal in Baulkham Hills which, in that instance, resulted in the Department of Planning, Industry and Environment determining that the Sydney Central City Planning Panel would carry out the role of the planning proposal authority.

3. EXHIBITION DETAILS

The planning proposal, draft DCP and draft VPA were publicly exhibited from 30 April 2019 to 31 May 2019 and public authority consultation was also undertaken during this period.

Council received eight (8) submissions from public authorities. The matters raised within public authority submissions are discussed within Section 3.1 of this report.

Council received a total of 4,130 public submissions in relation to the proposal which included:

- 203 submissions (from 190 individuals) prior to commencement of the exhibition period. These submissions objected to the proposal and were predominantly received in late-2017, when Council was originally considering the planning proposal (prior to Gateway Determination). The issues raised within these submissions have

been considered in the same way as submissions received during the exhibition period.

- 3,927 submissions (from 3,622 individuals, organisations and community groups) in response to the public exhibition period. These submissions comprised 3,487 form letters and 440 individual (unique) submissions. With respect to these submissions, the following is noted:
 - 11 submissions were in support of the proposal however 6 of these were lodged by or on behalf of the Proponent;
 - 3 submissions were neutral;
 - 3,913 submissions objected to the proposal; and
 - 56 people contacted Council following completion of the exhibition period and requested that their objection be withdrawn. These requests were for a range of reasons including re-location, no longer interested in the proposal and/or concern that their personal information was used to make a submission without their consent.

The number of submissions received during the public exhibition period and the frequency of key issues raised is detailed within the tables below:

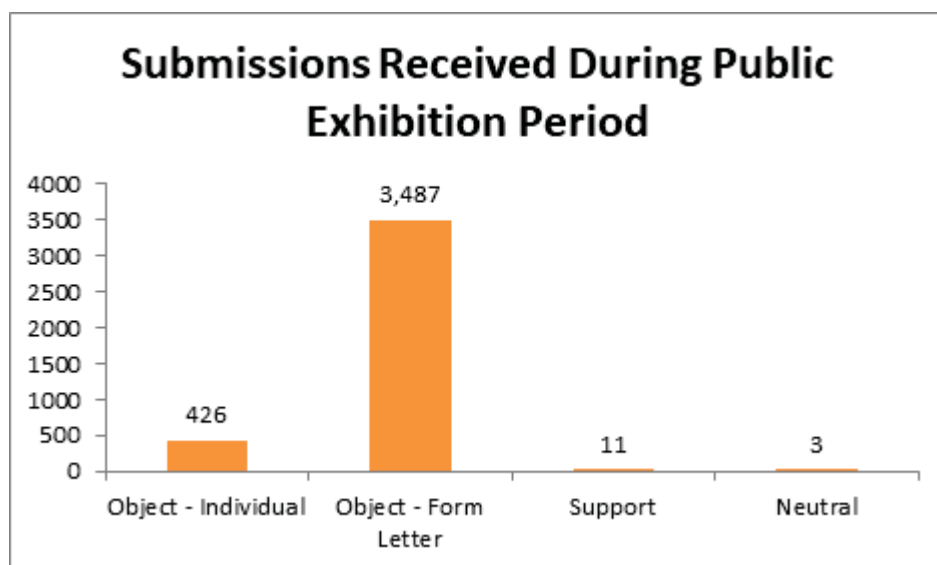
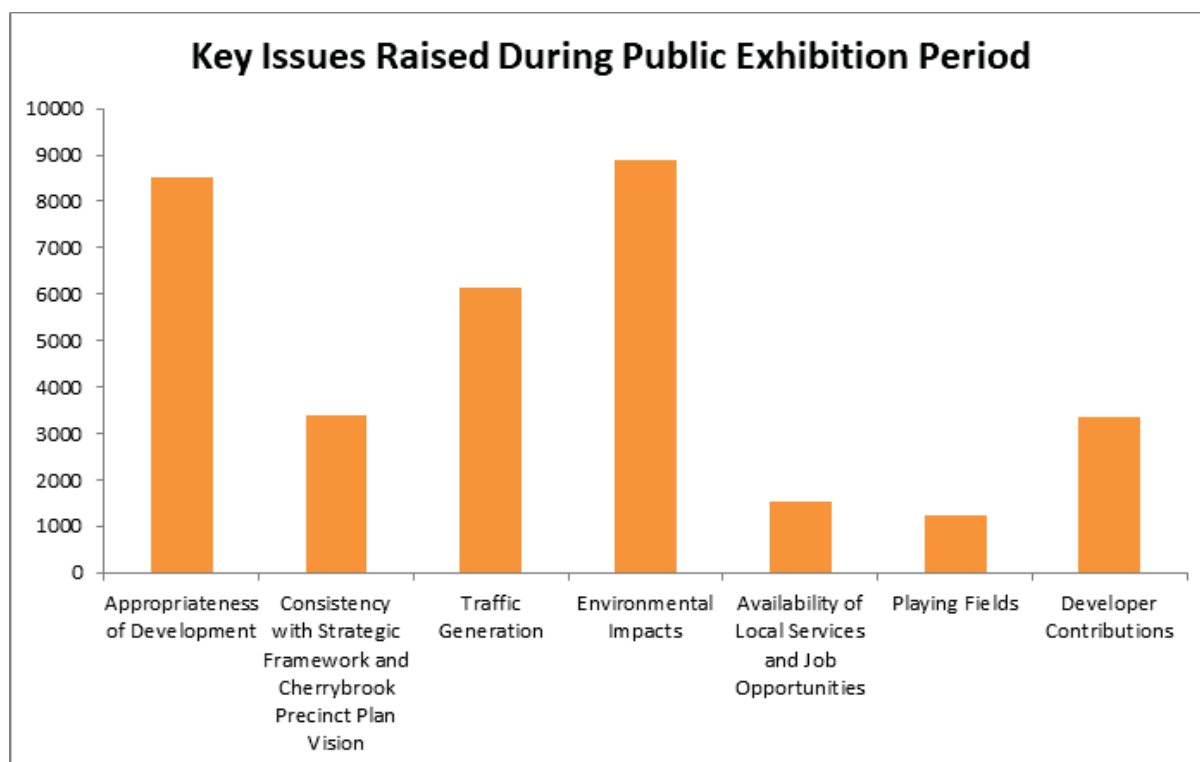


Table 3

Number and type of submissions received during public exhibition period

**Table 4**

Summary of issues raised in submissions

The matters raised within public submissions are discussed within Section 3.2 of this report.

3.1 Public Authority Consultation

In response to the public authority consultation, Council received submissions from the following public authorities and organisations:

- Sydney Water;
- Endeavour Energy;
- NSW Rural Fire Service;
- Department of Premier and Cabinet (Heritage);
- Roads and Maritime Services;
- Transport for NSW;
- Hornsby Shire Council; and
- Environment, Energy and Science Group – formerly "OEH".

Sydney Water and Endeavour Energy raised no objection to the proposal with both agencies indicating that the development can be serviced, with some augmentation to their existing networks.

NSW Rural Fire Service raised no objection, subject to the future subdivision and development complying with *Planning for Bush Fire Protection 2006* (or equivalent). The RFS noted that a revised bushfire report would be required at the Development Application stage to address the complexities of multistorey development in bushfire areas. NSW RFS would be further consulted as part of any future development application for the site.

(a) Department of Premier and Cabinet (Heritage)

The Department of Premier and Cabinet confirmed that there are no State Heritage Register items on, or near the subject site. However, it was noted that the land adjoining the site contains an archaeological site listed under LEP 2012 - *'Cumberland State Forest, Bellamy Quarry and Sawpit'* at 89-97 Castle Hill Road (Item A26).

The Department of Premier and Cabinet requested that Council prepare a Statement of Heritage Impact, which includes an assessment of the visual setting of the items and the ability to interpret the heritage items. It was recommended that the Statement address the curtilage of the item and whether archaeological remains associated with the quarry and sawpit extend into the planning proposal site.

The Department advised that without a Statement of Heritage Impact which addresses the potential impacts on the heritage value of the item, they were unable to provide comment. However, it was suggested that the findings of the assessment may inform amendments to the planning proposal and associated DCP to avoid and/or minimise any potential impacts, if necessary.

Comment:

The archaeological items known as the *'Cumberland State Forest, Bellamy Quarry and Sawpit'* are not located on the subject site. Rather they are located within the adjoining Cumberland State Forest. Of relevance, Council's Heritage Inventory Sheet provides the following statements of significance:

- Bellamy Quarry: *"Locally significant as an early source of good quality building stone."*
- Bellamy Sawpit: *"A classic example of very common sight in 19th century timber country, but now extremely hard to find in legible condition. Rare remaining example of timber getting industry in the area."*

The location of these items in relation to the subject site is detailed in Figure 4.



Figure 4

Approximate location of the two heritage items and subject site

As demonstrated above, the quarry is located in the northern corner of the Cumberland State Forest, in the vicinity of Castle Hill Road and the property boundary with the subject site. A significant vegetated buffer will be provided between the future residential precinct and the property boundary with the Cumberland State Forest.

The sawpit is located approximately 200m south of the future playing field, in the vicinity of the Cumberland State Forest boundary with residential dwellings in Corella Court and James Bellamy Place.

It is considered that the separation distance between the items and the area of future development on the subject site is sufficient to avoid any potential heritage or visual impacts on the items. This is particularly true given the topography of the land and presence of mature vegetation in the vicinity of the items.

In response to the Department's comments, the Proponent submitted a preliminary Heritage Report on 16 September 2019. The report concludes that there will be no physical impact on the *Bellamy Quarry and Sawpit* or any known heritage resource either on or in proximity to

the study area. Further, the report states that there is no potential for any detrimental visual impact on *Bellamy Quarry and Sawpit* or any known heritage resource and there will be no noticeable impact upon the heritage values of the study area or the broader locality.

Having regard to the above, it is considered highly unlikely that future development on the subject site would have any adverse visual, physical or heritage impact on the archaeological items within the adjoining Cumberland State Forest and as such, no amendments to the planning proposal or DCP are warranted in response to the submission.

Should the subject planning proposal proceed to finalisation, any future Development Application will be assessed against the provisions of The Hills DCP 2012 Part C Section 4 – Heritage. Given the site is adjacent to the land on which the archaeological items are located, a detailed Statement of Heritage Impact would be required as part of any future development application submission.

(b) Roads and Maritime Services

Roads and Maritime Services commented on the proposal on three occasions – 30 May 2019, 12 August 2019 and 10 September 2019. RMS' first submission advised simply that no objection was raised to the proposal. RMS' subsequently made a further submission on 12 August 2019, which also raised no objection to the proposal, however provided a number of matters for further consideration.

In response to RMS' submission on 12 August 2019, the Proponent was consulted further and submitted additional information for RMS' consideration. RMS advised Council on 10 September 2019 that having reviewed the Proponent's additional information, RMS was now of the view that all matters previously identified had been satisfactorily addressed.

The RMS advised that, subject to further investigations, there may be a requirement for the Proponent to provide a signalised pedestrian phase on the western leg of the intersection of Castle Hill Road, Edward Bennett Drive and Coonara Avenue, at no cost to Roads and Maritime under a "Works Authorisation Deed". RMS advised that resolution of this matter could be deferred to any future development assessment process and if deemed necessary can be imposed as a condition of development consent.

Comment:

RMS raised no objection to the planning proposal. The potential requirement for the Proponent to provide a signalised pedestrian phase on the western leg of the intersection of Old Castle Hill Road, Edward Bennett Drive and Coonara Avenue will be further considered as part of any future development application, should the planning proposal proceed to finalisation.

(c) Transport for NSW

Transport for NSW raised no objection to the planning proposal and provided the following key matters for consideration:

- *Assessment of transport demand:* The traffic reports prepared for the proposal focussed on assessing the traffic implications of private vehicles. Limited information is provided to assess the impact of other transport users (such as buses, pedestrians and cyclists). The proposal would result in potential demand for public transport demand in excess of 400 people, based on average occupancy rates and existing travel patterns. An assessment of public and active transport should be carried out to examine the adequacy of existing facilities in the vicinity of the site and identify any mitigation measures for inclusion in the draft VPA.

- *Connectivity with bus stops and active transport linkage:* There are currently three (3) bus stops located on northbound-side of Coonara Avenue. Consideration should be given to the increased demand from pedestrians to cross Coonara Avenue to access these bus stops which provide bus services connecting with Cherrybrook Station. The planning proposal should consider the need for improved pedestrian facilities on and along the Coonara Avenue frontage to accommodate the future demand as a result of the proposed development. In any subsequent design phases, it is recommended that through-site links be promoted to provide new cycle and walking routes and increased connectivity within the local neighbourhood.
- *Access to public open space:* In the subsequent design phases, consideration should be given to the capability for the public access road between Coonara Avenue and the proposed public open space to accommodate larger vehicles such as buses, for use during events.

Comment:

Council commissioned an independent report to assess the wider road network impacts of the subject planning proposal, which was prepared in October 2018. The report concluded that the additional traffic generated by the proposed development is expected to have marginal impact on the performance of the existing network. They acknowledge that there are existing capacity constraints at Castle Hill Road, Oakes Road and Aiken Road. The opening of NorthConnex is expected to reduce traffic volumes on the arterial road network, which in turn may relieve congestion on local roads.

If the subject site was to operate at capacity under the currently applicable planning controls (B7 Business Park zone), it could potentially accommodate up to 3,000 jobs/workers. This currently permitted outcome would result in substantially greater traffic generation and demand for public transport, in comparison to the proposed outcome of 600 residential dwellings.

The subject site is located within walking distance of the Cherrybrook Metro Station, with bus stops and footpaths providing access to the station and the local shopping centre. Any need for upgraded footpaths along the Coonara Avenue frontage of the site or provision of new pedestrian crossings across Coonara Avenue will be considered at the development application stage and could reasonably be required by Transport for NSW as conditions of development consent.

It is also noted that RMS advised that further consideration of the need for the Proponent to fund/provide a signalised pedestrian phase on the western leg of the intersection of Old Castle Hill Road, Edward Bennett Drive and Coonara Avenue would form part of the assessment of any future development application for the site. This improvement would improve pedestrian connectivity between Coonara Avenue and Cherrybrook Station.

The draft VPA requires the provision of a new synthetic sporting field and a public access road from Coonara Avenue, which will provide local residents of West Pennant Hills with greater access to active recreation space. The draft DCP requires bus access to be provided along the public access road.

With respect to through-site linkages, the draft DCP identifies through-site links which will improve permeability of the site, encourage walking and cycling and provide connections to public transport. The detailed design for the public access road and any bus set-down/pick up areas will be reviewed in detail as part of any future development application for the site.

(d) Hornsby Shire Council

Hornsby Shire Council advised that it does not support the planning proposal on the basis that a whole of precinct approach should be undertaken for the Cherrybrook Precinct to consider growth and infrastructure issues in an integrated and holistic way and ensure the capacity of the entire precinct is identified at the strategic level, upfront and with a regional perspective. Hornsby Council suggested that a piecemeal approach to planning may prejudice the outcomes of an overall strategy for the whole Cherrybrook community. Hornsby Shire Council raised the following key concerns:

- Spot rezoning of the site is inconsistent with a coordinated approach and is being considered in the absence of a structure plan or strategy for the Precinct that addresses the orderly transition of land uses surrounding the Metro Station. The interests and concerns of the present and future communities of both local government areas should be considered in a comprehensive and transparent manner.
- The proposal is likely to trigger further owner/developer-led spot rezoning applications in the area, leading to an ad-hoc approach to land use planning for the Precinct. This would undermine the planning framework for both Councils and lead to poor outcomes for the Cherrybrook community.
- The planning proposal has not sufficiently considered opportunities and constraints presented by the site in the context of the wider precinct and cumulative impacts associated with the proposed development as land uses in the area around the station also transition over time.
- The Urban Design Report has been developed in isolation and does not consider the relationship of the site to the larger precinct, or whether the proposed development is contextually appropriate.
- The proposed sporting facility would be located the furthest away from existing established communities, in the least accessible part of the development site. The facility may become privatised due to lack of visibility and connectivity to the wider community and as a result of proposed subdivision under a community title scheme for local roads which would impede permeability across the subject site.
- The economic assessments do not consider whether the subject site is best placed to support higher density residential uses (as opposed to other land parcels in the area) with respect to opportunities and constraints within the broader precinct.
- A cumulative assessment of traffic and transport impacts is not evident in the supporting material, as the proposed redevelopment of the subject site cannot be considered in isolation of its wider surroundings. It was suggested that the potential for other land parcels within the precinct which are in closer proximity to the Metro Station to redevelop similarly for medium and high density residential has not been considered by the traffic assessments. The need for a precinct-level understanding with respect to the cumulative impacts on local and regional infrastructure was raised.

The submission advised that Hornsby Councillors have received a large volume of submissions from the community raising concerns with the proposal and there is a high level of community angst in regards to the uncertainty about planning for the area. Hornsby

Council continues to request a commitment from State Government for an integrated transport and land use plan to ensure that regional implications and capacity for future changes are considered. They consider that any decision for this site should be deferred until a precinct-wide structure plan or strategy is adopted for all land parcels surrounding the station.

Comment:

It is acknowledged that a holistic approach to planning for the broader Cherrybrook Precinct would be preferable and best-practice planning. Ideally, there would be a structure plan against which these proposals could be considered and this was the intended outcome when the Department identified Cherrybrook as a Planned Precinct in June 2017. At this time, the Department advised it would be the lead agency for future master planning of the Precinct. Council was advised that whilst the focus would be on Government Land directly adjoining the station, the Department would progress the detailed investigations and planning for the broader Precinct. The intended outcome would be a completed traffic model (local and regional network), a planning proposal for Government Land, an Infrastructure Strategy and a detailed structure plan for the broader precinct to guide future planning proposals. This approach was considered appropriate at the time as it would ensure future development occurs in an orderly manner and that the future population is provided with sufficient infrastructure.

However, in February 2019 the Department advised Council that it would now only be focusing on the rezoning of Government Land within the Precinct. As the detailed investigations and Precinct Planning would no longer occur, the Department advised that the North West Rail Link Corridor Strategy should be used as the strategic direction for future land use change and development across private land. The Department advised that this Strategy provides the framework for Council to consider rezoning proposals within the Precinct.

In response to Hornsby Council's concern that the proposals could create a local precedent for spot rezonings, it is noted that Council cannot prevent the lodgement of site-specific planning proposals, and as per the Department's advice to Council following their withdrawal from holistic Precinct Planning, Council is now in a position where it must assess each planning proposal on its merits against the existing strategic planning framework.

Whilst the North West Rail Link Corridor Strategy does identify the site as a potential Business Park outcome, the Strategy indicates that the site is a significant holding that should be subject to further consideration and collaboration with stakeholders to determine its role in the future. The planning proposal process has involved a detailed review of the opportunities and constraints on the site, its context and relationship to surrounding land uses and has provided an opportunity for detailed consideration and collaboration to occur with the community and public authorities. Site-specific DCP controls have been prepared to support the planning proposal and will guide a master-planned outcome for the site.

The proposal will contribute to the provision of housing supply and choice in the vicinity of the Cherrybrook Station Precinct. Future development on the site will provide increased housing choice that reflects the needs of future households, with the majority of new dwellings in the Cherrybrook Station Precinct expected to be high density apartments. Density on the site will be capped at a maximum of 600 dwellings via a new local provision and as such, the proposal is not likely to compromise the ability to achieve an orderly planning outcome for areas closer to the station.

In relation to concerns about the assessment of traffic and transport impacts, the planning proposal has been reviewed by the Roads and Maritime Services and no objection has been raised. The RMS have advised that they may require the proponent to provide a signalised pedestrian phase on the western leg of the intersection of Castle Hill Road, Edward Bennett Drive and Coonara Avenue, subject to further investigation at the Development Application stage. It is considered unreasonable to require an individual land-owner to undertake a precinct-wide cumulative traffic and transport assessment for Cherrybrook, especially given RMS raised no objection to the proposal and regional traffic modelling should have been completed by the State Government to verify that strategically identified development uplift as a result of the Sydney Metro Northwest can be accommodated.

Under the draft VPA, the Developer will dedicate 2.49ha of land as public open space, plus the associated carpark and access road (which will be dedicated for use by the public). The proposed location of the sporting field is already cleared of vegetation and the topography is suitable. The proposal presents a good opportunity to improve the provision of active recreation space to meet the needs of existing and proposed residents of West Pennant Hills. The field will be owned by Council, there will be adequate public access to the facility and appropriate signage provided by Council. There is no evidence to suggest that this field would become privatised in the future.

(e) Environment, Energy and Science Group (Former Office of Environment & Heritage)

The Energy, Environment and Science Group ('EES'), within the Department of Planning, Industry and Environment objected to the progression of the planning proposal and provided a range of comments with respect to the planning proposal, draft DCP and draft VPA. A summary of the key issues raised by EES is provided below, with comments in response to each matter.

The Proponent prepared additional information in response to the issues raised by EES in relation to the bushfire APZs, vegetation mapping and impacts on the Powerful Owls, which was forwarded to EES for their consideration. EES declined to engage with the Proponent further on these matters and have since advised that they do not believe the information has addressed their concerns (although it is noted they have not yet reviewed the additional Powerful Owl Assessment). Despite reasonable attempts by Council and the Proponent, it has not been possible to resolve these issues to the satisfaction of EES. Should Council resolve to proceed with the planning proposal, the Department of Planning, Industry and Environment would be required to resolve the outstanding issues raised by EES, prior to finalising the proposal.

▪ *Biodiversity*

EES acknowledged that remnant Blue Gum High Forest (BGHF) and Sydney Turpentine-Ironbark Forest (STIF) have been mapped on the site and both ecological communities are listed as critically endangered. EES advised that all possible attempts to avoid impacts on these communities should be made. EES raised specific concern that 0.02 hectares of BGHF would be lost as a result of the proposal and that this would trigger the Biodiversity Offset Scheme.

EES advised that proposed Asset Protection Zones (APZ) would also impact on approximately 1 hectare of these communities and that these areas could not be managed to achieve both APZ and biodiversity conservation objectives. Accordingly, EES considers that remaining vegetation within APZs is no longer considered part of these communities.

EES submitted that all attempts should be made to reduce the development footprint to ensure that no remnants of BGHF or STIF are impacted by the development or associated APZs, consistent with the objectives of the Biodiversity Conservation Act and Biodiversity Assessment Method:

“to establish a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity”.

Comment:

The proponent has supported the proposal with detailed environmental reports prepared by Keystone Ecological. It is considered that the Proponent has utilised an ‘avoid, minimise, offset’ approach, as required by the Biodiversity Conservation Act, with respect to potential impacts on BGHF and STIF. In particular, the proposed development footprint has been determined by the Proponent on the basis of avoiding ecologically valuable areas (riparian areas, threatened species habitat and natural remnant bushland - excluding areas of replanting associated with existing IBM development) and concentrating activity to areas already disturbed by the existing development footprint, car park and areas that were cleared for previous development to occur on the site (refer to Figure 5 below).

Further correspondence from the proponent’s bushfire consultant was received by Council on 11 November 2019. Their advice acknowledges the site’s significant environmental values, including the presence of a critically endangered ecological community, and advises that:

- The proposed 600 dwelling masterplan accommodates the minimum required APZs from the E2 land and all other identified bushfire hazards;
- The minimum required APZs also result in a maximum Bushfire Attack Level of BAL 29 for the future buildings; and
- There are no bushfire management requirements applicable to the proposed E2 Environmental Conservation land and consequently it can fully comply with its corresponding environmental conservation objectives.

The proponent also submitted supplementary information from their ecologist on 11 November 2019 which advises that the developable areas nominated within the R3 and R4 zones are within those parts of the site that have been long cleared, excavated, built over, and partially replanted, often with species that are not locally native and some that may be detrimental to the existing Blue Gum High Forest (for example, with the existing car park area). They suggest that the proposed zoning will serve the conservation of the important vegetation on site, with the important natural areas captured by the E2 Environmental Conservation zone. The ecologist also advises that the APZ is wholly outside of the proposed E2 zone and acknowledges that a comprehensive Biodiversity Development Assessment Report is required for any future development application.



Figure 5

Aerial photographs of the subject site

Left: 1945 (Source: Sixmaps - orchards on the site)

Centre: 1982 (Source: Council records - prior to commencement of IBM development); and

Right: 1985 (Source: Biodiversity Assessment - following construction of IBM development)

As identified by EES, there will be some disturbance of small areas of remnant BGHF associated with the development footprint (0.02 ha) and the Proponent has acknowledged that as a result, the development will trigger the Biodiversity Offset Scheme at the development application stage.

With respect to identified Asset Protection Zones, it is important to note that these are indicative only and have been prepared in support of high-level development concepts to demonstrate potential development outcomes on the site. APZs on the site could be further refined as part of detailed bushfire and biodiversity assessment as well as consideration of building design and materials. This level would form part of any future development application for the site.

The Proponent's Biodiversity Assessment submitted in support of the planning proposal has taken a conservative approach to the identification of BGHF and STIF on site, by mapping it in areas where it may not actually occur or may already be compromised (for example, areas currently managed for bushfire purposes). This conservative method has been applied to ensure a precautionary approach until more detailed survey work is completed as part of any future development application.

In response to EES' submission, the Proponent has provided additional information which identifies the indicative areas of APZ in relation to mapped areas of BGHF and STIF. As indicated below, the APZ is located primarily outside of the key areas of the site containing valuable remnant STIF and BGHF communities and the Proponent has generally sought to avoid impacts on remnant vegetation.

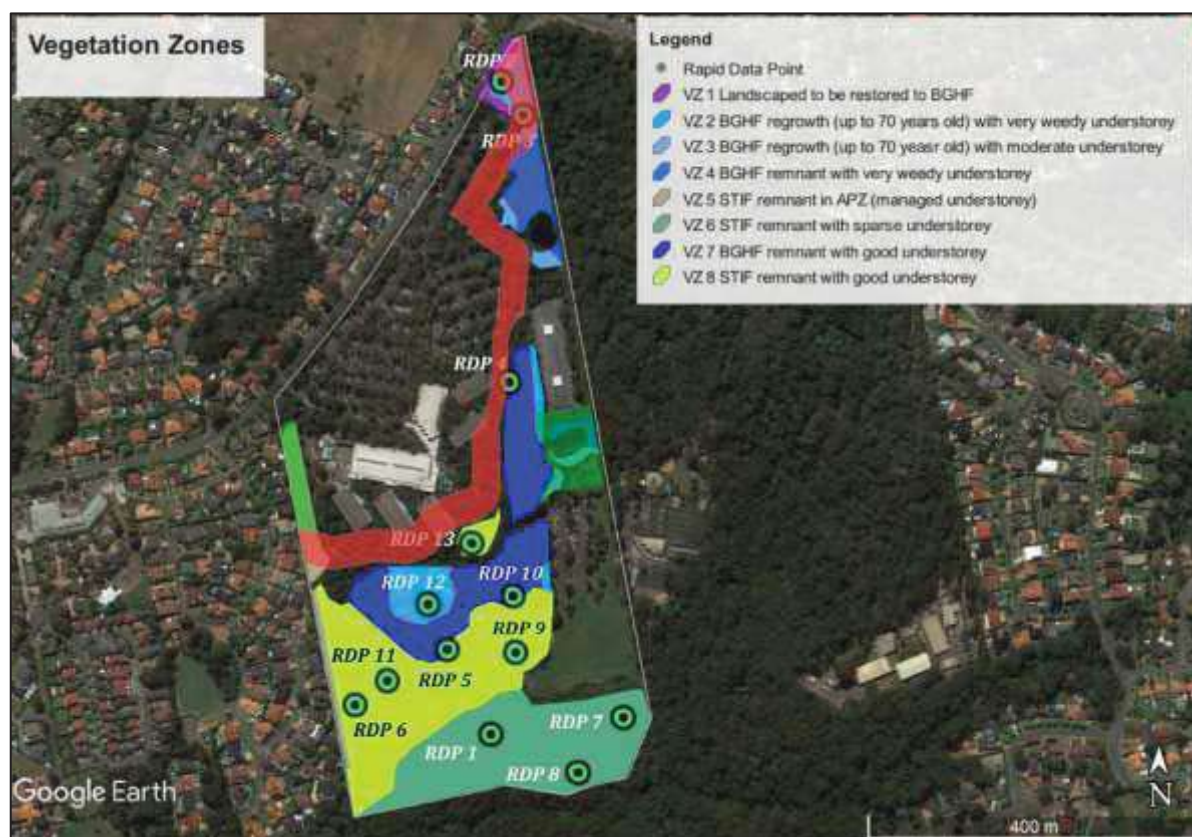


Figure 6

Additional mapping of vegetation layers and Asset Protection Zone (in red)

- Biodiversity Assessment*

EES states that the Biodiversity Assessment should include maps of the BGHF and STIF on site. EES requested that more information be provided to determine the extent of the vegetation types on the site and remnant vegetation to be impacted. EES stated that large areas of the site, including some proposed for clearing, have not been subject to detailed surveys.

Comment:

The Proponent's Biodiversity Assessment includes a map of the preliminary flora and fauna surveys which categorises the site into 10 categories. Land identified as '10' has the highest significance, being natural remnant vegetation, likely comprising the BGHF and STIF communities.

With respect to existing vegetation within the carparks, the proponent's ecologist advises that these trees are not naturally occurring and do not represent Blue Gum High Forest. Instead, they advise that the carpark is overwhelmingly dominated by Lemon-scented Gum, a species native to Queensland. This species is also known to hybridise with Sydney Blue Gum, which has the potential to "pollute" the genetic makeup of the major tree of Blue Gum High Forest. As such, the proponent's ecologist advises that the car park plantings do not exhibit a natural forest structure.

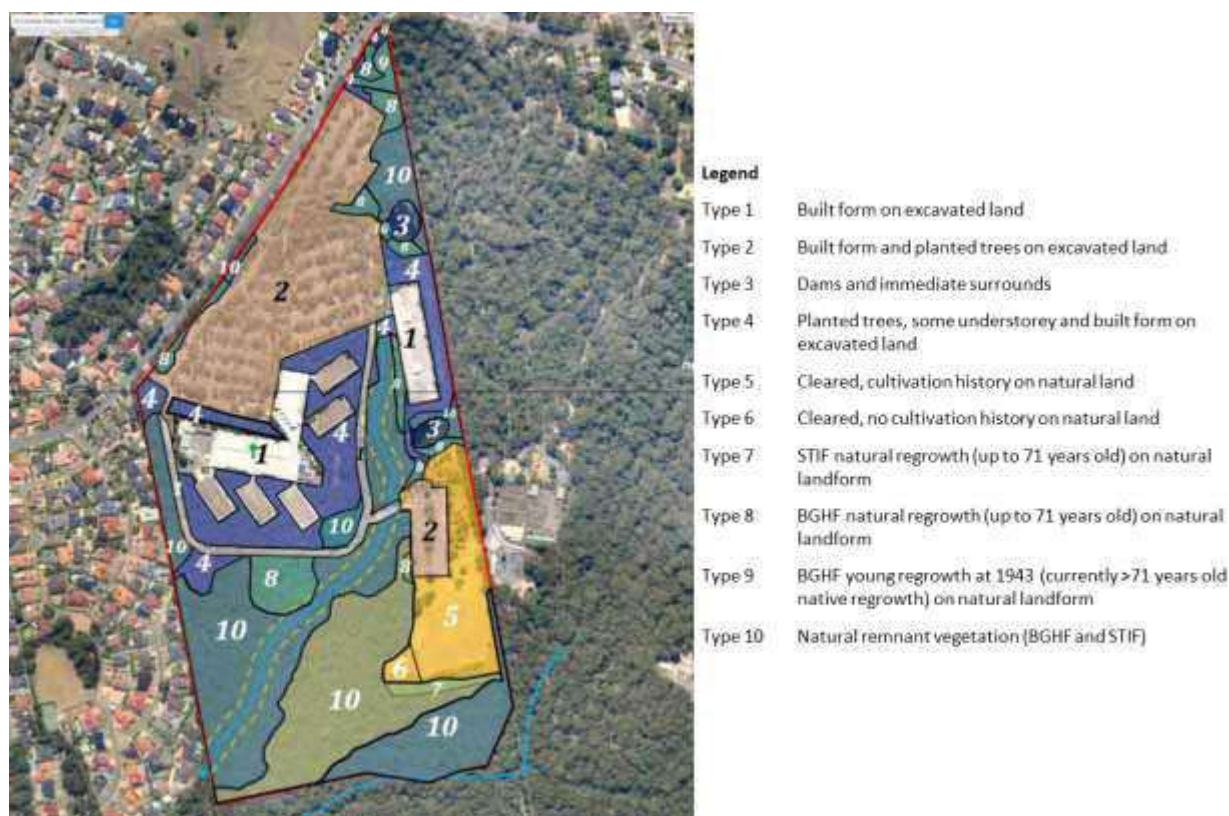


Figure 7
Vegetation type mapping

The Proponent has used this information, along with historical aeriels of areas of disturbance on the site, to reasonably inform the anticipated development footprint. It is noted that the majority of areas proposed to be subject to clearing as a result of the proposal are located within the existing development footprint or areas where the habitat has already been modified and disturbed through the existing use of the site. The Biodiversity Assessment has concluded that while there is a moderate likelihood that threatened species will occur on the site, it is highly likely that these threatened species will be located within the remnant vegetation areas that are not proposed to be disturbed by this proposal (rather than in areas already disturbed by the existing use).

While it is acknowledged that the detailed mapping of vegetation communities has not been completed as part of the planning proposal, this level of detail is required as part of the development assessment phase and the Proponent has advised that this work will be completed and a Biodiversity Development Assessment Report will be provided at the development application stage.

It is considered that the Proponent's Biodiversity Assessment report and rationale for determining a potential development footprint on the site is reasonable and provides sufficient justification for proceeding with the setting of primary planning controls for the land. It is noted that as part of the detailed development application process, a Biodiversity Development Assessment Report will be prepared and the Proponent will be required to comply with the requirements of the Biodiversity Conservation Act. It is considered that if amendments to the proposed development are required as a result of detailed surveys of the site, there is adequate flexibility for this to be accommodated within the proposed planning settings.

- *Powerful Owls*

EES states that the Powerful Owl habitat on site is significant and raises concern about the potential impacts of the development on this species, in particular the loss of foraging habitat and impacts on nest trees and roosting trees.

EES also notes that Council required additional assessment of the impacts on the Powerful Owl in terms of sports field lighting and light spill into owl nest tree territory and that the impact of the location of the field, including the use of synthetic turf and lighting should be assessed in terms of impact on the Powerful Owl.

Comment:

In response to the concerns of EES regarding impacts on the Powerful Owl, the Proponent has prepared additional information which indicates that:

- The existing buffers around nest trees will be maintained or improved in both distance and quality;
- All important roosting habitat will be retained and improved;
- The high quality foraging habitat (remnant bushland) will also be retained, improved and managed for conservation; and
- The change in zone from B7 to E2 for much of the site will ensure conservation of critical habitat components for the Powerful Owl including nest trees and roosting habitat.

In addition, the Proponent has provided a Powerful Owl Assessment dated 17 September 2019 which provides additional information beyond what was provided in the original Biodiversity Assessment. EES has received this information and indicated that they will provide a response however to date, no response has been provided. It is noted that if Council resolves to forward the proposal to the Department for finalisation, the Department would undertake further consultation with EES with respect to this matter.

There are three (3) nest trees that are potentially impacted by the proposed redevelopment of the site. Nest Trees No.2, 3 and 4b.



Figure 8

Powerful Owl nest tree locations (Source: Biodiversity Assessment)

Nest Tree No.3 will have a vegetated buffer of approximately 90 metres from the future communal facilities. This separation distance is considered suitable to facilitate adequate protection of the nest tree.

Nest Tree No.4b is located in closer proximity to the proposed communal facility. The activities to be undertaken in the communal facility will likely result in increased noise and lighting which may impact on the likelihood of the owls returning to this tree.

Nest Tree No.2 has been the most successful tree in the locality and fledged more young than any other tree, however the owls have not used this tree in several years. This may be due to the current activity on the site by the existing tenant, with the tenant utilising the existing open air car park for the storage of equipment and vehicle parking. The Powerful Owls may be unlikely to return to this tree once the field is constructed and car park is used regularly.

Unfortunately, the Powerful Owl Assessment was not able to establish where the resident pair of Powerful Owls are nesting this current season and therefore the assessment is unable to establish whether or not the resident pair of Powerful Owls would be affected by the proposal, as the significance of each nest tree on and around the site cannot be established.

Further information and further survey work to establish the current nest tree of the resident pair of owls could alleviate concerns about the impacts on Nest Trees No. 2 and 4b, by indicating that there are other viable nesting and roosting options in the territory of these owls. It is anticipated that this detailed level of work will form part of any future development

application for the site – it is noted that this would likely be required with respect to any form of future development on the site, either under the current controls or the proposed controls.

If Nest Trees No.2 and 4b are unreasonably impacted, this may prompt the need for amendments to the development footprint in order to move development and activity further away from these trees. It is considered that there is adequate flexibility within the proposed planning controls to enable such amendments to the development concept to occur through the detailed design phase.

Both the Biodiversity Assessment and additional Powerful Owl Assessment provide ameliorative strategies to be used to mitigate impacts on the Powerful Owl nesting trees and habitat. Council has included these ameliorative strategies in Section 2.4 of the site specific DCP. These strategies include vegetation management requirements to address concerns about the loss of foraging habitat.

The impacts of the location of the sporting field and its proximity to Nest Tree No.2 has also been considered and it is noted that lighting from the field can be controlled via shields and pointing of the lights to reduce glare and light spill. The provision of sports lighting for the playing field will be undertaken having regard to the minimising potential ecological impacts and in accordance with the relevant Australian Standards for both Sports Lighting (AS2560) and control of the obtrusive effects of outdoor lighting (AS4282).

- *Serious and Irreversible Impact Criteria*

EES notes that both the BGHF and STIF are listed as potential ecological communities that meet the principles and criteria for serious and irreversible impact (SAIL). EES states that consent cannot be granted to proposals which impact on SAIL entities.

Comment:

The Biodiversity Assessment provided in support of the planning proposal does not contain sufficient detail to assess whether a SAIL will occur as a result of the proposal – this level of analysis would form part of a Biodiversity Assessment Report which would be required as part of any future development application for the site. This will therefore be considered at the development application stage. It must be acknowledged however that the current proposal will remain largely within the existing development footprint. The planning proposal will include sensitive vegetation within the E2 Environmental Conservation zone, it will ensure that a significant proportion of the site is no longer developable and will better protect areas of ecological value.

As part of this process, the developer will be required to comply with the requirements of the Biodiversity Conservation Act 2016. The consent authority is bound by the Biodiversity Conservation Act in determining the development application.

If the more detailed investigations and designs require amendment to the development concept in order to meet the requirements of the Biodiversity Conservation Act 2016, it is considered that adequate flexibility will be available within the proposed planning controls for the developer to resolve these issues through the detailed design phase. The 600 dwelling cap represents a *maximum* development outcome and it is acknowledged that if a further reduction in the development footprint was required as a result of the development application process this may reduce the achievable development yield on the site.

- *Stewardship Site*

EES notes that the Biodiversity Assessment indicates that high conservation value areas are intended to be dedicated as a Stewardship Site, as an offset for any losses on the site. If a Stewardship Site is created, some of the credits that are generated from the site should not be available for purchase as these would then fail to offset losses on this site

Comment:

The Proponent is currently in negotiations with a State Government authority to become the owner of the southern portion of the site, containing the majority of the remnant native vegetation. The intent is to transfer ownership, care and control to the NSW Government. Should these negotiations be unsuccessful, the Proponent would then investigate dedicating the land as a Stewardship Site, at which time the retirement of credits would be further considered. The draft DCP contains requirements for the management of the land if it is to remain in the ownership of the Proponent or future community title scheme.

- *Koalas*

EES has reviewed the information provided regarding the likelihood of koalas being recorded on the site and agrees that there is a low likelihood of this species on the site. EES understands the 2014 record of a koala is an error.

Comment:

No further action is required.

- *Site Masterplan*

EES recommends that the masterplan be amended to protect all BGHF and STIF and avoid clearing of remnant native vegetation. Where remnant vegetation is to be cleared (especially juvenile trees, shrubs and ground cover) and removed it is recommended that it is transplanted into the E2 zone area and buffer zone along Coonara Avenue. This should be enforced via a DCP control.

EES raises concerns about the number of people likely to use to forest given the change to residential use. The planning proposal should estimate the future population of the site and assess the impact of an increased number of people and companion animals using the remnant vegetation on site and the Cumberland State Forest.

The masterplan shows the E2 land as 'public open space'. This should be amended to reflect the intent for conservation of the land. The Urban Design Report and Biodiversity Assessment indicate that there informal walking trails in the remnant native vegetation area. EES recommends that these be closed and revegetated to avoid the critically endangered ecological communities and the native flora and fauna. Any new trails should be located outside the remnant vegetation area. EES cites Action 65(c) of the Central City District Plan regarding managing urban bushland.

