



28 March 2013

Paul Toole MP
PO Box 2237
Bathurst NSW 2795

Dear Paul

Re: Lithgow Minerals and Industry Park

Further to our recent discussions in relation to the Lithgow Minerals and Industry Park.

The Park is a greenfield site of approximately 100 hectares that is located on the western side of the Castlereagh Highway roughly between the intersection with the Great Western Highway and Lidsdale. The New South Wales Government originally established the Park to encourage domestic and international investment in a range of minerals, metal processing and industry projects.

The Park is located next to Delta Electricity's Wallerawang Power Station and has been identified as a potential industrial site due to:

- easy access to existing services (including electricity, gas, water and telecommunications)
- proximity to rail and road transport
- access to mineral resources and
- availability of a large, skilled workforce.

As you are aware there are further advantages with the Park with its relative proximity to Sydney, Wollongong and Newcastle, all of which having world-class port facilities. Further NSW's, and Australia's, main east-west rail line passes through the site, providing a direct link to Sydney, including Port Botany, as well as to a number of the State's major mineral deposit sites at Orange, Parkes, Cobar and Broken Hill.

Council previously partnered with Delta Electricity and the NSW Department of State and Regional Development to investigate the feasibility of developing 10Ha of the property for industrial land for local businesses. Council has been seeking both private and public development partners to develop the site for industrial purposes.

With the proposed sell off of the power generators in NSW I would urge the NSW Government to embargo this land from any power sell off and retain for future industrial development and honour the previous arrangements to have the remainder of this land set aside for major industrial purposes.

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council@lithgow.nsw.gov.au

✉ ADDRESS CORRESPONDENCE
TO GENERAL MANAGER
PO BOX 19, LITHGOW NSW 2790

I understand that negotiations may be under way as far as the sale of the power generators is concerned and it is vitally important for us to ensure that these lands are retained for future use and not denied for these purposes.

As you will see by the attached prospectus this is a prize opportunity for future development and your support for the retention of this land and transfer of a 10Ha parcel to Council would be greatly appreciated.

Please note that this was also part of the Council's submission to the Decade of Decentralisation Taskforce.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M Statham', with a long, flowing horizontal line extending to the right.

Cllr Maree Statham
MAYOR



Department of State and
Regional Development



Lithgow Minerals and Industry Park

New South Wales, Australia



Image courtesy of OneSteel



Image courtesy of Newcrest Mining



A new minerals industry park

The New South Wales Government has established the Lithgow Minerals and Industry Park to encourage domestic and international investment in a range of minerals, metal processing and industry projects. The park, a greenfield site of 100 hectares, has excellent access to infrastructure. It is suitable for projects such as electrosmelting, electrolytic refining, electrofusion of various minerals and production of specialised steel and/or alloys.

New South Wales (NSW) is Australia's leading value-added minerals processing State, with well established steel and aluminium industries. With annual output exceeding A\$10 billion, the strength of the minerals processing industry is largely based on the availability of abundant, competitively priced and reliable electricity, well developed infrastructure and transport links and a reliable, well educated and highly skilled workforce.

NSW produces a diverse range of minerals including coal, gold, base metals, heavy minerals, industrial minerals and gemstones. Several major new mining projects are being developed with many more under consideration. Mining project investment totals A\$7 billion and has the potential to create about 5,000 direct jobs.

Park location

The Lithgow Minerals and Industry Park is located near the township of Wallerawang, 7 km west of the city of Lithgow and about 140 km by road from Sydney.

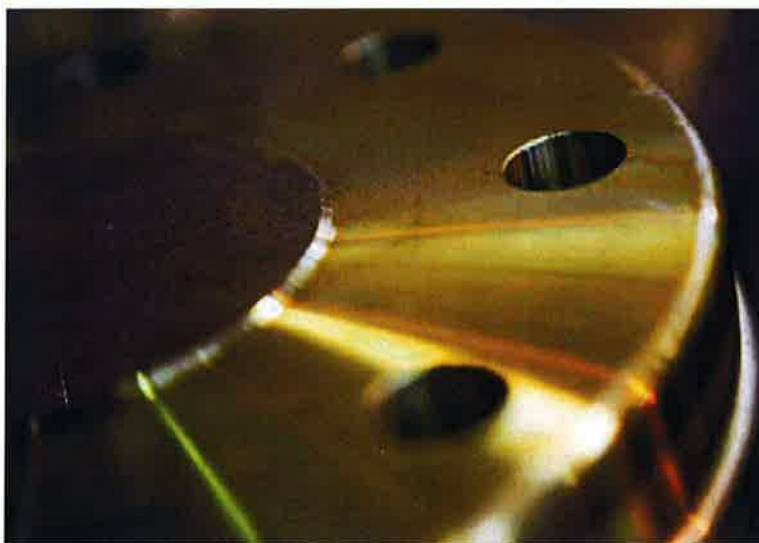
The 100-ha park is next to the Delta Electricity Wallerawang Power Station.

The park's advantages include:

- easy access to existing services (including electricity, gas, water and telecommunications)
- proximity to rail and road transport
- access to mineral resources and
- availability of a large, skilled workforce.

The park is about two hours by road from Sydney, two and a half hours from Wollongong and three hours from Newcastle. All three cities have world-class port facilities. Domestic and international airlines operate out of Sydney and Newcastle.

NSW's main east-west rail line passes through the site, providing a direct link to Sydney, including Port Botany. This rail line provides ready access to a number of the State's major mineral deposit sites near Orange, Parkes, Cobar and Broken Hill.



Workforce and training

With a workforce of about 66,500 people, the NSW Central West (incorporating Lithgow, Bathurst, Orange, Forbes, Cowra and Parkes) has a strong industrial skills base to support development at the park.

Lithgow's College of Technical and Further Education provides accredited full-time and part-time training in a range of disciplines, including engineering.

The Penrith campus of the University of Western Sydney, 70 km east of Lithgow, offers a range of part-time and full-time courses in electrical and civil engineering and mechanical automation (Faculty of Engineering).

Social infrastructure

Lithgow and the surrounding region are well served by existing health, educational and recreational facilities. Lithgow has three preschool kindergartens, 10 primary schools and two high schools. The region offers a range of housing, plus rural and urban lifestyles.

Research and development

There are a number of existing industries and service organisations in the Lithgow area that offer research and development facilities and technical expertise in environmental testing and mineral assaying. These facilities can be used for the more specialised needs of mineral processing projects.

NSW minerals

NSW produces a diverse range of minerals including coal, metals and industrial minerals. Many of these minerals are suitable for further value-added processing and can be sourced within 250 km of the park. These include:

- quartzite from Lithgow, quartz gravel (coarse silica) from Cowra
- magnesite from Thuddungra, near Young
- zircon and rare earth metals, near Dubbo
- zinc from Goulburn
- copper, near Parkes and Orange
- kaolin and other industrial minerals from the Mudgee area
- coal from Lithgow and near Mudgee.

Assistance and incentives

Projects suitable for the Lithgow Minerals and Industry Park may be eligible for a range of financial and non-financial assistance and incentives provided by government (federal, state and local). These include:

- funding assistance towards pre-feasibility studies
- financial incentives, assessed on a case-by-case basis
- project facilitation and coordination, including assistance with the planning approvals process.

Further information

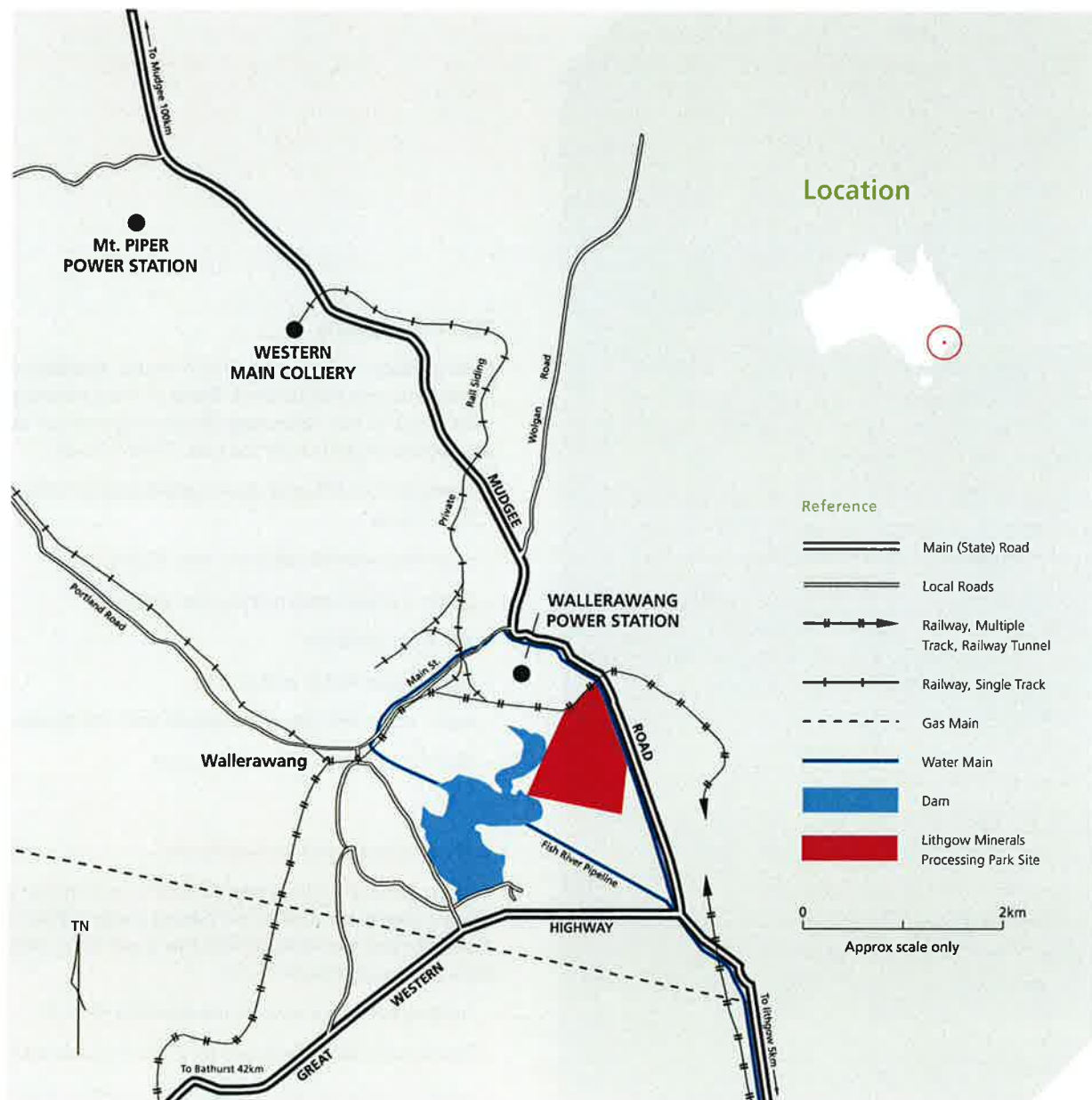
For additional information about the Lithgow Minerals and Industry Park, please contact:

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Lithgow City Council
PO Box 19, Lithgow, NSW 2790 Australia
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Existing infrastructure

The Lithgow Minerals and Industry Park has good access to a range of existing services and transport infrastructure.

Roads

Mudgee Road, which forms the eastern boundary of the site, provides sealed road access to the park. About 1 km south, Mudgee Road intersects with the Great Western Highway, connecting with Sydney to the east and central NSW to the west.

Rail

The main rail line for freight and passenger services operates through Wallerawang to Sydney. The line provides access to ports at Sydney, Port Kembla and Newcastle. The rail line also runs to major sources of minerals near Orange, Parkes, Cobar and Broken Hill.

Electricity

Electricity in NSW is extremely reliable and internationally competitive in price. Projects in the park can be directly connected to the main electricity network via major power lines which run within 1 km of the site and connect to the adjacent Wallerawang Power Station.

Gas

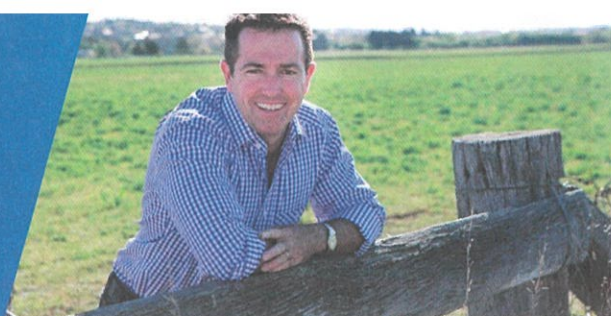
High pressure natural gas is available from a nearby pipeline located within 2 km of the park.

Water

Potable water can be provided by the Lithgow City Council. Industrial water is available from nearby sources.

Telecommunications

Broadband internet and telecommunications infrastructure is located near the site.



4th October 2018

JH0410/2018

Mr G Faulkner
General Manager
Lithgow City Council
PO Box 19
LITHGOW NSW 2790

Lithgow City Council

Scanned ☐

10 OCT 2018

Doc Set ID 1633356

GA Ref 14-1-2

Years 5

Dear Graeme,

Thank you for your letter in relation to the NSW Government's response to the current drought conditions. I have provided information below to address the NSW Government existing and newly announced drought relief measures.

Emergency Drought Relief Package

As a result of the difficult conditions facing farmers across the state, the NSW Government announced the Emergency Drought Relief Package on the 30 July 2018. The package includes an additional \$500 million in a range of support measures, taking total drought funding to more than \$1 billion.

The package included the announcement of a \$190 million Drought Transport Subsidy program. The subsidies will cover up to 50 per cent of the full cost of transporting fodder, water and or livestock with \$20,000 available per year for each eligible farm business which equates to \$30,000 over 18 months from 1 January 2018 to 30 June 2019.

An additional \$150 million was announced to bolster the popular Farm Innovation Fund to a total \$650 million. This Fund offers farmers long-term, low-interest loans enable farmers to implement permanent capital works like constructing silos, dams, bores, fencing, irrigation, all of which can contribute to future drought preparedness. Under the package, holders of the Fund will be refunded interest for the 2017-18 and 2018-19 financial years.

Cutting the cost of farming will be aided by the waiving of Local Land Services rates, fixed water charges in rural and regional areas and class one agricultural vehicle registration costs.

The package also includes funding for:

- improving access to mental health services in rural and remote communities;
- critical services in regional communities including transport of water and drought related road upgrades and repairs;
- stock welfare panel interventions and a stock disposal scheme.

NSW Budget 2018 Drought Measures

There are also a number of existing support measures announced prior to or as a part of the NSW 2018 budget. The 2018 budget included the establishment of the Drought Assistance Fund, a seven year interest free loan of \$50,000 for producers to transport stock, fodder and grain, install key water and fodder infrastructure and to collect and store the genetic material of livestock. The 2018 Budget further included:

- Additional funding for the Centre for Rural and Remote Mental Health, and the National Association for Loss and Grief to help support and counsel community members facing natural disaster and drought.
- \$25 million for three new Doppler radar weather stations to provide farmers in the Central and Far West with more accurate, real-time weather information.
- A new kangaroo management plan to reduce kangaroo numbers in drought-hit areas.

Existing Assistance Programs

Transport Subsidies - A subsidy is available to primary producers for the transport of animals that are at significant risk in terms of animal welfare. A separate subsidy is also available for the cost of transporting donated fodder by community organisations to drought affected properties.

Finance – There are a range of financial assistance measures available, including where a farmer may be having difficulty with existing debt. Examples of financial assistance include:

- Drought Assistance Fund
- Farm Innovation Fund
- Commonwealth Drought Concessional Loans
- Farm Management Deposits
- Rural Financial Counselling Service
- Farm Debt Mediation.

Management Information – Information is also available to help inform farmers and help them manage drought including:

- The Combined Drought Indicator, an interactive drought status tool;
- Farm Tracker tool allows farmers to record seasonal conditions;
- The “Managing Drought” document, a comprehensive guide for short and long term planning for managing livestock and pasture.
- Other resources for managing pasture and livestock.

Rural Resilience Program - The Rural Resilience team works in partnership with farming communities and service providers across NSW to strengthen farming networks, to share information, and deliver relevant initiatives that build personal and business resilience skills and knowledge. These skills and knowledge assist farming communities to move forward in a positive direction.

Business skills program – Under the Farm Business Skills Professional Development Program, farmers can complete pre-approved courses, or apply for consideration to attend another course which they have identified as meeting their particular requirements. The key professional development areas supported includes risk management, financial and business management and farm business planning/drought preparedness.

NSW Drought Coordinator - Ms Pip Job was appointed as the NSW Drought Coordinator to provide a central point of contact on the ground to gather information and thoughts from

farmers across the State. Pip has been travelling and meeting with drought-affected farmers since her appointment in April, and provides input to the Regional Assistance Advisory Committee (RAAC), the Drought Interagency Working Group and the Minister.

Rural Financial Counsellors - The Rural Financial Counselling Service (RFCS), funded by State and Commonwealth Governments, provides information and business strategies to farmers to help them manage their finances and business interests during drought. Rural Financial Counsellors are in regional locations across the State and can help farmers with identifying the best form of assistance to meet their needs, and also help with the application process.

Assistance from Local Land Services - Local Land Services provides practical advice on seasonal conditions, pest and weed management and livestock management. Local Land Services staff can also help farmers to navigate the DroughtHub to find the most appropriate forms of assistance for their circumstances.

Regional Assistance Advisory Committee - The NSW Government's access to on-ground information and expert advice has been enhanced with the strengthening of the role of the RAAC, whose members include farmers, representatives of non-government social support and advocacy organisations, agribusiness banking, Local Land Services and the RFCS.

DroughtHub – This central online resource provides information on the range of services and support available to primary producers, their families and rural communities. For more information about all existing or newly announced drought relief measures, and NSW and Australian Government drought assistance and information please visit the NSW DroughtHub at www.droughthub.nsw.gov.au.

Hope this assists with your inquiry.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Paul Toole', with a stylized, cursive script.

Paul Toole MP
Member for Bathurst



Department of
Primary Industries

Managing and preparing for drought 2018

EIGHTH EDITION



droughthub.nsw.gov.au



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Primary Industries

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Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (September 2018). However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of NSW Department of Industry, Skills and Regional Development or the user's independent adviser.

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Drought planning: G. Meaker, DLO (Beef Cattle), Goulburn.

The role of climate science in drought management: P. Carberry and P. Hayman, Agroclimatology unit, Tamworth.

Drought strategies for the livestock producer: G. Markwick, Former Livestock Officer Sheep, Dubbo and L. Davies, Economist, Paterson.

Dangers in feeding waste material to livestock: Animal Biosecurity and Welfare Unit, NSW DPI

White cottonseed- a supplementary cattle feed: T. Andrews, Beef Development Officer, Armidale

Supplementary feeding of Cattle: I. Blackwood, Livestock Officer, (Beef Cattle), Paterson and E. Clayton, livestock research officer, Wagga.

Full hand feeding of beef cattle – management: I. Blackwood, Livestock Officer, (Beef Cattle), Paterson and E. Clayton, livestock research officer, Wagga.

Managing livestock after a fire: B. Littler, Senior Land Services Officer (Livestock), Central Tablelands LLS, Mudgee.

Managing dairy cattle: K. Kempton Technical Specialist (Dairy), Tocal.

Full hand feeding of sheep: A. Bell former Program Leader Grazing Systems, D. Alcock former Livestock Officer and G. Casburn, Sheep Development Officer, Wagga Wagga

Stockwater- a limited resource: Agriculture NSW Water Unit.

Rural Resilience Program and Assistance Guide: C. Hayes Rural Resilience Program Coordinator, Scone, and Danny Byrnes, Rural Resilience Officer, Hay.

Pasture sustainability and management in drought: W. McDonald, former Technical Specialist (Pastures), Tamworth and R. Hacker, former Program Leader (Rangelands), Trangie.

Animal welfare: A. Paul, Veterinary Officer (Animal Welfare), Orange.

Cattle health during drought – common diseases and preventative management: Reviewed by Dr G. Bailey, Cattle Health Coordinator, Orange, and B. Browne, Farm Chemicals Officer, Orange



Foreword

This new edition of *Managing and Preparing for Drought* has been prepared to give our State's farmers relevant information to help make informed decisions on how to manage the current drought as well as any future dry conditions.

Drought is an inevitable part of the Australian landscape but its impacts are wide reaching. It goes well beyond the paddock. It touches every corner of our regional communities; it reaches our cities and has the potential to affect our trade.

This is the eighth edition of this widely utilised publication, which has been updated to reflect the unique pressures placed on NSW producers by a drought many people have compared to the devastating conditions of the early 1980s.

It includes strategies and actions producers can consider as they deal with the drought, as well as practical information on feeding stock, farm management, sustainable practices and personal and financial wellbeing.

Importantly, it includes new information on relevant resources added by the NSW Government and the NSW DPI in recent years, including the online DroughtHub and the Combined Drought Indicator.

I understand these are challenging times and I hope you will find this guide useful as you face those challenges.

Please know that the NSW Government, and the people of this great state, stand with you in these difficult times, just as we look forward to standing with you in the better times to come.

The Hon. Niall Blair, MLC

Minister for Primary Industries
Minister for Regional Water
Minister for Trade and Industry



Section 1 Drought in NSW

NSW's drought policy

In 2008, a national review of drought policy recommended that drought assistance be restructured to better help farmers plan and prepare for drought. The NSW Government reviewed its drought policy and developed a new framework for improved decision making and assistance that is aligned with the national policy. Under this framework, drought is seen as a constant and inevitable feature of the NSW landscape that should be considered in the same way as other risks to farm businesses.

The NSW Drought Strategy supports primary producers to become more resilient and better prepared for adverse conditions and drought. The strategy provides assistance including finance, skills and training, animal welfare assistance, information, research and development, and social support.

Combined Drought Indicator (CDI) explained

How does it work?

Much of the information in the Seasonal Conditions Report is sourced from the NSW DPI Enhanced Drought Information System (EDIS)[™]. The EDIS system was launched in early 2018. For more information, visit the interactive website via DroughtHub.

EDIS is an ongoing project aimed at improving the quality and timeliness of seasonal conditions information across the state. Key features of the system are:

It tracks drought by using four indicators; rainfall, soil water, plant growth, as well as tracing rainfall trends. Agronomic conditions have equal value to rainfall recorded at meteorological stations.

The Combined Drought Indicator (CDI) brings this information together, and has been designed to characterise developing drought conditions. The key purpose for building the CDI was as a drought early warning system.

The rainfall, soil moisture and plant growth indicators in EDIS account for conditions over a 12 month window. This provides a compromise between a highly sensitive indicator (e.g. six months) and a less sensitive indicator (e.g. 24 months).

Climate and remote sensing data drive the information system at a high resolution, but the CDI is reported at a Parish level.

Because of its configuration and purpose, there will be differences to the indicator used in the National Drought Monitoring Framework (the Australian Rainfall Deficiency Analyser) which relies on rainfall alone.

The CDI has three drought categories that characterise NSW according to drought intensity as well as the main drivers of a drought event (meteorological, hydrological and agronomic). DPI considers areas categorized as Drought Affected to be experiencing a drought event.

The Drought Affected category encompasses a wide range of conditions from the very early stages of drought entry through to a drought event becoming intense. This enables the drought monitoring system to detect a drought event early. It is also possible to stay in the Drought Affected category for some period of time.

More services from EDIS have been released more recently including a seasonal conditions self-reporting application.

The way in which the indicators are combined to form the CDI is described in Table 1 below.

Table 1. Description of the Combined Drought Indicator framework

CDI Phase	Technical definition	Description – typical field conditions
Intense Drought	All three indicators (rainfall, soil water, plant growth) are below the 5th percentile	Ground cover is very low, soil moisture stores are exhausted and rainfall has been minimal over the past 6–12 months.
Drought	At least one indicator is below the 5th percentile	Conditions may be very dry, or agronomic production is tight (low soil moisture or plant growth). It is possible to be in Drought when there has been some modest growth, or a few falls of rain.
Drought Affected (intensifying)	At least one indicator is below the 30th percentile and the rainfall trend is negative over the past 90 days.	Conditions are deteriorating; production is beginning to get tighter. Ground cover may be modest, but growth is moderate to low for the time of year. When indicators are close to the Drought threshold drought conditions are severe.
Drought Affected (weakening)	At least one indicator is below the 30th percentile and the rainfall trend is positive over the past 90 days.	Production conditions are getting tighter, but there have been some falls of rain over the past month. It is rare to enter the Recovering phase from the Non-Drought category; Usually there is a quick (1–2 week) transition into Drought Affected or Drought. When indicators are close to the Drought threshold drought conditions are severe.
Recovering	All indicators are below the 50th percentile but above the 30th percentile	Production is occurring but would be considered 'below average'. Full production recovery may not have occurred if this area has experienced drought conditions over the past six months.
Non-drought	At least one indicator is above the 50th percentile.	Production is not limited by climatic conditions.

Report conditions on your farm

Do you want to get involved and report conditions on your farm?

The NSW DPI Farm Tracker app allows you to take stock of conditions at your place. The app allows you to record rainfall, pasture availability, livestock conditions, crop performance and other on farm conditions.

This allows you to keep a record of your farm over time, or use the information to compare different areas of your farm. If updated regularly, this information is a valuable record of how seasonal conditions affect your property.

The information you collect will also contribute to the Government's seasonal conditions monitoring. The data from your reports provides a valuable ground truth of the information in NSW DPI's seasonal conditions monitoring systems.

Over time your data will also help improve the accuracy of early warning for all farmers across NSW. This is particularly valuable in areas where there are few rain gauges.

www.droughthub.nsw.gov.au

NSW Drought Monitoring

Combined Drought Indicator - Explained

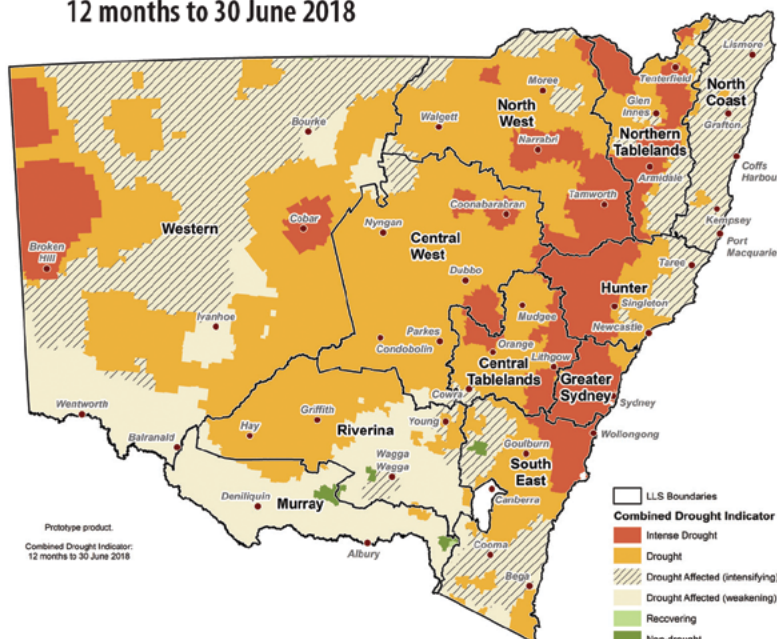
Overview

- The Combined Drought Indicator (CDI) is the first stage of NSW DPIs Enhanced Drought Information System™ program, which aims to continually improve the detection monitoring and forecasting of drought for farmers in NSW.
- The CDI monitors current seasonal conditions using indicators of rainfall, soil water and plant growth. The indicators are expressed as a percentile* by ranking current seasonal conditions for any given location against a long-term baseline of historical conditions for that location.

Key Features

- Detects drought entry early, as **Drought Affected**.
- Tracks drought recovery as **Drought Affected**.
- Monitors different event intensities as **Drought** and **Intense Drought**.
- Drought duration is the combined time spent in the **Drought Affected**, **Drought** and **Intense Drought** categories.

Combined Drought Indicator 12 months to 30 June 2018



* For example, the 10th percentile of rainfall indicates that current rainfall is within the lowest 10% of historical value. Using percentiles in this way allows for comparisons to be made about the severity of current conditions across locations that otherwise may be very different in terms of rainfall and soils.

Categories Explained

Intense Drought

Definition: All three indicators below the 5th percentile.

Typical conditions: Stock water critical, ground cover minimal, event is prolonged.

Drought

Definition: One indicator is below the 5th percentile.

Typical conditions: Stock water in decline, ground cover is minimal.

Drought Affected

Definition: One indicator is below the 30th percentile.

- Intensifying when 90 days rainfall trend is negative.
- Weakening when 90 days rainfall trend is positive.

Typical conditions: Pasture growth is low, decision to destock or hand feed as indicators intensify.

Recovering

Definition: All indicators are below the 50th percentile but above the 30th.

Typical conditions: Production is occurring but would be considered 'below average'.

Non Drought

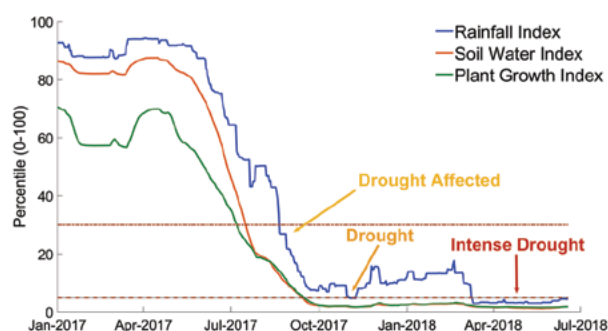
Definition: At least one indicator is above the 50th percentile.

Typical conditions: Production is not limited by climatic conditions.

Tracking Drought Categories

The Combined Drought Indicator is an interactive tool that allows farmers to navigate to any parish in NSW to see which seasonal conditions phase that area is experiencing.

The below is an example of the three indicators tracking drought in the parish of Molong in the Cabonne local government area.



NSWDPI Farm Tracker™



A Guide for Farmers

Background

Farm Tracker is an important part of the Enhanced Drought Information System, an ongoing program of work to improve the State's drought monitoring.

Purpose of the App

Farm Tracker is a tool you can use to record seasonal conditions. You can:

- Complete a simple crop, pasture or animal survey
- Keep and manage a photo diary of your farm
- Monitor the same paddock over many years

Farm Tracker takes the hassle out of record keeping. Simply complete the questions that are most relevant and leave the rest blank. Reports can be completed in a matter of minutes and they are synchronised with your personal database as well as the state wide database as soon as you are in mobile or wi-fi range.

How will your data be used?

Aside from your own use, reports collected by Farm Tracker provide a highly valuable source of ground truth information for DPI's Drought Mapping Services. Each month, reports will be used to verify the maps for the official State Seasonal Update.

Using the App

Loading the App

- Search for NSWDPI Farm Tracker and download the app from the App Store
- Set up a new account (password must contain upper and lower case characters, a numeric value and special character i.e. #)\$)
- Allow the app to access your camera and location data

Recording your seasonal conditions

- Click on New Report to start
- Click on the camera icon to take a photo. If you are in mobile reception, the image will be automatically geotagged to record your location, or you can select your location using the marker icon
- Scroll through the questions and only fill in those that are relevant
- Use the info icon for help
- Save report and use the History tab to see all of the reports you have made

Manage your records online

- Use the website www.farmtracker.nsw.gov.au to view your reports online
- Just log in to your unique user account using the same email and password you used for the app to get started
- Option to download your data into a csv file

Download
NSWDPI Farm
Tracker™



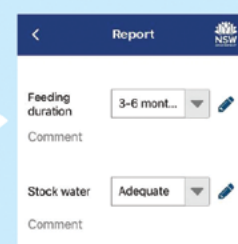
Find NSWDPI Farm
Tracker™ in the App Store

Take a Photo
to get started



Image taken near Young
19 June 2018

Record your
Seasonal
conditions



Easy to use drop down boxes to
record conditions on your farm

Section 2 Planning for drought

- » Drought planning
- » Drought strategies for the livestock producer
- » Drought hints
- » The role of climate science in drought management

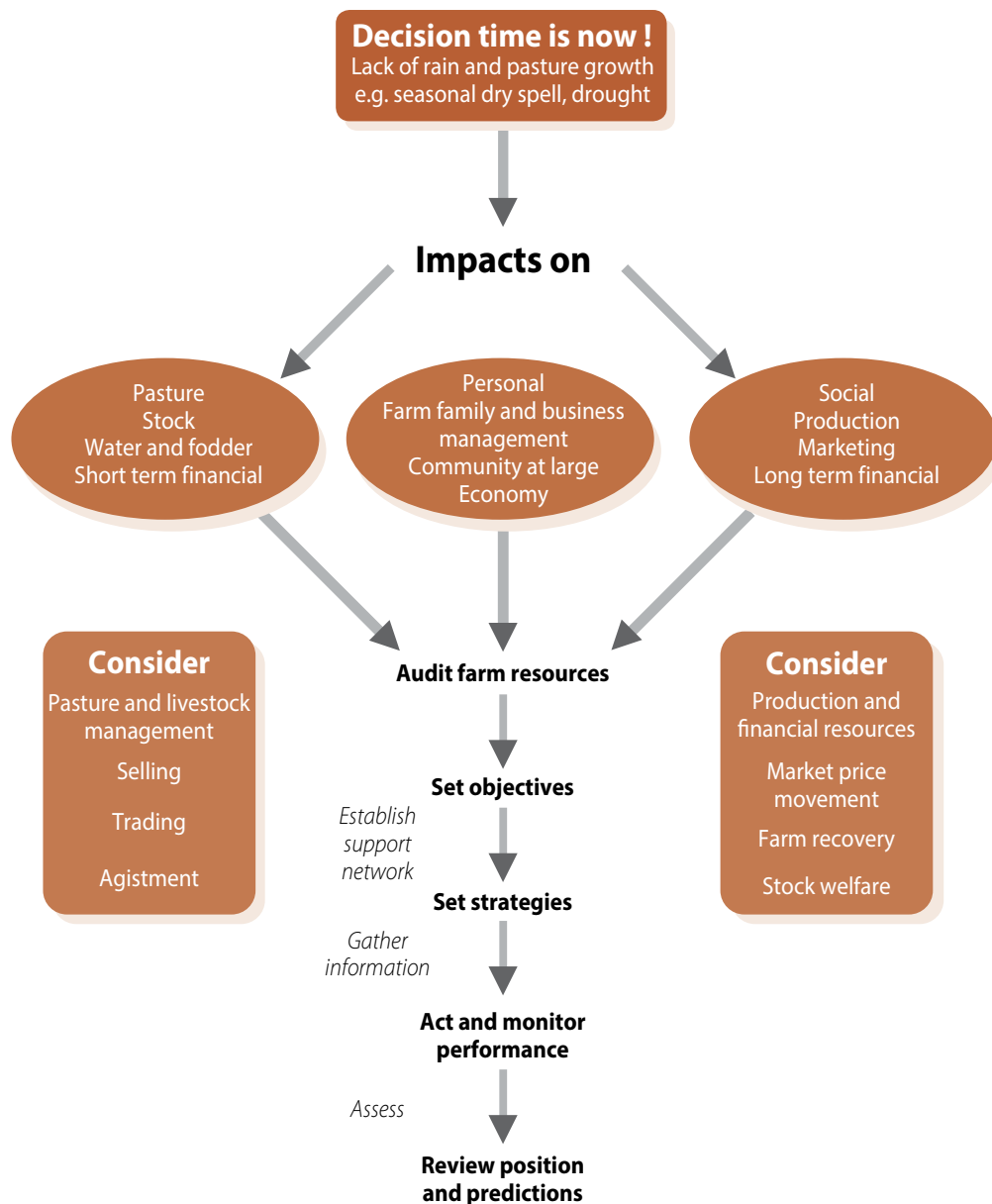


Figure 1.

Drought planning

In drought management, a positive approach to the problem, a clear understanding of your objectives and a careful evaluation of alternative courses of action are essential for success. You should be realistic in your assessment of the situation and not underestimate the resources (capital, fodder and management) and personal and family cost to complete a particular course of action .

In drought it is important to have a plan, act early, review and then plan again, and revise the plan with each action as you play out your strategy.

Where to start?

Step one: Check the most limiting farm resources:

- » mental and physical energy to do the continuous tasks required
- » funds available
- » stock and domestic water available
- » feed reserves (paddock and stored) available
- » surface/subsoil moisture for crop leaf and root growth
- » available livestock fat reserves stored enabling controlled weight loss
- » need to service machinery – breakdowns cost time, money and frustration.

Audit sheets are provided on the following pages to guide you through the resource audit.

Step two: Set action strategies considering:

- » breakeven position of each strategy chosen
- » windows of opportunity to adopt management practices that will be profitable during drought
- » your available resources and the implications for animal welfare, ground cover, chemical residues etc of carrying out each strategy
- » when situations are changing, conditional and timely fallback options.

Step three: Monitor and review performance position and outlook by:

- » using your established network to stay informed about key factors that affect your drought strategies
- » being proactive about the decisions made
- » being prepared for change
- » remembering that the impact falls very heavily not only on the decision makers but also on the whole farm family.

To make good decisions during a drought it is necessary to assemble as much information as you can on the factors that will influence your decisions. Information on 'what to do?' comes from:

- » past dry spells and drought experiences
- » your established rural network
- » past trends and current predictions
- » decision support tools to inform potential strategies.

What livestock do you have on hand?

Table 2.

Class of stock	Fat scores	Now	Can sell	Keep and feed
1st calf heifers				
Cows with calves				
Dry cows				
Bulls				
Weaner/yearling heifers				
Weaner/yearling steers				
1–2 year old steers				
TOTALS				
Maiden ewes with lambs				
Mature ewes with lambs				
Dry ewes				
Weaned lamb				
Hoggets				
Wethers				
Rams				
TOTALS				

What feed do you have on hand?

Table 3.

Feed	Quantity
Paddock feed – describe your pasture situation. I estimate that on average my paddocks have _____ kg DM/ha available for grazing.	

Stock water supplies

See *Primefact 269 Stock water – a limited resource* to help you estimate your useable stock water supplies.

Table 4.

Estimated total useable Water	ML (A)
Stock water requirement per day for current stock	ML/day (B)
Sufficient water to supply my stock for (A ÷ B)	Days
What are your priority groups of livestock to:	
Sell	
Feed	

Stock sales

If there is no paddock feed/rain for six months what are your choices?

Table 5.

Sell calves	All
	Some
Wean calves & feed	Early calves
	Late calves
Sell cows	All
	Some
Sell bulls	All
	Some
Sell wethers	All
	Some
Sell ewes	All
	Some
Sell lambs	All
	Some

What income can your sale stock bring?

Table 6.

Stock type	Number of stock		Estimated sale price	Total
1st calf heifers		head at		=
Cows		head at		=
Bulls		head at		=
Weaner/yearling heifers		head at		=
Weaner/yearling steers		head at		=
1–2 year old steers		head at		=
Maiden ewes with lambs		head at		=
Mature ewes with lambs		head at		=
Dry ewes		head at		=
Weaned lambs		head at		=
Hoggets		head at		=
Wethers/rams		head at		=
			Total	

Discuss your drought management options with your accountant to ensure that the Australian Tax Office classifies your business as 'Drought Declared'. This allows for example, income from forced sales to be deferred to subsequent years. It also allows amounts for emergency relief, such as food and personal clothing, to not be classed as income and hence won't be taxed.

What evidence can you provide?

Table 7.

Photos	Y/N
Livestock sale records	Y/N
LLS advice	Y/N
NSW DPI advice	Y/N
Rainfall records	Y/N
Do you plan to feed?	
What will you feed?	

How much do you need to feed each animal to achieve your goals?

See Section 3 of this handbook for details on calculating feed requirements: Full hand feeding of beef cattle – quantities and full hand feeding of sheep – quantities.

Alternatively use the Feed cost calculator on the NSW DPI website
www.dpi.nsw.gov.au/feed-cost-calculator

Table 8.

Kg feed/day/head =	
x Number of head (.....) =	(a)
Cost/kg feed =	(b)
Total feed cost per day (a) x (b) =	\$
How long are you prepared to feed – until which month?	
How many months will that be from now?	
Will you feed cows, to get them back in calf?	Y/N
Will you feed ewes, to get them back in lamb?	Y/N
Are you using a 'sacrifice paddock' to feed stock now?	Y/N

Finances

Table 9.

How much money are you able to spend on drought feeding?	\$
How much will it cost you to feed the stock you plan to keep for the months you plan to feed?	\$

The degree of planning depends on your level of risk and how you assess your past, current and future climate, pastures, livestock and business situations.

A whole-farm plan approach is required. Targeted action strategies can be implemented, including fallback options, forward contracts, etc. to ensure that the farm business and its goals are achieved.

Computer decision support programs such as the NSW DPI Drought Feed Calculator App, Grazfeed, CliMate and StockPlan can help producers, professionals and industry to plan ahead.

StockPlan (see Appendix 3) online learning tools can help cattle and sheep producers to explore management options in the early stages of drought and during drought. These tools help producers to make management decisions that minimise the environmental and financial impacts of drought. www.dpi.nsw.gov.au/stockplan

Drought strategies for the livestock producer

The objective of your drought strategies, which always takes into account the welfare of stock, should be to ensure that the farm business survives and that the productive resources of the farm – the soil, the capital, and the genetic merit of the livestock – are managed to allow production to recommence after the drought.

Objectives should be clearly defined both for the drought period and for the post-drought (recovery) period. Recovery from a significant drought may take several years, particularly if debt levels rise substantially or if pastures are depleted and require re-sowing.

Your objectives should be clear and, wherever possible, be stated in numbers, dates or dollars.

Write down your objectives and review them regularly. Your objectives can be changed as the situation dictates. It is important that your objectives are not 'set in concrete' – they are a guideline, not a boundary, and if the situation requires that you change them, provided you have examined the options thoroughly, then they have served their purpose and can be replaced.

If you don't review and change your strategies there is a chance that recovery after the drought may be impossible. In this situation you may have to make a trade-off between short-term and long-term objectives. You may choose to incur greater costs during the drought to reduce your costs or increase your enterprise's chances of survival during the post-drought recovery stage.

Developing your strategies

Once you have clarified your objectives, you can then select various strategies and determine how each would contribute to meeting these objectives. To do this properly, you need to cost these strategies for droughts of various lengths; that is, you need to develop a 'model' of the drought so that you can estimate the effectiveness of various strategies over time. You will find that as the assumed period of drought varies, so does the likely cost of the different strategies. Similarly, varying the assumptions about the cost of restocking, or the current sale value of stock, dramatically affects the cost of various strategies.

No single strategy will be sufficient in most cases, and each situation will require a unique set of strategies according to the physical, financial and managerial resources available to the individual producer.

The six most common strategies are discussed on page 12. It is up to you to choose which options to employ, to what degree, and under what circumstances.

Tax treatment of forced livestock sales due to pasture and fodder loss

The five years following a forced livestock sale

If you are obliged to sell livestock because of the destruction of pastures or fodder through fire, drought or flood, you can elect to spread over five years the profit on the livestock sale. This means that one-fifth of the profit would be included in your gross income for the year of the sale of the livestock, and one-fifth would be included in the gross income for each of the following four years. To take advantage of this concession, you are required to declare that the sale was genuinely occasioned by the loss or destruction of pastures or fodder because of fire, drought or flood. In addition, you must demonstrate that the main part of the proceeds of the sale will be used to purchase replacement livestock or will be used in the maintenance of breeding stock for the purpose of restocking.

Alternatively, you may elect to have the profit on a forced livestock sale excluded from your assessable income for the year in which it was derived, and applied to reduce the cost of stock acquired during that year (or any of the five years after the sale) to replace the stock disposed of. Where replacement stock are bred instead of purchased, you may elect to include in your assessable income, over the same period, appropriate instalments of the profit on the forced sale (as described above).

If, at the end of the fifth year from the year in which the forced sale occurred, any part of the profit on the disposal has not been applied in reducing the cost of new stock purchased, or has not otherwise been included in assessable income, the amount that has not been applied will be included in your assessable income for that fifth year.

The six most common strategies

1. Selling stock

The timing of selling and the condition of stock at sale are critical.

Selective reduction of stock numbers early in a drought is nearly always an attractive proposition, especially with cattle. If stock are sold early in the drought, prices are likely to be better because the stock should be in reasonable condition and the market more likely to be firm. Selling stock also avoids feeding costs.

The question of which stock to sell involves knowing which are easier to handle during drought and which will be most productive or give the best returns after the drought.

Sheep, for example, have consistently given a higher percentage return to livestock capital invested than cattle. The longer the drought lasts, the more effective this strategy will be.

If the drought is short and a small number of stock have been sold, the remaining stock will probably compensate through increased performance per animal as a result of reduced stocking rate. It may not be necessary to repurchase stock.

With a longer drought and a higher number of stock sold, it is preferable to purchase restocker animals at reasonable prices when conditions improve. Livestock prices in the post-drought phase do not always rise dramatically because the financial reserves of graziers are depleted.

Early sale of stock will also generate cash to bolster the farm's equity position or generate interest, which will help longer-term business survival.

This should almost always be the first measure taken in the early period of drought. As the drought progresses, stock should be sold class by class, including finished young stock, aged stock, castrated stock, replacement stock, until a nucleus of young, sound, breeding females is left. This class of stock is likely to be the most valuable and capable of the best production when the drought breaks.

2. Production feeding

Production feeding includes maintaining a level of production either by ensuring turn-off of finished stock at a time when quality slaughter stock are at a premium, or by maintaining the breeding flock/herd in the hope that conditions will improve to allow progeny to be finished normally.

Option A – farm lot feeding

Farm lot feeding is an attractive option if there is a large gap between the price of store animals and that of finished animals, and the cost of ration ingredients is reasonable. It is important to take into account animal breed, nutrition requirements, marketing, ration costs and any infrastructure requirements when considering this option.

Option B – maintaining performance of the breeding unit

Maintaining performance of the breeding unit assumes a short-term drought period and a market demand for the offspring in the future. It is more common in the cattle industry because the longer gestation period for cattle gives a greater chance of encountering a break in the drought than is the case for sheep. If drought conditions don't break, bobby calves can be sold, which is not the case for young lambs.

Note that the production feeding of breeding females is costly and choosing this option when markets and seasonal conditions are erratic carries considerable risk.

3. Maintenance feeding

Maintenance feeding is widely practiced especially with sheep because the wool they will grow generates income to help offset costs.

Decisions to feed are often based on the availability of fodder stored on the farm and cash reserves, rather than on a rational examination of costs and returns.

In a short drought, maintenance feeding is likely to be a low-cost strategy. However, if the drought is prolonged, maintenance feeding can be very expensive, particularly if continued to the point where resources are exhausted.

Generally, the wider the expected gap between drought sale revenues and repurchase costs, the greater the incentive to feed.

Before commencing feeding, stock numbers should be reduced as discussed earlier,. Also, fat animals should be allowed to use some of their own body reserves before feeding commences. This reduces the feeding period and ensures the most efficient use of the feed.

4. Agistment

Agistment is widely used in regional droughts and is more widely practised with cattle than with sheep.

A written agreement is useful in formalising the duration, agistment costs, supplementary feed costs and other aspects of the arrangement. Before dispatching your stock, it is important to understand the quality and quantity of feed available, management facilities available (eg yards) and the relevant residue, pest and disease status of the agisted property (particularly concerning organochlorines, along with ovine/ bovine johnes disease and footrot).

Note that it is a legal requirement for sheep, cattle and goat owners to record livestock movements to and from agisted properties on the National Livestock Identification System database.

5. Trading in livestock

Many producers don't consider trading in livestock because of the loss of the genetic base built up over many years of a breeding program, and the risk of introducing disease. However, the market for livestock during a drought can fluctuate widely, and the opportunity often exists to buy a class of stock that is cheaper than another.

It may be possible to retain the same number of stock in terms of dry sheep equivalents and have much less capital tied up in livestock. The cash generated could be used to pay for feeding costs.

6. Humane destruction

Humane destruction of livestock is sometimes necessary in times of very low livestock prices and when animals are not fit to be transported.

It is not acceptable to allow domestic animals to starve to death or die of thirst. Under the Prevention of Cruelty to Animals Act, penalties can be imposed on a person who fails to provide an animal with appropriate and sufficient food and drink.

Humane destruction should be carried out when animals are approaching such poor condition that survival would be unlikely or when they are considered unfit to travel. In making this assessment, producers need to consider both animal and non-animal indicators that can affect survival. Animal indicators include emaciated body condition, depression, loss of appetite, inability to rise, and the presence of disease. Non-animal indicators include the availability of feed and water and extremely hot or cold weather.

In some situations it may be preferable to humanely destroy groups of animals before this 'point of no return'. Decreasing competition for feed will help the remaining animals to stay in better condition and be more productive after the drought. It will also reduce feeding costs. In making the decision as to which groups of animals need to be humanely destroyed, the producer should consider the genetics that are required after the drought and also the underlying vulnerability of different classes of animals.

Note that aged and unweaned animals and pregnant and lactating animals are more likely to be 'drought affected'.

In some situations it may be advisable to remove all stock from the property, for example if sheep are infected with footrot. If animals with similar or better breeding are likely to be available after the drought, then all animals could be either sold for processing or humanely destroyed.

For more information on whether animals are fit to load onto a truck, please visit www.dpi.nsw.gov.au/livestocktransport and download MLA's 'Is It fit to load guide'.

For more detailed information on the humane destruction of stock download the *Primefact 310 Humane destruction of stock* fact sheet at www.dpi.nsw.gov.au/stock-destruction

Table 10. Advantages and disadvantages of the six most common strategies

Strategy	Advantages	Disadvantages
Selling some or all stock	» No cash outlay is required (unless values are minimal) » Interest on proceeds of sale can be earned » Good prices are more likely if stock are sold early » Risk of damage to pastures is reduced. Improved performance of remaining stock post-drought may compensate for reduced numbers » Reduces labour input – time is available to pursue other activities » Can select culls to improve flock genetics.	» Stock may need to be repurchased after drought (prices could be high) » Income declines due to lost production » Breeding cycle may be disrupted » Stock may have to be sold at a substantial discount if held for too long » Taxation may be affected » Genetic material is lost if culling does not discriminate
Production feeding	» Throughput of stock is maintained » Livestock inventory can be maintained at high levels by purchasing more stock for feeding, reducing restocking problems » Cash flow is maintained » Lot feeding protects pastures	» Costs are high, while market prices are uncertain » High labour input is required » Feeding costs increase for pregnant and lactating cows, and as growing animals put on weight
Maintenance feeding	» Income may be earned from production of progeny and/or wool » Restocking costs are avoided » Maintenance of breeding cycle may be possible	» Costs are directly related to length of drought » Large financial reserves may be required for practical periods High labour input is required Performance levels are affected » Young stock do not perform well
Agistment	» Agistment may be cheaper than maintenance feeding per unit of food provided, depending on transport costs and the duration of agistment » If good agistment is available, full production may continue » Damage to pastures is minimised » Breeding program can continue	» Drought may affect agistment property » Stock must adapt to new area » Stock thefts may occur » Handling facilities and managerial control may be inadequate » Weeds and diseases may be introduced when stock are returned to original property
Trading in livestock	» Cash flow is provided for feeding and running costs so that total livestock numbers can be maintained » Can allow enterprise shift	» Weeds, diseases etc. may be introduced » Breeding cycle may be disrupted » Genetic base is lost
Humane destruction	» Prevents unacceptable suffering » Reduces stocking rates, enhancing chances for the remaining stock » Helps reduce further pasture and land degradation » Reduces hand feeding costs » May reduce the impact of, or eliminate, a disease, e.g. footrot	» Financial loss of stock value » Costs of slaughter and disposal and unpleasant task » Some risk to operator » Loss of genetics can occur if there is no selection

Summary

Here are the recommended steps to preparing drought strategies:

- » start early in a dry period to establish your short-term and long-term objectives
- » assemble facts and figures on all aspects of alternative strategies: feed costs, rainfall records (official records and local experience), stock prices, agistment, support and subsidies
- » cost strategies for various lengths of drought
- » select the strategies that best fit your projections and situation
- » write down your objectives and strategies, and whenever possible, set down numbers, dates or dollar figures as benchmarks or triggers for particular actions
- » review your strategies continually and adapt them if necessary.

More information

More information is available at www.droughthub.nsw.gov.au and www.dpi.nsw.gov.au/animals-and-livestock

Drought action plan

Reminders

When a drought is in its early stages it is important to remember:

- » make decisions early and review them regularly
- » don't wait – set a timetable and keep to it as closely as possible
- » it is a common belief that livestock will be expensive and unprocurable at the end of a drought – this has not been the case after past major droughts
- » paddocks that have poor water should be grazed first
- » don't forget about the routine procedures for maintaining animal health, particularly drenching against worms
- » wean calves – feeding cows with calves is expensive
- » consider changing from hay to grain – cost hay against grain
- » pregnancy test – why feed non-productive animals?
- » fat score your stock
- » assess the dentition and structural soundness of your stock and cull accordingly.

Review the following advice early in a drought and use it to help you plan your strategies.

Plan your strategies early

Droughts develop progressively, not overnight. Plan your strategies in early drought to ensure the economic survival of your business.

Experience from previous droughts is a guide as to what can happen. While factors such as stock prices, feed costs, availability of feed, and interest rates will vary, the following points are typical of all droughts:

- » Drought decisions are often made on an emotional rather than a logical basis. Try to make objective decisions and seek skilled help when necessary.
- » One reason given for retaining livestock in early drought is that the stock on hand are thought to be of superior quality and that replacing them at reasonable cost would not be possible. Except for seedstock animals, this is rarely the case.
- » Not all aspects of drought are bad – it can lead to opportunities for making money from enterprises such as lot feeding, and this experience can be used to your advantage in normal seasons.
- » The producers who do best during droughts are those who adopt sound management and financial plans, review these regularly, make firm decisions, and act early and quickly.

Be on the alert for opportunities

Every drought is different so you should evaluate all possibilities. Be on the alert for opportunities such as:

- » buying or leasing land instead of buying feed
- » replacing old animals with younger ones
- » changing breeds or enterprise mix eg from weaners to feeder steer production.

A single trading decision at the right time could contribute more to your viability than a lengthy feeding program. Your ability to take advantage of opportunities depends on maintaining stock in saleable condition.

Act quickly to reduce risk

The higher the risk of a major crash in the market, the more important it is to take progressive action early. Dollars earned from selling culled animals while the market is still strong will give you greater flexibility if conditions deteriorate.

Factors affecting risk are the:

- » national population of livestock including feedlots
- » domestic and export market demand for beef/ sheepmeat
- » extent and severity of the drought-affected area
- » likelihood of rain and the potential to grow feed at various times of year
- » adequacy of regional, state and national feed supplies.

Assess your position

When assessing your position, think about the risk factors and ask yourself the following questions:

Stock

For each class of stock, monitor the:

- » Rate of weight loss?
- » On going feed requirements and costs?
- » What should be culled?

Finance

- » What are my stock worth on the market and what are the market prospects?
- » Are there other trading opportunities? For example, sell cows and buy yearlings or buy sheep?
- » What is it costing to feed my stock per head per month?
- » What can I afford to spend on maintaining my stock?
- » What are the taxation considerations?

Feed

- » What feed do I have? Is it suitable?
- » If I need to buy feed, what is the price and availability?
- » Is it worthwhile selling conserved fodder such as hay and buying another type of feed such as grain?
- » Will reserves be adequate to cover increased seasonal needs such as at calving or in winter?
- » Have I allowed for full drought feeding or only for supplementary feeding?
- » What are the prospects for agistment or leasing?

Review your progress regularly

The extra worry and stress caused by a drought, especially when you are preoccupied with feeding regimes, makes it hard to think logically about the big decisions. However, it is vital to take time to review what is happening, to monitor the changing situation for stock, feed or agistment, and to plan the next step in your drought management program.

You should review progress systematically and regularly, ideally once a month. Planning helps you to retain a feeling of control and anticipate each major crisis.

Sometimes it is beneficial to have someone help with your assessment. Your local NSW DPI Livestock Officer can help you assess your options.

Develop skills for assessing pasture

It is a good idea to develop skills for assessing pasture quantity and quality. Good drought management relies on matching animal requirements with available pasture. Degradation of pasture leads to future income reduction and soil loss.

Make sound livestock decisions

In early drought you should:

- » reduce grazing pressure by selling, agisting, culling or lot feeding stock – this is the most effective way of staying viable and reducing costs if the drought continues
- » maintain a positive cash flow by selling some stock
- » keep your options open
- » concentrate your effort on the animals that have the potential to earn the most money – your enterprise is then more likely to stay productive.

Draw up a timetable with progressive deadlines for taking action, such as seeking agistment, selling stock, or starting to feed.

It is common to feed stock during dry spells and seasonal shortages of feed. However, full drought feeding can be expensive, laborious, depressing and frustrating. Make sure you evaluate and implement options that reduce or eliminate feeding wherever possible.

More information

www.dpi.nsw.gov.au/animals-and-livestock



Section 3 Feeding livestock

- » Dangers in feeding waste material to livestock
- » Chemical residue risks
- » Supplementary feeding of cattle
- » Full hand feeding of beef cattle – management
- » Full hand feeding of beef cattle – quantities
- » The value of unusual feeds in drought
- » Managing dairy cattle
- » Full hand feeding of sheep – management
- » Full hand feeding of sheep – quantities
- » Full hand feeding of sheep – feeding management
- » Water requirements for sheep and cattle

Dangers in feeding waste material to livestock

Using plant-processing wastes, reject fruit and vegetables and other food wastes as livestock feed may seem a practical and economic way of using or disposing of such materials.

However, people producing stock or animal products intended for human consumption should be aware that feeding any material that has not been produced specifically for use as stock feed can cause unacceptable chemical residues in animal products.

Quality control systems are essential to ensure that any materials fed to stock, and the final livestock products, meet stringent residue standards. Generally, there are no specific systems in place to prevent the occurrence of unacceptable chemical residues in these waste materials.

There are also legal restrictions on the materials that may be fed to certain livestock (eg meat and bone meal to ruminants) to prevent the development and/or spread of several serious animal diseases.

Chemical residue risks

Livestock producers are responsible for ensuring that the animals and products that they market do not contain unacceptable chemical residues.

The penalties for failing to manage these risks are significant:

- » Australian meat exports into overseas markets may be potentially banned
- » affected livestock are legally restricted from entering the domestic food chain, and
- » affected animal products can be condemned without payment to the producer.

Some chemicals concentrate in wastes, which increases the stock residue risks. Materials such as citrus pulp, fruit pomace, grape marc, and vegetable skins and outer leaves often have higher residues than the commodity from which they are derived.

Some chemicals registered for use on fibre crops and on fruit and vegetables are not registered for use on stock feeds or livestock. Consequently, there may be no maximum residue limits (MRLs) set for the chemical in animal products. If a chemical has no animal product MRLs then any detectable level of that chemical in these products breaches food standards.

As an added safeguard against unacceptable residues in animal products, label directions for some agricultural chemicals prohibit the grazing of treated crops and/or feeding of crop stubbles, by-products or wastes to livestock.

Organochlorine (OC) residues have been found in stock fed waste plant material, particularly root vegetables (potatoes, carrots, etc.) and cucurbits (pumpkin, squash, zucchini, marrows, etc.) that had been grown on OC contaminated land. When fed as a major part of the diet and/or for prolonged periods, trace levels of OCs in the attached soil or on the vegetable's skin build up in the animal's body fat. OC residues in stock have also come from the feeding of wastes, such as sugar cane tops and cotton trash, sourced from OC contaminated land and from materials stored in OC-treated silos, bins, etc.

OC chemicals such as dieldrin and DDT have a half-life of four to six months in cattle. Stock with OC residues may require many months on residue-free feed before they meet market standards.

Chemical residue risk assessments

To avoid residue risks, it is recommended that only conventional stock feeds be fed to stock producing food for human consumption. These feeds should be certified as suitable for that purpose by an accompanying stock feed commodity vendor declaration (CVD). Where this is not possible, there are other approaches that producers may use to protect themselves and their industry from potential loss.

To ensure the quality of meat and milk products, livestock producers must assess the chemical residue status of any stock feed, including processing wastes and by-products, before feeding them to their stock.

Generic risk assessments

Generic residue risk assessments have been done on a number of plant by-products that are sometimes fed to stock, including apple pomace, citrus pulp, cotton trash, grape marc, sugarcane, sugarcane tops and waste vegetables.

Such assessments considered all of the chemicals that were registered for use on the crops from which these by-products are derived. The likely type and level of residues in both the by-product and in stock fed those by-products were identified. The time taken for residues to deplete from the stock was also considered along with the Australian and international MRLs for the chemicals in question.

The assessments generally indicated that after spending 60 days on 'clean' feed, stock previously fed these by-products should meet domestic and export residue standards for the registered chemicals considered in the assessments.

Cattle fed by-product stock feeds in the 60 days prior to slaughter can be identified through the answer to Question 4 on the National Vendor Declaration (NVD) for cattle (see below).

The assessments also noted that some by-product stockfeeds, such as cotton trash, sugarcane, sugarcane tops and vegetable wastes could contain OC residues if the parent crops were grown on OC-contaminated land. Such materials should not be fed to stock unless they are first tested to ensure that livestock diets will not exceed the MRLs set for OC residues in stockfeeds.

Limitations of generic risk assessments

However, the generic risk assessments do have limitations including:

- » For a small number of chemicals, there was insufficient information to assess the likely residues in the by-products and/or in stock that were fed those by-products and/or to estimate the time taken for residues in stock to fall below detectable levels.
- » The assessments assumed that all chemical treatments were done in accordance with label directions using only chemicals registered for use on the crops in question and that all relevant withholding periods were observed.
- » The assessments only considered chemicals that were registered for use on the parent crop or commodity when the assessments were done.
- » The possibility of OC contamination was considered for some by-products where the parent crop may have been grown on OC-treated land (cane tops, cotton trash and waste vegetables).
- » Other possible chemical exposures, from spray drift or during processing, transport or storage, were not considered.

Specific risk assessments

A comprehensive residue assessment is only practical where the full chemical treatment and exposure history of the proposed stock feed is known. Such an assessment should determine if:

- » all chemical treatments were done in accordance with label directions
- » the label directions for any chemicals used prohibit the feeding of wastes from treated crops
- » all chemicals used on the parent crop or on the stored commodity or waste have grazing/fodder withholding periods
- » those withholding periods were observed before harvesting or processing the commodity.

Further inquiries may be needed to determine whether the material was exposed to other chemicals at any time - such as from spray drift or during storage or transport.

If the assessment indicates that the material may contain unacceptable residues of particular chemicals then specific residue tests should be done to determine if it is suitable for use as stock feed. The possibility of OC contamination from soil or storage areas should be considered when deciding what tests are needed.

The assessment and laboratory testing results must be interpreted to determine:

- » whether residues are likely to occur in stock fed the material
- » if so, the type and level of residues
- » whether any such residues could exceed Australian and/or overseas MRLs for animal products
- » whether a pre-slaughter period is needed between last feeding the material and harvesting animal products for human consumption, to ensure that the animal products meet relevant MRLs.

If a pre-slaughter period is required, stock fed the material need to be identified and feeding records kept to confirm that they have met the required post-feeding period and are eligible for slaughter or milking.

Marketing implications of feeding wastes

Irrespective of any residue risk assessment done before deciding to feed waste materials, buyers may discriminate against stock that are fed such materials in the 60 days prior to sale.

The National Vendor Declaration (NVD) asks if cattle were fed any 'by-product stock feeds' in the 60 days prior to sale. By-product stock feeds include 'any plant material not produced primarily for livestock consumption, such as waste fruit, vegetables and fibre crops, including peel, pulp, pressings, stem and leaf material'.

A 'yes' answer is appropriate if the stock have been fed any of the materials within 60 days prior to sale.

The NVDs for sheep and cattle ask if, in the 60 days prior to sale, stock have grazed or been fed any pasture, crops, stubble or fodder that was sprayed with an agricultural chemical in the 60 days prior to grazing or harvesting and:

- » the grazing/fodder withholding period was not observed, or
- » the chemical had no such withholding period on the label.

A 'yes' answer is appropriate if materials with an unknown chemical treatment history were fed within the 60 days prior to sale. For many chemicals, residues in contaminated animals will fall to acceptable levels within that timeframe.

Vendors that give false or misleading answers to NVD questions may face prosecution or civil action or both. Producers should always read the questions and the explanatory notes carefully before completing any vendor declaration. If in doubt about the proper completion of NVDs, contact Meat and Livestock Australia's help line on 1800 683 111.

Livestock feeds - prohibited and restricted substances

Anyone intending to feed waste materials to ruminant animals (cattle, sheep, goats, deer, etc.) or to pigs must ensure that it is free from 'prohibited or restricted substances'.

The *Biosecurity Act 2015* and Biosecurity Regulations 2017 restrict the feeding of some materials, to livestock. Part 2, Division 9 of the Regulation says that: a person must not feed a prohibited substance to stock or cause or permit stock to feed on a prohibited substance.

The maximum penalty is 100 penalty units (currently \$11,000).

Prohibited substances in ruminant feeds

For ruminant animals, the prohibited substances are defined as 'restricted animal material' by Clause 34 of the Biosecurity Regulation. They include tissue, blood or feathers derived from the carcass of an animal and any substance produced from or containing any such tissue, blood or feathers.

This definition covers most materials derived from vertebrate animals including feather and fish meals. Only milk products, tallow and gelatine are exempt. For further details on ruminant feeding see *Primefact 313 Feed controls - stopping BSE (Mad Cow Disease)* See:

www.dpi.nsw.gov.au/stock-feed-control

Prohibited substances in pig feeds

Prohibited substances in pig feed include any product from a mammal (including tissue or blood) except if authorised. They are defined by Clause 37 of the Biosecurity Regulation 2017. The feeding of household or commercial garbage or waste that contains the meat, tissue or blood of mammals is also prohibited. These prohibited substances are often referred to as 'swill'. For more information on feeding pigs, contact your Local Land Services District Veterinarian.

Supplementary feeding of cattle

Introduction

Early in a drought there is usually plenty of poor quality dry feed, which animals cannot use efficiently. Supplementary feeding at this stage aims to make better use of this feed by supplying the nutrients that are deficient in the pasture. This allows animals to be cheaply maintained while drought decisions are made.

Supplementary feeding is only an option when there is available paddock feed. When paddock feed becomes limited, survival feeding or production feeding must be implemented. Survival feeding provides an animal with the minimum feed it needs to stay alive. Production feeding for adult stock provides sufficient food for successful breeding and for younger animals sufficient food to meet growth and/or market targets.

Effective supplementary feeding

To be effective, the supplement you choose must make up for the main nutrient deficiencies in the paddock feed. Dry feed is often deficient in protein and sulphur and energy is only available in slowly digestible forms. In cases where the feed is green but very short, low energy intake limits production.

To ensure the efficient use of supplements you should:

- » Identify the most limiting components, usually protein, sulphur and/or energy
- » Select supplements containing high levels of the identified limiting components
- » Balance the supplement to ensure efficient rumen function
- » Remember that young and lactating animals have a greater need for protein
- » Choose feeding techniques that minimise disruption to the animals' digestive system
- » Cost out the program considering alternative measures
- » Feed those animals with the greatest needs, for example pregnant cows of low fat score, or weaners below critical liveweights
- » Monitor feed consumption, liveweight and condition to confirm that your strategy is working.

Outcomes of feeding supplements to stock

The possible outcomes of feeding supplements to stock depend on whether energy or protein supplements are used and on how the pasture and supplement interact during digestion. They include:

- » Supplementation. The supplement is eaten and pasture intake is unchanged. This is a rare event.
- » Substitution. The supplement eaten causes reduced pasture intake. This usually occurs when pasture is supplemented with a high-energy feed such as grain.
- » Complementation. The supplement is eaten and pasture intake increases. This occurs when stock are grazing on dry pasture or crop stubble and the supplement improves the animal's ability to utilise the feed.

Supplementary feeding

Table 11 provides supplementary feeding recommendations for various stock classes of beef cattle.

Frequency of feeding

Non-protein nitrogen sources – such as urea and sulfate of ammonia – dissolve quickly in the rumen and any surplus nitrogen is wastefully excreted. To be effective, the non-protein supplements must be fed in small amounts and often.

Protein meals, such as cottonseed meal or linseed meal, release their protein differently, allowing cattle to use the protein efficiently over a longer period. Twice-weekly feeding is as effective as daily feeding.

High-protein grains (e.g. lupins or peas) are more degradable, with a higher protein release rate and should be fed every second or third day.

Protein meals and seeds

Protein meals and high-protein seeds are excellent supplements when pasture digestibility is falling. Protein meals are oilseed crop by-products. The most common high-protein seeds are white ('fuzzy') cottonseed and lupins.

Both protein meals and seeds can be fed twice weekly in daily amount multiples (see Table 11). They are safe feeds and do not cause acidosis (grain poisoning).

Block licks

Although commercial urea and protein blocks are convenient and can be used with moderate success as supplements to abundant dry feed (over 2500kg dry matter/ha), they cost three to four times as much as high quality protein feed. Better results can be achieved at a fraction of the cost by using legume grains or protein meals. Block licks are most suitable in the early drought phase.

Roller drums

Roller drums supply nitrogen from the urea in a molasses, urea and water mix to maintain liveweight of dry cattle when dry feed is plentiful. They are useful only when dry standing feed exists and they are an alternative choice to protein block licks. Table 12 provides recipes.

Table 11. Supplementary feeding recommendations

Available feed	Class of stock	Supplement	Feeding frequency
Plentiful dry feed » Low pasture digestibility limits intake » Protein supplements increase pasture intake	Cows and calves, dry adult stock	Urea/molasses mix or loose lick to supply 60g urea/cow/day OR Pulse grains, 0.5–1.0 kg/cow/day OR Protein meals, DDG, cottonseed 0.5–1kg/head/day	Continuous access Every second day 2–3 times/week
	Weaners	Supplement and frequency as for other classes of stock, but high-protein grains or meals preferred.	
Short green feed » Low pasture availability limits intake » Feed energy supplements	Cows and calves	Good hay, 3–4kg/cow/day OR Grain, 1–2kg/cow/day + hay 1–2kg/cow/day	2–3 times/week
	All dry cattle	Hay, 2–3kg/head/day OR Grain, 1–2 kg/head/day	Daily or every second day
Deteriorating dry feed » Low pasture availability and digestibility restrict intake » Feed energy/protein supplement mixes » Full hand feeding follows	Cows and calves	Molasses/urea/protein meal OR Cottonseed / DDG / pulses 2–3kg/cow/day	Continuous access 2–3 times/ week
	Dry stock	Cottonseed / DDG / pulses 1–2kg/hd/day	2–3 times/ week

WARNING: Cereal grains and urea can be poisonous if fed in large amounts before cattle are used to them. Be sure to introduce them gradually to reduce this risk. Rations consisting wholly of grain are not recommended for lactating cows; instead, feed a mixture of 80% grain and 20% hay. Cereal grains should be fed out daily where possible and pulse grains can be fed out daily or every second day.

Table 12. Mixes for supplementary feeding urea/molasses (roller drums)

	First week	Second week	Third week
Water (litres)	100	100	100
Molasses (litres)	100	50	30
Urea (kg) – Prilled	15	15	15

Each mix should last about 30 head for 10 days. To decrease the rate of consumption, reduce the proportion of molasses.

WARNING: Urea can be poisonous to stock.

Grain and hay

In the early drought phase (dry standing feed), grains and hays act as a substitute for paddock feed rather than a supplement. Supplements encourage the use of standing dry feed.

Cereal grains (such as oats or wheat) are not efficient supplements when paddock feed is dry. They produce lactic acid in the rumen, which slows down the digestion and consumption of fibrous paddock feed. You can reduce this effect by feeding small amounts every three days and by adding protein meals, grain legumes or white cottonseed. This will fill the gap between the protein level in the grain and the animal's need for 13–15% protein and 6–10% in the overall diet of younger stock and dry stock respectively. High-protein alternatives such as lupins, peas, or cottonseed meal will give better results while paddock feed lasts.

Grains are more useful when feed is short and green and/ or when hay supplies are low. This is particularly so for dry cattle, which need less roughage. Hay is best for lactating cows on short green feed, particularly in the colder months. The main role of grains is in full feeding when available pasture is low. Cattle should be removed from paddocks to reduce the likelihood of erosion (see the following sections on full feeding).

White cottonseed

White cottonseed is an excellent supplementary feed that is high in energy and protein but also provides fibre in the hulls. It mixes well with grain and protein meals but its high oil content may cause digestive upsets when daily intakes are high for extended periods, or when combined with other feeds that are high in oil such as grape marc or failed canola crop. It should make up no more than a third of maximum potential feed intake when fed out with a suitable roughage source. Cottonseed is a suitable supplement for stock grazing

low quality feed, such as cereal stubble or mature / frosted / drought affected tropical grass pasture with no visible green content. Under these conditions, it can be fed at up to 0.5% of bodyweight for cows, and 0.33% for weaned calves up to the amounts listed below.

For more information on restrictions refer to *Primefact 303 'White cottonseed- a supplementary cattle feed'*.

Table 13. Suggested feeding levels with adequate dry feed available.

Stock class	kg/head/day
lactating cows	2 – 3
dry – pregnant cows	1 – 2
yearlings 250-350kg	1 – 2
Weaned calves 100-150kg	0.5

Molasses

Cattle can be fed molasses-based diets fortified with protein meal and urea if there is roughage in the paddocks or roughage is provided.

Molasses-based diets are versatile and can be used in the early drought stage as a production feed as well as being used in full feeding. Table 4 shows recommended molasses rations, which assume adequate roughage is available.

These fortified molasses mixes are distinct from roller drum mixes. Fortified molasses mixes give superior cattle performance (particularly in lactating cows) than roller drum mixes.

Sources of phosphorus

Traditional sources of phosphorus – MAP fertilisers (e.g. Starter 12®) and DAP fertilisers – are not recommended as stockfeed sources of phosphorus..

The new sources of phosphorus are monocalcium and dicalcium phosphates that are low in fluorine and cadmium (see Table 15).

Table 14. Recommended molasses rations (calculated assuming adequate roughage is available)

Class of stock	Molasses	Cottonseed meal	Urea	Monocalcium or dicalcium phosphate*
30 cows with calves at foot. For lactation and successful rejoining. Feed the mix twice weekly.	250kg (1 drum)	50kg	8kg	3kg
30 cows with calves at foot. For scrub feeding. Feed mix twice weekly.	250kg	25kg	8kg	3kg
30 weaners (200 kg). For normal growth. Feed mix twice weekly.	125kg	50kg	2kg	2kg
30 head of dry stock. For maintenance of weight and condition. Also for scrub feeding dry cattle. Feed mix twice weekly.	250kg	–	8kg	2kg

* Monophosphate or dicalcium phosphate should be included for cattle grazing in phosphorus deficient soils.

Table 15. Suitable sources of phosphorus

Product	Ingredient	Phosphorus content
Kynofos 21®	Monocalcium and dicalcium phosphate (50:50)	21%
Biofos®	Monocalcium and dicalcium phosphate (67:33)	21%
DCP®	Dicalcium phosphate	18%

Managing full hand feeding of beef cattle

Introduction

When there is not enough pasture for livestock maintenance or further grazing of pastures may be detrimental to pasture management or survival, the animals' nutritional requirements must be met by full hand feeding. It is important to begin planning well in advance of starting to feed.

Feed in a confined area

All stock in a full feeding situation should be confined to a small area or a small paddock for the following reasons:

- » To limit pasture and soil degradation
- » Stock health can be more easily monitored
- » Stock do not have to expend energy walking around the paddock looking for food or water, which limits the amount of feed required.
- » Choose an area where the pasture can be regenerated after the drought breaks and any soil erosion will be minimised.

Parasites

Parasite burdens can be greater when stock have lower resistance because of poor nutrition and when they are concentrated in small areas. For example, bulls are highly susceptible to ostertagia (small brown worm) infestations.

Do not overlook the need to treat for fluke in areas at risk from this parasite. Treat all stock for lice and worms.

Vaccinations

A 5-in-1 (or 7-in-1) vaccination given to all stock (including bulls) before grain feeding provides cheap insurance against losses from clostridial diseases.

Vitamin A, D, E injection (intramuscular) is essential for all classes of cattle, particularly if they have not had access to green feed for an extended period.

Stock management

Heifers

If you decide not to sell maiden heifers, they are best withheld from joining. If joined, they must be feed to ensure they develop adequately before calving.

Cows

Pregnancy test all cows that have been joined and sell any that are not in calf and identify any that conceived late as they may also need to be sold. Pregnant cows need close supervision.

Problems may develop during calving because drought conditions can lead to a higher proportion of calving difficulties and retained afterbirths.

Metabolic disorders (such as milk fever) are also more likely to occur. Cows will do better if calves are weaned, as they need less feed and feed quality is less important.

Calves

It may be better to dispose of calves shortly after birth, particularly those from first and second-calvers. Those you keep should be weaned as early as possible – see Weaning management and Calf feeding management on page 27.

Dehorning

Stock should be dehorned as part of normal management. In a drought, polled or dehorned cattle are less aggressive at the feed trough, which means less troughing is required.

If cattle have not been dehorned by the start of the drought, it is advisable to avoid the extra stress of dehorning.

Water

Beware of cattle bogging in dams, soaks and waterholes. Fence off these areas and provide water in troughs where possible. The inflow of water to the trough is as important as trough capacity. Under drought conditions, cattle will drink about 10L of water per 100kg of bodyweight per day, and more in hot weather. Cattle water intake doubles when the daily temperatures increase from 21°C to 32°C.

When water becomes a problem, sell stock to reduce the need to cart water.

Preparing for full feeding

Where necessary, draft stock into management groups based on weight and body condition. Stock are easier to manage and supervise when they are confined to small paddocks close to feed supplies.

Grain feeding

Starting cattle on grain

To reduce the risk of grain acidosis, be vigilant when introducing cattle to grain and pelleted rations. The high starch content of most grains can cause health issues. Lupin is the exception because it is low in starch.

Good security of grain stores and standing crops is essential to prevent acidosis issues. For stock grazing stubble with a significant amount of grain, it is a good idea to gradually introduce grain to stock so that the rumen bacterial population adapts over time.

There should also be a minimum of 10–20% roughage in any ration.

Animals should be closely monitored in the introductory phase to grain feeding. Diarrhoea is often the first sign of mild grain acidosis and if this is seen in a number of animals, the proportion of hay in the ration should be increased.

Some grains, for example lupins, are safer to feed than others. Similarly, it is safer to feed oats, which have a higher ratio of fibre to starch than wheat.

When changing between different types or even batches of grains, and especially when changing between batches of pellets, the new feed should be introduced by 'shandying' it with the old and gradually increasing the proportion of the new feed over at least seven days.

Paddock situation

Below is a typical introductory regime to grain feeding in a paddock situation for cattle.

Table 16. A typical introductory regime for increasing grain content in the rations of cattle in a paddock-feeding situation

Day	Amount of hay	Cereal grain (kg/hd/day) for cattle
1–2	To requirements, then grain	1
3–4	Decrease hay fed	1.5
Day 5 onwards	Decrease hay fed	Increase by 500 g/day – until required feeding level is reached

Complete grain and roughage ration

When animals are introduced to a high-grain diet, they should begin on a ration consisting primarily of hay, with the percentage of grain being gradually increased over two to three weeks.

Below is a typical introductory regime for introducing sheep or cattle to a complete diet of grain and roughage.

Table 17. A typical introductory regime for increasing grain content in a complete ration for cattle

Day	% in ration	
	Cereal grain	Hay
1–5	20	80
6–10	40	60
11–15	60	40
16–20	70	30
Final ration	80	20

Including lupins in the ration

Lupins may be used to introduce sheep or cattle to a complete ration with high levels of grain. The high fibre content and low starch levels in lupins make them extremely safe to feed to ruminants and there is no risk of acidosis. The lupins must be fed whole or cracked, but not ground as grinding increases the risk of grain acidosis. The high protein and energy levels in lupins also make them an ideal feed for inclusion in any ration.

Below is a typical introduction to a feedlot ration using lupins.

Table 18. A typical introductory regime for increasing grain content in a complete ration for cattle

Day	% in ration		
	Lupins	Cereal grain	Hay
1–5	80	0	20
6–10	60	20	20
11–15	40	40	20
16–20	20	60	20
Final ration	0	80	20

Frequency of feeding

When cattle are on full drought grain rations, it is safest to feed daily. If you can feed only two or three times a week because labour is scarce or needed elsewhere, be alert to the increased risk of grain poisoning.

Where possible, feed at a regular time of the day to reduce digestive upsets.

Digestibility of grains

Grains are more digestible if coarsely crushed, but the benefits of crushing the grain are questionable if livestock are likely to gorge – which leads to digestive upsets.

Most grains give satisfactory results if fed whole. Some whole grain will pass through in the faeces, but the proportion lost will decrease the longer cattle are being fed whole grain. Grain that is processed too finely may cause digestive upsets and surges in intake.

Digestive losses will vary, depending on the amount and type of grain fed and the length of time animals have been on that feed. The amount passed through by cattle eating whole grain compared with crushed grain varies from about 5% in oats and corn up to about 25% in sorghum.

Adding calcium

Grains are low in calcium so feed finely ground limestone with the grain at the rate of 1 to 1.5kg limestone per 100kg grain. This will prevent acute calcium deficiencies (particularly in lactating stock) and also avoid the poor bone and teeth development that are the long-term effects of calcium deficiency.

Depraved appetite

Bark chewing, hair licking and dung eating can occur when cattle are on grain survival rations. These habits do not pose a health problem. However bone chewing can result in deaths from botulism.

Although grain is generally high in phosphorus and low in calcium, supplements that supply both such as mono- and dicalcium phosphate will reduce this behaviour.

Lactating cows

Cows have low milk yields on all-grain diets and calves suffer accordingly. To help calves survive, feed lactating cows 1–2kg of hay or straw/stubble in addition to grain.

Shy feeders

About 10–15% of stock will not settle down to grain feeding. Shy feeders are best removed from the mob and either fed diets containing some roughage or sold.

Weaning management

Calves are the most difficult stock to feed in a drought. There is no point in feeding them for survival; they need a ration that allows them to grow. Calves need more protein than older stock, which adds to costs, but overall need less feed than other classes of stock.

If you decide to wean and feed calves, the guidelines below will help. Note that, as for all grain feeding, calves should be introduced to grain gradually. See also *Primefact 322 Feeding calves in drought*.

Calves over 5 months

Wean and feed calves aged over 5 months according to Table 20.

Backward calves, and heifers intended for future breeding, will benefit from adding 75–100 g per head per day of a high-protein feed (such as a meal or legume grain) to normal rations.

Calves 2–5 months

Calves 2–5 months will wean satisfactorily if they are fed a balanced diet. Commercial calf pellets are suitable or you could try one of the following feed mixes:

- » Mix 1: 100 kg lucerne chaff with 100 kg crushed grain.
- » Mix 2: 100 kg crushed grain, 15 kg protein meal and 10 kg roughage (Optional: add 1 kg urea provided that calves have been weaned for 3–4 weeks).

A ration of 1.5–2 kg per head per day is adequate for maintenance, but 2–2.5 kg per head per day will ensure some growth.

Treat these calves against coccidiosis.

Calves under 2 months

Under extreme conditions, calves can be weaned at 4–6 weeks of age if they are given specialised calf rearing meal or pellets with at least 18% protein and good quality grassy Lucerne hay.

Calf health

Provide fresh, clean water, preferably in troughs, at all times. Provide shelter from cold winds.

Treat calves with vitamins A, D and E at weaning and at three-monthly intervals.

Draft off strong calves and feed them away from weak ones and/or according to size to ensure all have equal access to feed. Remove sick and scouring calves from the group and treat them immediately. In particular, young calves are susceptible to coccidiosis.

Treat calves regularly for lice and internal parasites and consider vaccination and/or fly control treatments to prevent pinkeye infections.

Troughing

If possible, put grain in a trough to reduce wastage, dust and health/ residues risks from potential soil consumption. Troughing does not need to be elaborate. Many cheap, temporary methods are satisfactory including:

- » bush timber or railway sleepers placed on the ground 40 cm apart with corrugated iron used as the troughing
- » 200-litre drums split down the middle
- » tractor tyres cut in half with a chainsaw.

Provide sufficiently sized troughs to allow stock to eat together. Allow 30 cm of trough length per head for weaners, 45 cm for yearlings and 60 cm for adult stock. To reduce bullying, several troughs spread apart are better than one long trough. Round feeders allow better stock access than others.

Note that feeding twice the daily amounts every second day can improve feed access for the mob as dominant animals feed and then move away.

Where no troughing is available, place the grain in dumps of about 20 kg each, rather than trailing as for sheep. Dumps are not as efficient as troughs with an expected wastage of 6–8% and a higher risk of sand impaction.

The best value in feeds

Energy requirements for maintenance

Animals need energy, measured in megajoules (MJ) for all body functions. Animal requirements are assessed as megajoules of metabolisable energy (MJ.ME). Energy in feed is assessed as megajoules of metabolisable energy per kilogram of dry matter (MJ.ME/kg feed dry matter or simply M/D). Note that the energy value and its cost is expressed on a weight basis, not volume.

The NSW DPI feed cost calculator allows users to compare energy and protein prices in different feeds. It is available at www.dpi.nsw.gov.au/feed-cost-calculator

The Drought Feeding app is available at www.droughthub.nsw.gov.au

Table 19 is a guide to comparing value for money in different types of feeds, based on average feed test results. Read downwards to compare relative costs; figures in the same vertical column represent matching cost per unit of energy. Feeds with a ME less than 7 MJ/kg DM should only be considered as roughage sources rather than energy sources. Feeding them ad lib without concentrates will still result in animal weight loss, as the high fibre in these feeds means that intake is restricted by low rates of digestion.

To compare prices, select a feed from the right-hand column (e.g. wheat) and then select the price per tonne you can buy it for (e.g. \$380). Look down that column to see how much you must pay for other feeds and compare on a 'cost per unit of energy' basis. For example, if barley is more than \$351 per tonne, then wheat at \$380 is a better buy. The cost per unit of energy is the same where wheat is \$380, barley \$351, medium quality oats \$322.

Table 19. Feed price equivalents for drought feeding based on energy values of feed

ME* (MJ/kg DM)	\$ per tonne									Examples of feeds
13	180	220	260	300	340	380	420	460	500	Maize, wheat, triticale, sorghum, lupins, peas.
12	166	203	240	277	314	351	388	425	462	Barley, good quality oats.
11	152	186	220	254	288	322	355	390	420	Medium quality oats, most nuts.
10	138	169	200	231	262	292	323	354	385	Poor quality oats, good legume hay.
9	125	152	180	208	235	263	291	319	347	Good pasture and cereal hay.
8	111	135	160	185	209	234	258	282	306	Medium quality hays.
7	97	118	140	162	183	205	226	248	270	Poor quality hay.
6	83	102	120	138	157	175	194	213	232	Stubbles, cottonseed hulls.
5	69	85	100	115	131	146	162	178	194	Rice hulls, sunflower hulls, rice straw.

This is the energy value of feed (ME = metabolisable energy; MJ/kg DM = megajoules per kilogram of dry matter). Most grains and hays contain about 10% moisture. When buying feeds with a higher moisture content, for example molasses and silage, ensure that the price reflects dry matter content. Feeds in the shaded area should be considered sources of roughage rather than energy.

Remember to consider:

- » wastage levels and the practicalities of handling and feeding out
- » the amount of hay needed for cold weather, for lactating stock, when introducing full grain rations, and for shy feeders
- » suitability of the feed – low-energy feeds (ME 7 or lower) are not be suitable for feeding to young stock over a prolonged period
- » grains fed whole are lower in feed value than the same grains cracked or rolled but reduce the risk of digestive upset
- » supplements are needed with some feeds – this could mean the addition of protein or minerals such as limestone
- » Feed tests are essential in determining the actual value of livestock fodder.

For assistance in calculating relative feed costs use the Feed Cost Calculator at www.dpi.nsw.gov.au/feed-cost-calculator or the Drought Feed Calculator Phone App (see Appendix 2). The Drought Feeding app is available at www.droughthub.nsw.gov.au www.dpi.nsw.gov.au/animal-feed-testing

When the drought breaks

Many properties experience their heaviest losses immediately after drought-breaking rain. Prolonged wet conditions turn animals off their feed. Problems exist under these circumstances if grain is being fed on the ground. As soon as the first green pick emerges, cattle may chase this, expending more energy.

It is essential that cattle are kept confined to designated feeding areas until adequate pasture is available. At that point, allow increased grazing time each day until full grazing is provided after six to seven days. Allowing immediate full grazing will lead to digestive disorders.

After a drought, weeds recover faster than desirable species. Observe how the pasture is recovering and decide on a management strategy if weeds show signs of dominating.

Full hand feeding of beef cattle – quantities

Assessing the situation

When your cattle reach the point where they should not lose any more weight and supplements are insufficient to maintain weight it is the time for a major reassessment.

Consider the following:

- » the probability of useful feed growing if the drought breaks in the near future
- » the quantity of feed required for full feeding
- » the resources required (including finance to buy feed, pay for labour and other continuing costs) and the facilities or equipment required
- » the potential benefit of continuing to feed certain classes of stock.

Cost your program on a monthly basis but keep in mind that there may be a considerable lag time of availability to process stock at abattoirs. You can reassess the stock you are going to feed and perhaps reduce numbers again to stretch available funds.

In full drought the cost of a feeding program will increase, particularly during periods of production stress such as calving and lactation. It may be necessary to cull more heavily.

Energy requirements for maintenance

Animals need energy, measured in megajoules (MJ) for all body functions. Animal requirements are assessed as 'megajoules of metabolisable energy' (MJ ME). Energy in feed is assessed as 'megajoules of metabolisable energy per kilogram of dry matter' (MJ ME/kg DM, or simply M/D).

A drought feeding program should address dietary energy. The energy requirements of cattle depend on:

- » liveweight
- » energy concentration of the feed (M/D)
- » pregnancy
- » lactation
- » growth
- » weather conditions.

Calculating the feed requirement for maintenance

The first step in finding the energy needs of adult cattle is to calculate the amount of feed needed to provide sufficient energy to maintain liveweight. If cows are pregnant or lactating, adjustments to the maintenance value need to be made, and these are discussed in Step 2 of the next section 'Adjusting the ration'.

To calculate the feed requirement for maintenance, you need to know the energy content of the feed or feeds. Appendix 1 contains a guide to the energy contained in various feeds. The values given are average values.

Whenever possible, a feed analysis is recommended, as there can be considerable variation. See 'Feed quality service' on page 50 for information on testing laboratories.

Once the energy content of the feed is known, use Figure 2 to predict the amount of feed needed to meet maintenance requirements. Where more than one feed is being fed, the following procedure is used to calculate the energy content of the mixed ration. It is this number which is then used in Figure 2.

Example

A ration contains 80% wheat (12.9 M/D) and 20% clover hay (8.9 M/D). The calculation is as follows:

$$\text{Energy content} = \frac{(80 \times 12.9) + (20 \times 8.9)}{100} = 12.1 \text{ M/D}$$

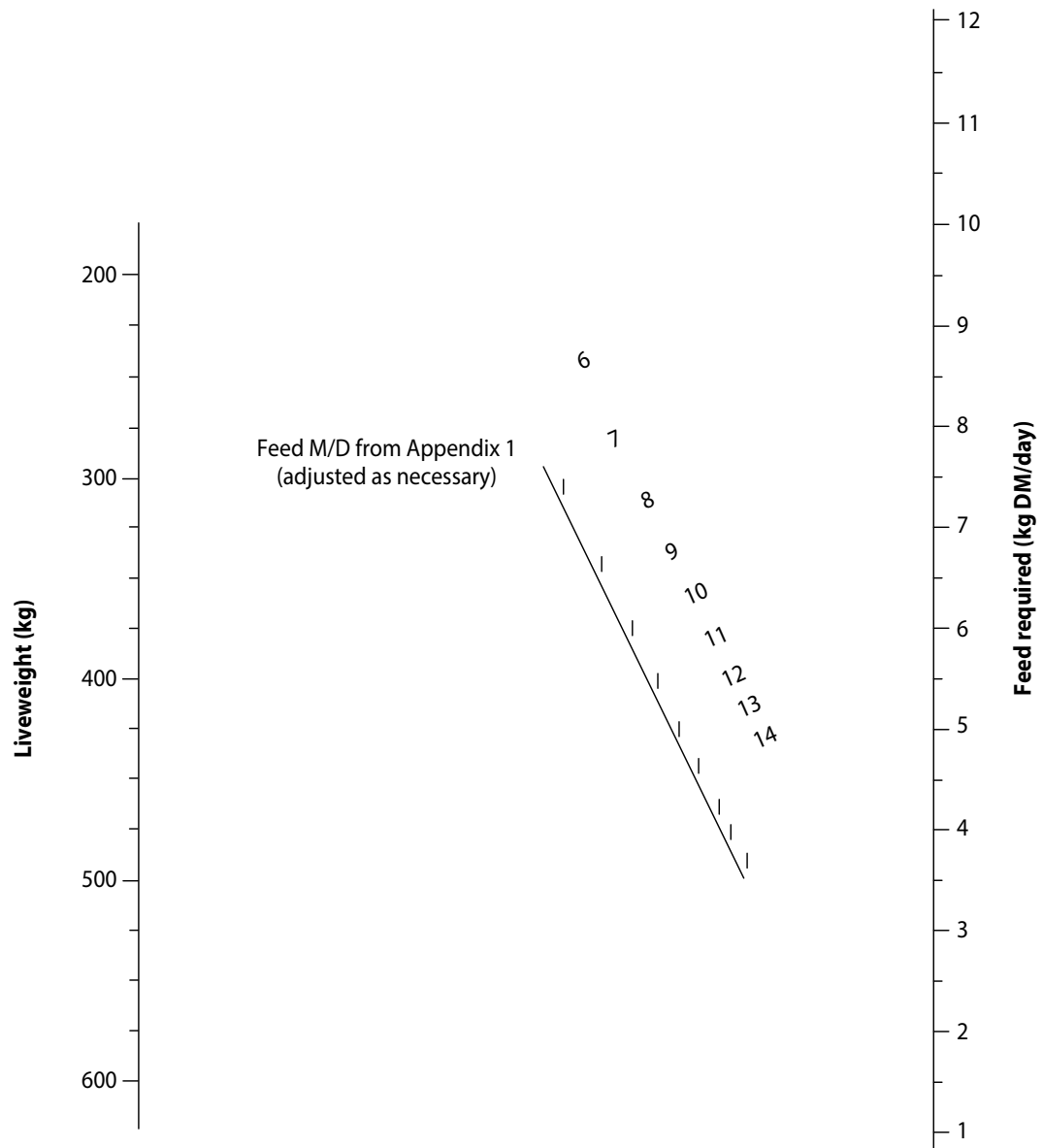


Figure 2. Cattle maintenance requirements

To use Figure 2, place a ruler on the appropriate point which represents the liveweight of the animal under assessment (left-hand vertical line of the figure), then run the ruler through the energy content of the feed (centre angled line). The point where the ruler cuts the right-hand line indicates how much feed (in kilograms per day of dry matter) should be fed to maintain liveweight.

Calculating the 'as fed' amount

The calculation in the previous section assumes the feed is 100% dry matter. All feeds will contain some moisture, and this needs to be compensated for when determining how much of the fodder to feed.

Appendix 1 contains dry matter percentages for various feeds. To determine the amount of a particular fodder or ration to feed, take the calculated amount from Figure 2, multiply it by 100, and then divide this by the dry matter percentage. This is commonly known as the 'as fed' amount.

Example

6.5kg DM/day, where the dry matter percentage is 90%:

'As fed' amount = $6.5 \times 100 \div 90 = 7.2\text{kg}$

As a general rule, to adjust the amount of feed to an 'as fed' weight:

For grains/hay:

'As fed' amount = feed required (kg DM /day) $\times 100 \div 90$

For silages:

'As fed' amount = feed required (kg DM /day) $\times 100 \div 30$

Adjusting the ration

Step 1. Ration for dry beast

Use Appendix 1 to get the energy (M/D) value of the feed. Then place a ruler on Figure 2 at your values for 'Liveweight (kg)' and 'Feed M/D', and read off the 'Feed required' from the right-hand side. Then adjust for dry matter content to calculate the 'as fed' quantity.

Step 2. Allowance for pregnant and lactating cows

Using Figure 2, first calculate the feed requirements for maintaining a non-pregnant cow. Then increase this by the percentage factor given below to determine the corrected amount of feed required by a pregnant or lactating cow:

Cow 6 months pregnant: add 20%

Cow 8 months pregnant: add 40%

Cow with calf at foot: add 60%

Step 3. Allowance for cold stress

During cold, bleak weather, increase the rations for all classes of stock by 20%. The extra feed should be provided as hay.

Wet feeds such as silage or vegetables should be fed in greater quantity in proportion to their moisture content. See the section 'Calculating the 'as fed' amount'.

Feeding for survival

Feeding grain for survival involves the gradual introduction of grain or other high quality feed, otherwise deaths will occur. The success of feeding depends on starting well before cattle fat scores / condition scores fall to their critical levels as highlighted in the diagram below.

The sketches show critical body condition scores for cattle (top) and the implications for management of cattle within these levels. Reproduced from Meat & Livestock Australia's "A national guide to describing and managing beef cattle in low body condition publication" at www.mla.com.au/publications

Level of low body condition	B-E 1/BCS 2	D 0/BCS 1	E 0/BCS 0
<i>Bos taurus</i> or cross bred animals			
<i>Bos indicus</i> animals			
Brief description	Lean but strong and healthy with evident muscle wastage	- Healthy but with significant muscle wastage - Able to recover for transport	- Weak, with no body reserves. At risk of death from cold, wet weather or other stressors - Recovery for transport dependent on high quality care but will be slow
Backbone	Easily seen	Spines of backbone identifiable	Spines of backbone individually identifiable

National livestock language		Body condition score	Welfare	Management
Muscle	Fat			
E	0	0	- High risk - Weak, with no body reserves	- At risk of death from cold, wet weather or other stressors - Recovery dependent on high quality care and will be slow - Unable to be transported without prolonged intensive management
D	0	1	- At risk - Significant muscle utilisation and may be weak	- Able to recover with adequate care - High level of management required - Unlikely can be transported without feeding and rest
B-E	1	2	- Of concern - Lean but strong with evident muscle utilisation	- Management intervention required - May be able to be transported if strong and dependent on journey and prevailing conditions
A-E	2	3	No concern	Minimum target for females at calving
A-E	3	4	No concern	Optimal for breeding
A-E	4	5	No concern	Optimal for breeding
A-E	5	5	At risk of travelling long distances	May be too fat for joining heifers and some cows. Can be transported if heat load is not excessive
A-E	6	5	At risk of travelling long distances	May be too fat for breeding. Can be transported if heat load is not excessive

- Management needs to recognise an animal may have muscle strength but can still be fatigued without adequate rest.
- Management priorities include: weaning, adjusting stocking rates, energy supplementation, protein supplementation, segregation, protection from elements and rest.
- Management intervention should consider the welfare state and strength of individual animals not just the mob.
- Management intervention should only occur after careful planning to consider current and forecast seasonal and environmental conditions as well as all nutritional and relocation options.
- All management decisions should meet the guidelines contained in the publication, *Is it fit to load? A national guide the selection of animals fit to transport (2012)*.
- All management decisions involving the transport of cattle must comply with the standards contained in the publication, *Australian Standards and Guidelines for the Welfare of Animals – Land Transport of Livestock (2012)*.

Figure 3. Cattle considered to be welfare risks (body condition scores of 0 – 1) should be fed the minimum amounts presented in Table 20.

Suitability of various feeds

Grains

Grain is usually the most economical feed to use during drought. Wheat, barley, oats, rice, maize and sorghum are energy-rich feeds with similar nutritive values. They contain sufficient protein to meet the requirements of adult stock and are all suitable for drought feeding. Grains are low in calcium, so 1.5% limestone (superfine grade) by weight must be fed with all-

grain diets. Grain introduced too rapidly or eaten in excess can cause sickness and death. For more information on grain introduction and the use of feed additives to reduce the risk of grain poisoning see *Primefact 330 Grain poisoning of cattle and sheep*.

Molasses

Molasses is very suitable for supplementing paddock feed because it can be used as a carrier for other components such as protein or minerals. Molasses has about 70% of the energy value of grains. Because the protein content is negligible, molasses is usually fed with a high-quality protein meal or with urea. Note that if urea is fed to excess or introduced too rapidly, it can be toxic and cause stock death. Sixty grams of urea per head per day is the maximum recommended intake.

Molasses can be safely fed undiluted in troughs. Where molasses is the main feed, cattle usually regulate themselves to about 1kg per 100kg of bodyweight per day. Some roughage should be available to avoid molasses toxicity.

Protein-rich meals including Distillers Dried Grain (DDG)

Cottonseed, canola, soybean, linseed, sunflower and other meals are rich in protein and can be used as special-purpose supplements for young stock in association with energy feeds. They provide a certain amount of bypass protein and increase animal performance more than urea. Most of the energy is provided as oil, so rations should not contain more than 30% of these components. Consider providing limestone when feeding out DDG because it is low in calcium.

Prepared feeds

Cattle and sheep nuts vary in quality between manufacturers and even between batches. Their energy value is generally slightly lower than that of grain. They are a convenient but expensive form of energy and can cause digestive upsets similar to those caused by grain. When introducing and using prepared feeds use the same precautions as for grain.

High protein nuts/pellets generally supply protein in some combination of true protein and urea. They are convenient to use and should be compared to other sources using a feed cost calculator.

Hay

Hay is a necessary drought fodder for:

- » introducing stock to grain
- » feeding during periods of cold stress
- » feeding lactation cows
- » production feeding.

Lucerne hay and good pasture and cereal hays are adequate for maintaining stock. The energy value of 3kg of these hays is equivalent to the energy value of 2kg of grain. Lucerne and clover hays are high in protein, calcium and vitamin A, and are particularly suited to young and lactating stock.

Poorer quality hay and straw barely meet stock maintenance requirements with 2kg equivalent to 1kg grain. The fibrous nature of these feeds will limit the amount a beast can eat. They are usually low in protein and are not suitable for young or lactating stock without the addition of grain or a mixture of molasses and a high-protein feed.

Where lactating cows are being fed grain/hay (80:20), then using a good quality hay means 1.5kg roughage/hd/day and a low quality hay 2.5–3.0kg/hd/day.

Table 20. Maintenance(a) feed requirements ('as fed') for full hand feeding of cattle

Stock type	Grain only (12ME)	Hay only (8.5ME)	50:50 Grain: Hay	80:20 Grain: Hay	Silage (35% dry matter 9ME)	Expected weight gain/day
Weaner (250kg)	3.5	5.5	4.5	4	14	0.25kg
Yearling (330kg)	4.4	7	5.5	4.8	16.8	0.25kg
Adult dry stock (500kg)	5	7.8	6.2	5.5	18.6	Nil
Breeder, Late pregnancy (500kg)	6.1	9.3	7.4	6.6	22.4	Nil
Breeders, lactating (500kg)	Not Suitable	12.5	9.9	8.8	29.8	Nil

Silage

Silage is suitable for cattle and can be self-fed or fed daily as a restricted ration. If feeding weekly, silage should be fed in dumps rather than trails. Most types of silage are comparable in energy value on a dry matter basis, but lucerne silage and clover silage have a higher level of protein.

The feed value of wet silage is variable because of differences in palatability and moisture content. Although the crude protein of silage is similar or higher than hay produced from the same material, its degraded nature means it is used less efficiently, especially by sheep.

The dry matter of most silage varies between around 30-35% for fine chop pit silage and from 45% to 55% for baled silage. The risk of poor fermentation and subsequent low intake due to palatability is unlikely at these DM percentages. To calculate the amount of silage to feed, see the section 'Calculating the 'as fed' amount'.

Irrigated feed

Stock may be given daily access to irrigated fodder crops, as follows (assuming no limit to availability and quality):

» Weaners	2 hr/day
» Yearlings	2 hr/day
» Adult dry stock	1 hr/day
» Breeders, late pregnancy	2 hr/day
» Breeders, lactating	3 hr/day

By-products

Hulls leftover from the oilseed crushing industry are low in protein and energy but can help maintain grown cattle or serve as a source of roughage.

Hull quality varies depending on the amount of kernel left after crushing. For example, cottonseed hulls are better than sunflower hulls, while rice hulls are hard to digest and can injure the gut lining. When used, rice hulls should make up only a small proportion of any ration.

At times, other materials may be available, for example citrus pulp and cannery waste. The feeding value of such by-products should be analysed before determining a feeding program.