EES makes a number of recommendations regarding the urban design report:

- The number of pathways in the bushland edge is minimised.
- A perimeter path is located between remnant vegetation and bushland edge to reduce 'edge-effects'.
- The master plan be amended to include location and details of trails (including widths and materials which minimise interference with connectivity of native vegetation).

- Trails are to avoid the Powerful Owl nesting sites, as human disturbance is not well tolerated.

Comment:

The master plan footprint was designed to avoid ecological impacts and remnant vegetation areas and is therefore predominantly limited areas of the site which have already been disturbed by the existing development.

The transplanting of removed vegetation is not reasonable or practical. There is existing vegetation along the Coonara Avenue frontage and within the E2 zone area that will remain and be protected from development. Landscaping will be provided throughout the development, in accordance with the recommendations of the Biodiversity Assessment.

The 'fencing off' of the forested areas is not supported. Urban bushland is an asset of the area which enhances liveability and provides opportunities for nature-based recreation. It is important to balance conservation objectives with the enjoyment of the environment by the community, as does the highly significant forestry land adjoining. Should the forested area be dedicated to a State Government authority, the management of the highest value vegetation on site will be their responsibility. It is anticipated that the land will be managed similarly to the adjacent Cumberland State Forest. The impact of edge effects will be managed at a more detailed level at the development application stage, once the Biodiversity Development Assessment Report has been prepared.

The master plan and Urban Design Report are supporting documents for the planning proposal and are not part of the assessment framework for development in the future. The LEP and DCP do not identify land zoned E2 as public open space.

Some pathways in the master plan are identified in the land shown as 'bushland edge'. This land is within the perimeter road that is to be retained. These are indicative locations and can be refined at the development application stage, following the completion of detailed survey work and the Biodiversity Development Assessment Report.

- *Active Recreation*

EES recommends that Council consider the use of natural non-invasive grass (preferably local native grass) for the soccer field, as it will have less radiant heat than synthetic grass and could provide some habitat for certain native fauna.

Comment:

The radiant heat from synthetic fields is acknowledged as being hotter than natural grass. Council will use light colour infill on synthetic fields to reduce the heat absorbed by the surface. The additional heat may have some impact and may contribute to the broader urban heat island effect, however this does not warrant altering the proposal to a natural grass surface.

The use of a synthetic turf field responds to the shortfall of fields in West Pennant Hills better, by allowing the field to be used for longer periods of time. Native grasses are not appropriate for sports fields and will result in a sub-standard, uneven and potentially dangerous playing surface. Council's Recreation Strategy recognises that within existing urban areas, planning and providing playing fields is difficult and very costly, with new synthetic playing fields (which can be used for up to 2.4 times more hours than natural turf) being one measure that could help to address these obstacles. In a location such as West Pennant Hills that has an existing playing field shortfall, the proposed use of a synthetic

surface will achieve a balance in the provision of a reasonable level of service for residents by providing greater capacity for the single field to meet local demand. The justification for providing a synthetic playing field in this location is discussed further in Section 3.2 (f) of this report.

- *Farm Dams*

There are two small dams on the site. The plans indicate that the dams are to remain. However, if they are to be dewatered, EES provides some requirements for assessing the dewatering of the dams.

Comment:

The dams are not proposed to be dewatered.

- *Environment Protection Zone*

EES supports the use of the E2 zone for the native remnant vegetation but recommends that the zone be applied to additional parts of the site:

- Remnant BGHF and STIF proposed to be cleared for APZs
- Area proposed to be communal open space/facilities
- Area south of the apartment precinct within the perimeter road.

EES recommends that the communal facilities be relocated and the following the demolition of the car park, the land be rehabilitated and revegetated (and zoned E2).

EES recommend that if the VPA does not proceed, then the cleared area should be rehabilitated and revegetated.

Comment:

The E2 zone has been applied to the largest area of remnant vegetation and some other selected areas within the development site. While there are other areas containing vegetation that are not zoned E2, the vegetation on this land is not of a high enough quality to justify applying an E2 zone and quarantine the land from development. The zone boundaries reflect the intended APZs, to clearly indicate that land zoned residential may be impacted by the proposal, however this is subject to further investigation at the development application stage. The highest level of protection is afforded to vegetation outside of the APZs and is zoned E2.

The communal facilities are proposed to be located on land currently containing a multi-storey car park. It is not reasonable to require the developer to demolish the car park and revegetate the land.

The land identified for the sports field is to be zoned RE1, as required by the Gateway Determination. It is unlikely that the planning proposal would proceed absent of the VPA.

- *Development Control Plan*

EES recommends a number of changes to the draft Development Control Plan. These changes primarily clarify the type and quantity of vegetation to be retained and used in landscaping the site, requirements for a Vegetation Management Plan, and requirement for any vegetation/trees removed to be used to rehabilitate the E2 zoned land.

There are also some requirements for fauna friendly fencing.

Comment:

EES recommended changes to the DCP have been considered and some changes were considered reasonable. Various sections have included specific reference to remnant native vegetation, requirement of a Vegetation Management Plan and fauna friendly fencing. The post-exhibition amendments to the DCP are detailed in Section 4(b) of this report and Attachment 4.

- *Watercourse Crossings*

There are two watercourses that traverse the site. It is not clear to EES whether the watercourse crossings exist or if new crossings are proposed. If new crossings are required or the existing crossings require an upgrade, EES provide development controls that should be included in the DCP to enable sufficient light penetration beneath the crossing structure and movement of terrestrial and aquatic fauna.

Comment:

The watercourse crossings are existing, however may require upgrade to enable the perimeter road and access to the soccer field. If these upgrades are required the development application will deal with the design and environmental impacts of such road works.

- *Building Design*

EES recommends that future buildings incorporate Green Roofs and Cool Roofs and that DCP controls are imposed to address this. Apart from the benefits of regulating temperature and reducing energy consumption of the development, green roofs may provide additional recreation spaces in the development and reduce impacts on the remnant vegetation.

Comment:

The inclusion of green roofs/cool roofs is not proposed to be a requirement of future development on the site. There are requirements for landscaping to assist in ameliorating the impacts of hard surfaces and built form in the draft DCP.

- *Flood*

The site is identified as flood prone land and Council's planning proposal indicates compliance with S9.1 direction 4.3 would be achieved through compliance with flood related development controls that apply to the site. EES states that S9.1 Direction 4.3 requires a planning proposal to be commensurate with flood hazard and that a flood assessment should be undertaken to understand the flood behaviour of a full range of floods to assess the risk to the community.

Comment:

Council's internal mapping indicates that any flood impacts are confined to the riparian corridors and existing farm dams. The development footprint is outside of these areas, except for crossings. There is unlikely to be any increased risk to the community. Any flood impacts will be considered in more detail at the development application stage.

3.2 Public Submission Summary

Council received a total of 4,130 public submissions in relation to the proposal which included:

- 203 submissions (from 190 individuals) prior to commencement of the exhibition period. These submissions objected to the proposal and were predominantly received in late-2017, when Council was originally considering the planning proposal (prior to Gateway Determination). The issues raised within these submissions have been considered in the same way as submissions received during the exhibition period.
- 3,927 submissions (from 3,622 individuals, organisations and community groups) received during the public exhibition period. These submissions comprised 3,487 form letters and 440 individual (unique) submissions. With respect to these submissions, the following is noted:
 - 11 submissions were in support of the proposal however 6 of these were lodged by or on behalf of the Proponent (by Mirvac or consultants engaged by Mirvac);
 - 3 submissions were neutral;
 - 3,913 submissions objected to the proposal; and
 - 56 people contacted Council following completion of the exhibition period and requested that their objection be withdrawn. These requests were for a range of reasons including re-location, no longer interested in the proposal and/or concern that their personal information was used to make a submission without their consent.

The following key issues were raised in the submissions:

- a) Appropriateness of Development;
- b) Consistency with Strategic Framework and Cherrybrook Precinct Plan Vision;
- c) Traffic Generation;
- d) Environmental Impacts;
- e) Availability of Local Services and Jobs;
- f) Playing Fields; and
- g) Developer Contributions / Voluntary Planning Agreement.

The key issues raised in all submissions are summarised below with planning comments in response to each.

a) Appropriateness of Development

- i. Excessive built form, building height and density which is out of character with area;*

Submissions raised concern regarding the density of development proposed on the subject site and within The Hills Shire more broadly. Concern was raised about the number of apartments on the site and the removal of the floor space ratio control. Some submissions stated that there are other sites closer to shops and services that are more suitable for high density development and suggested that the density and development footprint should be reduced to minimise impacts on native vegetation.

Submissions questioned the need for more high density residential development (potentially resulting in an oversupply) and raised concern that the proposed typology, interface with low density development and ability to blend high density development into the natural landscape would result in built form outcomes that are not in keeping with the existing low density character. Concern was also raised that the rear of terrace developments would be visible from the street on Coonara Avenue, affecting the character and visual amenity of the area.

Comment:

As a result of the NSW Government's North West Rail Link Corridor Strategy, the commencement of the Sydney Metro Northwest service and the opening of the Cherrybrook metro station, some change in the character of development is expected in this area of West Pennant Hills. The density of the proposed development is approximately 39 dwellings per hectare (excluding land proposed to be zoned E2 Environmental Conservation), which is less than a low-scale apartment development and represents a mid-point between apartment and townhouse developments. This is consistent with the approach of transitioning building height and density away from the stations.

The site offers the opportunity for a master planned development outcome with a mix of housing types (further discussion regarding the proposal's contribution towards dwelling targets for the Hills LGA is provided in Section 3.2(b) of this report). If finalised, the planning proposal will permit a range of building heights across the site - from 9m (2 storeys) along the Coonara Avenue frontage, 12m for the remaining part of the proposed 'housing precinct' and 22m for the proposed residential flat building areas. The proposal locates the taller building elements towards the centre of the site, furthest away from existing low density areas. This transition in height, location of 2 storey dwellings closest to Coonara Avenue and significant landscaped setback proposed to Coonara Avenue will assist in avoiding potential character impacts on existing low density areas.

Floor space ratio is typically used, in conjunction with building height controls, to limit the density, bulk and scale of development. While it is acknowledged that the proposal would not apply a maximum floor space ratio to the land, the density of dwellings across the site will be capped at 600 through the proposed site specific local provision. This site specific provision, in conjunction with the proposed building height control and development controls within the DCP, would have largely the same effect as a maximum floor space ratio control (albeit with even greater certainty provided with respect to the maximum dwelling yield). Given this, the imposition of a maximum floor space ratio control is not considered necessary.

With respect to the rear of terraces fronting Coonara Avenue, this arrangement was primarily driven by the need to minimise driveway access to Coonara Avenue, which would likely result in undesirable traffic outcomes and prevent the opportunity to retain existing mature landscaping within this setback. It is acknowledged that the Coonara Avenue frontage is one of the most visible areas of the site (from external locations) and as such, is a critical location where appropriate character outcomes should be delivered.

Given this, it is recommended that post-exhibition amendments be made to the draft DCP which aim to deliver a high visual quality along Coonara Avenue, enhance the appearance of the site and soften the built form when viewed from the street. This will be achieved through the requirement for an 8 metre vegetated buffer zone along the Coonara Avenue frontage, consisting of remnant and additional planted local native species. The draft DCP will also require that fencing materials be of a suitable high quality and durable semi-transparent material to minimise visual impacts along the Coonara Avenue frontage. These

recommended post-exhibition amendments are detailed further within Section 4(b) of this report.

It is considered that these measures are sufficient to ensure that development on the site is facilitated with the lowest possible impact to the existing Coonara frontage and character of the site when viewed externally.

ii. Micro-lots are not appropriate and are not found elsewhere in the Shire;

Concern was raised regarding the impact of micro-lots on existing character, given that micro-lots are the smallest proposed lot size anywhere in the Shire. There was concern that in approving this typology of housing, the Developer is receiving special treatment. There was also concern that this would set an undesirable precedent for other developments to seek similar outcomes. Some submission authors felt that the proposed minimum lot size controls were not transparent as the 86m² lots would be permitted through a local provision, rather than being mapped in the LEP. It was suggested that the use of a local provision was inconsistent with the Ministerial Direction regarding unnecessarily restrictive site specific planning controls. Some submissions also indicated that residents will not want to downsize to three storey terraces with lots of stairs.

Comment:

The proposed micro-lots are part of the negotiated master planned outcome for the site and have been considered by Council within the context of the single ownership of the site and the opportunity that it presents for providing an alternative housing product to traditional apartment living.

The proposed 'micro-lot' housing is only a portion of the diverse housing product proposed as part of this development and the local provision is intended to provide flexibility in the distribution of lot sizes on the site, as further detailed designs are prepared through a future development application process. This flexibility could not be achieved if the minimum lot sizes were mapped on specific areas of the site within the LEP. The proposal seeks to enable the opportunity for this type of housing to be delivered in response to market demands for different dwelling typologies.

A key reason for permitting this type of housing through a local provision (rather than a mapped minimum lot size) is also to ensure that this dwelling type can only be approved when the subdivision is considered concurrent with the proposed building design/dwelling for each lot. This approach ensures that subdivision is only approved when it can also be demonstrated that the associated dwelling design is appropriate for that land.

Ministerial Direction 6.3 'Site Specific Provisions' discourages unnecessarily restrictive site specific planning controls however as discussed above, it is considered that the application of a local provision to this site is reasonable, justified and the most appropriate mechanism of achieving the proposed development outcomes.

The local provision is applicable only to the subject site and other sites in the Shire would not be able to utilise this clause. While this site is particularly unique (in terms of its size and consolidated ownership), should other sites wish to pursue a similar outcome as part of a larger-scale development which delivers a diverse mix of housing typologies, a planning proposal would be required and it would be considered on its individual merit.

Future development will be required to comply with the requirements of the Disability Discrimination Act 1992, Disability (Access to Premises Buildings) Standards and the National Construction Code to ensure that the design and construction of new dwellings provides adequate levels of accessibility.

iii. No development should occur on the site (the site should remain unchanged);

Submission authors indicate a preference for no change to occur on the site, given:

- It is the most appropriate outcome having regard to the environment and local traffic;
- Local employment opportunities would be retained; and
- The existing buildings are iconic. Their demolition would be wasteful as the existing IBM buildings were designed to minimise impact on the forest and their award winning design included the replanting of 40,000 trees and shrubs to ensure integration with the natural surroundings.

Comment:

The capacity of the site to continue to deliver an employment outcome is limited for a number of reasons including lack of competitive offer compared to other commercial spaces in Sydney and the North West which have more modern premises and flexible floorspace options. The subject site is identified as a short term opportunity site ('Business Park') under the State Government's North West Rail Link Corridor Strategy, with recognition that further consideration and collaboration with stakeholders is needed to determine its likely role in the future.

Council's Productivity and Centres Strategy discourages the conversion of employment land (such as business parks) for residential purposes. However, this site does not form part of a broader strategic employment precinct and it lacks connectivity with knowledge-intensive industries located elsewhere in the Shire which will constrain its competitiveness and future growth opportunities. Loss of employment opportunities on this site is further discussed in Section 3.2(e) (ii) of this report.

A property owner is entitled to lodge a planning proposal with Council for consideration. Council cannot prevent the lodgement of a planning proposal and is required to assess applications based on their strategic and site specific merit. Council is also unable to compel landowners with respect to commercial decisions relating to the redevelopment of land and particular development opportunities.

Environmental outcomes and traffic impacts are addressed in Sections 3.2(d) and 3.2(c) of this report.

iv. An alternative land use would provide a better outcome (such as a school or university);

Submission authors suggested that an education facility would be an appropriate alternative use for the existing buildings on site and would be a better outcome for the community. Submissions also suggested a range of other uses such as a retirement facility, veteran's affairs and first responder's rehabilitation site, a local park or another use that may allow the existing buildings on site to be economically repurposed.

Comment:

Council cannot require the landowner to redevelop their property for a specific purpose (such as a university or a school) and there are no plans for any State Government agency to acquire the site for a public purpose.

The proponent's Economic Assessment advises that the cost of retrofitting the existing buildings to incorporate alternative uses would be prohibitive due to current planning and building regulation requirements. The Assessment also notes there is very low demand for the type of floor space that is currently offered on the subject site.

It is important to note that the entire site is already zoned B7 Business Park which would permit a range of office and light industrial uses. If the site were to be redeveloped under the current zoning and 22 metre building height limit, it is likely that a significantly more intense commercial built form could be achieved and the Proponent has submitted that this would not be the most appropriate outcome for a site in this location.

v. Potential impact on local character (quiet neighbourhood / low density leafy suburb);

Submissions raised concern regarding the future built form, stating that the proposed dwelling typologies were not consistent with the existing character and would threaten residents' quality of life and ability to enjoy West Pennant Hills' quiet, leafy character. Submissions felt that the unique identity, sense of community and attractiveness of the area would be threatened and eroded by this development, which could also affect property values and increase crime levels. There was also concern for potential noise impacts associated with the residential flat buildings.

Comment:

It is reasonable to expect that the local character will undergo some transition as growth projections anticipated under the North West Rail Link Corridor Strategy and Hills Corridor Strategy are realised following the recent opening of the Sydney Metro Northwest. To ensure that the local character is retained and integrated into future change associated with this development, a draft DCP has been prepared to ensure that the future development on this site respects the existing context of the locality. For example, the DCP will require the following outcomes:

- Native trees are to be provided within landscaped verges;
- Colours and materials of future buildings are to be of natural, earthy tones that are compatible with the landscape;
- A minimum 8 metre vegetated buffer zone is to be provided along the Coonara Avenue frontage, which is to consist of local native species; and
- Private open space areas located along Coonara Avenue are to be fenced with high quality, semi-transparent material to soften views of the built form.

It is also noted that the proposed residential flat buildings are located towards the centre of the site, furthest away from any existing low density residential areas. Specifically, the proposed location of residential flat buildings on the site is approximately 130 metres away from the closest existing dwelling external to the site. The development then transitions to lower scale built forms (and landscaped buffers) at the periphery of the site in order to minimise potential character impacts on areas external to the site and provide an appropriate transition of density to the adjoining low density residential areas.

It is also considered that the proposed development layout will ensure that sufficient separation between any proposed residential flat buildings on the site and existing dwellings within West Pennant Hills is provided to mitigate any noise impacts.

There is no evidence to suggest that the subject planning proposal will adversely affect existing property values and crime levels in West Pennant Hills.

vi. Other Issues

Proposed LEP Amendments - The proposed LEP amendments (including the removal of floor space ratio controls and expression of minimum lot sizes) do not provide clarity. Submissions objected to the issue of the 3rd Gateway Amendment.

Comment:

Notwithstanding the removal of the existing floor space ratio control which currently applies to the land, it is considered that the combination of the proposed site specific local provision (which caps dwelling yield at 600 dwellings), proposed zone mapping, proposed building height mapping and proposed DCP controls (including indicative development layout) provide sufficient clarity with respect to likely development outcomes on the site. It is noted that the planning proposal relates to the setting of primary planning controls and greater clarity with respect to specific outcomes would be the result of any future development application for the land.

The amendments to the Gateway Determination were sought to achieve more certainty regarding the outcomes on the site. They were also required to extend the timeframe to complete the LEP amendment. Extensions of time are often granted on Gateway Determinations in recognition of the time needed to prepare additional information for public exhibition or in response to submissions.

Overdevelopment - Submissions raised concern that the Hills LGA is overdeveloped, stating that the locality has done its part for population growth in Greater Sydney and the proposal is against the public interest.

Comment:

While it is acknowledged that residential development on this site is not required to meet Council's housing targets to 2036, it is reasonable to expect growth and change in West Pennant Hills given the recent opening of the Northwest Metro. The North West Rail Link Corridor Strategy Cherrybrook Structure Plan acknowledges that land within walking distance of the rail station will accommodate a variety of housing types to ensure there is affordable and appropriate housing for all members of the community. The RMS and TfNSW have raised no objection to the proposal on the basis of the site's ability to accommodate 600 new dwellings.

In comparison to the current controls applicable to the site, the planning proposal would provide certainty that land significant areas of remnant vegetation on the site will be subject to an additional level of environmental protection through the application of the E2 Environmental Conservation Zone. The planning proposal is considered to be in the broader public interest as it will likely improve conservation and management outcomes for this remnant vegetation and also deliver new active open space to meet the recreation needs of the broader community, which will be publicly accessible via through-site links.

Housing Diversity – Dwelling Size and Mix – Concern was raised that the proposal would not be compliant with Council's dwelling mix and size controls and will not provide a solution to affordable housing.

Comment:

In consideration of the planning proposal, dwelling mix and size criteria were established for this specific site. These are reflected in Clause 2.7 (Dwelling Size and Mix) of the site-specific DCP and would apply to future development on the site. The criteria established for this site is as follows:

- At least 40% of all dwellings on the land are to be 2 bedroom dwellings;
- At least 40% of all dwellings on the land are to be 3 bedroom dwellings (or larger);
- At least 15% of all 2 bedroom dwellings on the land will have a minimum internal floor area of 110m²;
- At least 5% of all 3 bedroom dwellings (or larger) on the land will have a minimum internal floor area of 135m².

Given the mix of housing typologies proposed and criteria established within the site-specific DCP, it is considered that the proposal is broadly consistent with Council's housing mix and diversity objectives and will provide a greater choice of housing for existing and future residents in a location with access to public transport services and a new sporting facility.

With respect to housing affordability, Council's preferred dwelling size and mix provision in the DCP will facilitate a greater range of dwelling price points within the future development (and in West Pennant Hills more broadly) via the delivery of a diversity of housing typologies that will meet the needs of a range of household types, living needs and budgets – from larger families and students, to older residents who are seeking to downsize while staying in the local area. The smaller housing lots proposed for the site will also provide an alternative style of living to satisfy the future housing and affordability needs of future residents, particularly when compared to the conventional large lot dwellings typically available in the West Pennant Hills area.

vii.53 Coonara Avenue, West Pennant Hills

The owners of 53 Coonara Avenue (which adjoins the subject site – refer to Figure 9) raised a number of specific concerns relating to potential impacts on their property:

- Acoustic and pollution impacts, due the proximity of the new dwellings and the proposed intensification of usage for the entrance road. It is requested that a single entry/exit road be maintained central to the site, with the existing driveway to be controlled by a locked gate with access for fire authorities only;
- The loss of trees along the Coonara Avenue frontage to facilitate a new footpath;
- Terraces being sited with their rear to Coonara Avenue, which is not compatible with the streetscape character of the neighbourhood;
- The 3 metre rear setbacks for the proposed dwellings adjoining 53 Coonara Ave are insufficient, with little opportunity for privacy screening to be planted by future owners to reduce privacy and amenity impacts. The setbacks are half of what would be required for a dwelling elsewhere in the Shire under the Residential DCP;
- The lack of a vegetated buffer to the new dwellings which is provided for all other residents of The Glade; and
- Traffic concerns associated with two exits to the site being located close together.

The owners of this site have requested that the two dwellings proposed to be located next to their property be deleted from the development concept in order to maintain the existing vegetated buffer.



Figure 9

Location of property at No. 53 Coonara Ave and proposed dwellings at 55 Coonara Ave

Comment:

The concerns raised by the owners of No. 53 Coonara Avenue with respect to the relationship between their property and the proposed development are addressed in detail below.

The post-exhibition changes to the draft development control plan increase requirements to provide development that is sensitive to the landscaped setting of the site and the local built form character, including the requirement for screening landscaping where new dwellings adjoin existing dwellings. In addition to the site specific DCP, the requirements of Part B Section 2 – Residential will be a relevant consideration for future development adjoining this site. Section 2.4 Site Analysis requires that development be designed to be consistent with the character of the streetscape. It is considered that deletion of the two dwellings adjoining 53 Coonara Avenue is not warranted.

A single entry/exit road cannot be provided as it would not comply with RFS requirements for access on bush fire prone land. In the event of an emergency, a locked gate with RFS only access would be contrary to the crucial intent of providing a timely response to emergency situations. It is anticipated that acoustic impacts associated with the access road would be mitigated by boundary fencing. Any further acoustic measures required will be considered at the detailed design stage as part of a future development application.

Any footpath upgrades proposed along Coonara Avenue will be further considered at the development application stage and should seek to avoid and minimise impact on mature vegetation.

With respect to the orientation of dwellings along Coonara Avenue, the proposed arrangement will result in the existing vegetation along this frontage to be retained with opportunity to provide additional landscaped screening within the backyards of dwellings adjoining Coonara Avenue. This is considered the most appropriate outcome for the site and will balance streetscape impacts with retention of vegetation.

While it is acknowledged that the proposal would alter the existing interface by replacing vegetation with two new dwellings, it is considered that amenity and privacy impacts would not be greater than those experienced in other areas of the Shire where low density development adjoins medium density development. This interface can be appropriately managed and integrated sympathetically into the character of the area through setbacks, landscaping, fencing and future dwelling design to minimise impact on visual and acoustic privacy and amenity. This detailed design will be considered at the development application stage.

The additional concerns regarding micro lot housing, dwelling density, on street parking, building heights, and floor space ratio controls that were raised by the owners of 53 Coonara Avenue are addressed elsewhere in this report.

It is acknowledged that the Hills Development Control Plan 2012 Part B Section 6 – Business identifies a Restricted Development Area on the portion of the site which adjoins the subject site, and will conflict with the proposed location of the dwellings adjoining 53 Coonara Avenue. This is further addressed in Section 4(b) of this report.

b) Consistency with the Strategic Framework and Cherrybrook Precinct Plan Vision

i. The site is not within easy walking distance of the new station;

Concern was raised regarding the steep topography of the locality which was seen by submission authors as likely to discourage the use of public transport. Submission authors state that the site is too far from the station and shopping facilities for the development to be considered part of the walking catchment. Some submission authors alleged that the site's proximity to the station has been overstated.

Comment:

The subject site has a walking distance of approximately 860m to the Cherrybrook Railway Station from the existing driveway entry, 430m to Coonara Shopping Village and approximately 1.7km to the shopping facilities at Thompsons Corner.

It is acknowledged that the topography of the locality may make walking to local shops and public transport services a challenge for some people, it does not preclude this is an available mode of active transport for future residents. It is also noted that there are a number of bus stops located in the vicinity of the subject site which will facilitate access to the Cherrybrook Rail Station and other local services.

It is noted that in their submission to Council, Transport for NSW acknowledge that the site *is* within reasonable distance to the Cherrybrook Station and is serviced by bus services along Coonara Avenue.

ii. Non-compliance with the Greater Sydney Region Plan, Central City District Plan and Ministerial Directions;

Submissions raised concern that the proposal is not consistent with the Ministerial Directions - specifically Direction 1.1 Business and Industrial Zones and Direction 6.3 Site Specific Provisions. Consistency with the Greater Sydney Region Plan and Central City District Plan should also be achieved, particularly relating to sustainability, environmental protection and provision of public open space. Some submissions also suggested that Council incorporate principles of sustainability into their Strategic Plans.

Comment:

The consistency of the proposal with all relevant Ministerial Directions and strategic planning policies is considered within the planning proposal documentation which was submitted to the Department (for Gateway Assessment) and subsequently publicly exhibited. It is noted that in considering the strategic merit of the proposal and relationship to these policies, the Department has issued a Gateway Determination which enables the proposal to proceed.

At a State level, NSW Premier's Priorities highlight the importance of creating jobs, building infrastructure, affordable housing and tackling childhood obesity. The subject proposal is considered to be consistent with these Priorities by way of delivering housing to meet the needs of a growing population and a new playing field / open space.

At a regional level, the State Government's Greater Sydney Region Plan – A Metropolis of Three Cities anticipates the need for a range of housing types to cater for diverse household needs and encourages the delivery of new homes in the right locations alongside local infrastructure. The subject planning proposal and its anticipated delivery of 600 new dwellings as well as a new playing field within a walkable catchment of the Cherrybrook Metro Station is generally consistent with this plan. The importance of sportsgrounds to support a socially connected community is also identified in the Plan.

At a District level, the Central City District Plan identifies the importance of concentrating jobs and employment activity in strategic and district centres. While the subject site is currently zoned for employment purposes, the rezoning of the site to permit residential outcomes is considered to be acceptable in this specific instance, given:

- The lack of competitive offer when compared to other commercial spaces in the Shire and more broadly in North-West Sydney which have more modern office premises, flexible options and greater access to amenities for workers, such as those in strategic centres. The site does not have the opportunity to grow, as it is not within an identified strategic or district employment centre and is not agglomerated or co-located with any other employment or urban services land; and
- The Proponent has provided an economic study that indicates the site is unlikely to attract a long term tenant given the low demand for this kind of office space in this location.

Noting this, the planning proposal is generally consistent with the District Plan as it will:

- Provide housing choice in a location that is close to local services and public transport with access to jobs in the nearby strategic centres of Castle Hill and Norwest Business Park;
- Not result in the loss of any employment land that is specifically identified for protection or retention (such as Norwest Business Park, for example);

- Protect bushland corridors via an E2 Environmental Conservation zoning and require native planting as part of the future development concept; and
- Provide new open space to meet the community's recreation needs, which will be publicly accessible via through-site links.

At a local level, Council's recently adopted Local Strategic Planning Statement seeks to ensure natural surroundings are valued, maintained and enhanced. Under the Strategy, Council is required to protect natural assets and ensure the biodiversity of the Shire is appropriately identified and preserved for future generations. The proposal is consistent with this action as, in comparison to the existing B7 Business Park zoning, it seeks to apply the highest environmental protection afforded by land zoning, being the E2 Environmental Conservation Zone.

In addition to the above planning framework that has been considered in the assessment of the strategic merits of the planning proposal, any future development on the site will also need to have regard to the requirements of the *Biodiversity Conservation Act 2016* and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

With respect to Ministerial Direction, the exhibited planning proposal included an overview of compliance with relevant Directions. The proposal's inconsistencies with Direction 1.1 Business and Industrial Zones, Direction 5.9 North West Rail Link Corridor Strategy are considered minor and satisfactory in this instance. In undertaking the Gateway Assessment, the Department of Planning, Industry and Environment have advised that any inconsistencies with Direction 1.1 and Direction 5.9 are of minor significance and that the planning proposal is consistent with Direction 6.3 Site Specific Provisions.

iii. Inconsistency with the Cherrybrook Precinct Plan, as the site is not identified for residential uplift;

Concern was raised that residential zoning is inconsistent with the Cherrybrook Precinct Plan and that the developer was receiving preferential treatment.

Comment:

The subject site is identified as a short term opportunity site (albeit for a business park land use) in the North West Rail Link Cherrybrook Station Structure Plan. However, the Structure Plan recognises the need for further consideration and collaboration with stakeholders to determine the likely role of this specific site in the future. In doing so, the Structure Plan recognises that consideration of future outcomes on this site is particularly complex.

Landowners are able to lodge planning proposals and Council is required to assess each proposal having regard to its individual merits (both strategic and site specific). The planning proposal and Gateway process has provided the pathway through which this more detailed consideration and collaboration has occurred with respect to this site. The Department of Planning, Industry and Environment have advised that the variation to the outcome originally anticipated within the Structure Plan is acceptable and the inconsistency with Ministerial Direction 5.9 'North West Rail Link Corridor Strategy' is of minor significance.

Given the current strategic context (and recognising that the subject planning proposal was lodged in July 2017), the following matters are relevant for consideration in this instance:

- The subject proposal will provide a diversity of housing choice in a location that will have good access to public transport infrastructure and new sporting facilities;

- The proposal will secure substantial public benefits associated with the provision of a new playing field to service an existing shortfall in West Pennant Hills and the potential to achieve a superior level of protection and management of remnant bushland on the site;
- Future development on the site will result in a master planned outcome, with key outcomes articulated via a site-specific DCP. This will provide a level of certainty in terms of built form outcome and environmental protection; and
- There are already proposals for additional jobs growth in Norwest and that is expected to continue.

Council is required to respond to and assess landowner-initiated proposals on their individual merits. The subject site is identified as a short term opportunity site within the North West Rail Link Corridor Strategy and consideration of this particular proposal is the result of the lodgement of a planning proposal application by the landowner. The subsequent planning proposal and Gateway assessment process has identified that the site presents a unique opportunity to achieve a master planned outcome on a large single ownership landholding. It is noted that the density and scale of this particular proposal (39 dwellings per hectare) is substantially less than other planning proposals for land within the Cherrybrook Precinct which were not supported by Council (ranging from 140 dwellings per hectare to 182 dwellings per hectare). There are also significant public benefits that would result from this which have been well-defined and are deliverable by the Proponent.

iv. Support for commencement of planning in the vicinity of the railway station; and

Submissions identified the need for future planning around stations and the importance of a holistic master planned approach to development in the area. In particular, strong support was provided for additional planning within the Cherrybrook Precinct, as Cherrybrook needs to be developed in a more sustainable way. Concern was raised that the subject site is being rezoned before the rest of the Cherrybrook Precinct.

Comment:

In June 2017, the Department of Planning, Industry and Environment announced the Cherrybrook Precinct as a 'Planned Precinct' and advised that it would be the lead agency for future master planning of the Precinct. Council was advised that whilst the focus would be on Government Land directly adjoining the station, the Department would progress the detailed investigations and planning for the broader Precinct. The intended outcome would be a completed traffic model (local and regional road network), a planning proposal for Government Land, an Infrastructure Strategy and a detailed structure plan for the broader precinct to guide future planning proposals. This approach was considered appropriate as it would ensure future development occurs in an orderly manner and that the future population is provided with sufficient infrastructure.

In February 2019, the Department advised Council that it would now only be focussing on the rezoning Government Land within the Precinct. As the detailed investigations and precinct planning would no longer occur, the Department advised that the NWRL Corridor Strategy should be used as the strategic direction for future land use change and development across the private land. The Department advised that this Strategy provides the framework for Council to consider rezoning proposals within the Precinct.

While it is considered appropriate for holistic precinct planning to be undertaken for the broader Cherrybrook Precinct, Council is required to respond to and assess landowner-initiated proposals on their individual merits. The subject site is identified as a short term opportunity site within the North West Rail Link Corridor Strategy and consideration of this

particular proposal is the result of the lodgement of a planning proposal application by the landowner. The subsequent planning proposal and Gateway assessment process has identified that the site presents a unique opportunity to achieve a master planned outcome on a large single ownership landholding and secure significant public benefits.

v. Rezoning enquiries by nearby landowners have not been supported by Council;

One submission author objected to the proposal on the basis that when they previously made enquiries with Council to have their 1,000m² block rezoned, this was not supported. The Proponent of another planning proposal within the Cherrybrook Precinct which was recently considered by Council also raised concern about a lack of consistency in the assessment of traffic generation and upgrade requirements in the Precinct.

Comment:

Any landowner is entitled to lodge a planning proposal for consideration and Council is required to assess each proposal on its individual merits (strategic and site specific).

While Council has not received any planning proposal with respect to an individual 1,000m² lot within West Pennant Hills, the rezoning of such a lot, in isolation, to enable high density development outcomes may be difficult to justify given it is less than the minimum lot size required for residential flat buildings and it would be difficult to deliver a master planned approach and/or public benefits on a development site of this size.

With respect to other planning proposals within the Cherrybrook Precinct (9/2016/PLP and 14/2015/PLP), these were recently considered by Council and based on consideration of the strategic and site specific merits of each individual proposal, Council resolved not to proceed with these proposals at its Ordinary Meeting on 22 October 2019. It is noted that in comparison to this proposal for 55 Coonara Avenue (39 dwellings per hectare and 2-6 storeys in height) both proposals sought Council's approval for a significantly greater density, built form and character (between 140 and 182 dwellings per hectare and up to 12 and 16 storeys in height).

c) Traffic

i. The local area already experiences traffic delays and congestion;

Submissions stated that local roads have been designed to accommodate a low density community and will not be able to accommodate the additional traffic associated with the residential uplift envisaged by the proposal. Many submissions stated that local roads are operating at capacity and are often in a 'gridlock' pattern particularly in the AM and PM peak periods. Submission authors are concerned that the commencement of the Metro has not resolved existing congestion. It was suggested that new residents are unlikely to use the Metro due to distance from the station, topography and lack of parking at the station. As such, there is significant concern in the community that most residents of the site will rely on private vehicles as their primary mode of transport.

There was also some concern raised throughout the submissions regarding the validity and accuracy of some of the findings and assumptions made in the Traffic Report submitted by the Proponent.

Comment:

It is acknowledged that traffic delays, road congestion and associated amenity impacts are a concern for local residents, particularly during peak times. However, it is noted the Traffic Assessment completed in support of the proposal found that overall traffic volumes and peak traffic volumes are likely to decrease as a consequence of the proposal, in comparison to the development outcomes that could already be facilitated on the site under the current controls. The Assessment advises that even having consideration for the change in the direction of peak traffic flows resulting from a switch from employment to residential, intersection performance is unchanged during the AM peak and improves during the PM peak.

With respect to the validity and accuracy of the Proponent's Traffic Assessment, the RMS and Transport for NSW did not raise objection to the methodology used to assess the traffic impact of the proposal. Further, Council commissioned GTA Consultants to complete an independent peer review of this work (dated October 2018), which concluded that additional traffic generated by the proposed development is expected to have marginal impact on the performance of the existing network.

While there are existing capacity constraints at Castle Hill Road, Oakes Road and Aiken Road, the opening of NorthConnex is expected to reduce traffic volumes on the arterial road network, which in turn may relieve congestion on local roads. In addition, the peer review notes that the poor performance of the Aiken Road / Oakes Road roundabout is existing and is not able to be directly attributed to the proposed development traffic, however increased traffic in the area more broadly would exacerbate existing capacity issues.

The travel patterns of existing residents will take some time to adapt to the recent opening of the rail system, however it is expected that new residents will be more responsive to the public transport opportunities, with purchasing decision being made following the opening of the Metro. Notwithstanding this, traffic management and the need for any local infrastructure upgrades will be further reviewed at the Development Application stage if the subject planning proposal proceeds to finalisation.

- ii. The proposal will increase traffic, pollution and vehicle noise in the locality and create significant issues for local residents;*

Concern was raised that population increase will result in additional traffic on local roads that are not able to accommodate any additional demand, particularly along Coonara Avenue, Castle Hill Road, Taylor Street, Highs Road, Aiken Road and Oakes Road. There was also concern that the proposal will increase instances of 'rat-runs' through smaller residential streets. Submissions requested that consideration be given to the cumulative traffic impacts from residential growth along the Metro corridor, as well as cars seeking to access the NorthConnex tunnel and the station. Residents were concerned that NorthConnex would not solve traffic congestion.

It was suggested that development should not proceed until a holistic traffic management plan has been prepared for Cherrybrook. Concern was raised that trip distribution will change as residential development will add more traffic into the local road network at peak times compared to the current business use of the site, along with associated traffic pollution, health impacts and vehicle noise problems for neighbours. There were also concerns about how the traffic associated with this area would impact on the local character.

Some submissions raised concern that existing bus services are already operating at capacity and struggling to cater for the needs of commuters.

Comment:

In their submission to Council, the RMS indicated that they are satisfied that the vehicular trip generation associated with the proposed residential land use is lower than that of the existing business land use. The RMS stated that they may require the Proponent to provide a signalised pedestrian phase on the western leg of the Old Castle Hill Road / Edward Bennett Drive / Coonara Avenue signalised intersection (at no cost to RMS) to improve pedestrian permeability in the area. RMS is satisfied that this requirement can be deferred to the development application stage should the planning proposal proceed to finalisation.

While it is acknowledged that the distribution of peak hour vehicle trips associated with the subject site is likely to change as a consequence of its rezoning for residential purposes. The proximity of the site to the Cherrybrook Rail Station will enable some residents to utilise public transport for their trip to work and this will likely reduce vehicle trips generated by the proposed development.

Irrespective of this, the intensity of trip generation associated with the proposed residential land use is expected to be lower than that which would be expected of development under the current controls and the proposal would effectively decrease the potential intensity of traffic generation (and associated impacts) linked to redevelopment of the site.

Any associated acoustic mitigation measures that are required to be implemented to address undue noise impacts will be considered as part of the detailed design and development application stage.

With respect to cumulative traffic modelling, it is acknowledged that there would ideally be a holistic structure plan for the Cherrybrook as well as detailed traffic modelling and infrastructure assessments against which individual planning proposals could be considered. This was the intended outcome when the Department identified Cherrybrook as a Planned Precinct in June 2017. Despite the Department's more recent advice that they will no longer be completing detailed and holistic precinct planning for Cherrybrook, Council is still required to assess individual planning proposals against the strategic planning framework.

Having regard to the reduction in intensity of traffic associated with residential development (compared to the current commercial zoning), it is considered reasonable to proceed with this particular planning proposal in advance of regional and cumulative traffic modelling for the Precinct. Further, the RMS indicated in their submission that the Proponent had satisfactorily addressed the consideration of detailed cumulative studies and infrastructure contributions plans for the broader Precinct.