Information on accredited residue testing services is available from the National Association of Testing Authorities (www.nata.com.au) or phone 1800 621 666

"A national guide to describing and managing cattle in low body condition" is available at www.mla.com.au/research-and-development/animal-health-welfare-and-biosecurity/husbandry/classing-and-culling/. A Feed Cost Calculator is available at www.dpi.nsw.gov.au/feed-cost-calculator

The value of unusual feeds in drought

A wide range of unusual feedstuffs can be safely and effectively fed to livestock during drought. However, livestock producers need to fully evaluate the feed value, risks, practicality and real cost before replacing more conventional feeds.

Many of these products are low in nutritional value, bulky to transport, difficult to handle, may contain high levels of chemical residues and can be difficult to consistently source.

These products should be evaluated on a dry matter and feed value basis as some very high moisture feeds may have a low cost per tonne but work out to be very expensive on a dry matter basis, particularly when freight is included.

You should also ensure that unusual feedstuffs do not include any restricted materials such as meat, fish or feather meal, bone or blood meal, poultry litter or pet foods. Spent mushroom compost is also unacceptable unless it is free of any poultry waste.

It is safest not to feed unusual feedstuffs to stock without establishing that the material is suitable. Ask the supplier to supply a Commodity Vendor Declaration, to ensure that the feed is suitable for stock and doesn't contain residues or restricted animal material.

Use of by-product stockfeed must be disclosed accurately on any National Vendor Declaration you complete. By-product stock feeds include 'any plant material not produced primarily for livestock consumption, such as waste fruit, vegetables and fibre crops, including peel, pulp, pressings, stem and leaf material'. It does not include grain and grain

by-products, cottonseed, oilseed meals, tallow or molasses. A 'yes' answer to Question 4 on your NVD is appropriate if the stock in question have been fed a by-product feed within 60 days prior to sale.

Unusual feedstuffs should be tested for chemical contamination by an accredited testing laboratory before they are used as a drought feed. However, this screening typically only tests for a narrow range of chemicals.

Testing should also be carried out for nutrient value of unusual feeds. Composition may vary widely between samples of the same product from different sources. Consider the energy value (MJ/kgDM), protein content and dry matter percentage as well as the dry matter digestibility of the feed (Dry Matter Digestibility- DMD%). Some alternative feeds may appear to have acceptable energy and protein levels but may be low in digestibility, which restricts the intake and availability of nutrients.

Use the NSW DPI feed cost calculator to calculate the cost of nutrients in a feed.

Most unusual feeds should be used with caution and introduced into rations gradually over two weeks. It is recommended that these feeds comprise no more than around 30% of the total ration. Stock may not be able to eat enough of those feeds with low digestibility/ low nutrient value to meet their energy needs and may die from starvation unless fed with higher digestible or more nutrient dense feeds.

Some unusual feedstuffs include:

- » **Bread:** High in carbohydrates but low in fibre – risk of grain poisoning so introduce slowly.
- » **Biscuit waste:** Similar to bread but extremely variable in nutrient value.
- » **Brewer's grain:** High moisture content restricts delivery distance but a good energy and protein source. Storage requires care or can be ensiled.
- » **Cane tops:** Beware of residues. Low in nutritive value.
- » **Citrus pulp:** Composition varies depending on type of fruit and whether skins and seed included. High moisture content limits area of use due to freight cost. Limited storage life but can be ensiled with other materials. Low in calcium. Must be introduced gradually – lemon is more acceptable than orange or grapefruit.
- » **Cottonseed hulls:** Palatable but low in feed value.
- » **Grape marc:** Generally low and variable in feed value and moisture content. Most of the energy is contained in the seed but unless the product has been ensiled (e.g. Nutra marc) the seeds are generally not digested by cattle. However, if they are digested then be aware of high oil content of rations when fed with cottonseed.
- » **Onions:** Known to cause anemia and cattle deaths and should be avoided or used in small amounts with extreme caution.
- » **Potatoes:** High moisture content, low protein but good energy source. Palatable. Some risk of choking. Avoid sprouted potatoes or those that have turned green as a result of exposure to sun.
- » **Pumpkins:** Need to be chopped.
- » **Rice hulls:** Little feed value, abrasive and can cause impaction if fed at high levels.
- » **Rice Straw:** Beware of residues. Low in nutritive value. High silica and oxalate levels may cause problems.
- » **Sawdust:** Has no nutritive value at all but at levels up to 15% can be used as a roughage substitute to facilitate rumen function. Hardwood is preferable to cypress pine.
- » **Vegetable/Fruit wastes:** e.g. cabbage, carrots, whole apples, oranges – beware of residues. Can have high moisture content.
- » **Waste paper:** Little feed value. Printed paper may contain toxins.

Table 21 is a guide to the average composition of some alternate feeds but producers are strongly urged to have products analysed before purchase.

Source: NSW Department of Primary Industries feeds database, and FeedTest®, Department of Primary Industries, Victoria.

Table 21. A guide to the average composition of some alternate feeds.

Product	Dry Matter (%)	Crude protein (%)	DDM* %	Energy ME (MJ/kg DM)
Bread	62–85	13.5–18.2	85–89	12.8–13.4
Brewers grain	20–30	17–30	–	9.5–10.0
Cane tops	84.9	2.7–3.5	27.5	3.8–8.3
Citrus pulp	18–25	7.5	–	10.4
Cottonseed hulls	93.4	4.0–11.5	35.5	2.9–6.3
Grape marc	49.1–51.6	11.2–16.1	25.1–48.8	3.8–7.3
Potatoes	16–25	7–14	84–86	10–12
Pumpkins	9	16	–	13
Rice hulls	92.3	2.0–3.1	23.3	2.4
Rice straw	52–93	2.2–9.0	30–55	3.1–7.5

* Digestible dry matter.

Managing dairy cattle

Herd numbers and feeding levels must be constantly assessed during feed shortages. Reducing stocking pressures by agistment or culling and selling are ways to cope with feed shortages. However you decide to manage your herd during feed shortages, grouping stock according to feed priorities is important.

Groups of stock

Early-to-mid lactation milkers are the main income earners and require high intakes of good quality feed to maintain moderate to high levels of production. These stock are the most responsive to improved feeding levels and will suffer the most from restricted or poor quality diets. Underfed cows will be difficult to get back in calf, and their milk production will be less likely to recover once the season breaks and there is pasture available.

Late lactation stock partition feed to body weight rather than milk. They should be maintained at a minimum condition score of 4.5 to 5.0 (on the 1 to 8 scale). Check joining records and pregnancy testing to determine dry off date. It is usually more profitable to keep cows in the milking herd and feed them well until dry off date, rather than putting them in the dry paddock.

Forward springers should be maintained in good condition, and fed a transition diet for 14–21 days prior to calving. This will help reduce calving problems, and prepare the cow for the demands of early lactation. Backward springers in poor condition that are expected to calve within two months require supplementation to maintain weight or make some weight gains. Stock in moderate to good condition should be held at this condition while stock with long dry periods can be fed a maintenance ration.

Unmated heifers are the future milkers. If fed a maintenance ration they should be left unjoined. To allow proper attention to a reduced and selected number of stock, it is essential to determine the numbers essential for a replacement program. It is undesirable to feed weaners a maintenance ration for an extended period of time. Poor growth rates of replacement heifers will reduce their lifetime milk production and fertility. Selecting a small group that can be correctly fed to maintain growth is the best strategy.

Calves can be fed a milk replacer once they have received colostrum for the first 24 hours. They may be weaned from milk onto dry feed at 4–6 weeks providing they are eating 0.5kg to 0.75kg of high protein concentrates a day.

Selective reduction of stock

Even if cattle prices are low, it is often more economical to sell sub-standard stock during feed shortages and droughts than to hold on to them. Early disposal of low producers, poor quality replacements and problem cows in good condition reduces the total cost of feeding and increases the price received from their sale.

The availability and cost of agistment depends on the extent and duration of the dry spell. Reducing stock numbers places less stress on your property and reduces the time and cost of feeding surplus stock. Your property will also recover more rapidly at the end of the poor seasonal conditions.

Agistment considerations

- » Prevent unwanted matings
- » Springers brought home before calving.
- » Safe paddocks to prevent accidents and to stop stock from straying.

Stock husbandry

- » When there is no paddock feed, confining stock to small paddocks allows better supervision and reduces the amount of energy the animals expend walking. Providing shade in summer and shelter in winter reduces the amount of food used for thermal comfort.
- » Ensure adequate water supplies at all times.
- » Separate stock into production groups or weight groups to improve feeding schedules. Young stock should be separated from older stock to prevent bullying and ensure adequate feed intake.
- » Stock stressed by drought conditions have an increased susceptibility to internal and external parasites. If infected they require treatment, but care should be taken to avoid stress on weak, underfed stock.
- » Ensure that all stock are also protected against clostridial diseases (e.g. blackleg, pulpy kidney).
- » Cows calving in poor condition require close supervision to reduce problems associated with calving difficulties and metabolic disorders.

Full hand feeding of sheep – management

It is important to carefully consider the available drought strategies at the beginning of a drought. Keep in mind that as the drought progresses, your options for action decrease.

Making a decision about drought strategies will require assumptions to be made about drought length, stock prices and feed costs. Always use the best available information to support these assumptions and when new information becomes available use this to re-evaluate your current plan.

It is essential to develop a series of budgets ranging from the best case to the worst-case scenario to help you choose the most cost effective strategy. Keep in mind that under-estimating drought length will usually be a more costly mistake than an overestimate because of the different strategies that would be put into place.

Stock culling priorities

Reducing sheep numbers is the simplest way to stretch the available feed. If you are forced to sell stock because of drought, there are provisions to allow income, for tax purposes, to be carried forward into the next financial year.

Contact the Tax Office or your accountant for details.

As the drought progresses, it is worth keeping only the most productive sheep (that is, those that you anticipate will contribute greatest to cash flow following the drought).

This is the priority order for the disposal of sheep:

- » all unthrifty sheep and sheep in poor health including those with conformation faults (for example, poor mouths and feet, and damaged udders) diseased sheep and cull weaners
- » wethers and aged ewes
- » dry ewes
- » weaners
- » quality breeding stock.

Good-quality breeding ewes and rams are the most valuable sheep at the end of the drought and will need special care if breeding programs are to be maintained.

Making hard decisions and selling stock while they are in good condition minimises the difference between selling price and buy-in price after the drought.

Supplementary feeding

Feeding in dry spells often starts well before it is clear that drought has arrived. During these periods, stock are fed a supplement to the available pasture. The types and quantities of supplement will vary according to the current condition of the stock, the quantity and quality of pasture still available, and the production target set for these animals.

Efficient supplementation requires a balance between energy and protein intake. The GrazFeed™ computer decision support tool developed by CSIRO can help you formulate appropriate supplements. It is available from Horizon Agriculture at www.hzn.com.au

When to start feeding

In practice, feeding is likely to have started as part of the supplementary feeding phase, ensuring sheep weights are well above those indicated in Table 22.

The level of supplementation should gradually be increased to a full drought ration just prior to animals reaching the desired weight or fat score target.

If no supplementary feeding has occurred, feeding should start earlier, when animals are 3–4 kg above the desired maintenance weight to allow for additional weight loss during grain introduction.

Table 22 shows the minimum liveweight for various types of sheep (based on frame size) at which dry sheep should not be at risk. These weights should ensure sheep are maintained at a fat score of 1.

Productive sheep (breeding ewes) should be maintained above these weights. Fat scores in the range of 2–3 (especially if sheep are pregnant or exposed to cold conditions) should be the minimum objective.

If a long period of cold weather is anticipated, set target weights 5 kg heavier to allow a greater safety margin.

Note: If fat score 1 is the target, the lightest, worst-conditioned animals in the mob may need to be separated and fed earlier than for the average.

Table 22. Minimum liveweight for shorn adult sheep in drought.

Animal class	Minimum liveweight (kg)
South Australian merino, crossbreeds, British breeds (65 kg at 3 fat score)	50
Peppin-type merino and large frame fine wool merino (55 kg at 3 fat score)	40
Smaller framed fine and superfine wool merino (45 kg at 3 fat score)	35

Training sheep to feed

It is good practice to include in the mob some sheep that have been fed previously. This encourages the inexperienced sheep to feed.

Untrained sheep are best educated in small paddocks. Start by scattering a highly palatable fodder such as lucerne or clover hay to encourage sheep to start feeding. Holding sheep near to the feed may also be necessary. Do not feed the sheep again until most of the hay is eaten. When the sheep are readily eating the hay, introduce a small quantity of grain (see Table 27).

A general policy of educating lambs to grain feeding prior to weaning (even in good years) will eliminate the often laborious and time-consuming task of starting sheep to feed. It has been shown that lambs that see their mothers eating from a grain trail will more readily adapt to hand feeding, even if some years pass before they are fed again. Just three to four feeds with their mothers with the grains most likely to be fed at some time in the future will be sufficient.

Monitoring the feeding program

Woolly sheep often look in much better condition than they really are. The weight of animals ignores the fact that sheep can be heavy because of large frame size but may carry little in the way of fat reserves. Manually assessing fat score helps to put the liveweight into the context of a fat score target. Changes in fat score and liveweight provide an objective method to determine the adequacy of existing feeding levels. Feeding decisions based on fat scoring and liveweights will ensure more efficient use of feed.

Monitor a small portion of the mob on a regular basis. Fat scoring and weighing 50 sheep from a mob of 500 will show if there has been a change within the mob. It is important that these same sheep are assessed on each occasion.

Refer to *NSW DPI Prograze Manual, Ninth Edition Segment 4; Sheep Breeding Package* on the technique of fat scoring sheep and lambs.

Pregnant ewes

Special attention needs to be given to the nutrition of pregnant ewes to prevent mortalities. To ensure adequate lamb birth weights and ewe mothering ability, pregnant ewes should be at least fat score 2 throughout pregnancy and preferably score 3. Although placental development takes place in the first three months of pregnancy, ewes will be adequately maintained with a ration suitable for a dry sheep of the same weight.

Growth of the foetal lamb accelerates during the final six weeks of pregnancy and the feeding rate needs to be increased accordingly. The total increase in weight of the conceptus (including the foetus) during the last six weeks of pregnancy amounts to about 10kg for ewes with a single lamb and more for a mother with twins. Ewes need to increase their gross liveweight by this amount if they are to maintain their own body condition.

Lamb birth weights of over 3.5kg will ensure good survival rates. However, this is unlikely to occur in drought. Under-nutrition during late pregnancy reduces mothering instincts of ewes. In these circumstances, it is common to see ewes abandoning their lambs shortly after birth.

Splitting mobs into early and late lambers or according to twins and singles will enable more precise feeding and will potentially save on the cost of feed.

Lambing management

Good management in later pregnancy is still no guarantee of live lambs at weaning.

Increased feed requirements after lambing will enable good lactation and lamb survival.

The main causes of lamb deaths during drought are usually a combination of two or more of the following:

- » mismothering
- » starvation
- » exposure
- » delayed or difficult birth.

It is recommended that dry sheep are concentrated into smaller paddocks or feedlots for drought feeding; however the opposite is true for lambing. High stock densities can lead to mismothering.

A maximum stocking density of 18 ewes per hectare is a reasonable guide for a mixed mob containing single- and twin-bearing ewes; and 10 ewes per hectare for twin bearers.

Select lambing paddocks well before lambing starts. Concentrating dry and pregnant stock onto smaller areas will allow lambing paddocks to be locked up early, which may save some pasture for lambing. It may also help avoid hand feeding during lambing, which will reduce the risk of mismothering.

Generally it is the less vigorous lambs that are mismothered. Adequate feeding during the pre-lambing period can reduce this. Self-feeders and daily feeding can help to reduce the problem. Early afternoon feeding reduces the risk of mismothering.

The right paddock and small mob sizes will reduce the incidence of mismothering. Choose small paddocks free of gullies and dense or fallen timber.

Ewes and lambs

After lambing, energy and protein requirements increase dramatically. While grain alone is satisfactory for dry and pregnant animals, roughage is needed to ensure better milk production from ewes. Save your best quality hay for lactation.

Lamb survival and growth are improved if there is at least 20% good-quality hay in a grain-based diet.

Silage can also be used as a roughage source. Silage is used successfully for all classes of sheep, and for a broad range of production levels. Unfortunately, silage is seldom economic to transport due to the high moisture content. Chop length of silage is important

— if the chop length is too long, the sheep intake will be significantly reduced. Chop length is less important if round bale silage is offered as a whole bale. Use precision chop harvesting equipment when making silage for sheep.

If oat grain is chosen, its high fibre content is likely to be sufficient without extra hay. However oats are often below 10% crude protein and it is important that diets for lactating ewes contain at least 12% crude protein.

Maintain lamb growth rates above 100 g a day for lambs from smaller framed ewes and 150 g a day for large-frame ewes to improve survival rates.

The nutritional requirements for lactating ewes are described in Table 23.

Mismothering of lambs during drought feeding is a serious problem. (See the section above 'Lambing management'.)

Weaning

Lambs should be fed grain and hay supplements while they are still on their mothers. If lambs are not 'trained', it will take up to three weeks to bring weaners onto adequate quantities of hay or grain. During that time, substantial weight loss and deaths may occur.

Weaners require high quality rations but have relatively low intake. Weaning lambs early can achieve more efficient use of limited feed resources. Early weaning will also maintain higher ewe condition, increasing conception rates at the next joining. Lambs can be weaned successfully if they are a minimum of 8kg and are at least eight weeks of age.

Weaners

Weaners' weight gain should be enough to achieve 20–25kg by six months of age depending on frame size. Once weaners reach this weight it is acceptable to reduce feeding rates to maintain this weight, but a modest weight gain is preferable.

Incorporate roughage into weaner diets early in the post-weaning phase. Use a high-quality hay comprising at least 20% of the ration. Young sheep have a higher need for protein than older dry ewes and wethers.

Consider finishing prime lamb weaners through a feedlot. A realistic budget is the first step in this process as it may be more profitable to sell the lambs as stores and retain valuable feed supplies for other stock.

Shearing

There is no need to change the time of shearing during a drought, although it may be advantageous to shear cull sheep before selling.

If forced to shear twice in one financial year due to drought, tax provisions allow this income to be carried forward into the next financial year. Contact the Tax Office or your accountant for details.

When shearing, consider how long the sheep will be without feed. Minimise stress associated with shearing especially for pregnant ewes. Sheep need more feed after shearing so more frequent feeding may be required. If extra feed is needed, good quality hay is the best alternative as it avoids digestive upsets.

Provide shelter for sheep after shearing as all sheep are at risk from exposure. Off-shears losses during drought can be severe.

Shelter sheds, sheep coats and sheltered paddocks can all reduce the risk. A well-sheltered and timbered paddock with a north or north-easterly slope with no exposed hills provides protection from high-risk winds. Sheep are less affected by chill once wool length is 3 cm.

Shy feeders

A number of sheep and lambs will not adapt to drought feeding. The proportion depends on age, previous feeding history, ration, feeding frequency and mob size, but up to 10% is not uncommon. The best solution is to remove and feed shy feeders separately. Some of the shy feeders will eventually eat the ration. Those that do not can be fed with good-quality hay or pasture (if available) or sold.

When the drought breaks

Often the heaviest sheep losses are sustained following drought-breaking rain.

Prolonged wet conditions turn sheep off their feed and grain being fed on the ground may largely be wasted. As soon as the first green pick emerges, sheep will often chase this and go off their ration. It is essential that sheep be kept confined to the restricted feeding areas until adequate pasture is available. At that point, allow increasing grazing time each day until full grazing is provided after six to seven days.

Allowing immediate full grazing can lead to digestive disorders.

Full hand feeding of sheep – quantities

The quantity of feed required for full hand feeding depends on the size and stage of production of the animal and also the quality of the intended feedstuff. It is impossible to offer a rule of thumb for the feeding rates for animals without knowing the quality of the feed.

Nutrients

Sheep, whether being fed for maintenance or production, need a balanced supply of nutrients. Nutrients divide broadly into:

- » energy
- » protein
- » minerals
- » vitamins.

An adequate supply of drinkable water is also vital for livestock survival, particularly during drought.

Energy requirements for maintenance

Animals need energy, measured in megajoules (MJ), for all body functions. Animal requirements are assessed as megajoules of metabolisable energy (MJ.ME). Energy in feed is assessed as megajoules of metabolisable energy per kilogram of dry matter (MJ.ME/kg feed dry matter or simply M/D).

In drought, energy is the most limiting nutrient and this needs to be addressed in any drought-feeding program.

Sheep requirements for energy depend on:

- » liveweight
- » energy concentration of the feed (M/D)
- » pregnancy
- » lactation
- » growth
- » weather conditions.

The first step in addressing the energy needs of adult sheep is to calculate the amount of feed needed to provide sufficient energy to maintain liveweight, assuming the sheep are neither pregnant nor lactating. Adjustments for pregnancy and lactation are discussed in the next section.

To calculate the maintenance feed requirement you must know the energy content of the ration to be used. Appendix 1 is a guide to the energy contained in various feeds. Feeds will vary dramatically in both energy and protein and the values contained in Appendix 1 are average values only. Whenever possible, a feed analysis is recommended so that rations can be calculated accurately.

Once the energy content of the feed is known, use Figure 4 to predict the amount of feed needed to meet maintenance requirements. If several feeds are being fed concurrently the following procedure is used to calculate the energy content of the mixed ration. Use the M/D of the mix to calculate rates from Figure 4.

For example a ration containing 80% wheat (13 M/D) and 20% clover hay (9 M/D). The calculation is as follows:

$$\frac{(80 \times 13) + (20 \times 9)}{100} = 12.2 \text{ M/D}$$

Find the appropriate value for 'shorn empty liveweight (kg)' for your sheep and place a ruler intersecting this liveweight and 12.2 on the Feed M/D line. The point where the ruler cuts the right hand line indicates how much dry matter needs to be fed to maintain liveweight. For a 45kg sheep and 12.2 M/D the feeding rate is 500g/hd/day of dry matter.

All feeds contain some water. Hay and grain are typically 90% dry matter so to determine the quantity of the ration 'as fed', multiply the dry matter feeding rate by 100 and divide by the dry matter percentage.

For example:

$$\frac{500 \times 100}{90} = 555 \text{ g/h/d of the mix}$$

Note that as the energy value of feeds declines below about 7.5 M/D, it is likely that a dry sheep will be unable to consume sufficient quantities to achieve maintenance. For pregnant and lactating ewes a feed below 9.5 and 11 M/D respectively is unlikely to be sufficient.

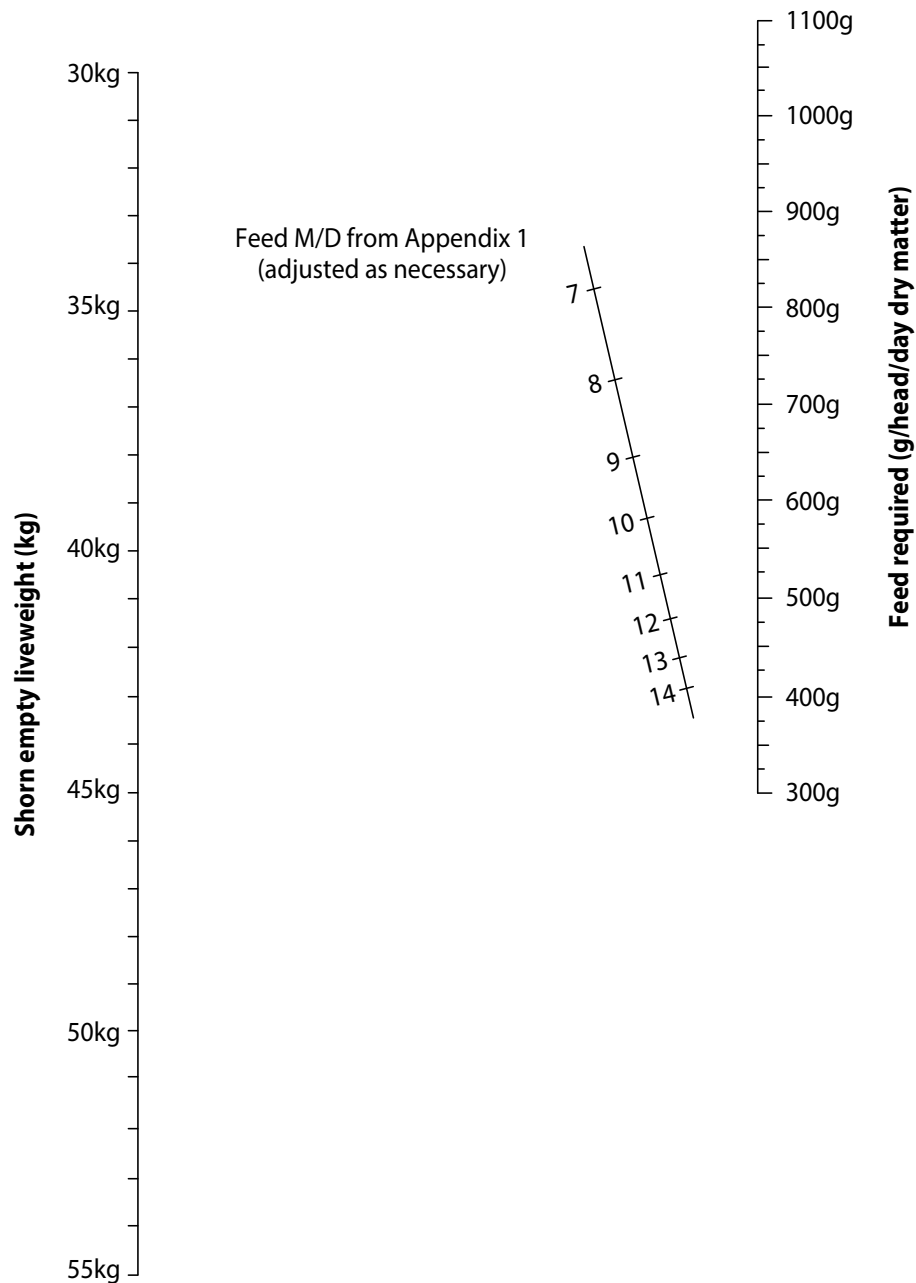


Figure 4. Daily feed (dry matter) required for maintenance of sheep

Note - following calculation of the feed required to meet energy needs for maintenance, the additional feed needed for pregnancy or lactation can be calculated using Table 23.

Table 23. Allowances for pregnancy and lactation

	Factor	Minimum* crude protein %
Dry ewe or wether	1.0	6
Ewe flock to last month of pregnancy	1.0	6
Ewe flock during the last month of pregnancy	1.7**	8
Ewe flock – first month of lactation	2.5	12
Ewe flock – second and third months of lactation	1.8	12

* These minimum values are shown as a guide for maintenance feeding in circumstances where feeding costs need to be minimised. For any diet, but especially one based on grain, crude protein must be adequate (see Table 25).

** Feeding levels should be gradually increased to this allowance from 6 weeks before lambing.

Energy requirement for pregnancy and lactation

Once the feed requirements for a dry sheep have been calculated, allowances can be made for the increased requirements for pregnancy and lactation by multiplying the maintenance requirement by the appropriate factor in Table 23.

The requirements in Table 23 for late pregnancy and lactation are average requirements and assume a flock consisting of both single-bearing (70–80%) and twin-bearing (20–30%) ewes. Individual ewe requirements vary around this average. For example, ewes at the peak of lactation rearing twins need about 3.3 times maintenance but within a flock, ewes vary in their stage of pregnancy and lactation and the factors in Table 23 are the best indication of flock needs.

Table 24. Maintenance feed requirements ('as fed') for full hand feeding of sheep

Feed options: Minimum weight (kg) per day 'as fed'						
Stock type	Grain only (12ME)	Hay only (8.5ME)	50:50 Grain: Hay	80:20 Grain: Hay	Silage (35% dry matter 9ME)	Expected weight gain/day
Weaner (20kg)	0.62	1.08	0.80	0.68	2.54	0.1kg
Weaner (30kg)	0.76	1.32	0.98	0.84	3.09	0.1kg
Adult dry stock (50kg)	0.65	0.99	0.79	0.7	2.37	Nil
Ewes, Last 6 weeks of pregnancy (50kg)	1.1	1.68	1.33	1.18	4.02	Nil
Ewe and Lamb to one month (50kg)	Not Suitable	2.46	1.96	1.74	5.91	Nil
Ewe and Lamb to 2 or 3 months (50kg)	Not Suitable	1.77	1.41	1.25	4.26	Nil

Table 25. Predicted feed and minimum protein requirements for merino weaners

Weaner Liveweight											
		10kg		15kg		20kg		25kg		30kg+	
Growth target	M/D	Feed g/d	Protein %	Feed g/d	Protein %	Feed g/d	Protein %	Feed g/d	Protein %	Feed g/d	Protein g/d
Maintain weight	8	Feeding to maintain weaners below 20kg is not recommended				510	8.7	590	8.7	680	8.7
	9					440	9.5	510	9.5	590	9.5
	10					380	10.0	450	10.0	510	10.0
	11					340	10.8	400	10.8	450	10.8
	12					300	11.5	350	11.5	400	11.5
	13					270	12.5	320	12.5	360	12.5
50 g/d	10	350	14.5	450	13.0	560	11.8	610	11.1	770	10.4
	11	300	16.3	400	14.0	490	12.9	580	12.0	660	11.6
	12	260	18.7	350	15.4	430	14.0	510	13.0	580	12.5
	13	240	19.5	310	16.7	380	15.2	450	14.1	510	13.6
100 g/d	11	420	17.9	540	15.1	660	13.5	780	12.3	880	11.7
	12	360	20.2	460	17.0	570	14.9	670	13.6	760	12.8
	13	330	22.4	410	18.4	500	16.3	590	14.7	670	13.8
150 g/d	12	470	20.5	590	17.5	710	15.5	840	13.8	950	11.8
	13	420	23.4	510	19.5	620	16.9	730	15.1	830	13.9

Energy requirements for weaners

Energy and protein are important to achieve adequate performance from weaned lambs.

Table 25 predicts the daily amount of feed of a specific M/D required to achieve a given growth rate in merino weaners. The minimum crude protein requirement for each situation is also shown.

The rate required varies according to the M/D of the feed, the current weight of the lamb and the required weight gain.

Example: for a 15kg weaner to achieve 100g/ hd/day weight gain on a ration with 12 M/D the required feeding rate will be 460 g/hd/day at a minimum crude protein requirement of 17%. If a feed M/D is not shown in the table it means that feed of that energy concentration would be unsuitable for the intended liveweight and weight gain. This is because weaners of that weight would reach their intake limit before sufficient ME is consumed to achieve that growth rate target.

Young weaners also need roughage as part of their diet to encourage continued rumen development. This should comprise at least 20% of the total ration, and preferably be a high-quality legume hay.

Energy allowance for chill

Chill (the combination of wind, low temperatures or rain, or both) can significantly increase the energy requirements of sheep. For example, freshly shorn sheep will need at least double the calculated feed requirements if wind conditions approach 15km/h and daily minimum and maximum temperatures are in the range of 0–10°C.

The same sheep, in calm conditions experiencing similar temperatures, require only 60% more than the calculated feed requirement.

For sheep off-shears, 20% more feed will be a minimum requirement even in relatively mild conditions. Chill can significantly influence energy requirements until fleece length exceeds 3 cm.

Good-quality hay is the best source of extra feed during cold stress periods as there is no risk of grain poisoning from increased feeding rates and digestion occurs over a longer time frame, which raises the body temperature for longer. Ad lib feeding is necessary to achieve maximum intake.

Lupins are the only grain that can be fed at rapidly increased quantities without risk of acidosis (grain poisoning).

Protein

Rapidly growing sheep or lambs, and ewes in late pregnancy and through lactation, have greater needs for protein than do animals just maintaining weight. The amount of protein required must also balance the energy content of the diet if rumen fermentation is to have the greatest efficiency.

Much of the protein in feed is reduced to ammonia in the rumen. Ammonia is then used as a nitrogen source by rumen microbes to construct new protein. It is the flow of microbial protein to the true stomach and intestine that provides the majority of digestible protein to ruminant animals.

Table 23 lists the minimum crude protein requirements for various classes of mature sheep. Table 25 lists the requirements for weaners. Appendix 1 shows average protein levels for various types of feeds.

If more than one feed is being fed the following procedure is used to calculate the protein content of the mixed ration.

For example, a ration containing 80% wheat (14% protein) and 20% lucerne hay (16% protein). The calculation is as follows:

$$\frac{(80 \times 14) + (20 \times 16)}{100} = 14.4\% \text{ protein}$$

Although Table 23 indicates relatively low minimum protein requirements for various types of sheep, it may be financially viable to use feeds with a better balance between energy and protein. To do this, you may need to increase the protein proportion of some diets according to the suggested protein contents in Table 26.

Oat grain is a common feed that is often unbalanced for protein. Oat grain can often be at least 11 M/D but only 8% crude protein (CP). Referring to Table 26 it is clear that this oats would need to be 14% CP to be balanced. Some other source of protein or nitrogen could be mixed with the oats to raise the CP of the diet. Lupins are often fed with oats for this purpose.

The benefits of balancing the protein in the ration would come from either increased productivity from the same amount fed, or feeding less for the same level of productivity. For maintenance feeding, the required rate may only be reduced by 10% so the financial viability of adding another source of protein to the grain will depend on the relative cost of feeds (particularly protein-rich feeds). If high levels of production are expected (e.g. finishing lambs), the viability of adding extra protein is likely to be better due to the higher value the product. Each circumstance needs to be evaluated on its individual merit.

Table 26. Crude protein required to maintain a balance between energy and protein

Energy content of diet (M/D)	Crude protein requirement* (%)
13	16
12	15
11	14
10	13
9	11.5
8	10
7	9

* Assumes 70 percent rumen degradability.

Urea as a protein supplement

Urea, while not a protein, will form ammonia for use by rumen micro-organisms. Adding 1% of urea by ration weight to the diet will increase the overall crude protein by 2.6%.

Warning: urea is toxic if fed at too high a rate.

Sheep should receive a maximum of 3g of urea per 10kg of liveweight. The percentage added to the ration will be determined by the intended feeding rate. A dry sheep of 50kg may only need 500g of feed per day and can safely consume up to 15g of urea. This equates to 15g in 500g or 3%. A 25kg weaner can only consume 7.5g of urea per day and if eating 800g of feed per day the appropriate maximum urea concentration would be only 1%. If allowed ad lib access that same weaner may eat up to 1200g per day and the safe urea rate would be limited to around 0.6%.

Urea concentrations above 2% are likely to depress diet intake. Urea supplementation will only be effective if:

- » there is a good supply of energy and protein is limiting
- » sheep are fed daily or through self-feeders.

Urea is toxic, so it is important that it be properly mixed into the feed, as concentrated pockets of urea will kill stock. The preferred method of mixing urea with feed is to dissolve it in hot water and spray the solution onto grain when augering or filling the feed bin. The rate will depend on the concentration of the solution and the speed and size of the auger.

Minerals

Six major minerals and seven minor minerals are important to sheep production. However, only two – calcium and sodium – are needed as extra supplements during drought feeding. Calcium is deficient when diets consist mainly of cereal grain. To prevent calcium deficiency, add 1.5% by weight of ration of finely ground agricultural limestone (calcium carbonate) to cereal grain. For every 100 kg of grain, add 1.5 kg of limestone. Do not use builders lime, burnt lime or slaked lime.

Spread lime onto grain when filling the feed-out bin. Lime is not lost when feeding-out as the fine particles stick to the grain.

Sodium is also deficient in most grains. Add 0.5% of fine salt to grain diets to prevent a deficiency.

Water can often be a source of sodium. More salt is not needed if the water has high salt levels. The likelihood of any other mineral being deficient is low.

Vitamins

Vitamin A and E are the only vitamins likely to be deficient as a direct result of drought feeding. Vitamin A is obtained from green pasture, hay with good green colour, and yellow maize. Even a short green pick will supply adequate quantities of the vitamin. Vitamin A is stored in the liver. Young sheep usually experience deficiencies when they have been without green pasture, green hay or yellow maize for six months, and adults will be deficient after 12 months. Symptoms are night blindness, eye discharges and ill-thrift.

There is a relationship between vitamin E and selenium. Grains and hays are fair to good sources of vitamin E, although there is considerable variation.

A vitamin E deficiency induces symptoms similar to selenium deficiency (that is, still-born lambs, and older lambs that suffer from a stiff, stilted gait, lameness and arch back). If you suspect a deficiency, seek veterinary advice for confirmation and dose rates.

The best solution is to administer a Vitamin A,D,E injection that will alleviate the problems for some months.

Full hand feeding of sheep – feeding management

Grain introduction

When introducing sheep to grain and pelleted diets, there is a significant risk of grain poisoning or acidosis. It is the high starch content of most grains that causes the problem. Lupins, which are low in starch, are the exception and are useful when animals need immediate introduction to a high-energy diet.

Slowly introduce sheep to high-grain diets according to the schedule shown below in Table 27. It is useful to use hay in addition to the recommended rate of grain to get animals eating. The amount of hay can be reduced to nil over the introduction period.

Note: If sheep show symptoms of grain poisoning, return to the next lowest level of feeding for two to three days and treat individual animals for grain poisoning. Adding 2% sodium bentonite or 1% salt to grain rations helps to reduce the risk of poisoning during grain introduction.

Table 27. Grain introductory program

Days	Amount of grain grams per head	Frequency of feeding
1 and 2	50	Daily
3 and 4	100	Daily
5 and 6	200	Daily
7 and 8	300	Daily
9, 10 and 11	370	Daily
12, 13 and 14	430	Daily
15 and 17	860	Every 2nd day
19, 22 and thereafter	1290	Every 3rd day

Changing grains, nuts or pellets

Sheep that are accustomed to one type of grain can not immediately adjust to another. A sudden switch in feeds can result in deaths and a high incidence of tender wool. Even the same grain type obtained from a different source can cause losses.

Manufactured feeds can also cause grain poisoning as the manufacturer may change the major grain ingredients, or change the processing procedure from one batch to the next. If it is necessary to use a different grain, arrange the supplies early and mix the old grain with the new, gradually increasing the concentration of the new grain over at least four feeds.

Incorporate sodium bentonite or salt (as outlined above) to reduce the risk of grain poisoning during the change.

Frequency of feeding

Frequency of feeding is determined by the physiological state of the sheep, type of feed, availability, the capacity of troughs and self-feeders, and also the risk of feed losses through rain, birds and other animals. Feed dry sheep, and ewes up to the last four weeks of pregnancy, twice weekly as it gives better results than more regular feeding. However, ewes in late pregnancy or during lactation and young weaners require daily feeding or a constant supply of feed from self-feeders. These sheep are commonly fed both hay and grain on alternate days.

Feeding methods

Grains are normally fed by trailing on the ground, particularly the larger grains (for example, corn), which are easily picked up by sheep. Trailing is not advisable when the ground is cracked or excessively dusty. Troughing is necessary.

Low-cost troughs can be made from surplus farm materials including corrugated iron between steel posts, timber or rubber belting. If using salvaged industrial materials ensure that there is no risk from chemical residues.

It is advisable to feed meals and fine materials in troughs. Trail length and trough space depend on the size and number of sheep, and the amount of ration being fed out. If you are using small daily feeds, allow up to 15 cm of double-sided trough for large-framed sheep; with less frequent feeding, trough lengths can be reduced to 7 cm.

Feed lambs and weaners from troughs with hay placed in hay racks. When feeding hay on the ground, break bales open and scatter them widely to allow ready access. Rolling out round bales will improve accessibility.

Ration processing

Hammermilling, cracking or soaking grain is not necessary for sheep. All sheep, including young weaners, can digest whole grain without wastage. Hammermilling increases the risk of grain acidosis if animals are likely to gorge.

There is no advantage in processing hay.

Feeding paddocks and lots

In drought, sheep should be restricted to very small areas or even feed lots. This limits pasture damage and erosion, restricts possible weed contamination derived from purchased fodders, leads to more efficient fodder usage, and reduces costs associated with feeding.

In addition, when the drought breaks, restricting sheep movements will help prevent scouring due to animals chasing the first green pick.

When choosing the areas to feed stock, consider proximity of the feed supply, shelter, access to good quality water, soil type, pasture quality and proximity to residential areas. Wet weather access is also important.

Water requirements for sheep and cattle

Water is an essential nutrient for all animals. It is important for both animal welfare and business profitability that sheep and cattle have an adequate supply of good quality water. The amount and quality of water required varies between species of livestock, between classes of stock within the species, and in response to the environment in which the stock are running (see Table 28 and Table 29).

The suitability of water for stock use is determined by the following factors:

- » water quality, which includes salinity, acidity, toxic elements and compounds, and algal growth
- » environmental factors such as air temperature and feed quality
- » animal factors including breed differences and age and condition of stock.

Water quality

Quality of water is broadly defined as its fitness for consumption by livestock to maintain satisfactory production. The principal factors affecting water quality are as follows.

Salinity

The main factor that determines the suitability of water for stock is the proportion of dissolved salts in the water. Dissolved salts in water are expressed in milligrams per litre (equivalent to parts per million – ppm) or in terms of the electrical conductivity of the water, measured in decisiemens per metre (dS/m) or microsiemens per centimetre (µS/cm).

Maximum advisable levels are shown in Table 29.

(1 dS/m = 1000 µS/cm = approx. 640 mg/L or 640ppm.)

Table 28. Average water requirements of stock

Stock type	Consumption Per head per day (L)
Sheep	
» Weaners	2–4
Adult dry sheep	
» grassland	2–6
» saltbush	4–12
Ewes with lambs	4–10
Cattle – Lactating cows	
» grassland	40–100
» saltbush	70–140
Young stock	25–50
Dry stock (400kg)	35–80
Horses	40–50

Notes

- » Figures quoted for consumption have a wide range; this variation is explained in the text.
- » When planning water supply requirements, allow for evaporation losses and consumption by native and feral animals.

Table 29. Tolerances of livestock to total dissolved solids (salinity) in drinking water (mg/L)

Stock	Desirable maximum concentration for healthy growth	Maximum concentration at which good condition might be expected*	Maximum concentration that may be safe for limited periods*
Sheep	5,000	5,000–10,000	10,000–13,000
Beef cattle	4,000	4,000–5,000	5,000–10,000
Dairy cattle	2,500	2,500–4,000	4,000–7,000
Horses	4,000	4,000–6,000	6,000–7,000
Pigs	4,000	4,000–6,000	6,000–8,000
Poultry	2,000	2,000–3,000	3,000–4,000

* The level depends on the type of feed.

Adapted from *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000*.

Generally, surface waters are low in salts compared with artesian or underground water. Many factors influence the concentration of salts that animals can tolerate in their drinking water. Salinity increases the intake of water by animals, partly through the taste and partly to allow greater water turnover so that the body can regulate the salt balance.

Acidity or alkalinity (pH)

Water with a pH value below 6.5 (acid) or above (alkaline) can cause digestive upsets in stock, resulting in rejection of the water, depressed appetite and consequent loss of production. If this problem is present, animals may perish, even when it appears they have adequate water.

Adding alum can correct high pH, but this should be done with care as alum is highly acidic. Water with a pH below 6.5 can be treated by adding lime.

Toxic elements and compounds

Water is a potential source of important minerals and other compounds. However, the concentration of these substances can reach toxic levels, particularly in underground water.

If present in high enough concentrations, iron, magnesium, arsenic, lead, mercury, selenium and fluorides can lower livestock productivity. If productivity losses are suspected, a veterinarian or livestock adviser can investigate the problem by examining the affected stock and conducting a detailed water analysis.

Algae growth or bloom

Algae occur naturally in both fresh and brackish waters. They respond to sunlight and fertilisers, and when environmental conditions are right, algal growth can make water unpalatable to stock.

An algal bloom is the excessive growth of a particular algal species and is most likely to occur when the water is still, warm, and contains high nutrient levels. All algal blooms can cause water use problems. However of most concern are those caused by blue-green algae as a number of these are toxic.

Currently in NSW, only Coptrol Aquatic Algicide®, Cupricide Algicide® and Cupricide 110 Algicide® are approved for the control of blue-green algae and some other algae types. They must be used in strict accordance with their label conditions and directions. These products are registered for use in farm dams, rice paddies and irrigation conveyance systems. They must not be used in rivers, streams, creeks, wetlands, lakes or billabongs, and water treated with these products must not be allowed to spill into these water bodies.

Environmental factors

Temperature

In hot weather, animals use more water for evaporative cooling. For example, shearing increases the heat load on sheep in summer because the insulation formerly provided by the fleece is lost. The sheep adjust to this heat load by increasing evaporative cooling through panting.

Water consumption can increase by 78 per cent under extreme conditions. Providing shade will largely relieve this situation. In normal conditions with good quality water, consumption in summer will be about 40 per cent higher than in winter. However, with salty water the summer intake may be 50 to 80 per cent higher than consumption in the cooler months.

The amount of water that stock drink also depends on the temperature of the water. Generally, animals prefer water at or below body temperature and avoid warmer water. Cool water is preferred in hot conditions.

Marginal quality water may become unsatisfactory during summer as animals drink more because of high temperatures and drier pasture. The salinity of some water may also increase because of evaporation from troughs, bore drains and shallow tanks.

Drought

During drought, stock require more water as they are forced to select more fibrous and less digestible feed. This extra water is used to maintain the movement of the coarse feed in the gut. As drought worsens and stock become weaker, marginal waters may become unsuitable as the animals' tolerance of the salt decreases.

Feeding salt or salt-based licks or blocks during dry periods increases water intake. If water quality is marginal, this added salt intake may depress appetite and cause digestive upsets – the opposite of the supplement's purpose.

Pasture composition

The diet of stock also influences their water requirement. Good green pasture can supply all of an animal's water needs. Sheep under these conditions may not need to drink for many weeks.

Good pasture allows stock to use water that would normally be unsuitable at higher levels of consumption. Stock on dry pasture need increased water consumption to utilise the less digestible fodder.

In pastoral areas, stock grazing saltbush or other chenopod plants require large volumes of relatively low-salinity water. This is because of the high level of salt in the diet and the need for a high water turnover to maintain the salt balance in the body.

Animal factors

Age and condition of stock

Young animals, heavily pregnant or lactating females, and aged or weakened stock are less tolerant of saline water. In weaner sheep, high salinity depresses growth rate and wool production and causes scouring.

Breed differences

British breed sheep need about 20 per cent more water than Merino sheep in hot weather. Bos Indicus or Bos Indicus-infused cattle breeds drink less water under hot conditions than Bos Taurus breeds (British or European breeds).

Watering points

Water consumption can be affected by the cleanliness of the watering point. If the water level in an earth tank is low, animals may be forced to wade through mud to get to the water. Due to the boggy surroundings, the water becomes heavily contaminated with suspended soil and faeces, which can lead to stock rejecting the water. Animals in weak condition may become bogged and die.

Feral pigs can create the same effect by wallowing along the water's edge.

Dams with low water levels should be fenced off and the water pumped or gravitated to temporary troughing. This will ensure maximum use of the available water by avoiding fouling and reducing stock losses from bogging.

Troughs used in watering systems should be drained and cleaned regularly. Algal growth in troughs affects taste and odours that can repel stock. Salinity also builds up due to evaporation if troughs are not drained.

The frequency of cleaning mostly depends on the water temperature, which affects the rates of evaporation and algae growth. The type of stock will also have some influence on the frequency of cleaning, as tolerance of contamination varies according to the requirements of the particular class of stock.

Even a slight contamination of trough water causes problems for some stock. Weaner sheep sometimes refuse water with a thin layer of dust on the surface of an otherwise clean trough.

When introducing stock to a new paddock, make sure they are familiar with the location of the watering point and are drinking the water, particularly in pastoral areas. If water quality is marginal or unknown, check newly introduced stock during the first week to ensure that there is no problem.

Watering radius

In pastoral areas, sheep normally graze within a radius of about 2.5km of a watering point, and cattle within a radius of about 5km.

If stock require more water due to lactation, salinity or dry feed, they may need to drink more than once a day. This will reduce their foraging radius and the area of the paddock being used.

Feed quality service

NSW DPI operates a feed quality service in Wagga Wagga that provides a quality assured analytical service with a fast turnaround time. The service uses the latest technology and is fully accredited by NATA.

The service also participates in all proficiency tests conducted by the Australian Fodder Industry Association (AFIA).

Packages and sampling kits

The standard packages and sampling kits are available through any NSW DPI office or by contacting the Wagga Wagga customer service unit.

- » Standard forage package
- » By-products package
- » Premium silage package
- » Grain and mixed feed package

We offer a tailored package including the following tests:

- » Dry matter % (DM)
- » Fat
- » Dry matter digestibility % (DMD)
- » Ash content
- » Crude protein (CP)
- » Organic matter
- » Fibre
- » Silage pH
- » Metabolisable energy (ME)
- » Silage ammonia-nitrogen

More information

For information on custom pricing, turnaround times, collecting samples, submission and reporting procedures, etc., please contact the customer service unit on (02) 6938 1957, or www.dpi.nsw.gov.au/animal-feed-testing

Section 4 Farm management

- » Personal and family wellbeing and financial assistance guide
- » Pasture sustainability and management in drought
- » Productivity after the drought
- » Animal welfare
- » Biosecurity matters
- » Preventing animal health problems during drought
- » Cattle movements and bovine Johne's disease (BJD)
- » Sheep health
- » OJD and sheep movement

NSW DroughtHub

A one-stop online resource is available at www.droughthub.nsw.gov.au to help primary producers, their families and communities to prepare for and manage drought conditions. This provides an up-to-date reference and information about assistance and support available. When new in-drought assistance or packages are announced the DroughtHub will provide the latest information and can connect you to the relevant NSW or Commonwealth agency. For help navigating the NSW DroughtHub, call the NSW Rural Assistance Authority on 1800 678 593 or contact your local Rural Financial Councillor.

Personal and family wellbeing and financial assistance guide

Farming in Australia requires constant management of a wide variety of risks. Natural disasters, disease, pests, market fluctuations and policy changes provide ever-present challenges to business and personal resilience. This is most evident when dealing with drought. Long dry periods extending to severe drought are part of a repetitive climatic cycle where farmers are either managing, recovering from, or preparing for drought conditions. Flexibility and sound risk management strategies are essential for the health and wellbeing of the farm business, its natural assets and the people within it.

In response to the drought cycle, NSW DPI formed the Rural Resilience Program (RRP) in 2014. Adapted from the previous Drought Support and Rural Support Programs that had formed during the millennium drought, the RRP became a permanent program within DPI with a strong focus on preparedness for drought and other adverse events.

Resilience is considered to be a process, where individuals adapt and move forward in a positive direction despite experiencing significant adversity.

Crucial to building and maintaining personal resilience in adverse circumstances is to understand the effects of stress. Stress is cumulative. The more challenges you face, particularly in a short time frame, the more stress is placed on your mental and physical health and your decision making capacity can suffer as a result. It is useful to apply what is known as the CIC (kick) principle (developed from Steven Covey's Seven Habits of Highly Effective People). For each challenge, first decide whether it falls within your circle of Control, Influence or Concern. This determines the appropriate amount of energy to give to responding to and managing it. For example, we can't control or influence drought. It clearly falls within our circle of concern. What we can control is our decision making around management of our stock, land and other resources. This is where our energy is best directed

if we are to avoid burn out and becoming overwhelmed which can lead to helplessness and depression. We may also be able to influence policy and drought response at a local community level.

The next important aspect of building resilience and improving decision making is to tap into resources.

Following is a list of resources to support you, your family and your business in your decision making and management of drought and other challenging times.

The NSW DPI RRP has staff across NSW who work closely with partners such as the NSW Rural Assistance Authority, Rural Financial Counsellors, Rural Adversity Mental Health Program (RAMHP) and Local Lands Services to deliver initiatives tailored to the particular needs of the community and provide referral support.

The RRP provides educational, personal, and business resilience building activities and works to achieve an informed and collaborative approach to supporting farmers across various agencies.

The RRP listens to farming communities, learns about their issues and needs and explores what services and opportunities are available. It links farmers with existing services and initiatives and works with community partners to create new initiatives and opportunities.

Visit www.dpi.nsw.gov.au/rrp

NSW DPI Rural Resilience Program

‘Listen, learn and link to create opportunities for farming communities’

Rural Resilience Officers and Rural Support Workers provide information on available support for farming families and can connect them to relevant service providers. If you need assistance please contact your nearest Rural Resilience Officer or Rural Support Worker.