Hillsbus route 635 services Coonara Avenue and provides access to Cherrybrook Station, Beecroft Station and the broader public transport network. Council is not in a position to provide additional bus services as these services are delivered by the State Government. Council will continue to advocate for additional bus services or routes in appropriate locations as required.

iii. Traffic or transport accessibility improvements have not been offered.

Submissions stated that the proposal does not provide traffic or transport accessibility improvements, such as a new bus lane or pedestrian crossing on Coonara Avenue. Some suggested that traffic improvements should be proposed along Oakes Road or Aiken Road,

including road widening and improvements near roundabouts. There was also concern for the safety of children walking home from school along Coonara Avenue.

Comment:

It is acknowledged that the Proponent has not offered any traffic or transport accessibility improvements to support future residential development on the site. The Proponent's Traffic consultant has advised that:

- The planning proposal reduces the intensity of use of the site from an existing 34,000m² business park with 3,000 workers at capacity, to a residential community with 600 dwellings.
- A pedestrian footpath is already in place along the site frontage which provides connections to Castle Hill Road and on to the Cherrybrook Metro Station (via signalised crossing points), and also a connection to the Coonara Shopping Village.

Based on the above, the proponent's traffic consultant considers that the proposal will reduce the demand on public and active transport and does not warrant special provisions or improvements to bus or active transport infrastructure.

The vehicular trip generation associated with the proposed residential land-use is expected to be lower than that of the existing site (with a commercial zoning). As there is no clear nexus between the planning proposal and any negative impacts on the regional road network, there is insufficient justification to require developer contributions towards traffic and transport upgrades as a consequence of the development.

The Traffic Assessment Review commissioned by Council concluded that the Aiken Road / Oakes Road roundabout is currently performing at capacity and any increase in traffic will lead to long queues and delays at this roundabout. The poor performance of this intersection is attributed to downstream queues reaching the roundabout and reducing its capacity. Therefore, the poor performance of this roundabout cannot be directly attributed to the development in isolation.

As outlined earlier in Section 3.1(b), the Roads and Maritime Services may require the Proponent to provide a signalised pedestrian phase on the western leg of the Old Castle Hill Road / Edward Bennett Drive / Coonara Avenue signalised intersection as part of a future development application if the subject planning proposal proceeds to finalisation. Roads and Maritime Services have confirmed that a suitable funding mechanism is in place to obtain developer contributions on an equitable basis towards regional transport infrastructure upgrades to support future growth associated with the multiple planning proposals across the Cherrybrook precinct.

The future development will not be subject to Section 7.11 or 7.12 contributions. Instead, the Developer has offered to enter into a Voluntary Planning Agreement (VPA) for the provision of a synthetic sporting field and the dedication of an upgraded access road. Given that there is no clear nexus between the proposed development and the need for upgraded traffic infrastructure, the public benefits offered under the VPA are considered appropriate in this case.

iv. *Other*

Bus Priority Lane through West Pennant Hills Valley – Some submissions raised concern that the Proponent's traffic report makes reference to a bus priority lane through the West Pennant Hills Valley which is not proposed to be delivered by Council or the State Government.

Comment:

It is acknowledged that the Proponent's July 2017 Traffic Report references a future proposal for a bus priority lane through West Pennant Hills Valley that would assist with easing traffic congestion in the locality by providing a connection between Castle Hill and Parramatta.

Council has previously considered the provision of a bus priority lane throughout the West Pennant Hills Valley, which would require funding from Transport for NSW. This remains an action in Council's Integrated Transport and Land Use Strategy. Council will continue to plan and advocate for the delivery of Bus Priority Measures in West Pennant Hills, which are reliant on State Government funding. Notwithstanding this, having regard to the discussion contained within Sections 3(c) (i) – (iii) above, it is considered that progression of this particular proposed need not be contingent on the outcomes of this advocacy.

Car Parking for proposed Dwellings - Concern was raised that insufficient parking was proposed for residents and visitors within the development, which could result in an overflow of on-street parking onto surrounding residential streets which were designed for a low density suburb. It was suggested that the area is already affected by the limited number of commuter parking spaces at the Cherrybrook Station and that this would be exacerbated if inadequate car parking is provided on-site for dwellings at 55 Coonara Avenue. It was suggested that the proposal should be revised to provide additional on-street parking within the site.

Comment:

The draft site-specific DCP will establish the following *minimum* parking rates:

Dwelling Type	Car Parking Rate
Multi dwelling housing and semi-detached dwellings	1 space per 1 bedroom dwelling
	2 spaces for dwellings with 2 or more bedrooms
	A minimum of 40 visitor car parks (located either on-street or within a dedicated area for visitor parking).
Residential flat buildings	1 space per dwelling
	1 visitor space per 5 dwellings

Table 5

Parking Rates proposed under draft site-specific DCP

It is considered that the abovementioned parking rates represent an appropriate balance between parking provision, potential traffic generation and anticipated future travel behaviours that will be influenced by the site's proximity to the Cherrybrook Rail Station. These rates will accommodate future residents who wish to utilise private vehicles, whilst also encouraging a modal shift towards the use of public transport.

It is also noted that the parking rates are expressed as *minimum* requirements, which provides the developer with flexibility to respond to market demand for parking spaces in the future, in light of the commencement of the rail, NorthConnex and evolving travel behaviours.

Pedestrian and Vehicular Access to the Subject Site - Given the limited vehicular entry points along Coonara Avenue, concern was raised with respect to future accessibility to the site. Limited pedestrian access to the site from Castle Hill Road was also raised.

Comment:

There are two existing established access points servicing the site from Coonara Avenue. These currently provide access to approximately 1,700 existing car spaces. In order to avoid environmental impacts, the proposal seeks to retain the existing access points and retain and upgrade the existing ring road around the site (rather than reconstructing these in new locations). Having regard to the reduction in intensity of traffic generation associated with a residential use (compared to a potential commercial use) and the proposed deletion of approximately 700 car spaces, it is considered that the existing vehicular access arrangements to the site will continue to be adequate.

The draft DCP will require public access links to be provided within the site, including a 'public green link' at the north eastern corner of the site (in close proximity to Castle Hill Road, noting that the site does not have direct frontage to this arterial road). The location of these pedestrian links will encourage residents to walk and cycle to the station and will improve pedestrian permeability to the future playing field. Further, the RMS have advised that there may be a requirement for the proponent to provide a signalised pedestrian phase on the western leg of the intersection of Castle Hill Road, Edward Bennett Drive and Coonara Avenue, as part of a future development application for the site which will further assist pedestrian movement in the locality.

d) Environmental Impacts

- i. *Removal of flora (including Blue Gum High Forest and tree removal generally), impact on fauna (such as koalas and Powerful Owls) and impacts on the ability for residents to enjoy the forest;*

The community raised concern with the removal of flora to accommodate the proposed development. Key concerns included:

- Impacts on the habitat of vulnerable species (e.g. Powerful Owls, koalas and other species including black parrots, Grey-headed Flying Fox, Eastern Bent Wing Bat, Glossy Black Cockatoo, migrating water birds, frogs and bandicoots), increasing risk of vehicle strikes and reducing vegetation and wildlife connectivity throughout the site;
- Inability for development consent to be granted where the proposal will have a Serious and Irreversible Impact (SAII);
- Reduced ability for residents to enjoy the forest;
- Loss of health benefits associated with green spaces;
- Loss of valuable asset to the Hills District, particularly with green space diminishing;
- Replanting would not be insufficient to replace the existing forest;
- The proposed development is inappropriate on environmentally sensitive site; and
- Domestic pets may become predators for wildlife.

Comment:

Extensive consideration has been given to the potential environmental impacts of the proposal, particularly in relation to flora and fauna, tree removal and vegetation connectivity both on the site and also to the adjoining Cumberland State Forest. Concerns relating to the removal of vegetation within the carpark are addressed in Section 3.1(e) of this report.

While it is acknowledged that the planning proposal will result in the loss of approximately 0.02 hectares of Blue Gum High Forest, the Proponent has broadly utilised the 'avoid, minimise, offset' approach as required by the Biodiversity Conservation Act 2016. In particular, the proposed development footprint is largely contained within the existing development footprint, car park and areas that were previously cleared for development to occur on the site and this resulted in limited impact on any valuable remnant bushland on the site.

As detailed in Section 3.1(e) of this report, the subject site has been partially cleared since at least 1945 and has approval for use as a business park. The environmental qualities of the site and areas of highest conservation value are recognised in the proposed application of the E2 Environmental Conservation zoning, which is considered the most appropriate approach to balancing environmental protection and allowing reasonable and sympathetic redevelopment of the site to occur.

The planning proposal relates to the setting of primary controls which will be used to guide future development. Consent for development on the land must then be obtained through the development application process. As part of this process, the developer will be required to comply with the requirements of the Biodiversity Conservation Act 2016. The consent authority is bound by the Biodiversity Conservation Act in determining the development application and the detailed assessment of whether a Serious and Irreversible Impact would occur as a result of the development will occur at this point.

If detailed investigations and designs require amendment to the development concept in order to meet the requirements of the Biodiversity Conservation Act 2016, it is considered that adequate flexibility will be available within the proposed planning controls for the developer to resolve these issues through the detailed design phase. The 600 dwelling cap represents a *maximum* development outcome and it is acknowledged that if a further reduction in the development footprint was required as a result of the development application process (for example, to reduce impacts on potential areas of BGHF and STIF) this may reduce the achievable development yield on the site.

The potential impact on Powerful Owls is addressed previously within Section 3.1(e) of the Report. In relation to koalas, Environment, Energy and Science Group have advised Council that there is a low likelihood of the species being on site and that the previous 2014 record of a koala on the site was an error.

With respect to pet ownership by future residents, it is important to achieve a balance between the rights of future residents to own domestic pets and the need to protect local fauna. There is no restriction on any of the land within the precinct and it is not considered warranted now. However, in response to submissions, it is recommended that the draft DCP be amended post-exhibition to require that private open space fencing be designed to protect wildlife by providing separation from domestic pets and incorporate a wider top rail to provide a fauna walkway.

In relation to local residents' ability to enjoy the forest, it is noted that the entirety of the site is currently zoned B7 Business Park and is in private ownership (these areas of forest are not publicly owned land). The proposal seeks to increase the level of protection applicable to remnant forest on the site and the Developer is seeking to enter into an agreement with the NSW Forestry Corporation for this land to become publicly owned and amalgamated with the adjoining Cumberland State Forest. If the remnant forest on the site were to become public land, this would provide greater opportunities for responsible and managed public access to occur.

ii. General environmental impacts of the proposal (stormwater runoff, air quality, creeks, weed incursion and impacts of the construction process);

Some submissions raised concerns with the potential environmental impacts associated with the construction process. It was suggested that the proposal may increase stormwater runoff and pollution in nearby waterways and that stringent controls are needed to protect the unique nature of the site and the surrounding forest. There was also concern about weed incursion from gardens. Some submissions stated that the proposal will negatively impact the air quality within the locality.

Comment:

Concerns regarding stormwater runoff and impacts on local creeks from the construction process must be addressed as part of a future development application for the site (irrespective of whether that application is for a commercial development under the current controls or a residential development under the proposed controls). This will involve consideration of 'edge effects' and avoidance and mitigation of any potential impact on vulnerable species on the site. It is anticipated that any development approval issued for this site would contain detailed requirements for the disposal of building materials and minimisation of construction impacts on the environment. A Waste Management Plan and Erosion and Sediment Control Plan would be required as part of a future development application submission.

iii. Impact of tree removal on climate change (including the urban heat island effect and intergenerational equity), air quality and oxygen generation;

Submissions raised concern regarding the implications of tree removal on climate change, including exacerbating the urban heat island effect, rising carbon dioxide levels and temperatures, and intergenerational equity. Submission authors felt that the proposal contradicts global policy and commitments made to mitigate the impacts of climate change.

Comment:

The proposed amendments to LEP 2012 and draft site-specific DCP development controls seek to permit a development outcome that minimises impacts on the remnant forested areas of the site by locating the bulk of the development within the existing footprint of buildings and carpark areas on the site. In comparison to the current B7 Business Park zoning, the application of the E2 Environmental Conservation Zone that would be facilitated by this planning proposal seeks to apply a higher level of protection over the remnant bushland and valuable communities. In addition to a requirement that mature vegetation be retained where possible, the draft DCP will ensure that native street trees are provided within landscaped verges.

Additionally, a Building Sustainability Index (BASIX) assessment (which aims to reduce water and energy consumption) is required to accompany any development application for new homes in NSW. Consistency with Council's Environment Strategy is discussed earlier in Section 3.2(b)(ii) of this report.

- iv. Bushfire, including concerns that Asset Protection Zones will impact on the Cumberland State Forest and will require removal of protected vegetation;*

Concern was raised regarding the potential bushfire risks that may result from the proposal. In particular, there was concern that the proposed R4 High Density Residential area would require the removal of critical forest trees to mitigate any potential bushfire risk on the development. Concern was also raised that hazard reduction burns would be permitted on the site.

Comment:

Any future development applications on the subject site must comply with the requirements of Planning for Bush Fire Protection 2006 (or equivalent), which prescribes specific APZ requirements, access design specifications and services requirements. The NSW Rural Fire Service raised no objection to the proposed development at the planning proposal stage, subject to the development achieving compliance with the requirements of Planning for Bush Fire Protection as part of a future development application. As part of this application, the RFS will require a revised bush fire consultant's report that demonstrates a fully engineered performance based solution and a Bush Fire Design Brief. Bush fire management measures including hazard reduction burns will be determined at the development application stage in consultation with the RFS.

The identified APZs are indicative and will be refined as a detailed bush fire assessment is undertaken at the Development Application stage. The potential for remnant BGHF and STIF is addressed earlier in Section 3.1(e) of the report in response to the public authority submission received from Environment, Energy and Science.

- v. Future ownership, care and management of the critically endangered forest, including the lack of a Stewardship Agreement and potential for the forest to be managed as part of the community title subdivision;*

Submission authors felt that the future ownership of the site was important to ensuring it is appropriately managed into the future. Some authors advised that the land must be Government-owned while others did not want any level of government to own it, including Council. Some submissions suggested that the forest should form part of a Stewardship Site and requires a permanent conservation covenant with associated funding for its conservation management in perpetuity. Submission authors felt that future residents of the site should not be responsible for its management as part of a Community title arrangement and that land containing Blue Gum High Forest should not be subdivided.

Comment:

The Proponent has offered part of the site to the NSW Government for the purpose of further protecting the biodiversity values of the site. These negotiations are ongoing. If the Government is unwilling to take ownership of the land, the Proponent has advised that it will then investigate dedicating the land as a Stewardship Site, at which time the retirement of credits would be considered. A Stewardship Site requires separate detailed ecological

investigation and reporting, and this would be undertaken as part of a future development application.

While future ownership of the forest and its management in perpetuity may not be finalised as part of this planning proposal, it is considered that the proposed E2 Environmental Conservation zone and site-specific DCP provisions relating to management of the land are sufficient to ensure ongoing protection of the vegetation and are the highest protection that Council is able to apply through land use zoning in its LEP.

The draft site-specific DCP includes a requirement that future development includes a Vegetation Management Area over all land zoned E2 Environmental Conservation, including the significant vegetation located in the southern portion of the site. A Vegetation Management Plan (VMP) will also be required as part of a future development application on the site. The Vegetation Management Area will be identified as a Restricted Development Area on the title of the land and must not form any part of Asset Protection Zones on the site. The VMP will require the on-going maintenance of important natural areas and ensure that biodiversity on the site is protected, maintained and enhanced. A future VMP for the site will guide the conservation and preservation of existing vegetation, the undertaking of rehabilitation works in degraded native vegetation areas, native vegetation protection measures and the restoration of native vegetation. The responsibility for undertaking weed control will also be identified in a future VMP for the site.

It is noted that a minimum lot size of 10 hectares is proposed to apply to land zoned E2 Environmental Conservation in order to prevent any subdivision of this land occurring.

- vi. Support for E2 Environmental Conservation zoning on all or part of the site, with some concern raised that the remaining forest on the site will be subdivided.*

Some submissions suggested that all or part of the site should be rezoned as E2 Environmental Conservation, to promote the protection of mature trees on the subject site. The Cumberland State Forest is a valued environmental asset which many residents would like to see protected. Concern was raised with the proposed zoning map as it does not distinctly differentiate the zone boundaries. Some submission authors were concerned that the remaining forest on the site will not be appropriately protected and will be subdivided for future development. Submission authors also felt that the E2 zone needs to be supported by a permanent conservation covenant to avoid rezoning the forest in the future.

Comment:

It is acknowledged that parts of the site are environmentally sensitive and there is a need for robust planning controls to ensure its ongoing care and protection. There was strong community support for the application of the E2 Environmental Conservation zone to environmentally sensitive areas. Under LEP 2012, the objectives of this zone are:

- *To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.*
- *To prevent development that could destroy, damage or otherwise have an adverse effect on those values.*

The planning proposal would restrict development on certain parts of the site via the use of the E2 Environmental Conservation zone. The E2 Environmental Conservation zone only permits environmental facilities, environmental protection works, oyster aquaculture, research stations and roads. No works are permitted without consent in this zone. It is also

proposed to increase the minimum lot size applicable to the vegetation from 8,000m² to 10 hectares to ensure the forest's protection against further subdivision.

As outlined in Section 3.1(e), a review of aerial photography indicates that parts of the subject site were cleared for agricultural purposes as early as the 1930s, with the cleared land remaining until the site was occupied by IBM circa 1985. The identification of the E2 zoning boundary broadly aligns with areas of remnant vegetation on the site, with the intent being that the development footprint is confined to areas of the site which are already been distributed through historical activity and development.

While the subject site does not currently form part of the adjoining Cumberland State Forest, the proposed application of the E2 Environmental Conservation zone is one of the highest levels of protection afforded by land zoning under the LEP.

The draft DCP also includes a requirement that future development includes a Vegetation Management Area comprising land zoned E2 Environmental Conservation including the significant vegetation located in the southern portion of the site. A Vegetation Management Plan (VMP) will also be required as part of a future development application on the site. A future VMP for the site will guide the conservation and preservation of existing vegetation, the undertaking of rehabilitation works in degraded native vegetation areas, native vegetation protection measures and the restoration of native vegetation.

e) Availability of Local Services and Jobs

- i. Local facilities are already at capacity (shopping centres, schools and car parking);*

Concern was raised that local facilities are already at capacity and would not be able to accommodate the anticipated growth associated with the proposal. Members of the community were concerned that there were not adequate school facilities, day care centres scarce open space and limited public transport.

There is also lack of clarity around whether neighbourhood shops are to be provided on the site. It is noted that some residents were concerned about the increased competition to existing local shops, while other submission authors were concerned that existing local shops and car parking are already at capacity with more opportunities needed.

Comment:

Neighbourhood shops are not proposed as part of the development concept, however it is noted that this use is permitted within the R4 High Density Residential Zone (limited to 100m² in size). There are no neighbourhood shops proposed in the development scheme. If neighbourhood shops are proposed in the future, like all other permitted land uses, it will need to address the merits of the proposal and its impacts.

It is understood that confusion around whether neighbourhood shops are proposed has arisen due to an error in the Proponent's Economic Assessment, which refers to *"the proposed retail/commercial component included in the planning proposal"*. Neighbourhood shops were originally proposed on the site as part of an earlier development concept associated with a previous planning proposal lodged in 2016. This statement was not omitted from the Proponent's Economic Assessment when the planning proposal was subsequently modified.

Retail and shopping services will continue to be provided at the Coonara Avenue Shopping Village and the nearby shopping facilities at Thompsons Corner and that is within walking distance of the Cherrybrook Rail Station, which would provide access to larger retail and commercial centres such as Castle Hill. It is unlikely that local shopping facilities will be adversely affected by the subject proposal.

The subject site is located within the catchment of West Pennant Hills Public School and Muirfield High School. As identified in Council's Local Strategic Planning Statement, Council will work with the Department of Education and Communities to ensure the delivery of school infrastructure within the Shire and to ensure that future housing growth aligns with the provision of public infrastructure.

The proposal includes provisions for a public playing field, which will provide additional public open space and encourage recreational opportunities within the locality. The new playing field will not only service the additional demand generated by the proposed development, but will contribute towards servicing the existing shortfall of playing fields in the West Pennant Hills area.

ii. The planning proposal will result in the loss of local employment opportunities.

Some submissions raised concerns with the findings of the Economic Assessment submitted in support of the proposal and that the loss of employment land at this location will not be appropriately moderated, should the proposal proceed. Submission authors felt that the site was an underutilised opportunity for employment purposes and that the site would become more attractive under its current zoning with the opening of the Metro.

Comment:

It is acknowledged that the rezoning of the subject site from B7 Business Park to permit residential uses will result in the loss of employment generating land. However, the Economic Assessment submitted with the planning proposal concluded that the site will face considerable challenges in maintaining commercial office uses once the current tenants vacate the site. This is especially true given other employment generating opportunities are better located along the rail corridor, agglomerated with other business uses on with less constrained land. Taking into account the stand alone nature of the site and the factors that constrain its competitiveness and future growth, the rezoning of this particular land is considered acceptable.

It is considered that anticipated commercial growth within Council's Strategic Centres (Castle Hill, Norwest and Rouse Hill) forms a natural and more logical connection to Sydney's broader economic corridor that will more than offset the loss of employment land on this site. All three (3) strategic centres will be easily accessible from the Cherrybrook Precinct via the Metro, ensuring that local employment opportunities will continue to be available to residents within this locality.

f) Playing Field

i. Health impacts on players due to the use of plastic grass, including the high surface temperature on hot days, the potential for increased injuries and toxic chemicals;

Concern was raised that plastic grass surfaces typically have a high surface temperature on hot days, which can increase the risk of heat stress and burns for players. It was also suggested that plastic surfaces cause more serious injuries than natural grass playing

surfaces. Submissions raised concern that the toxic chemicals found in the synthetic material may also result in negative health impacts for players.

Comment:

The Hills Shire Council has experience with operating synthetic playing fields and has found them to be suitable for use throughout the year including during summer. The majority of usage in the warmer months will occur during evenings. It is not anticipated that the field will be used extensively for day games during the summer months, therefore mitigating extreme heat impacts to players. It is envisaged that the future playing surface and infill will be green in colour to reduce heat radiation and surface temperatures, minimising potential impact to players and the surrounding microclimate. Council has not received recent complaints regarding increased player injuries on existing synthetic sporting fields within the Shire.

As outlined in Section 1.3 of this report, Council's Recreation Strategy identifies that the existing population of West Pennant Hills already experiences a noticeable shortfall of playing fields and other active recreation facilities. The provision of a synthetic field on the site will allow for a greater level of use by the community than would be possible on a grass surface, including use during and after periods of heavy rain. In accordance with Schedule 1 of the draft VPA, the future sporting field is to be designed to meet FIFA Certification to a 'FIFA Quality' level (which is the 2nd level aimed at local community based sport).

- ii. The environmental impacts of a plastic grass surface, such as polluted waterways from plastic granules, and the impact on flora and fauna;*

The proposed playing field is located near the Blue Gum High Forest and Sydney Turpentine Ironbark Forest. It was suggested that the heat reflection from artificial surfaces can alter the micro-climate of nearby areas, which may have an adverse impact flora and fauna (e.g. the Powerful Owl). Plastic granules of cryogenic rubber can migrate from the edges of the synthetic turf into waterways and other sensitive environmental habitats. Concern was raised that the stormwater runoff would be filled with this synthetic product and would be directed into the Critically Endangered Ecological Communities and nearby waterways.

Comment:

The playing field has been located to occupy land that has already been cleared of vegetation (in order to minimise impacts on local flora and fauna). It is agreed that strict design measures will be required to ensure that no adverse environmental impacts arise from the construction or ongoing operation of the sporting field. The infill to the synthetic turf is to be either the Thermo Plastic Elastomer or an Organic option, which must be approved by Council. Under the draft VPA, the design of the sporting field is required to include permanent control measures to ensure that the infill will not wash away from the site of the playing field. It is considered that sufficient design measures can be incorporated to avoid environmental impacts from the future playing field, as reinforced by the draft VPA.

The proposed playing field will be subject to a future Development Application and at this point, detailed plans, proposed materials and a Statement of Environmental Effects will be submitted to Council for detailed assessment.

- iii. High surface temperatures and increased bushfire risk from the plastic surface;*

Concern was raised that as the surface is typically hotter than natural grass surfaces and may contain toxic chemicals, the playing field will increase bushfire risk, particularly if toxic fumes are released in a bushfire.

Comment:

The proposed sporting field will be subject to a future Development Application, which will involve the submission of a bushfire report, detailed design specifications for the playing field and adherence to Council's erosion and sedimentation requirements to prevent impacts on surrounding vegetation and waterways. The NSW Rural Fire Service has raised no objection to the proposed synthetic surface.

- iv. The ongoing (longer-term) upkeep and maintenance requirements of the synthetic playing field and associated environmental impacts (such as landfill from the periodic replacement of the synthetic surface, and the use of weed killer);*

Concern was raised that a high usage plastic surface will need replacing after 8 to 10 years and that after this time, the removed surface will likely end up in landfill. It was suggested that plastic playing fields will require herbicide treatment to remove weeds. Submission authors suggested that the playing field surface should be grass.

Comment:

Suggestions from the community that the playing field surface should be grass are noted. However, with an appropriate maintenance regime and environmental protection measures in place, it is expected that a synthetic surface will be appropriate in this instance. A synthetic field provides the opportunity to more appropriately address the existing shortfall of playing fields in West Pennant Hills as it would allow a higher rate of usage.

Council's Recreation Strategy recognises the important role that synthetic fields play in meeting future demand for active recreation. Whilst the Strategy acknowledges that synthetic fields should not be considered as the sole solution to meeting future demand for active recreation space, existing shortfall is a relevant factor in determining the appropriate location for a new synthetic field. The proposed playing field will be located in a cleared area that will receive adequate sunlight, with minimal overhanging vegetation. As such, the occurrence of mould and other effects arising from dampness and shading will be minimised in this location.

A synthetic playing field is generally expected to last between 8 to 10 years before the synthetic grass requires replacement. Beneath the grass is another layer called a 'shock pad' which has a life expectancy of 16-20 years. It is agreed that opportunities to reduce landfill when the synthetic field requires replacement should be investigated when the need arises, however it is understood that this is not a common practice in Australia at this time.

In relation to concerns regarding environmental impacts, a synthetic field may require spraying once a year for weeds. This is far less than what is required on natural turf which requires spraying for weeds, winter grasses and pests and diseases, all of which can affect natural grass. Fertilisers are also used on natural turf fields which are not required on synthetic surfaces. At a time when water restrictions are being implemented (and have the potential to be increased), there are also benefits associated with not needing to water a synthetic field. Synthetic playing fields also provide an opportunity to collect water for storage in tanks that can be used for surrounding lawn and garden areas.

Upon dedication, Council will be responsible for the ongoing upkeep and maintenance of the sporting field and will undertake maintenance and weed removal in accordance with normal procedures.

- v. *The site is unsuitable for a sporting field, in terms of location, hours of usage, impact of floodlights and car headlights on fauna;*

Concern was raised that the proposed playing field would negatively impact the amenity of residents and the wider community. Specifically, the community was concerned that the hours of usage would not be compatible with nearby residential areas. There was also concern that potential floodlights and car headlights would negatively impact the fauna on the subject site.

Comment:

The future sporting field is proposed to be zoned RE1 Public Recreation under LEP 2012, which is consistent with the zoning applied to sporting fields across the Shire. The provision of sports lighting for the playing field will be undertaken in accordance with the relevant Australian Standards for both Sports Lighting (AS2560) and control of the obtrusive effects of outdoor lighting (AS4282) to ensure that wildlife in the vicinity of the site is not disrupted or displaced. Measures to reduce light pollution such as shields and pointing of the lights to reduce glare and light spill will be included where required. Being a single field, the light spill will be reduced as the concentration of lighting is more downwards direct and pole heights can also be minimised. It is agreed that any street lighting on the public access road and sports field carpark will require careful design to minimise potential impacts to fauna.

Whilst detailed lighting designs are yet to be prepared for the site, relevant lighting regulations will be met and mitigation measures (such as light shields, reduced pole heights and using the lowest light intensity that is appropriate for the activities on site) would all be considered to reduce environmental impacts. The use of light bollards could also be considered where it is appropriate and safe, however it is difficult to mitigate impacts on fauna from vehicle headlights. Hours of operation for the field and associated flood lighting are a matter for future consideration by Council, as would typically occur for any sporting field. For reference, sporting activities on playing fields are generally required to cease at around 9:30pm, with lights switched off at approximately 10pm.

The sporting field will be located away from residential properties and appropriate surveillance measures will be installed if needed.

- vi. *Lack of independent information about synthetic turf playing fields.*

Some submission authors were concerned that there was a lack of independent information about synthetic turf playing fields submitted with the proposal. It was suggested that independent advice should be sought regarding the proposed synthetic turf, as well as an Ecological Report and Risk Management Assessment.

Comment:

Given Council's experience in the management of synthetic fields, it is not considered necessary to obtain independent information on synthetic surfaces. The detailed design specifications for the playing field as well as consideration and mitigation of ecological impacts will be the subject of a future development application.

- vii. *Other Issues*

Traffic Generation and Car Parking for the Playing Field - Concern that insufficient vehicle parking will be provided for the playing field and that cars will park in private streets.

Concerned that the playing field will generate additional traffic and that the Traffic Report submitted with the proposal does not address this.

Comment:

The proponent has provided supplementary information to address the traffic generation associated with the playing field. The Consultant's report concludes that:

- The proposed 135 car parking spaces available for use by the sporting field will readily accommodate all reasonable demands, with typical demands expected to be in the order of only 50 car spaces;
- Generating relatively minor demands outside of traditional on-street peak periods, the proposed soccer field will not have an adverse impact on the performance of the surrounding road network; and
- The combined traffic generation of the future residential / soccer field land-uses will remain substantially less than the historic use of the site for commercial purposes.

The report advises that the proposed field is supportable at the planning proposal stage, with further assessment potentially required as part of a future Development Application once further operational details are known. It also notes that the minor impacts associated with the soccer field would occur outside of the weekday peak periods and thus not have a material impact on the outcomes of the previous transport studies supporting the planning proposal.

It is anticipated that the playing field will primarily be used during weekday evenings. Although most evening training and night games would typically occur outside peak travel times it is reasonable to consider potential traffic impacts associated with night time use as part of a future Development Application for the playing field. Roads and Maritime Services and Transport for NSW were consulted in relation to the subject proposal and raised no objection to the proposed playing field and associated traffic generation. Their feedback is further discussed in Sections 3.1(b) and 3.1(c) of this report.

g) Developer Contributions / Voluntary Planning Agreement

Submission authors raised concern that the Proponent's contribution to local infrastructure is inadequate, particularly given the yield proposed for the site. It was suggested that other proposals have made greater contributions than what is offered by the developer and concern that the previously proposed community facility has now been downgraded to a 'community room'.

Submission authors were concerned that there is no contribution to state infrastructure as required by the Gateway Determination and that there is no provision in the VPA which requires Council to buy the forest if the State Government refuses to accept it. Submission authors felt that the proposal generally lacked infrastructure and amenity.

Comment:

It is agreed that the planning proposal will enable additional (unplanned) residential yield on the site that precedes detailed infrastructure analysis for the broader Cherrybrook Precinct. Notwithstanding this, the draft VPA is the mechanism which seeks to secure a fair and reasonable contribution from the developer which addresses the additional demand for local infrastructure that is likely to be generated by the additional residential yield.

The 600 dwellings proposed would likely generate demand for:

- 30% of a new sports field;
- 30% of a local park;
- 30% of a netball court;
- 30% of a tennis court; and
- 15% of a local community centre.

Under the draft VPA, the Proponent will be required to dedicate 2.493ha of public open space, construct a synthetic turf playing field and construct and dedicate a public road to access the public open space. The Proponent is no longer proposing a community facility.

Having regard to the level of demand likely to be generated by the proposal, it is considered that the VPA offer is a fair and reasonable contribution. In particular, the construction and dedication of a new playing field represents a contribution towards active open space which is well in excess of the demand associated with the proposal. In addition to offsetting demand associated with the development, this facility will provide a broader public benefit and assist in meeting existing demand for active open space for the broader West Pennant Hills area, where a shortfall currently exists.

With respect to contributions towards State infrastructure, the planning proposal will include a satisfactory arrangements provision which will require contributions towards State infrastructure. This requirement will be triggered by identifying the developable parts of the site (residential zoned land) on the Urban Release Area Map to ensure that satisfactory arrangements are made for the provision of contributions to State infrastructure under Part 6 'Urban release areas' of LEP 2012.

The draft VPA includes provisions which state that should Council be required to compulsorily acquire any part of the site, including the Blue Gum High Forest or Sydney Turpentine Iron Bark Forest, it will be at a cost of \$1.00. Future ownership of the forest is discussed earlier in Section 3.2(d)(v) of this report.

With respect to amenity outcomes on site, the site-specific DCP will guide future development outcomes on the site to ensure future development integrates with streetscape and character and provides appropriate landscaping in all street reserves, public verges, public spaces and communal areas within the development. The draft DCP also contains controls relating to the Coonara Avenue frontage to ensure high visual quality and to soften future built form.

4. POST EXHIBITION AMENDMENTS

Having regard to the outcomes of public authority consultation and public exhibition, a number of post-exhibition amendments are proposed to the planning proposal, draft DCP and draft VPA.

(a) Local Environmental Plan

The exhibited planning proposal recognised the need for satisfactory arrangements to be made for contributions to State infrastructure. LEP 2012 currently includes a provision within Part 6 which can be used to require satisfactory arrangements for contributions towards designated State public infrastructure and public utility infrastructure. It is proposed to map the developable parts of the site (residential zoned land) on the Urban Release Area Map to trigger the application of these provisions to the site.

(b) Development Control Plan

A number of post-exhibition amendments to the DCP are recommended to respond to a range of matter raised within submissions, reinforce the requirement for the developer to consider the high environmental values of the site during site planning, guide landscaping outcomes within the new development and clarify access and built form controls for future medium density and residential flat building development.

The recommended post-exhibition amendments to the DCP are identified in Attachment 4 (shown as red and blue text) and are summarised below:

- **Section 1 Introduction:** The numbering of the various other parts and sections of The Hills DCP 2012 that will also apply to the site has been included. In the event of any inconsistency between the site-specific section of the DCP (Part D Section 22 55 Coonara Avenue, West Pennant Hills) and any other sections of the DCP, the provisions of this section shall prevail only to the extent of the inconsistency.
- **Section 2.1 Site Planning:** Additional objectives and controls have been included to clarify the desired outcomes for the site, namely to protect the environmental values of the site, to ensure that future development respects the context of the area, and to ensure that future development is designed to maximise solar access to dwellings and facilitates through-site pedestrian and cycle access.
- **Section 2.2 Streetscape & Character:** An additional objectives and controls will ensure that new development has a strong relationship to the landscape and built form character. This is reinforced by a requirement to use native street trees within landscaped verges, building colour schemes that reflect a natural / earthy tone that is compatible with the landscape, and to ensure that high quality landscaping is provided within street verges, public spaces and communal areas.
- **Section 2.3 Access:** The objectives and controls in this section have been amended to require that adequate provision is made for bus access to the public open space, to ensure that waste collection is undertaken from the rear laneway where provided, and to ensure that the future road design and building setbacks will accommodate waste collection vehicles. The earlier reference to 'community facilities infrastructure' in this section has been deleted as they are no longer proposed as part of the development.
- **Section 2.4 Vegetation:** The objectives have been amended to reinforce the need to preserve significant remnant native vegetation on the site, with its ongoing maintenance to occur at no cost to Council.

The reference to a future Vegetation Management Area has also been amended to reflect that all land zoned E2 Environmental Conservation is to be identified as a Vegetation Management Area unless dedicated to a State Government agency.

Additional controls have been included to reference the ameliorative measures outlined in the Biodiversity Assessment and Powerful Owl Assessment, to address the concerns of EES and the community regarding the endangered flora and fauna on the site. These measures will be incorporated into the future Vegetation Management Plan for the site and include improving foraging habitat for the Powerful Owl, implementation of a landscape plan, and traffic calming measures.

- **Section 2.5 Coonara Avenue Frontage:** Controls have been strengthened to require that remnant local native species be provided within the 8m vegetated buffer zone along the Coonara Avenue frontage. The previous requirement to enclose private open space areas with a 1.8m masonry wall has been deleted. Instead, controls will allow private open space areas on the Coonara Avenue frontage to be enclosed with a 1.8m high fence of a high quality semi-transparent material. This will improve and soften the visual appearance of the development from Coonara Avenue and allow future residents to enjoy views of the bush from their backyards.
- **Section 2.6 Parking:** Clause 2.6(a) has been amended to clarify that the parking rates in Table 1 are minimum rates, with internal road widths to include parking bays.
- **Section 2.7 Dwelling Size and Mix:** Dwelling size and mix requirements have been amended to ensure that a maximum of 20% of all dwellings on the land are to be 1 bedroom dwellings. A new figure has been included to identify where each dwelling type is expected to be provided, as shown in Figure 3 of this report.
- **Section 3.1 Maximum Building Length:** This new section seeks to ensure that future dwellings in the housing precinct are designed to reduce visual bulk and provide an appropriate level of amenity for residents within, and adjoining, the development. The controls require that a block of attached dwellings does not exceed a maximum building length of 50m. This is consistent with controls applied in the Showground Precinct for terrace housing.
- **Section 3.2 Minimum Lot Dimensions:** The objectives of this section have been reinforced to require that allotment dimensions provide functional open space for future residents. The minimum lot depth for 2 storey front loaded (detached) dwellings has been amended from 20m to 15m to reflect the outcomes identified in the Urban Design Report.
- **Section 3.3 Building Heights:** This new section has been included to ensure that a transition of heights is provided across the site, with low-scale development to be provided where there is an interface with the existing low density residential neighbourhood. New figures have been included to identify where two-storey and three-storey dwellings are expected on site, as shown in Figure 10.



Figure 10

Number of Storeys in Housing Precinct (new Figure 6 in draft DCP)

- **Section 3.4 Building Setbacks:** Setback requirements have been amended and simplified to reflect the housing design that is proposed for each lot and whether this includes front or rear loaded car parking. This also seeks to ensure that sufficient space is provided for open space on lots where rear-loaded garages are proposed. The requirement to provide a minimum 5.5m setback to garages (on lots where only a single garage space is provided) is clarified.

The front, rear and garage setback requirements have also be amended to improve amenity for residents by providing adequate space for off-street parking, where required. Additionally, new garage design requirements have also been included to provide sufficient manoeuvrability.

- **Section 3.5 Garage Design:** The provisions have been strengthened to ensure that garage designs provide sufficient manoeuvrability for future residents. Controls have also been amended to clarify that required garage dimensions are exclusive of any storage area requirement, and to specify the required minimum internal dimensions for garages. Garage setback requirements are now included in Section 3.4 'Building Setbacks'.
- **Section 3.6 Open Space:** Amendments have been made to solar access and private open space requirements for dwellings. The revised controls will now require that a minimum of 2 hours sunlight between 9am and 3pm on 21 June shall be achieved to at least 50% of the private open space in at least 80% of all dwellings. References to 'principal' private open space have also been removed. These amendments respond to the unique building product that is proposed for the site, which requires flexibility in the way controls are enforced.

New controls will also require private open space fencing to incorporate a wider top rail to provide a fauna walkway, with fencing to be designed to protect wildlife by providing separation from domestic pets.

- **Residential Flat Building Precinct:** A new section has been added to highlight that the State Environmental Planning Policy 65 – Design Quality of Residential Apartment Development (SEPP 65) and the NSW Apartment Design Guide applies to residential flat building development, in addition to the provisions in the DCP.
- **Section 4.1 Setbacks:** This is a new section of the DCP. The objectives seek to achieve setbacks that complement the streetscape and landscape setting, to protect the privacy and sunlight of adjacent dwellings, and to ensure that new development is of a high visual quality. The controls will require residential flat buildings to have a minimum 3m front setback, with all storeys above the 4th storey to be setback 2m from the front building line (5m in total from the boundary).
- **Section 4.2 Building Length:** This is a new section of the DCP. The objectives seek to reduce the visual bulk and scale of residential flat buildings and to ensure that developments contribute to the streetscape and desired character of the area. The controls will require that the maximum linear length of any residential flat building is 50m.
- **Section 4.3 Fencing:** This is a new section of the DCP. The objectives seek to ensure that fencing does not detract from the overall visual amenity and character of the area. The controls require that fences be constructed from a suitable high quality,

durable semi-transparent material with a minimum height of 1.5m from the finished ground level.