Table 30. Rural Resilience Officers and Rural Support Workers (current as at 30 July 2018 – see website for updates)

Name	Location based	Contact number	Email
Danny Byrnes	Hay	0400 374 258	danny.byrnes@dpi.nsw.gov.au
Ted O’Kane	Goulburn	0427 781 514	ted.okane@dpi.nsw.gov.au
Amanda Glasson	Coonamble	0438 082 731	amanda.glasson@dpi.nsw.gov.au
Caroline Hayes	Scone	0407 971 675	caroline.hayes@dpi.nsw.gov.au
Jen Haberecht	Coffs Harbour	0400 160 287	jen.haberecht@dpi.nsw.gov.au
Ellen Day	Broken Hill	0427 639 761	ellen.day@dpi.nsw.gov.au
Karen Sowter	Scone	0400 869 136	karen.sowter@dpi.nsw.gov.au
Peter Brown	Taree	0437 671 459	peter.v.brown@dpi.nsw.gov.au
James Cleaver	Dubbo	0408 687 165	james.cleaver@dpi.nsw.gov.au

Farm Family Gatherings

There may also be opportunities to work with your local Rural Resilience Officer or Rural Support Worker (see above) to have a Farm Family Gathering in your area. These gatherings are an opportunity for financial, production and emotional/physical health providers to share their knowledge and experiences with farming communities. They are also a great opportunity for farmers to share their experiences and the personal impact of adverse events and how they are coping. These gatherings lift the spirits of people when they realise that they are not in this alone.

Support for farmers

Local Land Services

Local Land Services delivers quality, customer-focused services to farmers, landholders and the community across rural and regional NSW. Local Land Services is a statewide organisation offering integrated services, delivered regionally and tailored for each community, industry and landscape.

Local Land Services helps secure the future of agriculture and the environment for NSW communities. The Local Land Services team is on the ground when it matters, with knowledge, networks and experience. Its programs and partnerships grow farm productivity and healthy environments. Its services and partnerships play a vital role in helping to protect against pests, diseases and environmental threats while we connect our customers with the best services, advice and networks. Contact your Local Land Services today on 1300 795 299.

Financial

Rural Financial Counselling Services (RFCS)

The Rural Financial Counselling Service NSW provides free and impartial rural financial counselling to eligible primary producers, fishers and small rural businesses that are suffering financial hardship.

To contact your nearest Rural Financial Counsellor visit www.raa.nsw.gov.au/rfc or phone:

Northern region 02 6662 5055

Southern region 02 6452 5850

Central region 1800 940 404

Farm Household Support

The Federal Government Department of Human Services provides help for farmers and their families experiencing financial hardship. To be eligible you must:

- » be a farmer or the partner of a farmer. If you are the farmer you must contribute a significant part of your labour and capital to the farm enterprise based on specific criteria
- » meet an income and assets test
- » be willing to undertake a Farm Financial Assessment
- » be willing to enter into a Financial Improvement Agreement to help you improve your financial circumstances

More information: Farmers Assistance Line on 132 316 or visit www.humanservices.gov.au/individuals/services/centrelink/farm-household-allowance

Office of the Small Business Commissioner

Small Biz Connect is a personalised and highly subsidised business advisory program for small businesses in NSW including agribusinesses.

More information: phone 1300 134 359 to find your nearest adviser and make an appointment.

The NSW Rural Assistance Authority

Farm Innovation Fund

The Farm Innovation Fund is an incentive-based initiative to help farmers identify and address risks to their farming enterprises, improve permanent farm infrastructure, ensure long-term productivity and sustainable land use, and meet changes to seasonal conditions.

A loan of up to \$250,000 is available at very competitive interest rates.

This program is funded by the NSW Government and delivered by the NSW Rural Assistance Authority.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Farm Business Skills Professional Development Program

The Farm Business Skills - Professional Development Program forms part of the NSW Drought Strategy and provides primary producers with the opportunity to acquire the knowledge and skills to build improved resilience and adaptability in their agricultural business.

Participants can receive a subsidy of up to 50% of the total cost of professional development activities to a maximum of \$5000 per farmer and \$9000 per farm business.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Emergency Drought Relief Transport Subsidy

The NSW Government is offering a subsidy of up to \$20,000 per eligible farm business per year, which equates up to \$30,000 over 18 months from 1 January 2018 to 30 June 2019.

The subsidy is back-dated and farmers can apply for freight expenses incurred since 1 January 2018. It covers 50% of the full cost of freight up to a maximum of \$5 per kilometre and 1,500 kilometres per journey.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Drought Assistance Fund

The Drought Assistance Funds provides a one-off \$50,000 interest free loan to eligible primary producers to help in implementing systems and management practices that improve the sustainability of their farming enterprise by funding:

- » Transport of livestock, fodder and/or water
- » Water and fodder infrastructure
- » Banking of genetic material of livestock

This is a seven year interest free loan with no repayments required in the first two years.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Animal Welfare Transport Subsidy

The Animal Welfare Transport Subsidy provides a subsidy of up to 50% of eligible costs for the permanent transport of stock off a farm which is facing financial hardship and where livestock are at fat score 2 or below (dairy cattle 3 or below), to a maximum of \$20,000 per financial year.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Transport of Donated Fodder

100% of the cost of transporting donated fodder is available to transport providers associated with community groups.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Farm Debt Mediation

The Farm Debt Mediation Scheme makes it compulsory for banks and other creditors to offer mediation to farmers before commencing debt recovery proceedings on farm mortgages. A neutral and independent mediator assists the farmer and the creditor to reach agreement about current and future debt arrangements.

More information: phone 1800 678 593 or visit www.raa.nsw.gov.au

Farm Management Deposits

Farm Management Deposits helps producers deal effectively with cash flow fluctuations by building up cash reserves to meet their business costs in low-income years. Eligible producers can set aside pre-tax income from primary production in years of high income, which can be drawn on in future years.

More information: phone 1800 900 090 or visit www.agriculture.gov.au/ag-farm-food/drought/assistance/fmd

Regional Investment Corporation

Commonwealth loans

The Australian Government offers two types of loans to farm businesses - farm investment loans and drought loans. For information about the loans and eligibility requirements please contact the RIC on 1800 875 675 or visit www.ric.gov.au

If you have an existing Commonwealth Concessional loan, the NSW Rural Assistance Authority will continue to administer this loan.

More information: phone 1800 678 593.

Australian Tax Office (ATO)

Profit from forced disposal or death of livestock

You can elect to spread profit earned from the forced disposal or death of livestock over a period of five years.

Alternatively, you can elect to defer the profit and use it to reduce the cost of replacement livestock in the disposal year or any of the next five income years. Any unused part of the profit is included in assessable income in the fifth income year.

If you are forced to shear your sheep a second time in the same financial year there may be an opportunity to carry forward the income from the second shearing.

You can elect to spread or defer profits if you dispose of stock or stock dies because:

- » land is compulsorily acquired or resumed under an Act
- » a state or territory leases land for a cattle tick eradication campaign

- » pasture or fodder is destroyed by fire, drought or flood and you will use the proceeds of the disposal or death mainly to buy replacement stock or maintain breeding stock to replace the livestock
 - » they are compulsorily destroyed under an Australian law for the control of a disease (including bovine tuberculosis) or they die of such a disease
 - » you receive official notification under an Australian law dealing with contamination of property
- For more information on this contact the ATO or your accountant.

Financial Hardships Tax Provisions

The Australian Tax Office has a range of options for farmers experiencing financial hardship such as deferred payment plans.

More information can be found via <https://www.ato.gov.au/General/Financial-hardship> or 13 72 86

NSW Farmers Association

The NSW Farmers Association is a membership organisation representing farmers across NSW. The NSW Farmers advocates on behalf of the NSW industry on key issues that affect farming businesses including biosecurity, farm trespass, animal welfare, imports and product labelling. The committee is made up of farmers from across the state that work to ensure the views of NSW farmers are heard at the state and national level.

More information: Phone 9478 1000 or visit www.nswfarmers.org.au

NSW Farmers Drought Network

The NSW Farmers' Drought Network has launched a page to provide service information, links to assistance and services to individuals and families conducting, directly or indirectly, primary production businesses that are being impacted by drought conditions in NSW.

For further information visit http://www.nswfarmers.org.au/NSWFA/Content/IndustryPolicy/Resource/Drought_Network.aspx

Australian Pork Limited

Australian Pork Limited (APL) is a rural industry service body for the Australian pork industry. It is a producer-owned company delivering integrated services that enhance the viability of Australia's pig producers. The organisation aims to enhance opportunities for the sustainable growth of the Australian pork industry by delivering integrated marketing, innovation and policy services along the pork industry supply chain. APL pursues opportunities for the industry at both the domestic and international level.

More information: Phone 1800 789 099 or visit www.australianpork.com.au

NSW DPI Feed Quality Service

Feed testing is an integral part of good animal nutritional management to achieve the best and most profitable results.

The Feed Quality Service (FQS) is unique in Australia; it is the only feed testing laboratory that integrates feeds evaluation, ruminant nutrition, and pasture and crop research with commercial feed testing and has links with development officers to package research and related information generated by the service.

FQS provides a range of analytical services to internal research programs, external research and commercial organisations, and private individuals (farmers) using both wet chemistry methods and Near Infrared (NIR) Spectroscopy

FQS also reports calculated feed quality parameters including Metabolisable Energy (ME; ruminants), Apparent Metabolisable Energy (AME; poultry) and Digestible Energy (DE; pigs, horses & fish) (Appendix 1).

More information: Contact 1800 675 623 or wagga.csu@dpi.nsw.gov.au

Dairy Australia

Dairy Australia has produced a tactics for tight times webpage with activities and resources available for farmers who are facing challenging circumstances.

<http://tfft.dairyaustralia.com.au/>

Tips, tools and resources

Taking Stock Tool

The Taking Stock tool was developed for dairy farmers to use in conjunction with trained advisors. It helps farmers assess the current financial and physical health of their dairy farm businesses. Dairy NSW will have trained advisors available for one on one assistance. More information is available at info@dairynsw.com.au.

Dairy Cash Management Planner

Feed Budgeting Tool

With such a dry start in autumn and slow planting, fodder resources have been used earlier than normal. This tool will help you plan for your feed budget and look after your ryegrass and set up for spring to optimise production.

People in Dairy

Resources that help farmers manage their teams, be resilient and plan ahead.

DairyBase

Find out how you can use DairyBase to identify opportunities and make effective decisions on your farm including an annual farm performance review.

Visit the DPI website www.dpi.nsw.gov.au/rrp/dairy

More information

Contact Dairy Australia on 1800 004 377 or visit:

Dairy NSW www.dairyaustralia.com.au/dairynsw

Murray Dairy www.murraydairy.com.au

Sub-tropical www.dairyaustralia.com.au/about-dairy-australia/dairy-regions/subtropical

Health and wellbeing

Mental Health and Wellbeing

For access to local mental health services contact:.

The Rural Adversity Mental Health Program (RAMHP)

The RAMHP provides information services to individuals, communities and service providers to link rural and remote people to the help they need. This includes information on where to access services, common mental illnesses and how to keep mentally healthy, as well as the Glove Box Guide to Mental Health. To find the location of your nearest RAMHP Officer go to www.ramhp.com.au call 02 6363 8444 and they will advise you where your nearest counsellor is.

Kids Helpline

Phone 1800 551 800 telephone counselling service 24 hours, seven days a week.

Community Mental Health Line

Phone 1800 011 511

Mensline Australia

Phone 1300 789. 24 hours a day, 7 day telephone counselling for men.

Beyondblue

Depression information line phone 1300 224 636

Lifeline

131114

Australian Red Cross

The Australian Red Cross provides personal support during a disaster and an outreach service to affected households. Contact 1800 660 066 or (02) 4941 3200 in the Hunter area. Black Dog Institute - phone 9382 4530

The Salvation Army

For personal support contact the Salvation Army Rural Chaplain:

Central NSW Captains - Jon and Leah Belmonte 0401 690 877

Western NSW Majors - David and Robin Pullen 0419 013 320

Northern NSW Majors: Rusty and Di Lawson 0417 797 785

Southern NSW Majors - Max and Karen Smith 0428 650 915

St. Vincent De Paul Rural Task Force

Provides personal support, farm visits, advocacy, clothing and some financial assistance
phone 02 9560 2666.

NSW DPI

Kerry Kempton (based at Tocal) Technical Specialist Dairy 0427 114 602

kerry.kempton@dpi.nsw.gov.au

Peter Havriant (Based at Wagga) Development Officer, Dairy 0269 381 806 on 0418 540 076

peter.havriant@dpi.nsw.gov.au

Jayne Morgan (Based at Tamworth) Development Officer for the Pork Industry 0428 416 518

Pasture sustainability and management in drought

Introduction

In general, pastures are quite resilient, and have valuable defense mechanisms to enhance survival through adverse periods. In most situations well-adapted perennial pastures are preferred as they can maintain ground cover, which reduces the risk of erosion and weed incursion. Perennial pastures are also able to respond and grow quickly from an established base when it rains.

Many annuals are adapted for survival after droughts through high soil seed reserves and because of favourable seed characteristics such as hard seedcoats.

Causes of stress on pastures

Dry conditions are not the single cause of stress on pastures. The following factors can also contribute to the death of plants especially perennials:

- » inappropriate grazing management
- » poor general pasture health due to previous disease or insect attack
- » soil nutritional factors
- » depth of soil and root depth.

A well-managed pasture that is adapted to the soil, climate and livestock system is more likely to survive drought than a pasture that is poorly matched to the environment, is inappropriately managed, and is already under stress as drought conditions set in.

Factors that need to be considered

Pasture characteristics

- » In many situations, native species are more resilient than introduced species, and may better survive drought conditions.
- » Paddocks will vary in their value to the livestock enterprise both during and after the drought. An assessment of a paddock's value is essential to make decisions in a deepening drought.
- » If surviving pastures are compromised, they must be allowed to recover otherwise they may further decline or die.

Cost and management

Perennials are generally more expensive to replace than annuals.

Replacing with native perennials may be expensive and impractical in many cases because of lack of seed and agronomic guidelines on establishment.

Decisions on the management of pasture paddocks should consider the recovery period after the drought breaks.

Pasture re-establishment costs are high and the pasture may be out of production for a significant period.

Extra costs often associated with drought are due to increased erosion risk because of grazing intensity and the death of pasture plants, increased weed invasion because of introduced seed, and reduced competitiveness of the pasture.

Useful pasture management strategies

Plan to reduce the impact of drought

Sowing well-adapted pasture species such as persistent perennial plants and managing the pasture to enhance production and persistence will help to reduce the impact of drought. It will improve pasture production for each millimetre of rain and will allow pastures to carry feed further into a drought and to recover faster when the drought is over.

Lock up the most valuable paddocks if pasture survival is threatened

As dry conditions worsen, it is time to assess each paddock for its pasture composition value, pasture condition, cost of resowing, and its ability to be a productive paddock when the drought breaks. Some (or many) paddocks will need to be locked up, while other paddocks will need to have their stocking rates reduced.

When assessing paddocks consider the following benchmarks:

- » Pasture quantity. Recent research on perennial grass pastures on the Northern Tablelands indicates that the risk of pasture death greatly increases in dry conditions when the pasture is grazed below about 1000kg DM/ ha (kilograms of dry matter per hectare). This benchmark should possibly apply at all times, not only during dry times.
- » Ground cover. Paddock lock-up is also determined by the minimum ground cover level required to prevent erosion of your environment. The appropriate ground cover level depends on the slope, the likely rainfall intensity, and the soil type. Some examples of approximate minimum ground cover percentage are:
 - » 70% on red soils in gently undulating country on the northern slopes of NSW
 - » 40% in the semi-arid rangelands in western NSW
 - » 85–90% on the North Coast of NSW.

Sacrifice paddocks

Consider using one or more paddocks, or fencing off parts of paddocks, for use as feeding-out areas.

Suitable paddocks are those:

- » where the pasture is degraded and due for resowing or cropping
- » with a predominance of annual species and good soil seed reserves
- » with good shade and water supply and low risk of water pollution if runoff occurs
- » with suitable access for feeding operations, even after it rains, e.g. well drained.

Avoid using pasture paddocks as feeding-out areas if the paddocks have a significant cover of perennial pasture plants, and especially if the cover consists of native perennial grass species.

Pastures in semi-arid rangelands

In the semi-arid rangelands and similar low-rainfall areas in western NSW, consider the pasture management guidelines for encouraging a high persistence of rangelands species.

Rangeland pasture management guidelines:

- » Under drought conditions, desirable perennial grasses are at increasing risk if more than about 30% of growth is removed before the next growth opportunity.
- » The risk of loss also increases the longer the grasses are subjected to high use levels.
- » If under dry conditions, usage rises above 30%, paddocks need to be monitored closely so that timely decisions can be made on reducing stocking rates or closing up paddocks. This is particularly important where paddocks have been heavily used in the previous year.
- » Care is required to ensure that ground cover is not reduced below 40%, as soil loss by water or wind erosion can increase rapidly when ground cover is below this level.

Note on livestock health disorders

Pasture improvement may be associated with an increase in the incidence of certain livestock health disorders. Livestock and production losses from some disorders are possible. Management may need to be modified to minimise risk. Consult your veterinarian or adviser when planning pasture improvement.

Productivity after the drought

While surviving the drought is obviously foremost in your mind, how you care for your natural resources during the drought will determine how productive your property will be for decades to come.

Farm management during a drought is all about making a smooth transition from drought to 'normality' and having the farm in a condition to respond favourably to drought-breaking conditions.

Many properties experience their heaviest losses immediately after drought-breaking rain. Prolonged wet conditions turn animals off their feed. Problems exist under these circumstances if grain is being fed on the ground. As soon as the first green pick emerges, cattle may chase this, expending more energy.

It is essential that cattle are kept confined to feeding areas until adequate pasture is available. At that point, allow increased grazing time each day until full grazing is provided after six to seven days. Allowing immediate full grazing will lead to digestive disorders.

Weeds recover faster than desirable species after a drought. Observe how the pasture is recovering and decide on a management strategy if weeds show signs of dominating.

Farm planning

A whole farm plan that identifies the various land types, tree lots, soil problem areas, waterways and pasture history will help to locate the most sensitive and the most forgiving areas under drought management practices.

This will include identifying areas:

- » to be protected from stock
- » where stock can be fed
- » that need more fencing or watering points
- » areas that are a priority for pest control, including unwanted grazing by native animals.

By protecting quick-recovery areas, waterways and soil structure, the farm will be in better shape when the rain falls. Maintaining groundcover wherever possible will protect the soil surface and allow more water into the soil where it will be stored for use when plants begin to grow, giving them a better chance of survival. It will also protect seeds and small seedlings, which are the real investment for future recovery.

More details on pasture management are provided in the section on 'Pasture sustainability and management in drought' on page 57.

Soils

The soil resource is critical for the ongoing profitability of the farm. Heavy grazing by stock or feral or native animals can leave the soil vulnerable to wind or water erosion. Organic matter and finer components are lost first, which greatly reduces soil fertility and structure.

Do not leave stock in a paddock until all protection (dead and alive) is removed from the soil. Select paddocks for drought feeding that have a soil type and topography that will be less liable to erosion.

Special consideration needs to be given to areas close to watering or feeding locations. Where possible, and considering issues with weed management from feeding imported fodder, these areas should be rotated so that excessive damage does not occur in any one area. Where damage is unavoidable, an area that is sacrificed may minimise restoration works after the drought.

Stock tracks down slopes can be a starting point for gully erosion. Ripping across the slope can reduce soil loss, but be careful to avoid creating fine soil particles.

Farm dams

When the drought breaks, the initial rains will erode bare soil. Ensure that farm dams are protected so that they do not fill up with silt; if possible, maintain vegetated filter strips. Do NOT feed stock in the immediate catchment of farm dams as the disturbed soil and manure will run into the dam after rain.

During the dry conditions, clean out farm dams, build silt traps above the dams, and ensure that runoff is slow, well directed and conserved. Erosion after a drought can be severe.

Weeds

Weeds introduced in drought feed can become an ongoing liability for a farm. A sound biosecurity plan is the best way to manage this risk and includes the following strategies:

- » Try to find out the source of grain or fodder so that potential problems can be anticipated.
- » Restrict the area over which imported grain or fodder is fed out and keep a record of the area.
- » After the drought breaks, observe the area periodically for the next few years, note any new plants and have them identified.
- » Fodder and grain can also contain herbicide-resistant weed seeds such as annual ryegrass (although this is not a concern for grazing only properties).

Feral and pest animals

During a drought, predatory animals such as foxes and wild dogs may prey on more species if their normal source of food is less available. This can increase impacts on stock and native animals. The decline in ground cover and shrubs can also increase exposure of small native animals and birds to predators. The control of predatory pest animals during a drought is desirable.

Control of pest grazing animals such as rabbits and goats during droughts can reduce competition for limited feed supplies for commercial stock and wildlife. Goats are a particular problem since they 'hang on' longer than other animals and can cause long-term damage to trees and shrubs.

On the other hand, drought conditions may make feral and pest animals easier to control, which will be an ongoing benefit when conditions improve.

Native animals and flora during droughts

Biodiversity underpins the functioning of the whole ecosystem and is particularly important as a component of integrated pest management.

Because agriculture is a major user of land in NSW, much of the biodiversity in NSW resides on agricultural properties. During a drought, landowners focus on preserving sufficient stock and resources so that their business can recover after the drought, which means native animals and flora are sometimes not a priority. Considering biodiversity during droughts shows that farmers are committed to responsible stewardship of the land.

Good stewardship of the land maintains its ecological values, maintains amenity for local communities and promotes tourism opportunities. Conservation areas and areas with threatened species or communities should not be grazing during droughts or at other times.

Native grazing animals such as kangaroos contribute to total grazing pressure. If the total grazing pressure significantly exceeds feed availability, then considerable numbers of native animals may die in the latter stages of a drought. It may be in the best interests of native animals, as well as domestic stock, to adjust total grazing pressure earlier in a drought. Contact the National Parks and Wildlife Service for advice.

Native animals also require access to watering points, so the location of these points can influence the distribution of animals and birds. Water points that are heavily used by stock may inhibit their use by native animals so where possible provide alternative water points.

Animal welfare

Be prepared in a drought

The management of livestock, stocking rates and nutrition are linked to animal health and welfare. In Australia, drought is part of the expected management cycle, and all producers should plan in advance for seasonal fluctuations and times when feed and water will run short. Ensure that plans are already in place for adjusting stocking rates and/or supplementing livestock.

The welfare of animals is always important, and in drought, particular attention must be paid to protecting their welfare. Tough decisions will have to be made, and producers with drought-affected stock will need to consider the effects of any intended actions on their animals. Any decision made must be humane and reasonable.

Act early

Delaying action may seem logical but delays usually reduce the number of choices available. You must act early while stock are still fit and strong.

Relieve animal suffering

If the situation has deteriorated to the point where stock are suffering, you must immediately feed or agist stock, or send stock to a processor. Sometimes stock may need to be humanely destroyed. It is not an option to just let nature take its course.

Australian Animal Welfare Standards and Guidelines

There are national animal welfare standards and guidelines for some livestock species. The Land Transport Standards and Guidelines are mandated in NSW as the Prevention of Cruelty to Animals (Land Transport of Livestock) Standards 2013 (see below)

The Standards and Guidelines for cattle and sheep are not mandatory in NSW but are referenced under the *Prevention of Cruelty to Animals Act 1979* and may be used in evidence in court proceedings. Sheep standards are found at <http://www.animalwelfarestandards.net.au/files/2011/01/Sheep-Standards-and-Guidelines-for-Endorsed-Jan-2016-061017.pdf> and cattle standards at http://www.animalwelfarestandards.net.au/files/2011/01/Cattle-Standards-and-Guidelines-Endorsed-Jan-2016-061017_.pdf.

Standards and guidelines for the welfare of livestock at saleyards and depots are not legislated. They should be used as a guide and are found at <http://www.animalwelfarestandards.net.au/livestock-at-saleyards-and-depots/>.

Animal Health Australia (AHA) and the Goat Industry Council of Australia (GICA) have developed the Australian Industry Standards and Guidelines for Goats. The proposed standards will replace the Model Code of Practice for the Welfare of Animals: Goats and will be the basis for developing consistent goat welfare management approaches across Australia. They can be used as a guide and are found at http://www.animalwelfarestandards.net.au/files/2016/08/Standards-Guidelines-Goats_FA.pdf

NSW Legislation

In NSW, the general law relating to animal welfare is *The Prevention of Cruelty to Animals Act 1979* (POCTA).

This Act states that:

‘A person in charge of an animal shall not fail to provide the animal with food, drink or shelter, or any of them, which, in each case, is proper and sufficient and which it is reasonably practicable in the circumstances for the person to provide.’

Every carer of an animal must provide at least maintenance feed to prevent the animal from distress and starvation, even in drought.

Livestock standards and guidelines that are mandatory under POCTA are:

- » Prevention of Cruelty to Animals (Land Transport of Livestock) Standards 2013. (<https://www.legislation.nsw.gov.au/regulations/2013-559.pdf>)
- » Animal Welfare Code of Practice – Commercial Pig Production (www.dpi.nsw.gov.au/animal-welfare/pig-production)

Biosecurity matters

Buying in hay and grain for drought feeding exposes your farm and the community to biosecurity risks. It is important to restrict the areas where stock are fed. Choose paddocks that are easy to quarantine and manage if unwanted pests, disease or weeds are introduced.

Always check where the hay and grain you purchase was grown.

Red imported fire ant (RIFA) is a major pest causing serious damage to crops and the environment and its intensely painful bite affects human health. A quarantine zone is in place in Queensland where eradication of RIFA is underway.

Hay from inside the quarantine zone must be accompanied by official certification ensuring the hay has been treated to prevent RIFA infestation. Check the following website for a detailed map of the RIFA quarantine zone https://www.daf.qld.gov.au/__data/assets/pdf_file/0004/58153/RIFA_IPQ_SEQ.pdf

When purchasing whole lupin grain confirm it was not grown in Western Australia or South Australia even if it is supplied from another state. Whole Lupins from WA and SA are not permitted entry into NSW as they carry the risk of lupin anthracnose. NSW is currently eradicating this disease, which was found in an isolated area in the south of the state. Lupin anthracnose could decimate lupin crops across NSW if it becomes endemic.

The possible movement of weed seed should also be considered when introducing hay and grain.

Be aware of the risk presented by vehicles and machinery moving on to your property. 'Come clean, go clean' protects you, the community and the economy.

Beef cattle description and management system

A national guide to describing and managing beef cattle in low body condition is available on page 32.

The NSW DPI web page has information on animal welfare including links to relevant legislation www.dpi.nsw.gov.au/animal-welfare

A useful guide to assessing animal condition is the DPI publication Welfare scoring nutritionally deprived beef cattle, dairy cattle and their crosses, sheep and horses. (www.dpi.nsw.gov.au/animal-welfare/scoring)

Further information on animal welfare can be obtained from the RSPCA. Visit www.rspcansw.org.au

Preventing animal health problems during drought

The health, nutrition and management of livestock are inextricably related. As drought sets in, under-nutrition will threaten animal health unless a management plan is in place to prevent problems occurring. In Australia, drought is part of the expected management cycle, and all producers should plan in advance what they will do when feed or water runs short.

Take the hard decisions early, and reduce numbers of stock to a point where you can afford to feed them properly, so that the remaining animals will remain healthy and fertile. It is a big mistake to keep too many stock and 'half feed' them. This leads to welfare problems, and to losses through reduced fertility, malnutrition (vitamin and mineral deficiencies etc.), metabolic disturbances (especially in pregnant stock), and eventually starvation.

When feed supplies run short, consider these factors in order of importance:

- » deficiency of energy
- » deficiency of rumen-digestible protein (or alternative nitrogen and sulfur equivalent) required by rumen bacteria to produce energy and protein from low-quality feed; deficiency of high-quality protein required for growth, pregnancy and lactation
- » deficiency of other minerals, particularly phosphorus, calcium and magnesium
- » deficiency of vitamins associated with the lack of fresh green feed, particularly vitamins A, D and E.

Young animals and pregnant or lactating animals have much higher energy and protein requirements than dry stock, and are most susceptible to the effects of malnutrition. Aged animals are also at risk. These animals will need to be fed separately to ensure that their requirements are met.

Preventative herd health programs

Food and water of adequate quality and quantity are the most important ingredients in keeping an animal healthy.

However, other factors will affect an animal's susceptibility to disease during drought including:

- » condition of different classes of stock when drought sets in
- » stage of pregnancy or lactation
- » any disease already present
- » current immunity levels to common diseases either through vaccination or previous exposure
- » current parasite burdens, both internal (e.g. worms, fluke) and external (e.g. lice, buffalo flies, blowflies)
- » crowding at feeding and watering points, which may result in infectious agents, such as viruses and bacteria, concentrating in these vicinities, thereby facilitating spread
- » congregation of potential disease carriers of other species at diminishing water sources, which may increase the risk of exposure to various diseases
- » unaccustomed close interaction and confinement with other cattle (especially strangers) and/or humans, which may impose high levels of stress on cattle, reducing the ability of the immune system to protect from disease
- » the introduction of new feeds such as grain and pelleted feed, which may lead to digestive upsets if not managed with sufficient care. Digestive upsets can predispose stock to diseases such as pulpy kidney
- » lack of green feed, which may induce cattle to eat plants that they would not normally touch including those that are poisonous.

Herd health programs that are recommended in good times are essential during drought including:

- » 5-in-1 vaccination to prevent clostridial diseases, which are far more likely to occur when there are sudden changes in feed type, quality or quantity
- » leptospirosis vaccination (or 7-in-1 instead of 5-in-1)
- » lice treatment in cooler months
- » drench for internal parasites (including fluke in fluke areas), especially young stock (if retained) and bulls.

Extra practices recommended during drought include:

- » Giving vitamin A, D and E (either in feed or as an injection) after 2–3 months on dry feed
- » If grain feeding, adding 1% limestone by weight of grain to correct any possible calcium-to-phosphorus imbalance
- » Discussing with your veterinarian the need for a coccidiosis prevention program in early-weaned calves.

Water management

The decision to hand feed cattle must consider the quantity and quality of water available. Is the water supply good enough to assemble large numbers of cattle in one place? Will it be easier to feed near the best water supply, or improve the water supply at the most convenient feeding location? If you will soon run out of water, it may be better to sell all stock.

Beware of deteriorating water quality. If stock reduce their intake of water because it is unpalatable, they will also tend to eat less, even while pasture is still adequate. Reduced water intake will also predispose stock to bladder stones.

Poor water quality is more likely to be a problem if cattle have direct access to dams. As the volume of water decreases, the dam turns into a quagmire and weak animals may become bogged. If possible, fence off dams, and water cattle from troughs.

If troughs are used, ensure that the water is not being contaminated with dung and/or grain. Grain washed from cattle's mouths will rapidly ferment, which may contribute to digestive upsets. It can also act as a food source for bacteria (including bacteria that are potentially pathogenic to humans as well as cattle), which the cattle will then drink.

Troughs should be cleaned on a regular basis when cattle are eating grain, but this may not be possible if water is in short supply. It is a good idea to set up feed troughs further away from the water supply so that cattle will have swallowed most of the grain in their mouths before they reach the water.

Feed management

Once pasture is inadequate, cattle should be confined and fed. Confined cattle need significantly less energy for maintenance than those that are left in the paddock to wander in search of feed. The pasture should be left in a condition where it can recover quickly when the drought breaks, and not be 'flogged' completely bare.

NOTE: Any change in feed (especially grain) should be introduced gradually – failure to do this is probably the major cause of illness in livestock during drought.

Recognising sick cattle

When cattle are being hand fed daily, you should take the time to observe normal behaviour so that it will be easier to recognise when there is a problem.

It is a good idea to take note of the following:

- » Normal parameters:
 - respiratory rate in resting cattle in cold and hot weather
 - how much faster they breathe when they are put up the race
 - how obvious or slight the normal respiratory movements are
 - how much mucus the average animal has in its nostrils
 - normal behaviour, head position, whether ears droop etc.

Abnormal signs include:

- » animals that stand apart, especially if depressed, ears drooped
- » animals that do not eat
- » fullness in flanks – bloat
- » reluctance to move or get up when others do
- » look for swelling of the legs, lame animals, or those standing oddly, for example leaning back, or shifting weight from one foot to another
- » animals that seem restless or irritable, swishing the tail or kicking at the belly
- » excess salivation, shivering, panting.

The normal temperature for adult cattle is 38°C. If you suspect that an animal is ill, take its temperature and call a veterinarian if the temperature is abnormally high or low.

Look at the consistency of the dung, particularly while introducing grain to the ration. Pale pasty dung or diarrhoea may indicate feed problems or gut infections.

It is also important to detect any animals that are being bullied or not eating the ration. You may need to remove these cattle and feed them separately.

Feed-related illnesses occurring during drought

Malnutrition and starvation

Malnutrition due to lack of energy and/or protein will be the most common disease during drought, unless you take active steps to prevent it. Animals under your control are your responsibility. It is an offence under the *Prevention of Cruelty to Animals Act 1979* to fail to provide adequate feed and water. If you cannot afford to feed or agist animals, they should be sold or humanely destroyed. Stock should not be allowed to fall below condition score 2).

In the absence of a disease such as liver fluke, if young stock start to develop pot bellies or bottle jaws, this is a sign of protein deficiency and more protein and energy will need to be provided.

Metabolic Disease

Metabolic disease occurs when energy intake does not keep pace with energy demand. Even fat cows can die if they lose weight too rapidly. When the increasing energy demands of pregnancy are far greater than energy intake, pregnancy toxemia develops. This is more likely to occur in fat females than thin ones, especially (but not only) in those carrying twins. Because twins are far more common in sheep, most sheep producers will be aware of this condition, but it can also occur in cows when feed is inadequate.

Pregnancy toxaemia is one form of ketosis, in which the breakdown products of fat, called ketone bodies, build up in the brain and become toxic. Toxaemic animals may have an altered temperament. They do not respond normally to handling or driving. They may seem more stubborn or stupid, and can sometimes be caught in the paddock. If not treated quickly, these animals will start to refuse feed.

Cows with pregnancy toxaemia or ketosis can be drenched with glucose or commercial preparations containing propylene glycol such as Ketol® or Ceton®. Even with veterinary intervention, this process is difficult to reverse, and often the animal dies or must be euthanised. To avoid these problems, separate pregnant and lactating animals so that they can be fed more. All animals should have access to adequate roughage, especially in cold weather and if lactating. (Roughage generates more heat internally, and improves milk production.)

Mineral deficiencies and imbalances

Mineral deficiencies may occur if balanced ration is not fed.

Hypocalcaemia. The most common mistake is to feed cottonseed or grain, which are high in phosphorus, without adding calcium (garden lime). The calcium to phosphorus ratio should be about 2:1. Lime at a rate of 1–2% must be added to all grain supplements, including cottonseed. If the ration is not balanced, pregnant cows may go down, primarily due to low calcium in their blood. An animal that seemed fine one day may be found sitting on her brisket, refusing to rise.

If these animals are suffering only from a calcium phosphorus imbalance, they will often get up immediately if calcium is given into the vein. Subcutaneous injections are not often sufficient. If they are also in negative energy balance – that is, losing weight, then treatment is less likely to be successful, as the cow is likely to have other metabolic problems.

Calcium is also involved in muscle contraction, so low blood calcium may also contribute to the increased incidence of vaginal prolapses.

Hypomagnesaemia (low blood magnesium) is more common in cold conditions, when lush growth occurs in spring. It can also occur in the 'green drought' stage of a drought, after showers have resulted in the growth of short green pick, if this is the main source of feed. New growth is very high in potassium, which competes with other minerals like calcium and magnesium for absorption in the gut and hypomagnesaemia can result. In this condition cattle develop twitches or muscle tremors. They may become more excitable and aggressive, and usually die quite quickly from convulsions.

Cattle on short green pick should be supplemented with hay. Causmag at about 60 g/cow/day can be mixed into a slurry and poured over the hay to help prevent further problems.

If possible, cattle should be confined and hand fed until pasture is adequate to sustain them. They frequently burn more energy than they harvest if allowed to wander in search of short green pick.

Reduced fertility

To maintain cow fertility, wean calves that are over eight weeks old and feed them separately – supplementary feeding of cows so that they can produce adequate milk for feeding calves is not an efficient use of feed. If cows are dried off, it is easier to keep them in good enough condition for becoming pregnant next season. It makes no sense to feed a cow if she then fails to conceive at the next joining.

If feed supplies are limited, allow mature cows to lose some weight prior to joining, but feed them over the joining period so that they gain weight. Heifers must reach a critical mating weight of around 280kg prior to joining, and continue to gain weight over the joining period.

A bull's fertility and its ability to work will be affected if it is allowed to slip into poor condition. Semen quality is determined around two months before use, so it is essential that bulls are in good condition well before the start of mating.

Acidosis

Eating too much grain too quickly can result in an excessive build-up of lactic acid in the rumen. Any factor that causes variation in intake (e.g. inclement weather, or palatability of feed) or changes the availability of the carbohydrate (e.g. a change in grain type, or how finely the grain is ground) may cause digestive upsets at any time, not just in the period of grain introduction.

Hammer or roller mill changes are an important factor here. Pellets are usually 90% grain and can also be responsible. The ration must be consistent from day to day, particularly if there is no access to other feed. Any change of feed should be introduced slowly. 'Shandy'

the old batch of grain with the new, even when the two batches of grain are the same type. Additives such as sodium bentonite and virginiamycin (Eskalin®) can also be used to reduce the risk. Manufacturers sometimes change the type of grain used in pellets, so some of the old batch should be mixed with the new batch, gradually increasing the proportion of the new feed, to reduce the chance of upsets.

Acidosis can worsen if an animal is also suffering from cold stress. Affected animals show obvious signs of discomfort and are usually disinclined to move. They may kick at their belly or grind their teeth. Bloating is sometimes apparent, and scouring (light-coloured, smelly faeces) is usual. Acute cases show staggering, and appear blind and 'drunk'. Death can occur 12–72 hours after the onset of signs.

If treated early, mild cases often respond to a drench of sodium bicarbonate: 120g followed by 60g every 8–10 hours for the next day. One hour after the first treatment, give 0.5 L liquid paraffin or other vegetable oil.

Bloat

Bloat occurs when gas accumulates in the rumen and is unable to escape. Legume roughages and very fine particles of shattered grain predispose cattle to gas formation.

Drench the affected animals with at least half a cup of oil (peanut, paraffin or linseed) or use proprietary formulations of bloat oil as per the instructions provided. Call a veterinarian for severe cases – the animal may need to have a stomach tube passed or 'tapping' of the left flank with a trocar and cannula.

Chronic, persistent cases may require an anti-bloat agent to be mixed in with the feed. Access to fibrous, stinky lower-quality roughage will help to reduce bloat. Reduce the amount of legume roughage if bloat is a problem. Wetting the grain before processing can also help.

Clostridial diseases

Spores of clostridial bacteria (such as those that cause pulpy kidney, blackleg and tetanus) are present in soil, and are ingested or can contaminate wounds when dust is stirred up, or when animals ingest soil when grazing close to the ground. Disease is most common in young animals in good condition.

Pulpy kidney usually occurs following an intestinal upset either at the sudden introduction of feed changes, usually grain, or when the drought breaks and animals are turned onto lush green pick.

Animals can ingest botulism if they start to chew bones because of a phosphorus and/or calcium deficiency.

All stock should be fully vaccinated with 5-in-1 vaccine to prevent all clostridial diseases.

Founder

Founder is characterised by lameness, often in all four feet. Incorrect ration formulation, too much grain, or too low a protein level, can contribute. Digestive upsets result in the release of toxins that affect the circulation, especially in the feet, and there is heat and pain in the coronary band of the hoof. The animal may lean back to take the weight off the front feet, so that feet are forward of vertical. If the animal is forced to move, its gait will be shuffling and stumbling.

Mild cases often recover without treatment if the ration is corrected. More severe cases require urgent veterinary attention. The condition may become chronic in animals that adapt poorly to grain, and you may need to sell these animals or feed them a much higher proportion of roughage.

Urea poisoning

A maximum of 1% urea in the ration is recommended. It is possible for excess urea to be consumed when there is inadequate mixing of feed or roller drum mixes, allowing pockets to accumulate, or when rain forms pools of water with a high nitrogen content in troughs or around blocks. Blocks left out in the rain may also soften sufficiently so that they can be eaten in chunks rather than licked.

Severe abdominal pain, shivering, bloat and salivation may be seen 20 to 30 minutes after feeding the ration, or after rain if blocks have been left out in the weather. If poisoning is detected early, drench immediately with 4L of vinegar to reduce absorption of urea. Call a vet urgently, as surgery may be necessary to empty the rumen. Further treatment could be drenching with 0.5 L water: 0.5L vinegar : 1kg sugar/molasses if poisoning is not severe.

Treatment is often not successful because the animal is too far gone when found. These animals should be humanely destroyed.

Urinary calculi (bladder stones)

Bladder stones are usually only a problem in steers, when stones block the urethra and prevent urination. Factors that predispose stock to stone formation include the high phosphorus levels in grain, too much sodium bicarbonate in the diet (used to help prevent acidosis), and reduced water intake due to poor water quality. Vitamin A deficiency is also a cause of bladder stones in cattle that have been on dry feed for prolonged periods.

Signs of bladder stones are usually only apparent when the urethra is blocked. Watch cattle for straining, dribbling of blood-stained urine, kicking at the belly or twitching of the penis. If the bladder ruptures, there is temporary relief, then depression, loss of appetite, peritonitis and death. Another possibility is that the urethra may rupture at the bend near the scrotum (sigmoid flexure), in which case the underline will fill up with fluid ('water belly').

Usually, emergency slaughter is the only option. If the bladder has ruptured, the animal will be condemned.

The addition of about 1% limestone to the diet will balance the excessive phosphorus levels present in high-grain diets.

Vitamin A deficiency

Vitamin A deficiency usually occurs after animals have been without green feed for more than six months. In a drought situation, deficiency is unlikely in animals still in the paddock with access to green pick from occasional showers, or if trees such as Kurrajong are being lopped to feed them. Sheep are less likely to develop a deficiency because they can graze green pick much closer to the ground.

However, vitamin A deficiency may occur in young cattle being lot fed, especially if they were born into drought and have seen very little green feed in their lifetime. Deficiency may affect growth rates of young stock prior to other signs becoming apparent.

Vitamin A deficiency may also cause lameness, swelling of the hind legs (especially hocks), increased respiratory rate, panting, drooling, and elevated rectal temperatures. Vision may be impaired, especially in low light ('night blindness'). To check this, walk through your cattle at dusk and try to sneak up on some.

Vitamin A deficiency more commonly occurs in hot weather, and affected animals are more susceptible to heat stress. Vitamin A deficient cows can have abnormal calves, so it is a wise precaution to supplement cows if the decision has been made to re-breed, in spite of the drought. To prevent vitamin A deficiency, give vitamin ADE injections or add green chop to the feed if stock have had two to three months with no access to green feed.

Plant poisoning

Hungry animals will look for any green pick and may consume plants including shrubs and trees that they would normally avoid. Poisonings are common when stock are sent on agistment and consume plants they are not familiar with. Short regrowth of many plants normally eaten (e.g. sorghum and oats) may contain levels of nitrate or cyanide that are toxic to hungry animals.

Symptoms will depend on the toxin involved. Nitrate and cyanide (prussic acid) poisoning cause acute respiratory distress and sudden death. Other poisons may cause nervous signs, staggering gait, or diarrhoea. Mouldy feed can cause digestive upsets and precipitate abortions.

Call your vet to all suspected poisonings. If you suspect nitrate or cyanide poisoning, do not attempt to move animals that are in severe respiratory distress.

Check any proposed agistment paddock for any unusual plants, especially if the plants are still green. It is a good idea to fill animals up on hay before releasing them into a paddock of regrowth.

Blue-green algae

Blooms of blue-green algae are more likely to appear in warmer months during drought, when water levels in dams or ground tanks are low and watercourses stop flowing. Pollution from manure or fertiliser run-off will make the problem worse. Ingesting large amounts of algal toxins can cause liver damage and death in stock. Lower doses of toxin may result in jaundice and photosensitisation. Photosensitisation results in sunburn, particularly of the face, ears and white-haired parts of the body, so it is important to provide adequate shade for affected animals. A vet can provide treatment that can help the liver to recover.

Toxicity of blooms is highly variable, but tends to be worse during a rapid build-up phase, or as the algae are disintegrating. Problems may occur when algae concentrate on the shore of a dam, before the wind, if this is where stock drink. However, cattle will normally not drink affected water unless they have no alternative. If stock show any reluctance to drink, it may be because of the presence of blue-green algae, and you should provide an alternative supply if possible. Water can be sent away for testing, but because toxicity can vary considerably from day to day, the situation may change by the time you receive the results.

If a bloom is suspected, you should find an alternative supply of water for domestic, stock and irrigation use until the algae is identified. If there is no alternative for stock and irrigation use, then use water from deeper in the river or dam, or from areas not covered by scums as these may be less contaminated. It may also be possible to allow stock to drink from an area on the upwind side of the bloom if the bloom is localised.

In farm dams, aeration can help mix up the water and add oxygen. This can help control accumulations of soluble iron, ammonia and hydrogen sulfide as well as help control algal blooms. Aeration can be achieved by cascading the water into a holding dam or tank or using an aerating pump.

In NSW, only Coptrol Aquatic Algicide®, Cupricide Algicide® and Cupricide 110 Algicide® are approved for the control of blue-green algae and some other algae types. They must be used in strict accordance with their label conditions and directions. These products are registered for use in farm dams, rice paddies and irrigation conveyance systems. They must not be used in rivers, streams, creeks, wetlands, lakes or billabongs, and water treated with these products must not be allowed to spill into these water bodies.

Conditions of use further prevent their application when birds are feeding on algae or in water containing fish. As with all chemicals, read the instructions before use and wear the appropriate safety equipment. Do not treat drinking waters used by farm animals grazing on heliotrope or ragwort.

Diseases unrelated to feed

If animals are confined in yards or small paddocks, any disease-causing organisms or parasites that are often present in low numbers without causing problems will become more concentrated. The risk of spread of disease or parasitism is increased.

The use of troughs will minimise this contamination. If troughs are not used, feeding points should be changed at frequent intervals, where possible.

Diarrhoea

Correcting the ration formulation will cure many cases of mild diarrhoea, but if the problem is more severe, bacterial infections including infections by coccidia, salmonella, *E. coli* and several others are likely causes.

These diseases are more common in calves, but can also occur in older animals, especially if they are stressed and in poor condition.

The symptoms of these diseases are:

- » Salmonellosis causes a high fever and depression. It may also cause 'joint ill', and therefore lameness, in young calves. There is usually, but not always, bloody diarrhoea.
- » Coccidiosis can also cause bloody diarrhoea, and animals can become weak and uncoordinated.
- » With *E. coli* scours, the diarrhoea is pale, profuse and watery, and death is usually due to dehydration.

If you suspect any of these diseases, call your vet promptly. With salmonellosis and *E. coli* infection, fluid replacement is the most crucial treatment, although antibiotics are often given at the same time. Coccidiosis is usually treated with sulfonamides,

The ionophore group of growth promotants (eg Bovatec®) help control coccidiosis. In feedlots, since their use has become widespread, coccidiosis has become much less common.

Bovine respiratory disease

A range of bacteria and viruses can contribute to respiratory disease. Problems are more likely to arise if animals from cumulative stress factors such as saleyards, transport, mixing with unfamiliar animals and poor animal handling. Dry dusty conditions are also predisposing factors.

Symptoms of respiratory disease may vary from a mild, barely detectable illness, to animals found dead. Depending on the severity of the illness, animals may be off their feed, or have nasal discharge, fever, depression, coughing and laboured breathing.

Call your vet promptly if any signs of respiratory disease appear. Viruses will not respond to antibiotics, but viral infections are frequently followed by secondary bacterial infections, so it is usual to treat with broad-spectrum antibiotics such as tetracyclines. Vaccinations are available to help prevent infection.

Pinkeye (infectious keratoconjunctivitis)

The bacterium responsible for pinkeye, *Moraxella bovis*, is spread by dust and flies so it can be a major problem when animals are confined. Any eye damage, for example from grazing among thistles, will predispose an animal to infection.

The first sign is tears running down the face, followed by the classic inflamed pink eye. In severe cases an abscess forms in the centre of the cornea, which may burst leading to the loss of the eyeball.

Antibiotics are the preferred treatment. Patches glued over the eye will speed recovery and will also prevent flies spreading the disease more widely.

However, if animals are not severely affected, it may be better not to treat them. Stressing the group further by putting animals through a race to treat them, and stirring up dust that might possibly spread the condition, may worsen the situation.

A preventative vaccine is available, which must be given before high-risk periods.

Parasites in drought

Worms and fluke

Worm infestations are more likely to cause problems in young cattle and recently calved cows. Adult cattle are normally fairly resistant to the effects of worm infestation, but stress can increase susceptibility in animals that are in poor condition. Usually, mixed infestations occur, but the most important is that of the small brown stomach worm (*Ostertagia ostertagi*). Bulls can be susceptible to ostertagia infection.

Fluke can be more of a problem in dry times. Stock that congregate in damp areas that supply the last of the green pick are exposed to the snail that is the intermediate host for fluke.

Crowding around feeding sites will increase contamination, but while the weather remains dry and vegetation is lacking, egg survival is likely to be poor. Parasitism is less likely if animals are confined to yards with troughs. Worms may be more of a problem when the drought breaks, or when cattle are sent away on agistment to areas that have had good rain.

Signs of worms and/or fluke include scouring, loss of appetite, anaemia and ill-thrift, with submandibular oedema ('bottle jaw') in more severe cases.

The parasites concerned should be identified if possible. In fluke areas, faecal tests will differentiate between fluke and worm infestations. A fluke drench must be used in the case of fluke. If worms are the cause, it is important to use a drench that is effective against the dormant larval stages of ostertagia.

Lice

Cattle seem to be more susceptible to a build-up of lice if they are in poor condition, especially in cold weather. Cattle infected with lice will often scratch on sharp objects, and this can cause wounds that will make animals more susceptible to infection by clostridial bacteria. Cattle can damage equipment, especially feed and water troughs, making repairs necessary when you have more important things to do.

Consider treating hand-fed cattle for lice before a problem is apparent, especially if winter is approaching. All animals should be treated at the one time, according to the manufacturer's instructions. If the preparation used does not have a sustained action, and does not kill eggs, re-treatment is necessary after about 14 days. This time interval is crucial, as it allows eggs to hatch and be killed at the immature nymph stage, before they can lay eggs themselves and continue the cycle.

More information is available at

www.droughthub.nsw.gov.au

www.dpi.nsw.gov.au/animals-and-livestock

Cattle movements and Johne's disease (BJD)

Johne's disease in cattle is a chronic bacterial disease causing wasting and ultimately death in affected cattle. The disease is usually spread by movement of the affected cattle. Increased stock movements from property to property during droughts can increase the risk. Previous legislative controls on cattle movements were abolished in July 2016. It was replaced with a new industry framework that recognises the key role producers have in the management of diseases on their property. The key principles have a reliance on producers to protect their livestock from disease by on-farm biosecurity management practices and a market driven approach where producers choose management practices that meet their marketing and business requirements.

More information is available at:

www.dpi.nsw.gov.au/bjd

Sheep health

There are a number of conditions that occur more commonly when drought-feeding, especially when sheep are congregated on small areas for feeding. Some of these conditions and prevention and control recommendations are discussed below. Many diseases in sheep are orally transmitted including salmonellosis, worms, coccidiosis, and Johne's disease. The spread of these diseases can be minimised by avoiding faecal contamination of feed and by regularly changing the areas in a paddock where sheep are fed.

Affecting all ages

Acidosis

Cause: Grains are highly fermentable carbohydrate-rich foods. Following ingestion of excessive quantities there is a sudden change in the microbe population in the rumen, which leads to the formation of large amounts of lactic acid that causes this condition. See *Primefact 330 Grain poisoning of cattle and sheep*.

The condition commonly occurs when:

- » sheep are first given access to grain
- » there is a sudden increase in the amount of grain being fed
- » too much grain is fed allowing excessive consumption
- » there is a change in the type of grain or concentrate being fed or even the same grain type but from differing sources.