- **Section 4.4 Open Space:** This is a new section of the DCP. The objectives reinforce the need to provide adequate open space areas for the enjoyment and use of residents. A new control requires that communal open space and residents' community facilities are provided in accordance with Figure 4 of the DCP.

Additional figures have also been added to the DCP where required to illustrate the anticipated development concept, built form and dwelling mix, the location of through-site pedestrian links, principles for rear laneways where garbage collection is proposed and to identify where communal open space and residents' community facilities are expected to be located. Minor typographical and formatting changes have also been made for clarity.

It should be noted that the Hills Development Control Plan 2012 Part B Section 6 – Business, which identifies a Restricted Development Area on the subject site, still applies to the site. Should the planning proposal be finalised, administrative amendments would be required to remove references to the subject site from this section, in recognition of the site having its own site-specific DCP and no longer being commercial/business land. The Restricted Development Area will remain a consideration in the assessment of any future development application for this site and any variations must be justified by the Proponent.

(c) Voluntary Planning Agreement

It is recommended that the following minor post-exhibition amendments be made to the draft VPA:

- Update references to Council's address to be 'Norwest';
- Refine the definition of 'Dedication Lands' to refer to each land item contained within Schedule 1 of the VPA;
- Increase the cap on legal fees to be reimbursed by the Proponent that have been incurred by Council in respect of the preparation, negotiation and finalisation of the Voluntary Planning Agreement; and
- Clarify that the proposal is not exempt from the payment of Special Infrastructure Contributions, in accordance with the Gateway Determination.

The abovementioned amendments are minor in nature, serve to reinforce the intent of the planning proposal and Gateway Determination and are in the public interest. The Proponent has agreed to these minor amendments.

The final Voluntary Planning Agreement (with post-exhibition amendments shown in colour) is provided as Attachment 5 to this report.

IMPACTS

Financial

The proposal will increase the planned population (and infrastructure needs) in West Pennant Hills. To address this need, the proponent has offered to enter into a VPA which secures the construction and dedication of a synthetic playing field and construction and dedication of a public road. Having regard to the incremental demand for local infrastructure that will be generated by this proposal and the likely cost to Council in providing local infrastructure, the contributions offered through the VPA are considered fair and reasonable.

The proposal will result in some additional liabilities to Council associated with the provision of an amenities block and lighting to the field in the future, as well as the ongoing maintenance costs associated with a synthetic playing field. The impact of maintenance needs for the playing field and costs associated with providing lighting and amenities would be included in a future budget review once the field is constructed and dedicated to Council.

The works contained in the VPA would be undertaken by the Developer and would not divert Council's resources from the existing capital works program.

Strategic Plan - Hills Future

The proposed amendments to LEP 2012 are consistent with the vision and objectives of The Hills Future – Community Strategic Plan as they will facilitate a desirable living environment, provide diversity of housing types to meet future needs and will support the provision of an additional playing field to service demand for active open space within West Pennant Hills. The associated DCP and VPA will also ensure that the new development is managed by a robust framework of policies and plans that is in accordance with community needs.

RECOMMENDATION

1. The planning proposal, as described within Section 1.1 of this report and amended to include post-exhibition amendments detailed within Section 4(a) of this report, be forwarded to the Department of Planning, Industry and Environment for finalisation.
2. Draft The Hills DCP Part D Section 22 – 55 Coonara Avenue, West Pennant Hills amended to include post-exhibition amendments detailed within Section 4(b) of this report (Attachment 4) be adopted and come into force following the notification of the planning proposal.
3. Council enter into the draft Voluntary Planning Agreement, amended to include post-exhibition amendments detailed within Section 4(c) of this report (Attachment 5) and authorise Council's common seal to be affixed to the Voluntary Planning Agreement.

ATTACHMENTS

1. History of the Planning Proposal (2 pages)
2. Exhibited Mapping Amendments (2 pages)
3. Draft Local Provision (1 page)
4. Draft Site Specific Development Control Plan (12 pages)
5. Draft Voluntary Planning Agreement (101 pages)
6. Gateway Determination and Alterations (13 pages)

ATTACHMENT 1**HISTORY**

28/03/2017	Council considered a planning proposal for the site (20/2016/PLP) which sought to facilitate 800 dwellings and resolved that the proposal should not proceed to Gateway Determination.
04/07/2017	Subject planning proposal lodged (1/2018/PLP), seeking to facilitate 600 dwellings on the site.
25/07/2017	Council considered the subject proposal (1/2018/PLP) and draft DCP and resolved to forward a planning proposal to facilitate a maximum of 600 dwellings on the site, through identifying the proposed development as an additional permitted use within Schedule 1 of LEP 2012. Council also resolved to proceed with discussions with the Proponent to prepare a draft Voluntary Planning Agreement and concurrently exhibit the draft VPA and draft DCP with the planning proposal.
04/10/2017	Initial draft Voluntary Planning Agreement submitted. The initial offer included the dedication of 2.493 hectares of land for public open space and associated at grade carpark, construction and dedication of a community facility, construction and dedication of a children's play equipment facility, and the creation and registration of easements for public access.
31/10/2017	Gateway Determination issued by the Department. The Gateway Determination did not allow Council to utilise Schedule 1 of LEP 2012 to facilitate the proposed development and instead required LEP amendments to the zoning map, minimum lot size map, floor space ratio map and height of buildings map.
12/12/2017	Council considered a report on the Gateway Determination and resolved to request that the Department issue a revised Gateway Determination reflecting proposed zoning, minimum lot size, floor space ratio and height maps, as well as a new local provision requiring a single owner/developer, maximum 600 dwellings (with no more than 400 in the form of residential flat buildings), agreed dwelling mix, size and car parking provision and small lot housing as an integrated product. Council also considered additional amendments to the draft DCP at this meeting and resolved to request additional information from the Proponent that is required to satisfy the conditions of the Gateway.
01/06/2018	Amended draft Voluntary Planning Agreement submitted to Council which offered the dedication of 2.493ha of public open space land, the construction and dedication of a synthetic soccer field on the public open space land and the staged construction and dedication of the perimeter access road at no cost to Council.
13/06/2018	Amended Gateway Determination issued by the Department. The altered Gateway Determination did not support Council's proposed mechanism for dwelling size and mix and consideration of small lot housing as an integrated product. The altered Gateway also maintained that further consideration of the application of appropriate land use zones and proposed minimum lot size, floor space ratio and height of building maps was

required.

25/09/2018

Council considered a report on the amended Gateway Determination and draft Voluntary Planning Agreement and resolved that:

- *Council request the Department of Planning and Environment endorse an alternate approach under the current Gateway Determination so that the local provision is able to facilitate suitable assessment of the subdivision and development of micro lot housing as part of the maximum 600 dwellings over the site;*
- *The draft Voluntary Planning Agreement, as detailed in Attachment 5, be subject to a legal review at the cost of the Proponent, prior to public exhibition;*
- *The draft Voluntary Planning Agreement be updated, as required, prior to exhibition to incorporate the recommendations of the legal review; and*
- *The draft Voluntary Planning Agreement and the Draft Hills Development Control Plan Part D Section 19 – 55 Coonara Avenue as detailed in Attachments 4 and 5 be exhibited concurrently with the planning proposal.*

29/11/2018

The Department of Planning and Environment endorsed the updated planning proposal and the planning proposal can now proceed to public exhibition.

29/04/2019

Completion of the legal review of the Voluntary Planning Agreement.

**30/04/2019 –
31/05/2019**

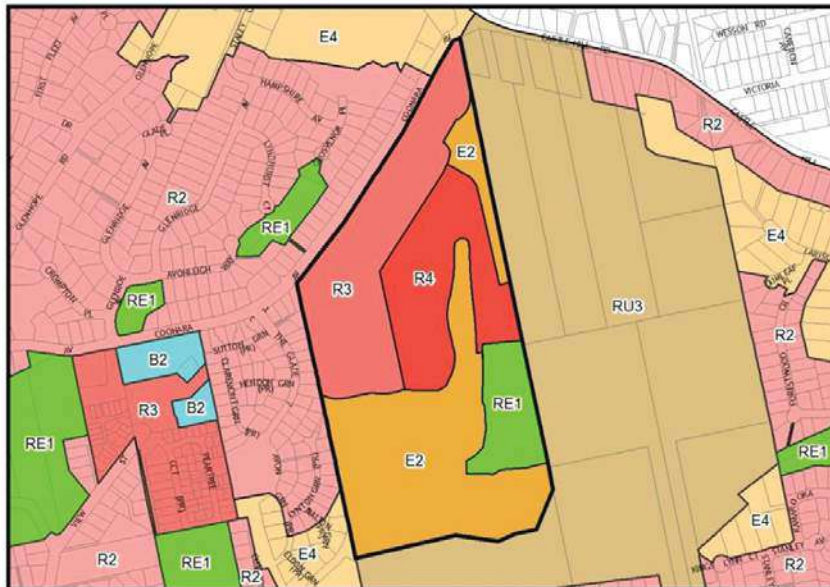
Public exhibition of the Planning Proposal, draft Development Control Plan and Voluntary Planning Agreement.

09/08/2019

The Department of Planning, Industry and Environment issued an alteration of the Gateway Determination to extend the timeframe for completion by six (6) months, requiring the LEP to be made by 31 January 2020.

ATTACHMENT 2

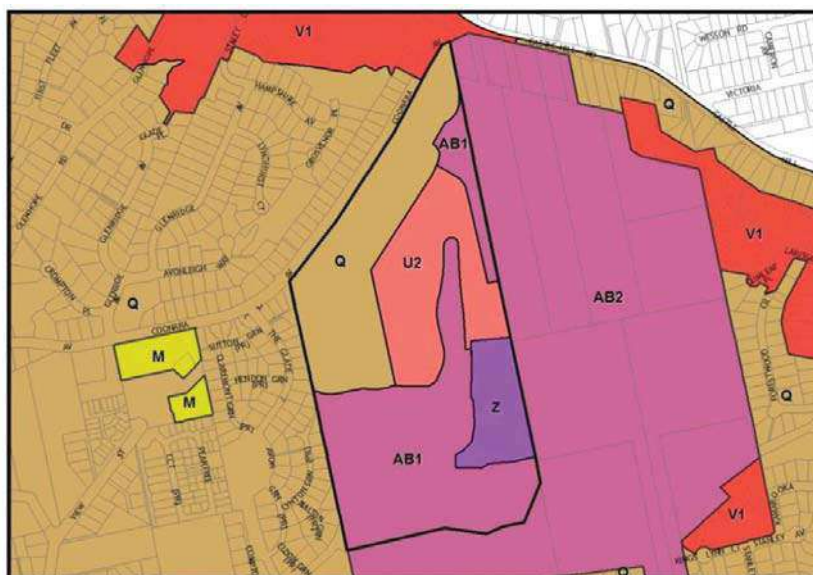
Land Use Zoning Map



Land Zoning (LZN)

B2	Local Centre	R3	Medium Density Residential
E2	Environmental Conservation	R4	High Density Residential
E4	Environmental Living	RE1	Public Recreation
R2	Low Density Residential	RU3	Forestry

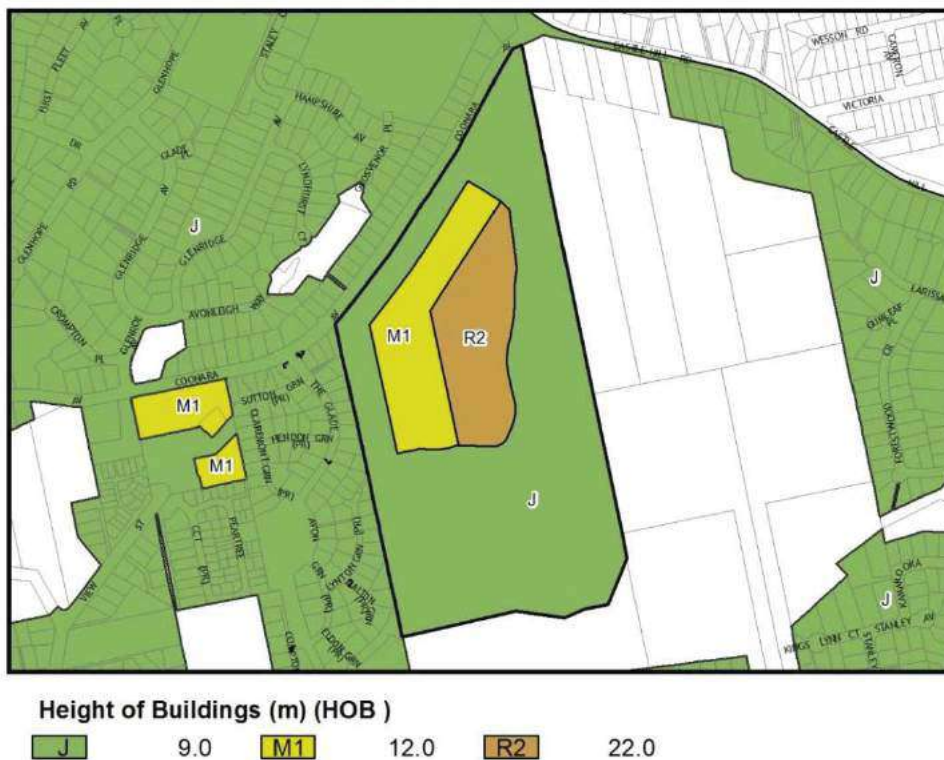
Minimum Lot Size Map



Minimum Lot Size (sq m) (LSZ)

M	600	U2	1800	Z	2 ha	AB2	40 ha
Q	700	V1	2000	AB1	10 ha		

Height of Buildings Map



Floor Space Ratio Map



ATTACHMENT 3

Draft Local Provision for Dwelling Cap and Minimum Lot Size

7. XX Residential Development Yield and Exception to Minimum Lot Size on land at 55 Coonara Avenue, West Pennant Hills

- (1) The objective of this clause is to manage density and encourage housing diversity through the redevelopment of the former IBM site at West Pennant Hills.*
- (2) This clause applies to development on land in the following zones:
 - (a) Zone R3 Medium Density Residential,*
 - (b) Zone R4 High Density Residential.**
- (3) Despite Clause 4.1, Development consent may be granted to a single development application for development to which this clause applies that is both of the following:
 - (a) the subdivision of land into 2 or more lots,*
 - (b) the erection of an attached dwelling, semi-detached dwelling or a dwelling house on each lot resulting from the subdivision, if the size of each lot is equal to or greater than:
 - i. for the erection of a dwelling house—180 square metres, or*
 - ii. for the erection of an attached or semi-detached dwelling—86 square metres.***
- (4) The consent authority must not grant development consent to development that results in more than 600 dwellings within the boundaries of the development site known as Lot 61, DP737386.*

In order to ensure that the dwelling cap and minimum lot size are not further varied, it is recommended that Clause 4.6(8) of LEP2012 be amended to prohibit any variation to the development standards contained within the proposed local provision.

It is noted that the local provision will be subject to legal drafting by Parliamentary Counsel.

ATTACHMENT 4

The Hills Development Control Plan (DCP) 2012

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HILLS
Sydney's Garden Shire

DRAFT



Part D Section 22
55 Coonara Avenue, West Pennant Hills

D22

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1. INTRODUCTION

This Section of the DCP must be read in conjunction with the following parts of The Hills Development Control Plan 2012:

- a) Part A - Introduction.
- b) Part B [Section 4](#) – Multi Dwelling Housing
- c) Part B [Section 5](#) – Residential Flat Buildings
- d) Part C Section 1 – Parking
- e) [Part C](#) Section 3 – Landscaping
- f) [Part C](#) Section 4 – Heritage
- g) Appendix A – Waste Management Plan
- h) Appendix B – Water Sensitive Urban Design

In the event of any inconsistency between this Section of the DCP and any other Sections of the DCPs, the provisions of this Section shall prevail only to the extent of the inconsistency.

1.1 LAND TO WHICH THIS SECTION OF THE PLAN APPLIES

This chapter of the Development Control Plan establishes site specific objectives and controls to guide future development on Lot 61 DP 737386, No.55 Coonara Avenue, West Pennant Hills (see Figure 1).



Figure 1: Subject Site

2. SITE SPECIFIC OBJECTIVES AND DEVELOPMENT CONTROLS

The objectives and development controls for this site are set out in the following sections.

2.1 SITE PLANNING

OBJECTIVES

- (i) To provide for a carefully master planned residential precinct that delivers a high level of amenity for existing and future residents.
- (ii) To retain existing remnant forest on the site in perpetuity.
- (iii) To protect the high environmental values of the site.
- (iv) To ensure development respects the existing context surrounding the site.
- (v) To ensure maximum solar access to private open spaces and internal living areas of each dwelling.
- (vi) To encourage residents to walk or cycle to shops, the railway station, recreation areas, community and other facilities by providing for safe and direct pedestrian and cycle connections between key locations.

DEVELOPMENT CONTROLS

- (a) Future development is to be generally in accordance with the indicative layout and arrangement contained within ~~Figures 2 and 3~~
- (b) Provision is to be made for connections through the site and provision of public spaces generally in accordance with Figure 4.
- (c) The land is to be owned and developed by a single entity.
- (d) Dwellings should be designed to optimise solar access to private open spaces and internal living areas.
- (e) Through site pedestrian links are to be provided in accordance with Figure 4.

2.2 STREETSCAPE AND CHARACTER

OBJECTIVES

- (i) To ensure that new development is sensitive to the landscape setting and environmental conditions of the locality.
- (ii) To ensure that the appearance of new development is of a high visual quality, enhances the streetscape and complements surrounding development.
- ~~(iii) To ensure new development has a strong relationship with the landscape and local built form character. respects and enhances the green and garden character of The Hills Shire.~~

DEVELOPMENT CONTROLS

- (a) Future development should retain mature vegetation where possible and provide landscaping within the housing lots and apartment

development which includes a diversity of local native species at a scale which compliments the built form.

- (b) High quality landscaping is to be provided for all street reserves, including landscaped verges, public spaces and communal areas.
- (c) Native street trees are to be provided within the landscaped verges.
- (d) Colours and materials shall be of natural, earthy tones that are compatible with the landscape.

2.3 ACCESS

OBJECTIVES

- (i) To provide public access to public open space and community facilities infrastructure.
- (ii) Public access to open space and community facilities is to connect with existing public road network.
- (iii) To enable garbage collection along street frontages.

DEVELOPMENT CONTROLS

- (a) Any future development on the site shall be publically accessible from Coonara Avenue. Public access should be located in accordance with Figure 4.
- (b) The public access road identified as the yellow dashed line in Figure 4 is to be dedicated to Council as a public road and shall be constructed to Council's specifications.
- (c) The public access perimeter road is to enable bus access.
- (d) Waste collection is only to be undertaken from the rear laneway (for laneways with a 10m shareway, as shown in Figure 2), in accordance with the following requirements.
Note: If laneways are provided at a lesser width, waste collection must occur from the street.
- (e) In laneways where waste is collected, a concrete bin pad 1.7m wide and 0.8m deep shall be provided behind the kerb and adjacent to the driveways for bin presentation.
- (f) If garbage collection is proposed to occur from the street, garbage bin storage is not to occur within the building setback area.
- (g) A swept path analysis for the standard 12.5m long HRV (AS2890.2-2002) shall be submitted demonstrating all bends of laneways are suitable for the turning of garbage vehicles. This includes ingress and egress points to intersecting roads or laneways. All manoeuvring must be contained within trafficable carriageways.
- (h) No building element (such as eaves, balconies, gutters and the like) shall encroach into the rear laneway reservation area (carriageway plus verge).

Note: Waste collection vehicles will collect rubbish bins from the laneway verge. Accordingly, any building elements that overhang the rear laneway reservation area will impact on the operation of side mounted waste collection vehicles.

Rear laneway location and layout is subject to swept path analysis.

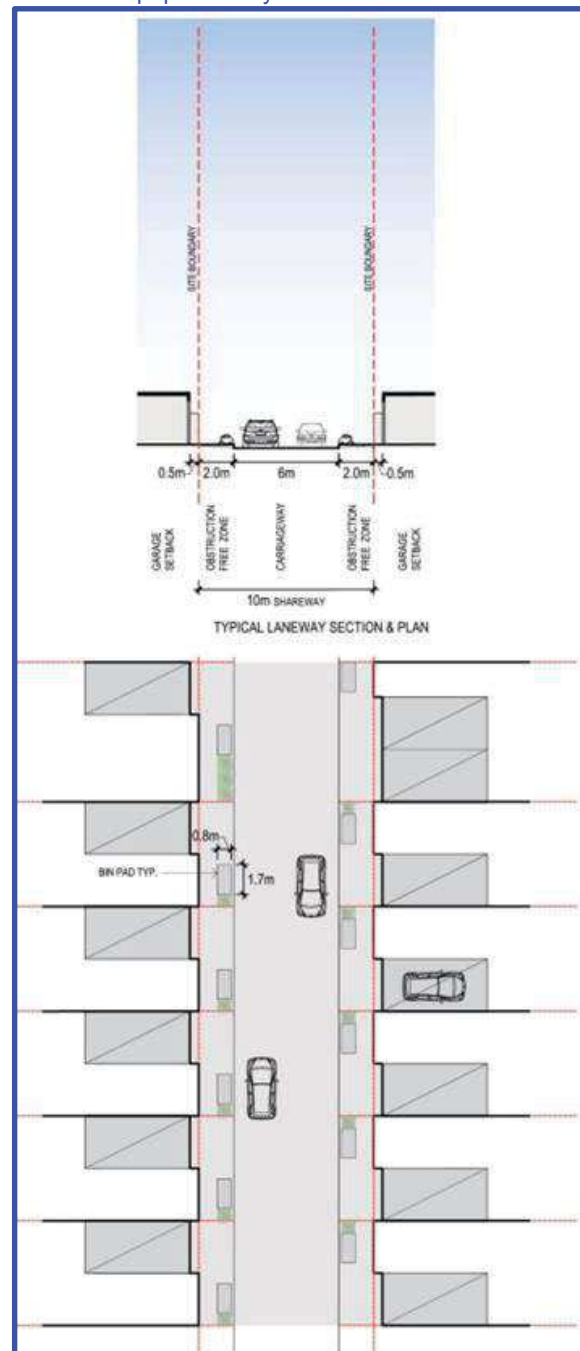


Figure 2
Rear Laneway Principles for garbage collection



Figure 2: Indicative Site Plan



Figure 3: Location of Residential Precincts and Communal Facilities



Figure 4: Indicative Location of Public Open Space, Communal Facilities and Public Access Road

2.4 VEGETATION

OBJECTIVES

- (i) To preserve the existing significant *remnant native* vegetation on the site.
- (ii) To ensure the ongoing maintenance of the significant vegetation on the site, at *no* cost to Council. ~~any future residents on the site.~~
- (iii) To ensure protection of endangered ecological communities, flora and fauna on the site.

DEVELOPMENT CONTROLS

- (a) Future development on the site should include the provision of a Vegetation Management Plan (VMP) in accordance with Council's Vegetation Management Plan Guidelines.
- (b) The VMP is to incorporate the strategies for enhancing the foraging habitat for the Powerful Owl included in the Biodiversity Assessment dated 8th February 2018 on page 47 and Powerful Owl Assessment dated 17th September 2019 on page 14 and pages 49-50.
- (c) The VMP is to incorporate the ameliorative strategies included in the Powerful Owl Assessment dated 17th September 2019 on pages 15-16.

Note: Should any part of the site be dedicated to a State Government agency, the dedicated area can be excluded from the development controls under Section 2.4 below.

- (d) ~~Future development on the site should include a Vegetation Management area of approximately 18 ha over the significant vegetation located in the southern portion of the site.~~ Land zoned E2

on the site is to be identified as a Vegetation Management Area.

- (e) The Vegetation Management Area should be identified as a Restricted Development Area on the title.
- (f) The Vegetation Management Area must not form any part of the Asset Protection Zone on the site.

2.5 COONARA AVENUE FRONTAGE

OBJECTIVES

- (i) To protect and ensure a high visual quality along Coonara Avenue.
- (ii) To enhance the appearance of the site and soften the built form to the street.

DEVELOPMENT CONTROLS

- (a) A vegetated buffer zone of minimum 8 metres width shall be provided along the Coonara Avenue frontage generally in accordance with Figure 5 *consisting of existing vegetation*.
- (b) The rear façade of dwellings along Coonara Avenue should display a high quality architectural finish and be sympathetic to the landscape/bushland character.
- (c) Private open space areas located along Coonara Avenue shall be enclosed with a ~~wall or~~ fence with an effective height of 1.8 metres from the finished ground level of the open space courtyard. All fencing enclosing private open space facing a common area or public place shall be constructed ~~in masonry similar to the type and colour to be used in the building.~~ of a suitable high quality, durable semi-transparent material.



Figure 5: Indicative Section showing landscape buffer to Coonara Avenue

2.6 PARKING

OBJECTIVES

- (i) To ensure that all car-parking demands generated by the development are accommodated on the development site.
- (ii) To protect the free flow of traffic into and out of the residential development and the surrounding street network in accordance with Council's ESD objective 7.

DEVELOPMENT CONTROLS

- (a) On site car parking is to be provided at the following minimum rates, subject to compliance with the dwelling size and mix controls contained in section 2.7.

Dwelling Type	Car Parking Rate
Multi dwelling housing and semi-detached dwellings	1 space per 1 bedroom dwelling
	2 spaces for dwellings with 2 or more bedrooms
	A minimum 40 visitor car parks are to be provided either on-street through the

		provision of internal roads with a minimum carriageway of 8.5 metres including parking bays and/or through the provision of a dedicated area for visitor parking.
Residential Buildings	Flat	1 space per dwelling
		1 visitor space per 5 dwellings.

Table 1
Parking Rates

- (b) If the dwelling size and mix provisions contained in Section 2.7 are not achieved, car parking rates shall revert to those for multi-dwelling housing and Residential Flat Buildings contained in Part C Section 1 – Car Parking of The Hills Development Control Plan.

2.7 DWELLING SIZE AND MIX

OBJECTIVES

- (i) To ensure the provision of a mix of dwelling types providing housing diversity and choice for

different demographics, living needs and household budgets.

- (ii) To promote development that accommodates the needs of larger households, consistent with the demographics and family household structures of The Hills Shire.

DEVELOPMENT CONTROLS

- (a) A maximum of 20% of all dwellings on the land are to be 1 bedroom dwellings.
- ~~(b) At least 40% of all dwellings on the land are to be 2 bedroom dwellings.~~
- (b) At least 40% of all dwellings on the land are to be 3 bedroom dwellings (or larger).
- (c) At least 15% of all 2 bedroom dwellings on the land will have a minimum internal floor area of 110m².
- (d) At least 50% of all 3 bedroom dwellings (or larger) on the land will have a minimum internal floor area of 135m².

3. HOUSING PRECINCT

3.1 MAXIMUM BUILDING LENGTH

OBJECTIVES

- (i) To incorporate high quality façade design.
- (ii) Designs reduce the visual bulk of buildings from the street to reinforce the desired future neighbourhood character.
- (iii) An appropriate level of amenity is provided for residents within, and adjoining, the development.

DEVELOPMENT CONTROLS

- (a) The maximum building length is 50m (block of dwellings).

3.2 MINIMUM LOT DIMENSIONS ~~SIZES~~

OBJECTIVES

- (i) ~~The~~ To ensure allotments ~~have sufficient area to~~ provide adequate access, functional open space, a sufficient building platform and attractive presentation to the street.

DEVELOPMENT CONTROLS

- (a) Lot sizes are to comply with the minimum lot sizes prescribed in The Hills Local Environmental Plan.
- (b) Minimum lot widths and depths are to be provided in accordance with Table 2.

Lot Type	Minimum Lot Width	Minimum Lot Depth
2 Storey Front Loaded (Detached)	9m	20 15m
2 Storey Front Loaded (Attached, Semi-detached)	5m	20m
2 Storey Rear Loaded (Attached)	4m	20m
3 Storey Front Loaded (Attached, Semi-detached)	6m	20m
3 Storey Rear Loaded (Attached)	4m	20m

Table 2

Minimum Lot Dimensions

3.3 BUILDING HEIGHTS

OBJECTIVES

- (i) To transition heights to respond to existing residences along Coonara Avenue.
- (ii) To ensure that the scale of development is sensitive to its immediate context.
- (iii) To ensure that development interfacing with existing low density residential neighbourhoods is of a low scale.

DEVELOPMENT CONTROLS

- (a) The number of storeys for dwellings within the Housing Precinct is to be in accordance with Figure 6. Dwellings may incorporate split levels where required to follow the site topography.

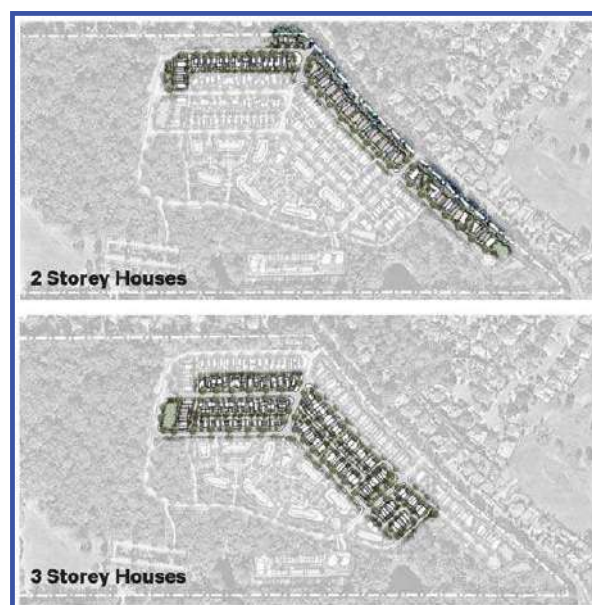


Figure 6: Number of Storey's in Housing Precinct

3.4 BUILDING SETBACKS

OBJECTIVES

- (i) To ensure the appearance of new development is of a high visual quality which contributes positively to the streetscape
- (ii) To ensure sufficient separation between buildings to protect privacy and access to sunlight to adjacent dwellings.
- (iii) To ensure new development is sensitive to the landscape setting, site constraints and desired character of the locality.

DEVELOPMENT CONTROLS

- (a) Front and rear setbacks and side setbacks are to be in accordance with Tables 3 and 4.

Lot Type	Front Setback	Rear Setback	Side Setback
2 Storey Front Loaded (Detached)	4.5m	3m	900mm
2 Storey Front Loaded (Attached, Semi-detached)	4.5m	3m	900mm (detached boundary line)
2 Storey Rear Loaded (Attached)	2m	0.5m	900mm (detached boundary line)
3 Storey Front Loaded (Attached, Semi-detached)	2m	3m	900mm (detached boundary line)
3 Storey Rear Loaded (Attached)	2m	0.5m	900mm (detached boundary line)
Garage	5.5m	0.5m (to rear laneway)	0m

Lot Type	Front Setback	Garage Setback	Rear Setback
Front-loaded single garage	4.5m	5.5m	3m
Front-loaded double garage	2.5m	3.5m	3m
Rear-loaded single garage	2m	5.5m from rear lane	2m (balcony overhang)
Rear-loaded double garage	2m	0.5m from rear lane	Sufficient depth for open space

Table 3
Front and Rear Setback Requirements

Side Setback

0m between dwellings.
900mm from detached boundary line (end of block)
1.5m from side boundaries fronting roads, laneways and through site links.

Table 4

Side Setback Requirements

- (b) Minor façade elements such as balconies, porches or verandahs may be 1m forward of front building line. On corner blocks the articulation zone may be extended along the secondary frontage for a max of 3m or 25% of façade length with a min. of 1m setback from boundary.
- (c) For allotments along the Coonara Avenue frontage, an articulation zone of 2m is permitted in the rear setback.

3.5 GARAGES-DESIGN

OBJECTIVES

- (i) To ensure garages are sympathetically designed, provide sufficient manoeuvrability and do not dominate streetscapes.

DEVELOPMENT CONTROLS

- (a) All garage door openings must not exceed 3.2m metres wide, or if the lot is 9m wide or greater, garage doors must not exceed 6m.
- (b) Single garages shall have a minimum internal clear dimension of 5.5m x 3.0m. Double garages, where they are proposed, must have internal clear dimensions of 5.5m x 5.4m. These garage dimensions are exclusive of any storage area requirement.
- (c) ~~Garages shall be setback a minimum 1m behind the main face of the dwelling when addressing the primary street frontage.~~

3.6 OPEN SPACE

OBJECTIVES

- (i) To provide private outdoor living space that is an extension of the dwelling for the enjoyment of residents.
- (ii) To provide private outdoor living space that receives a reasonable quality of sunshine during all months of the year.
- (iii) To provide outdoor living space to meet the reasonable requirements for outdoor activities, privacy, access, clothes drying and landscaping.

DEVELOPMENT CONTROLS

- a) Each dwelling shall have access to an area of private open space that is directly accessible from primary living areas.
- b) A minimum of 2 hours sunlight between 9 am and 3pm on 21 June, shall be achieved to at least 50% of the ~~principal~~ private open space in at least 80% of all ~~of each dwelling, including adjoining~~ dwellings.
- c) The ~~principal~~ private open space ~~area~~ to each dwelling shall have a total combined area ~~dimensions~~ in accordance with Table 5 5.
- d) Private open space fencing shall incorporate a wider top rail to provide a fauna walkway.
- e) Private open space fencing shall be designed to protect wildlife by providing separation from domestic pets.

- o Have a minimum sill height of 1.5m above finished floor level, or
- o Provide fixed obscure glazing to a height of 1.5 metres above finished floor level.

- c) Where new dwellings adjoin an existing dwelling, screening landscaping is to be planted along the boundary between the dwellings.

Lot Type	Minimum area of Principal Private Open Space
Detached – Principal private open space at ground level	25m ²
Attached, Semi-detached – Principal where private open space is located at ground level or where private open space is located above ground level	15m ² 8m ²
Attached, Semi-detached – Principal private open space located above ground level	8m²

Table 5
Private Open Space

3.7 PRIVACY**OBJECTIVES**

- (i) To site and design buildings to ensure privacy between dwellings and private open space.

DEVELOPMENT CONTROLS

- a) Private open space areas and habitable rooms of adjacent dwellings should be reasonably protected from overlooking.
- b) Windows of living rooms with direct outlook to any living room of any proposed or existing dwelling within 9 metres should:
 - o Be offset a minimum of 1 metre from the edge of one window to the edge of another, or

4. RESIDENTIAL FLAT BUILDING PRECINCT

State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development (SEPP 65) applies to residential flat buildings. Such development needs to have regard to SEPP 65 and the NSW Apartment Design Guide in addition to the provisions below.

4.1 SETBACKS**OBJECTIVES**

- (i) To provide setbacks that complement the streetscape and protect the privacy and sunlight to adjacent dwellings.
- (ii) To ensure that new development is sensitive to the landscaped setting, site constraints and desired character of the street.
- (iii) To ensure that the appearance of new development is of a high visual quality and enhances the streetscape.

DEVELOPMENT CONTROLS

- a) Front setbacks are to be a minimum of 3m.
- b) All storeys above the 4th storey shall be setback 2m from the front building line (5m total from boundary), except where facing bushland.

4.2 BUILDING LENGTH**OBJECTIVES**

- (i) To reduce the visual bulk and scale of residential flat buildings.
- (ii) To ensure that developments contribute to the streetscape and desired future character of the area.

DEVELOPMENT CONTROLS

- a) The maximum linear length of any residential flat building is to be 50 metres.

- Where a building has a length greater than 30m it is to be separated into at least two parts by a significant recess or projection.
- Where a building has a length greater than 40m it shall have the appearance of two distinct building elements with individual architectural expression and features.

4.3 FENCING

OBJECTIVES

- (i) *To ensure that fencing does not detract from the overall visual amenity and character of the area.*

DEVELOPMENT CONTROLS

- a) Fences shall be constructed from a suitable high quality, durable semi-transparent material with a minimum height of 1.5m from the finished ground level.

4.4 OPEN SPACE

OBJECTIVES

- (i) *To provide adequate open space areas for the enjoyment and use by residents.*

DEVELOPMENT CONTROLS

- a) Communal open space and residents' community facilities are to be provided in accordance with Figure 4.

ATTACHMENT 5

PLANNING AGREEMENT

THE HILLS SHIRE COUNCIL AND
MIRVAC PROJECTS (RETAIL AND COMMERCIAL)
PTY LIMITED

www.thehills.nsw.gov.au

THE
HILLS
Sydney's Garden Shire



The Hills Shire Council
3 Columbia Court, Norwest NSW 2153
PO Box 7064, **Baulkham Hills** Norwest 2153 Phone (02) 9843 0555

[INSERT DATE]

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**Planning Agreement
Summary Sheet**

Council	Name	The Hills Shire Council
	Address	3 Columbia Court Baulkham Hills Norwest NSW 2153
	Telephone	(02) 9843 0555
	Facsimile	(02) 9843 0258
	Email	council@thehills.nsw.gov.au
	Senior Manager	Mr Michael Edgar – General Manager
	Representative	Mr Michael Edgar – General Manager
Developer	Name	Mirvac Projects (Retail and Commercial) Pty Limited (ABN 34 151 466 241) ATF Mirvac Pennant Hills Residential Trust (ABN 80 199 861 372)
	Address	Level 28, 200 George Street Sydney NSW 2000
	Telephone	(02) 9080 8000
	Email	Adrian.Checchin@mirvac.com and Amanda.Blake@mirvac.com
	Senior Manager	Stuart Penklis – Head of Residential
	Representative	Toby Long – General Manager, Residential Development NSW & Major Projects
Land	Lot 61 in DP 737386.	
Instrument Change	means the instrument change as set out in the Planning Proposal.	
Planning Proposal	Department of Planning reference PP_2017_THILL_006_02	
	Council reference 1/2018/PLP	
Dedication Land	See Schedule 1	
Works	See Schedule 1	

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Planning Agreement**Dated INSERT DATE****Parties**

The Hills Shire Council ABN 25 034 494 656 of 3 Columbia Court, Norwest, NSW 2153
(Council)

**Mirvac Projects (Retail and Commercial) Pty Limited (ABN 34 151 466 241) as trustee
for Mirvac Pennant Hills Residential Trust ABN 80 199 861 372** of Level 28, 200 George
Street, Sydney NSW 2000 (Developer)

Background

- A. Council is the consent authority pursuant to the Act for the Proposed Development.
- B. The Developer is the registered proprietor of the Land.
- C. Through lodgement of the Planning Proposal, the Developer has made an application to the Council for the Instrument Change so as to enable an application to be made to the Council for Development Consent.
- D. As a consequence of the matters set out above, the Developer has offered to provide the Material Public Benefits on, and subject to, the terms set out in this Agreement if the Instrument Change occurs.

Operative provisions**1 Defined meanings**

Words used in this document and the rules of interpretation that apply are set out and explained in clause 33 of this Agreement.

2 Planning agreement under the Act

The Parties agree that this document is a planning agreement within the meaning of **subdivision 2, Division 7.1, Part 7** of the Act.

3 Application of this document

This document applies to:

- (a) the Land,
- (b) the Instrument Change, and
- (c) the Proposed Development.

4 No restriction on Council's Powers**4.1 This Agreement or anything done under this Agreement:**

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4.1.1 is not to be taken as approval or consent by Council as a regulatory authority, and

4.1.2 does not in any way inhibit, deter or prejudice Council in the proper exercise of its functions, duties or powers,

pursuant to any legislation including the Act, the *Roads Act 1993* (NSW) and the *Local Government Act 1993* (NSW).

5 Operation of this Agreement

5.1 This Agreement constitutes a planning agreement within the meaning of section 7.4 of the Act.

5.2 Clauses 7 to 22 inclusive and clause 27 of this Agreement are effective and binding on the parties from the date that the Instrument Change commences in accordance with section 3.24(5) of the Act and that the remaining clauses of this Agreement are effective and binding on the parties from the date that this Agreement is executed.

5.3 This Agreement will remain in force and effect until the earlier of:

5.3.1 provision of all of the Material Public Benefits by the Developer;

5.3.2 an effective Court declaration or order that the Instrument Change is invalid; or

5.3.3 termination pursuant to the terms hereof or by agreement.

6 Termination if Minister Decides not to make Instrument Change

6.1 In the event that the Minister decides at any time not to make the Instrument Change under section 3.36(2)(b) of the Act and informs a party in writing of that decision, then either party may terminate this Agreement by not less than 28 days' notice to the other.

7 Material Public Benefits

7.1 The Developer must, at its own cost and risk, provide the Material Public Benefits set out in Schedule 1 to the Council in accordance with this document.

8 Assignment and Dealing with the Land

8.1 Subject to clauses 8.2, 8.3 and 27.3, the Developer must not have any Dealings (except the subdivision of the Land in accordance with this Agreement) with the Land unless the proposed assignee, purchaser or other Party (the **Incoming Party**) accepts such of the obligations of this Agreement as may be reasonably required.