Clinical signs: Vary from mild to acute, depending on amount of grain and previous experience with grain. In milder cases, sheep are depressed, anorexic (do not feed) and ataxic (unstable on feet). In severe cases there is scouring, abdominal pain, acute lameness with heat and pain around coronet (laminitis), apparent blindness, recumbency and death.

Treatment: Based on neutralising the excessive ruminal lactic acid. Treat with 60 g Causmag (magnesium oxide) or 15 g sodium bicarbonate in 1 litre of water as a drench for each sheep. Affected sheep should be given roughage such as hay until recovered. Drafting off the affected sheep may be practical in large mobs with small numbers affected. Valuable stock should receive veterinary attention.

Control and prevention: Follow guides for introducing sheep to grain. The first day of a feeding program commences when sheep start to eat the grain when fed. Do not allow a build-up of grain in the paddock.

When changing feeds, there should be a gradual changeover. If changing from wheat to oats or oats to barley, mix the new feed into the old feed over at least four feeds before the old feed cuts out. Add 2 per cent sodium bentonite to grain rations. This will help reduce the risk of poisoning during grain introduction.

Enterotoxaemia (pulpy kidney)

Cause: Enterotoxaemia is an acute toxemia caused by the proliferation of specific clostridial bacteria that produces toxins in the intestines. These bacteria, normally present in the gut, multiply and produce toxin whenever the movement of food through the gut is slowed e.g. by grain poisoning.

Clinical signs: Usually sudden death, with rapid decomposition of the carcass, purple discolouration of skin, wool is easily plucked.

Control and prevention: All stock should be given a clostridial booster vaccination before feeding. If sheep have not been vaccinated, a full vaccination program should be implemented immediately.

Worm infestations

Sheep in drought-feeding situations can be more susceptible to internal parasites. Sheep that are stressed for any reason can also lose their immunity and may show the effects of worm infestation – e.g. stress through lactation.

Cause: The worms commonly involved are brown stomach worm and black scour worm. Where sheep congregate in wet damp areas or after rain, barber's pole worm, and *Nematodirus* (thin-necked intestinal worm) may also cause problems.

Clinical signs: One or more of these signs may be present: ill-thrift, anaemia, exercise intolerance, and scouring. If sheep are scouring, it may not be worms so it is important to determine the cause of the scouring before reaching for a drench gun. Check using a WormTest.

Treatment: When worms are confirmed, drench the sheep with an effective drench.

Control and prevention: Ensure that the sheep are on an effective worm control program (for example, WormKill, DrenchPlan or [Far] WestWorm). If sheep are not on a program, do a WormTest first, then drench them if necessary with an effective drench before they are put into a feedlot, or before they are put into small yards or paddocks.

Liver fluke

Cause: This is more common in dry times when sheep graze the wet fluke-prone areas.

Clinical signs: Chronic fluke results in anaemia and ill-thrift. Severely affected sheep can develop bottle jaw. It can be confused with barber's pole worm. Acute fluke infestations often cause sudden death in sheep. Sheep with liver fluke are more prone to black disease in areas where it occurs but this can be prevented by a clostridial vaccination program using a multi-valent vaccine.

Treatment: Sheep affected with fluke should be treated with a triclabendazole drench (e.g. Fasinex®, Flukare®), which will remove both mature and immature fluke.

Control and prevention: Prevent sheep from gaining access to fluke-prone areas in drought times, particularly when they are being hand fed. For a list of drenches for sheep worms including liver fluke, see *Primefact 152 Anthelmintics (drenches) for sheep, goats and alpacas*.

Sheep lice

Cause: This is more common in a drought feeding situation for several reasons:

- » the congregation of sheep assists transmission between sheep
- » there is more movement of sheep between mobs and between paddocks
- » sheep in drought-feeding situations tend to have more tender wool and the clinical effects are more marked when sheep rub or bite.

Treatment: This depends on the length of wool on the sheep and the previous history. Seek advice on the most effective treatment. (See *Primefact 483 Sheep lice*.)

Plant poisoning

Cause: Hungry sheep gaining access to feed containing toxins – for example, when sheep are changed from a bare paddock to a paddock with some regrowth. Often plants not normally considered toxic may be eaten in excessive amounts and can cause mortalities. In drought situations, hungry sheep will eat plants that are not normally eaten.

Clinical signs: This depends on the toxins involved. Nitrate and cyanide poisoning will cause sudden death. Other plants may cause scouring and nervous signs including staggers and ataxia.

Treatment: This depends on the plant species involved. Seek veterinary advice if plant poisoning is suspected.

Control and prevention: Prevent hungry stock having access to toxic plants. Ensure sheep have a full stomach before they are moved out of a bare paddock.

Urea poisoning

Cause: Ingestion of excess amounts of urea in blocks, in mixed feed, or when sheep drink pools of water on the top of urea blocks after rain.

Clinical signs: Abdominal pain, nervous signs including excess salivation and sudden death.

Treatment: Not usually successful.

Control and prevention: Ensure that urea is mixed thoroughly with feed when used as a supplement. Keep blocks out of the rain in sheltered areas.

Salmonellosis

Cause: Faecal contamination of feed and water supplies with *Salmonella* organisms. It is often associated with stress and with sheep in areas that are wet and muddy following heavy rain or from overflowing water troughs. Coccidiosis, which may result in scouring and dysentery, can also occur under these conditions.

Clinical signs: Fever, scouring and sudden death.

Treatment: This requires antibiotic treatment and advice should be sought from your veterinarian.

Control and prevention: Prevent faecal contamination of feed and water. Do not keep sheep that are under stress in wet, muddy areas. Withhold affected sheep from slaughter until outbreak is controlled.

Pink eye

Cause: A bacterial infection of the eye that is aggravated by the congregation of sheep in dusty areas, especially if flies are present.

Treatment: Antibiotic ointment in severe cases. Most sheep will recover if left alone but ensure that they have access to feed and water.

Control and prevention: Difficult in drought situations when sheep are being brought into confined areas.

Urinary calculi (bladder stones) in wethers and rams

Cause: The common predisposing cause is a limited water intake. This can occur as a result of faecal contamination of water, stagnant or brackish water, or high salt content in the water. Losses also occur when sheep are fed on grain rations without a calcium supplement.

Clinical signs: Often sudden death. When sheep are examined there is a grossly enlarged bladder caused by an obstruction.

Treatment: Not practical and rarely successful.

Control and prevention: Ensuring that sheep have access to drinkable water supplies at all time best prevents the disease. An increase in the salt content of the ration may help to increase the water intake of sheep. However, this will only work if the water is drinkable.

Grass seed infestation of the gums

Cause: Feeding hay that contains a lot of mature grass seed.

Clinical signs: Sheep failing to eat, sometimes slobbering at the mouth. Examination of the mouth indicates masses of grass seed around the inside of the gums.

Treatment: Removal of the grass seed.

Control and prevention: Take care when feeding pasture hay heavily contaminated with grass seed.

Affecting mainly young sheep

Enterotoxaemia

This is more common in young stock and the same precautions described under 'Affecting all ages' (above) should be followed.

Pneumonia

Cause: Bacterial infections aggravated by dry, dusty conditions. It is more common where lambs are being fed on dry, dusty feeds in troughs, especially finely hammer milled hay.

Clinical signs: Nasal discharge, coughing, ill-thrift and sudden death.

Treatment: In severe cases, antibiotic treatment can be used as advised by a veterinarian.

Control and prevention: Avoid feeding dry, dusty feeds. This may require some damping down of the feed in troughs.

Vitamin A deficiency

Cause: Vitamin A deficiency can occur in lambs born to grain-fed or drought-fed ewes. Grain and most hays are low in Vitamin A. Lambs must be completely off green feed for some months before clinical signs will occur.

Clinical signs: Night blindness, eye discharges and ill-thrift.

Treatment: Vitamin A drench.

Control and prevention: Lambs off green feed or lucerne hay for three to four months may need a vitamin A supplement. A single drench should give six months protection.

Vitamin E deficiency

Cause: Vitamin E deficiency is often associated with feeding weaners on hay or grain over extended periods, especially young weaners.

Clinical signs: Animals go down. They appear bright and alert but they are reluctant to stand. In other cases there is sudden death. Examination of dead animals reveals pale muscles.

Treatment: When the diagnosis is confirmed, treat with an oral drench of water-soluble Vitamin E using a dose rate of 3000 IU per animal.

Control and prevention: There is no preventative treatment. Watch weaners and young sheep for signs suggesting Vitamin E deficiency and seek advice. Vitamin E deficiency can resemble white muscle disease due to selenium deficiency. However, selenium deficiency is very unlikely in a drought situation.

Nematodirus infection (thin-necked intestinal worm)

Cause: A mass hatch of *Nematodirus* worm eggs after an autumn break when sheep graze on short green pick.

Clinical signs: Scouring, ill-thrift and weaner deaths. Clinical signs may occur before there is an increase in *Nematodirus* egg counts on WormTest.

Treatment: Drench with an effective drench.

Control and prevention: Difficult because of the long-term survival of the *Nematodirus* eggs and the mass hatch following the autumn break or rain after a prolonged dry spell.

Coccidiosis

Cause: Stress and overstocking of lambs and weaners under moist conditions – such as muddy feeding and watering areas. Heavy pasture contamination and stress can lead to a build-up of infestations. The clinical effects are aggravated by concurrent worm infestations.

Clinical signs: Scouring with watery faeces that may contain blood, lack of appetite, dehydration, with anaemia and ill-thrift in some cases.

Treatment: Confirm diagnosis and seek a veterinarian's advice.

Control and prevention: Avoid placing lambs and weaners in situations where gross faecal contamination of feed will occur.

Teeth abnormalities

Cause: Long-term feeding of weaners on grain without calcium supplementation.

Clinical signs: Dribbling from the mouth and abnormalities of the molar teeth.

Control and prevention: Ensure that young sheep on grain rations receive a calcium supplement of at least 1.5 per cent of their ration in ground limestone.

*Affecting adult sheep**Periodontal disease*

Cause: Often faulty molar dentition. The incisor teeth are not so important. The effect of molar teeth abnormalities may not become obvious until sheep are stressed in drought feeding situations.

Clinical signs: Ill-thrift, emaciation and sometimes a cud discharge from the mouth.

Treatment: There is no treatment. Remove affected animals from the flock.

Control and prevention: Cull old sheep early in the drought rather than hand feeding them.

Johne's disease

Cause: A chronic bacterial infection of the intestines in sheep, which becomes more obvious when sheep are stressed.

Clinical signs: Wasting and ill-thrift in sheep two years of age and older, which will not respond to drenching or other treatments. Sheep die within three to four months of first showing signs of the disease. Diagnosis is on post-mortem.

Treatment: There is no treatment.

Control and prevention: If animals are at risk from the disease, vaccinate with Gudair®. This is a once in a lifetime vaccine that provides effective protection against infection. In areas where OJD is a threat, supplementary feeding should be offered in troughs and feeders to avoid ingestion of soil. The disease is notifiable and you should seek advice from your local district veterinarian.

Affecting pregnant ewes

Pregnancy toxaemia

Cause: Poor nutrition in late pregnancy, especially in twin-bearing ewes. Outbreaks of pregnancy toxaemia are often brought on by stress.

Clinical signs: Affected animals are dull and listless and may appear blind and wander into objects. Animals eventually become recumbent and very depressed.

Treatment: Products such as Ceton®, Ketol®, Vytrate® or Lectade®. When cases occur, increase feeding levels.

Control and prevention: Ensure an adequate ration, especially for twin-bearing ewes. It is important that pregnancy toxaemia be differentiated from hypocalcaemia and polioencephalomalacia.

Hypocalcaemia

Cause: A sudden fall in blood calcium levels in late pregnancy and early lactation.

Clinical signs: Often sheep are found down or may appear listless. They may show some nervous signs. It commonly occurs shortly after lambing.

Treatment: Intravenous or subcutaneous calcium borogluconate.

Control and prevention: Prevent sudden changes of diet or other forms of stress. Calcium supplementation of diets is only recommended when sheep are being hand fed on grain and concentrate diets over several months. Sheep can also develop hypocalcaemia when grazing short lush green feed immediately after a drought has broken. Grazing of high oxalate plants such as sorrel, oxalis or portulaca can also cause hypocalcaemia.

Chronic copper poisoning

Cause: Long-term excessive intake of copper in the diet, or as a result of a build-up of copper associated with liver damage caused by grazing on Paterson's curse or heliotrope. Clinical disease is brought on by some form of stress for example, nutritional or lactation stress.

Clinical signs: Animals show severe jaundice.

Treatment: Incorporation of molybdenum in the diet will help control outbreaks. However, molybdenum should not be added to the rations of normal sheep as it may predispose to copper deficiency.

Control and prevention: The disease can be prevented in susceptible groups of animals by incorporating molybdenum at certain times on the advice of your veterinarian.

Toxoplasma abortion

Cause: Feeding of pregnant ewes on hay or grain contaminated with cat faeces.

Clinical signs: Abortion, dry ewes or the birth of small, weak lambs.

Treatment: There is no economic treatment once the outbreak commences.

Control and prevention: Ensure that pregnant ewes are fed on hay or grain that has not been contaminated by cat faeces. Silo- stored grain should be reserved for pregnant animals.

Campylobacter abortion

Cause: Bacterial infection of sheep picked up by ingestion of the organism. Carrier animals excrete the organism in their faeces. Outbreaks occur when ewes in the last two months of pregnancy are hand fed on the ground under cool, moist conditions when the organism will survive on pasture.

Clinical signs: Abortion in the last two months of pregnancy.

Treatment: There is little value in treatment in most circumstances. Valuable animals might be treated with antibiotics on the advice of a veterinarian.

Control and prevention: Outbreaks occur as a result of faecal contamination of feed. When feeding pregnant ewes, care should be taken to reduce the degree of faecal contamination – especially when sheep are being hand fed under cool, moist conditions. This may be shortly after a drought breaks where hand feeding continues until pasture growth is established.

OJD and sheep movement

For more information visit www.dpi.nsw.gov.au/ojd

NLIS and sheep movement

For more information visit www.dpi.nsw.gov.au/nlis/sheep

Section 5 Appendices

- » Appendix 1. Most likely dry matter (DM), metabolisable energy and crude protein content of feeds
- » Appendix 2. Decision Support Systems
- » Appendix 3. StockPlan

Appendix 1

Table 31. Most likely dry matter (DM), metabolisable energy and crude protein content of feeds

Foodstuff	Dry matter (%)*	ME (MJ/kg DM, or M/D)		Crude protein %DM	
		Average*	Tested range	Average*	Tested range
Low protein dry roughages					
Oaten and wheaten hay	90	8.5	(8.5–9.5)	6	–
Pasture hay (mostly grass)	90	9.8	–	12	–
Oat, barley or wheat straw	90	5.5	(4.5–5.5)	3.0	–
Sorghum / corn stubble	90	6.5	(6.5–8.0)	3.4	–
Cottonseed hulls	90	5.15	(2.9–6.3)	7.7	(4.0–11.5)
Rice hulls	90	2.4	–	2.0–3.1	–
Soybean stubble	90	5.5	(4.0–6.5)	5.5	(4–6.5)
Peanut hulls	90	3.6	–	3.3	–
Oat hulls	90	5.3	(5.3–5.4)	3.8	–
Sorghum (failed crop)	90	9.0	(8.5–9.5)	7.4	–
Peanut hay	90	8.5	(8.0–9.0)	9.3	(7.6–10.7)
Soybean hay (mature)	90	6.0	(5.5–6.5)	8.1	–
Wheat / barley stubble	90	5.5	(4.8–8.2)	3	–
Rice stubble	90	4.5	(5.3–6.6)	3	–
Oat stubble	90	6	–	3	–
High-protein dry roughages					
Lucerne hay	90	9.5	(8–9.8)	18	15–20
Clover / vetch hay	85–90	9.8	(8.3–10.9)	14	–
Cowpea and field pea	90	10	–	15	–
Soybean hay (full pods)	90	9.5	(9–10)	13–14	–
Soybean hay (75% pods)	90	8.5	(8–9)	17	–
Low protein wet roughages					
Maize silage	25–30	8.5	(7.5–9.5)	6.9–9.0	–
Sorghum silage	25–30	8.0	(8.0–8.5)	6.9–7.5	–
Oat, wheat, barley or rye green fodder or silage (cut at flowering stage)	25–30	8.5	(8.3–8.7)	6.0–8.0	–
High-protein wet roughages					
Lucerne green fodder	25	8.3	–	16	–
Lucerne silage	25–30	8.4	–	15	–
Pasture fodder (mixed grass & clover)	25	10.3	–	17.5	–
Pasture silage (mixed grass & clover)	20	8.2	–	16	–
Young oats, wheat, barley, rye, or millet grazing	25	9.3	–	10	–
Grains					
Maize	90	13.5	(13–14)	9.5	(9.0–10)
Grain sorghum	90	13	–	9	(5–11)
Wheat	90	13	(12.5–13.5)	12	(11–13)
Barley	90	13	(12.5–13)	11	(10–12)

Table 31. Most likely dry matter (DM), metabolisable energy and crude protein content of feeds

Foodstuff	Dry matter (%)*	ME (MJ/kg DM, or M/D)		Crude protein %DM	
		Average*	Tested range	Average*	Tested range
Oats	90	12.5	(11–13)	10.5	(10–11)
Pulse grains					
Faba beans	90	12.5	–	25.6	–
Field peas	90	13	–	25	–
Lupins	90	13	–	32	–
Cereal grain by-products					
Wheat pollard	90	11	–	15	–
Wheat bran	90	12	–	15	–
Oat bran	90	9	–	8.0	–
Hominy	90	12.6	–	11	(10–12)
Rice bran	90	11	–	14	–
Protein-rich concentrates					
Soybean meal	90	12	–	45	–
Safflower meal	90	9	–	22	–
Peanut meal	90	11	–	42	–
Cottonseed meal	90	10.5	–	41	28–43
Linseed meal	90	11.5	–	30–35	–
Sunflower meal	90	10.5	–	40–45	–
Coconut meal (6% fat)	90	12.5	–	21	–
Milk powder (cow's whole)	90	17	–	26.5	–
Milk powder (cow's skimmed)	90	12.8	(12.6–13)	36	–
Urea (46% nitrogen)	90	–	–	Equivalent to about 280	–
Miscellaneous					
Distillers Dried Grain	94	12.6	–	21**	–
Molasses	80	12	–	2	–
white cotton seed	90	13	–	20	12–22
Sheep and cattle nuts	90	11	(9–13)	15	–

* This figure should be used as a guide only because of the wide variation between samples – laboratory testing of feeds is recommended.

**Available protein is around 17.5%

NSW Department of Primary Industries laboratory testing services

NSW DPI operates a network of laboratories across the state that offer a wide range of testing services to support rural and other enterprises. All laboratories are fully accredited by NATA to international standards and use the latest methods and equipment.

Services include:

Chemical residues: Tests include organophosphates, organochlorides, pyrethroids, and most other pesticides in a range of materials including water, soil, animal products, fodder and other produce. This service is currently sub- contracted on request to the National Measurement Institute (NMI) NATA accreditation no. 198.

Animal feeds: A full range of testing on pastures, silages, grains and by-products.

Water testing: Tests are tailored for agricultural uses and include pH, conductivity (salinity), alkalinity, hardness, chloride and trace metals.

Veterinary testing: Tests are available for diagnostic, market assurance and stock health monitoring purposes, as well as health certification for export purposes. Where possible, submit your samples through your veterinary practitioner or district veterinarian.

WormTest kits are available through LLS offices.

More information:

www.dpi.nsw.gov.au/about-us/services/laboratory-services

Contact Laboratory Customer Service 1800 675 623

Appendix 2

Decision support systems

There are a number of courses and computer software programs to help farmers make strategic decisions during periods of drought.

- » **Australian Rainman®** uses historical long-term daily and monthly rainfall data and the Southern Oscillation Index and Sea Surface Temperature data to allow producers to calculate the chances of daily, monthly and seasonal rain.

Available from www.daf.qld.gov.au/business-priorities/plants/field-crops-and-pastures/broadacre-field-crops/cropping-efficiency/rainman

- » **Drought Feed Calculator** (DFC) phone app allows the user to develop a drought feed ration for sheep and cattle. It calculates the daily feed requirement of dry, pregnant, lactating and growing animals using a database containing 71 different feeds. The app calculates the total amount and cost of feed required for a mob over a selected period. It is designed for use in the paddock or at the silos, no mobile phone coverage needed. There are 71 different feeds to select from each with its own estimated energy, protein and dry matter values. Values can be over written when feed test results are available (recommended). The user can easily assess the value of different feeds by simply comparing the results for up to three feeds as well a mixed ration. The phone app is free and can be downloaded from the App Store or Google Play – just search 'Drought Feed Calculator'. NSW DPI provides feed testing through the Feed Quality Service and can be contacted on 1800 675 623 or feed.quality@dpi.nsw.gov.au.
- » **Grazfeed** can be used to determine feed requirements and the value of feed supplements. GrazFeed® is available from:
Horizon Technology Pty Ltd PO Box 598
Roseville NSW 2069
Phone: 02 94408088
Fax: 02 94408011
Email: horizonag@hzn.com.au
- » **ProGrazePlus** is a fodder budgeting workshop series designed to evaluate and help manage grazing plans using a decision support program called ProPlus.
- » **StockPlan** is a suite of computer decision support tools to help cattle and sheep producers explore drought management options. The decision-making tools help producers make management decisions that minimise the environmental and financial impacts of drought. More details on StockPlan are provided in Appendix 3.

Appendix 3

StockPlan

StockPlan® Exploring management options for drought and recovery is a training program for sheep and beef producers, advisors and agribusiness, which focuses on developing least-cost strategies for drought and drought recovery using its three key computer decision support systems. Its greatest benefit is in long-term drought planning using 'what if' questions.

- » What if I stick to wool production or run dry sheep only, or even change to cattle?
- » What if the season dries up – will I feed, agist or sell?
- » Can my ewes or cows lose weight, or how much do I feed and at what cost?
- » What effect is selling going to have on my future flock and cattle structure?
- » When will my cash flow return to normal after a drought?

You decide which option you wish to consider, enter the numbers and think about the results. The results allow you to make sound judgements and act accordingly.

With funding from Australian Wool Innovation (AWI) and NSW DPI, StockPlan has a:

- » new producer manual
 - StockPlan Basics (Modules 1–4)
 - StockPlan Extras Home Study Guide
- » producer/participant's resources CD
- » facilitator's guide CD
- » new version of the decision support software
- » a StockPlan web page on the AWI and NSW DPI websites.

StockPlan training program

1. StockPlan software and user manual is a suite of computer decision support tools that enable cattle and sheep producers to explore management options in the early stages of drought and during drought. Management options are explored through three StockPlan tools: Drought Pack, Im Pack and FSA Pack and helpful advice through a number of StockPlan links.

StockPlan Basics producer manual contains information and activities to help participants to complete a **Drought Risk Management Plan** that can be incorporated into the farm's business plan.

StockPlan Basics is completed by the participant during the workshop sessions with some at-home tasks. The StockPlan Basics producer manual contains four modules. The tools of the StockPlan Software (Drought Pack, FSA Pack, and Im Pack) are progressively introduced to the workshop participants during activities outlined in the manual.

StockPlan Extras Home Study Guide and the **Drought Plan Templates** (on the Participant's resources CD), contain extra steps to help the participant complete a more detailed **Whole-farm Drought Risk Management Plan**. This is an optional program completed by the participant at home and follows on from StockPlan Basics.

2. Participants resources CD contains links and documents to support the manual and home study guide.

3. Facilitator's guide CD provides a step-by-step framework to help facilitators understand the program and to provide resources for delivery during the workshops.

StockPlan workshops are available for producers and agribusinesses to help improve drought management skills, lower the risk of degrading pastures and financial losses, encourage pro-active decision-making and provides a platform to investigate the production and financial implications for a farm business.

The StockPlan tools

Three decision-making tools are integrated into one package to help the user make informed and timely management decisions before and during a drought. The user can use one or all of the decision tools depending on their circumstances.

Drought Pack

Drought Pack is an energy-based model (MJ ME/kg fed) that assesses the cost of feeding and determines the break-even price for specific animal classes.

Im Pack

This tool uses a static modelling approach that allows the user to assess the structure of the herd or flock over a 10-year period.

It allows the user to explore a wide range of options such as selling-off parts of the herd or flock and recovering stock numbers over the following years.

FSA Pack

The FSA Pack ('feed', 'sell' or 'agist' decisions) is designed to evaluate the cost of the various options for a specific group of livestock rather than for a whole-farm analysis. FSA allows the user to specify up to four different drought lengths and provides cash cost estimates and 'bottom line' financial estimates.

For more details and workshop registration contact your Local Land Services Livestock Officer or www.dpi.nsw.gov.au/stockplan

Notes

[illegible]



Department of
Primary Industries

Disclosures by Councillors and Designated Person 2018/19 Returns			
TITLE	FIRST NAME	LAST NAME	DATE RECEIVED
Mayor Councillor	Stephen	Lesslie	24/09/2018
Councillor	Wayne	McAndrew	3/08/2018
Councillor	Ray	Thompson	17/08/2018
Councillor	Cassandra	Coleman	27/08/2018
Councillor	Maree	Statham	18/09/2018
Councillor	Joe	Smith	20/08/2018
Councillor	Steve	Ring	3/09/2018
Councillor	Darryl	Goodwin	25/09/2018
Councillor	Deanna	Goodsell	20/08/2018
Mr	Graeme	Faulkner	1/08/2018
Mr	Andrew	Muir	20/09/2018
Mr	Rhys	Brownlow	21/08/2018
Mr	Jim	Nichols	31/07/2018
Mr	Jim	Sheehan	18/09/2018
Mr	Paul	Cashel	13/08/2018
Mr	Damon	Cupitt	4/09/2018
Mr	Matthew	Johnson	1/08/2018
Mrs	Ally	Shelton	3/09/2018
Mr	Neil	Derwent	31/07/2018
Mrs	Sherilyn	Hanrahan	18/09/2018
Mr	Jonathon	Edgecombe	20/08/2018
Mr	Daniel	Buckens	1/08/2018
Mr	Michael	McGrath	13/09/2018
Mr	Ross	Gurney	9/08/2018
Mr	Andrew	Powrie	7/09/2018
Mr	Simon	Francis	8/10/2018
Mrs	Sandra	Politi	15/08/2018
Ms	Rebecca	Nichols	5/09/2018
Mr	Ben	Young	15/08/2018

Due to extended leave

DEVELOPMENT ASSESSMENT REPORT – DA218/18 – PROPOSED CHANGE OF USE FROM OFFICE TO MEDICAL CENTRE (CHIROPRACTIC, CHINESE HERBAL MEDICINE & ACUPUNCTURE), LOT 5 DP 840077, 180-184 MORT STREET LITHGOW NSW 2790

1. PROPOSAL

Council is in receipt of a Development Application DA218/18 for the change of use of an office to a medical centre (chiropractic, chinese herbal medicine & acupuncture) on land known as Lot 5 DP 840077, 180-184 Mort Street LITHGOW NSW 2790.

Lot 5 DP 840077 (approximately 1505m²) currently contains a carpark and a large commercial building consisting of various business, office and retail premises. The proposed development will be located on the north-western end of the building and involves a change of use from an office premises to a medical centre.

The proposed medical centre (approximately 50m²) will provide chiropractic and acupuncture services and the provision of Chinese herbal medicine. The premises will be fit-out to include two health consulting rooms and a reception area and three signs are proposed to be erected on the western and northern external walls of the building. Two staff/medical practitioners will be practicing from the centre and the proposed hours of operation include:

Mondays to Fridays	8:30am to 6:30pm
Saturdays	9:00am to 12:00pm
Sundays and Public Holidays	Closed



Figure 1 – Existing Frontage of Proposed Medical Centre – View from Eskbank Street



Figure 2 – Location of Proposed Medical Centre within Lot 5 DP 840077

2. SUMMARY

To assess and recommend determination of DA218/18. with recommendation for approval subject to conditions.

3. LOCATION OF THE PROPOSAL

Legal Description : Lot 5 DP 840077
 Property Address : 180-184 Mort Street LITHGOW NSW 2790

4. ZONING: The land is zoned B2 Local Centre in accordance with Council's current planning instrument, being *Lithgow Local Environmental Plan (LEP) 2014*.

5. PERMISSIBILITY: The development being a medical centre, as defined below, is permitted with consent on land zoned B2 Local Centre under Clause 57(1) of *State Environmental Planning Policy (Infrastructure) 2007*.

medical centre means premises that are used for the purpose of providing health services (including preventative care, diagnosis, medical or surgical treatment, counselling or alternative therapies) to out-patients only, where such services are principally provided by health care professionals. It may include the ancillary provision of other health services.

Note. Medical centres are a type of **health services facility**—see the definition of that term in this Dictionary.

health care professional means any person registered under an Act for the purpose of providing health care.

health services facility means a building or place used to provide medical or other services relating to the maintenance or improvement of the health, or the restoration to health, of persons or the prevention of disease in or treatment of injury to persons, and includes any of the following:

- (a) a medical centre,
- (b) community health service facilities,
- (c) health consulting rooms,
- (d) patient transport facilities, including helipads and ambulance facilities,
- (e) hospital.

The applicant is currently registered only as a chiropractic health care professional and therefore, the development is permitted, subject to the following condition of consent:

1. The health care services provided by the medical centre, must only include the services for which the associated health care professional is registered under an Act for the purpose of providing health care. Appropriate qualifications and registrations must be continually maintained.

5.1 POLICY IMPLICATIONS (OTHER THAN DCP's)

Policy 7.5 Notification of Development Applications

Council Policy 7.5 is applicable to all land within the Lithgow Local Government Area (LGA) and prescribes the following types of development as exempt from requiring notification:

2. APPLICATIONS FOR WHICH NOTIFICATION WILL NOT BE GIVEN UNDER THIS POLICY

Development applications for the following types of development will not be notified. (NB: Any structure must conform to applicable setback requirements):

- Development involving a change of use that does not involve the change to a Restricted Premises, Sex Services Premises, Food and Drink Premises, Funeral Chapel, Funeral Home or Retail Premises involving the sale of firearms within the meaning of the Firearms Act 1996

The proposed change of use is exempt from requiring notification to surrounding landowners. Accordingly, no submissions were sought or received.

Policy 7.6 Development Applications By Councillors And Staff Or On Council Owned Land

Council Policy 7.6 is applicable to the proposed development as it is to be located on land owned by Lithgow City Council. In accordance with Clause 1 of Policy 7.6, the application is required to be referred to the Ordinary Meeting of Council for determination.

7.6 DEVELOPMENT APPLICATIONS BY COUNCILLORS AND STAFF OR ON COUNCIL OWNED LAND

OBJECTIVE:

To provide a transparent protocol for the determination of development applications lodged by councillors, staff and relatives thereof or development applications for development on Council owned land.

POLICY:

1. That, subject to the exemptions in Part 2 of this Policy, any development application lodged where the applicant is a Councillor or a member of staff, or where a Councillor or member of staff is the owner of the land to which the application relates, or where the development application on Council owned land, that such an application be referred to Council for consideration and determination.

5.2 FINANCIAL IMPLICATIONS

Section 94A (Section 7.12) Development Contributions Plan 2015

Council's Section 94A (Section 7.12) Development Contributions Plan 2015 is applicable to all land within the Lithgow Local Government Area and prescribes the following types of development as exempt from requiring payment of the levy:

C7 Are there any exemptions to the levy?

Other development exempted from the levy

The following types of development or components of development will also be exempted from a levy under this Plan:

- a) Development by or on behalf of Lithgow City Council;
- g) An application for an industrial, retail or commercial development where there is no intensification of use or increase in floor space of an existing building.

The proposed development will not intensify the previous use of the site and will be located on land owned by Lithgow City Council. Accordingly, no Section 94A Development Contributions are required to be paid as part of this application.

5.3 LEGAL IMPLICATIONS

Environmental Protection and Biodiversity Conservation Act 1991

No federally listed Threatened Species or Endangered Ecological Community is required to be cleared as a result of this application. Accordingly, there are no legal implications of this Act on the proposed development.

Mine Subsidence Compensation Act 1961

The development is integrated under this Act (via Section 4.46 of the EP & A Act 1979). A deemed approval for the change of use from an office premises to a medical centre is granted by Subsidence Advisory NSW. Therefore, the proposal will comply with the provisions of this Act.

Local Government Act 1993

The land on which the building situated is classified as Operational.

Biodiversity Conservation Act 2016

No vegetation is required to be cleared as part of this application and therefore, the development will not place any adverse impact on threatened species under Section 7.2 of the *Biodiversity Conservation Act 2016* (BC Act). There are no further implications of this Act on the proposed development.

Environmental Planning and Assessment Act 1979

In determining a development application, a consent authority is required to take into consideration the matters of relevance under Section 4.15 of the *Environmental Planning and Assessment Act 1979*. These matters for consideration are as follows:

5.3.1 Any Environmental Planning Instruments

Lithgow Local Environmental Plan 2014

LEP 2014 – Compliance Check		
Clause		Compliance
Land Use table	B2 Local Centre	Yes.
5.10	Heritage conservation	Yes, subject to conditions.
7.10	Essential Services	Yes.

Comment: The land is zoned B2 Local Centre under LEP 2014, in which the development of a medical centre is permitted with consent.

The land is located within the Lithgow Main Street Heritage Conservation Area. The proposed external signage will be in keeping with the existing signage of the surrounding commercial area, subject to conditions of consent. No additional external changes have been proposed and therefore, the proposal will not place any adverse impact on the heritage conservation of the area.

The existing building has connections to an electricity supply and Council's water supply, stormwater and sewage reticulation networks. Vehicular access to the site is existing off the northern boundary via Main Street Lane. Therefore, the development will be suitably serviced.

State Environmental Planning Policy No 64—Advertising and Signage

SEPP 64 – Compliance Check		
Clause		Compliance
3	Aims and Objectives	Yes.
8	Granting of consent to signage	Yes.
9	Advertisements to which this Part applies	Yes.
10	Prohibited advertisements	Yes.
11	Requirement for consent	Yes.
12	Consent authority	Yes.
13	Matters for consideration	Yes, subject to conditions.
14	Duration of consents	Yes, subject to conditions.
22	Wall advertisements	Yes, subject to conditions.
Schedule 1	Assessment criteria	Yes, subject to conditions.

Comment: The proposed development includes the installation of three signs, as described below:

- An above window sign (3000mm x 40mm) on the western external wall of the medical centre, as indicated on the approved Western Elevation Plan.
- A wall sign (1200mm x 900mm) on the southern face of the north-western external wall of the medical centre, as indicated on the approved Southern Elevation Plan.
- A wall sign (1200mm x 900mm) on the northern face of the north-western external wall of the medical centre, as indicated on the approved Northern Elevation Plan.



Figure 3 – Proposed Above Window Sign and Wall Sign



Figure 4 – Proposed Wall Sign

Clause 14 of SEPP 64 states that a consent for signage ceases to be in force after 15 years of the date of consent or after a lesser time specified by the consent authority. As the timeframe that the business is to be located on the land has not been specified, and the future use of the land is unknown, the following condition of consent will be implemented:

1. Consent for the business identification signage ceases to be in force: on the expiration of 15 years after the date of operation of this consent, **or** on termination of the operation of the medical centre on Lot 5 DP 840077, **whichever is the sooner.**

To ensure the development complies with the requirements of Clause 22 of SEPP 64, the following conditions of consent will be implemented:

2. The approved signage must not extend over any window or door opening.
3. Only the following signage has been approved as part of this application:
 - a) One above-window sign (3000mm x 40mm) on the western external wall of the medical centre, as indicated on the approved Western Elevation Plan.
 - b) One wall sign (1200mm x 900mm) on the southern face of the north-western external wall of the medical centre, as indicated on the approved Southern Elevation Plan.
 - c) One wall sign (1200mm x 900mm) on the northern face of the north-western external wall of the medical centre, as indicated on the approved Northern Elevation Plan.

No additional signage is to be installed without prior Development Consent from Council.

Schedule 1: The proposed signage will be located within an established commercial and heritage conservation area and the character and scale of the proposed signage will be consistent with those of surrounding developments, subject to conditions of consent (see Figures 3 and 4). Accordingly, the proposal will not detract from the amenity or visual quality of the heritage conservation area. The proposed signage will be compatible with the scale, proportion and design of the building and streetscape and will not obscure or compromise important views, dominate the skyline, reduce the quality of vistas and respects the viewing rights of other advertisers. Only one sign has been proposed on each wall, to reduce clutter.

The signage is not proposed to be illuminated or flashing. The following conditions of consent will be implemented to ensure that no safety issues or light spillage on residential accommodation occurs:

1. The approved signage must not be illuminated or flashing.

Therefore, subject to conditions of consent the development will comply with the aims and objectives of SEP 64 as prescribed under Clause 3, as below:

3 Aims, objectives etc

(1) This Policy aims:

- (a) to ensure that signage (including advertising):
 - (i) is compatible with the desired amenity and visual character of an area, and
 - (ii) provides effective communication in suitable locations, and
 - (iii) is of high quality design and finish, and
 - (b) to regulate signage (but not content) under Part 4 of the Act, and
 - (c) to provide time-limited consents for the display of certain advertisements, and
 - (d) to regulate the display of advertisements in transport corridors, and
 - (e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.
- (2) This Policy does not regulate the content of signage and does not require consent for a change in the content of signage.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011

SEPP (Sydney Drinking Water Catchment) 2011 – Compliance Check		
Clause		Compliance
10	Development consent cannot be granted unless neutral or beneficial effect on water quality	Yes.
11	Development that needs concurrence of the Chief Executive	NA.

Comment: The application is required to be assessed using the Neutral or Beneficial Effect on Water Quality Assessment Tool as below. Given the development satisfies this assessment the development complies with the SEPP.

NEUTRAL OR BENEFICIAL EFFECT ON WATER QUALITY ASSESSMENT TOOL

NorBE Assessment

General Information

DA number **DA218/18**
 Assessing officer **Fern-Alice Finn**
 Council **Lithgow City**
 Development class **Other development**
 Date of assessment **28/09/2018**

Lot	Section	Plan
5		840077

Assessment Summary

NorBE status **Determined**
 System outcome **Satisfied** User outcome **Satisfied**
 SCA concurrence outcome
 Determination outcome **Granted** Determination date **28/09/2018**

Pre-Assessment

Located within Sydney drinking water catchment? **Yes**
 Is development consistent with any existing SCA S88 instruments on title? **N/A**
 Crown perpetual leasehold land? **No**
 Water quality impact ? **No**
 Concentration of flow of water? **No**
 Flow of water impeded? **No**
 Discharge of pollutants? **No**
 Any other matter? **No**
 Documentation is complete? **Yes**
 Does Water Cycle Management Study meet SCA/Council requirements? **Yes**

5.3.2 Any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority

Nil.

5.3.3 Any Development Control Plan

Nil.

5.3.4 Any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7.4?

Nil.

5.3.5 Any matters prescribed by the regulations that apply to the land

The development has been forwarded to Council's Building Officer for assessment under appropriate regulations. It is considered that as a result of this assessment the development will comply with the provisions of the regulations subject to conditions of consent.

5.3.6 The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Adjoining Landuse: The surrounding area is generally for commercial pursuits with the proposal to be consistent with the surrounding land uses. The proposal will not cause any land use conflicts and the development is permissible within the zone.

Services: The development will have connections to electricity and telecommunications services and Council's water supply and sewerage reticulation networks. Therefore, it is considered that the proposal will be adequately serviced.

Context and Setting: The proposed development will be located within an established commercial area and will have no major impact on the context and setting of the area. The development has been designed to complement existing features of similar development in the area.

Access/ traffic: Access to the carpark located on Lot 5 DP 840077 is from the northern boundary via Main Street Lane. The development is also adjacent to a public carpark located to the west. Therefore, any traffic generated by the site will be suitably accommodated in existing off-street carparks.

Heritage: The land is located within the Lithgow Main Street Heritage Conservation Area. The proposed external signage will be in keeping with the existing signage of the surrounding commercial area, subject to conditions of consent. No additional external changes have been proposed and therefore, the proposal will not place any adverse impact on the heritage conservation of the area. There are no other items or areas of heritage significance located within the vicinity of the site which may be impacted by the proposal.

Flora and Fauna: No proposed clearing is required and the development will have no impact on flora or fauna.

Social and Economic Impact: As the proposed development will be generally in keeping with the provisions of the planning instrument and is reasonably compatible with other similar development in the locality, it is expected to have minimal social and economic impact.

Soils: No earthworks are required and the proposed development will have no significant impact on soils. There is no reason to believe the site would be affected by acid sulphate soil or contamination problems.

Water: The proposed development has been assessed using the NorBE tool as required by the *State Environmental Planning Policy (Sydney Catchment Drinking Water) 2011* with a result of satisfied.

Air and Microclimate: There will be no significant impact on air or microclimate.

Waste: Waste during construction will be to a licenced facility as per conditions of consent if approved. Given the development is for commercial use, once an Occupation Certificate has been provided a garbage service will be available for domestic use.

Natural Hazards: The land is not identified as bushfire or flood prone. There are no other known natural hazards which may impact the proposal.

Noise and Vibration: There are no nearby sources of noise or vibration that would impact detrimentally on the proposal. The proposal is not expected to cause any noise issues in the surrounding area, subject to the following conditions of consent:

1. The medical centre must only operate during the following approved hours:

Mondays to Fridays	8:30am to 6:30pm
Saturdays	9:00am to 12:00pm
Sundays and Public Holidays	Closed

5.3.7 The Suitability of the site for the development

The surrounding land uses are for commercial pursuits with the size and nature of the development to be consistent with those in the surrounding area. The proposal is compatible with the objectives of the zone and is considered to have minimal impact on the surrounding amenity. Therefore, the site is considered to be suitable for the proposed development.

5.3.8 Any submissions made in accordance with this Act or the Regulations

The proposal was sent to Council's Building Officer and Environmental Officer for commenting with recommendations detailed below. The proposal was not required to be notified to surrounding landowners or placed on public display under Council Policy 7.5.

COUNCIL'S BUILDING OFFICER

Reference is made to the development application in regard to Council's Planner's referral dated 14 September 2018.

Please be advised that the proposal as detailed does not require the submission of a Construction Certificate.

The DA may be approved subject to the following conditions:

1. The development shall take place in accordance with the approved development plans containing Council's approved development stamp and all associated documentation submitted with the application, except as modified in red by Council and/or any conditions of this consent.
2. All building work must be carried out in accordance with the provisions of the Building Code of Australia.
3. The existing building is to be provided with portable fire extinguishers in accordance with Clause E1.6 of the Building Code of Australia and AS2444-2001.
4. A copy of the stamped and approved plans, and development consent are to be on the site at all times.
5. All work on site shall only occur between the following hours:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 1.00pm
Sunday and public holidays	No work

Planning comment: The abovementioned conditions of consent have been adopted as advised. The further information was not requested.

COUNCIL'S ENVIRONMENTAL OFFICER

Environment has no objection to this application subject to the following conditions:

1. The floors in each room is to be a smooth impervious floor so that it can be cleaned and sanitised effectively.

Planning comment: The abovementioned Conditions of Consent have been adopted as advised.

5.3.9 The public interest

There have been no issues raised from the public regarding planning issues.

6. DISCUSSION AND CONCLUSIONS

The proposal is considered to generally comply with the relevant provisions of the applicable Environmental Planning Instruments. The proposal is not considered likely to have any significant negative impacts upon the environment or upon the amenity of the locality. As such it is recommended that development consent is issued subject to the conditions outlined below.

7. ATTACHMENTS

Schedule A- Conditions of consent.

8. RECOMMENDATION

THAT development application DA218/18 is approved subject to conditions set out in Schedule A.

Report prepared by:..... Supervisor:

Signed:..... Signed:.....

Dated:..... Dated:.....

REASONS FOR CONDITIONS

The conditions in Schedule A have been imposed for the following reasons:

- To ensure compliance with the terms of the relevant Planning Instruments
- To ensure no injury is caused to the existing and likely future amenity of the neighbourhood
- Due to the circumstances of the case and the public interest.
- To ensure that adequate road and drainage works are provided.
- To ensure access, parking and loading arrangements will be made to satisfy the demands created by the development.
- To ensure the structural integrity of the development.
- To ensure the protection of the health and safety of the occupants of the development.
- To protect the environment.
- To prevent, minimise, and/or offset adverse environmental impacts.
- To ensure lots are adequately serviced.
- To ensure there is no unacceptable impact on the water quality.
- To ensure adequate soil conservation and protect against movement of soil and sediments.

Schedule A

Conditions of Consent (Consent Authority)

Please Note: It should be understood that this consent in no way relieves the owner or applicant from any obligation under any covenant affecting the land.

ADMINISTRATIVE CONDITIONS

1. That the development be carried out in accordance with the application, Statement of Environmental Effects, accompanying information, plans listed in the approval and any further information provided during the process unless otherwise amended by the following conditions.

Permissible Health Services

2. The health care services provided by the medical centre, must only include the services for which the associated health care professional is registered under an Act for the purpose of providing health care. Appropriate qualifications and registrations must be continually maintained.

Advertising Signage

3. Consent for the business identification signage ceases to be in force: on the expiration of 15 years after the date of operation of this consent, **or** on termination of the operation of the medical centre on Lot 5 DP 840077, **whichever is the sooner.**
4. The approved signage must not extend over any window or door opening.
5. Only the following signage has been approved as part of this application:
 - a) One above-window sign (3000mm x 40mm) on the western external wall of the medical centre, as indicated on the approved Western Elevation Plan.
 - b) One wall sign (1200mm x 900mm) on the southern face of the north-western external wall of the medical centre, as indicated on the approved Southern Elevation Plan.
 - c) One wall sign (1200mm x 900mm) on the northern face of the north-western external wall of the medical centre, as indicated on the approved Northern Elevation Plan.

No additional signage is to be installed without prior Development Consent from Council.

6. The approved signage must not be illuminated or flashing.

Hours of Operation

7. The medical centre must only operate during the following approved hours:

Mondays to Fridays	8:30am to 6:30pm
Saturdays	9:00am to 12:00pm
Sundays and Public Holidays	Closed

BUILDING REQUIREMENTS

8. All building work must be carried out in accordance with the provisions of the Building Code of Australia.
9. The existing building is to be provided with portable fire extinguishers in accordance with Clause E1.6 of the Building Code of Australia and AS2444-2001.

10. A copy of the stamped and approved plans, and development consent are to be on the site at all times.

11. All construction works on site shall only occur between the following hours:

Monday to Friday	7.00am to 6.00p
Saturday	8.00am to 1.00pm
Sunday and public holidays	No work

ENVIRONMENTAL HEALTH REQUIREMENTS

12. The floor in each room is to be a smooth impervious floor so that it can be cleaned and sanitised effectively.

Lithgow City Council Consultation Strategy - Cullen Bullen Landfill Closure



Document Check Off and Disclaimer

DATE	DRAFT	AUTHOR	CHECKED
20 March 2018	Draft	SL	TF
4 April 2018	Final	SL	TF
12 June 2018	Final v2	DC	

The collection of information presented in this report was undertaken to the best level possible within the agreed timeframe and should not be solely relied upon for commercial purposes. The opinions, representations, statements or advice, expressed or implied in this report was done so in good faith. While every effort has been made to ensure that the information contained within is accurate, Impact Environmental Consulting makes no representation as to the suitability of this information for any particular purpose. Impact Environmental Consulting disclaims all warranties with regard to this information. No part of this report is to be reproduced without the written consent of Impact Environmental Consulting Pty Limited.

PART 1 WHY CULLEN BULLEN IS BEING CLOSED

To ensure compliance with the Environmental Guidelines; Solid Waste Landfills 2nd edition EPA 2016 and Council's Waste & Recycling Strategy adopted by Council on the 27th November 2017; Council will close the Cullen Bullen garbage depot in 2019/20 financial year. In addition to complying with the above legislative and strategic documents Cullen Bullen landfill has exhausted all available landfilling space with current operations unsustainable.

Due to the proximity of Portland garbage depot and the considerable construction and ongoing operational costs Council officers are recommending the rehabilitation of the site does not include construction of a waste transfer station. Discontinuing all operations at the site will provide a number of additional benefits to the community such as; improved resource recovery at a central facility such as Portland and a reduction in illegal dumping from out of area waste.

This community consultation strategy will ensure that feedback is sought from Cullen Bullen residents on the closure and rehabilitation of the landfill.

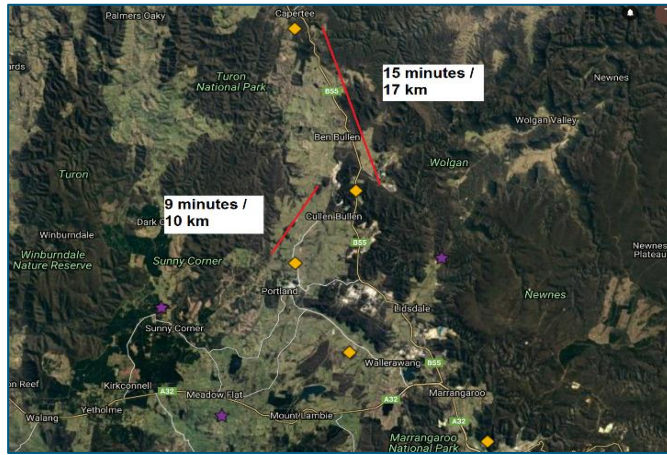
The rationale for closure is:

Environmental benefits: Closure of a landfill has many benefits to the environment. It removes the opportunity for windblown litter, dust, and contaminated stormwater runoff. There will be a reduced risk of illegal dumping of out of area waste including (hazardous waste e.g. asbestos) and unauthorized disposal of waste from the levy paying area which could result in regulatory action from the NSW Environment Protection Authority (EPA). Final capping of the site will reduce environmental risk to Council while providing better environmental outcome for the community through increased resource recovery at the Portland garbage depot.

EPA regulation: All the airspace is used up at Cullen Bullen. Council cannot extend the landfill without a lengthy and costly approval process. The NSW Environment Protection Authority exempted small landfills in existence before 2008 from needing retrospective licence approval. A new landfill, or an extension - even a simple small trench - would need EPA approval to licence the activity. An Environmental Impact Statement would likely be required as part of their approval process.

Unauthorised waste: The remote location of Cullen Bullen landfill means the site is vulnerable to commercial waste and waste outside the Lithgow LGA. Previous attempts by Council to control deliveries, via remote cameras, resulted in vandalism and theft of the cameras. Closing Cullen Bullen and using a larger facility (e.g. Portland) with existing and effective security will help ensure rural landfills are used only by those intended (i.e. residential domestic waste).

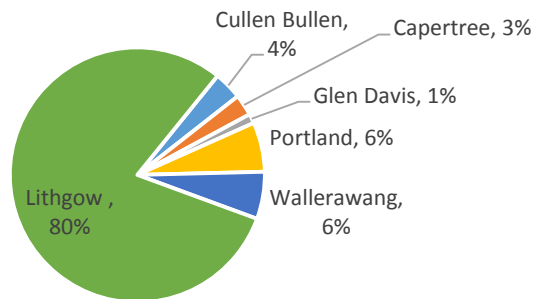
Cost of closure, transfer station and haulage: Council has budgeted \$350,000 for the closure of Cullen Bullen. Construction of a transfer station would be additional, and in the order of \$100,000. Council estimates the annual cost of emptying the bins to be \$30,000.



Proximity (15 min) to two other landfills (Portland and Capertee): Residents of Cullen Bullen need only drive 9 minutes to the south, or 15 minutes to the north to have access to waste disposal.

Use: The Cullen Bullen landfill provides disposal for only 4% of household waste in the Lithgow LGA.

% of Household Waste Disposed



Existing services: The vast majority of Cullen Bullen waste is collected by the kerbside collection, which ends up at the Lithgow Solid Waste Facility. Everyone with a kerbside collection has access to two bulky waste, and four green waste collections per year. Residents not offered such collections (outside of village) are closer than the 15 mins maximum, needed to access an alternative landfill.

PART 2 WHO WILL BE EFFECTED

2.1 STAKEHOLDERS

- Residents
- School
- Businesses
- Community groups eg: Cullen Bullen progress association

2.2 WHO WILL BE CONSULTED

Consultation will target the residents of Cullen Bullen directly and via community groups (permitted users of the landfill)

2.3 WHO WILL NOT BE CONSULTED

Schools and business are not permitted to use the landfill and must have their own waste disposal arrangements, however there is evidence that businesses use the landfill. These stakeholders will not be mailed a flyer and survey; however, the survey will include some questions regarding businesses and their use of the landfill. The purpose is to gain some idea of the level of use.