8.2 For the purpose of giving effect to clause 8.1 the Council, the Developer and the Incoming Party must enter into a deed of novation whereby the Incoming Party agrees to carry out the obligations of the Developer under the Agreement and the Developer is released, from the date of the deed of novation from the obligations contained in this Planning Agreement to the extent that they:

8.2.1 are novated to the Incoming Party, and

8.2.2 remain to be performed.

8.3 If the Incoming Party is acquiring an interest in the Land as a purchaser of one or more lots in a community scheme or a strata scheme, (whether or not the scheme has, at the

date of exchange, been registered at NSW Land Registry Services), then the Developer may create that interest without requiring that party to enter into an Agreement with the Council and the interest so created will not be in breach of this clause.

- 8.4 A deed of novation may be amended as agreed from time to time by the parties acting reasonably.
- 8.5 The parties acknowledge and agree that the rights of the Council under clause 9.2 are not diminished by the provisions of this clause 4.

9 Dedication

- 9.1 The Developer must, at its own cost, Dedicate to Council the various Dedication Lands in accordance with the times listed in Schedule 1.

9.2 Encumbrances

9.2.1 Prior to transfer to the Council of the Dedication Land, the Developer may not, without the prior consent of the Council (which must not be unreasonably withheld), grant any lease or licence or create any easement, covenant or restriction burdening the Dedication Land which interest or right would subsist on the title at the date of transfer to the Council, other than:

- (a) subject to clause 9.3, those easements, covenants and restrictions that exist at the date of this Agreement;
- (b) interallotment easements for utilities, drainage and services, whether benefitting or burdening the Dedication Lands or other parts of the Land; and
- (c) covenants, easements and restrictions required to comply with any development consent applicable to the Land;

provided that (other than the beneficiaries' rights of installation, repair and maintenance) such interests do not, in the reasonable opinion of Council interfere with the intended use of the Dedication Land by Council.

9.3 Extinguishment of interests on Dedication Lands prior to transfer

9.3.1 The Developer agrees that prior to the transfer of the Dedication Lands it will extinguish all redundant encumbrances and those that, in Council's opinion, would unreasonably impede the intended use of the Dedication Lands by Council in respect of all or part of the Dedication Lands.

9.3.2 The parties acknowledge and agree that:

- (a) the Developer will not be required to extinguish the registered easement for electricity purposes (G379897, S429274) (**Specified Easement**); and
- (b) the Council will accept Dedication of the relevant Dedication Lands with the Specified Easement remaining on the relevant Certificate of Title(s),

provided the Specified Easement is not within the field alignment of the Synthetic Soccer Field.

9.4 The Dedication will be effected when:

- 9.4.1 a plan of subdivision Dedicating the relevant Dedication Lands to Council is registered with NSW Land Registry Services; or
- 9.4.2 Council has in its possession everything necessary (including an executed transfer in registrable form for the Dedication Lands, the original certificate of title for the Dedication Lands and any document in registrable form which, when registered, and subject to the terms of this Agreement, will remove any encumbrances registered on the title of that land) for it to become the registered proprietor of the Dedication Lands.
- 9.5 Where an existing lot forming part of the Dedication Lands is to be transferred to Council,
- 9.5.1 the Developer will deliver to Council the following:
- (a) transfer in registrable form signed by the registered proprietor of the lot,
 - (b) the Certificate of Title for the lot, and
 - (c) a discharge of mortgage, surrender of lease or other document to release the lot from any Encumbrance.
- 9.5.2 Council will on receipt of these documents arrange for the following:
- (a) stamping of the transfer, and
 - (b) lodgement of the transfer and other documents at the office of NSW Land Registry Services for registration.
- 9.6 Council must provide the Developer with a tax invoice for its reasonable expenses incurred in relation to the Dedication of the Dedication Lands including its legal costs and disbursements on an indemnity basis (including any registration fees).
- 9.7 The Developers must pay to Council the amount invoiced for expenses under clause 9.6 within 14 days of receipt of the invoice.
- 9.8 The Developer must pay Council on reasonable notice the stamp duty (if any) on the Dedication of the Dedication Lands. The Parties acknowledge that section 277 of the *Duties Act 1997* (NSW) provides generally that duty under that Act is not chargeable on dutiable transactions where Council is liable to pay the duty.

10 Works

10.1 Obligation to Carry Out Works

10.1.1 The Developer is to carry out and complete the Works listed in Schedule 1.

10.1.2 The Developer's obligations under clause 10 exists irrespective of whether the Developer:

- (a) carries out the Works itself, or
- (b) enters into an agreement with another person under which the other person carries out the Works on the Developer's behalf.

10.2 Plans and Specifications of Works

10.2.1 Before the Developer commences the Works, the Developer, at its own cost, is to prepare and submit to the Council or a person specified by the Council for approval, detailed plans and specifications in relation to the item.

10.2.2 The Council will, within 20 Business Days, give the Developer written notice:

- (a) whether or not the design and description of the Works is satisfactory, and
- (b) if the detailed design is not satisfactory, identifying the further information or modifications (as the case may be) required, including the reason for that modification.

10.2.3 Where Council requires modifications under clause 10.2.2, the Developer must resubmit the modified plans and specifications for approval by Council under this clause 10.2.

10.2.4 If the Council does not provide such a notice within 20 Business Days, the Works will be deemed to be satisfactory for the purposes of clause 10.

10.3 Nature of Modifications Required

10.3.1 The parties acknowledge and agree that Council may require modification under clause 10.2.2, only if:

- (a) the standard of drawings does not allow a proper assessment and understanding of the proposal (including, without limitation, that the drawings submitted have sufficient detail to allow a proper review (for example, levels and interface to public infrastructure, such as road levels, road alignments and stormwater systems are not marked or reasonably capable of being derived);
- (b) the design as proposed does not comply with any relevant legislative requirement (including requirements with respect to disability access);
- (c) in relation to the Synthetic Soccer Field or the Perimeter Access Road, the design does not comply with the specifications identified in Schedule 1;
- (d) the design is inconsistent with the relevant development consent(s), or with the outcome agreed by the parties as part of an applicable public consultation process;
- (e) the materials, finishes or other items specified in a relevant standard or policy (as the case may be) are no longer readily capable of procurement, and (if so) the representative must identify an alternative of a reasonably similar and comparable nature;
- (f) the design is not consistent with any of the Material Public Benefits (and in this event, both the relevant element, and the extent of the inconsistency, must be clearly identified by Council);
- (g) for reasons identified by Council in the notice, an alternative product is considered preferable. Such reasons may include:
 - (i) specification of a new, or improved, species or strain of grass, shrub or other planting, provided always such alternative is readily capable of procurement at no extra cost to the Developer; and

- (ii) the alternative may include efficiencies which are reasonably likely to either retain or reduce the overall costs and to improve the amenity of the construction and hand over process.

10.3.2 The Developer must promptly and in good faith take into account the comments made by the Council under the preceding sub clause and either:

- (a) amend the design to reflect the comments made; or
- (b) to the extent the Developer declines to accommodate changes suggested under clause 10.3.1, notify Council that the Developer so declines, and provide written reasons together with any alternative which the Developer considers may address the concern (Modification Decline Notice).

10.3.3 If the Council disagrees with a Modification Decline Notice the Council must within 5 business days of receipt of the Modification Decline Notice issue a notice of Dispute which includes:

- (a) the basis upon which the Council's requested modification falls within Clause 10.3.1;
- (b) the reasons why Council does not agree with the Modification Decline Notice; and
- (c) why any alternative contained in the Modification Decline Notice is unacceptable to Council.

10.3.4 If the Council issues a notice of Dispute under clause 10.3.3, then clause 26 (Dispute Resolution) will apply.

10.3.5 The Parties expressly acknowledge that nothing in this clause is intended or will be construed to enable the Council to materially change the design in a manner which unreasonably increases the time or the costs associated with the Works.

10.4 The Developer:

10.4.1 must not make; and

10.4.2 must not permit, authorise or consent to any other person to make,

an application for the issue of (or modification of) a Construction Certificate for a Work (that is required to be carried out by the Developer under this Agreement) to any certifying authority, other than the Council.

10.5 The Developer is to carry out and complete the Works in a good and workmanlike manner having regard to the intended purpose of the Works and otherwise to the satisfaction of Council, in accordance with:

10.5.1 any relevant development consent(s), and

10.5.2 all applicable laws, including those relating to occupational health and safety, and

10.5.3 this Agreement to the extent that it is not inconsistent with the relevant development consent(s) or an applicable law, and

10.5.4 the written approval given under clause 10.2.

10.6 It is the Developer's responsibility to ensure that everything necessary for the proper performance of its obligations under this Agreement is supplied or made available to Council.

10.7 The Works are to be Handed-Over to the Council:

10.7.1 by no later than the Hand-Over Date for the relevant Works, and

10.7.2 otherwise in accordance with this Agreement.

11 Ownership of Works

11.1 Ownership of the Works is transferred to Council on Hand-Over and nothing in, or done under, this Agreement gives the Developer, after Hand-Over any right, title or interest in the Works.

11.2 On Hand-Over the Developer must cause the legal title in the Works and all materials and component of the Works to pass to Council free of any charge or other interest. The Developer warrants that after Hand-Over the Works are not subject to any security interest (as defined in the *Personal Property Securities Act 2009 (Cth)* (**PPSA**)) and any security interest noted in the Personal Property Securities Register has been discharged. The Developer indemnifies Council for all claims, costs, losses and expense Council may suffer arising from any breach of this warranty or any claim or action taken by any person in respect of any security interest (as defined in the PPSA) in the Works.

12 Access to the Land

12.1 The Developer is to permit the Council, its officers, employees, agents and contractors to enter the Land at any time, upon giving reasonable prior notice, in order to inspect, examine or test any of the Works.

12.2 For the purposes of this clause 12, Council officers, employees, agents and contractors must comply with all HSE Requirements and any direction given by any statutory authority or by the Developer or its 'principal contractor' appointed under applicable WH&S Laws in relation to health, safety or the environment concerning the Land.

13 Protection of People, Property and the Environment

13.1 The Developer is to ensure in relation to the carrying out of the Works that:

13.1.1 all necessary measures are taken to protect people, property and the Environment, and

13.1.2 unnecessary interference with the passage of people and vehicles is avoided, and

13.1.3 nuisances and unreasonable noise and disturbances are prevented, and

13.1.4 all relevant laws and regulations with respect to water, air, noise and land pollution (including 'pollution incidents') as defined under the *Protection of the Environment Operations Act 1997* (NSW).

14 Damage and Repairs to the Works

14.1 The Developer, at its own cost, is to repair and make good to the satisfaction of the Council any loss or damage to the Works from any cause whatsoever which occurs prior to the date on which the Works are Handed-Over to the Council.

15 Variation of Works

- 15.1 The Works are not to be varied by the Developer, unless:
- 15.1.1 the Parties agree in writing to the variation, and
 - 15.1.2 any consent or approval required under the Act or any other law to the variation is first obtained, and
 - 15.1.3 the Developer bears all of the Council's costs of and incidental to agreeing to and approving any variation proposed by the Developer.
- 15.2 For the purposes of clause 15.1 a variation may relate to any matter in relation to the Works that is dealt with by this Agreement.
- 15.3 If Council requests a variation, or a requirement in a development consent relating to the Works amounts to a variation, to the Works after Council has given its written approval under clause 10, then the Council shall be liable to pay to the Developer an amount equal to the increase in the costs of completing the Works, which results from the variation requested by the Council.
- 15.4 Council shall repay the amount referred to in clause 15.3 to the Developer after the Works are complete, and within 28 days of receipt of:
- 15.4.1 a tax invoice for the amount claimed by the Developer, and
 - 15.4.2 documentation which demonstrates to Council's satisfaction the increase in costs as a result of the variation requested by the Council.
- 15.5 If Council requests a variation, then the Hand-Over Date will be reasonably varied to the extent of any delay caused by the variation.

16 Hand-Over of Works

- 16.1 When an Item of Works has, in the opinion of the Developer, reached Completion, the Developer is to give the Council not less than 20 Business Days written notice of the date on which it proposes to Hand-Over an Item of Works to the Council, being a date not later than the Hand-Over Date for the relevant Item of Works.
- 16.2 Upon receipt of such a notice, Council is to provide, within 10 Business Days, written confirmation to the Developer that it accepts the Item of Works has reached Completion.
- 16.3 Works Not Complete
- 16.3.1 If the Council, acting reasonably, forms the view following inspection of the Item of Works that the Item of Works has not reached Completion, the Council may, within 10 Business Days of receiving a notice under clause 16.1, direct the Developer in writing:
 - (a) to carry out work specified in the notice to complete the Works in accordance with clause 10 before it is Handed-Over to the Council, and
 - (b) to Hand-Over the Works completed in accordance with the Council's direction to the Council by a specified date, irrespective of whether that date is later than the Hand-Over Date.

- 16.3.2 The Developer may, within 10 Business Days, provide a response to a direction under clause 16.3, which contains reasons, if any, as to why the work is not required under clause 10.
- 16.3.3 Where Council rejects or does not accept the Developer's response in writing within 10 Business Days, the matter may be referred as a Dispute in accordance with clause 26.
- 16.3.4 Where the Dispute resolution process results in the Developer being required to comply with the direction, the Developer is to promptly comply with a direction according to its terms and at the Developer's own cost.
- 16.4 Before the Works are Handed-Over to the Council, the Developer is to remove from the Land:
- 16.4.1 any rubbish or surplus material, and
- 16.4.2 any temporary works, and
- 16.4.3 any construction plant and equipment, relating to the carrying out of the Works as the case requires.
- 16.5 If Council does not provide a written confirmation or direction in accordance with clauses 16.2 or 16.3 within 10 Business Days, the Item of Works will be deemed to have reached Completion.
- 16.6 An Item of Works is taken to be Handed-Over to the Council at the date specified in a notice under clause 16.1, subject to any dispute over whether the Item of Works has reached Completion under clause 16.3.

17 Failure to Carry out and Hand-Over Works

- 17.1 If the Council, acting reasonably, considers that the Developer is in breach of any obligation under this Agreement relating to the carrying out of the Works, the Council must give the Developer a notice requiring:
- 17.1.1 the breach to be rectified to the Council's satisfaction, or
- 17.1.2 the carrying out of the Works to immediately cease, except in relation to the rectification of the breach, and the breach to be rectified to the Council's satisfaction.
- 17.2 The Developer may, within 14 days, provide a response to a direction under sub-clause 16.3, which contains reasons, if any, as to why there has been no breach in relation to the carrying out of the Works.
- 17.3 Where Council rejects or does not accept the Developer's response in writing within 14 days, the matter may be referred as a Dispute in accordance with clause 26.
- 17.4 Where the Dispute resolution process results in the Developer being required to comply with the notice, the Developer is to comply with the according to its terms and at the Developer's own cost.
- 17.5 A notice given under clause 17.1 is to allow the Developer a reasonable period (and in any case not less than 28 days) to:
- 17.5.1 rectify the breach, or

17.5.2 pay appropriate compensation to Council in cases where it is not possible to rectify the breach.

18 Works-As-Executed-Plan

- 18.1 No later than 60 days after the Hand-Over Date, the Developer is to submit to the Council a full Works-As-Executed-Plan in respect of the Item of Works the subject of the notice.
- 18.2 The Developer shall provide with the Work-as-Executed Plan(s) all appropriate certificates to verify that the Works have been carried out in accordance with relevant standards.

19 Rectification of Defects

- 19.1 During the Defects Liability Period the Council may, acting reasonably, give to the Developer a Rectification Notice in relation to any purported Defect in the Works specifying:
- 19.1.1 the Item of Works requiring rectification,
- 19.1.2 the action required to be undertaken by the Developer to rectify those Works, and
- 19.1.3 the date on which those Works are to be rectified.
- 19.2 The Developer must, within 14 days, give to the Council a Rectification Response.
- 19.3 Where Council rejects or does not accept the Developer's Rectification Response in writing within 14 days, Council may carry out the required rectification works itself and call on the Defects Liability Security to the extent necessary to cover the costs incurred by it in doing so only if clause 26 has been engaged and the Expert determines that the purported Defects in the Works are Defects under clause 26.6.

20 Indemnity and Insurance

- 20.1 The Developer indemnifies the Council from and against all losses, damages, costs (including legal costs on a full indemnity basis), charges, expenses, actions, claims and demands whatsoever which may be sustained, suffered, recovered or made arising in connection with the carrying out by the Developer of the Works and any other obligation under this Agreement, except to the extent that such losses, damages, costs, charges, expenses, actions, claims and demands are caused or contributed to by Council, its employees, officers, agents and contractors.
- 20.2 The Developer is to take out and keep current the following insurances in relation to the Works up until the relevant date of Hand-Over to Council:
- 20.2.1 contract works insurance for the full replacement value of the Works (including the cost of demolition and removal of debris, consultants' fees and authorities' fees), to cover the Developer's liability in respect of damage to or destruction of the Works,
- 20.2.2 public liability insurance for at least \$20,000,000 for a single occurrence, which covers the Developer for liability to any third party, and noting the interest of Council. The Developer will ensure that each subcontractor effects and maintains insurance policies on terms similar to those applicable to the developer under this clause;
- 20.2.3 workers compensation insurance as required by law, and

20.2.4 any other insurance required by law.

- 20.3 If the Developer fails to comply with clause 20.2, the Council may effect and keep in force such insurances and pay such premiums as may be necessary for that purpose and the amount so paid shall be a debt due from the Developer to the Council. The Developer is not to commence to carry out the Works unless it has first provided to the Council satisfactory written evidence, in the form of a Certificate of Currency, of all the insurances specified in clause 20.2.

21 Defects Liability Period

- 21.1 On Hand-Over of the Works, the Developer is to provide the Defects Liability Security to Council.
- 21.2 The Council is to release and return the Defects Liability Security upon the expiration of the Defects Liability Period.

22 Application of Subdivision 3 in Part 7 of the Act

- 22.1 For the purpose of sections 7.4(3)(d) and 7.4(5) of the Act, this document wholly excludes, to the extent permitted by law, the operation of subdivision 3 in part 7 of the Act (including without limitation sections 7.11 and 7.12 of the Act) in relation to the Planning Proposal and the first six hundred (600) residential dwellings capable of separate occupation developed as part of the Proposed Development on the Land.

23 Private Certifiers

Where Council is not the certifying authority for any aspect of the Proposed Development the Developer must on the appointment of a private certifier provide a copy of this Agreement to the private certifier.

24 Notices

- 24.1 Any notice to or by a party under this document must be in writing and signed by the sender or, if a corporate party, an authorised officer of the sender.
- 24.2 Any notice may be served by:
- (a) delivery in person, or
 - (b) post, or
 - (c) transmission by facsimile (in the case of service on Council), or
 - (d) email provided that it is sent to all recipient(s) specified in Summary Sheet,
- to the address(es) or number(s) of the recipient(s) specified in the Summary Sheet or most recently notified by the recipient to the sender.
- 24.3 Any notice is effective for the purposes of this document upon:
- (a) delivery to the recipient or production to the sender of a facsimile transmittal confirmation report before 4.00pm local time on a day in the place in or to which the written notice is delivered or sent or otherwise at 9.00am on the next day following delivery or receipt; or

- (b) in the case of service by email if, and only if, it is sent to all recipient(s) specified in Summary Sheet and the sender does not receive an out of office message or bounce back from any recipient.

25 Breach Notice and Rectification

- 25.1 If the Developer is, in the reasonable opinion of Council, in breach of a material obligation under this document, Council may provide written notice of the breach to the Developer and require rectification of that breach within a reasonable period of time (**Breach Notice**).
- 25.2 The Developer commits an **Event of Default** if it fails to comply with a Breach Notice.
- 25.3 Where the Developer commits an Event of Default Council may call on any security provided under this Agreement to the extent of any reasonable compensation claimed in a Breach Notice and not paid by the Developer (or otherwise remedied), or rectify the breach as the agent of the Developer and at the risk of the Developer (in which case the Developer must pay all reasonable costs incurred by the Council in remedying the breach)

26 Dispute resolution

26.1 Dispute

If any Dispute arises, that Dispute must be referred for determination under this clause.

26.2 No legal proceedings

The Parties must not bring or maintain any action on any Dispute (except for urgent injunctive relief to keep a particular position) until it has been referred and determined as provided in this clause.

26.3 Notice of disputes

A Party referring a Dispute for determination must do so by written notice to the other parties which must specify the nature of the Dispute.

26.4 Negotiated resolution and selection of expert

26.4.1 On referral of a Dispute, the Senior Managers must meet at least once and use reasonable endeavours to resolve the Dispute by negotiation within 10 Business Days of service of the Dispute Notice. Any resolution must be recorded in writing and signed by each Senior Manager.

26.4.2 If the Senior Managers are unable to resolve the Dispute within 10 Business Days of service of the Dispute Notice they must endeavour within the following 10 Business Day-period to appoint an expert by agreement. That appointment must be recorded in writing and signed by each Senior Manager.

26.4.3 If the Senior Managers do not record the appointment of an expert within that second 10 Business Day period, the expert must be appointed, at the request of any Party, by the President for the time being (or if none, the senior elected member) of the Law Society of New South Wales.

26.5 Assistance to the Expert

26.5.1 Once the Expert has been appointed (the **Expert**), the Parties must:

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- (a) each use their best endeavours to make available to the Expert all information the Expert requires to settle or determine the Dispute, and
- (b) ensure that their employees, agents or consultants are available to appear at any hearing or enquiry called by the Expert.

26.5.2 The Parties may give written submissions to the Expert but must provide copies to the other Parties at the same time.

26.6 Expert's decision

26.6.1 The decision of the Expert must:

- (a) be in writing and give reasons, and
- (b) be made and delivered to the parties within one month from the date of submission of the dispute to the Expert or the date of completion of the last hearing or enquiry called by the Expert, if later.

26.6.2 The Expert may conduct the determination of the Dispute in any way it considers appropriate but the Expert may, at its discretion, have regard to the Australian Commercial Disputes Centre's guidelines for expert determination of disputes or such other guidelines as it considers appropriate.

26.6.3 The Expert's decision is final and binding on the parties, except as to matters of law or in respect of Disputes the total value of which exceeds \$1 million.

26.6.4 The Expert must act as an expert and not as an arbitrator.

26.7 Expert's costs

26.7.1 The Expert must also determine how the expenses relating to the reference of the Dispute (including the Expert's remuneration) should be apportioned between the parties and in default of a decision by the Expert those expenses must be borne by the parties equally.

26.7.2 In determining the apportionment of costs the Expert may have regard to what the Expert, in its reasonable opinion, considers to be a lack of good faith or a failure to use reasonable endeavours by any party in assisting the Expert or resolving the dispute between the parties' nominated officers as required by this clause.

26.8 Continual performance

Each Party must continue to perform its obligations under this document while any dispute is being determined under this clause.

27 Registration of document on Title

27.1 Acknowledgement

27.1.1 The Developer acknowledges that this document is to be registered under section 7.6 of the Act on the title of the Land and on registration by the Registrar-General the document will be binding on and enforceable against the owners of the Land from time to time as if each owner for the time being had entered into this document.

27.2 Consents to Registration

This document must be registered on the title of the Land by the Developer within sixty (60) days after the later of the date it is entered into between the Parties or the Instrument Change is made. Each Party must promptly execute any document and perform any action necessary to affect the registration of this document on the title of the Land.

27.3 Release from Registration

27.3.1 Council will at the request of the Developer release the Land from registration of this document where the Material Public Benefits have been provided and the Developer is not in breach of its obligations under this document. The obligations of the Council are satisfied when Council provides the Developer with a signed Request in registrable form for the release of registration of this document.

27.3.2 The parties acknowledge and agree that this document applies to the Forest Area, and Council will not be required to release this document from the Forest Area unless and until the Forest Area is transferred to an appropriate government Authority.

27.3.3 If Council is required by a third party to compulsorily acquire any E2 Environmental Conservation zoned land the provisions of 29.1.3 apply as if that area was Dedication Land.

27.3.4 The Developer agrees not to seek or request the Council compulsorily acquire any part of the Land zoned E2 Environmental Conservation.

27.4 Registration Expenses

The Developer must pay Council's reasonable expenses including registration fees, any stamp duty, legal costs and disbursements, for the registration of this document and the subsequent removal of registration.

27.5 Registration of Caveat by Council

27.5.1 Subject to subclause 27.5.2, until such time as registration of this Agreement on the Certificates of Title to the Land, the Developer agrees that Council may lodge a caveat reasonably necessary to prevent any dealing with the Land or any part of it in a manner which is inconsistent with this Agreement.

27.5.2 If Council lodges a caveat in accordance with this clause, then the Council will do all things reasonably required to ensure that the caveat does not prevent or delay either the registration of this Agreement or any related Dealing with the Land. The Council will promptly, following registration of this Agreement, do all things reasonably required to remove the caveat from the title to the Land.

28 Costs

28.1 The Developer must pay to the Council the Council's legal costs incurred in respect of the preparation, negotiation, finalisation and enforcement of this Agreement up to a maximum of ~~\$15,000~~ \$20,000 (exclusive of GST) within 14 days of a written demand by the Council for such payment.

29 Compulsory Acquisition of Dedication Lands

29.1.1 The Developer consents to the compulsory acquisition of the Dedication Lands:

- (a) in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991 (NSW)* (**Acquisition Act**); and

- (b) on the terms set out in this clause 29.

29.1.2 Council may only acquire the Dedication Lands compulsorily in accordance with the Acquisition Act if the Developer has committed an Event of Default with respect the dedication of that land under this document.

29.1.3 If Council acquires the Dedication Lands compulsorily in accordance with the Acquisition Act:

- (a) the Developer agrees that the compensation payable to it on account of that acquisition under the Acquisition Act is \$1.00; and
- (b) Council must complete that acquisition within twelve (12) months of the relevant Event of Default.

29.1.4 The parties agree that the provisions of this clause 29 are an agreement with respect to the compulsory acquisition of the Dedication Lands for the purpose of section 30 of the Acquisition Act.

29.1.5 If Council:

- (a) acquires the Dedication Lands under paragraph 29.1.3; and
- (b) is required to pay any compensation to a third party as a result of that acquisition,

then the Developer must pay Council the amount of that compensation as a monetary contribution:

- (c) within ten (10) business days of demand for payment being made by Council; and
- (d) prior to the issue of the then next Occupation Certificate or Subdivision Certificate with respect to the Proposed Development.

30 Council may withhold Subdivision Certificate

30.1.1 The Developer may only make, or cause, suffer or permit the making of, an application for a Subdivision Certificate or Occupation Certificate in respect of the Proposed Development if, at the date of the application, the Developer is not in breach of its obligation to make any Material Public Benefits under this document.

30.1.2 Council may withhold the issue of a Subdivision Certificate or Occupation Certificate if, at the relevant time, the Developer is in breach of any obligation to make any Material Public Benefit under this document until such time as:

- (a) the breach is rectified; or
- (b) Council calls upon any security provided by the Developer in respect of the Material Public Benefit to which the breach relates.

31 GST

31.1 Interpretation

31.1.1 In this agreement:

- (a) words or expressions that are defined in *A New Tax System (Goods and Services Tax) Act 1999 (GST Act)* have the same meaning,
- (b) consideration includes non-monetary consideration, in respect of which the parties must agree on a market value, acting reasonably, and
- (c) in addition to the meaning given in the GST Act, the term "GST" includes a notional liability for GST.

31.2 Divisions 81 and 82 exemptions

31.2.1 Subject to clause 31.2, the parties intend that Divisions 81 and 82 of the GST Act apply to any supplies or payments made under this document with effect that:

- (a) no additional amount will be payable by a party on account of GST; and
- (b) no tax invoices will be issued by any party.

31.3 Supply subject to GST

31.3.1 To the extent that clause 31.2 does not apply to a supply made under this document, this clause 31.3 will apply.

31.3.2 If one party (**Supplying Party**) makes a taxable supply and the consideration for that supply does not expressly include GST, the party that is liable to provide the consideration (**Receiving Party**) must also pay an amount (**GST Amount**) equal to the GST payable in respect of that supply.

31.3.3 Subject to first receiving a tax invoice or adjustment note as appropriate, the receiving party must pay the GST Amount when it is liable to provide the consideration.

31.3.4 If one party must indemnify or reimburse another party (**Payee**) for any loss or expense incurred by the Payee, the required payment does not include any amount which the Payee (or an entity that is in the same GST group as the Payee) is entitled to claim as an input tax credit, but will be increased under clause 31.3.2 if the payment is consideration for a taxable supply.

31.3.5 If an adjustment event arises in respect of a taxable supply made by a Supplying Party, the GST Amount payable by the Receiving Party under clause 31.3.2 will be recalculated to reflect the adjustment event and a payment will be made by the Receiving Party to the Supplying Party, or by the Supplying Party to the Receiving Party, as the case requires.

32 General

32.1 Governing law and jurisdiction

32.1.1 This document is governed by and construed under the law in the State of New South Wales.

32.1.2 Any legal action in relation to this document against any party or its property may be brought in any court of competent jurisdiction in the State of New South Wales.

32.1.3 Each party by execution of this document irrevocably, generally and unconditionally submits to the non-exclusive jurisdiction of any court specified in this provision in relation to both itself and its property.

32.2 Amendments

Any amendment to this document has no force or effect, unless effected by a document executed by the parties.

32.3 Third parties

This document confers rights only upon a person expressed to be a party, and not upon any other person.

32.4 Pre-contractual negotiation

This document:

32.4.1 expresses and incorporates the entire agreement between the parties in relation to its subject matter, and all the terms of that agreement, and

32.4.2 supersedes and excludes any prior or collateral negotiation, understanding, communication or agreement by or between the parties in relation to that subject matter or any term of that agreement.

32.5 Further assurance

Each party must execute any document and perform any action necessary to give full effect to this document, whether before or after performance of this document.

32.6 Continuing performance

32.6.1 Any representation in this document survives the execution of any document for the purposes of, and continues after, performance of this document.

32.6.2 Any indemnity agreed by any party under this document constitutes a liability of that party separate and independent from any other liability of that party under this document or any other agreement.

32.7 Waivers

Any failure by any party to exercise any right under this document does not operate as a waiver and the single or partial exercise of any right by that party does not preclude any other or further exercise of that or any other right by that party.

32.8 Remedies

The rights of a party under this document are cumulative and not exclusive of any rights provided by law.

32.9 Counterparts

This document may be executed in any number of counterparts, all of which taken together are deemed to constitute one and the same document.

32.10 Developer as Trustee and Limitation of Trustee Liability

32.10.1 The Trustee enters into the Agreement only in its capacity as trustee of the Mirvac Pennant Hills Residential Trust (**Trust**) constituted under the Trust Deed dated 6 November 2015 (**Trust Deed**) and in no other capacity. A liability arising under or in connection with this Agreement is limited to and can be enforced against the Trustee only to the extent to which it can be and is in fact satisfied out of property

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of the Trust from which the Trustee is actually indemnified for the liability. Subject to subclause 32.10.3, this limitation of the Trustee liability applies despite any other provision of this Agreement and extends to all liabilities and obligations of the Trustee in any way connected with any representation, warranty, conduct, omission, agreement or transaction related to this Agreement.

32.10.2 No party to this Agreement may sue the Trustee in any capacity other than as the Trustee of the Trust, including seeking the appointment of a receiver (except in relation to property of the Trust), a liquidator, an administrator or any similar person to the Trustee or proving in any liquidation, administration or arrangement of or affecting the Trustee (except in relation to property of the Trust).

32.10.3 The provisions of this clause 32.10 shall not apply to any obligation or liability of the Trustee to the extent that it is not satisfied because, under this Agreement or by operation of law, there is a reduction in the extent of the Trustee's indemnification out of the assets of the Trust as a result of the Trustee's failure to properly perform its duties as Trustee of the Trust.

32.10.4 The Trustee is not obliged to do or refrain from doing anything under this Agreement (including incur any liability) unless its liability is limited in the same manner as set out in subclauses 32.10.1 to 32.10.3.

32.10.5 Subject to subclauses 32.10.1 to 32.10.4, the Trustee has authority under the Trust Deed to enter into this Agreement.

32.10.6 The Trustee warrants that at the date of entering into this Agreement, the Land is an asset of the Trust.

32.10.7 In this clause, Trustee means the Developer.

32.11 Representations and warranties

The Parties represent and warrant that they have power to enter into this document and comply with their obligations under the document and that entry into this document will not result in the breach of any law.

32.12 Severability

If a clause or part of a clause of this document can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this document, but the rest of this document is not affected.

33 Definitions and interpretation

In this document unless the context otherwise requires:

Act means the *Environmental Planning and Assessment Act 1979* (NSW)

Authority means any:

- (1) government, government department, government agency or government authority;
- (2) governmental, semi-governmental, municipal, judicial, quasi-judicial, administrative or fiscal entity or person carrying out any statutory authority or function; or

- (3) other entity or person (whether autonomous or not) having powers or jurisdiction under any statute, regulation, ordinance, by-law, order or proclamation, or the common law.

Agreement means this document.

Bank Guarantee means a written guarantee without a time limit acceptable to Council issued by an Australian bank approved by Council.

Bond means a documentary performance bond denominated in Australian dollars which:

- (1) is an unconditional undertaking;
- (2) is signed and issued by an Australian Prudential Regulation Authority [APRA] regulated authorised deposit taking institution or an insurer authorised by APRA to conduct new or renewal insurance business in Australia which has at all times an investment grade security rating from an industry recognised rating agency of at least:
 - (i) BBB + [Standard & Poors and Fitch]; or
 - (ii) Baa 1 [Moody's]; or
 - (iii) bbb [Bests];
- (3) is issued on behalf of the Developer;
- (4) has no expiry or end date;
- (5) has the beneficiary as Council;
- (6) state either individually, or in total with other lodged compliant forms of security, the relevant minimum amount required to be lodged as security; and
- (7) state the purpose of the deposit required in accordance with this document.

Business Day means a day that is not a Saturday, Sunday, public holiday or bank holiday in New South Wales.

Breach Notice has the meaning ascribed to it in clause 25.1.

Completion means the point at which the Works are complete to Council's satisfaction (acting reasonably) except for minor defects which do not adversely affect the ordinary use and/or enjoyment of the relevant Works.

Construction Certificate has the same meaning as in the Act.

Contribution Value means the amount specified in column 3 of Schedule 1.

Dealing means selling, transferring, assigning, subdividing, mortgaging, charging or encumbering.

Dedication means the creation or transfer of an estate in fee simple free of any mortgage, lease or other Encumbrance of a lot registered under the *Real Property Act 1900* (NSW).

Dedication Lands means the parts of the Land specifically identified for Dedication to Council in items ~~2, 3 and 4~~ 1 and 3 of the table in Schedule 1.

Defect means any error, omission, defect, non-conformity, discrepancy, shrinkage, blemish in appearance or other fault in the Works or any other matter which prevents the Works from complying with the terms of this document.

Defects Liability Period means in relation to the Works the period of 12 months from the date on which each Item of Works reaches Completion.

Defects Liability Security means a Bank Guarantee or Bond in favour of the Council equivalent to 10% of the total Contribution Value for the Works.

Development Consent means any development consent(s) for the Proposed Development.

Dispute means a dispute, difference of opinion or failure to agree relating to or arising from this document, including, but not limited to, those that arise under clauses 16, 17, 19 and 25.

Dispute Notice means written notice provided by a Party referring a dispute for determination under clause 26.3, specifying the nature of the dispute and a nominated officer of the referring party with sufficient authority to determine the dispute.

Encumbrance includes any mortgage or charge, lease, (or other right of occupancy) or profit a prendre.

Environment has the same meaning as set out in the Dictionary to the *Protection of the Environment Operations Act 1997* (NSW).

Event of Default has the meaning ascribed to it in clause 25.2.

Expert means the expert appointed under clause 26.

Forest Area means any part of the Land which is zoned E2 Environmental Conservation under any environmental planning instrument. **GST** means any tax, levy, charge or impost implemented under the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) (**GST Act**) or an Act of the Parliament of the Commonwealth of Australia substantially in the form of, or which has a similar effect to, the GST Act.

Hand-Over means the hand-over to the Council of the Works in accordance with this Agreement.

Hand-Over Date means the date specified in Column 2 of Schedule 1 in relation to the Works specified in Column 1 of that Schedule corresponding to that date.

Hand-Over Notice means a notice issued by the Council under clause 16.

House means any attached or detached house that is not a Residential Flat Building.

HSE Requirements include any work, health, safety and welfare and environmental requirements of the Developer (as notified by the Developer to the Council from time to time), including but not limited to all work, health, safety and welfare and environmental requirements attached to or referred to in this Agreement.

Instrument Change means the instrument change referred to in the Summary Sheet.

Insolvency Event means the happening of any of the following events:

- (8) A party is insolvent within the meaning of section 95A of the *Corporations Act 2001* (Cth) (**Corporations Act**).
- (9) Application which is not withdrawn or dismissed within fourteen (14) days is made to a court for an order or an order is made that a body corporate be wound up.

- (10) An application which is not withdrawn or dismissed within fourteen (14) days is made to a court for an order appointing a liquidator or provisional liquidator in respect of a body corporate or one of them is appointed, whether or not under an order.
- (11) Except to reconstruct or amalgamate while solvent, a body corporate enters into, or resolves to enter into, a scheme of arrangement, agreement of company arrangement or composition with, or assignment for the benefit of, all or any class of its creditors, or it proposes a reorganisation, moratorium or other administration involving any of them.
- (12) A body corporate resolves to wind itself up, or otherwise dissolve itself, or gives notice of intention to do so, except to reconstruct or amalgamate while solvent or is otherwise wound up or dissolved.
- (13) A body corporate is or states that it is insolvent.
- (14) As a result of the operation of section 459F(1) of the Corporations Act , a body corporate is taken to have failed to comply with a statutory demand.
- (15) A body corporate is or makes a statement from which it may be reasonably deduced that the body corporate is, the subject of an event described in section 459C(2)(b) or section 585 of the Corporations Act.
- (16) A body corporate takes any step to obtain protection or is granted protection from its creditors, under any applicable legislation or an administrator is appointed to a body corporate.
- (17) A person becomes an insolvent under administration as defined in section 9 of the Corporations Act or action is taken which could result in that event.
- (18) A receiver, manager or receiver and manager is appointed to the Company.
- (19) A claim is filed in a court against a person that is not defended, released or otherwise settled within twenty eight (28) days of the date of its filing at the court.
- (20) Anything analogous or having a substantially similar effect to any of the events specified above happens under the law of any applicable jurisdiction.

Item of Works means an item of the Works.

Land means the 'Land' as specified in the Summary Sheet.

Location Plan means the plan contained in Schedule 2.

Material Public Benefits mean the items listed in the first column of the table in Schedule 1.

Minister means the NSW State government minister responsible for the Act.

Occupation Certificate has the same meaning as in the Act.

Party means a party to this document, including their successors and assigns.

Planning Proposal means the planning proposal referred to in the Summary Sheet.

Perimeter Access Road means Perimeter Access Road as specified in Schedule 1.

Proposed Development means any development on the Land generally in accordance with the Planning Proposal and the subject of a development consent under the Act.

Rectification Certificate means a compliance certificate within the meaning of section 6.4(e)(iv) of the Act to the effect that work the subject of a Rectification Notice has been completed in accordance with the notice.

Rectification Notice means a notice in writing that identifies a defect in a work and requires rectification of the Defect within a specified period of time.

Rectification Response means a response in writing that provides reasons, if any, as to why a matter identified in a Rectification Notice is not a Defect.

Regulation means the *Environmental Planning and Assessment Regulation 2000* (NSW).

Representatives means the Council Representative and the Developer Representative, as specified in the Summary Sheet.

Residential Flat Building means a building containing 3 or more dwellings.

Senior Managers means the Council Senior Manager and the Developer Senior Manager, as specified in the Summary Sheet.

Subdivision Certificate has the same meaning as in the Act.

Summary Sheet means the summary sheet set out at the start of this document.

Synthetic Soccer Field means Synthetic Soccer Field as specified in Schedule 3.

WH&S Laws means any law regulating or otherwise relating to work health and safety including, without limitation where the relevant site is in NSW - the *Work Health and Safety Act 2011* (NSW) and the *Work Health and Safety Regulation 2011* (NSW).

Works means the Synthetic Soccer Field and Perimeter Access Road as specified in Schedule 1.

Works-As-Executed-Plan means detailed plans and specifications of the completed Works.

33.1 Interpretation

In this document unless the context otherwise requires:

- (a) clause and sub-clause headings are for reference purposes only,
- (b) the singular includes the plural and vice versa,
- (c) words denoting any gender include all genders,
- (d) reference to a person includes any other entity recognised by law and vice versa,
- (e) where a word or phrase is defined its other grammatical forms have a corresponding meaning,
- (f) any reference to a party to this document includes its successors and permitted assigns,
- (g) any reference to a provision of an Act or Regulation is a reference to that provision as at the date of this document,

- (h) any reference to any agreement or document includes that agreement or document as amended at any time,
- (i) the use of the word **includes** or **including** is not to be taken as limiting the meaning of the words preceding it,
- (j) the expression **at any time** includes reference to past, present and future time and the performance of any action from time to time,
- (k) an agreement, representation or warranty on the part of two or more persons binds them jointly and severally,
- (l) an agreement, representation or warranty on the part of two or more persons is for the benefit of them jointly and severally,
- (m) reference to an exhibit, annexure, attachment or schedule is a reference to the corresponding exhibit, annexure, attachment or schedule in this document,
- (n) reference to a provision described, prefaced or qualified by the name, heading or caption of a clause, subclause, paragraph, schedule, item, annexure, exhibit or attachment in this document means a cross reference to that clause, subclause, paragraph, schedule, item, annexure, exhibit or attachment,
- (o) when a thing is required to be done or money required to be paid under this document on a day which is not a Business Day, the thing must be done and the money paid on the immediately following Business Day, and
- (p) reference to a statute includes all regulations and amendments to that statute and any statute passed in substitution for that statute or incorporating any of its provisions to the extent that they are incorporated.

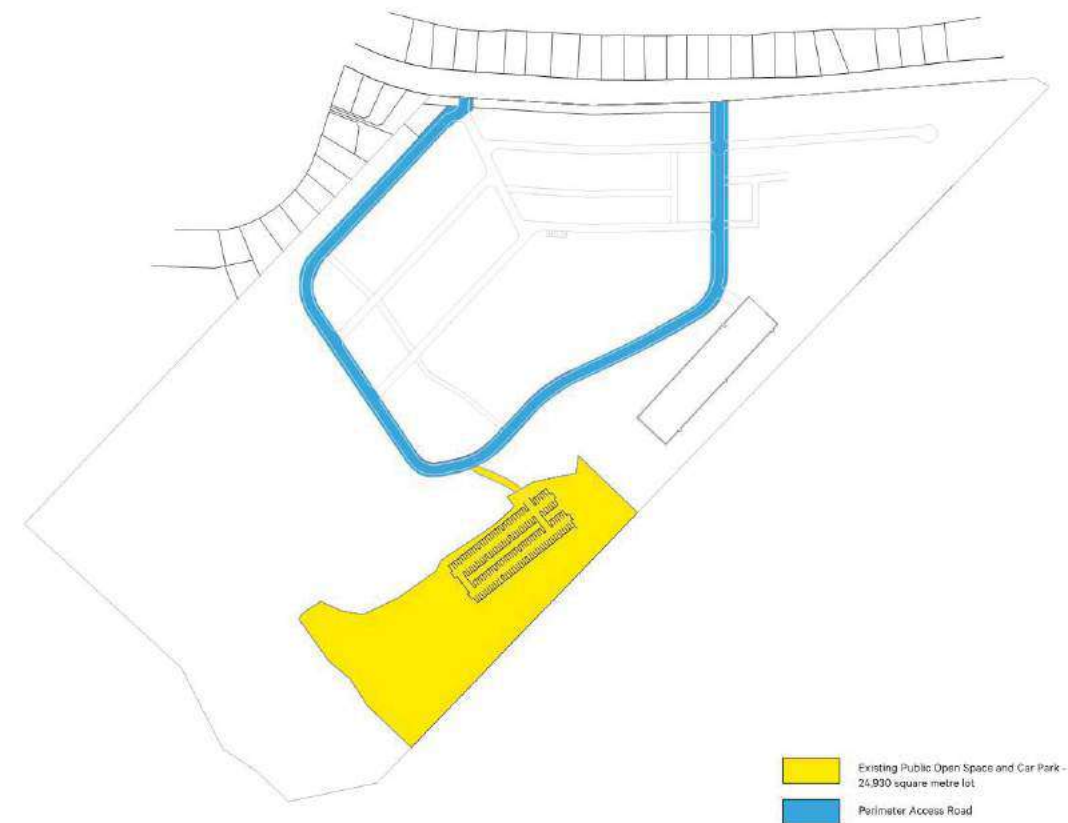
Schedule 1 – Material Public Benefits (Clause 7)

The Developer must provide the Material Public Benefits in accordance with Schedule 1 and this document.

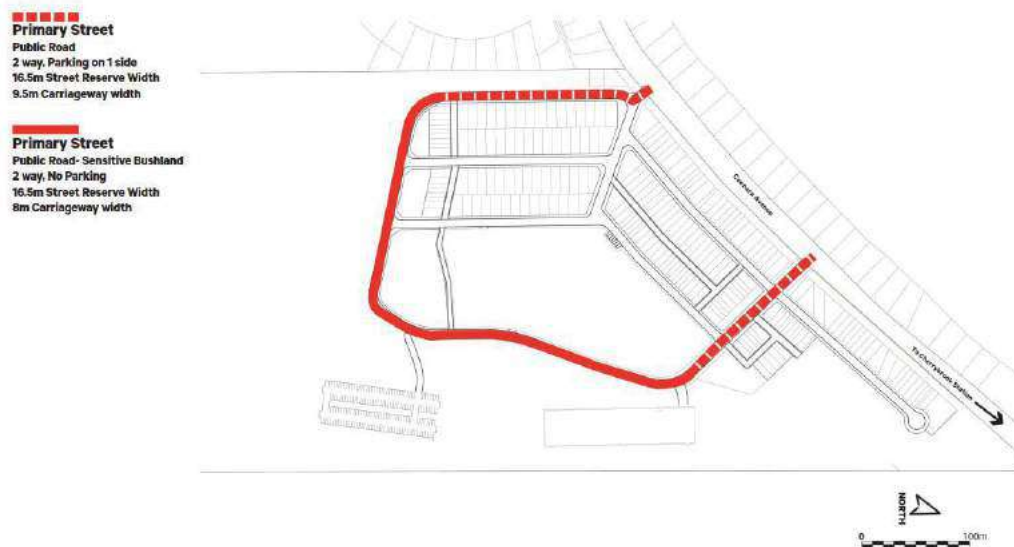
Material Public Benefit	Hand-Over/ dedication Date	Contribution Value	Additional Specifications
1. Dedication of Public Open Space, Car Park and Access Road	<p>Prior to:</p> <p>(a) the issue of any Occupation Certificate for the 400th lot within the Proposed Development upon which a dwelling is intended to be constructed without further subdivision; or</p> <p>(b) the issue of any Occupation Certificate for the 150th House of the Proposed Development, whichever occurs earlier.</p>	\$25 Million	An area of not less than 2.493 hectares as public open space and associated on grade car parking and access road, all in the condition existing as at the date of this Agreement (subject to wear and tear), as identified on the Location Plan.
2. Synthetic Soccer Field	<p>Prior to:</p> <p>(a) the issue of any Occupation Certificate for the 400th lot within the Proposed Development upon which a dwelling is intended to be constructed without further subdivision; or</p> <p>(b) the issue of any Occupation Certificate for the 150th House of the Proposed Development, whichever occurs earlier.</p>	\$2.2 Million	<p>The Synthetic field</p> <ul style="list-style-type: none"> The field is to be designed to meet FIFA Certification to a 'FIFA Quality' level (which is the 2nd level aimed at local community based sport). Dimensions of at least 64m x 100m + overruns of 3m at either end, 3 metres on one side and 5m on the other side for officials use. Atlantis Drainage Cell, or Council approved equivalent, to form the base drainage layer.

			<ul style="list-style-type: none"> • Infill to synthetic turf to be either the Thermo Plastic Elastomer or an Organic option, to be approved by Council. Design resolution of permanent control measures to ensure infill does not w wash away. <p>Fencing to the synthetic field</p> <ul style="list-style-type: none"> • Perimeter fencing to the field, 1.1m high. • Ball stop fencing at either end of the field, 5.1m high, black PVC coated field fencing. • Pedestrian gates at desirable locations and service access gates.
3. Perimeter Access Road	<p>Prior to the issue of the first Occupation Certificate for the adjacent stage of the Proposed Development, provided that, by the time items 1 and 2 are delivered, sufficient perimeter access road must have been handed over to enable access to items 1 and 2 above.</p>	<p>\$19.3 Million (comprising land - \$16.6 Million and capital costs for road construction - \$2.7 million)</p>	<p>Staged construction and dedication of public road as identified on the Location Plan. Configuration and width of the road as specified in Schedule 4 Perimeter Access Road design to be generally in accordance with Council's Design Guidelines for Subdivision and Developments dated September 2011 (as updated by Council from time to time) which is contained in Schedule 6, assuming:</p> <ul style="list-style-type: none"> - Residential; - Local/access road type; and - Asphalt .

Schedule 2 – Location Plan



[illegible]

Schedule 4 - Perimeter Access Road Configuration

Schedule 5 – Requirements under the Act and the Environmental Planning and Assessment Regulation 2000

The parties acknowledge and agree that the table set out below provides for certain terms, conditions and procedures for the purpose of this deed complying with the Act.

Table 1 – Requirements under section 7.4 of the Act

Requirement under the Act	This Deed
Planning instrument and/or development application – (section 7.4(1)) The Developer has: <ul style="list-style-type: none"> (a) sought a change to an environmental planning instrument. (b) made, or proposes to make, a Development Application. (c) entered into an agreement with, or is otherwise associated with, a person, to whom paragraph (a) or (b) applies. 	(a) Yes (b) Yes (c) N/A
Description of land to which this Deed applies – (section 7.4(3)(a))	Lot 61 in DP 737386
Description of development to which this Deed applies – (section 7.4(3)(b))	The Proposed Development as defined in Clause 33 .
The scope, timing and manner of delivery of contribution required by this Deed – (section 7.4F(3)(c))	See Schedule 1 .
Applicability of sections 7.11 and 7.12 of the Act – (section 7.4(3)(d))	The application of sections 7.11 and 7.12 of the Act are excluded in respect of the Planning Proposal and the first six hundred (600) residential dwellings. See clause 22 .
Applicability of section 7.24 of the Act – (section 7.4(3)(d))	The application of section 7.24 of the Act is not excluded in respect of the Proposed Development.
Consideration of benefits under this Deed if section 7.11 applies – (section 7.4(3)(e))	The Material Public Benefits to be provided by Mirvac under this Deed are to be taken into consideration in determining a development contribution in respect of the Proposed Development under section 7.11 of the Act.
Mechanism for Dispute Resolution – (section 7.4(3)(f))	See clause 26 .
Enforcement of this Deed – (section 7.4(3)(g))	See clauses 17, 19 and 25

Requirement under the Act	This Deed
No obligation to grant consent or exercise functions – (section 7.4(10))	See clause 4

Table 2 – Other Matters

Requirement under the Act or Regulation	This Deed
Registration of the Planning Agreement – (section 7.6 of the Act)	Yes (see clause 27)
Whether the Planning Agreement specifies that certain requirements of the agreement must be complied with before a construction certificate is issued – (clause 25E(2)(g) of the Regulation)	No
Whether the Planning Agreement specifies that certain requirements of the agreement must be complied with before an occupation certificate is issued – (clause 25E(2)(g) of the Regulation)	Yes
Whether the Planning Agreement specifies that certain requirements of the agreement must be complied with before a subdivision certificate is issued – (clause 25E(2)(g) of the Regulation)	No

Schedule 6 – The Hills Shire Council Design Guidelines Subdivision/Developments



THE HILLS SHIRE COUNCIL

**DESIGN GUIDELINES
SUBDIVISION/DEVELOPMENTS**

THE HILLS SHIRE COUNCIL
September 2011

FORWORD

This design manual has been prepared to provide engineering guidelines for the subdivision and development of land and to facilitate the efficient processing of engineering plan submissions for subdivisions and developments. Applicants should be aware that each development is required to be treated on its merits and that approval is dependant on the overall impact of the development and not solely on compliance with minimal engineering standards.

The manual aims to set standards in order that Infrastructure associated with any development is designed to be serviceable, maintainable and meet community expectations.

Nothing in this manual is to be construed as limiting, in any way, Council's rights to impose differing conditions when approving development proposals, nor limiting the discretion of Council's Manager – Subdivision and Development Certification or their nominated representative to vary any necessary engineering requirements in respect of a particular development, having regard to good engineering practice.

Section 1 of this manual outlines Council's general engineering procedures in regard to the subdivision and development of land. The remaining sections contain detailed engineering requirements in regard to engineering drawings, road and drainage designs, and miscellaneous details.

GLOSSARY

Council	The Hills Shire Council as represented by its employees
Manager	Manager – Subdivision and Development Certification
Consent	Notice of Determination giving Subdivision, Development or Building Approvals
Council's Engineer	Person carrying out inspections or checking engineering details for Council
Applicant	Any person/s, company or entity representing the Developer for the purpose of carrying out works in association with a Subdivision, Development or Building
Surveyor	Registered Surveyor
Site	Area of land being developed by Subdivision, Development or Building Approvals
RTA	Roads and Traffic Authority, NSW
E.P.A.	Environmental Protection Authority
N.A.T.A.	National Association of Accredited Testing Authorities
W.A.E.	Works as Executed Plan
ARI	Average Recurrence Interval
AR&R (1998)	Australian Rainfall and Run-off (1998)
UPVC	Unplasticised polyvinyl chloride compounds (referring to pipe)
VCP	Vitrified Clay Pipe
RHS	Rectangular Hollow Section
FRC	Fibre Reinforced Cement
RCP	Reinforced Concrete Pipe
PSD	Permissible Site Discharge
SSR	Site Storage Requirement
1:6 (V:H)	Slope of 1 vertical to 6 horizontal
AS	Australian Standards published by the Standards Association of Australia and being current at time of application
EP&A Act	Environmental Planning and Assessment Act 1979, as amended
OH&S	Occupational Health & Safety
DWE	Department of Water and Energy
OSD	On-site Stormwater Detention
WSUD	Water Sensitive Urban Design

DESIGN GUIDELINES FOR SUBDIVISIONS/DEVELOPMENTS**INDEX**

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GENERAL PROCEDURES

1.1 Scope

This section of the Engineering Guidelines sets out Council's general procedures and practices in respect of engineering requirements for subdivision and development of land within the shire.

1.2 Aim

To provide the Applicant with an outline of Council's engineering procedures for subdivisions and developments.

1.3 Process for the Applicant

When development consent has been granted the Applicant should:

- **Read the consent** – where you are unsure of the meaning or extent of any condition contact Council and seek clarification (Development Application No. will assist in your enquiries).
Note: Construction Certificates cannot be issued until all Pre-Construction Certificate requirements / conditions of the Development Consent have been satisfied.
- **Engage an Engineering Consultant/Project Manager** – satisfy yourself that the client has the required expertise.
- **Give the Consultant a copy of the whole consent**, together with any approved plans or other documents.
- **Let the Consultant work for you** – Council's Engineer will have only one contact with whom correspondence relating to the technical aspect of the development will be exchanged.
- **Engineering plans are prepared by the Consultant** – the consultant is to arrange survey and engineering designs that will fulfil the conditions of the consent. These plans, when approved, will be used by the contractor to construct works.
- **Lodge the Engineering Plans and Assessment Fee**, together with any other fees / documents / information required to satisfy the conditions of the consent. Council's Engineer will check the engineering plans to ensure compliance with conditions of consent and other Council requirements.
- **Engineering plans returned to the Consultant for amendment (if required)** – the Consultant will be advised if any amendments are required to the Engineering Plans, and if any other outstanding items are required prior to the release of approved Engineering Plans.
- **Engineering plans re-lodged with Council** – the Consultant should have carried out all the amendments required by Council. If the Consultant needs clarification of any requirements, Council's Engineers are available for discussion. The Consultant must ensure that Council's "Red Mark Up" Plan (showing required corrections) is

DESIGN GUIDELINES – SECTION 1

returned to Council with the amended plans. This will expedite their assessment.

- **Approval of the Engineering Plans** – when Council is satisfied that the engineering plans will enable work to be constructed, the plans are approved and released in accordance with the consent conditions.
- **Construction** – The Consultant will engage a contractor to carry out the works in accordance with the approved plans, conditions consent and Council's Works Specification – Subdivisions/Developments.
- **Inspecting the works** – Council's Engineer will inspect the work to ensure the Contractor carries the work out in accordance with the approved plans and with Council's "Works Specification – Subdivisions/Developments".
- **Lodge the Works-As-Executed**, together with any compliance certificates, prior to requesting the final inspection.
- **Preliminary Final Inspection** – Council's Engineer is to be requested to inspect the works when the Applicant believes that all works are complete. The Applicant will be advised of any defects required to be rectified. Council's Engineer is to be advised when all the defects have been rectified to carry out the final inspection.
- **Check the Conditions of Consent** – Before requesting the issue of a Subdivision Certificate (in the case of subdivisions) or in the other cases prior to the Issue of an Occupation Certificate for the development, the development consent must be checked in detail. The Consultant/Applicant must ensure all conditions have been satisfied including, but not limited to:
 - Compliance with all engineering conditions required by the Development Consent,
 - Payment of fees and contributions,
 - Lodgement of certificates required by the Works Specification,
 - Lodgement of a Works-As-Executed Plan, and
 - Lodgement of Hydraulic & Structural certificates.
- **Issue of Subdivision Certificate/Occupation Certificate** – When all conditions have been complied with, including payment of all fees and contributions, Council's Engineer will recommend the release of the final plan of subdivision and have the documents prepared for Council's signature. The documents will then be sent for signature and the Applicant will be contacted when they are ready to be picked up.
- **Liability Period** – The liability period shall be in accordance with Chapter 13 of Council's Works Specification – Subdivisions / Developments for all civil works becoming (or existing as) a Council asset.

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1.4 Engineering Survey

The engineering survey shall be carried out using the ISG co-ordinate reference system and all levels shall be on Australian Height Datum (A.H.D.). The Manager's approval shall be obtained if another datum is to be adopted.

The survey shall accurately show the landform to facilitate the best possible design and construction of roadworks and drainage consistent with minimum interference to the existing amenity of the area.

Bench Marks shall be established at intervals not greater than 600 metres and are to be placed where they will not be disturbed. This requirement may be waived by the Manager where State Survey Marks exist.

1.5 Engineering Construction Certificate

Engineering plans are to be submitted to Council for approval together with an application form and the appropriate fee. Initially one (1) set of plans is to be submitted for checking by Council's Engineer, followed by a further three (3) sets on completion of any amendments required by Council. Two (2) sets of approved plans will be returned to the applicant with a letter of approval.

The preparation of engineering drawings for developments and subdivision shall be carried out in accordance with Section 2 – Engineering Drawings.

The civil engineering drawings will be checked by Council's Engineers for compliance with these guidelines. It is the responsibility of the Consultant to ensure that the designs, calculations and specifications comply with Consent Conditions, Engineering Guidelines, relevant Australian Standards and other Council documents. Approval of the drawings does not relieve the Applicant from rectifying any errors or omissions which become evident during construction or the liability period.

The Applicant is required to comply with the Council's current standards and if works have not substantially commenced within two (2) years of the date of the endorsed approval, the Manager may require that revised engineering drawings, calculations and specifications be submitted for a renewed approval.

1.6 Persons Qualified

Council requires that design plans be prepared to Council's standards by a person, either holding qualifications acceptable for Corporate Membership of the Institution of Engineers, Australia, or approved by the Manager and/or who has proven experience in the preparation of plans and specifications for land development.

DESIGN GUIDELINES – SECTION 1

1.7 Consultation

Designers are encouraged to consult with Council and other relevant authorities during the preparation of design plans.

1.8 Inspection of Works

The whole of the road and drainage works and any other works that will become Council's Asset, which the Developer is required to carry out in respect of a development, are to be inspected by Council's Engineers in accordance with Council's Work Specification – Subdivisions / Developments.

Internal civil engineering works for a development (apart from subdivisions) are the responsibility of the Developer who is to ensure compliance with Council's requirements.

A separate application shall be submitted to Council in respect of gutter and footpath crossings and inspections will be arranged with Council's Engineer.

1.9 Tree Preservation

Applicants are advised that NO trees shall be removed without Council's permission. The Applicant shall provide a tree survey plan detailing the trees to be retained and clearly defining any trees proposed for removal.

The following Tree Management provision applies to the Shire:

The Hills Shire Council Tree and Bushland Management provision is covered by Cause 27 of The Hills Shire Council Local Environmental Plan 2005.

Council may require Applicants to lodge a Tree Bond to ensure trees are not damaged or removed during the construction of works.

All trees to be retained are to be protected by paraweb fencing, firmly staked four (4) metres from the trunk of the tree. This fencing is to be erected prior to the commencement of any site works and is to be maintained in position for the duration of the works. The area within the dripline of the tree should not be used for the stockpiling of new or demolition material nor for vehicular or pedestrian convenience or uses that would compact the soil in the area.

1.10 Street Trees

Street Trees and tree guards are to be provided to all developments, where new road construction is required, in accordance with Council's Development Control Plan for Landscaping and Council's Tree Management Guidelines.

1.11 Erosion and Sedimentation Control

All developments, where the site is disturbed, shall provide Erosion and Sedimentation Control in accordance with the requirements of the

DESIGN GUIDELINES – SECTION 1

Department of Water and Energy, the Environment Protection Authority and Council.

Soil and Water Management plans shall be prepared in accordance with the Department of Environment and Conservation Guidelines, Landcom's "Managing Urban Stormwater – Soil and Conservation – Volume 1" 4th Edition (2004) and form part of the engineering drawings.

1.12 Road Safety Audit and OH&S Requirements

Consultants preparing Engineering Plans must carry out a road safety audit of the site, drawings and associated documents to ensure that all the requirements as set out in Austroad's "Road Safety Audit" Manual, Second Edition 2002, have been satisfied.

1.13 Engineering Fees

Tables 1.1 and 1.2 show typical engineering fees applicable to developments:

Engineering Fees for Subdivisions	
Engineering Construction Certificate fee and Long Service Levy payment (where applicable)	Paid prior to release of approved plans
Inspection fee for Road & Drainage Works	Paid prior to release of the final plan of subdivision
Bond assessment fee	Paid prior to assessment for release of the final plan of subdivision
Final release of plan of subdivision fee	Paid prior to assessment for release of the final plan of subdivision.

Table 1.1 - Engineering Fees for Subdivisions

Engineering Fees for Developments	
Engineering plan assessment fee	Paid prior to release of approved engineering plans
Inspection Fee for Road & Drainage	Paid prior to final approval
Bond assessment fee	Paid prior to final approval

Table 1.2 – Engineering Fees for Developments

All fees are reviewed regularly and the amount payable will be at the rate applicable at the date of assessment of engineering drawings, or the release of the final plan of subdivision, which shall be in accordance with Council's Schedule of Fees and Charges.

1.14 Works-As-Executed (W.A.E) Plans

Following the completion of engineering works of a subdivision or development, "Work-As-Executed" plans are required to be prepared by a Registered Surveyor or "Persons Qualified" (See Section 1.6) and forwarded to Council prior to the final inspection.

The WAE plans must show the matters as detailed in Section 2.21 – Engineering Drawings, of this guide.

1.15 Certificates

Prior to issue of a Subdivision Certificate, Occupation Certificate or upon completion of works, the following Certificates and Plans must be lodged:

Compaction Certificates

The final submission requires lodgement of the road pavement compaction certificates for all stages of the road pavement construction, lot filling and lot classification which have been prepared by a N.A.T.A. laboratory.

Compaction certificates and a lot fill diagram, an example of which can be found in Appendix "G", must also be provided where lots have been filled. The diagram will apply to all lots that have been filled in excess of 250mm. Two (2) copies shall be provided.

Easement Certificates

The final submission requires lodgement of the Surveyor's Certificate. This is to certify that all pipes and drainage structures are located within the proposed drainage easements.

Material Compliance Certificates

Material Compliance Certificates for all road pavement materials will be required to be submitted prior to issue of the Subdivision Certificate or upon completion of the works.

Engineers Certificate

Where structural work has been undertaken on a project a certificate from a Registered Engineer must be lodged certifying the adequacy of the structure for the imposed loads.

For OSD systems, a Hydraulic Certificate from "Persons Qualified" (See Section 1.6) shall be lodged with Council certifying that the system will function hydraulically as per design requirements.

Miscellaneous Certificates

The following certificates are required prior to the release of the final plan of subdivision or occupation certificate:

1. Kerb and gutter concrete core test results,
2. CCTV recording and report of the road drainage system,
3. Certification that the road pavement has been constructed in accordance with the approved design, and
4. Geotechnical reports as requires by the Subdivision / Development Consent.

1.16 Contributions

Section 94 Contributions are required in accordance with Section 94 of the Environmental Planning and Assessment Act, 1979, to provide for the increased demand for public amenities and services resulting from developments. Where a Section 94 Contribution is required to be paid, the amount payable will be at the rate applicable at the time of payment prior to release of the final plan of subdivision in accordance with advice issued with the consent.

For developments, Section 94 Contributions are payable prior to issue of the Construction Certificate at the rate applicable of the time of payment.

In lieu of the provision of Street Trees, council may accept a contribution based on one (1) tree per seven (7) metres of road frontage to be paid prior to assessment of the final plan of subdivision or prior to the final approval in the case of developments. The amount payable will be at the rate applicable at the time of payment in accordance with council's Schedule of Fees and Charges.

1.17 Bonds

All developments requiring infrastructure works shall provide a Maintenance Bond to Council, in the form of a cash bond or an unconditional bank guarantee, in the amount of 5.0% of the whole of the infrastructure works, with a minimum period of twelve (12) months from the date of release of the final plan of subdivision or the date of final clearance of the works for other developments. Any failure of the works within this period will lead to the call-up of all or part of the security to enable remedial works to be undertaken by Council.

For developments, other than subdivisions, Council also requires the submission of a cash bond or unconditional bank guarantee for outstanding works. The amount of such bond will be assessed upon submission of satisfactory engineering plans.

Council may also give favourable consideration to accept a suitable cash bond or unconditional bank guarantee from the Applicant where it is impractical to complete certain aspects of the infrastructure work or where it is necessary to defer construction until building activities have been substantially completed.

Upon written request from the Applicant and satisfactory completion of the maintenance period, or the works (whichever the case), the bond, or any amount remaining, will be released by Council.

ENGINEERING DRAWINGS

2.1 Scope

This section of the Design Guidelines sets out Council's general requirements for the preparation of Engineering Drawings.

2.2 Aim

To provide comprehensive details to facilitate the assessment of plans and construction of works in a safe, efficient and effective manner.

Also to ensure that Engineering Drawings provide sufficient information in a consistent format to allow Council to maintain a permanent record of subdivision and development works.

2.3 General Requirements

All engineering drawings are to ensure that all relevant conditions of consent have been addressed by the details shown. Drawings are to be submitted on standard size drawing sheets.

Four (4) sets of the engineering drawings are to be submitted, two (2) sets, endorsed with Council's approval, will be returned to the Applicant.

2.4 Title Blocks

All Engineering Drawings submitted to Council for approval are to have a title block showing the following:

- Applicants Name
- Consultants Name, Address, Phone Number and Contact Name
- Drawing Number, Sheet Number and Amendment Number
- Schedule showing Date and Nature of Amendments
- Site Address, Including Lot and Deposited Plan (DP) Number
- Council's Application Number
- Stage Number
- Drawing Title
- Scale with Scale Bar
- Signature of Authorized Person (see Section 1.6)

2.5 Road and Drainage Drawings

Plans for Road and Drainage works shall be presented to Council generally in the following format:

- Title Sheet
- Detailed Plan(s)
- Road Longitudinal Section(s)
- Road Cross Sections
- Typical Road Cross Section(s)
- Kerb Return Details
- Traffic Calming Devices, Pathways, Cycleways and Other Miscellaneous Road Details

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- Drainage Catchment Plan
- Drainage Calculations
- Drainage Longitudinal Section(s)
- Other Drainage Details
- Erosion and Sediment Control Measures
- Traffic Control Measures

2.6 On-site Storage Detention Drawings

Engineering drawings showing on-site stormwater detention details for developments shall generally include the following:

- Catchment Plan showing contours, area of site effected and area of site not collected.
- Drainage design summary in format of that shown in the Upper Parramatta River Catchment Trust's On-site Stormwater Detention Handbook.
- Calculations to confirm volumes and pipe sizes.
- Detail Plan and sections (see Section 2.17)
- Design Levels for top water/overflow; inverts of all drainage pits, pipelines and storage areas; overflow weir; centreline of orifice; surface of all drainage pits; and surfaces designed to detail and direct stormwater.
- Dimensions of storage areas, drainage pits, overflow weirs, maximum head, high early discharge head and depth of storage.

2.7 Title Sheet

The location of the Development shall be identified by lot, DP, street name and suburb and by clearly marking the site on a Locality Plan.

A layout plan shall be provided showing the layout of roads, road numbers, allotment layout (with lot numbers as per the approved plan of subdivision) and Bench Marks (to A.H.D.). The origin, nature and value of the datum used to establish the bench marks to be indicated, e.g. Permanent Mark or State Survey Mark and number. Where the plan shows layouts for the past or future stages, a bold and clearly defined stage border is to be shown. For small developments, where all of these details can be shown on the detail plan, the layout plan may be omitted.

The title sheet should also include construction notes and an index of the sheets provided in the set of drawings.

2.8 Detail Plan

Detail plans should include the following:

- North point.
- Lot details, including numbers, easements and any road widening.
- Existing contours extending beyond the boundary of the site for a distance sufficient to show any constraints.
- Existing natural features including trees, water courses, ditches, dams, mounds, etc. – these details are not to be limited to the site and are to include any feature which has an impact on the development.

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- Existing constructed features including fences, kerb and gutter, pipes, pits, headwalls, road pavements, buildings, road furniture, etc. – these details are not to be limited to the site and are to include any feature which has an impact on the development.
- Existing services including sewer, water, telephone, gas, electricity, etc., together with all associated pits, poles and other structures.
- Road centrelines showing chainages, bearings, and intersection points.
- Pavement and footpath widths.
- Curve information including tangent point chainages, radii, arc and chord lengths, superelevation (if applicable).
- Edge of pavement where no kerb is constructed.
- Kerb return numbers.
- Location of proposed gutter crossings, footpaving, cycleways, pedestrian ramps and any required access driveways.
- Drainage pits including chainage, length and pit number.
- Pipeline locations including pipe size, type and class.
- Cut and fill areas clearly identifying depths.
- Extent of proposed works.
- Subsoil Drains.

2.9 Road Long Sections

Road long sections should include the following :

- Road Number.
- Centreline chainage.
- Existing centreline surface level.
- Design centreline level (seal level).
- Design grades.
- Length of vertical curves.
- Chainage and levels at grade intersection points and vertical curve tangent points.
- Extended levels and grading to depict future works and / or match to existing roads (min 60m).

2.10 Road Cross Sections

A cross section for each centreline chainage (typically 15 metre intervals), with additional cross sections as required, should include the following:

- Road number.
- Centreline Chainage.
- Existing surface levels, extending beyond any proposed batters.
- Design surface levels.
- Offset distances to centreline.
- Crossfalls, batter slopes and dimensions, where these differ to that shown on the typical section.

2.11 Typical Road Cross Sections

A typical cross section shall be provided for each road as additional detail on at least one cross section on each sheet of road cross sections OR alternatively, may be provided separately as a set of typical cross sections. Where typical cross sections are provided separately to the road cross sections, general details shall comply with section 2.10. The additional detail for a typical road cross section should include the following:

- Road reserve width (existing and proposed).
- Road width between face of kerbs, or where no kerb is constructed, pavement and shoulder widths.
- Location and width of any proposed concrete footpaving or cycle paths.
- Kerb and gutter type.
- Grades/slopes of pavements, footpaths and batters, with offsets to changes of grade.
- Type and thickness of surfacing.
- Thickness of pavement, using Council's minimum pavement thickness and a note advertising that pavement thicknesses are to be designed in accordance with Council's Works Specification – Subdivision/Developments by a N.A.T.A. registered geotechnical consultant.

2.12 Kerb Return Details

Plans showing kerb returns at intersections, junctions and turning heads should include the following:

- Design kerb levels at tangent points, quarter points, high and low points, and wherever necessary to ensure accurate construction.
- Contours for pavement design.
- Kerb radius.
- Vertical curve design.
- Kerb return numbers.
- Kerb chainage and where appropriate centreline chainage.
- High and Low points.

Cul-de-sac head details shall be provided generally in accordance with the abovementioned requirements.

2.13 Traffic Calming Devices, Pathways, Cycleways and Other Miscellaneous Details

Plans showing traffic calming devices should show design levels, design contours, signposting and line marking. Pathways, cycleways and other miscellaneous road details should be shown clearly on typical sections.

2.14 Drainage Catchment Plan

A plan showing all internal and external catchments effecting the development and their breakdown into sub-catchments should include the following:

- Road Numbers.
- Existing and proposed property and road boundaries.
- All catchments / sub-catchments labelled according to the drainage calculation sheet.
- Catchment / sub-catchment boundaries indicated by a bold line.
- Proposed / existing contours at a suitable interval.
- Direction of waterflow along the flow paths of the longest times of concentration.
- Any features that may effect catchment boundaries.
- Drainage lines and pit numbers.
- Areas of all catchment / sub-catchments.

2.15 Drainage Calculations

A comprehensive drainage calculation table is to be provided complete with all hydrological and hydraulic data in the format shown in Section 4 – Drainage Design or other format approved by the Manager.

2.16 Drainage Longitudinal Sections

A longitudinal section of each drainage pipeline is to be shown including the following information on each:

- Chainages.
- Existing and finished surface levels.
- Design invert levels.
- Drainage pits (including numbering).
- Drainage line numbers.
- Grade, diameter, class and material of each pipe section.
- Hydraulic grade lines and levels.
- Pipe flows and capacities.

2.17 Other Drainage Details

Details of the following are to be provided on a drainage detail plan where not shown on the roadworks detailed plan:

- Details of the pipe junctions.
- Full details, including reinforcing, of non standard structures.
- Invert levels, surface levels and locations of all drainage structures.
- Pipe details.
- Length of lintels.
- Pit Schedule.

Where open drains are designed additional details shall be provided including the following:

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- Cross sections (usually 15 metre intervals)
- Details of drop structures, energy dissipators, gross pollutant traps, etc. (plan and sectional view).
- All natural creeks are to be retained and any works must comply with the requirements of DWE.

Where detention basins are required, full construction details shall be provided including the following:

- Plan view.
- Sectional views.
- Details of basin wall construction.
- Details of outlet structures.
- Extent of storage.
- Maximum storage level.
- Extent and nature of any landscaping.

2.18 Erosion and Sedimentation Control Measures

A plan shall be provided showing relevant site characteristics and design criteria of erosion and sediment controls and should include the following:

- Existing and design contours.
- Existing site drainage and vegetation.
- Limit of clearing, grading and filling.
- Grades / slopes of site.
- Critical natural areas (natural watercourses, swamps, cliffs, etc.)
- Location of topsoil stockpiles, roads and all impervious surfaces.
- Distance to nearest natural watercourse or drainage line.
- Catchment area boundaries.
- Sediment basin calculations.
- Erosion and sediment controls, including diversions.
- Construction / revegetation notes.
- Outline of program for maintenance of erosion and sediment controls.
- Temporary construction exits.

2.19 Traffic Control Measures

A plan shall be provided showing traffic control measures for each stage of a proposed development and should include the following:

- Diversion of Pedestrians
- Delineation of temporary traffic paths.
- Position of warning devices.
- After hours traffic arrangements.
- Instructions for the installation, operation, between stage rearrangements, and removal of traffic control devices.

Temporary road closures requiring detour onto an alternate route must make a separate formal application to Council's Traffic and Transport

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Team for approval by the General Manager. Further information regarding this process is available from Council's website.

2.20 Traffic Regulation (Permanent)

A plan shall be prepared and submitted to Council for approval showing all permanent traffic regulatory and warning devices including but not limited to linemarking (edge lines, centre lines and holding lines), painted line arrows, school zone signs and pavement markings, curve warning signs, keep left signs, parking restrictions, speed limit signs, bus zones and any other warning signs as required by the development consent or relevant Australian Standard.

2.21 Work-As-Executed Plans

Following the completion of engineering works in a subdivision or development, Work-As-Executed plans are required to be prepared by a Registered Surveyor or "Persons Qualified" (see Section 1.6) and forwarded to Council prior to the final inspection. The plans should include the following:

- Certification that all works have been completed generally in accordance with the approved plans.
- Any departures from the approved plans.
- Any additional work that has been undertaken.
- Stripped and Finished levels (see Section 2.21)
- Length of lintels and pit types shown on plan and long sections.
- Location of water and electricity conduits.
- Location of flushing points and subsoil drains.
- Location of start and end of construction.
- Top of kerb levels shown in cross sections and kerb return details.
- Footpath levels at boundary shown on cross sections.
- Road centreline levels shown on long and cross sections.
- Invert of pipes at pits.
- Location of gutter crossings.
- Width of road and footpath at 100 metre intervals.
- Location and details of Permanent Marks (PM's) and State Survey Marks (SSM's).
- Flood levels

2.22 Lot Filling

Council requires all areas of the site, subject to filling, to be identified on the engineering plans, submitted for approval and should include the following:

- Road numbers and road names.
- Road reserve boundaries.
- Allotment layout, including easements and lots numbered in accordance with the final plan of subdivision.
- Extent of fill.
- Fill area hatched, and hatching shown in a legend as filled area.
- Stripped and finished levels.
- Contours.
- Certification of the plan by Registered Surveyor.

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All imported fill material to be used must be tested and certified to be Excavated Natural Material (ENM).

Compaction shall be in accordance with Section 4.9 of Council's Works Specifications Subdivision / Developments – Placement and Compaction of Fill.

Each Residential Lot, whether filled or not, shall be classified in terms of Australian Standard for Residential Slabs and Footings (AS 2870). The lot classification shall be prepared by a N.A.T.A. registered geotechnical consultant.

No allotment filling is to be placed against existing allotment boundaries. Where approval is obtained to extend fill into adjoining properties (written consent required), satisfactory arrangements must be made for the grading of the fill onto the land without ponding.

Revegetation must be applied immediately on completion of the site filling – regrading works.

The minimum lot grading shall be 1% and 100mm of topsoil must be placed over all filled land and graded to ensure no ponding of water.

2.23 Sheet Sizes

Sheet sizes should not be mixed within the same set of plans and shall be limited to the following:

- A1 - 841 x 594 - Road and Drainage Works
- A2 - 594 x 420 - Minor Engineering Details
- A3 - 420 x 297 - Minor Engineering Details
- A4 - 297 x 210 - Minor Engineering Details

2.24 Scales

Scales used for all plans should be those recommended by the Standards Association and Austroads as follows:

- 1:1, 1:2 and 1:5 and multiples of 10 of these scales.
- 1:25 and 1:125 and multiples of 10 are not preferred but may be accepted.

The following scales are suggested for particular uses but may be varied as appropriate to the works concerned:

- Engineering Detail Plan - 1:1000 or 1:500
- Longitudinal Section - 1:1000 or 1:500 (Horizontal)
1:100 or 1:50 (vertical)
- Cross Section - 1:100
- Intersection Details - 1:1250, 1:200 or 1:100
- Layout Plan - 1:500, 1:1000, 1:2000 or 1:4000
- Catchment Plan - 1:500, 1:1000, 1:2000 or 1:4000
- Locality Plan - 1:500, 1:1000, 1:2000 or 1:4000

DESIGN GUIDELINES – SECTION 2**2.25 Dimensions**

Linear dimensions on all engineering plans shall be in metres, with the exception of detail plans which may be in millimeters. Methods of dimensioning will be in accordance with the current Australian Standard.

Chainages shall be expressed to the nearest 0.01m, levels shall be reduced to Australian Height Datum (AHD) and expressed to the nearest 0.005m (except Bench Marks, PM's and SSM's which will be expressed to the nearest 0.001m).

ROAD DESIGN

3.1 Scope

This section of the manual sets out Council's requirements for the design of urban and rural roads. It is in no way a comprehensive manual and it is intended to be read in conjunction with and as supplement to:

- AUSTRROADS – Guide to Traffic Engineering Practice, Parts 1-15;
- AUSTRROADS – Rural Road Design, Guide to the Geometric Design of Rural Roads;
- AUSTRROADS – Pavement Design, Guide to the Structural Design of Road Pavements;
- ARRB, Transport Research Sealed Local Roads Manual – Guidelines to Good Practice for the Construction, Maintenance and Rehabilitation of Pavements;
- AMCORD – A National Resource Document for Residential Development;
- Department of Housing Road Manual;
- Roads and Traffic Authority Road design Guide; and
- Council's relevant Development Control Plans.
- Infrastructure, Planning and Natural Resources – Roads and Salinity

3.2 Aim

The design and construction of a road system that provides the following:

- a high level of safety for all users;
- acceptable levels of amenity and protection from the impact of traffic;
- a reasonable level of convenience for all users; and
- economy of construction and maintenance.