PART 3 KEY CONSIDERATIONS

The following are considerations when interacting with stakeholders:

- **Decision made on closure** – second half of 2018.
- **Actual closure** – sometime in 2019, Council is monitoring the volume of the landfill.
- **How will Cullen Bullen residents dispose of waste** – Residents will need to take their waste to Portland or Capertee landfills. Portland is a 9-minute drive to the south, or Capertee is 15 minutes to the north. The majority will have access to two bulky waste and four green waste collections per year.
- **Where will the waste go** – Portland or Capertee. Both have over eight years of life.
- **Will there be more illegal dumping** – Council attempts to reduce illegal dumping throughout the LGA through a range of educational activities in addition to monitoring and investigation of illegal dumping incidents.
- **What will happen with the old site** – areas where waste was buried will be covered in soil and revegetated, to eliminate contaminated runoff.

PART 4 HOW, & WHEN WILL CONSULTATION TAKE PLACE

4.1 METHODS

Method	Why
Media release - Local community radio, and newspaper	➤ Let Cullen Bullen residents know Council is undertaking consultation
Letter to resident - A4 double sided Front of letter will include: - background information, direction to online survey, option to fill in survey and mail back and info about drop in session. - council contact - Damon Cupitt Team Leader Environment Back of letter will include: - survey - mailed directly to residents of Cullen Bullen, and the Progress Association - limited no. made available at key locations in village	➤ direct way to provide information and directions to survey & drop in session ➤ direct mail out – greater success rate of engagement and completion of survey
Survey - made available online via LLC website - mailed directly to residents via letter. - promotion via council website/council's waste website & flyer - media release local community radio, and newspaper - LLC will collate data and enter into excel for analyses and reporting by Impact Environmental	➤ efficient way to collect and analysis data ➤ utilise existing promotional tools ➤ making available online and direct mail out will increase rate of engagement and completion rate.
Drop in information session - hold one drop in information session - 5.30pm – 7.30pm - held in Cullen Bullen Progress Hall - facilitated by Damon Cupitt Team Leader Environment	➤ provides face to face contact ➤ opportunity for council to provide more information and residents to ask questions in person
Sign at entrance to landfill Will include: - brief background information - direction for online survey - contact details for paper copy survey (Damon Cupitt Team Leader Environment)	➤ informs and engages landfill users directly

4.2 TIME FRAME

Month	Activity	Opportunity for Feedback from Community
June	Consultation tools drafted and finalised	✓
August	Media release Online survey goes live Letter/survey mailed out Promotion of survey on website, media release Sign erected at landfill	
August	Drop in session Survey closure 31 st August	
September	LLC collate feedback Impact Enviro to analysis feedback and report to Team Leader Environment	
October	Community feedback presented to Council Council decision regarding future use of site	
November	Decision communicated to Community	



Lithgow City Council
Consultation Strategy - Cullen Bullen Landfill Closure
June 2018

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Document Check Off and Disclaimer

DATE	DRAFT	AUTHOR	CHECKED
18 th September 2018	Draft 1	TF	GF
2 nd October 2018	Draft 1	TF	GF

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Council officers are recommending closure of the Cullen Bullen landfill in the 2019/20 financial year for the following reasons:

- To ensure compliance with the EPA Environmental Guidelines, Solid Waste Landfills 2nd edition, 2016; and
- To act in accordance Council's Waste & Recycling Strategy adopted by Council on the 27th November 2017.

Cullen Bullen landfill has exhausted all available landfilling space. Due to the proximity of Portland garbage depot and the considerable construction and operational costs Council officers are recommending a rehabilitation program that does not include construction of a waste transfer station. Discontinuing all operations at the site will free up resources that can be invested in improving the amenity and resource recovery at central rural facility such as Portland.

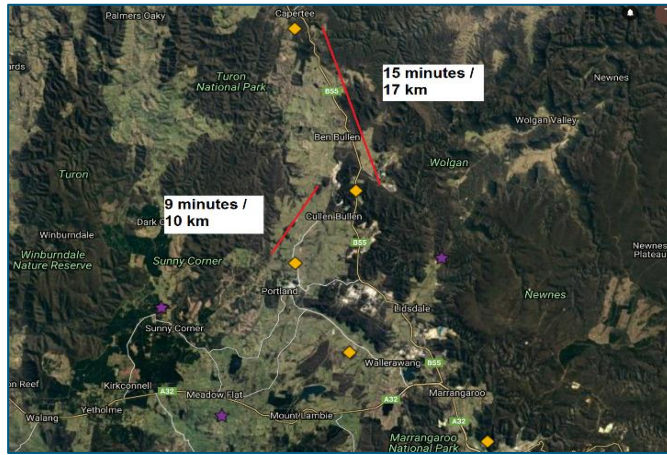
The rationale for the closure based on the following:

Environmental Benefits: Closure of the landfill will have benefits to the environment. It removes the opportunity for windblown litter, dust, and contaminated stormwater runoff. There will be a reduced risk of illegal dumping of out of area waste including (hazardous waste e.g. asbestos) and unauthorized disposal of waste from the levy paying area which could result in regulatory action from the EPA. Final capping of the site will reduce risk to the environmental and Council, while a better environmental outcome will be achieved through increased resource recovery at a central rural landfill such as Portland.

EPA regulation: All the airspace is used up; Council cannot extend the life of the Cullen Bullen landfill. The NSW Environment Protection Authority exempted small landfills in existence before 2008 from needing retrospective licence approval. A new landfill or extension would require EPA licence and approval.

Unauthorised waste: The remote location of Cullen Bullen landfill means the site is vulnerable to the disposal of commercial waste and waste outside the Lithgow LGA. Previous attempts by Council to control deliveries, via remote cameras, resulted in vandalism and theft of the cameras. Closing Cullen Bullen and using a larger facility (e.g. Portland) with existing and effective security will help ensure rural landfills are used only by those intended (i.e. residential domestic waste).

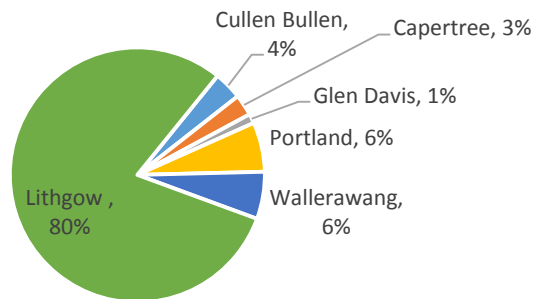
Cost of closure, transfer station and haulage: Council has budgeted \$350,000 for the closure of Cullen Bullen. Construction of a transfer station would be additional, and in the order of \$100,000. Council estimates the annual cost of emptying the bins to be \$30,000.



Proximity (15 min) to two other landfills (Portland and Capertee): Residents of Cullen Bullen need only drive 9 minutes to the south, or 15 minutes to the north to have access to waste disposal.

Use: The Cullen Bullen landfill provides disposal for only 4% of household waste in the Lithgow LGA.

% of Household Waste Disposed



Existing services: The vast majority of Cullen Bullen waste is collected by the kerbside collection, which ends up at the Lithgow Solid Waste Facility. Everyone with a kerbside collection has access to two bulky waste, and four green waste collections per year. Residents not offered such collections (outside of village) are closer than the 15 mins maximum, needed to access an alternative landfill.

STAKEHOLDERS

Council mailed out a survey to 205 Cullen Bullen and Ben Bullen properties on the 8th August 2018 in pre-paid self-addressed envelopes. The survey was also made available on Council's website and could be completed online.

A media release was published on the 22nd August 2018 which advised residents of the public meeting at the Cullen Bullen Progress Association Community Hall which was held on Thursday 23rd August 2018. There was good representation at the public meeting, with 18 community members in attendance.

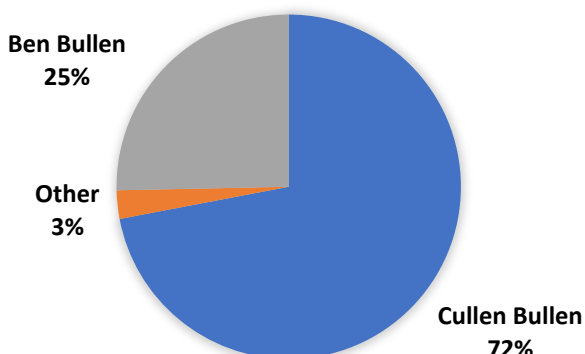
RESPONSES

Council received 75 responses to the survey. The estimated number of properties in Cullen Bullen and Ben Bullen is 205 with surveys posted to all properties.

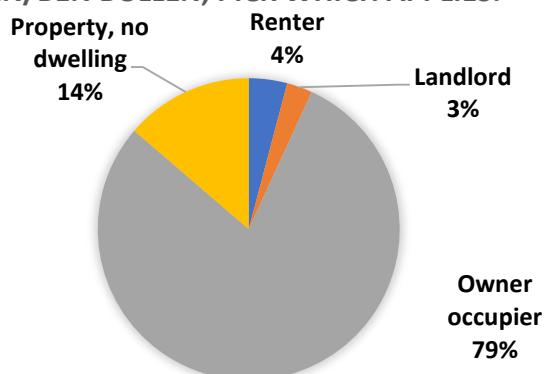
DEMOGRAPHICS

The last two questions (Questions 9 and 10) of the survey collected demographic information, to check responders were residents of the areas impacted by the closure. Of the 75 respondents 54 were from the Cullen Bullen, 19 from Ben Bullen and 2 from the category known as "Other". A total of 79% of respondents identified as owner occupiers while 14% of respondents advised that their property does not have a house.

10. WHERE IS YOUR PROPERTY LOCATED?

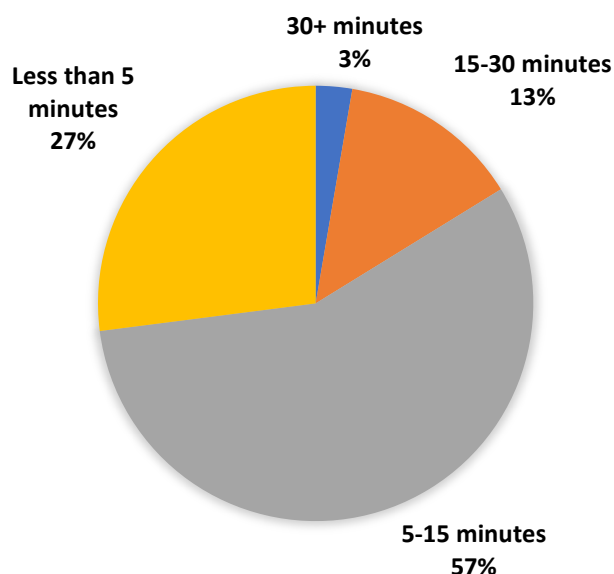


9. IF YOU ARE A RESIDENT OF CULLEN BULLEN/BEN BULLEN, PICK WHICH APPLIES.



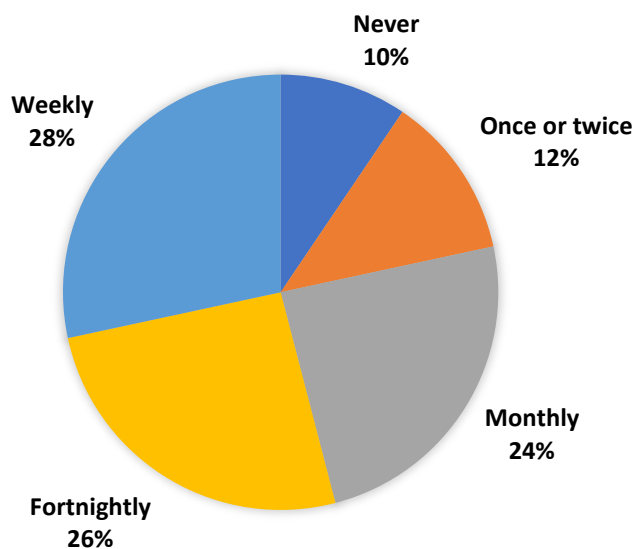
PART 3 RESULTS

1. HOW FAR IS A REASONABLE TIME TO TRAVEL TO DISPOSE A TRAILER OF WASTE?



Over 70% of responders indicated they would be willing to drive the 9 minutes south to Portland landfill, or 15 minutes north to access Capertee landfill.

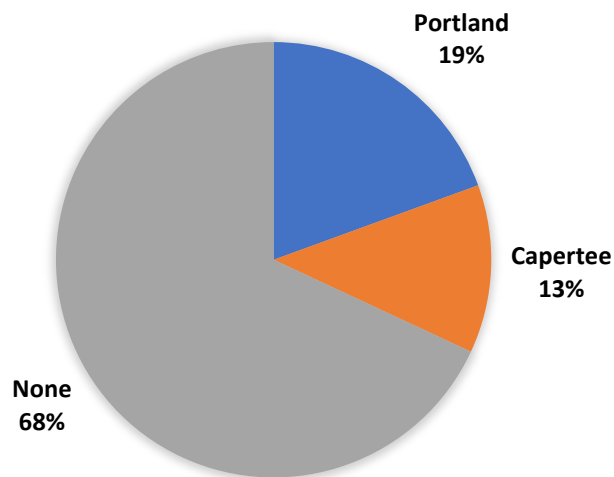
2. HOW OFTEN DO YOU USE THE CULLEN BULLEN LANDFILL IN A YEAR?



Responses to Question 2 were very evenly distributed. Over 50% of respondents use the landfill on a weekly or fortnightly basis.

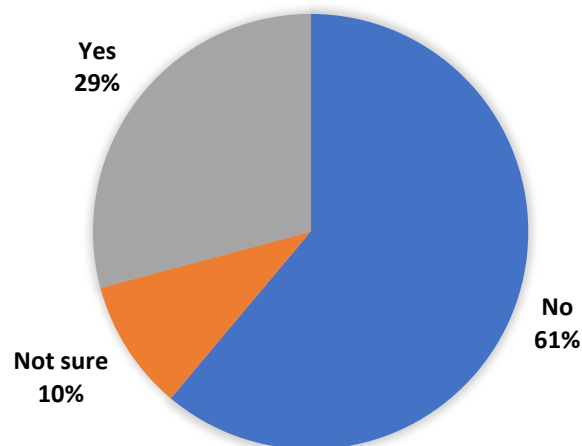
Twenty five percent of respondents to this survey were from Ben Bullen, where there is limited kerbside collection, which indicates a high usage from Cullen Bullen residents who have access to a kerbside collection.

3. DO YOU USE THE PORTLAND OR CAPERTEE LANDFILLS?



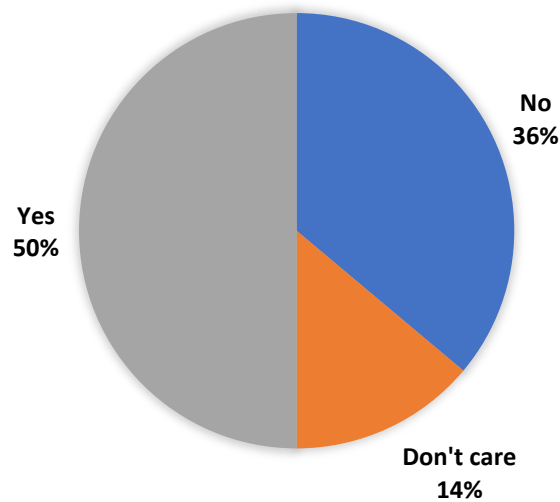
The majority of respondents were not using the Portland or Capertee waste facilities, which is consistent with 72% of respondents coming from Cullen Bullen.

4. WILL THE CLOSURE OF THIS LANDFILL IMPACT YOUR BUSINESS?



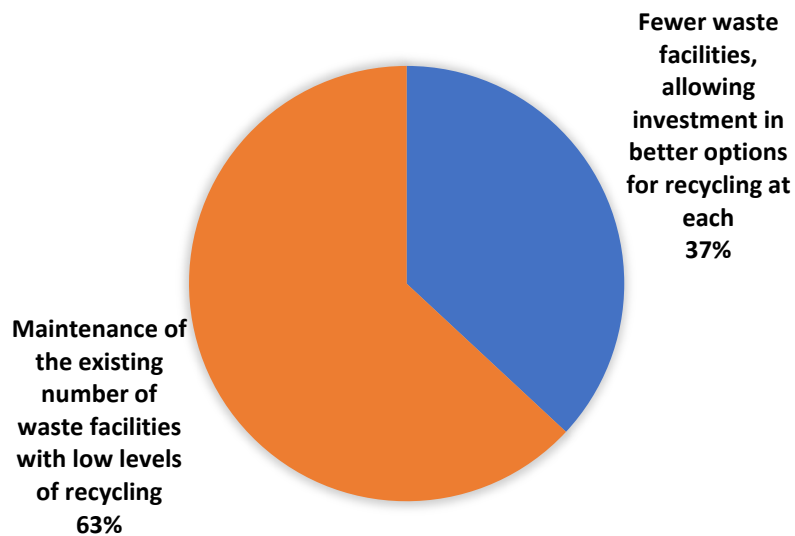
Council has made it clear businesses are not to dispose their waste at village landfills – the rationale being that they are profiting from the enterprise and should dispose of their waste at Lithgow where there is a weighbridge and staffing. Opposition to the closure may stem, in part, from the desire for cheap waste disposal.

5. DO YOU WANT A WASTE TRANSFER STATION TO REPLACE THE CULLEN BULLEN LANDFILL?



The result was evenly split between those happy with a full closure, and those wanting a transfer station to replace the landfill.

6. WHICH SCENARIO YOU WOULD PREFER IN LITHGOW SHIRE?



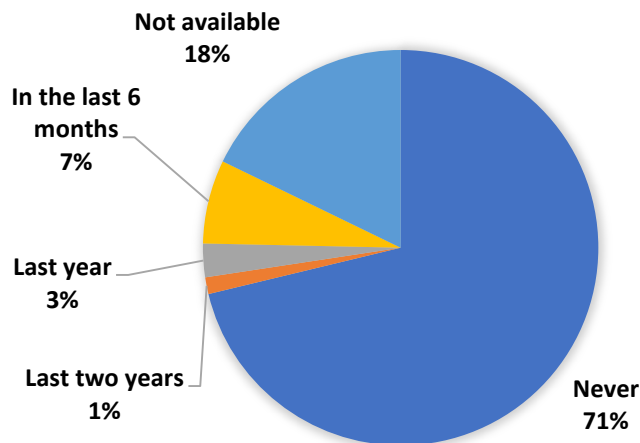
Respondents had a clear preference for quantity over quality; for Council to maintain the existing number of waste facilities at the expense of recycling and amenity.

7. DO YOU HAVE KERBSIDE COLLECTION?



The result was evenly split between those with, and without, a kerbside collection with 38 respondents having access to a kerbside service. Therefore 37 respondents are indicating they don't have access to a kerbside waste collection. Given the information presented in Question 8 this figure should indicate that 14 properties or 18% of respondents do not have access to a kerbside service.

8. WHEN WAS THE LAST TIME YOUR HOUSEHOLD USED THE BULKY WASTE CLEAN-UP, OR GREEN WASTE SERVICE IF AVAILABLE?



The overwhelming majority of responders had never utilised the bulky waste collection. Households with a kerbside collection have access to two bulky waste, and four green waste collections per year.

Council posted the Cullen Bullen landfill closure survey to 205 properties with the aim of achieving a meaningful response from the community. The information gained through this process will guide the closure of the Cullen Bullen landfill while aiming to meet community expectations and legislative requirements for responsible waste and environmental management.

Support for the closure can be based on the following:

- Respondents indicated a willingness to drive the time required to access Portland and Capertee waste facilities, with over 70% of responders indicated they would be willing to drive the 9 minutes south to Portland landfill, or 15 minutes north to access Capertee; and
- Half of the respondents indicated they would not be impacted by a full closure of the site with only 50% indicating they would like to see a transfer station established on the site.
- The bulky waste collection is underutilised as a form of waste disposal, with an overwhelming majority (71%) having never used the service. With only 18% of respondents indicating that this service was not available.

Of the 19 respondents from Ben Bullen, Council records indicate that 9 properties in Ben Bullen currently receive a kerbside service and are entitled to a bulky & green waste collection. Therefore, 10 respondents from Ben Bullen, 2 from Cullen Bullen and 2 from the category “Other” account for the 18% of respondents who indicated they do not have access to the bulky and green waste service.

The discrepancy in information between question 7 & 8 highlight that question 7 should indicate that 81% properties have a kerbside service and not 51% as reported. While unlikely, it's possible that 23 respondent's misunderstood question 8 and don't have access to a bulky waste collection.

Whatever the case, it is clear that the bulky waste service is underutilised by the majority of the community which is resulting in an over reliance on regular trips to the landfill, with 78% of respondents using Cullen Bullen landfill at least monthly. The bulky waste collection needs to be better advertised to the Cullen Bullen community as it's currently underutilised as highlighted by the findings of this report.

Opposition to the closure can be based on the following:

- Half of respondents indicated they preferred a transfer station to replace the landfill,
- Respondents had a clear preference for quantity over quality; 63% preferred Council maintain the existing number of waste facilities, at the expense of recycling and amenity.

PART 5 CONCLUSION

The significant findings of the survey were the underutilisation of the bulky waste collection service, and that 63% of respondents preferred Council to maintain the existing number of waste facilities at the expense of recycling and amenity.

Council's recent interactions with the Environmental Protection Authority (EPA), has highlighted that maintaining the status quo at rural landfills will not be acceptable into the future. While maintaining Cullen Bullen landfill is not possible due to the lack of available landfill space, there is also strong regulatory pressure forcing closure of rural landfills.

In conclusion, it is important to note the *NSW Waste and Resource Recovery Strategy 2014-21* sets a target to increase waste diversion from landfill from 63% in 2010-11 to 75% in 2021-22. The current landfill diversion rate for the Lithgow LGA is approximately 25%, significantly below these State targets. For Lithgow Council to achieve these targets for waste diversion from landfill, significant improvement in resource recovery must be achieved. Maintaining current rural landfilling practices will not improve resource recovery. Only by reducing the number of waste collection points such as landfills and transfer stations and increasing the level of service and education at these locations will improvements in resource recovery and other environmental benefits be achieved.



Lithgow City Council
Consultation Report - Cullen Bullen Landfill Closure
October 2018

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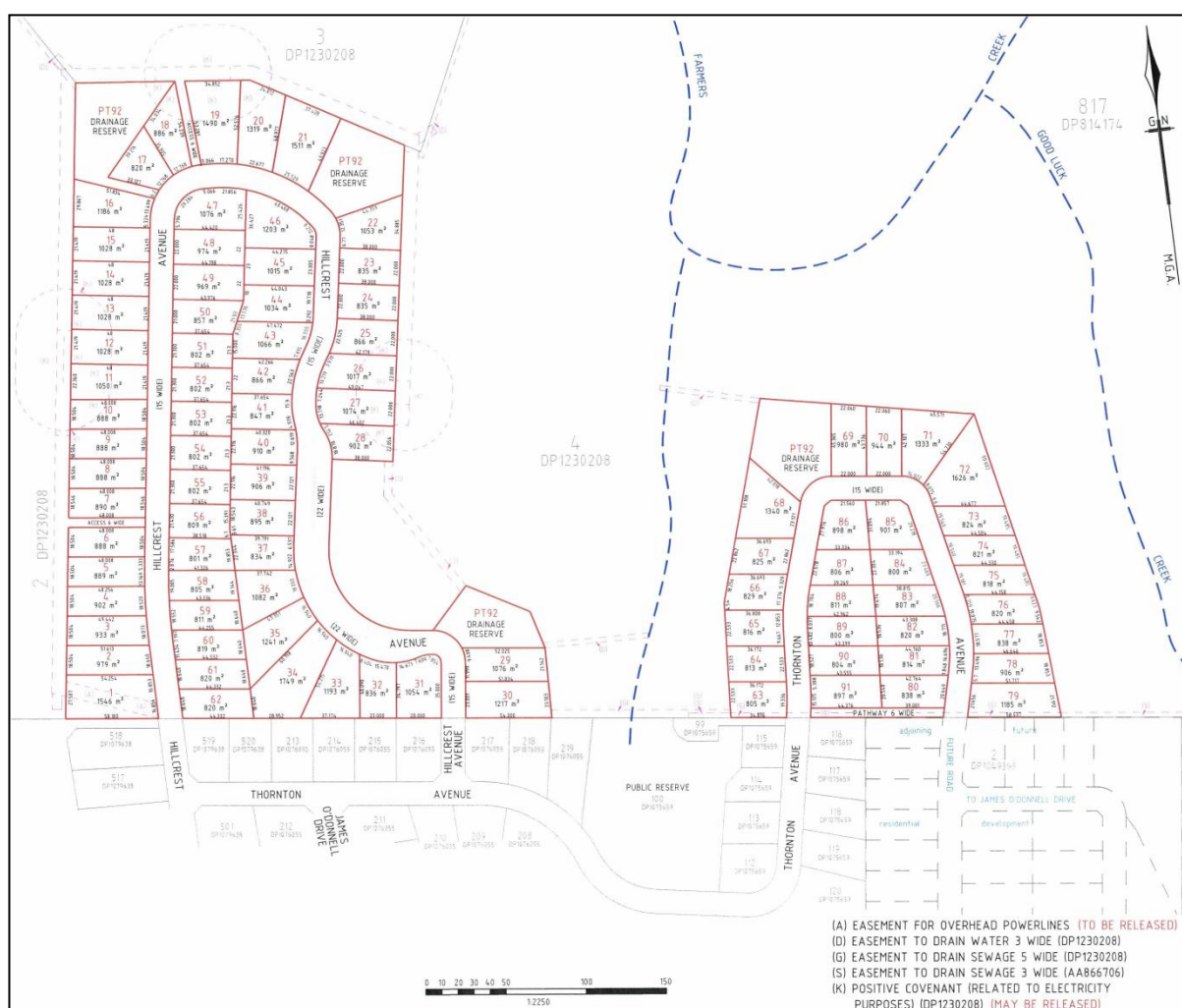
www.impactenviro.com.au

DEVELOPMENT ASSESSMENT REPORT DA021/18 – 86 RESIDENTIAL LOT SUBDIVISION INCLUDING 1 LOT FOR DRAINAGE RESERVE, 43 HILLCREST AVENUE BOWENFELS

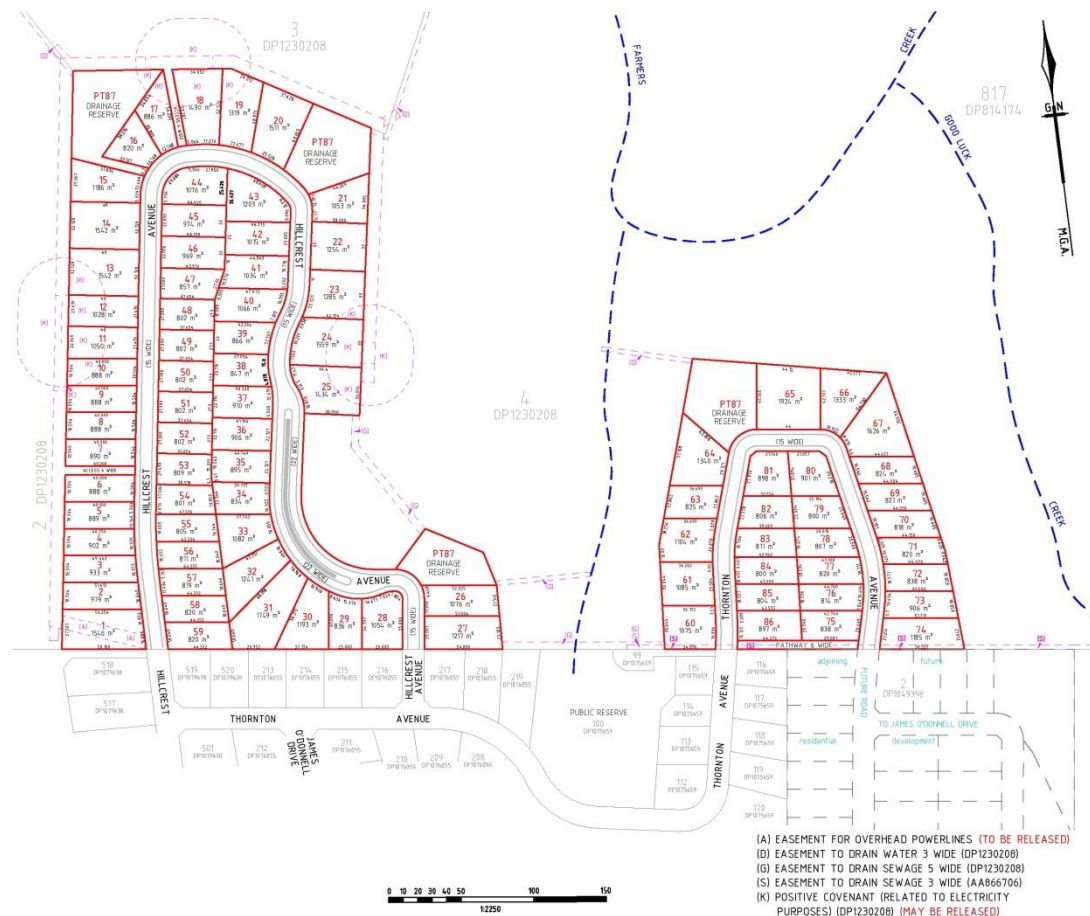
1. PROPOSAL

Council is in receipt of Development Application DA021/18 from Voerman & Ratsep Land Surveyors for a two (2) stage subdivision of 1 lot into 87 (86 residential lots and 1 lot drainage reserve) at 43 Hillcrest Avenue, Bowenfels. Lot 1 DP1230208, being the subject site, measures 11.62ha and is situated along two ridgelines bordering the existing Hillcrest Estate to the south. Minimal vegetation exists. The proposed subdivision is for 86 residential lots of greater than 800m² with one drainage lot comprising four drainage reserves, with two loop roads providing access from Hillcrest Avenue and Thornton Avenue, one pathway and one temporary right of way, all proposed to be dedicated to Council. It is proposed to extinguish one existing easement for overhead power lines.

Below is the subdivision proposal **as lodged** (for 91 residential lots):



During the assessment of the application by Council's Town Planner, amendments were requested to address various concerns and the proposal was reduced by five (5) lots as a result. The revised proposal is shown below.



The proposal also includes infrastructure for stormwater and reticulated water & sewer services. These proposed services include development on Lot 4 DP 1230208. Lot 1 DP 1082148 and Lot 2 DP 1049398 are also required for access to Col Drewe Drive.

The development is proposed to be undertaken in two (2) stages being:
 Stage 1= 20 lots and one drainage reserve (Lots 1 to 10 & 50 to 59 & Pt Lot 87)
 Stage 2= 66 lots and three drainage reserves (Lots 11 to 49 & 60 to 86 & remaining Part Lot 87)

2. SUMMARY

To assess Development Application DA021/18 with the recommendation being for approval subject to conditions.

3. LOCATION OF THE PROPOSAL

Legal Description : Lot 1 DP 1230208, Lot 4 DP 1230208, Lot 1 DP 1082148 and Lot 2 DP 1049398

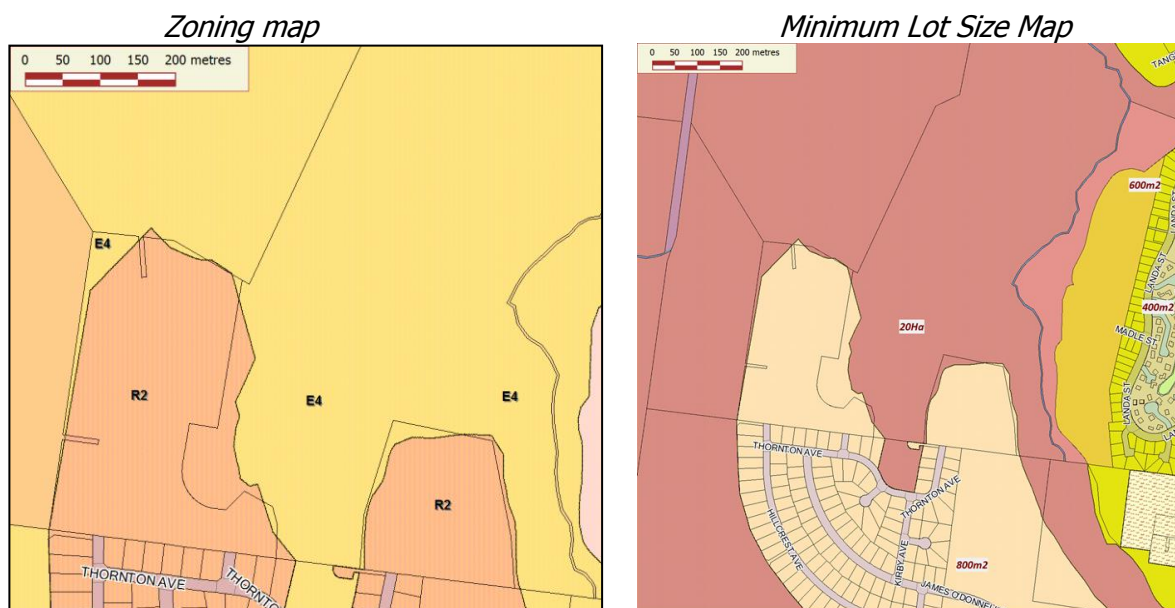
Property Address : 43 Hillcrest Avenue, 13A Thornton Avenue, 994 Great Western Highway and Sweetbriar, Bowenfels

4. ZONING: The land is zoned R2 Low Density Residential & E4 Environmental Living under Lithgow Local Environmental Plan (LEP) 2014.

5. PERMISSIBILITY: The development, being a subdivision, is permissible under Lithgow Local Environmental Plan 2014. The following Clause applies:

4.1 Minimum subdivision lot size

(3) *The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.*



The development being a subdivision of land in the R2 Low Density Residential zoning is permissible for Lots 1 to 86 under Clause 4.1 as each lot meets the minimum lot size (MLS) of 800m² as per the Lot Size Map under LEP 2014. It is noted that various lots will have slivers of E4 zoned land in which the 20ha MLS would be applicable. It is considered that this does not need to preclude the proposed lot layout, shape and size of lots and should not change the overall design proposal of the development. However, the proposed lots created for the drainage reserves (shown as Lot 87) do not meet the MLS of 20ha as per the Lot Size Map under Clause 4.1 of LEP 2014. These drainage reserves are within the E4 Environmental Living zone and therefore the entire proposal would be prohibited apart from Clause 4.1B for split zones below which states:

4.1B Minimum subdivision lot size for certain split zones

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

- (a) *to provide for the subdivision of lots that are within more than one zone but cannot be subdivided under clause 4.1, 4.1AA or 4.2C,*
- (b) *to ensure that the subdivision occurs in a manner that promotes sustainable land uses and development.*

(2) *This clause applies to any lot (an **original lot**) that contains:*

- (a) *land in Zone RU5 Village or in a residential, business or industrial zone, and*
- (b) *land in a rural zone or environment protection zone.*

(3) *Development consent may be granted to the subdivision of an original lot to create other lots if:*

- (a) *one of the resulting lots will contain:*

- (i) all of the land of the original lot that is in a rural zone or environment protection zone, and*
- (ii) land in Zone RU5 Village, or in a residential, business or industrial zone, that has an area not less than the minimum size shown on the [Lot Size Map](#) in relation to that land, and*
- (b) each of the other resulting lots will have an area that is not less than the minimum size shown on the [Lot Size Map](#) in relation to that land.*
- (4) Development consent may be granted to the subdivision of an original lot to create another lot that:*
 - (a) contains land in an environment protection zone, and*
 - (b) is less than the minimum size shown on the [Lot Size Map](#) in relation to that land, but only if the consent authority is satisfied that the resulting lot will be used for a public purpose.*
- (5) Subclauses (3) and (4) have effect despite clauses 4.1, 4.1AA and 4.2C.*
- (6) Land identified as "Area 1" or "Area 2" on the [Lot Size Map](#) may not be subdivided under this clause.*
- (7) Development consent may only be granted under this clause if the consent authority is satisfied that the subdivision:*
 - (a) is not likely to have a significant adverse impact on the environmental values of the land, and*
 - (b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and*
 - (c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.*
- (8) In this clause, **rural zone** means Zone RU1 Primary Production, Zone RU2 Rural Landscape or Zone RU3 Forestry.*

The land has two zonings (residential and environmental) and cannot be subdivided under Clause 4.1, 4.1AA or 4.2C, however the current plan for subdivision promotes suitable land uses as per Clause 4.1B(1) & (2). The proposed Lot 87 (four sections) in total will incorporate the E4 Environmental Living zones and it is proposed that this lot be dedicated to Council for stormwater infrastructure. This proposal will comply with the provisions of Clause 4.1B (4)(b) and the allotments for stormwater infrastructure are for a public purpose.

Having determined that the proposed Lot 87 is for a public purpose Council must also be satisfied that the subdivision will comply with Clause 4.1B(7) as follows:

- a) is not likely to have a significant adverse impact on the environmental values of the land, and
- (b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and
- (c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.

The proposal will not have a significant impact on the environmental values of the land or compromise the long-term maintenance of the land in these areas subject to conditions of consent, if approved. The development will not impact on the environmental values of the land, given the split zoning areas would not allow for viable development. The proposal will ensure appropriate use of the land given the split zoning and is permissible as per Clause 4.1B of LEP2014.

5.1 POLICY IMPLICATIONS (OTHER THAN DCP's)

Policy 1.2 Acquisition and Disposal of Assets

This Policy needs to be addressed when Council is considering the acquisition and/or development of assets. This Development Application proposes to construct bio-retention basins, stormwater infrastructure, two roads and a pathway. Four drainage reserves and new road networks will be dedicated to Council as an asset as part of the Subdivision Certificate release process.

Council's Acting Director Infrastructure Services has advised that these assets satisfy the criteria identified within this Policy. The developer will be required to construct the assets to Council's specifications prior to a maintenance period and subsequent dedication if the development is approved.

Road Extension: The development requires an extension to Hillcrest Avenue and Thornton Avenue. As a result, these road extensions will be dedicated to Council. Therefore, Council is required to be satisfied that this will be at an acceptable standard.

Sewer: The development requires additional connections to Council's reticulated sewer and sewer upgrades (including a new pumping station by Council) to allow for the additional loadings. The cost of these of upgrades will be borne by the developer; however the ongoing maintenance of the services will be the responsibility of Council. It is important for Council to ensure that these services are properly provided to minimise potential unnecessary maintenance in the future. However, contributions through the Water Management Act 2000 will be applicable and will provide support to Council's ongoing maintenance of this utility.

Water: The development requires additional connections to the reticulated water services. The cost of these of upgrades will be borne by the developer; however the ongoing maintenance of the services will be the responsibility of Council. It is important for Council to ensure that these services are properly provided to minimise potential unnecessary maintenance in the future.

Dedication of land and associated assets: The development proposes to dedicate land to Council which retains the stormwater infrastructure within four constructed bio-retention basins. These lands will require ongoing maintenance once the land is dedicated to Council.

Policy 7.2 Subdivision – Release of Subdivision Plans

The proposed development, being for a subdivision, will require compliance with this Policy as part of the Subdivision Certificate release.

Policy 7.5 Notification of Development Applications

This policy does not apply to development applications that are required to be notified under specific legislation.

The application is for 'Integrated Development' therefore the proposal was notified to surrounding landowners and placed on display for a period of 30 days to coincide with the required newspaper advertising period and therefore complies with Council's Policy. Wide notification occurred given the potential increase in traffic to Hillcrest Estate. Written notification was undertaken to all Hillcrest Estate and surrounding or adjacent landowners.

Policy 7.10 Voluntary Planning Agreements

A Voluntary Planning Agreement (VPA) has been negotiated with the developer in accordance with Section 7.4 of the *Environmental Planning & Assessment Act 1979* in relation to this proposal. The plan has been created as per the Policy and will be advertised appropriately for compliance.

The developer has agreed to make a contribution of \$6200 per lot (total of \$533,200) to go toward community facilities and open space. The details of the VPA have been incorporated into this Report with a recommendation made for endorsement.

Council's Open Space and Recreation Needs Study has been used to inform how open space in Bowenfels should be embellished or supplied. It states the following:

Lithgow Precinct

Priority Recommendations

Key priority recommendations include:

- *one local recreation park and one district recreation park within the South Bowenfels area*
- *embellishment of the detention basin in Thornton Avenue to a local recreation park standard*

Summary and Recommendations

Facilities

- *develop a utility open space on Thornton Avenue to a local recreation park standard.*

The Draft VPA outcome will go towards the implementation of these priority recommendations.

The following table, as taken from the Open Space and Recreation Study shows the indicative embellishments for the both a local recreation park and district recreation park.

Table 13: Indicative Embellishments for the hierarchy of Recreation Parks

Park Element	Local Recreation Park	District Recreation Park
Recreation activity areas. Elements selected will be sensitive to the setting of the park (urban to natural) and provide a mix of opportunities across communities.	Mix of 2 or 3, (e.g. toddlers, kick-about, children, active youth space, free to use courts)	Mix of 4 to 6, clustered in two or more nodes (e.g. mix of toddlers, children, youth, picnic & BBQ area, dog off-leash, skate park, meeting area, older adults, pathway systems)
Fencing/bollards, lock rail	Yes	Yes
Landscaping	Shade trees, landscaping to enhance amenity and screen boundaries	Significant landscaping
Significant revegetation required for more natural settings	As identified by relevant master plan	As identified by relevant master plan
Irrigation	Dependant on access to water; ideally high use areas are irrigated	Yes in high use areas
Feature paving/ concrete stencilling	No	Small areas around entrances
Lighting	Roadside lighting only, picnic nodes as demanded	Yes, picnic nodes and possibly some key pathways

Park Element	Local Recreation Park	District Recreation Park
Pedestrian pathway access network (Surface material will reflect the park setting and desired degree of accessibility (e.g. natural settings are enhanced with grass or gravel paths and board-walking))	Access paths, 1.2m width minimum	Access paths. May contain walk/ cycle circuit within park, 2m width minimum
Bike racks	No	Ideally
Signage	Park name sign, located at main entrance. Generic 'Local Park' street signage where entrances are on cul-de-sacs	1 to 3 as required, located at key entrances. Possibly interpretive signage (for nature appreciation areas) or trail signage (e.g. distance markers on recreation corridors)
Shade structures (over playgrounds)	Yes	Yes
Tap/bubbler	No	Yes
Bench seating	1 to 2 (if no other seating is provided), positioned for supervision of any play area, or for views/ appreciation of the surrounding park/ area	3 to 4, depending on need. Located for supervision of any play area (if not otherwise serviced by sheltered tables), and/or along recreational corridors to provide rest stops
Barbeque	No	Minimum of one, with potential to expand if demand increases
Shelters/ gazebo with tables and seating	May be provided as an activity area (e.g. a scenic viewing area)	1 to 3
Rubbish bins	Minimum of one, located near activity area, or at key access points on recreation corridors	2 or more as required to service activity area/ picnic nodes and any recreation corridors
Toilet	No	Yes
Public artwork	If available	Possible
Internal roads	No	No
Car parking	On-road only	Yes, 10 to 20 spaces with additional on-road parking
Bus pull-through	No	Ideally
Bus parking	No	No

5.2 FINANCIAL IMPLICATIONS

Water Management Act 2000

Under the Water Management Act 2000, Section 305, an application for Certificate of Compliance must be submitted to Council. This Act states:

- (1) *A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.*
- (2) *An application must be accompanied by such information as the regulations may prescribe.*

Therefore Council's Section 64 Contributions under the Local Government Act 1993 for water and sewer connections will be required to be paid prior to the Subdivision Certificate release for each stage.

The following condition would be included in the conditions of consent:

An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the following allotments created being: Stage 1= 20 lots, Stage 2=66 lots. The rate of contribution per lot/ET is \$2,921 for water and \$14,213 for sewer as set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted by any subsequent Development Servicing Plan, annually adjusted for CPI (Sydney) applicable at the time of payment.

Planning Agreements

See previous commentary under **Policy 7.10** above.

5.3 LEGAL IMPLICATIONS

Conveyancing Act 1919

The proposed development will have the following conditions of consent imposed in accordance with the Act as proposed by Council:

- *No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the Conveyancing Act 1919 with Council having the right to vary, modify or release this restriction.*

Council will also require vehicular access to Part Lot 87 after bio-retention basin 01 is dedicated to Council ownership. The Council will need to be party to those currently benefited by an existing Right of Access.

Environmental Protection and Biodiversity Conservation Act 1991

No federally listed Threatened Species or Endangered Ecological Community is required to be cleared as a result of this application. Accordingly, there are no legal implications of this Act on the proposed development.

Local Government Act 1993

If this application is approved, the applicant must obtain a Section 68 application for connection to Council's water and sewerage supply. This must be lodged and approved prior to commencement of any work on site and shall be at full cost to the applicant.

The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicably supporting information for the proposed works. All conditions of the Section 68 Approval must be complied with prior to the release of the Subdivision Certificate for each Stage.

Roads Act 1993

The proposed roads with this subdivision are to be dedicated to Council under this Act. Council will become the controlling authority for the roads once construction works are satisfactory and the Subdivision Certificate is released. The proposal will meet the requirements of the Act subject to conditions of consent.

Rural Fires Act 1997

The development is integrated under this Act (via Section 91 of the EP & A Act 1979). Accordingly the approval of the Rural Fire Service (RFS) is required.

Recommendations from the Rural Fire Service have been received however due to a persistent administrative/computer problem the comments were received by Council well outside statutory timeframes. It has meant that the applicant has not been afforded enough time to respond and then allow the RFS to finalise any conditions they may have wished to impose. See Section 5.3.8 of this Report below for further detail.

Telecommunications Act 1997

It is recommended that consent authorities adopt the following model condition when issuing development consents for subdivision as per Planning Circular 17-005 (17.11.17) -Conditions of consent for fibre-ready facilities and telecommunications infrastructure, as below:

- *Prior to the issue of the Subdivision or Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:*
 - (i) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.*
 - and*
 - (ii) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.**(Note real estate development project has the meanings given in section 372Q of the Telecommunications Act).*

Water Management Act 2000

The development proposes works within a watercourse for proposed sewer services for the development. Therefore, a Controlled Activity Approval is required from Department of Primary Industries (DPI) - Water as per the below:

91 Activity approvals

- (1) There are two kinds of activity approvals, namely, controlled activity approvals and aquifer interference approvals.*
- (2) A controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.*
- (3) An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.*

The application was referred to DPI Water for an Integrated Approval under this Act as per Section 4.46 of the *Environmental Planning & Assessment Act 1979*. Comments provided by DPI Water on the matter are detailed further in this report and provide compliance with the Act.

Biodiversity Conservation Act 2016(BC Act)

This Act is applicable where development involves clearing of native vegetation in non-rural zones. It establishes a framework to avoid, minimise and offset impacts for all types of development that are likely to have a significant impact on biodiversity.

The BC Act commenced in full on 25 February 2018. As this application was lodged prior to this date, it becomes a "*pending or interim planning application* " for the purposes of this Act and therefore must be considered under the former provisions being the Threatened Species Conservation Act.

Council has undertaken a desktop assessment using the BioNet Atlas and found that there were no known threatened species or endangered ecological communities found on the site or in nearby proximity.

The land was also not indicated on the Biodiversity Values Map of the BC Act, 2016.

The development site is predominantly overcleared landscape in the urban context and therefore it is considered that the impact of the development on either threatened species or any endangered ecological community is insignificant.

Environmental Planning and Assessment Act 1979

In determining a development application, a consent authority is required to take into consideration the matters of relevance under Section 4.15 of the *Environmental Planning and Assessment Act 1979*. These matters for consideration are as follows:

5.3.1 Any Environmental Planning Instruments

Lithgow Local Environmental Plan 2014

LEP 2014 – Compliance Check		
Clause		Compliance
Land Use table	R2 Low Density Residential	Yes
Land Use table	E4 Environmental Living	Yes
4.1	Minimum subdivision lot size	Yes
4.1B	Minimum lot sizes for certain split zones	Yes
7.1	Earthworks	Yes
7.3	Stormwater management	Yes
7.4	Terrestrial biodiversity	Yes
7.5	Groundwater vulnerability	N/A
7.6	Riparian Land and Watercourses	Yes
7.7	Sensitive lands	Yes
7.10	Essential Services	Yes

Comment: The proposed development meets the Objectives of zone R2 Low Density Residential as it will be providing for the housing needs of the community by supplying land for residential use. The development will be providing facilities and services required for the subdivision.

The proposed development also meets the Objectives of zone E4 Environmental Living by low impact to this zoning and the creation of drainage reserves. The proposal will not have significant effects on the ecological, scientific or aesthetic values of the area. The surrounding area will maintain the rural character of the land while allowing for urban growth through the subdivision. The proposal does not create unreasonable and uneconomic demands on the provisions or extension of public infrastructure, amenities or services, subject to conditions of consent.

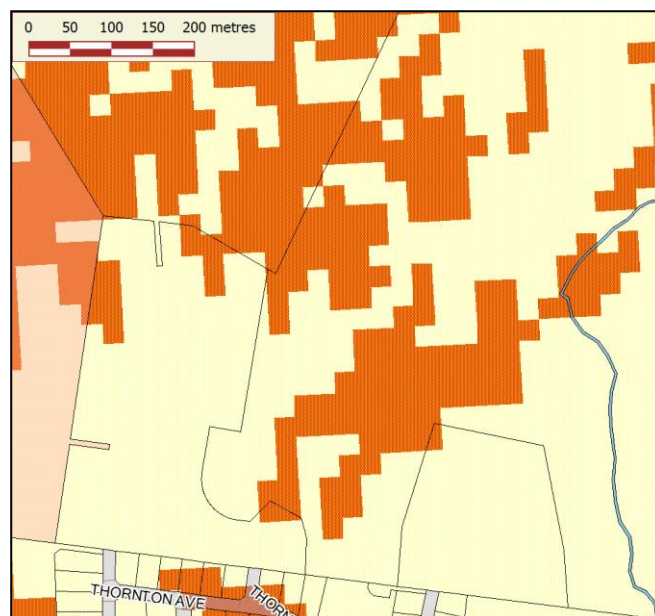
The proposal has been assessed by WaterNSW to have a neutral or beneficial effect on water quality of the receiving water catchments.

As previously discussed, the proposed subdivision does not meet the requirements of Clause 4.1 of the LEP due to the MLS of 20ha not being met. However, the split zoning Clause 4.1B is applicable and allows for the subdivision to be permissible with consent. This allows allotments that do not meet the MLS of 20ha to be dedicated to Council for a public purpose - being for stormwater infrastructure.

Clause 7.1 The proposed development will include earthworks for services and road construction which will change the drainage patterns of the area. The road network and stormwater infrastructure proposed has been designed to allow for the diversion of stormwater to be captured within bio-retention basin systems and treated before being naturally dispersed in the area. There will be conditions of consent imposed to ensure dust, noise and erosion is minimised during works and in perpetuity as a result of earthworks. The development has been assessed by appropriate authorities in relation to potential impacts from earthworks on water courses and found to be satisfactory subject to conditions of consent, if approved. It is unlikely that the development will disturb relics on the site given the site history is grazing land. The development will comply with the requirements of the earthworks provisions.

Clause 7.3 The proposal has been designed to maximise water permeable surfaces with minimal road networks and stormwater infrastructure. The development will have minimal runoff to adjoining properties as it will be retained onsite and dispersed adequately into adjoining water catchments as per existing arrangements. The development has been assessed by appropriate authorities with no objection to the stormwater management proposals subject to appropriate conditions of consent being imposed, if approved.

Clause 7.4 The development land is within the terrestrial biodiversity area as mapped below:



As a very minimal section of the land is within this mapping it was not required that any further reports on flora or fauna be supplied. The land is generally devoid of native vegetation and contains mostly grassland. The removal of three trees is not expected to have an adverse effect on the habitat or survival of native fauna and the ecological value and significance is minimal. The development will be required to implement tree planting along roads and vegetation within drainage reserves to offset the minimal clearing proposed.

Clause 7.5 The land is not within the groundwater vulnerability overlay.

Clause 7.6 All proposed development works are greater than 40 metres from the top of any watercourse bank of Farmers Creek, however future sewer infrastructure will be within the riparian area. DPI Water has consented to the application.