3.3 Planning Standards

The road layout and width must conform to that shown on any relevant Development Control Plan. The precise location of any proposed roads are subject to the detailed site assessment carried out during the subdivision application process. In areas not covered by a Development Control Plan the layout and width will be determined by Council on their merits.

3.4 Design Speed

Design speed is the speed applied to the design of a road's geometric elements to create and maintain a speed environment for 85% of drivers.

Generally the following design speeds should be adopted:

Cul-de-sac, Access Streets and Community Title Roads	30km/h
Local Streets	50km/h
Collector and Sub-Arterial Roads	60km/h

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A speed limit of 60 km/h should be used for calculating design values which depend on speed. Vehicular speeds are limited by road intersections as well as changes in vertical and horizontal alignment. The adopted design speed may be reduced with Council approval.

3.5 Sight Distance

Refer to the RTA Design Guide Section 2.1.

The *Absolute Minimum* sight distance is that required for a driver to observe an object on the road surface ahead, and to stop the vehicle before reaching the object. This sight distance shall be available at every point on every road and at intersections to provide sufficient distance for an approaching vehicle to stop before an obstruction in the roadway at the intersection, using the approved design speed. Table 3.1 gives the appropriate value of sight distance for various speeds.

Target Speed (km/h)	Sight Distance (m)
15	5
30	20
40	30
50	40
60	55

Table 3.1 – Absolute Minimum Sight Distances (AMCORD)

The *Desirable Minimum* sight distance for two-way roads is that required for the drivers of two opposing vehicles to see each other in time to stop before collision. Table 3.2 gives the appropriate value of sight distance for various vehicle speeds. This distance shall be provided at the intersections to provide sufficient distance for a vehicle stopped in the side road, at the alignment of the through road, to start and turn safely onto the through road, and wherever else possible.

Target Speed (km/h)	Sight Distance (m)
15	10
30	40
40	60
50	80
60	110

Table 3.2 – Desirable Minimum Sight Distances

Where sight distance available on a two way rural road is less than the Desirable Minimum, pavement markings restricting overtaking shall be provided, together with appropriate widening of the shoulder if considered necessary by Council's Engineer.

3.6 Horizontal Alignment

Drivers react to restrictive horizontal alignment by slowing to an appropriate speed, hence the desired maximum Design Speed is maintained by deliberately designing a restrictive horizontal alignment.

The horizontal alignment of a road is to be generally in accordance with Council's relevant Development Control Plan.

The minimum horizontal deflection angle for which a curve is needed is 1.0 degree. Where possible the radii of the curve shall be maximized to reduced the necessity for centreline shift and widening of the carriageway. The minimum radii for various deflection angles shall be in accordance with Table 3.3.

Deflection Angle (Degrees)	Minimum Radius (m)
75°	20
60°	33
40°	65
30°	75
20°	100

Table 3.3 – Minimum Curve Radii

3.7 Transitions and Widening on Curves

All curves of less than 180 metres radius shall be widened and provided with plan transition at the junctions with the tangents. This applies particularly to curves which tend to reduce the speed of traffic flow and those with crests within their length.

3.8 Longitudinal Gradient

Longitudinal grades shall generally be in accordance with Table 3.4.

Road Type	Desirable Minimum (%)	Absolute Minimum (%)	Desirable Maximum (%)	*Absolute Maximum (%)
Sub-arterial	1.0	0.7	6.0	8.0
Collector/Industrial	1.0	0.7	6.0	10.0
Access/Local	1.0	0.7	12.0	16.0
Rural	1.0	0.7	12.0	16.0

* Absolute maximum of 6% where water sensitive urban design swales are proposed.

Table 3.4 – Minimal / Maximum Longitudinal Grades

At intersections, the longitudinal grade of the side road, within 5.0 metres of the through road, should not exceed 5.0%. The longitudinal grade at the head of cul-de-sacs should also not exceed 5.0%.

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Where the topography makes it difficult to provide a road location to conform to the required grades, the lengths over which these grades apply will then become a consideration, and any variations will be at the discretion of the Manager.

3.9 Vertical Curves

Vertical Curves of the form of simple parabolas shall be provided at all changes of grade exceeding the following:

- Access, Local and Collector 1.0%
- Rural and Sub-arterial 0.6%

Where the change of grade is less than that shown above, the centerline grading shall be "eased" over a symmetrically located distance of 10 metres. This distance may be reduced to 5 metres for cul-de-sacs, access streets and community title roads.

Every effort should be made to provide vertical curves as long as possible for improved appearance, however, surface drainage should be maintained in proximity to sag points. The design of vertical curves shall be in accordance with the RTA Design Guide and the following:

- A minimum design speed of 60 km/h shall be adopted even if the horizontal alignment is not satisfactory for that speed.
- The *minimum* length of a *crest vertical curve* is governed by sight distance requirements.
- The *desirable minimum* length of a *sag vertical curve* is that providing minimum headlight sight distance and this length should be provided wherever possible.
- The *absolute minimum* length of a *sag vertical curve* is based on the consideration of riding comfortably and shall be such that the maximum vertical acceleration is 0.1G.
- In addition to the minimum length requirements mentioned above, from a consideration of appearance the minimum length of a vertical curve in urban areas shall not be less than that shown in Table 3.5.

Road Type	General Minimum Curve Length (m)	Minimum Curve Length at Road Junctions (m)
Access/Local Streets	25	6
Collector Streets	32	12
Sub-arterial/Rural	50	20

Table 3.5 – Minimal Vertical Curve Lengths

- The use of short sections of straight grade between vertical curves is undesirable for appearance and should be avoided.
- The tangent point of a vertical curve in the side road should be located at, or behind, the kerb line through the road.
- Vertical Curves on kerb returns must be treated in such a manner as to make construction practical.

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3.10 Super-Elevation

Where super-elevation is considered necessary, the design shall be carried out in accordance with the R.T.A Road Design Guide adopting maximum values of 4.0% in urban areas and 7.0% in rural areas.

3.11 Carriageway Crossfall

The normal cross-fall of pavement and shoulders on a straight alignment shall be in accordance with Table 3.6.

Surface Type	Road Cross-fall (%)	Shoulder Cross-fall (%)
Concrete	2.0-3.0	2.0-3.0
Asphaltic Concrete	2.5-3.0	2.5-3.0
Sprayed Seal	3.0-4.0	3.0-4.0
Unsealed	-	4.0-5.0

Table 3.6 – Normal Cross-fall

There are many controls in urban areas which may force departures from the above values, should it be necessary to increase or decrease cross-falls the variances should be within 1.0% of the above values.

3.12 Pavement Design

A formal pavement design shall be prepared by a registered N.A.T.A. laboratory based on sampling and testing of the subgrade materials from the site. Details of the pavement design and results of sub-grade testing (including 4 day soaked CBR's) are to be submitted to Council for approval prior to commencement of pavement construction. The Design shall be based on Traffic Loading Criteria specified in the Consent for the proposed works, which is based on the Design Traffic Loadings shown in Table 3.7.

Road Type	Design Traffic Loading	AADT
Access/Local	5×10^5	500 - 2000
Collector	1×10^6	2000 - 4000
Sub-Arterial/Enhanced Collector	5×10^6	4000 - 10000
Commercial/Light Industrial	1×10^7	
Heavy Industrial	5×10^7	
Rural	5×10^5	
Cul-de-sacs/Private Community Title	2×10^5	0-500

Table 3.7 – Design Traffic Loadings

The minimum unbound granular pavement thickness for urban and rural roads shall be 300 mm, consisting of 150 mm thick sub-base and 150 mm thick base. A two coat hot bitumen seal (10mm & 14mm aggregate)

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shall be provided with a 40mm minimum thick asphaltic concrete wearing course for urban roads.

The pavement for roundabouts shall consist of deeplift asphaltic concrete placed on 150 mm rolled concrete (5 MPa) to the requirements of the Manager.

Rural cul-de-sacs shall be provided with a 25 mm minimum thick asphaltic concrete wearing course at the head of cul-de-sac to the tangent points.

3.13 Kerb and Gutter

Concrete kerb and gutter shall be provided on both sides of urban roads and other roads at the discretion of the Manager. Concrete kerb and gutter shall be provided in accordance with Table 3.8 or the relevant Development Control Plan.

Road Type/Location	Kerb and Gutter Type
Local/Access	Roll Kerb and Gutter
Collector	Roll Kerb and Gutter
Sub-Arterial	150 mm Integral Kerb and Gutter
Commercial/Industrial	150 mm Integral Kerb and Gutter
Adjacent to Public Open Space	150 mm Integral Kerb and Gutter
Roundabout Kerb Returns	150 mm Integral Kerb and Gutter

Table 3.8 – Kerb and Gutter Types

For infill development, or where new kerb and gutter joins existing works, the kerb and gutter type shall match the existing unless otherwise specified.

Pedestrian ramps shall be provided at intersections to Council's Engineers requirements in accordance with Council's Works Specification – Subdivisions/Developments.

3.14 Footpath Crossfall

Footpath areas shall be sloped towards the road so that water does not drain into adjoining properties. A desirable grade of 3.0% shall be provided, with a maximum grade of 4.0% and a minimum grade of 2.0%. Where properties bound sub-arterial / arterial roads, additional mounding may be required within the footpath area for sound attenuation purposes.

3.15 Berms

Berms shall extend 0.5 metres in cut or fill beyond the property boundary at the same grade as the footpath.

3.16 Batters

Batters shall be designed at stable slopes at the edge of the berm in accordance with Table 3.9.

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Batter Type	Desirable Maximum Slope (V:H)	Absolute Maximum Slope (V:H)
Earth	1:4	1:2
Rock	1:0.5	1:0.25

Table 3.9 – Maximum Batter Slopes

The abovementioned slopes for rock batters refer only to cut batters in solid rock with a few clay bands.

Where the abovementioned slopes cannot be reasonably attained, variances may be permitted subject to approval being obtained from the Manager.

The need for constructing retaining walls should be avoided wherever possible. Should a retaining wall be necessary the Developer must provide full engineering details of the proposed structure, including elevation, typical cross-section and structural certification.

3.17 Intersections

The design of intersections or junctions shall be in accordance with AUSTROADS – guide to Traffic Engineering Practice, PART 5, Intersections at Grade; R.T.A. Road Design Guide; and/or the requirements of the Manager.

Intersections should generally be located so that streets intersect at right angles and at not less than 70°. Adequate stopping and sight distances should be provided on each of the approach legs of an intersection and for any horizontal or vertical curves.

- Splay corners shall be provided at all intersections.
4m x 4m – Access Streets to Collector Roads
5m x 5m – Enhanced Collector to Heavy Industrial Roads and Rural Roads.

Turning movements shall be accommodated by using AUSTROADS Design Vehicles and Turning Templates as follows:

- For turning movements involving collector streets, the “design semi-trailer” with turning path radius 12.5 metres shall be used to enable turns to be made in a single forward movement.
- For turning movements involving access streets and collector streets, the “design single unit” truck with turning path radius 12.0 metres shall be used to enable turns to be made in a single forward movement.
- For turning movements on access streets, the “design car” with turning path radius 7.5 metres shall be used.

3.18 Kerb Returns

The general design of a kerb return shall be by dividing the kerb return into quarters between tangent points and using two vertical curves to achieve a smooth profile. The radii for kerb returns shall generally be in accordance with Table 3.10.

Road Type	Minimum Kerb Return Radii (m)	Minimum Cul-De-Sac Kerb Radii (m)
Residential	7.5	9.5
Industrial	12	13.5

Table 3.10 – Minimum Radii of Kerb Returns

Any variation to the above radii shall be approved by the Manager and should accommodate the intended vehicular movement using AUSTRROADS Design Vehicles and Turning Templates.

On bus routes the geometry of kerb returns may be varied to allow for the turning circle of larger vehicles.

Generally the profile shall be designed by adopting the grades of the approach and exit kerbs to the return, by quartering the length of the return and by computing kerb levels adopting two vertical curves as required.

As far as practicable low points within the kerb return shall be avoided to eliminate the use of pits with curved lintels.

3.19 Cul-De-Sac Head Kerb Grading

The design kerb levels at the head of a cul-de-sac shall also be detailed in plan using a scale of 1:200.

The longitudinal profile of the kerb and gutter of the cul-de-sac head shall be based on the adoption, as far as practicable of the standard 3% carriageway crossfall at critical points in the arc length with easing of changes in grade by designed vertical curves as required.

The minimum acceptable crossfall is 1.5% while the maximum allowable crossfall is 8%.

It will be necessary to give special consideration to the design of kerb longitudinal profiles for a cul-de-sac draining to the head. Drainage of the low point in the head shall be provided via pipelines within pathways. It is essential that provision be made for overland flow for events which exceed pipeline capacity or to allow for blockages of the downstream line.

3.20 Roundabouts

The design of roundabouts shall be in accordance with AUSTRROADS – Guide to Traffic Engineering Practice, PART 6, Roundabouts and shall be approved by the Council and / or the Roads and Traffic Authority.

DESIGN GUIDELINES – SECTION 3**3.21 Traffic Calming Devices**

The design of traffic calming devices shall be in accordance with AUSTROADS – Guide to Traffic Engineering Practice, PART 10, Local Area Traffic Management and shall be approved by the Council.

DRAINAGE DESIGN

4.1 Scope

This section of the manual sets out Council's requirements for the design of stormwater drainage for urban and rural areas. It is in no way a comprehensive design manual and it is intended to be read in conjunction with and as a supplement to the 1998 edition of Australian Rainfall and Run-off (AR&R), Australian Runoff Quality (ARQ) 2006, Water Sensitive Urban Design (WSUD) Technical Guidelines for Western Sydney and On-Site Stormwater Detention Handbook (latest edition). Many of the principles have been adopted from the Queensland Urban Drainage Manual.

4.2 Aim

The design and construction of a drainage system that provides the following:

- a high level of safety for all users;
- acceptable levels of amenity and protection from the impact of flooding;
- economy of construction and maintenance.
- the protection of downstream environments.

4.3 General Requirements

All drainage, whether internal or external to the site, relevant or reasonably required in respect of the proposed development shall be provided to Council's requirements at the Applicant's cost.

A stormwater drainage system shall be provided in accordance with the "major/minor" system concept set out in Chapter 14 of the AR&R (1998); that is, the "major" system shall provide safe, well-defined overland flow paths for rare and extreme storm run-off events while "minor" system shall be capable of carrying and controlling flows from frequent storm run-off events.

In general, drainage works will be constructed by the Applicant in accordance with the following:

Drainage in Urban Areas

Minor System

- Kerb and gutter shall be provided on both sides of all roads except where the relevant Development Control Plan advises otherwise.
- Kerb inlets shall be provided at locations such that the flow in the gutter does not exceed the specified limits.
- Inter-allotment drainage shall be provided at the lowest point of all allotments together with the creation of an easement over all downstream pipework to the legal point of discharge.
- Full piped drainage from all kerb inlets and other inlets shall be provided to the boundary of the subdivision, or approved point of discharge, unless otherwise approved by the Manager.

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Major System

- An overland flow system shall be provided for run-off in excess of the capacity of the pipe system, such that the design flow is carried through the subdivision or development clear of, and with the required freeboard to allotments.
- Overland flow paths will not be permitted within urban allotments, unless otherwise approved by the Manager.

*Drainage in Rural Areas**Minor System*

- Pipe or concrete box culverts, bridges or concrete causeways shall be provided at road crossings over natural watercourses to the limits of the road formation. Where services are underground then these services shall be carried over the structure in a services corridor approved by the Manager. Cross drainage design shall take into account the possible blockage caused by debris load from the catchment.
- Table drains and surface inlet pits shall be provided on the cut side of roads, within the road reserve, together with stone pitching or concrete lining where required for scour protection.

Major System

- An overland flow system shall be provided for run-off in excess of the capacity of the pipe system, such that the design flow is carried through the subdivision or development clear of, and with the required freeboard, to building platforms.

4.4 Lawful Point of Discharge

Urban development generally modifies the naturally occurring drainage regime by increasing the volume and rate of run-off, sometimes diverting flow between natural catchments, modifying existing flow paths and concentrating flow along drainage paths and at outlets. These changes may affect the safety, amenity and enjoyments of persons and property and may result in legal disputes.

Legal problems arising from the planning and proposed construction of the drainage works need to be negotiated and resolved with adjoining owners, and any other landowners who could be detrimentally affected, before approval of the works can be granted by Council. In this regard, Council will require that a *lawful point of discharge* exists prior to approval of development.

In order to determine whether a lawful point of discharge exists at a particular location the following two points must be satisfied:

- a) That the location of the discharge is under the lawful control of Council or other statutory authority from whose permission to discharge has been received. This will include drainage reserve, road reserve, or stormwater drainage easements; and
- b) That in discharging in that location, the discharge will not cause an actionable nuisance (i.e. a nuisance for which the current or some future

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neighboring proprietor may bring an action or claim for damages arising out of the nuisance).

Where the conditions of the first test have not been satisfied prior to development, it will be necessary to obtain a lawful point of discharge. This will usually be achieved by the creation of a drainage reserve, or where approved by the Manager, acquisition of a drainage easement over one or more downstream properties until the conditions of the second test have been met.

It should be noted that a natural watercourse may not necessarily constitute a lawful point of discharge, unless the requirements of the above two tests can be satisfied.

4.5 Flood Studies

Council may require the submission of a flood study in the following circumstances:

- To determine whether the proposed method of stormwater discharge would have a detrimental effect upon neighboring lands.
- To determine whether the existing or proposed stormwater discharge will have the potential to cause overland flood inundation problems on the property.

Where Council considers necessary, the Developer will be required to submit a flood study that calculates the 1:100 year Average Recurrence Interval flood level. The study shall be carried out by a qualified Civil Engineer or Surveyor with documented experience in hydraulic analysis. Design calculations submitted shall be accompanied by a catchment plan, showing contours, at the scale of 1:2000 or 1:4000, together with survey cross sections of the overland flow path.

The method of calculating flood/flow levels shall be to the requirements of the Manager. For minor flood studies Council prefers that the calculations be submitted on Council's form "A Simple Method for Estimation of Flow and Flood Levels in Easements" (See Appendix B)

4.6 Drainage Reserves/Easements

Where a natural open channel or similar overland flowpath exists in a proposed development, a drainage reserve shall be provided to contain the design flow within the actual drainage reserve area. The design and construction of the drainage reserve shall be in accordance with the relevant Development Control Plan and the minimum width shall be 5.0 metres.

Where stormwater drainage has been approved within allotments, a drainage easement shall be created or acquired. The width of easements benefiting Council shall be in accordance with Table 4.1 and the width of the inter-allotment drainage shall be in accordance with Table 4.2.

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Drainage Width	Easement Width (m)
Stormwater system \leq 1350	3.0
Stormwater system $>$ 1350	Width of the system plus 2.0 metres

Table 4.1 – Minimum Easement Width for Council Drainage

Drainage Width	Easement Width (m)
Stormwater system \leq 150	1.0
Stormwater system $>$ 150	1.5

Table 4.2 – Minimum Easement Width for Inter-allotment Drainage

4.7 Hydrology

A number of methods are available for the determination of the flow rate, run-off, volume and catchment response. The following commonly used hydrological methods are acceptable to Council:

- *The Rational Method* – This method has been the most commonly used method for drainage design. It provides simple means for the assessment of design peak flow rate (peak discharge). The rational method is not recommended for the design of detention basins.
- *Time-Area Run-off Routing, eg. ILSAX* – ILSAX is a computer based model which involves the routing of the time-area relationship developed for the sub-catchments under consideration. It is suitable for use in urban catchments but requires calibration with available flow data. The Technical Note 7 in Chapter 14 of the AR&R (1998) provides an example of the use of ILSAX.
- *RAFTS* – This is a proprietary computer model based upon the Regional Stormwater Model (RSWM). It includes separate routing of impervious and pervious areas; sophisticated loss models; urban run-off modelling and detention basin design; and provision for river basin analysis.

Other hydrological models may be used as long as the requirements of AR&R (1998) are met. Council will require the submission of calculations in the format of that shown on Council's summary sheet for hydrological calculations (See Appendix C), together with details of all program inputs and outputs.

4.8 Design Average Recurrence Intervals (ARI)

For drainage design under the "major/minor" concept the ARI's shall be in accordance Table 4.3

Location	Minor (Years)	System	Major (Years)	System
General	10		100	
Sag	20		100	

Table 4.3 – Design Average Recurrence Intervals

An overland flow path will be provided for drainage systems even where the 100 year ARI flows can be maintained within the pipe system.

4.9 Time of Concentration

The time of concentration (t_c) of a catchment is defined as the time required for the stormwater run-off to flow from the most remote part (relative to time) of the catchment to its outlet.

In determining the time of concentration, the designer should assume that the catchments under construction are fully developed in accordance with the land use shown on the relevant Zoning Maps.

In a typical urban drainage system a designer will need to calculate the time of concentration for inlet location and pipe sizing. Regardless of the purpose of the time of concentration calculation, it will include one or a number of the following components:

- Overland or 'sheet' flow time.
- Roof to drainage system flow time.
- Gutter or channel flow time.
- Pipe flow time.

Where the flow path is through areas having different flow characteristics, the flow time of each portion of the flow path shall be calculated separately.

The *minimum time of concentration* should not be less than 5 minutes for the total flow travel time from any catchment to its point of entry into the drainage network. The *maximum time of concentration* in urban areas shall be 20 minutes unless sufficient evidence is provided to justify a greater time.

4.10 Rainfall Intensities

The Design Intensity-Frequency-Duration (IFD) Rainfall is required as input to the hydrological model used for the drainage design.

Table 4.4 provides the intensities for the Parramatta catchment area and Table 4.5 provides the intensities for the Hawkesbury catchment area.

Alternatively, the IFD Rainfall for the catchment under consideration may be derived in accordance with Chapter 2 (Volume 1) of AR&R (1998). The nine basic parameters read from the Maps in Volume 2 of AR&R (1998) shall be shown in the calculations submitted to Council unless the Bureau of Meteorology provides a polynomial relationship for the catchment.

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Duration (min)	Average Storm Recurrence Interval						
	1 Year (mm/hr)	2 Year (mm/hr)	5 Year (mm/hr)	10 Year (mm/hr)	20 Year (mm/hr)	50 Year (mm/hr)	100 Year (mm/hr)
5	83.63	17.75	139.63	156.89	180.68	211.80	235.46
6	78.36	100.99	130.97	147.23	169.61	198.89	221.17
7	73.97	95.36	123.75	139.16	160.36	188.11	209.22
8	70.23	90.55	117.58	132.26	152.45	178.88	199.00
9	66.97	86.37	112.22	126.26	145.57	170.86	190.10
10	64.11	82.69	107.49	120.97	139.51	163.78	182.26
11	61.55	79.41	103.28	116.26	134.10	157.47	175.27
12	59.26	76.47	99.49	112.03	129.24	151.80	168.98
13	57.19	73.80	96.07	108.19	124.84	146.66	163.28
14	55.30	71.38	92.94	104.70	120.83	141.97	158.08
15	53.57	69.15	90.08	101.79	117.15	137.67	153.31
16	51.98	67.11	87.45	98.54	113.76	133.71	148.92
17	50.50	65.21	85.01	95.81	110.63	130.05	144.85
18	49.14	63.46	82.74	93.28	107.71	126.64	141.07
20	46.67	60.29	78.66	88.70	102.46	120.50	134.25
25	41.71	53.91	70.43	79.47	91.84	108.08	120.48
30	37.93	49.03	64.13	72.41	88.72	98.58	109.20
35	34.92	45.16	59.13	66.79	77.26	91.01	101.52
40	32.46	42.00	55.03	62.19	71.96	84.81	94.62
45	30.41	39.35	51.60	58.33	67.53	79.61	88.84
50	28.66	37.09	48.67	55.05	63.74	75.17	83.91
55	27.14	35.14	46.14	52.21	60.47	71.33	79.90
60	25.82	33.44	43.93	49.72	57.60	67.97	75.90
75	22.77	29.51	38.82	43.97	50.97	60.19	67.25
90	20.52	26.60	35.04	39.71	46.06	54.43	60.83

Table 4.4 – Rainfall Intensity for the Parramatta Catchment

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Duration (hr)	Average Storm Recurrence Interval						
	1 Year (mm/hr)	2 Year (mm/hr)	5 Year (mm/hr)	10 Year (mm/hr)	20 Year (mm/hr)	50 Year (mm/hr)	100 Year (mm/hr)
2	17.37	22.54	29.75	33.75	39.18	46.34	51.82
3	13.70	17.79	23.55	26.76	31.11	31.28	41.24
4	11.57	15.03	19.94	22.68	26.39	29.26	35.02
4.5	10.79	14.03	18.63	21.20	24.67	27.56	32.78
5	10.15	13.19	17.53	19.95	23.23	24.85	30.89
6	9.12	11.86	15.78	19.97	20.93	24.85	27.86
8	7.70	10.03	13.317	15.24	17.77	21.12	23.69
9	7.19	9.36	12.49	14.25	16.62	19.76	22.17
10	6.76	8.81	11.76	13.42	15.65	18.61	20.89
12	6.08	7.92	10.59	12.09	14.11	16.79	18.86
14	5.53	7.21	9.64	11.02	12.86	15.31	17.20
15	5.30	6.91	9.25	10.57	12.34	14.69	16.50
16	5.10	6.65	8.89	10.16	11.87	14.13	15.88
18	4.74	6.18	8.28	9.46	11.05	13.16	14.79
20	4.44	5.79	7.76	8.87	10.37	12.35	13.88
22	4.19	5.46	7.32	8.37	9.78	11.65	13.10
24	3.97	5.17	6.94	7.93	9.27	11.05	12.42
36	3.06	4.00	5.37	6.15	7.19	8.57	9.64
48	2.53	3.30	4.44	5.08	5.95	7.10	7.99
60	2.16	2.82	3.80	4.36	5.10	6.09	6.85
72	1.89	2.47	3.33	3.82	4.47	5.34	6.01

Table 4.4 Continued – Rainfall Intensity for the Parramatta Catchment

DESIGN GUIDELINES – SECTION 4

Duration (min)	Average Storm Recurrence Interval						
	1 Year (mm/hr)	2 Year (mm/hr)	5 Year (mm/hr)	10 Year (mm/hr)	20 Year (mm/hr)	50 Year (mm/hr)	100 Year (mm/hr)
5	79.76	102.36	130.81	147.22	169.01	197.45	219.06
6	74.73	95.90	122.52	137.88	158.27	184.88	205.10
7							
8							
9							
10	61.12	78.40	100.10	112.59	129.21	150.66	167.33
11							
12	56.49	72.46	92.49	104.02	119.35	139.35	154.53
13							
14							
15	51.06	65.49	83.55	93.95	107.78	125.81	139.50
16							
17							
18	46.83	60.05	76.59	86.11	98.11	115.29	127.82
20	44.46	57.03	72.73	81.76	93.77	109.44	121.33
24	40.58	52.03	66.33	74.55	85.50	99.76	110.59
30	36.13	46.32	59.02	66.32	76.04	89.71	98.32
35							
40							
45	28.96	37.11	47.25	53.07	60.82	70.93	78.59
50							
55							
60	24.59	31.50	40.08	45.00	51.57	60.12	66.60
75							
90	19.33	24.80	31.66	35.61	40.86	47.71	52.91

Table 4.5 – Rainfall Intensity for the Hawkesbury Catchment

DESIGN GUIDELINES – SECTION 4

Duration (hr)	Average Storm Recurrence Interval						
	1 Year (mm/hr)	2 Year (mm/hr)	5 Year (mm/hr)	10 Year (mm/hr)	20 Year (mm/hr)	50 Year (mm/hr)	100 Year (mm/hr)
2	16.25	20.86	26.69	30.05	34.52	40.35	44.78
3	12.68	16.29	20.92	23.60	27.14	31.78	35.31
4							
4.5	9.88	12.72	16.38	18.51	21.32	25.00	27.81
5							
6	8.28	10.67	13.77	15.58	17.97	21.10	23.46
8							
9	6.46	8.33	10.79	12.23	14.13	16.61	18.51
10							
12	5.42	7.00	9.08	10.31	11.92	14.03	15.65
14							
15							
16							
18	4.13	5.36	7.05	8.06	9.37	11.10	12.43
20							
22							
24	3.40	4.43	5.88	6.75	7.88	9.38	10.54
36	2.91	3.80	5.09	5.87	6.87	8.21	9.25
48	2.56	3.35	4.51	5.22	6.13	7.35	8.29
60	2.08	2.73	3.71	4.32	5.09	6.13	6.94
72	1.51	2.00	2.76	3.24	3.84	4.66	5.30

Table 4.5 Continued – Rainfall Intensity for the Hawkesbury Catchment

4.11 Run-off Coefficient

The coefficient of run-off (C) is the coefficient used in the Rational Method and is the ratio of the peak rate of run-off to the average rainfall intensity during the critical rainfall period for the catchment area under consideration. The value of C is a statistical composite not only for the infiltration and other losses, but also the effects of channel storage and initial loss.

The coefficient of run-off adopted shall account for the future development of the catchment in accordance with the land use shown on the relevant Zoning Maps.

Fraction impervious values shown in Table 4.6 have been adopted by Council from unpublished research by the Upper Parramatta River Catchment Trust. The coefficient of run-off values shown in Table 4.6 have been adopted by Council from the method presented in Section 14.5 of AR&R (1998).

Zoning	Example of Land Use	Impervious Fraction (%)
Rural (1a, 1b, 1c & 1d)	2, 10 & 40 hectare allotments	5
Residential (2a)	Medium density housing	80
Residential (2b)	Detached housing	80
Residential (2c)	Tourist villages	65
Residential (2d)	Residential with environmental protection	30
General & Special Business (3a & 3b)	Shops and offices	100
Light Industry 4b	Factory units, warehouses	90
Extractive Industry	Quarry	80
Special Uses (5a)	Schools, hospitals	50 (measure)
Public Open Space (6a)	Reserves, bushland	5
Private Open Space (8a)	Golf or bowling club	5 (measure)
National Parks & Reserves (8a)	Bushland	5
Business park (10a)	Business Park Estate	70

Table 4.6 – Fraction Impervious Values

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Zoning	C1	C2	C5	C10	C20	C50	C100
Rural (1a, 1b, 1c & 1d)	0.36	0.38	0.43	0.45	0.47	0.52	0.54
Residential (2a)	0.64	0.68	0.77	0.81	0.85	0.93	0.97
Residential (2b)	0.37	0.39	0.44	0.46	0.49	0.53	0.56
Residential (2c)	0.37	0.39	0.44	0.46	0.48	0.53	0.55
Residential (2d)	0.42	0.44	0.50	0.52	0.55	0.60	0.63
General Business (3a)	0.72	0.77	0.86	0.90	0.95	1.0	1.0
Special Business (3b)	0.72	0.77	0.86	0.90	0.95	1.0	1.0
General & Light Industry (4a & 4b)	0.68	0.72	0.81	0.85	0.90	0.96	1.0
Extractive Industry (4d)	0.64	0.68	0.77	0.81	0.85	0.93	0.97
Special Uses (5a)	0.53	0.56	0.63	0.66	0.70	0.76	0.80
Public Open Space (6a)	0.36	0.38	0.43	0.45	0.47	0.52	0.54
Private Open Space (8a)	0.36	0.38	0.43	0.45	0.47	0.52	0.54
National Parks & Reserves (9a)	0.36	0.38	0.43	0.45	0.47	0.52	0.54
Business park (10a)	0.61	0.64	0.72	0.76	0.80	0.87	0.91

Table 4.7 – 'C' Values for the Parramatta Catchment Area

Zoning	C1	C2	C5	C10	C20	C50	C100
Rural (1a, 1b, 1c & 1d)	0.31	0.33	0.37	0.39	0.41	0.45	0.47
Residential (2a)	0.63	0.67	0.75	0.79	0.83	0.91	0.95
Residential (2b)	0.32	0.35	0.39	0.41	0.43	0.47	0.49
Residential (2c)	0.32	0.34	0.38	0.40	0.42	0.46	0.48
Residential (2d)	0.38	0.40	0.45	0.47	0.50	0.54	0.57
General Business (3a)	0.72	0.77	0.86	0.90	0.95	1.04	1.08
Special Business (3b)	0.72	0.77	0.86	0.90	0.95	1.04	1.08
General & Light Industry (4a & 4b)	0.68	0.72	0.80	0.85	0.89	0.97	1.02
Extractive Industry (4d)	0.63	0.67	0.75	0.79	0.83	0.91	0.95
Special Uses (5a)	0.51	0.54	0.60	0.63	0.66	0.73	0.76
Public Open Space (6a)	0.31	0.33	0.37	0.39	0.41	0.45	0.47
Private Open Space (8a)	0.31	0.33	0.37	0.39	0.41	0.45	0.47
National Parks & Reserves (9a)	0.31	0.33	0.37	0.39	0.41	0.45	0.47
Business park (10a)	0.59	0.63	0.70	0.74	0.78	0.85	0.89

Table 4.8 – 'C' Values for the Hawkesbury Catchment Area

4.12 Catchment Area

The catchment area of any point may be determined from contour plans obtained from the detailed survey of the site. Where no detailed survey

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is available, 1:4000 orthophoto maps may be used to determine catchment boundaries and areas.

The determination of sub-catchments within urban subdivisions requires accurate contour information and a catchment plan shall be provided with the calculations.

The design should take into account realistic future road patterns where the contributing catchment includes areas subject to future development.

4.13 Hydraulics

Hydraulic calculations shall generally be carried out in accordance with Australian Rainfall and Run-off (1998). The detailed hydraulic grade line method is recommended for the analysis of stormwater pipe systems based on an analysis proceeding from downstream to upstream through the system. Calculations shall substantiate the hydraulic grade line adopted for the system and shown on the drawings.

The downstream water surface level shall be in accordance with the following:

- The hydraulic grade line level from downstream calculations including pit losses at the starting pit in the design storm event; or
- A level of 0.15 metres below the invert of the pit inlet in the downstream pit where the downstream starting point is a pit and the hydraulic grade line level is unknown; or
- The top of the outlet pipe for the minor event where the outlet is an open channel; or
- The top of the outlet pipe for the major event where the outlet is an open channel and the flood levels are not known; or
- The 1:100 year flood level for the major event where the outlet is an open channel and the downstream flood levels are known.

Council will require the submission of the calculations in the format of that shown on Council's summary sheet for hydraulic calculations (See Appendix C), together with details of all program inputs and outputs.

4.14 Minor Drainage System Criteria

The minor drainage system shall be capable of controlling flows from frequent run-off events up to and including the ARI's shown in Section 4.8.

The roadway flow width shall not exceed 0.45 metres at bus stops, pedestrian ramps and kerb returns; and 2.5 metres at other locations. The widths mentioned above shall be measured from invert of the kerb and gutter.

The product of depth (d_g) and velocity (V_{ave}) in the kerb and gutter should not exceed $0.6 \text{ m}^2/\text{s}$ (AR&R, 1998) to reduce hazard for pedestrians within the roadway. However, where there is an obvious danger of injury or loss of life, the $d_g V_{ave}$ product should be limited to $0.4 \text{ m}^2/\text{s}$.

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The water surface level for inlet pits shall be 0.15 metres below the invert of gutter or 0.15 metres below the under side of the lid for junction pits.

4.15 Major Drainage System Criteria

The major drainage system in the form of overland flow paths shall be capable of controlling flows which exceed the capacity of the minor drainage system from run-off events up to and including the ARI's shown in Section 4.08. Minor system blockages shall be assessed when designing for the major event.

The product of depth (d_0) and velocity (V_{ave}) in the kerb and gutter should not exceed $0.6 \text{ m}^2/\text{s}$ (AR&R, 1998) to reduce hazard for pedestrians within the roadway. However, where there is an obvious danger of injury or loss of life, the $d_0 V_{ave}$ product should be limited to $0.4 \text{ m}^2/\text{s}$.

The following requirements shall be provided in open channels, roadways and stormwater surcharge paths:

Generally:

- Overland flow paths shall not be located in private property.

Roadways:

- Total flow shall be contained within the road reserve.
- Flow depths in roadways shall not exceed 200 mm.
- A minimum freeboard of 500 mm shall be provided between the 100 year flood level and habitable floor levels.
- Where a road is in fill, a freeboard of 100 mm shall be provided between the 100 year flood level and the lowest point in the footpath.

Open Channels:

- A minimum freeboard of 500 mm shall be provided between the 100 year flood level and floor levels.

Where the above requirements can not be met for "in-fill" type subdivisions, Council may vary the requirements subject to approval being obtained from the Manager.

4.16 Roadway Flow Capacity

Roadway flow capacity shall be calculated by the method presented by Technical Note 4 in Chapter 14 of AR&R (1998). Table 4.9 provides the recommended values for Manning's Roughness Coefficient (n) and Flow Correction Factor (F).

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Roadway Surface Type	n
Concrete	0.013
Asphaltic Concrete	0.015
Sprayed Seal	0.018
Kerb and Gutter Type	F
Roll	0.9
150 mm Integral	0.9

Table 4.9 – Manning's Roughness Coefficient (n) and Flow Concentration Factor (F)

4.17 Pits

- i. Non-standard drainage structures for pipes larger than 750mm diameter shall be designed and certified by a Registered Structural Engineer by way of an accompanying letter or by statement on the engineering plans.
- ii. Drainage pits shall be designed wherever possible such that the inlet and outlet walls are perpendicular to the centerline of inlet and outlet pipes.
- iii. Wherever possible, drainage pits shall be designed so that the pipe centerlines intersect on the downstream pit face.
- iv. All drainage structures deeper than 1.8m shall be reinforced with appropriate Fabric to Engineer's (structural) requirement and pits deeper than 3.0m shall be structurally designed and certified.
- v. Drainage pits shall be designed and constructed in accordance with Section 6.16 of Council's Works Specification – Subdivisions / Developments.

Pits should be located at junctions; kerb returns; sag points; and changes in grade, level, direction, pipe size or pipe class. Kerb inlet pits shall be located so that the gutter flow width is in accordance with the requirements of Section 4.14 and at a maximum spacing of 90 metres where flow widths are not critical. Surface Inlet pits shall be located in drainage reserves, overflow paths and parks.

The theoretical inflow capacity of the drainage pits shall be read off the appropriate charts (Refer Appendix D). A blockage factor should be applied to the theoretical inflow capacity obtained in accordance with Table 4.10.

Condition	Pit Type	Theoretical Allowed Capacity
Continuous Grade	Kerb Inlet Pit	90 %
Sag	Kerb Sag Pit	80 %
Surface Inlet Pit Cover	Surface Inlet Pit	50 %
Surface Inlet Pit Cover with legs	Surface Inlet Pit	80 %

Table 4.10 – Provision for Blockage in Drainage Pits

DESIGN GUIDELINES – SECTION 4

Pit sizes shall be in accordance with the following:

- A minimum opening of 1.8 metres for pits on grade and 2.4 metres for sag pits shall be provided for kerb inlet pits.
- Other drainage pits shall be 600 mm x 600 mm for depths up to 800 mm; 600 mm x 900 mm for depths up to 1500 mm; and 900 mm x 900 mm for depths greater than 1500 mm.
- The minimum dimensions of surface inlet pits for use within development sites shall be 300 mm x 300 mm.

4.18 Pipes and Culverts

Piped and box culverts shall be constructed in accordance with Council's Work Specification – Subdivisions/Developments and should be designed in accordance with the following:

- As an overall gravity system with due regard to the upstream and downstream system.
- Pipes shall be determined using the Colebrook-White formula with the recommended roughness coefficients referred to in Table 4.11.

Pipe Material	Recommended K value (mm)
UPVC	0.03
VCP	0.04
RHS	0.046
FRC	0.06
RCP	0.3

Table 4.11 – Recommended Roughness Coefficients (K)

- Minimum pipe culvert size in Council property of 300 mm diameter.
- Minimum box culvert size in Council property of 600 mm wide by 300 mm high.
- A minimum grade of 1.0 % shall be provided for self cleansing purposes under low flow velocities.
- A maximum grade of pipelines shall be in accordance with Table 4.12.

However, where pipe grades necessitate drop pits, these grades may be varied pending approval from Council's Manager - Subdivision and Development Certification.

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Pipe Diameter (mm)	Maximum Grade (%)
300	20.0
450	11.0
525	9.0
600	7.5
675	6.5
750	5.5
825	5.0
900	4.5
1050	3.5
1200	3.0
1350	2.5
1500	2.2
1650	2.0
1800	1.7
1950	1.5
2100	1.4
2250	1.3
2400	1.2

Table 4.12 – Table of acceptable maximum pipe grades

- Grades in variation to the above may be approved by the Manager, however, where grades exceed 15.0% bulkheads shall be provided in accordance with Council's Works Specification – Subdivision/Developments.
- The minimum velocity in the pipe and box culverts shall be 0.6 m/s for self cleansing purposes.
- A maximum velocity of 6 m/s for scouring protection.
- Pipelines within roadways shall be generally located under the kerb.
- A downstream pipeline of smaller diameter than the upstream shall generally not be permitted.
- Curved pipelines shall be permitted in accordance with the Manufacturer's recommended minimum radii.
- All pipe inlets should enter the main pipe system at junction pits and shall be cut flush and grouted into the pit wall.
- Council's Engineer may approve direct connection to the main pipe system for, up to and including, 225 mm diameter pipes. Where these connections are approved the pipe shall be cut flush and grouted into the main pipe wall.
- Pits shall be designed with benching to improve hydraulic efficiency and reduce water ponding.