Clause 7.7 The entire property is within the sensitive lands overlay of the LEP. The development has slopes of over 25% and shallow soils which could be subject to high erosion potential. The applicant showed building envelopes for the proposed lots with slopes of greater than 20% to demonstrate that areas with a slope of greater than 20% could be avoided for future building footprints. During the assessment of the application Council's Planner considered that some of the steepest lots proposed would still prove problematic for the construction of a dwelling without the need for significant earthworks for either a building pad or driveways. The applicant agreed to enlarge a number of proposed lots on these areas by reducing the lot yield by five (5) lots in total by creating larger building envelopes in these steep locations.

Additionally, a split level carriageway for the Hillcrest Avenue extension has been proposed to avoid excess cut and fill and to better control one steep area into the future. This has been assessed as part of the application and considered suitable. The proposed design seeks to minimise the impact on the most sensitive land which will be further controlled through conditions of consent if approved. WaterNSW has determined the site to be highly erodible and have provided their concurrence for approval.

Clause 7.10 The development will provide reticulated water, underground electricity, sewerage management/disposal, stormwater drainage and suitable vehicular access through the design and via conditions of consent, if approved. The subject site is unsewered. See the assessment of sewer provision later in this Report. The development will have all essential services as required.

The development therefore complies with the overarching requirements of the LEP appropriately. An assessment of the lot layout, size, shape and orientation is below under Section 5.3.3.

State Environmental Planning Policy 44 – Koala Habitat Protection

SEPP 44 is applicable to the site given that it exceeds 1ha in size and is located within the Lithgow Local Government Area to which the SEPP applies. Part 2 of the SEPP requires Council to consider whether the land, the subject of the application, retains potential and subsequently core koala habitat. Many of the trees listed within Schedule 2 of the SEPP are common within the Lithgow Local Government area; however core koala habitat within this area is rare, with only 12 koala sightings ever reported on private land within the LGA.

Comment: Given that three (3) trees are to be removed as part of the development, and the section of the subject site relevant to the application is largely devoid of native vegetation it is considered unnecessary to proceed further with the SEPP 44 assessment.

State Environmental Planning Policy (Infrastructure) 2007

SEPP (Infrastructure) 2007 – Compliance Check	
Clause	Compliance
Division 5 Electricity transmission or distribution	

Subdivision 2 Development likely to affect an electricity transmission or distribution network		
45	Determination of development applications—other development	Yes

Comment: The proposed development is within proximity of existing electricity infrastructure and may require the upgrade of these existing services. It is proposed to extinguish one easement when new services are placed underground. Therefore the development was referred to Endeavour Energy for comment as per the SEPP. Endeavour Energy supplied their comments, being no objection to the proposal, which is detailed later in this Report. Therefore the proposal meets the requirements of the SEPP.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011

SEPP (Sydney Drinking Water Catchment) 2011 – Compliance Check		
	Clause	Compliance
10	Development consent cannot be granted unless neutral or beneficial effect on water quality	Yes
11	Development that needs concurrence of the Chief Executive	Yes

Comment: The proposed development was referred to Water NSW under the SEPP given the proposal is for a 87 lot subdivision incorporating four (4) bio-retention basins within the Sydney Drinking Water Catchment. Water NSW has provided correspondence on the proposal with no objections subject to conditions of consent if approved. Water NSW agrees that the development can achieve a neutral or beneficial effect on water quality and complies with the provisions of the SEPP.

5.3.2 Any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority

Nil.

5.3.3 Any Development Control Plan

At the time of submission of the Development Application, no Development Controls Plans were in force. However, a previously repealed DCP. South Bowenfels DCP has been applied as a guideline for design purposes and consistency of assessments across the South Bowenfels development areas. An assessment of this proposal against those guidelines is summarised below with further comments.

South Bowenfels Development Control Plan (DCP) however REPEALED

South Bowenfels DCP – Compliance Check		
	Clause	Compliance
1.4	Aims & Objectives of the Plan	Yes
5.1	Lot Layout and size	Yes
5.2	Street Design	Yes
5.3	Utility Services	Yes
5.4	Soil and Stormwater Management	Yes
5.5	Public Open Space	No, however see VPA
5.6	Heritage	Yes
5.7	Hazards/ Environmental Constraints	Yes
5.8	Benching/Cut & Fill Objectives	Yes
5.9	Visually Prominent Areas & Ridgelines	Yes
5.10	Protection of Watercourses and Riparian Corridors	Yes

Comment: The application proposes a scale and density that meets the requirements of the locality and the DCP. Due to the size and shape of the existing allotment the subdivision pattern is somewhat pre-determined and was also previously envisaged in the DCP Map 2. It is considered that the applicant is proposing lots that have reasonable solar and good aesthetic orientation. The proposed road layout is predominantly for new streets to be orientated north-south by necessity. In order to compensate for east-west facing lots the majority of lots are greater than 20m wide to allow for the potential of north facing dwellings without impacting on neighbouring privacy and amenity. Both the Hillcrest Avenue and Thornton Avenue extension continue as loop roads allowing for connectivity at the four new road ends. Council staff encouraged the full extension of Hillcrest Ave despite steep cross falls. The applicant has proposed a split-level carriageway in order to address this design requirement at Council's suggestion. This will also split traffic flow between the existing streets of Hillcrest Ave and Kirby Ave.

The development has slopes over 25% which could be subject to high erosion potential. See the previous comments as to how steep slopes have been addressed under Clause 7.7.

The DCP contained various prescriptive measures. These are mentioned below. All proposed lots meet the requirement of minimum depth of 20m and 8 allotments (16, 17, 30 to 33, 66 & 67) contain frontages that do not meet minimum 18.5m. For these allotments the frontage is reduced to not less than 12.7m and is considered acceptable as future dwellings would be able to be located where the width of the allotment is 18.5m or more at the front building line, apart from Lot 17. The DCP envisaged a minimum frontage of 12.5m in the head of a cul-de-sac in any case. These allotments are located on bends of the proposed roads and generally are larger allotments.

The proposal meets the average lot size of over 700m², with lot sizes ranging from 800m² to 1924m². This meets the current minimum lot size requirement of LEP 2014 being 800m² and is therefore acceptable.

The lot layout follows the existing pattern of subdivision on the adjoining land to the south and utilises the existing Hillcrest Avenue and Thornton Avenue roads to continue through to existing rural (E4) allotments to the north and west. The road system has been assessed by Council's Engineers and found to be appropriate for local access and collector roads, being James O'Donnell Drive.

The proposal will be required to have street trees and a lighting plan prior to Subdivision Certificate Release. The proposal will also be adequately serviced with electricity and telecommunications facilities.

Sewer and water facilities will be available in the future in accordance with Council's recently adopted Development Servicing Plans for Water Supply and Sewerage 2018 subject to Section 68 approvals under the *Local Government Act 1993* and civil works to Council's satisfaction. All services are to be underground and permitted by the relevant authority. A restrictive covenant will be imposed ensuring that no coal burning appliances are permitted within the subdivision.

The development has been designed in accordance with Council and Water NSW requirements in relation to stormwater systems, drainage and retention with all appropriate reports submitted. The development is required to meet the design requirements and proposed conditions of consent to ensure that the development will have a neutral or beneficial effect on water quality and meet Council's construction requirements.

Contributions have been requested towards open space embellishment of the existing park on Thornton Avenue given no open space is provided as part of the proposal. A requirement for open space for this development would equate to the calculation below:

- 2.83ha per 1000 population x single lot/dwelling is equivalent to 2.3 persons
- $(2.83\text{ha} / 1000 \text{ population}) \times (2.3 \text{ persons} \times 86 \text{ lots}) = 5598\text{m}^2$

Pre-DA discussions with Council's strategic planning and development planning officers revealed that another 'pocket park' for this development is no longer appropriate for providing open space use. Therefore, the following statement of the DCP is applied:

Where it is not feasible or desirable to dedicate a land component for Open Space within a development, Council will require an equivalent monetary contribution towards the provision of community usable open space areas.

As the developer already proposed \$6000.00 per lot as part of a voluntary planning agreement (which is consistent with other subdivision contributions in South Bowenfels), it was suggested that a further \$200 per lot could be applicable to be utilised on embellishments for the existing local park 'Thornton Avenue Park', located south of the development. This would also align with the recommendations from the Lithgow Open Space and Recreational Needs Study February 2011.

The proposed development will not meet the requirements of 400m walking distance from public open space or no more than 500m walking distance from an active open space area/ playground. However, as discussed, this is no longer considered as best practice. VPA discussions occurred for DA0142/18 being a subdivision application in the Bowenfels Area to include a district park which would be more suitable to accommodate the needs for development of the overall surrounding area.

It is not expected that the development will have an impact on the heritage of the area.

The land is bushfire prone and referral to the Rural Fire Service was undertaken for assessment in relation to bushfire risks.

The land is not expected to have contamination issues as previous land uses have been for grazing. The land is not known to have landslip affected soils or within a flood affected area. The area requires drainage changes as it exists on two ridgelines and adjoins a natural drainage area in another ownership.

The proposal will have some disturbance to soils for the road construction and civil works which will be controlled by erosion and sedimentation controls as per conditions of consent. The cut and fill for the road construction may be extensive in

one location, however the design has allowed for a split level carriageway to minimise works. The proposal will have conditions of consent to minimise any impact of these works, if approved.

The development area will be at a maximum height of approximately 902 metres to 944 AHD and therefore it is unlikely that any roofline would exceed 960 AHD to impact on the view of Three Tree Hill which is considerable distance away in any case. The future dwellings will be visible from Town in the same way that Hillcrest estate already is. No concern is raised in this regard.

Therefore, the proposed development complies with the provisions of the former DCP with the exception of the dedication of land for open space.

5.3.4 Any planning agreement that has been entered into under Section 93F, or any draft planning agreement that a developer has offered to enter into under Section 93F?

A Voluntary Planning Agreement (VPA) has been negotiated with the developer as per Section 7.4 Planning Agreements of the *Environmental Planning & Assessment Act 1979* in relation to this proposal.

See previous commentary under **Policy 7.10** above.

The details of the VPA have been incorporated into this Report with a recommendation made for endorsement.

5.3.5 Any matters prescribed by the regulations that apply to the land

There are no demolition works, rebuilding or extension of buildings proposed as part of this application.

Environmental Planning & Assessment Regulation 2000

The above regulation is applicable to the development which states the following:

5 Advertised development

- (1) *For the purposes of the definition of advertised development in section 4 (1) of the Act, the following types of development (not being designated development or State significant development) are identified as advertised development:*
 - (b) *integrated development (not being threatened species development or Class 1 aquaculture development) that requires an approval (within the meaning of section 90A of the Act) under:*
 - (ii) *a provision of the Water Management Act 2000 specified in section 91 (1) of the Act, or*

Therefore, the proposal has been advertised for a period of 30 days and submission supplied to the Department of Primary Industries- Water for consideration. The development complies with the requirements of the Regulation.

5.3.6 The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Adjoining Landuse:

The proposed subdivision pattern, road configuration and lots sizes largely reflect that of the neighbouring subdivision to the south. Minimal impact to the surrounding area is envisaged.

Services:

All modern services will be made available to the development. Sewer provision is currently not yet fully available however.

Open space:

Whilst the development includes no provision for open space, this has been offset by way of a Voluntary Planning Agreement, the details of which can be found in previous commentary under **Policy 7.10** above.

Access/ traffic:

Council's Engineers have examined the proposal and have no concerns with access or traffic generation apart from the intersection of James O'Donnell Drive with the Great Western Highway. Roads and Maritime Services (RMS) has expressed the same concern for safety. Further discussion is found below under Section 5.3.8.

Social and Economic Impact:

The social impact of additional population is considered to be negligible. Some economic growth is envisaged as a result of this land release.

Noise and Vibration:

There will be impacts to existing neighbours during construction. These are considered to be within reason and relatively short lived in duration.

5.3.7 The Suitability of the site for the development

The surrounding land uses to the south are for residential pursuits with the size and nature of the development to be consistent with those in the surrounding area. The proposal is compatible with the objectives of the zone and is considered to have minimal impact on the surrounding amenity subject to conditions of consent, if approved. Therefore, the site is considered to be suitable for the proposed development.

5.3.8 Any submissions made in accordance with this Act or the Regulations

The proposal was sent to WaterNSW, the Rural Fire Service, Roads and Maritime Services, Endeavour Energy, Transgrid, NSW Office of Water, Council's Water & Wastewater Officer and Engineers for commenting with recommendations detailed below. The proposal was also sent to surrounding landowners and placed on public display in Council's Administration Building for a period of 30 days with 7 submissions received which are summarised below.

WATER NSW

Water NSW raised the following issues however provided their concurrence subject to twelve (12) conditions. These conditions have been incorporated in the Recommendation. They stated:

I refer to Council's letter received 15 February 2018 requesting the concurrence of Water NSW under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 with a proposal for a 91-lot subdivision and drainage reserve. The subject property, which has been inspected by Water NSW, is located within the Warragamba catchment which forms part of Sydney's water supply.

The following documents have been considered in the assessment of the application:

- a Statement of Environmental Effects (dated 5 February 2017) including the Lot Layout Plan prepared by Voerman & Ratsep Land Surveyors, and*
- a Conceptual Stormwater Management Plan (dated 10 May 2018) incorporating a MUSIC stormwater quality model and associated plans prepared by Calare Civil Pty Ltd.*

It is noted that the subdivision is proposed to be staged as follows:

- Stage-1 comprising proposed Lots 63 to 91 and Thornton Avenue*
- Stage-2 consisting of proposed Lots 19 to 46 and part of Hillcrest Avenue, and*
- Stage-3 consisting of proposed Lots 1 to 18, 47 to 62 and part of Hillcrest Avenue.*

Water NSW notes that the site is highly sensitive with the following key issues identified:

- 1. Highly erodible soils and steep slopes are present across the site with existing contour banks across the site and catchment protection works within Good Luck Creek to mitigate the risks. Water NSW discussed the existing contour banks and site issues with a representative from the Local Land Services who advised that, provided appropriate controls are in place to prevent and/or minimise erosion and runoff from the site during and after construction, there are no issues with removing the contour banks. Water NSW notes that no works are proposed within Good Luck Creek and no drainage from the site will be directed to the Creek.*
- 2. Detailed design of the sewerage system, including the proposed new sewage pumping station servicing the area, have not been finalised. Council has advised that they will require a deferred commencement condition on the development, pending finalisation of the sewerage strategy for the area by Council. Water NSW has therefore continued our assessment on the basis that no Construction Certificate will be issued until appropriate design and specifications for the sewage pumping station and associated infrastructure have been prepared and finalised.*
- 3. The proposed sewerage pumping station is located directly downslope of the proposed bioretention basin, and directly upstream of Farmer's Creek, which may present potential water quality risks.*

In light of the above, Water NSW has identified this development proposal as presenting a high water quality risk. As such, Water NSW requests the following:

- that Council please advise when construction is due to commence so that joint inspections can be arranged with appropriate Water NSW and Council officers during that phase of the development.*
- a certified professional is required to oversee the construction works to ensure adequate erosion and sediment controls are in place, to reduce potential local water quality impacts, and*
- Water NSW considers that the sewage pumping station design should include appropriate bunding around the perimeter so as to divert run-on away from*

the sewage pump station and prevent any overflows reaching Farmers Creek.

Based on Water NSW's site inspection and the information provided, the proposed development has been assessed by Water NSW as being able to achieve a neutral or beneficial effect on water quality provided appropriate conditions are included in any development consent and are subsequently implemented.

During the course of assessment the application was amended to reduce the number of lots and change the staging. Updated conditions were provided by WaterNSW with the following comments:

I refer to your email received 13 and 18 September 2018 providing amended plans for a proposed urban subdivision on the above land and requesting amendments to previous concurrence conditions accordingly. Water NSW provided concurrence advice to original application on 31 May 2018 under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011. The amended plans seek to change the staging from 3 to 2 stages and reduce the lot yield from 92 lots to 87 lots including a drainage lot.

The subject property, which has been inspected by Water NSW, is located within the Warragamba catchment which forms part of Sydney's water supply. A letter from Voerman & Ratsep Land Surveyors to Council (dated 17 September 2018) and amended plans along with previous documentation, have been considered in the assessment of the application.

Based on Water NSW's site inspection and the information provided, including that previously provided, the proposed development has been assessed by Water NSW as being able to achieve a neutral or beneficial effect on water quality provided appropriate conditions are included in any development consent and are subsequently implemented.

If, after receipt of this letter, revisions are made to any of the DA plans, Council does not need to refer the plans to Water NSW if the revisions do not impact on water quality. Council is requested to amend the relevant Water NSW's condition/s to reference the revised plans, and notify the assessing officer by email.

Water NSW concurs with Council granting consent to the amended application subject to Water NSW's previously provided Conditions 1, 2 and 5 being replaced with the following. All other conditions in Water NSW's previous concurrence advice to Council (dated 31 May 2018) still apply.

The conditions have been adopted into the Recommendation and have been updated accordingly.

RURAL FIRE SERVICE

Whilst the RFS responded, it is attested that the first response requesting additional information dated 4 April 2018 was received 4 July 2018. The second response, requesting new additional information dated 23 July 2018 was received 7 September 2018. Clause 70 of the EP&A Regulation states: *An approval body that has received a development application from a consent authority must give written notice to the*

consent authority of its decision concerning the general terms of approval in relation to the development application (including whether or not it will grant an approval):
(a) within 40 days after receipt of the copy of the application.

It is therefore intended to proceed in the absence of concurrence from the RFS. Despite this, an assessment of bushfire risk has been conducted. In summary, there are 11 proposed lots that are currently partially bushfire mapped, the most significantly affected one considered to be proposed Lot 1. A recognised existing fire trail on Council owned land extends along the southern boundary of this lot.

The RFS raise the concern as to how vegetation to the west will be managed as a fuel reduced zone in perpetuity. Without restrictions upon adjoining title it is impossible to guarantee the current situation as a low hazard. The current bushfire attack level is considered to be medium at worst and it is considered that it is highly likely to be managed into the medium future by the current owners presently wishing to build. Whilst it is often not appropriate; Council has received the bush fire safety authority (concurrence) for another subdivision with reasonably similar bushfire characteristics (being DA022/18). It is considered that the adoption of these conditions is appropriate in this circumstance. These have been included within the Recommendation.

ROADS AND MARITIME SERVICES

Council's engineers and the applicant reviewed the RMS response and have arrived at a solution. By way of background, the RMS was involved in pre-DA discussions the applicant was having with Council last year. The RMS reviewed a proposal for a 238 lot subdivision (essentially being this DA combined with DA142/18). Their advice is still in response to the total number of lots. The applicant had made an argument that this particular DA does not need to be referred to the RMS. Whilst that is the strict interpretation under Schedule 3 of SEPP Infrastructure, Council officers considered it prudent to do so in any case as all traffic accesses via a classified road (and can be referred separately under the Act in any case). The RMS response splits the increased traffic, its impacts and remedies between the two subdivision DAs which is considered to be fair and the only reasonable way to approach the issue. Their letter is reproduced below:

Thank you for your letter dated 14 February 2018 referring DA021/18 to Roads and Maritime Services for comment. Reference is made to Roads and Maritime's earlier letter to the applicant, Andrew Burge, on 12 January 2017. I note Roads and Maritime's earlier letter referred to a 235 lot subdivision, however, the applicant has now broken the proposal into two, with the possibility of a third, application.

Roads and Maritime notes that DA021/18 includes:

- *Subdivision of existing undeveloped land into 92 allotments.*
- *Construction of local roads to provide access to each lot.*

DA021/18 has been referred to Roads and Maritime for comment. The proposed subdivision is within a larger subdivision area that, when partially developed, will have impacts on road safety and traffic efficiency on the nearby Great Western Highway (HW5). In this regard, Roads and Maritime appreciates the opportunity to

comment on DA021/18 and provides the following recommendations for Council's consideration:

- 1. Prior to the issuance of a subdivision certificate for/or including, the twentieth (20th) allotment, the following road works are to be completed:*
 - A road link between the proposed subdivision and Col Drewe Drive is to be constructed, dedicated as a public road and open to traffic.*
 - Right turn and cross flow vehicular movements from Rabaul Street and James O'Donnell Drive into and/or across the Great Western Highway are to be prevented by way of signage and concrete islands.*
- 2. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the developer and Roads and Maritime for the developer to undertake "private financing and construction" of any works on the Great Western Highway. This agreement is necessary for works in which Roads and Maritime has a statutory interest.*
- 3. Prior to the commencement of road construction works, the proponent is to contact Roads and Maritime's Field Traffic Manager to determine if a Road Occupancy Licence (ROL) is required. In the event that an ROL is required, the proponent is to obtain the ROL prior to works commencing within three (3) metres of the travel lanes on the Great Western Highway.*

The applicant was advised and he expressed the impracticalities of having to construct a road link on someone else's land (commonly known as the Sweet Briar land behind the Hospital). The applicant instead offered to install traffic lights on the Great Western Highway at James O'Donnell Drive. The RMS were informed of this proposal and responded by advising that traffic lights were not supported. Therefore owner's consent was obtained for a road link to connect from James O'Donnell Drive to Col Drewe Drive (being two separate owners in total). This will allow for the safe movement of traffic wishing to turn right out of the area onto the Highway as the RMS have committed to traffic lights at Col Drewe Drive only (however no budget currently exists for these lights). This scenario accords with Council's long term vision and strategic planning for the Bowenfels area. Council's engineers have reviewed the requirement of left turn only movements out of James O'Donnell Drive and Rabaul Street and have no objection to this subject to the dedication of the link road.

With that in mind is considered that the proposed RMS conditions be imposed on any consent. The consent will need to be staged such that Stage 2 is dependent on the construction and dedication of the road link. This has been incorporated into the Recommendation with a slight amendment to refer to the twenty-first (21st) allotment.

ENDEAVOUR ENERGY

Endeavour Energy provided a detailed response which is not reproduced here. It contains much in the way of generic advice and guidelines. It can be summarised as 'no objection' however it is noted that a possible padmount substation may be required and that the siting of that will need to be determined. The applicant has advised that it can simply occur in the footpath. This is considered acceptable.

NSW OFFICE OF WATER

The Department of Primary Industries –Water has issued their General Terms of Approval under the Water Management Act 2000. It is required to attach these to any consent issued. These are shown in the Recommendation as Schedule B.

COUNCIL'S WATER & WASTEWATER OFFICER

Council's Water and Wastewater Department have provided conditions of consent. These are attached to the conditions within the Recommendation. An item of significant importance is that the subject site is unsewered. Council (or the developer) have no way of providing sewer without the construction of a new sewer pumping station. The applicant is well aware of this. Council's Water and Wastewater Department have recently finalised a Developer Servicing Plan to address urban growth throughout the LGA. A new strategy for Bowenfels and South Bowenfels has been adopted by Council such that developers can be guided by the plan and not be forced to construct piecemeal or one off interim solutions. The applicant has acknowledged that the development can not proceed until Council installs a new sewer pumping station in this area. Staff have advised that the timeframe for this to occur is five (5) years. However, Council staff have examined the capacity of the existing sewer pump station in Thornton Avenue and it can accommodate twenty (20) additional lots. The applicant has accordingly amended the proposal to indicate 20 lots that can gravity feed into the existing pumping station. These are located at the highest part of the site as an extension to Hillcrest Avenue and also amended to be shown as Stage 1.

Twenty (20) lots coincides with the advice provided by the RMS. This proves convenient as the Stage 2 trigger point can be conditioned for two factors i.e. the link road and new sewer provision.

COUNCIL'S ENGINEERS

Council's Engineers provided comment on the RMS submission to the effect that they have no objection to the staging of the link road and changes to the James O'Donnell Drive intersection with the Great Western Highway. Otherwise, no objection is raised and conditions of consent have been provided and are found in the Recommendation.

PUBLIC SUBMISSIONS

During the advertising/exhibition period from 14 February 2018 to 26 March 2018, seven (7) submissions were received with the concerns that were raised summarised below in italics. One submission was in favour of the development. The applicant was invited to respond to these issues. Whilst a response was received and contained some detail, it essentially said that the issues are for Council to address. This is agreed with and a Planning Comment is therefore provided below the items.

- *Frontage widths are too narrow.*

All frontage widths comply with the former DCP apart from Lot 17.

- *Areas of the allotments are too small.*

All lots comply with the minimum lot size stipulated in the LEP being 800m².

- *The population density is too great.*

The density complies with the LEP.

- *Safety Issue: Dwellings built on smaller blocks without the provision of side access means the vehicles are stored in front garages with 'overflow' forced to driveways or roads. This limits visibility on both road uses and pedestrians and reduces reaction opportunities should a child, adult, animal or other car enter the roadway.*

It is considered that 800m² lots with 18m frontages will allow for rear vehicular access if desired. Regardless, cars will inevitably park on the street. The proposal provides for 8m wide carriageways which are ample width for safe on street parking to occur.

- *Resource Limitations: Garbage collection will be hindered if more vehicles are parked on the roadway due to 'garage overflow'.*

As above, the road designs accord with Council's current standards.

- *Safety Issue: smaller blocks mean increased bushfire risk spreading between dwellings which are close together. Having a fire break in the form of a driveway beside the house would be of great benefit however is only possible with wider allotments.*

Bushfire risk will be assessed on case by case basis for each new dwelling. The bushfire risk has been assessed above as a moderate risk for only a few lots and only principally being Lot 1.

- *Resource Limitations: The NBN has not yet commenced in Lithgow, but information received details that Hillcrest Estate will only be receiving the "budget" option (fibre to the node- FTTN). This technology is heavily affected by user load and with the increase of 92 lots, internet speed and reliability will be affected. This is an essential service especially for people who work from home.*

NBN Co has verbally indicated that it will extend its current greater Lithgow rollout into all new urban subdivisions without any loss to service levels.

- *Precedent: Hillcrest is currently 140 blocks ranging in size from 856m² to 1980m² being an average of 1180m² with frontages of 23.1m to 30m. Compared to the current proposal with an average of 985m² with widths of 12.8m to 25.5m. This is a significant reduction. These need to increase to maintain the current Hillcrest standard.*

Whilst the lots sizes in the established subdivision of Hillcrest Estate are generally a minimum lot size of 900m² with many lots of 1000m², as mentioned the application complies with LEP. Steeper lots are generally larger in size with most of the smaller

800m² lots being located on the flatter land and predominantly on slopes of less than 15%. Subject to the modifications made by the applicant to reduce the lot yield by five (5) lots, no further objection is raised.

- *Significantly increased traffic movements, creating further need to improve the already constrained intersections and entrance to Hillcrest Estate.*

Council's engineers have not raised any concerns with traffic generation other than at the Highway. Council did require the applicant to provide the Hillcrest Avenue extension to be a loop road however in order to split some of the new traffic generated via Kirby Avenue.

- *The Great Western Highway is the main western corridor that supports 9,000 traffic movements on an average day, 81% light vehicles and 19% heavy vehicles (RMS Traffic Statistics 2007). The highway is the main support hub for freight transport into and out of the Central Western Area and beyond, the additional traffic generation associated with the new subdivision development will increase the total lot yield for this estate to 232 residential lots. Since building the estate in 2011 we have seen the ever increasing traffic generation and issues that have become a real safety concern, traffic queuing and attempting to cross both the east and west bound dual lane road.*

The RMS has requested a link road and work to the Highway intersection to make it safe. See above for more detail.

- *At this intersection it is a competing issue that involve pedestrians and the ever increasing number of school children that attempt to cross the GWH twice a day when there is no pedestrian crossing at all.*

This issue has been identified by Council (as below). The applicant proposed traffic lights in order to address this however the RMS will not allow lights to be installed. No improvements for pedestrian crossings are currently proposed. Any improvements are controlled by the RMS.

- *Councillors in 2014 in conjunction with Roads and Maritime Services engaged a consultant Cardno Pty Ltd to conduct a Pedestrian Access Mobility Plan (PAMP) Study of the South Bowenfels area identifying deficiencies and future need of the developing area.*
http://archive.lithgow.nsw.gov.au/exhibitions/PedestrianAccessMobilityPlan_FinalDraft.pdf *Within this plan were a number of recommendations which was undertaken 4 years ago and the traffic and situation has worsened since then. There needs to be more remediation works than that contained within the recommendations of this report.*
- *The existing intersection of James O'Donnell Drive and the GWH needs to be upgraded appropriately with traffic lights and correct intersection design to cater for the additional traffic. Currently, one only turning traffic lane provision exists for vehicles entering into the estate from the east bound direction. No turning traffic lane provisions exist for motorists turning into the estate from west bound direction and this format will not cater for additional traffic.*

- *Council need to bring the intersection with the highway to the current Australian Standards for residential development before serious accidents happen as a result of the proposal.*
- *The James O'Donnell Drive access would be placed under tremendous stress should there be a bushfire and every resident would need to potentially use it as an evacuation route.*
- *Children ride bikes in the street and while under supervision the new subdivision would mean a much busier street and therefore impact the current lives of people in the estate. This will also impact on the quietness as it is used as a thoroughfare for another estate. Alternative access should be provided to disperse traffic.*
- *James O'Donnell Drive is currently in a serious state of disrepair and the edges of the road continuously falling apart as there is no kerb and gutter. The road is narrow along the length coming into the estate and vehicles continuously drive on the wrong side of the road due to narrow sections and dodging parts that are falling apart.*
- *The width and entrance road to the estate with soft edges is not appropriate now, the building of new homes with increased traffic and builders/ commercial vehicles for construction require a wider access road.*
- *James O'Donnell Drive need to be resurfaced, line marked and kerb and guttered to allow the development.*
- *James O'Donnell Drive needs to be line marked to divide it for safety reasons.*

Council's engineers have not raised this as a concern. It is worth noting that a separate development application being DA142/18 should resolve this concern. Otherwise, these are the same issues that have been responded to above.

- *The current state was exposed to strict covenants which have now been removed allowing any type of dwelling to be built. What happens when 92 blocks are sold and people put flats and duplexes? Why should this be allowed now?*

It is understood this to refer to the repeal of the South Bowenfels DCP - February 2006. The DCP was repealed as it was overdue for an overhaul. Due to State legislative reform it did not have the status that DCPs once held either. Lithgow LEP 2014 is now the governing legislation. Applications for dual occupancies will need to be dealt with on a case by case basis.

- *Could the developer be asked to plant mature street trees along all the road reserves as part of the development?*

This will be placed as a condition of consent.

5.3.9 The public interest

The development proposal is considered to be advantageous to the public interest by way of providing for housing growth and supply close to services and facilities in Lithgow. Current demand for building blocks remains to be high whilst supply is limited. The cost of vacant housing lots may be eased slightly for the community.

6. DISCUSSION AND CONCLUSIONS

The proposal is considered to comply with all the relevant provisions of the applicable Environmental Planning Instruments. The proposal is not considered likely to have any significant negative impacts upon the environment or upon the amenity of the locality. As such it is recommended that development consent is issued subject to the conditions outlined below.

7. ATTACHMENTS

Schedule A- Conditions of consent.

Schedule B- Natural Resources Access Regulator General Terms of Approval

Schedule C- Section 68, Local Government Act 1993

8. RECOMMENDATION

THAT development application DA021/18 is approved subject to conditions set out in Schedule A.

Report prepared by:

Supervisor:

Signed:.....

Signed:.....

Dated:.....

Dated:.....

REASONS FOR CONDITIONS

The conditions in Schedule A have been imposed for the following reasons:

- To ensure compliance with the terms of the relevant Planning Instruments
- To ensure no injury is caused to the existing and likely future amenity of the neighbourhood
- Due to the circumstances of the case and the public interest.
- To ensure that adequate road and drainage works are provided.
- To ensure that satisfactory arrangements are made to satisfy the increased demand for public recreation facilities
- To ensure access, parking and loading arrangements will be made to satisfy the demands created by the development.
- To protect the environment.
- To prevent, minimise, and/or offset adverse environmental impacts.
- To ensure lots are adequately serviced.
- To ensure there is no unacceptable impact on the water quality.
- To ensure compliance with the requirements of the Rural Fire Services.

- To ensure adequate soil conservation and protect against movement of soil and sediments.

Schedule A

Conditions of Consent (Consent Authority) and General Terms of Approval (Integrated Approval Body)

Please Note: It should be understood that this consent in no way relieves the owner or applicant from any obligation under any covenant affecting the land.

ADMINISTRATIVE CONDITIONS

1. That the development be carried out in accordance with the application, Statement of Environmental Effects, accompanying information, plans listed in the approval and any further information provided during the process unless otherwise amended by the following conditions.
2. This development consent is for a **staged approval** being two stages in total. Stage 1 comprises 20 lots and one drainage reserve (Lots 1 to 10 & 50 to 59 & Pt Lot 87). Stage 2 comprises 66 lots and three drainage reserves (Lots 11 to 49 & 60 to 86 & remaining Part Lot 87). Construction of Stage 2 is not to commence until a sewer connection is made available on Lot 4 DP 1230208 and a road link between James O'Donnell Drive and Col Drewe Drive is constructed, dedicated as a public road and open to traffic.
3. That a Subdivision Certificate Application, release fee, Registered Surveyors Plans (original & 11 copies) along with associated 88B instrument if applicable, be submitted to Council for finalisation following the compliance with all conditions of this consent.
4. No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the *Conveyancing Act 1919* with Council having the right to vary, modify or release this restriction.
5. A street tree planting plan is to be submitted to Council and approved for the overall subdivision prior to Subdivision Certificate release of Stage 1. The street trees are to be implemented within each stage prior to Subdivision Certificate release of those stages respectively.
6. A street lighting plan is to be provided with adequate street lighting in accordance with AS/NZS and be to the satisfaction of the relevant electricity supplier prior to release of Stage 1. Such lighting shall have regard to its visual impact and be designed to complement the streetscape. Street lighting is to be implemented for each stage prior to the Subdivision Certificate Release of each stage respectively.

Utilities

7. The applicant shall consult with an Authorised telecommunications, Electricity and Gas Authorities for the provision of telephone, electricity and gas to each allotment. Confirmation of connection to each allotment or a 'Notification of Arrangement' shall be lodged from each authority, with Council prior to the issue of a Subdivision Certificate.
8. Prior to the issue of the Subdivision Certificate, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Council that arrangements have been made for:
 - (i) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.and

- (ii) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.

Voluntary Planning Agreement

9. That the Voluntary Planning Agreement (VPA) be endorsed by all parties as proposed by Voerman & Ratsep Land Surveyors on 06/02/2018 prior to the Subdivision Certificate release of Stage 1. Additionally, the contribution agreed to within the VPA is to be paid at a rate of \$6200.00 per lot for community facilities (\$6000) and public open space (\$200) prior to the Subdivision Certificate release of Stages 1 & 2:
 - Stage 1= \$124,000 for 20 lots
 - Stage 2= \$409,200 for 66 lots

Section 64 Contributions

10. An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the following allotments created being: Stage 1= 20 lots, Stage 2=66 lots. The rate of contribution per lot/ET is \$2,921 for water and \$14,213 for sewer as set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted by any subsequent Development Servicing Plan, annually adjusted for CPI (Sydney) applicable at the time of payment.

Bushfire

11. At the issue of subdivision certificate, and in perpetuity, the entire property of each residential lot shall be managed as an inner protection area (IPA) as outlined within Section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW RFS's document 'Standards for asset protection zones'.
12. Water, electricity and gas are to comply with section 4.1.3 of 'Planning for Bush Fire Protection 2006'.
13. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

ENGINEERING REQUIREMENTS

14. A Construction Certificate must be obtained prior to the commencement of any Civil Works.
15. Plans are to be lodged to Council for the issue of a Construction Certificate prior to the commencement of any Civil Works.
16. All engineering works are to be to the standard specified in Council's "Guidelines for Civil Engineering Design and Construction for Development". This document is available on Council's website or upon request from Council's administration desk.
17. That a Geotechnical Report be provided for all proposed roads, including subgrade design prior to a Construction Certificate being issued. Geotechnical compaction tests and visual deflection tests are to be undertaken and to be approved by Council prior to the application of seal. Such tests are to be included with the Construction Certificate Engineering Drawings.
18. The road crossfall must not exceed a maximum of 3% at any point.

19. The footpath crossfall must not exceed a maximum of 4% at any point.
20. All batters must not exceed a maximum gradient of 1:5.
21. The road grade must not exceed a maximum of 12% at any point. All internal roads shall have a minimum of 150mm (subject to testing) of DGB-20 road base applied and compacted providing a smooth transitional surface. The road surface is to be constructed to an 8m wide formation within a 15m wide minimum road reserve.
22. All internal residential roads are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Layers of asphaltic concrete may be included in the total design pavement depth, but should not be assigned a layer equivalency of greater than unity. Where variation to this condition is required, approval may be granted subject to discussion with Council.
23. All cul-de-sacs/turning circles are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Cul-de-sacs/turning circles are to be constructed so that a minimum kerbline radius of 9.5 metres is achieved from the centre of the cul-de-sac/turning circle. The boundary of the road reserve should be curved with a minimum radius of 14 metres to provide for a 4.5 metre wide footpath. Where the head of the cul-de-sac is located on the low side of the road, special provision should be made to convey overland storm water flows through easements or drainage reserves.
24. Roll top kerb and guttering is to be provided on both sides of all internal roads.
25. 2 x 3.5m wide footways are to be provided adjacent to all internal roads. Footpaths must continue to all intersections.
26. Traffic signs, traffic signals, pavement markings, guide posts, delineators, safety barriers and the like, whether permanent or temporary, are to be designed and installed at all roads in accordance with guidelines contained within the Austroads publication, "Guide to Traffic Engineering Practice – Part 8: Traffic Control Devices", Australian Standard 1742 – Manual of Uniform Traffic Control Devices and the Roads and Traffic Authority "Road Design Guide". All traffic control devices and signage are to be detailed in the engineering drawings submitted with the construction certificate. The consent of Lithgow City Council's Executive Manager of Operations or appointed officer will be required prior to the installation of any traffic control devices on existing roads.
27. Two street trees per lot are to be planted within the road reserve. The developer shall consult with and seek approval from Council regarding the species to be used. Only non-frangible trees, having a mature diameter of less than 100mm, shall be planted near road verges and medians. A landscaping plan showing, but not limited to, plant species and estimated height and spread of mature trees is to be provided to Council with the construction certificate.
28. Street lighting shall be provided on all internal access roads in accordance with Australian Standard 1158 – Road Lighting. Energy absorbing columns may be required where fallen columns would be particularly hazardous. The use of energy-saving lighting fixtures is encouraged, however no rebate will be issued to the developer if these types of lamps are approved.
29. A fully certified traffic control plan and road works signage will be required where machinery

may obstruct traffic on any Public Road whilst construction work is being undertaken. A traffic control plan and certification of fully qualified contractors/persons will be required to be submitted to Council prior to any work commencing on the shoulder of any Public Road. Failure to comply may result in Work Cover Intervention and may also include Council stopping all work immediately until such time the developer complies with suitable traffic management procedures.

30. A maintenance bond of 5% of final construction costs shall be paid to Council upon final inspection and approval of all civil works. The value of the maintenance bond shall be approved by Council after witnessing a certified copy of the contract documentation showing all civil construction costs for the subdivision. The maintenance period will start from the date of final inspection for a period of 12 months. At the conclusion of the 12 month period a final inspection is to be undertaken by Council at the request of the developer to determine if any defects have arisen during this time. All deficiencies are to be rectified by the developer, should outstanding works remain Lithgow City Council reserves the right to expend bond monies on rectification works.
31. A site investigation is to be performed which is to include logging of test holes to a depth not less than one metre below design subgrade levels (unless rock is encountered). Soil tests shall be taken at the design depth and samples taken for CBR testing in accordance with Australian Standard 1289. The design California Bearing Ratio (CBR) shall be selected following a careful assessment of the materials encountered in the site investigation and the variability of subgrade moisture and density conditions likely in service. The design CBR value should assume poor drainage and shall be determined from soaked CBR. A copy of the site investigation, including test results, is to be included with the Engineering Drawings. Where the design subgrade CBR is below 3, the subgrade shall be chemically stabilised to a minimum depth of 150mm, and the pavement design based on a CBR of 3.
32. Each layer of pavement shall be tested for compaction and deflection as detailed below. The Executive Manager of Operations or his delegate must approve each layer prior to the placing and compaction of subsequent layers.

(a) Compaction Testing:

The subgrade, and all pavement layers, shall be density tested in-situ at the start and finish of the work (within the first/last five metres), and thereafter at intervals of no more than 50 metres, or as indicated by Council's Development Engineer. A minimum of two tests will be required for road pavements less than 50 metres in length. At cul-de-sacs, additional testing will be required at the turning head. The test sites selected should be representative of the likely minimum pavement compaction levels achieved. Density testing must be undertaken by an authorised representative of a laboratory registered by the National Association of Testing Authorities (NATA). Density testing may be conducted using either the sand replacement test, nuclear gauge, or other NATA approved method.

Where a nuclear gauge in direct transmission mode is used to determine pavement density, the test method shall comply with RTA Test Method T173. Results of density testing shall be forwarded directly to Council for approval. No pavement layer shall be covered by a subsequent layer until the results of the density testing have been delivered to and approved by Council's Development Engineer. Table 1 below sets out the minimum compaction requirement for each pavement layer.

Layer	Compaction Requirement	Standard
Subgrade	98% standard maximum dry density California Bearing Ratio (CBR) test	AS 1289.E1.1 AS 1289.F1.1
Sub-Base	100% standard maximum dry density	AS 1289.E1.1
Base	100% standard maximum dry density • <i>Unbound Materials</i> • <i>Cemented Materials</i> Density in place test California Bearing Ratio (CBR) test	AS 1289.E2.1 AS 1289.E3.1 AS 1289.E3.1 AS 1289.F1.1

Laboratory determination of maximum dry density for pavement materials which have been modified with cement must be undertaken within 4 hours of the cement being added to the material. Materials tested outside this time will be subject to an adjustment to correctly determine the maximum dry density of the sample. For either natural or modified material, the laboratory determination of maximum dry density shall be undertaken at a frequency of no less than one determination for each days production of material.

(b) Deflection Testing:

All pavement layers must be proof-rolled, and approved by Council's Development Engineer prior to the placement of subsequent pavement layers.

The proof-rolling will be conducted using either:

(i) a roller having a load intensity of seven (7) tonnes per metre width of roller.

(ii) a tandem axle rigid vehicle, having a maximum load of 15 tonnes per axle group (8 tyres), 12 tonnes per axle group (6 tyres), or 10 tonnes per axle group (4 tyres). Single axle vehicles should have maximum loads of 8.5 tonnes (dual tyres), or 5.4 tonnes (single tyres).

Any movement of the pavement layer under loading will be deemed a failure.

Although not a subdivision requirement at this stage, Council strongly encourages Developers to specify in their contracts the use of Benkelman Beam tests to test for any deflection in the pavement layers, and as a means of quality assurance.

(c) Final Road Profile:

The mean construction tolerance on pavement surface crossfalls should be within $\pm 5\%$ of the design crossfall. The maximum allowable construction tolerance is $\pm 5\%$, and the maximum standard deviation of crossfalls is 5%. The vertical alignment should not deviate by more than 25mm from the value shown on the drawings.

33. All road, drainage, kerb and gutter, water and sewerage reticulation works associated with a development shall be inspected by Council's Operations Department. The whole of the works are to be carried out to the satisfaction of the Executive Manager of Operations. Council shall inspect engineering works at the following stages as a minimum:

- Following site regrading and shaping, and prior to installation of footway services;
- Installation of erosion and sedimentation control measures;
- Storm water drainage lines prior to backfill;
- Water and sewer lines prior to backfill;
- Testing of water and sewer lines;
- Subgrade preparation, before placing pavement;
- Establishment of line and level for kerb and gutter placement;
- Completion of each pavement layer ready for testing;
- Road pavement surfacing;
- Completion of works

The developer or contractor shall give Council a minimum 24 hours' notice when requesting an

inspection to ensure that development works are not delayed. The developer shall, if required by a Council Engineer, submit delivery dockets for all materials used, and all material and performance test results obtained in the development.

34. Works as Executed (WAE) Plans detailing all services and infrastructure are to be prepared by a registered surveyor or professional engineer, and submitted to Council. The WAE plans shall be lodged prior to the release of the linen plan. The applicant is required to submit three complete sets of hard copy plans (one A1-sized, two A3-sized) and one set of electronic plans in AUTOCAD format.
35. A "Work-As-Executed" (WAE) plan is required to be prepared by a Registered Surveyor or professional engineer and forwarded to Council prior to the final inspection. The WAE is to include, as a minimum:
 - certification that all works have been completed generally in accordance with the approved plans and specification,
 - any departure from the approved plans,
 - any additional/deleted work,
 - the location of conduits, subsoil lines, stub mains and inter-allotment drainage lines,
 - pipeline long sections showing the constructed invert levels of each pipe at each pit and pipe dimensions,
 - details of overland flow provisions,
 - site regrading areas by new contours, and
 - all other details which have a bearing on the extent of works and their acceptance by Council.
36. All Engineering Drawings submitted to Council for approval are to have a title block showing the following:
 - Applicant's Name,
 - Consultant's Name, Address, Phone No. 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 File Reference,
 - Stage Number,
 - Drawing Title,
 - Scale with Scale Bar, and
 - Signature of Authorised Person
37. Construction noise shall be in accordance with the 'Noise Control Guidelines for Construction Noise Standards'. Hours of operation shall be permitted between 7am and 6pm Monday to Friday and 8am and 1pm Saturdays. No heavy machinery work or usage shall be permitted on Sundays or Public Holidays.
38. The applicant shall submit a soil erosion and sedimentation control plan with the engineering design for Council approval. Such shall address both short and long term management of all disturbed areas and specified methods and structures to be employed to minimise any impact.
39. Prior to and during the commencement of works the applicant shall erect soil erosion and sedimentation controls for the following purposes:
 - control of soil erosion and sedimentation movement during the bulk earthworks stage
 - control of run off and diversion of the sedimentation trap prior to the development of land
 - method of stabilising the land from erosion and sediment movement after the completion of

works and prior to the development of the land

40. The applicant is to comply with all reasonable requests from Council with regard to any complaints received during construction works.

41. The following conditions apply to Stormwater Drainage design and construction:

a) Stormwater Drainage plans shall submitted to Council as part of the construction certificate, drawn at a scale sufficient to show all necessary details, nominally 1:200, 1:500, 1:1000 or 1:2000. The following data is to be included with a contoured catchment area plan:

- i. Catchment areas and sub-areas, watershed (catchment boundary), overland flow paths, existing and proposed pipe layout. For large catchments, the total catchment area should be shown at a large scale on a separate plan or inset.
- ii. All sub-areas, drainage lines and pits are to be logically numbered.
- iii. A schedule of pipe details, including pipe number, size, class, bedding type, joint type, invert levels at inlet and outlet, slope, and length.
- iv. A schedule of pit details, including pit number, type, road chainage, surface level to the Australian Height Datum (AHD), invert level to AHD, depth, and lintel length.
- v. North point and legend.
- vi. Setout information.
- vii. Accurate position and level of all services and utilities which cross underground drainage pipelines.
- viii. Identify those building allotments adjacent to channels and major storm flow paths which may be liable to flooding in major flood events, and the minimum design habitable floor level adjacent to prevent flooding in the design flood event.
- ix. Inlet and outlet treatments.
- x. Measures for the prevention of erosion and sedimentation.

b) Stormwater pit construction:

- i. Pits shall be provided in drainage lines at all changes in grade, level, and direction, and at all pipe junctions and shall be spaced at no more than 85m apart.
- ii. Drainage pits are to conform to Council's standard Drawings, or RTA standards for Classified Roads. Non-standard structures shall be constructed as detailed in the design drawings. Such designs shall comply with AS3600 –Concrete Code, AS4100 – Steel Structures, AS1657 – SAA code for fixed platforms, walkways, stairways and ladders; and any other relevant standard.
- iii. Pits used for storm water drainage shall be fitted with square lids to distinguish them from sewer manholes.
- iv. Junction pits shall be fitted with reinforced lids and approved lifting eyes.
- v. Grated inlet pits shall not be used for street or roadway drainage.
- vi. Precast pits, incorporating insitu bases, may be used if the prior approval of the pit type and design are approved by the Group Manager of Operations.
- vii. Every endeavour shall be made to maintain flow velocities through pits. Excessive drops will not be permitted.
- viii. Pipe grading across pits should be designed on the following basis:
 - No change in direction or diameter - minimum 50mm;
 - Direction change but no change in diameter - minimum 70mm;
 - Changes in pipe diameter should be graded from obvert to obvert;
- ix. At pit connections, a 3 metre length of approved subsoil drainage pipe enclosed in a geofabric sock shall be placed alongside the main pipe so as to enter the pit at the same invert level and adequately drain the main trench, in accordance with Council's standard drawing EN 1016 (copy attached).

c) Location of pits in roadways, for the adopted minor drainage system annual exceedance probability:

- i. Inlet pits shall be located so as to restrict the maximum gutter flow width to 2.5 metres.
- ii. Maximum spacing between any two consecutive pits is 85 metres.
- iii. Pit bypass flows should be limited to 15% of the gutter flow at that location.
- iv. At intersections, kerb inlet pits shall be constructed adjacent to the upstream kerb return tangent point where flows exceed 20 litres per second or gutter flow width is more than 1 metre.
- v. The minimum clearance from the top of the manhole to the design pit water level should be 150mm.
- vi. The product of flow velocity and depth of flow in the kerb and gutter should not exceed 0.4 m²/s.
- vii. Kerb inlet pits should be located clear of horizontal curves, pedestrian desire lines, and vehicle driveways.
- viii. Inlet conditions shall be designed so that the potential for blockage by silt and debris is minimised. This may require special treatment of the inlet sump under some conditions.

d) Hydraulic Design

- i. Pit inlet capacities shall be estimated from design charts and formulae, based on lintel size for on-grade pits and depth of ponding for sag pits. The calculated inlet capacity shall be reduced by a factor of 50% for sag pits, and 20% for on-grade pits, on the assumption that debris is preventing some inflow.
- ii. Standard lintel sizes of 1.8, 2.4, 3.0, or 3.6 metres should be used when possible.
- iii. The minimum internal lintel size on a sag should be 2.4 metres.
- iv. The head loss through pits shall be determined from Missouri Charts or other recognised methods.

42. Prior to the release of the stage 2 sub-division certificate (prior to the release of the 21st allotment) a linkage road is to be constructed linking Col Drewe Drive to James O'Donnell Drive. The road is to be constructed to a collector road standard as defined in Council's Guidelines for Civil Engineering Design and Construction for Development. Conditions 14 – 22, 24, 40 and 41 are to be met during the design and construction of the linkage road.
43. The engineering designs of Bio-Retention 1, 2, 3 & 4 must be consistent with Water by Design, 2014, "Bio-Retention Technical Design Guidelines", Healthy Waterways Ltd, Brisbane. The designs must incorporate an impermeable liner when located in close proximity to Sewer and/or Water infrastructure. In coordination with the engineering designs an Operational and Maintenance Plan for the assets is to be developed and submitted to Council for approval.
44. Bio-Retention Basins 1 & 3 are to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for stage 1.
45. Bio-Retention Basins 2 & 4 are to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for Stage 2.
46. All Bio-Retention Basin assets are to be handed over to Council prior to release of the subdivision certificate for stage 2. The following conditions must be met prior to asset handover:
 - a) Certification that the asset has been constructed in accordance with approved

plans

- b) Work as executed drawings and engineering certifications have been provided
 - c) All required sediment and water management controls as outlined in the soil and water management plan are in place and functioning as intended
 - d) Details of any incidents including Work Health and Safety incidents, public safety and complaints received are documented and provided to Council
47. Legal access is to be maintained to the Bio-Retention Basins through all stages of the development. Prior to the stage 1 subdivision certificate release details of proposed access to Bio-Retention Basin 2 & 4 is to be provided to Council for approval.
48. A 2.5m shared path is to be constructed within the 6m pathway reserve. The shared path is to be constructed in accordance with Council's standard engineering drawing EN1009. A bollard terminating system is to be installed at both ends of the pathway to prevent the access of unauthorised vehicles. The system is to be designed and installed in accordance with part 7.5.3 of "Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling (2017)" including the following requirements:
- The centre bollard is to be removable,
 - The bollards are to restrict the travel path to between 1.4m and 1.6m on each side of the central bollard.