4.19 Hydraulic Losses

Hydraulic losses shall be determined from the appropriate charts in Appendix E for the following:

- The pressure change coefficient (K_e) for pit losses.
- Where approval from the Manager has been obtained for the use of bends, the appropriate values of pit pressure change.
- The energy loss coefficient for expansion and contraction (where approval from the Manager has been obtained for the use of smaller downstream pipe sizes).
- Obstruction or penetration losses.

Pipe friction losses shall be determined using the Colebrook-White formula with the acceptable roughness coefficients mentioned in table 4.11.

4.20 Open Channels

Open channels shall be provided to convey flows from the major storm event from a development site to the receiving water body in accordance with the following:

- The design will be generally in accordance with Chapter 14 of AR&R (1998).
- Friction losses shall be determined using the recommended Mannings "n" values referred to in Table 4.13.

Surface Type	Roughness Coefficient (n)
Concrete	0.013
Asphaltic concrete	0.013
Flush seal	0.014
Rough Texture surfaces – eg. Pavers	0.018
Gravel	0.02
Bare Clay – Loam earth	0.022
Lawns	0.05
Short grass	0.06
Long grass	0.1
Natural channel with earth bed	0.04
Natural channel with rock bed	0.045
Natural channel with coarse gravel bed	0.05

Table 4.13 – Recommended Mannings "n" Values

- The design will specifically provide for the safety of persons who may enter the channel where the product of depth (d_g) and velocity (V_{ave}) is greater than 0.4 m²/s.

DESIGN GUIDELINES – SECTION 4

- The desirable maximum side slopes shall be 1:6, the absolute maximum should be 1:4 and cross slopes for the channel floor should be 1:20.
- Low flow provisions shall be provided in man-made or altered channels by the provision of pipelines, concrete lining or sub-soil drainage.
- Vegetated creek lines shall be retained in their natural state with enhancements to prevent scour due to increased frequency of bankfull flows and urbanization.
- Low flow inverts of creeks shall be designed as a wet invert and planted with suitable riparian vegetation.
- Pipe outlets discharging to watercourses are to join the watercourse at mean dry water level, angled at 45 degrees downstream and protected by gabions or rock filled mattress to Council's requirements. Discharges to existing rock outcrops will be considered on individual merits.

4.21 Bridges and Culverts

Bridges and major culverts shall be designed for the major storm event generally without afflux in urban areas. A minimum clearance of 0.3 metres should be provided between the major flow level and the underside of a major structure to allow for passage of storm debris.

4.22 On-Site Stormwater Detention

The Local Government Area of The Hills Shire drains two main catchments, these being the Upper Parramatta River Catchment and the Hawkesbury River Catchment. The on-site stormwater detention (OSD) requirements are different for each catchment.

- Upper Parramatta River Catchment – For those areas draining to the Upper Parramatta River Catchment on-site stormwater detention (OSD) shall be provided in accordance with the requirements of the Upper Parramatta River Catchment Trust (UPRCT). Details of these requirements can be found in the publication *"On-site Stormwater Detention Handbook"* by the UPRCT. This publication can be purchased directly from UPRCT or is available on the internet at www.uprct.nsw.gov.au.
- Hawkesbury River Catchments – Using the same principles as above, where a proposed development drains to the Hawkesbury River Catchment OSD will be required.
- The Permissible Site Discharge (PSD) and Site Storage Volume (SSV) requirements shall be derived from Table 4.14 for that portion of the Hawkesbury River Catchment area that falls within the Shire.

Site Slope	PSD (l/s/ha)	SSV (m ³ /ha)
Greater than 15%	136	298
Between 10% and 15%	115	336
Between 6% and 10%	104	362
Between 3% and 6%	92	396
Between 0% and 3%	87	412

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Table 4.14 - PSD and SSV Requirements for the Hawkesbury River Catchment

On-site stormwater detention shall not be provided in catchment areas that drain to an approved detention system. This generally includes new release areas. Council's Subdivision & Development Certification section can advise which catchment applies to the proposed development and the requirement for on-site detention.

The design of detention basins shall be in accordance with the principles of the Upper Parramatta River Catchment Trust policy and the following:

- Maximum depth of 600 mm in above ground systems, 200 mm depth in driveways, car parking areas and walkways.
- Desirable maximum side slopes of 1:6 for above ground basins, the absolute maximum should be 1:4 and minimum slope of floor should be 1:50.
- Provision of a grated access lid for each chamber of an underground system.
- Discharge control pits and grated access pits shall be 600 mm x 600 mm for depths up to 800 mm; 600 mm x 900 mm for depths up to 1500 mm; and 900 mm x 900 mm for depths greater than 1500 mm.

4.23 Inter-allotment Drainage

Inter-allotment drainage shall be provided to every allotment which does not drain directly to the street or to a lawful point of discharge.

The desirable minimum pipe grade shall be 1.0% and pipes shall be designed to accept concentrated drainage from OSD systems or the concentrated drainage from buildings and paved areas (impervious areas shall be obtained from Table 4.6) for flow rates having a design ARI the same as the minor street drainage system. Table 4.15 provides the general minimum pipe sizes for inter-allotment drainage.

Number of Allotments	Minimum Pipe Size (mm)
1-4 lots	150
5-8 lots	225
9-15 lots	300
16-25 lots	375

Table 4.15 – General Minimum Pipe Size Requirements for Inter-allotment Drainage

Inter-allotment drainage pits shall be located at the lowest point of each allotment to be drained, changes of grade, pipe size or direction.

Where the pipeline serves more than five (5) lots, a hydraulic grade line analysis will be required with the design submission to ensure lots are not affected by surcharge.

Minimum cover for pipelines within allotments shall be 300mm, apart from footway crossings to kerbs with galvanized steel Rectangular Hollow Sections (RHS).

Where an OSD system is to be connected to an interallotment drainage system, the IAD pipeline is to have a minimum 1.0 metre cover.

4.24 Stormwater Discharge

Outlet drains and structures shall be designed to ensure that stormwater flow is discharged into existing natural water courses, kerb and gutter or channels in a manner that:

- Flow velocities are reduced below scouring velocity.
- Scouring at the structure is prevented.
- Provides safety measures alleviating hazardous conditions at the outlet.

The discharge to kerb and gutter shall be located so that stormwater flows are maintained within the flow width requirements of Section 4.14.

Energy dissipators shall be provided to outlet structures at natural water courses and open channels in accordance with Section 8 of the RTA Road Design Guide where the permissible velocities in Table 4.16 are exceeded.

Channel Gradient (%)	Permissible Velocity (m/s)
1	2.1
2	1.9
3	1.8
4	1.7
5	1.6
6	1.6
8	1.5
10	1.5
15	1.4
20	1.3

Table 4.16 – Permissible Velocities for Vegetated Channels

4.25 Water Sensitive Urban Design

The objective of Water Sensitive Urban Design (WSUD) is for a post-development water cycle to replicate or improve upon the pre-development water cycle through the use of design techniques to reduce development impact on receiving waters.

WSUD aims to:

- reduce water demand;
- reduce water discharges to receiving environments;
- maximise opportunities for water harvesting and re-use; and
- reduce water pollution.

DESIGN GUIDELINES – SECTION 4

WSUD measures are to provide sustainable and integrated management of land and water resources, incorporating best practice stormwater management, water conservation and environmental protection measures. Additionally, WSUD is to take into account water quality, stream stability, flow attenuation and runoff volumes.

All proposals are to incorporate WSUD measures into a new development and shall be submitted to Council for consideration with the Development Application.

Any proposal to incorporate WSUD measures is to recognize and design for ongoing operation and maintenance requirements.

WSUD measures shall be designed and constructed to comply with the requirements of Council policies and the following publications.

- Water Sensitive Urban Design Technical Guidelines for Western Sydney (NSW Government Stormwater Trust and UPRCT, May 2004); and
- Australian Runoff Quality (Engineers Australia 2005).

WSUD infrastructure recommended for implementation includes:

- rainwater tanks;
- stormwater treatment devices;
- bio-filtration;
- bio-retention;
- detention basins;
- swales;
- porous paving / surfaces; and
- wetlands
- gross pollutant traps

4.26 Gross Pollutant Traps

Gross Pollutant Traps (GPT) serve a specific purpose to reduce litter, vegetation matter, debris and coarse sediment from discharging into downstream waterways and water sensitive treatment train measures.

Council requires that GPT's are designed and installed in accordance with the guidelines provided within the following documents:

- Australian Runoff Quality, A Guide to Water Sensitive Urban Design, 2006 - Chapter 8 - Gross Pollutant Traps and Sediment Traps,
- Water Sensitive Urban Design, Technical Guidelines for Western Sydney, 2004.

The following criteria are to be considered in the design and installation of an appropriate GPT.

The type of catchment that is being treated and the primary pollutants to be targeted for capture. Treatment objectives should generally consider the following:

- Gross Pollutants - litter, vegetation matter and debris larger than 5mm,
- Sediment - particles larger than 0.125mm.

The size of the catchment to be treated. This will influence treatable flow rates, operating design flows and pollutant removal rates.

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- Generally the treatment of a 3 month ARI design flow from a catchment will result in the treatment of a significant portion of flow.

The type of device, whether propriety or custom built, to provide for:

- The treatment of the targeted primary pollutants with the appropriate removal efficiency.
- The size is to match the treatable discharge from the catchment.
- On-going maintenance requirements.

The location of the device and site constraints in relation to:

- Physical constraints - topography and slope, soils, groundwater and available space.
- Social constraints - health and safety, odour, aesthetics and vermin.
- Maintenance requirements - ease of device operation, appropriate all weather access tailored to the maintenance equipment and systems required, frequency of maintenance and disposal of waste.

MISCELLANEOUS REQUIREMENTS

5.1 Scope

This section of the engineering guidelines provides miscellaneous engineering requirements not covered in the previous sections.

5.2 Aim

To provide the developer with an understanding of other Council engineering requirements that may be required in the development of land.

5.3 Pathway and Cycleways

Pathways and cycleways are to be designed to provide a safe and convenient network for pedestrians and cyclists, incorporating the street network together with all-weather paths and cycleways to provide access to public transport and points of attraction within the Shire.

Pathways shall be provided in accordance with any relevant Development Control Plan and, unless otherwise directed, shall generally be provided in accordance with the following:

- At sag points to cater for any overland flow requirements.
- Maximum longitudinal grade should not exceed 1:6 (V:H). Where the maximum grade is exceeded, stairs and handrails should be provided in accordance with Council's Works Specification – Subdivisions/Developments.

Lighting shall be provided to pathways in accordance with the Australian Standard 1158.1 and the relevant Authority's requirements.

Street Footpaving shall be provided in accordance with any relevant Development Control Plan and to the full frontages of any medium density residential development, high density residential development, or commercial development. The design shall detail the requirements of Council's Works Specification – Subdivision/Developments.

Cycleways shall be provided in accordance with any relevant Development Control Plan and shall be designed in accordance with AUSTRROADS – Guide to Traffic Engineering Practice, PART 14, bicycles.

The location of pathways and cycleways shall consider pedestrian and cyclist safety, together with the above requirements and should preserve trees and other natural features where possible.

5.4 Battleaxe Handles

Where battleaxe shaped allotments are approved by Council, provision is to be made for the construction of suitable vehicular access within the proposed handles or rights of carriageway. The standards required by Council will generally be in accordance with Table 5.2.

DESIGN GUIDELINES – SECTION 5

	One Allotment	Two or More Allotments
Residential	4.0 metre wide access handle with no formal pavement required ⁽¹⁾ .	6.0 metre wide access handle with construction of a 5.0 metre wide ⁽²⁾ medium duty driveway.
Rural	6.0 metre wide access handle with the construction of a 3.0 metre wide all-weather pavement ⁽³⁾ .	6.0 metre wide access handle with the construction of a 3.0 metre wide all-weather pavement ⁽³⁾ and suitable passing bays.
Industrial	8.0 metre wide access handle with construction of a 6.0 metre wide heavy duty driveway.	8.0 metre wide access handle with construction of a 6.0 metre wide heavy duty driveway. ⁽³⁾ and suitable passing bays.

Table 5.2 – Battleaxe Handle/Rights of Carriageway Standards

1. Vehicular access is to be made available to all allotments.
2. Where a reduction in pavement width is sought, provision is to be made for passing.
3. The construction of a sealed pavement and/or passing bays will be dependant upon the existing site features and consideration must be given to sight distances, existing trees, grade, drainage and length of access handle.

5.5 Access Driveways

Access driveways shall be provided in accordance with Council's Development Control Part D Section 1 – Parking 2007.

Driveway grades should not exceed 22.0% and steep driveways for residential dwellings should be constructed to Council's standard for maximum allowable grades (DWG No. SD16).

5.6 Disused Laybacks and/or Footpath Crossings

The removal of all disused laybacks and/or footpath crossings to the development site and their replacement with full kerb and gutter together with the restoration and turfing of the adjoining footpath verge area.

5.7 Applications

Separate applications, together with the payment of the appropriate fees, shall be made to Council for the following:

- Construction of gutter and footpath crossings.
- Construction of concrete Footpaving.
- Removal of gutter and footpath crossings.
- Road openings.
- Access across Council Reserves.

5.8 Temporary Roads

In some circumstances, Council may permit the creation and construction of temporary public roads.

Where approved, the following criteria must be considered:

- Construction must extend over a minimum of two(2) development lots;
- The temporary public road is not to be constructed upon land zoned for Business, Open Space, Trunk Drainage, Transport Corridor or Educational Establishment;
- A minimum trafficable width of 6.0m is to be provided to cater for two-way traffic with 3.5m wide verges on both sides;
- The allotment layout associated with temporary public road construction does not result in the creation of un-developable residue allotments;
- The safety of all road users (including service and passenger vehicles, pedestrians and cyclists) is not compromised;
- The temporary public road is to be constructed to a standard in accordance with THSC Design Guidelines for Subdivisions / Developments (Section 5.7); and
- The final road configuration is consistent with the pre-planned road layout and road type from Council's Development Control Plan (where applicable)

Any temporary public road construction proposal must be accompanied by the following:

- An engineering design for the temporary road, as well as plans demonstrating the future road configuration after the closure of such, including details of any necessary drainage and service utility provision requirements.
- A traffic safety report prepared by an appropriately experienced professional demonstrating how the partial road proposal provides for the safe usage of all road users; and
- The submission of written evidence demonstrating that an attempt to cooperate with adjacent landowners has been undertaken. Such evidence could be in the form of letters and responses (if applicable).

5.9 Partial Road Width Construction

Council does not encourage the partial construction of roads.

Should there be no alternative, partial road construction will be considered (where permitted under Council's Development Control Plan) subject to the following criteria being satisfied:

- The site(s) adjacent to the proposed partial road are zoned for residential use and are not in public ownership or identified for acquisition;
- A minimum trafficable road width of 6.0m is provided to cater for two-way traffic;
- The development potential of all adjoining allotments is maintained;
- The safety of all road users (including service and passenger vehicles, pedestrians and cyclists) is not compromised; and

DESIGN GUIDELINES – SECTION 5

- The final road configuration is consistent with the pre-planned road layout and road type from Council's Development Control Plan (where applicable).

Any partial road construction proposal must be accompanied by the following:

- An engineering design for the partial and full width road works including details of any necessary drainage and service utility provision requirements; and
- A traffic safety report prepared by an appropriately experienced professional demonstrating how the partial road proposal provides for the safe usage of all road users.

Any works to be carried out, or necessitate easements, over adjoining properties, shall be approved by the owner(s) of such land and suitable documentary evidence of this approval shall be submitted to Council.

5.10 Street Names

Section 162 of the Roads Act 1993 states:

1. A roads authority may name and number all public roads for which it is the roads authority.
2. The RTA may name and number all classified roads.
3. Neither a roads authority nor the RTA may name a public road, or alter the name of a public road, unless it has given the Geographical Names Board at least one month's notice of the proposed name.

In this regard, road names are to be submitted to Council for approval and then the Council will follow the procedures set out in Clauses 7-10 of the Roads (General) Regulation 2008.

A brochure – "GUIDELINES FOR THE NAMING OF ROADS" – is available from Geographical Names Board (gmb@lands.nsw.gov.au search under publications).

5.11 Bridges and Culverts

The design of bridges and culverts shall be in accordance with AUSTRROADS – Bridge Design Code and a structurally certified design shall be submitted to Council. Council will also require the submission of a structural certification of the constructed works by a Registered Structural Engineer.

5.12 Safety Barriers for Roads and Bridges

Safety barriers for roads and bridges shall be provided in accordance with Section 6 of the RTA Road Design Guide.

5.13 Encroachment in Council Drainage Easements

A public stormwater easement is vested in the Council and typically consists of both piped flow (minor) and an overland flowpath (major) as discussed in Section 4.3 of this document.

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Minor works within a Council drainage easement may be approved by Council subject to the requirements set out below.

The proposed works must not impact upon flood behavior as it passes through the site. This will require:

- Hydrological modelling, using a DRAINS model or similar, to determine the volume of stormwater that passes through the site associated with this easement.
- Hydraulic modelling, using a HEC-RAS model or similar, to examine the flow conditions as they pass through the site in both the pre-development and post development conditions.
- The pre-development and post development conditions at the upstream and downstream site boundaries must be the same, to mitigate flooding impacts off-site. Similarly, flooding on-site must be managed with respect to the potential for injury, death or property damage, in accordance with this document.

The proposed works must not interfere with the rights afforded to Council, specifically with respect to the maintenance of the pipe and other structures within the easement.

The location of the easement may need to be varied or its width increased in order to comply with the above requirements and Section 4 of this document.

Any proposed encroaching structures must be easily dismantled (free standing).

Any proposed encroaching structures must be registered on the title of the subject site via a deed with Council. The purpose of the deed is to protect Council's rights to access the easement area, requiring the removal of the encroaching structure. A standard form deed is available from Council upon request. All costs associated with the preparation and registration of the deed shall be borne by the person seeking approval for these works.

5.14 Encroachments in Private/ Inter-allotment Drainage Easements

An inter-allotment drainage easement provides a legal point of stormwater discharge and is a constraint that must be considered in the design and construction of any structure on a burdened lot. Except for constrained land, lots are typically graded at the subdivision stage so that there should be no need for additional earthworks within an inter-allotment drainage easement at the dwelling design stage. The need to retain the existing ground surface levels should be considered early in the design of a dwelling to ensure compliance with this requirement.

Minor works within an inter-allotment drainage easement may be approved by Council subject to the requirements set out below.

Notwithstanding these requirements, any proposed works within an inter-allotment drainage easement must also be considered with respect to the associated impacts on neighbours concerning privacy, overshadowing and general amenity impacts as they are typically located adjacent to a property boundary.

DESIGN GUIDELINES – SECTION 5

The works will only be permitted within the easement if the person seeking to undertake these works obtains written consent from each and every person either burdened or benefited by the easement. This will require the following to be submitted:

- A title search showing the easement and listing the properties burdened or benefited;
- A signed letter from the owners of each property above which states that they have no objection to the proposed encroachment;

Where written consent is not able to be provided for all affected properties the encroachment will not be permitted.

The proposed works must not “substantially” interfere with the rights afforded to those persons benefitting from the easement. Primarily, this relates to the maintenance of the pipe and other structures within the easement. For example, the cost and work involved in excavating a pipeline for maintenance purposes in the pre-development and post development condition (along its full length) could be compared and if the difference is negligible then it could be argued that the works do not impinge upon this aspect of the benefitting parties rights.

Any structures proposed within, or adjacent to, the easement as part of the works (for example, a retaining wall) must be designed such that it does not impart a load on the stormwater pipe in the easement. The design for any such structure must be accompanied by advice from a suitably qualified structural engineer confirming compliance with this requirement. Post-construction certification from a suitably qualified structural engineer must also be provided once the works are complete.

Typically, a surface inlet pit is provided in the lowest corner of each lot burdened by an inter-allotment drainage easement. Section 4.17 of this document specifies the required size of this pit, depending on the depth of the pipe. If filling is proposed within an inter-allotment drainage easement, it may be necessary to reconstruct a larger pit in order to comply.

Section 4.23 of this document requires a minimum ground cover of 300mm above a stormwater pipe within an inter-allotment drainage easement, increasing to 1m where OSD is required or 800mm where a rain garden is required. If cut is proposed within an inter-allotment drainage easement, the minimum pipe cover must be provided.

If the inter-allotment drainage easement services more than five lots, a hydraulic grade line analysis would have been carried out at the subdivision stage to address the potential for surcharge. If cut is proposed within an inter-allotment drainage easement, the impacts (if any) upon the hydraulic grade line and the potential for surcharge must be considered.

5.15 Insurance and Workers Compensation

- a) Public Liability Insurance: The Applicant must ensure that Contractors, engaged on Development or Subdivisional Works, have taken out Public Liability Insurance which must include the interests of Council to at least the value of \$10 million dollars.

DESIGN GUIDELINES – SECTION 5

Details of Insurance must be submitted to Council prior to work commencing.

- b) Workers Compensation: The Applicant must ensure that Contractors engaged on Development or Subdivisional Works carry current Workers Compensation Insurance on all works as required by Statute.

5.16 Traffic Control for Works in Public Roads

A "Traffic Control Plan" must be prepared by a suitably qualified RTA accredited work site traffic designer for all works that are carried out in or adjacent to a public road. This Plan must satisfy all the requirements of AS 1742.3 – 2002.

It is the sole responsibility of the Applicant to have in place and maintain traffic facilities, i.e. barricades, signs, lights etc at all times, day and night, seven (7) days a week for the duration of the works in accordance with the Plan.

If it comes to the attention of Council that Traffic Control Devices are insufficient or inoperational (particularly in an after-hours situation), then Council may arrange to reinstate the Traffic Control Devices and recoup the costs from the Applicant.

Any changes to the approved Traffic Control Plan must be approved by Council prior to implementation.

5.17 Landscaping of Roundabouts and Median Strips

Description

The need for appropriate landscaping of civil infrastructure works on large collector roads should be considered to enhance the appearance of public areas and thoroughfares. The Applicant shall submit details of any proposed landscaping of roundabouts and median strips for the consideration to Council with the Development Application.

Design Requirements

- i. In proposing the landscaping of civil works the following issues need to be considered:
 - The potential damage to pavement from water and root system infiltration,
 - Ensure the line of sight is maintained for vehicular and pedestrian movements,
 - Ensure that tree and shrub species selection is suitable for the particular site in terms of growth height, width and vigour,
 - The potential cost of maintenance and landscaping,
 - Accessibility of landscaping for maintenance purposes,
 - The adequate provision of services for landscaped areas including irrigation and drainage.
- ii. Each site should be considered on it's merits in terms of appropriateness for landscaping including the following:
 - Sight distances,
 - Turning paths of various sized vehicles,
 - Pedestrian movements,

DESIGN GUIDELINES – SECTION 5

- Provision and location of services,
- Cost of installation and maintenance of the landscaping,
- Safety of maintenance crews during works.

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D

APPENDIX E

Execution Page

The common seal of **The Hills Shire Council**
was affixed under a resolution passed by council
on
in the presence of:

General Manager

Mayor

Print Name

Print Name

Witness

Print Name

Executed by the **Developer** in accordance with
s127 of the *Corporations Act 2001* (Cth):

Secretary/Director

Director

Print name

Print name



ATTACHMENT 6

Your ref: 1/2018/PLP
File Ref: 17/10810

Mr Michael Edgar
General Manager
The Hills Shire Council
PO Box 7064
BAULKHAM HILLS BC NSW 2153

Dear Mr Edgar *Michael*

Planning Proposal PP_2017_THILL_006_00 to amend The Hills Local Environmental Plan 2012

I am writing in response to Council's request for a Gateway determination under Section 56 of the *Environmental Planning and Assessment Act 1979* (the Act) on 31 July 2017 and additional information received on 14 August 2017 in respect of the planning proposal to permit a future medium to high density residential development at 55 Coonara Avenue, West Pennant Hills.

As delegate of the Greater Sydney Commission, I have now determined the planning proposal should proceed subject to the conditions in the attached Gateway determination.

I have considered Council's proposed mechanism to facilitate the proposed controls for the site, however the Gateway determination requires Council to amend the planning proposal prior to community consultation to utilise the zones and land use table of the Standard Instrument (Local Environmental Plans) Order 2006, and seek amendments to development standards for height of buildings, floor space ratio and lot sizes, rather than permit the proposed development via an amendment to Schedule 1 of The Hills Shire Council Local Environmental Plan 2012.

While Schedule 1 can be used in certain circumstances it is not appropriate to utilise the Schedule for a significant change of planning controls for a site.

Council is requested to consider and propose appropriate residential, open space, environmental protection and any other relevant zones, to facilitate the envisaged development while ensuring high value vegetation on the site is protected. These amendments will ensure consistency with Section 117 Direction 6.3 Site Specific Provisions.

The amendments required by the Gateway determination will ensure the outcomes sought by Council are achieved through the application of appropriate land use zones and their objectives, and other controls. This will ensure the protection and conservation of environmentally sensitive areas, consistent with Section 117 Direction 2.1 Environment Protection Zones.

I have agreed, as delegate of the Secretary, that the planning proposal's inconsistency with Section 117 Directions 1.1 Business and Industrial zones, and 5.9 North West Rail Link Corridor Strategy, are of minor significance.

It should be noted that the consistency with Section 117 Directions 3.4 Integrating Land Use and Transport, 4.3 Flood Prone Land, 4.4 Planning for Bushfire Protection, and 6.2 Reserving Land for Public Purposes is currently unresolved and will require further justification as part of the Gateway and stakeholder consultation process.

Plan making powers were delegated to Councils by the Minister in October 2012. I note Council has not requested delegation to finalise the plan. I have considered the nature of the planning proposal and decided not to issue authorisation to exercise delegation in this instance given the site's proximity to the Cumberland State Forest and significant vegetation present on the site.

The amending LEP is to be finalised within 12 months of the date of the Gateway determination. Council should aim to commence the exhibition of the planning proposal as soon as possible. Council's request for the Department of Planning and Environment to draft and finalise the LEP should be made 8 weeks prior to the projected publication date.

The State Government is committed to reducing the time taken to complete LEPs by tailoring the steps in the process to the complexity of the proposal, and by providing clear and publicly available justification for each plan at an early stage. In order to meet these commitments, the Greater Sydney Commission may take action under Section 54(2)(d) of the Act if the time frames outlined in this determination are not met.

Should you have any further enquiries about this matter, I have arranged for Mr Sebastian Tauni to assist you. Mr Tauni can be contacted on 02 8217 2018.

Yours sincerely



Marcus Ray
Deputy Secretary
Planning Services

31/10/2017
Encl: Gateway Determination



Gateway Determination

Planning Proposal (Department Ref: PP_2017_THILL_006_00): to facilitate a future medium to high density residential development at 55 Coonara Avenue, West Pennant Hills.

I, the Deputy Secretary, Planning Services at the Department of Planning and Environment, as delegate of the Greater Sydney Commission, have determined under section 56(2) of the *Environmental Planning and Assessment Act, 1979* (the Act) that an amendment to The Hills Local Environmental Plan (LEP) 2012 to facilitate a future medium to high density residential development at 55 Coonara Avenue, West Pennant Hills should proceed subject to the following conditions:

1. Prior to undertaking community consultation, Council is required to:
 - (a) remove references to proposed amendments to Schedule 1 – Additional Permitted Uses;
 - (b) amend the planning proposal to seek to rezone the site from B7 Business Park to R4 High Density Residential, RE1 Public Recreation, RU3 Forestry, and appropriate environmental management zones (such as E4 Environmental Living, E3 Environmental Management, and E2 Environmental Conservation), in accordance with Part 2 of The Hills Local Environmental Plan 2012;
 - (c) amend the planning proposal to seek amendments to the minimum lot size map, floor space ratio map, and height of buildings map, in accordance with the Hills Local Environmental Plan 2012;
 - (d) update the planning proposal to provide more information regarding community benefits associated with the proposal, including the identification of traffic and transport accessibility improvement options for the Cherrybrook precinct and additional supporting information for local infrastructure to be provided, and updated supporting studies as identified in Council's report dated 25 July 2017;
 - (e) update the Explanation of Provisions to include a satisfactory arrangements provision for contributions to State public infrastructure;
 - (f) refer the planning proposal and its accompanying Ecological Assessment to the Rural Fire Service and update in accordance with any comments received;
 - (g) update the planning proposal as required to ensure the following matters are addressed:
 1. ecological values (flora and fauna);
 2. the use of appropriate land use zones;
 3. investigation of infrastructure and traffic considerations; and

The Hills PP_2017_THILL_006_00 (17/10810)



- (h) submit the updated planning proposal to the Department for endorsement.
2. Community consultation is required under Sections 56(2)(c) and 57 of the *Environmental Planning and Assessment Act 1979* (the Act) as follows:
- (a) the planning proposal must be made publicly available for a minimum of **28 days**; and
 - (b) the relevant planning authority must comply with the notice requirements for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in Section 5.5.2 of *A guide to preparing local environmental plans* (Department of Planning and Environment 2016).
3. Consultation is required with the following public authorities and organisations under Section 56(2)(d) of the Act and/or to comply with the requirements of relevant Section 117 Directions:
- Transport for NSW;
 - Transport for NSW – Roads and Maritime Services;
 - Office of Environment and Heritage;
 - NSW Rural Fire Services;
 - UrbanGrowth NSW;
 - Hornsby Shire Council; and
 - relevant authorities for the supply of water, electricity, and the disposal and management of sewage.

Each public authority/organisation is to be provided with a copy of the planning proposal and any relevant supporting material, and given at least 21 days to comment on the proposal.

4. A public hearing is not required to be held into the matter by any person or body under Section 56(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).



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5. The timeframe for completing the LEP is to be **12 months** following the date of the Gateway determination.

Dated *31st* day of *October* 2017.

Marcus Ray
Deputy Secretary, Planning Services
Department of Planning and Environment

Delegate of the Greater Sydney Commission



PP_2017_THILL_006_00
IRF18/3237

Mr Michael Edgar
General Manager
The Hills Shire Council
PO Box 7064
BAULKHAM HILLS BC 2153

Dear Mr Edgar

Planning proposal PP_2017_THILL_006_00 – Alteration of Gateway determination

I refer to your request to alter the Gateway determination for planning proposal PP_2017_THILL_006_00, which seeks to facilitate a medium to high-density residential development at 55 Coonara Avenue, West Pennant Hills.

I have determined as the delegate of the Greater Sydney Commission, in accordance with section 3.34(7) of the *Environmental Planning and Assessment Act 1979*, to alter the Gateway determination dated 31 October 2017, as enclosed. In making this decision, I have carefully considered the views of Council, the proponent and the community, who have made representations directly to the Department.

As requested, the altered Gateway determination has been amended to remove the RU3 zone, supports the inclusion of the R3 Medium Density Residential zone, and supports the dwelling cap of a maximum of 600 dwellings.

The altered Gateway determination provides for a local provision to facilitate the dwelling cap. While the Department supports the overall cap on development over the site, the remaining elements of Council's proposed local provision are not supported as the Department considers existing clause 7.12 of The Hills Local Environmental Plan 2012 (LEP), the most appropriate mechanism to achieve key site outcomes, as this clause implements the methodology for housing mix and diversity within the Sydney Metro Northwest Corridor, which was agreed to by Council and the Minister for Planning.

If Council wishes to achieve these agreed outcomes for housing size, mix and parking, Council may consider seeking an incentive FSR for the site to enable clause 7.12 to apply to any additional residential flat buildings on the site.

The altered gateway determination continues to require the proposal to be updated to seek amendments to the minimum lot size map, floor space ratio map and height of buildings map. Regarding Council's request to specify the minimum lot sizes and maximum height of building controls, the Department considers that the Gateway determination already provides the necessary flexibility for Council to consider and propose appropriate controls for the site as part of the revised planning proposal.

I note however that the Department is supportive of the heights contained in Council's proposal, that is, heights ranging from 9 to 22 metres, to provide for development ranging from 2 to 6 storeys. Controls that facilitate the intended development are considered transparent and will give the community certainty as to the intended outcomes for the site. Any controls that will require consideration of a variation to these controls at the development application stage under Clause 4.6 of the LEP to enable the envisaged development, will not be supported.

The Gateway determination remains unaltered regarding the requirement to consider and propose the RE1 Public Recreation zone. I understand that Council is currently working with the proponent towards the dedication of 2.49ha for potential public open space (including the adjoining car park and a general-purpose community facility room) through a Voluntary Planning Agreement (VPA), and that this VPA is anticipated to be publicly exhibited in conjunction with the revised planning proposal. The proposed public open space should be identified in the revised planning proposal as RE1 Public Recreation. Council may wish to note in the revised proposal that this portion of the site may have an alternative zone should VPA not progress.

The Gateway determination also remains unaltered regarding the requirement to consider and propose appropriate environmental zone (or zones). In proposing appropriate environmental zones, Council is requested to seek the highest level of protection to relevant portions of the site.

The Department has considered Council's concerns regarding the potential acquisition liability in relation to applying the E2 Environmental Conservation zone. Having considered the Department's Practice Note PN09-002, the Department is satisfied that the rezoning of land to E2 does not give rise to the need to compensate a landholder, whether or not the rezoning results in a reduced development potential for the land. Additionally, such a rezoning of land does not trigger any requirement for the State or Council to acquire the land if the land is not also designated for acquisition for a public purpose.

If you have any questions in relation to this matter, I have arranged for Ms Ann-Maree Carruthers, Director, Sydney Region West, to assist you. Ms Carruthers can be contacted on 9274 6270.

Yours sincerely



David Gainsford
Acting Deputy Secretary
Planning Services

13/6/18

Encl: Alteration of Gateway determination



Planning & Environment

Alteration of Gateway Determination

Planning proposal (Department Ref: PP_2017_THILL_006_00)

I, the Acting Deputy Secretary, Planning Services at the Department of Planning and Environment, as delegate of the Greater Sydney Commission, have determined under section 3.34(7) of the *Environmental Planning and Assessment Act 1979* to alter the Gateway determination dated 31 October 2017 for the proposed amendment to The Hills Local Environmental Plan 2012 to facilitate a medium to high-density residential development at 55 Coonara Avenue, West Pennant Hills as follows:

1. Delete condition 1(b) and replace with a new condition 1(b):

"amend the planning proposal to seek to rezone the site from B7 Business Park to R3 Medium Density Residential, R4 High Density Residential, RE1 Public Recreation, and appropriate environmental zones (such as E4 Environmental Living, E3 Environmental Management, and E2 Environmental Conservation) in accordance with Part 2 of The Hills Local Environmental Plan 2012".

2. At the end of condition 1(e), insert:

"and to include a proposed local provision facilitating a maximum of 600 dwellings over the site."

3. Delete condition 5, and replace with a new condition:

"The timeframe for completing the LEP is to be 31 January 2019."

Dated 13th day of June 2018.

A handwritten signature in blue ink, appearing to read 'David Gainsford'.

David Gainsford
Acting Deputy Secretary
Planning Services
Department of Planning and Environment

Delegate of the Greater Sydney
Commission

PP_2017_THILL_006_00 (IRF17/707)



Our ref: PP_2017_THILL_006_02/IRF18/5943
Your ref: 1/2018/PLP

Mr Michael Edgar
General Manager
The Hills Shire Council
PO Box 7064
BAULKHAM HILLS BC 2153

Attn: Rebecca Templeman

Dear Mr Edgar

Planning proposal PP_2017_THILL_006_02 – Endorsement of updated proposal prior to exhibition

I refer to your letter dated 16 October 2018 in relation the updated planning proposal PP_2017_THILL_006_2 to permit a residential development at the former IBM site (55 Coonara Avenue, West Pennant Hills) which was submitted for endorsement prior to community consultation.

I have considered the nature of Council's request and have concluded that the explanation of provisions and intended outcomes provide sufficient detail for the community to have their say on the proposal through the exhibition process. The planning proposal can proceed to exhibition.

I also note Council's request to alter the Gateway determination to extend the timeframe to make the plan and Council's further request for a Gateway alteration to include a local provision to permit small lot housing, when a single development application for both subdivision and a dwelling design is submitted for approval.

In relation to your request for a timeframe extension, I have decided, as delegate of the Greater Sydney Commission, that in accordance with section 3.34(7) of the *Environmental Planning and Assessment Act 1979* (the Act) to alter the Gateway determination to extend the period to complete the plan by six months. The Alteration of Gateway Determination is enclosed.

In relation to small lot it is noted that the original planning proposal proposed small lot housing with a minimum allotment size of 86m². As such, the existing Gateway determination dated 31 October 2017 (as altered on 13 June 2018) considered this proposed housing type. It is therefore considered that an alteration of the Gateway determination is not necessary.

Should Council wish to proceed with this type of housing following public exhibition of the planning proposal, the mechanisms to deliver this outcome will be considered at the time of finalisation.

In response to recent reports of koala habitat associated with the site, Council is to ensure a copy of the supplementary assessment prepared by Keystone Ecological dated 12 November 2018 is made available with the planning proposal documentation during the public exhibition to enable the community to view and comment on this assessment. The planning proposal should also be referred to the Forestry Commission of NSW for comment as an adjoining landowner.

Should you have any enquiries about this matter, I have arranged for Mr Sebastian Tauni, Senior Planning Officer to assist you. Mr Tauni can be contacted on 8217 2018.

Yours sincerely



29/11/18

Ann-Maree Caruthers
Acting Executive Director, Regions
Planning Services

Encl: Alteration of Gateway Determination



Alteration of Gateway Determination

Planning proposal (Department Ref: PP_2017_THILL_006_02)

I, the Director, Sydney Region West at the Department of Planning and Environment, as delegate of the Greater Sydney Commission, have determined under section 3.34(7) of the *Environmental Planning and Assessment Act 1979* to alter the Gateway determination dated 31 October 2017 (as altered 13 June 2018) for the proposed amendment to The Hills Local Environmental Plan 2012 as follows:

1. Delete condition 5, and replace with a new condition:

The timeframe for completing the LEP is to be 31 July 2019.

Dated 29th day of November 2018.

A handwritten signature in black ink, appearing to read 'J. Mannuthes'.

**Acting Executive Director
Regions
Planning Services
Department of Planning and
Environment**

**Delegate of the Greater Sydney
Commission**

[PP_2017_THILL_006_002/ (IRF18/5943)]



Planning,
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PP_2017_THILL_006_03 (IRF19/5013)

Mr Michael Edgar
General Manager
The Hills Shire Council
PO Box 7064
NORWEST NSW 2153

Attn: Megan Munari

Dear Mr Edgar

Planning proposal PP_2017_THILL_006_00 – Alteration of Gateway Determination

I refer to your letter in relation to seeking an extension of time to complete planning proposal PP_2017_THILL_006_00 for a future medium to high density residential development at 55 Coonara Avenue, West Pennant Hills.

I have determined as the delegate of the Minister, in accordance with section 3.34(7) of the *Environmental Planning and Assessment Act 1979*, to alter the Gateway determination dated 31 October 2017 (since altered) for PP_2017_THILL_006_00 to extend the timeframe for completion by six months, requiring the LEP to be made by 31 January 2020.

The Alteration of Gateway determination is enclosed.

If you have any questions in relation to this matter, I have arranged for Mr Sebastian Tauni to assist you. Mr Tauni can be contacted on 8217 2018 or sebastian.tauni@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ann-Maree Carruthers'.

9/08/2019

Ann-Maree Carruthers
Director, Sydney Region West
Department of Planning, Industry and Environment

Encl: Alteration of Gateway Determination



Planning,
Industry &
Environment

Alteration of Gateway Determination

Planning proposal (Department Ref: PP_2017_THILL_006_00)

I, Director, Sydney Region West at the Department of Planning, Industry and Environment, as delegate of the Minister for Planning and Public Spaces, have determined under section 3.34(7) of the *Environmental Planning and Assessment Act 1979* to alter the Gateway determination dated 31/10/2017 (since altered) for the proposed amendment to The Hills Local Environmental Plan 2012 as follows:

1. Delete:

“condition 5”

and replace with:

a new condition 5: “The time frame for completing the LEP is by 31 January 2020”

Dated

9th day of August 2019

A handwritten signature in black ink, appearing to read "Ann-Maree Carruthers".

Ann-Maree Carruthers
Director
Sydney Region West
Department of Planning, Industry and
Environment

Delegate of the Minister for Planning
and Public Spaces