ROADS AND MARITIME SERVICES

49. Prior to the issuance of a subdivision certificate for/or including, the twentyfirst (21st) allotment, the following road works are to be completed:
- A road link between the proposed subdivision and Col Drewe Drive is to be constructed, dedicated as a public road and open to traffic.
 - Right turn and cross flow vehicular movements from Rabual Street and James O'Donnell Drive into and/or across the Great Western Highway are to be prevented by way of signage and concrete islands.
50. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the developer and Roads and Maritime for the developer to undertake "private financing and construction" of any works on the Great Western Highway. This agreement is necessary for works in which Roads and Maritime has a statutory interest.
51. Prior to the commencement of road construction works, the proponent is to contact Roads and Maritime's Field Traffic Manager to determine if a Road Occupancy Licence (ROL) is required. In the event that an ROL is required, the proponent is to obtain the ROL prior to works commencing within three (3) metres of the travel lanes on the Great Western Highway.

WATER AND WASTEWATER REQUIREMENTS

52. Section 68 Approval is required for all Water and Sewer works prior to release of the Construction Certificate. Each stage will require a separate Section 68 Approval for construction.
53. Stage 1, being 20 Lots, are to connect to the existing sewer reticulation system at MH 1/1 located at the rear of Lot 219 DP 1076055 that discharges to the existing pump station located in Thornton Avenue as per Voerman & Ratsep Land Surveyors Revision Plan 14/08/2018.
54. Stage 2 sewer connections will connect to a sewer trunk main provided by Council at a point of

connection nominated by Council. This will coincide with the construction of new sewerage pump station to service this area in accordance with Council's Development Servicing Plans and the West Bowenfels Sewerage Strategy.

55. The applicant shall provide a full Water and Sewer Design Plan for approval prior to the release of the Construction Certificate/Subdivision Works Certificate. Design to include, longitudinal sections for each main, minimum depth and cover, maximum depth, grade, chainage, inverts, size, depths, manholes, manhole numbers, manhole depths, pipe velocity, proposed material and positions of junctions and dead ends for all Lots.

DEPARTMENT OF PRIMARY INDUSTRIES- WATER REQUIREMENTS

56. That the development be undertaken in accordance with the General Terms of Approval for work requiring a Controlled Activity Approval under Section 91 of the *Water Management Act 2000* as per Schedule B. If a controlled activity approval is not required for works, a letter from DPI Water detail such is to be provided to Council.
57. The Construction Certificate will not be issued over any part of the site requiring a Controlled Activity Approval until a copy of the approval has been provided to Council.

WATER NSW REQUIREMENTS

General

58. The lot layout, staging and subdivision works shall be as per the Statement of Environmental Effects (dated 5 February 2017); a letter to Council (dated 17 September 2018) and as shown on the Proposed Lot Layout Plan (Job Ref: 16083; Rev 1; dated 3.08.2018); Staging Plan (Job Ref: 16083; Rev 1; dated 17.09.2018) and Soil and Water Plan (Job Ref: 16083; Rev 2; dated 14.08.2018), all prepared by Voerman & Ratsep Land Surveyors. No revisions to lot layout or staging of the subdivision that will impact on water quality shall be permitted without the agreement of Water NSW.

Subdivision Roads

59. The subdivision roads shall be located and constructed as shown on the Proposed Lot Layout Plan prepared by Voerman & Ratsep Land Surveyors (Job Ref: 16083; Rev 1; dated 3.08.2018), but with the following specifications and requirements:
- be sealed and otherwise constructed in accordance with Council's engineering standards, and
 - incorporate a suitable cross fall with runoff to be collected via a series of pits and pipes and directed to various water quality treatment measures detailed in the following conditions.

Stormwater Management

52. All stormwater structures and drainage works associated with the proposed subdivision roads shall be wholly included in the road or drainage reserve or within suitably defined easements.
53. All stormwater management measures as specified in the Conceptual Stormwater Management Plan (dated 10 May 2018) and shown on the Catchment Plan (Job No 2016.617A; Dwg No. P01; Iss P1; dated 10/05/18) both prepared by Calare Civil Pty Ltd, shall be implemented in particular as elaborated or varied in the following conditions.
54. Four bioretention basins shall be designed, constructed and located as per the Conceptual Stormwater Management Plan (dated 10 May 2015), the Catchment Plan (Job No 2016.617A; Dwg No. P01; Iss P1; dated 10/05/18), Bio-retention Basin Details Plan (Job No. 2016.617A; Dwg No. P06; Iss P1; dated 10/05/18), all prepared by Calare Civil Pty Ltd to capture and treat

all runoff from all subdivision roads and residential areas. Each bioretention basin shall incorporate the following specifications and requirements:

- **For Stage 1:** a bioretention basin shall be designed, constructed and located as per the Basin 01 Details Plan (Job No. 2016.617A; Dwg No. P02; Iss P1; dated 10/05/18) prepared by Calare Civil Pty Ltd
- **For Stage 2:** three bioretentions basin shall be designed, constructed and located as per the Basin 02 to 04 Details Plans (Job No. 2016.617A; Dwg No. P03, P04 and P05; Iss P1; dated 10/05/18) all prepared by Calare Civil Pty Ltd
- all bioretention basins shall be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems Version 2 (Payne *et al*, 2015, Melbourne, CRC for Water Sensitive Cities) and shall also incorporate the following specifications:
 - a filter media consisting of a clean sandy loam with a certified median particle diameter of 0.5 mm, a maximum orthophosphate concentration of 40 mg/kg and a maximum total nitrogen concentration of 400 mg/kg
 - be planted with appropriate deep-rooted, moisture-tolerant vegetation protected by rock mulch (grass and turf is not appropriate vegetation and organic mulch is not suitable)
 - direct all discharge and overflow to the unnamed tributaries of Farmers Creek via armoured discharge points such that discharge does not cause erosion, as per the Outfall Details Plan (Job No. 2016.617A; Dwg No. P07; Iss P1; dated 10/05/18) prepared by Calare Civil Pty Ltd
 - be accessible from the subdivision roads by machinery to facilitate cleaning, monitoring and maintenance of the structures
 - ensure the discharge outlets are consistent with the requirements of any Controlled Activity Approval under the *Water Management Act (2000)* from the Department of Industry-Water
 - be permanently protected from vehicular damage by bollards, fences, castellated kerbs or similar structures, with a sign to be erected to advise of its nature and purpose in water quality management, and
 - be protected by sediment and erosion control measures during any construction and post-construction phase until the ground surface is revegetated or stabilised.

55. The bioretention basins **for each stage of the subdivision** shall be constructed after all hardstand areas i.e. road construction, have been completed and all ground surfaces have been stabilised.
56. No changes to stormwater treatment and management that will impact on water quality shall be permitted without the agreement of Water NSW.
57. A suitably qualified stormwater consultant or engineer shall certify in writing to Water NSW and Council **prior to the issuance of a Subdivision Certificate for each stage** of the subdivision that all stormwater management structures have been installed as per these conditions of consent and are in a functional state.
58. An Operational Environmental Management Plan (OEMP) for **each stage** of the subdivision shall be prepared in consultation with Water NSW and Council by a person with knowledge and experience in the preparation of such plans. Each OEMP shall be prepared **prior to the issuance of a Subdivision Certificate for that stage of the subdivision**, and may be updated from the OEMP for the previous stage. **The OEMP shall be provided to Council when the management and maintenance of the bioretention basins is handed over**

to Council. The OEMP as a minimum shall include but not be limited to:

- details on the location, description and function of stormwater management structures such as pits, pipes, bioretention basins and any other stormwater structures and drainage works
- an identification of the responsibilities and detailed requirements for the inspection, monitoring and maintenance of all stormwater management structures, **before and after handing over to Council**, including the frequency of such activities
- the identification of the individuals or positions responsible for inspection and maintenance activities, **before and after handing over to Council**, including a reporting protocol and hierarchy
- the identification of detailed requirements and measures for the protection of bioretention basins **from future upstream construction works** i.e. construction of dwellings on future lots, and checklists for recording inspections and maintenance activities.

59. All stormwater treatment devices, particularly bioretention basins, shall be monitored, maintained and managed as per the Operational Environmental Management Plan referred in Condition 58 above.

Construction Activities

60. An Erosion and Sediment Control Plan shall be prepared for all works proposed or required as part of **each stage** of the subdivision, including the subdivision road, by a person with knowledge and experience in the preparation of such plans. The Plan shall meet the requirements outlined in Chapter 2 of NSW Landcom's Soils and Construction: Managing Urban Stormwater (2004) manual - the "Blue Book". The Plan shall be developed in consultation with Water NSW and be prepared **prior to Council issuance of a Construction Certificate for that stage of the subdivision** and shall be to the satisfaction of Council.

61. A suitably qualified, certified professional shall oversee the implementation of the Erosion and Sediment Control Plan **for each stage of the subdivision** and effective erosion and sediment controls at the site prior to and during any construction activity including site access and works within waterways and shall certify in writing to Water NSW and Council that erosion and sediment controls have been installed and maintained at the site in accordance with Condition 60 above. The controls shall prevent sediment or polluted water leaving the site or entering any stormwater drain or natural drainage system. The controls shall be regularly maintained and retained until works have been completed and ground surface stabilised or groundcover re-established.

ENDEAVOUR ENERGY REQUIREMENTS

62. The applicant will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Depending on the outcome of the assessment, any required padmount substation will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefiting and gifted to Endeavour Energy. As part of the application, the proposed undergrounding of the existing overhead power lines and the release of easement should also be addressed. Please see Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights'. Further details are available by contacting Endeavour Energy's Network Connections Branch via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm or on Endeavour Energy's website under 'Home > Residential and business > Connecting to our network' via the following link:

<http://www.endeavourenergy.com.au/>

63. The planting of large trees in the vicinity of electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure. Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure and even with underground cables, be installed with a root barrier around the root ball of the plant. Landscaping that interferes with electricity infrastructure may become subject to Endeavour Energy's Vegetation Management program and/or the provisions of the Electricity Supply Act 1995 (NSW) Section 48 'Interference with electricity works by trees' by which under certain circumstances the cost of carrying out such work may be recovered.

Schedule B



Natural Resources
Access Regulator

General Terms of Approval

for proposed development requiring approval
under s89, 90 or 91 of the Water Management Act 2000

Reference Number: IDAS1105166
Issue date of GTA: 16 March 2018
Type of Approval: Controlled Activity
Description: 86 Residential Lot subdivision, 1 Lot utilised for drainage, new roads and pathways
Location of work/activity: 43 Hillcrest Avenue LITHGOW
DA Number: DA021/18
LGA: Lithgow City Council
Water Sharing Plan Area: Greater Metropolitan Region Unregulated River Water Sources

The GTA issued by DPI Water do not constitute an approval under the *Water Management Act 2000*.

The development consent holder must apply to DPI Water for the relevant approval **after development consent** has been issued by Council **and before** the commencement of any work or activity.

Condition Number	Details

Design of works and structures

GT0009-00004	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to Crown Lands and Water Division, and obtained, for a controlled activity approval under the Water Management Act 2000.

Erosion and sediment controls

GT0014-00003	A. The consent holder must ensure that any proposed materials or cleared vegetation, which may: i. obstruct water flow, or ii. wash into the water body, or iii. cause damage to river banks, are not stored on waterfront land, unless in accordance with a plan held by Crown Lands and Water Division as part of a controlled activity approval. B. When the carrying out of the controlled activity has been completed, surplus materials must be removed from waterfront land.

GT0021-00004	The proposed erosion and sediment control works must be inspected and maintained throughout the construction or operation period of the controlled activity and must not be removed until the site is fully stabilised.

Plans, standards and guidelines

GT0002-00223	A. This General Terms of Approval (GTA) only applies to the proposed controlled activity described in the plans and associated documents found in Schedule 1, relating to Development Application 02118 provided by Council to Crown Lands and Water Division. B. Any amendments or modifications to the proposed controlled activity may render the GTA invalid. If the proposed controlled activity is amended or modified, Crown Lands and Water Division, Parramatta Office, must be notified in writing to determine if any variations to the GTA will be required.

GT0004-00002	A. A security deposit must be provided, if required by Crown Lands and Water Division. B. The deposit must be: i. a bank guarantee, cash deposit or equivalent, and ii. equal to the amount required by Crown Lands and Water Division for that controlled activity approval.

GT0005-00077	A. The application for a controlled activity approval must include the following plan(s): - 1. Vegetation Management Plan to include planting densities and width of riparian zone; 2. Erosion and Sediment Control Plans; 3. Stormwater Outlet Structure Plans; 4. Watercourse Crossing Plans; 5. Soil and Water Management Plan; and 6. Detailed Construction Civil and Drainage Plans. B. The plan(s) must be prepared in accordance with Crown Lands and Water Division's guidelines located on the website http://www.water.nsw.gov.au/water-



General Terms of Approval

**for proposed development requiring approval
under s89, 90 or 91 of the Water Management Act 2000**

Reference Number:	IDAS1105166
Issue date of GTA:	16 March 2018
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DA Number:	DA021/18
LGA:	Lithgow City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources

Condition Number	Details
GT00008-00015	Licensing/approvals/controlled-activity. A. Before the proposed controlled activity can commence, a riparian corridor must be clearly marked, protected and maintained in accordance with a plan submitted as part of the controlled activity approval, and approved by Crown Lands and Water Division. B. The corridor must extend for: i. a width of 40m, measured horizontally landward from the highest bank of the river, and ii. The length of the site directly affected by the controlled activity.
GT0030-00001	The application for a controlled activity approval must include plans prepared in accordance with Natural Resources Access Regulator's guidelines located on the website https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities .

Rehabilitation and maintenance

GT0007-00003	When the proposed controlled activity is completed, and the rehabilitation plan has been implemented, maintenance of the site must be carried out for a period of 2 years in accordance with that rehabilitation plan submitted as part of the controlled activity approval, and approved by Crown Lands and Water Division.
GT0023-00001	Vegetation clearance associated with the proposed controlled activity must be limited to where the controlled activity is to be carried out, as shown on the approved plan(s).

Reporting requirements

GT0016-00002	The consent holder must inform Natural Resources Access Regulator in writing when any proposed activity carried out under a controlled activity approval has been completed.

SCHEDULE 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by DPI Water for integrated development associated with DA021/18 as provided by Council:

- 1) Lot Layout for Proposed Subdivision_#16083_28.11.2017;
- 2) Soil & Water Plan_#16083_28.11.2017;
- 3) Contour and Slope Plan_#16083_28.11.2017;
- 4) Conceptual Stormwater Management Plan_#16.617_December 2016;
- 5) Statement of Environmental Effects_#16083_05.02.2017; and
- 6) Bushfire Risk Assessment Report_Appendix B.

Schedule C

Please find attached general design requirements in relation to the servicing requirements for water and sewerage as part of the abovementioned Development Application based on Preliminary Design drawing received by Council.

The attached conditions do not constitute approval under *section 68, Local Government Act 1993*. Prior to the commencement of any works as described below;

- Undertaking of water supply works
- Undertaking of sewerage works
- Installation, alteration, disconnection or removal of a meter connected to a service pipe
- Connect a private drain or sewer with a public drain or sewer under the control of a council or with a drain or sewer which connects with such a public drain or sewer
- The developer must obtain written Section 68 approval from Council; this will be required prior to the issue of the Construction Certificate. The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicable supporting information for the proposed works.

If your Section 68 application is approved, Council will issue you with a Section 68 approval containing conditions that must be complied with during construction.

-
1. Maximum Grade of 20% is permitted for gravity sewer design purposes. Applicant is to provide details of addressing hydraulic jump, odour suppression and the use of energy dissipaters and sewer vents.
 2. The maximum allowable sewer flow velocity shall be 3.0 m/s.
 3. Applicant to gain full approval for any easements required for water and sewer works prior to release of construction certificate.
 4. The design shall include Gravity sewer connections for each proposed Lot. Privately owned Low Pressurised Sewer Systems and Package Pump Stations shall not be accepted.
 5. Sewer mains located within lots adjacent to stormwater drainage lines shall be a minimum of 750 mm clear of the stormwater pipe.
 6. Plans showing all easements to be created over water and sewer infrastructure shall be submitted to Council prior to the release of the Construction Certificate.
 7. All Water and Sewer works, including minimum and maximum flows and velocities, shall be designed in accordance WSAA code.
 8. Manholes that have been elevated for flood zone requirements shall require work platforms for WHS purposes.

9. Full vehicular access shall be provided to all sewer man holes to allow for servicing and maintenance.
10. The applicant shall provide detailed water design details to include a ring main design. The new water supply network shall connect into the Council reticulation network via two points of connection, being Hillcrest & Thornton Avenue.
11. The design of water reticulation shall generally be in accordance with the latest version of the Water Services Association of Australia (WSAA) "Water Supply Code of Australia" (WSA 03).
12. The applicant shall provide fire flow analysis for all water supply networks prior to the release of the Construction Certificate, to ensure that the network is capable of providing the performance for the design of pressure for spring hydrants. Maximum spacing of hydrants shall be 60 metres. (Residential).
13. Construction Certificate design drawings and specifications shall clearly address the following:
 - a. Location of pipelines, valves, hydrants, pipe materials, size, pressure class, jointing methods and corrosion protection measures.
 - b. Specifications for products, materials, site investigation, excavation / trench details and other technical matters.
 - c. Documentation of design assumptions, constraints and issues relevant to the design and not otherwise noted in the Concept Plan.
14. Water supply design to provide Desirable Minimum Static Pressure of 350kpa. Static Pressure shall not to exceed 500kpa at each house hold boundary.
15. Stop (dividing and isolating) and control valves shall be positioned to give required control of the system and to provide an alternative means of supply when a distribution main is taken out of service.
16. Minimum and maximum allowable service pressures will not be exceeded in each zone.
17. Minimum and maximum flows and velocities shall be in accordance with the WSAA Code.
18. A geotechnical report shall be submitted to Council prior to the release of the Construction Certificate. All Pipe and fitting materials must be suitable for application and environment.
19. The spacing and positioning of valves shall allow for isolation of individual zones.
20. Water mains shall only be installed in undisturbed ground.
21. All stop valves shall be anticlockwise closing and be positioned at a minimum of every 300 metres. Valves shall be positioned adjacent to branch take offs.
22. Each lot shall have an individual water meter, which shall be purchased from Council at the applicants full cost and held at Council store.
23. Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.

24. Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will install the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

ADVISORY NOTES

Sewerage

1. General Design Considerations

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*

1.1 Objectives

The sewerage objectives are seen as being achieved when:

- i. The planning, design and construction of new facilities are adequate in servicing new and future developments.
- ii. there is compatibility with the existing facilities, methods of operation, and maintenance techniques; and
- iii. The facilities provide public health, environmental, and asset protection consistent with the accepted design and construction requirements set out in this document and with developments in technology as approved from time to time.

The pipe system may, on occasions, be subject to "surcharge" (where the hydraulic grade line is higher than the pipe invert) or "overflows" (where sewage overflows out of maintenance holes). These situations may be the result of blockages and/or flows in excess of the design flows. In establishing the layout of the pipe network, designers should take care to ensure that any overflows are likely to cause only minimal nuisance or damage.

1.2 Maintenance Aspects

1.2.1 General

The sewerage system is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

Maintenance holes located in readily identifiable locations (e.g. opposite a building line), and not within leased properties, are an aid to rapid clearance of sewer blockages.

1.2.2 Special equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

1.3 Discharges from stormwater systems to sewers

Unless approved otherwise, under the specific *Trade Waste Agreement*, no stormwater discharge will be accepted into sewers.

2. Location of Sewers

2.1 Sewer Locations

2.1.1 Sewers located outside privately owned lands

The design of a sewer system should take into account the fact that there is a significant increase in the risk of tree root blockages after a period of about 20 years. Further, the access to sewers for maintenance is a major problem in the Lithgow despite the use of sewerage reserves for this purpose. Therefore minimising the use of sewer alignments and reserves in leased land is an important feature of good sewer design. Where there is public land at the rear or the side of privately owned block the sewer should be located within the public land rather than within the leased/privately owned block.

i. Diversion of principal carrier sewers around leased lands

Blockages in the sewer system have the potential to result in sewage overflows into leased properties. To minimise problems caused by blockages, wherever practicable, sewers, particularly main carriers, shall be located in public areas rather than within leases.

ii. Other situations

Where a sewer is to be constructed across open areas it is to be sited to;

- (1) Maximise its use for future development, and
- (2) Minimise its impact on possible future use of the site.

Wherever possible sewers under playing fields are to be sited so that maintenance holes are not located within the playing area.

2.1.2 Sewers located within leased lands

Where a sewer is to be constructed within privately owned properties a 3m wide easement is to be created in favour of Council, with the pipe(s) centrally located within the easement and in a location that minimises the impact on the future development potential of the leased/ privately owned land(s).

2. Hydraulic Design

2.1 General Hydraulic Aspects

All sewer works in connection with the application are to be of a size no less than 150mm to the service tie or buried vertical riser

i. Minimum grades for DN150 pipes

Minimum permissible grades of the uppermost reaches of sewers are to be no less than 1.00%

This is the absolute minimum grades that shall be used. In general, it is not considered good practice to use a minimum grade on a short intermediate section of sewer when the upstream and downstream sections are laid at steeper grades.

ii. Maximum grades for sewers

Restrictions are placed on the maximum grades of sewers to limit internal erosion of pipe material, and/or pipe movement (due to trench flows causing loss of bedding).

The maximum pipe grade for sewers larger than DN150 is 15%. Where grades steeper than 15% are planned the circumstances are to be referred to Lithgow City Council for assessment.

To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, scour stops or trench stops may be required. To enable easy location, scour and trench stops shall be placed at intervals of equal length with spacing not exceeding that which is specified. The actual spacing and number of stops shall be nominated on layout drawings.

iii. Grade changes between pipe reaches

It is essential in the lower reaches of the sewerage system, where sewage may have low dissolved oxygen levels, that turbulence leading to the release of hydrogen sulphide from solution be avoided. In these areas, conditions such as a rapid change from steep to flat pipe slope, which favors the formation of a hydraulic jump at dry weather flows, must be avoided.

3. Structural Design

3.1 Sewer pipe materials and construction methods

3.1.1 Types of pipe

Sewers shall be constructed from materials proven to be structurally sound and durable, and shall have satisfactory jointing systems. The use of two or more types of pipe material on a single run of pipe between adjacent maintenance holes is not acceptable.

Materials approved for use in sewers are:

- Vitrified Clay - VC
- Reinforced Concrete - RC, see notes 1, 2 and 3
- Ductile Iron - DICT, see notes 1, 2
- Unplasticised Poly Vinyl Chloride – uPVC (Equivalent to class SEH, solid wall or approved structured wall), **150mm x 3m RRJ SN8 pipes and junctions are Councils preferred material**
- Glass Reinforced Plastics - GRP, see note 4 (Polyester Based)
- Polyethylene – HD-PE, see note 4

Notes

1. Not to be used within, nor up to 1 km downstream of industrial areas or hospitals.
2. Concrete shall be made with Type "SR" sulphate resisting cement with a tri-calcium aluminate content not greater than 5%, or Type "LH" low heat cement. Concrete pipes intended for other than trunk sewers shall be manufactured with a minimum 10mm sacrificial layer on the inside of the pipe.
3. Concrete pipes are not acceptable for DN150 and DN225 sewers.
4. Subject to special conditions and only with written approval of Lithgow City Council.

Proposals for the use of other materials will be considered if supported by adequate technical and performance data.

Where the pipe material is known it shall be shown on the drawings. Where the pipe material is not known prior to submission for detailed design acceptance, the drawings are to contain notes ensuring that the above requirements are satisfied.

4.1.2 Class of pipes

- Sewerage pipes must be of adequate strength to meet overburden and traffic loads. Loads are to include loads created from likely construction and maintenance activities;
- VC pipes shall be Class 4 or stronger;
- Class 2 (X), 3 (Y) and 4 (Z) reinforced concrete pipes manufactured in accordance with the latest version of AS 4058 are acceptable if used in accordance with the requirements of AS 3725;
- uPVC pipes shall be of grade Sewer Extra Heavy (SEH) or of equivalent SN grade in accordance with AS/NZS 1260;
- Classes for Ductile Iron, Glass Reinforced Plastics, Polyethylene, or ABS pipes shall be approved by Lithgow City Council prior to use.

Notes

1. Where load limits apply the locations shall be clearly designated on drawings.
2. During the construction phase specific load provision shall be made for heavy construction equipment where required.
3. No more than one type of pipe material will be used between successive maintenance holes or sewer maintenance shafts.

4.1.3 Pipe jointing

The sewer pipes are to be capable of excluding groundwater, resisting root intrusion, and withstanding pressure loading, both internal and external. Sewer systems must also have some flexibility, either through controlled deflection at joints (rigid materials) or pipe bending (flexible materials).

Acceptable pipe jointing systems are:

- i. VC pipes with rubber ring jointing comprising:
 - Spigot - Socket system;
 - Spigot - Spigot system utilising approved Socket-Socket coupler.
- ii. Reinforced Concrete Pipes, Spigot-Socket, with rubber ring jointing.
- iii. PVC pipes:
 - DN100: solvent welded;
 - DN150: rubber ring jointed or solvent welded; *
 - Larger than DN150: rubber ring jointed. *

Note: For proclaimed mine subsidence areas, the Mine Subsidence Board should be referred to for advice of subsidence design parameters for proposed drainage systems.

4.2 Depth of sewer and cover

i. Depth of Cover

Sewers shall be laid with a depth of cover, measured from the top of the pipe socket or inspection opening to the ground surface as per section 3.7 of AS/NZS 3500.2, unless the product specific Standard specifies, or the manufacturer recommends, a greater depth.

ii. Maximum Depth

Sewer mains are to be designed for a maximum depth to invert of 5.0 metres. In special cases (e.g. to avoid a pump station or for a short length of line through a ridge) specific approval may be sought from Council to exceed this limit.

4.3 Sewer main junctions

Within a sewerage system it is mandatory that all sewer main junctions occur within maintenance holes. However, DN150 sewer tie connections can be connected by means of maintenance holes or sloped junctions. For connection of service ties see section 4.4.

4.4 Sewer Service Connections

Service ties (house junctions)

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*.

4.4.1 Location

A service tie connecting to a sewer outside a residential block should generally be at right angles to the sewer. Where a service is a maintenance hole (manhole) or "dead-end", the service shall be at an angle between 90° and 180° from the downstream sewer to ensure a smooth flow of entry into the main line.

Service ties shall be located clear of all authorities easements, driveways and retaining walls.

Where the sewer main is located outside of the residential block, the service tie shall extend inside the property boundary and an inspection shaft extended vertically upward to the surface ground level to form a shaft. The tie should generally be located on the sewer main line at 1.0 metre from the lowest corner of the property and extend 1 metre into the boundary.

The upstream end of any "dead-end" sewer shall extend to at least 1 metre past the boundary to accommodate a service tie within a maintenance hole.

4.4.2 Size of Tie

Sewer service ties are normally 150mm solvent welded pipes or rubber ring (in mine subsidence areas). For multiple dwellings a single tie is to be provided per property.

4.4.3 Depth of Tie

A service tie is required to serve the entire leased block. However where building restrictions do not permit part of the block to be developed (e.g. set back distances from the front building line), then depths need to make allowance for this limitation.

In calculating the depth the designer should be familiar with the requirements for grade and depth provided in *AS/NZS 3500.2 sections 3.4 and 3.7*.

An acceptable design will have the following minimum depths of tie:

- For residential blocks: calculated on the basis of minimum cover with a property of 300mm and a maximum possible length of house drain at a grade of 1 in 60
- For residential blocks: calculated on the basis of minimum cover within the property, if subject to vehicular traffic, of 500mm and a maximum possible length of house drain at a grade of 1 in 60.

4.4.4 Grades

The service tie shall have a minimum grade of 1.0 % and a maximum of 20 %. For ties to deep sewers, a buried vertical riser is to be used (refer section 4.4.5)

4.4.5 Buried Vertical Risers (BVR)

On deep sewers that are near boundaries it may be necessary to use a BVR. These are to be noted on work-as-executed drawings

It is absolutely critical that BVR's are installed on a compacted trench base with suitable concrete support

4.4.6 Manholes

Manholes shall be located along a sewer main at all changes in grade, level and direction and at the intersections with other mains or dead-ends. Manholes will not be accepted within the carriageway of public roads.

The maximum permissible spacing between adjoining manholes is 80 metres.

Manholes are to be designed so that sewage is not forced to deflect by an angle of more than 90 degrees.

Manholes shall be constructed using 20 MPa concrete cast in-situ base. Either Type C or Type D cement shall be used in the concrete mix.

Chamber and covers shall be constructed from precast concrete components of a type authorised by Council.

Drop manholes or Jump-ups may only be used to avoid underground services, or at the intersection of shallow and deep mains where the difference in the invert level exceeds 450mm. The maximum difference in invert levels is 2.0 metres. Drop manholes or Jump-ups are to be constructed as per the requirements of *section 4.10 of AS/NZS 3500.2*

5. Testing

All drainage work is subject to testing and shall comply with the with the requirements of *section 12 of AS/NZS 3500.2*

Water

1.1.1 General

Lithgow's Water Supply System is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

1.1.2 Special Equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

This requirement also extends to the need to use special techniques or hired equipment. To ensure that maintenance personnel can respond and overcome operational problems consistent with service

objectives, it is essential that maintenance of the system is not dependent on non-standard techniques or equipment

2 Location of Water Mains

Water mains shall be constructed within road or public reserves or require the creation of a 3 metre wide easement for water supply, in favour of Council and subject to approval by Council. The pipe is to be centrally located within that easement should approval be given.

Easements across privately owned lands should be avoided.

Marking tape to *AS 2648* shall be laid in a continuous length on top of the pipe embedment material, 150mm above all water mains.

2.1 Provision of branches for future connection

Many branches provided for future development turn out to be either the wrong size, in the wrong place, or not eventually required. Temporary end caps on such branches are often not satisfactorily anchored, and become a liability if the branch is not subsequently used. To avoid this, the following is required:

- branches for future development shall not be provided unless the alignment and diameter of the future connecting mains are confidently known, and the extension is to occur within a short time span (less than 12 months);
- To avoid anchorage problems and future shut downs of the main, a flanged branch with a stop valve is preferred to a branch with an end cap. Valves shall be blank flanged. Where an end cap is necessary a full and adequate thrust block shall be provided;
- Where a branch is proposed to be laid across a road, the section across the road should be end capped at both ends rather than connected at one end initially (to avoid future road openings). If the pipes are not to be connected within 24 months, consideration should be given to charging it via a DN20 service connection and then flushing periodically.

3 Material, Size and Cover Requirements

Unless specifically approved otherwise by Lithgow City Council, pipes for water supply shall be selected from the following approved materials:

- Ductile iron, cement lined and rubber ring jointed, produced in standard lengths of 5.5 metres to AS 2280, having sizes of DN100, 150, 225, 300, 375, 450, 500, 600 and 750. For pipes up to DN300 an approved seal coating on the internal cement mortar lining is applied to reduce leaching. Class K9 shall be used for general application and class K12 where additional structural capability is required;
- PVC Class 16 to AS/NZS 1477 Series 2, having sizes of DN100, 150, 225, 300 and 375.
- **Modified PVC (PVC-M) Class 16 to AS/NZS 4765 (Int) Series 2**, having sizes **DN100**, 150, 225, 300, 375 and 450.
- Molecular Oriented PVC (PVC-O) Class 16 to AS/NZS 4441 (Int) Series 2, having sizes DN100, 150, 225, 300 and 375.
- for sizes above DN750, steel pipe to AS 1579, cement mortar lined to AS 1281, and externally coated with fusion bonded polyethylene;
- PE, pressure class PN16, to AS/NZS 4130 having size DN63. Direct tapping not permitted.

The minimum **cover to water mains** shall normally be **750mm** in roadways or traffic areas and 600mm elsewhere. The minimum **cover to water services** shall be 450mm in roadways or traffic areas

and 375mm elsewhere. Provision shall be made for transient loads such as construction equipment where cover is reduced during the construction phase.

A pipeline shall be lowered when cover is removed from existing pipelines for new works (such as roads). If this is physically impossible then consideration shall be given to protection by a suitably designed reinforced concrete relieving slab; extending at least 500mm into natural ground beyond existing pipe trench lines. This slab shall be segmented by construction joints into maximum 1.0 metre long easily removed segments, and separated from the pipe obvert by no less than 25mm of granular or compressible material.

Thrust or anchor blocks of plain or reinforced concrete, which have been designed to resist unbalanced hydraulic forces, shall be provided at all bends, tees, tapers, in-line stop valves and dead ends.

To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, trench stops and scour stops may be required. Scour stops shall be provided along inclined mains where the slope is 5 to 30%. Trench stops can be regarded as an alternative to scour stops and may be provided along inclined mains where the slope is 5 to 15%. To enable easy location, trench and scour stops shall be placed at intervals of equal length with spacing not exceeding that which is specified.

4. Service Connections

Water service connections works are to be undertaken under the provisions of *section 152 of the Local Government (General) Regulations 2005*

Water services should be of single service drawn **copper pipe, Type A**, manufactured in accordance with *AS 1432*. Services are to be a minimum of 20mm diameter, with 1.4mm wall thickness.

Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.

Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will installed the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

Brass or copper capillary fittings are to be installed at all joints, branches, and bends. Meter boxes, meters, maincocks and elbows are to be of a type approved by the Water and Wastewater Manager or alternatively these fitting can be provided by Council at full cost recovery.

Separate metered water services are to be provided to every allotment, as well as parks, reserves and landscaped roundabouts.

The meter box for each lot should be located approximately **500mm outside the front and side property boundaries**. Services should be located in pairs at side property boundaries. Note that the stop valve should be located no more than 450mm from the water meter, measured from the road alignment.

All service connections should cross the road perpendicular to the road centreline. Non-detectable marking tape to *AS 2648* shall be laid 150mm above all water services. Such connections should be marked on each kerb with a "W"

A Work as Executed plan (WAE) **MUST** be submitted to council prior to the release of the linen plan, outlining the following:

- Service meter location
- All main isolation valves hydrants and scours
- Water mains lay out and property services

5. Pipe Fittings

Fire hydrants of an approved type are to be installed along the water main at such convenient distances, and at such places, as may be necessary for the ready supply of water to extinguish fires accordance with AS/NZS 2419.

On water mains without hydrants (e.g. generally bulk supply mains), scour (or drain) outlets, with isolating valve control, shall be provided at all low points. Wherever possible, on water mains with hydrants (e.g. reticulation), a hydrant should be located at or near all low points, and are to be discharged via a pipe to a storm water drainage pit.

Stop valves are generally located adjacent to tees, and so that no more than 25 properties are isolated at any one time, by closing no more than four valves. To close a valve, the spindle will turn anticlockwise, as viewed, when facing the spindle cap

Provision shall be made concerning air release from all high points on water mains. This should normally be achieved in reticulation mains by means of a fire hydrant, a branch, or a service pipe located at the high point. Where this cannot be achieved a DN25 single orifice air valve should be provided

All maincocks, tees, hydrants, stop valves, scour valves, and air valves should be located within the public footway and shall be of type approved by Council.

All gibaults are to be long sleeved.

At road intersections, two forty-five degree (45o) bends should be used to negotiate the corner.

Thrust blocks shall be provided at all bends, tees, and dead-ends.

All valves and hydrants shall be enclosed within valve chambers.

Markings and indicator posts shall be provided at all hydrants and valves.

6. Testing

Prior to acceptance of the water reticulation network, all pipelines shall be inspected and pressure testing will be carried out.

7. Mains in Cul-de-Sacs

Where the cul-de-sac incorporates an adjacent street connected by a pathway, or ends in a public reserve, the water main shall extend through the pathway or reserve so that a dead-end is not created in the main.

In all other cases, the main is to be looped around the cul-de-sac.

Work as Executed Plans

Following the satisfactory completion of works, 'Works-As-Executed' (W.A.E.) plans prepared by a registered surveyor or professional engineer shall be submitted to Council's Group Manager of Operations. Such plan must be lodged prior to the release of the subdivision linen plan, or prior to occupation or use of the development.

The W.A.E. plans shall be Engineering Drawings as modified, and shall include the following items:

- invert levels of all drainage and sewerage lines at entrance and exit of MH;
- location, class, size, and material of all pipes and subsoil lines;

- location and diameter of service conduits;
- location of stop valves, hydrants, water services,
- longitudinal sections for each sewer main,
- depth of sewer manholes,
- sewer man hole schedule numbered
- location of sewer junctions measured from downstream of MH
- minimum depth and cover, maximum depth, grade, chainage, inverts,
- storm water and interallotment drainage pits;
- location of water meters and serial number of meter installed in relation to the lot it is installed on
- site regarding details – finished surface levels at centre of front and rear boundaries;
- the location and level of any permanent survey marks;

Each Works-As-Executed plan must include certification by the Registered Surveyor responsible for the preparation of the plan

PLANNING AGREEMENT

Parties

LITHGOW CITY COUNCIL of 180 MORT STREET, LITHGOW, New South Wales
(Council)

and

Noel & Kathleen Flynn of 996 Great Western Highway, Bowenfels, New South Wales
(Developer).

Background

- A. On, ... 2018, the Developer made a Development Application to the Council for Development Consent to carry out the Development on the Land.
- B. That Development Application was accompanied by an offer by the Developer to enter into this Agreement to make Development Contributions towards the Public Facilities and Open Space if that Development consent was granted.

Operative Provisions

1 Planning agreement under the Act

The Parties agree that this Agreement is a planning agreement governed by Subdivision 2 of Division 6 of Part 4 of the Act.

2 Application of this Agreement

This application applies to Lot 1 in DP 1230208, Hillcrest Avenue, Bowenfels for a subdivision of 1 into 86 residential lots.

3 Operation of this Agreement

This agreement takes effect on the date of execution. All contributions must be paid prior to the release of a subdivision certificate for each stage of the development.

4 Definitions and interpretation

4.1 In this Agreement the following definitions apply:

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

Dealing, in relation to the Land, means, without limitation, selling,

transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land.

Development means that associated with DA021/18 for a subdivision of 1 into 86 residential lots.

Development Application has the same meaning as in the Act.

Development Consent has the same meaning as in the Act.

Development Contribution means a monetary contribution, the dedication of land free of cost or the provision of a material public benefit.

GST has the same meaning as in the GST Law.

GST Law has the meaning given to that term in A New Tax System (Goods and Services Tax) Act 1999 (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

Land means Lot 1 DP 1230208, known as 43 Hillcrest Avenue, Bowenfels.

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

Regulation means the Environmental Planning and Assessment Regulation 2000.

4.2 In the interpretation of this Agreement, the following provisions apply unless the context otherwise requires:

- (a) Headings are inserted for convenience only and do not affect the interpretation of this Agreement.
- (b) A reference in this Agreement to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.
- (c) If the day on which any act, matter or thing is to be done under this Agreement is not a business day, the act, matter or thing must be done on the next business day.
- (d) A reference in this Agreement to dollars or \$ means Australian dollars and all amounts payable under this Agreement are payable in Australian dollars.
- (e) A reference in this Agreement to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.

- (f) A reference in this Agreement to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.
- (g) A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Agreement.
- (h) An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- (i) Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- (j) A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.
- (k) References to the word 'include' or 'including' are to be construed without limitation.
- (l) A reference to this Agreement includes the agreement recorded in this Agreement.
- (m) A reference to a party to this Agreement includes a reference to the servants, agents and contractors of the party, and the party's successors and assigns.
- (n) Any schedules and attachments form part of this Agreement.

5 Development Contributions to be made under this Agreement

The Developer shall pay to Council an amount of \$6,200.00 per allotment to go towards nearby community facilities and open space.

6 Application of the Development Contributions

Payments or provision of material public benefits must be made prior to the issue of a subdivision certificate for each stage.

7 Application of Section 7.11 (previously s94) and Section 7.12 (previously s94A) of the Act to the Development

Sections 7.11 and 7.12 do not otherwise apply to this development.

8 Registration of this Agreement

This Agreement will not be registered as provided for in Section 7.6 (previously s93H) of the Act as its provisions are to be finalised prior to the issue of any occupation certificate.

9 Review of this Agreement

This Agreement shall not be reviewed except with the approval of both parties.

10 Dispute Resolution

Should a dispute arise as part of this agreement that cannot be resolved between the parties then the parties may engage an independent mediator to be equally funded by the parties to assist in resolving the dispute. If the dispute is not resolved by mediation then before either party has recourse to litigation, the party must submit the dispute to external appraisal. If the parties do not agree upon an independent expert, either may request the Secretary General of the Australian Commercial Disputes Centre to nominate an expert.

11 Enforcement

If this Agreement is not honoured prior to any request for the issue of any subdivision certificate, then the parties agree that enforcement shall mean any subdivision certificate will not be issued.

12 Notices

12.1 Any notice, consent, information, application or request that must or may be given or made to a Party under this Agreement is only given or made if it is in writing and sent in one of the following ways:

- (a) Delivered or posted to that Party at its address set out below.
- (b) Faxed to that Party at its fax number set out below.
- (c) Emailed to that Party at its email address set out below.

Council

Attention: Andrew Muir
Address: 180 Mort Street, Lithgow, NSW 2790
Phone Number: 02 6354 9999
Email: andrew.muir@lithgow.gov.au

Developer

Attention: Noel & Kathleen Flynn c/o James Flynn
Address: 998 Great Western Highway, Bowenfels, NSW 2790
Phone Number: 0417 285868

12.2 If a Party gives the other Party 3 business days' notice of a change of its address or fax number, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted or faxed to the latest address or fax number.

12.3 Any notice, consent, information, application or request is to be treated as given or made at the following time:

(a) If it is delivered, when it is left at the relevant address.

(b) If it is sent by post, 2 business days after it is posted.

(c) If it is sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number.

12.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

13 Approvals and consent

Except as otherwise set out in this Agreement, and subject to any statutory obligations, a Party may give or withhold an approval or consent to be given under this Agreement in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding consent or for giving consent subject to conditions.

14 Assignment and Dealings

The parties agree that this agreement shall not be assigned to any other party. Should the developer wish to sell, transfer or otherwise dispose of the property the terms of this Agreement are to be honoured by the purchaser, transferee or receiver prior to such sale, transfer or disposition.

15 Costs

Any incidental costs associated with the Agreement shall be borne by the developer.

16 Entire agreement

This Agreement contains everything to which the Parties have agreed in relation to the matters it deals with. No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Agreement was executed, except as

permitted by law.

17 Further acts

Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to affect, perfect or complete this Agreement and all transactions incidental to it.

18 Governing law and jurisdiction

This Agreement is governed by the law of New South Wales. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

19 Joint and individual liability and benefits

Except as otherwise set out in this Agreement, any agreement, covenant, representation or warranty under this Agreement by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

20 No fetter

Nothing in this Agreement shall be construed as requiring Council to do anything that would cause it to be in breach of any of its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

21 Representations and warranties

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

22 Severability

If a clause or part of a clause of this Agreement 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 Agreement, but the rest of this Agreement is not affected.

23 Modification

No modification of this Agreement will be of any force or effect unless it is in writing and signed by the Parties to this Agreement.

24 Waiver

The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another Party. A waiver by a Party is only effective if it is in writing. A written waiver by a Party is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

25 GST

If any Party reasonably decides that it is liable to pay GST on a supply made to the other Party under this Agreement and the supply was not priced to include GST, then recipient of the supply must pay an additional amount equal to the GST on that supply.

Execution

Dated:

Executed as an Agreement:

.....
Noel Flynn

.....
Kathleen Flynn

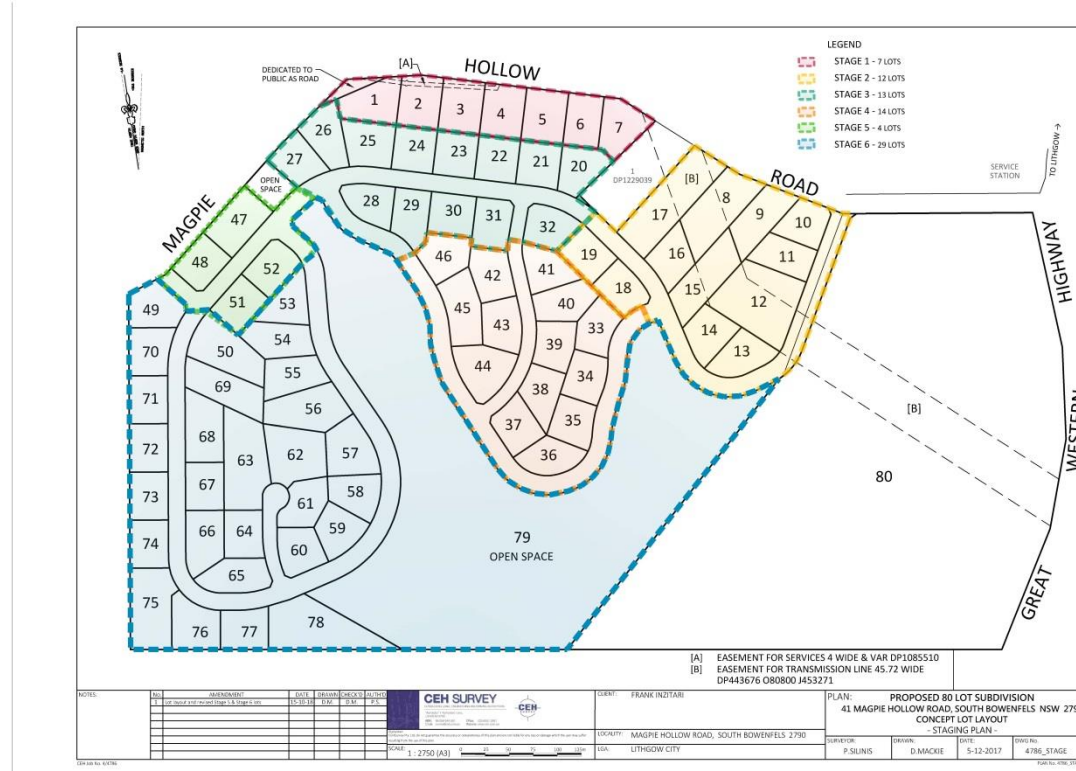
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Lithgow City Council

DEVELOPMENT ASSESSMENT REPORT DA022/18 SUBDIVISION 1 LOT IN 79 AT 33 MAGPIE HOLLOW ROAD SOUTH BOWENFELS NSW 2790

1. PROPOSAL

Council is in receipt of Development Application DA022/18 for a subdivision of 1 lot into 79 at 33 Magpie Hollow Road South Bowenfels NSW 2790. The site measures 33.66 hectares in size. The land is currently used as grazing land with some scattered vegetation, Bowen Creek and intermittent drainage lines. The site contains remnants of an old slaughterhouse and a sheep/ cattle yard that is proposed to remain on the property. It is important to note that the site is currently unsewered.

The proposal is for a 79 lot subdivision, creating 78 new residential allotments and an open space reserve. Proposed Lot 80 (shown on the subdivision plans) is the residue of Lot 3 DP1229039 which will have its boundary adjusted to accommodate part of the road reserve to service the proposal. Below is the proposed lot layout and staging of the subdivision:



The proposal also includes infrastructure for stormwater, reticulated water and sewer services. The development is proposed to be undertaken in six (6) stages being:

- Stage 1= 7 lots (Lots 1 to 7)
- Stage 2= 12 lots (Lots 8 to 19) includes boundary adjustment for Lot 80
- Stage 3= 13 lots (Lots 20 to 32)
- Stage 4= 14 lots (Lots 33 to 46)
- Stage 5= 4 lots (Lots 47, 48, 51 and 52)
- Stage 6= 29 lots (Lots 49, 50 and 53 to 79) includes the lot for open space

2. SUMMARY

To assess and determine Development Application DA022/18 with a recommendation for approval subject to conditions.

3. LOCATION OF THE PROPOSAL

Legal Description: Lots 2 & 3 DP 1229039
Property Address: 33 Magpie Hollow Road South Bowenfels NSW 2790

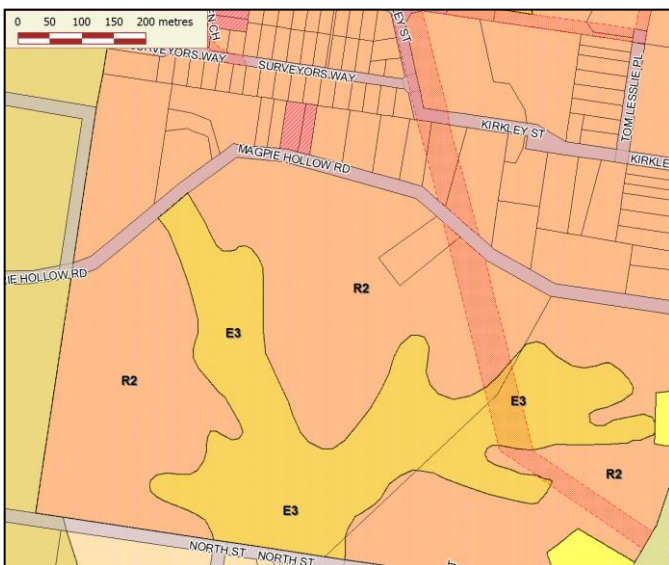
4. ZONING: The land is zoned R2 Low Density Residential and E3 Environmental Management in accordance with Council's current planning instrument, being Lithgow Local Environmental Plan (LEP) 2014.

5. PERMISSIBILITY: The development, being a subdivision, is permissible under Lithgow Local Environmental Plan 2014.

4.1 Minimum subdivision lot size

(3) The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

Zoning map



Minimum Lot Size Map



The development being a subdivision of land in R2 Low Density Residential zoning is permissible for Lots 1 to 78 under Clause 4.1 as each lot meets the minimum lot size (MLS) of 2000m² as per the Lot Size Map under LEP2014. It is noted that Lots 47, 27, 58, 59 & 78, will have slivers (small enough to be within the realm of minor mapping anomaly) of E3 in which the 40ha MLS would be applicable. It is considered that this does not need to preclude the proposed lot layout and should not change the overall design proposal of the development.

However, the proposed lot created for the open space reserve (shown as Lot 79) does not meet the MLS of 40ha as per the Lot Size Map for Clause 4.1 of LEP2014 being 9.17ha. This open space allotment is within the E3 Environmental Management

zone of 40ha MLS and the entire proposal would be prohibited apart from Clause 4.1B for split zones.

The land has two zonings (residential and environmental) and cannot be subdivided under Clause 4.1, 4.1AA or 4.2C however the current plan for subdivision promotes suitable land uses as per Clause 4.1B (1) & (2). Proposed Lot 79 will incorporate the entire E3 Environmental Management zone and it is proposed that this (lot 79) will be dedicated to Council for use as end of line drainage structures; passive open space; bush fire protection zones and protection and conservation of riparian corridor. This proposal will comply with the provisions of Clause 4.1B (4) as these uses are considered to be achieve a wider public benefit and purpose.

Having determined that the proposed Lot 79 is for a public purpose Council must also be satisfied that the subdivision will comply with Clause 4.1B(7) as follows:

- a) is not likely to have a significant adverse impact on the environmental values of the land, and
- (b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and
- (c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.

The proposal is will not have a significant adverse impact on the environmental values of the land if appropriately managed. The retention of the riparian corridors and vegetated areas of the development site within one allotment will prevent further fragmentation of these areas and development works that may impact on the biodiversity values of the land.

Proposed lot 79 is proposed to be dedicated to Council to ensure that the land can continue to be appropriately managed beyond the subdivision phase of the development. It is considered that public ownership is the best available means to ensure the environmental integrity of the end of line drainage structures and protection of the riparian corridors.

The creation of Lot 79 for a public purpose consistent with the environmental values of the land will not impact any primary production lands. The surrounding landuse is residential and urban landuse.

The alternative to this arrangement is that the area of Lot 79 be consolidated with Lot 80 and remain in private ownership and stewardship which would almost certainly result in a lower standard of natural resource outcomes.

Further discussion on the dedication of this land to Council is contained within S.5.3.6 of the report.

5.1 POLICY IMPLICATIONS (OTHER THAN DCP's)

Policy 1.2 Acquisition and Disposal of Assets

This Policy needs to be considered when Council is considering the acquisition and/or development of assets. This Development Application proposes to construct bio-retention basins, stormwater infrastructure and four roads. The open space/drainage reserves and the new road networks will be dedicated to Council as an asset as part of the Subdivision Certificate release process.

Council's Director of Operations has advised that these assets satisfy the criteria identified within this Policy. The developer will be required to construct the assets to Council's specifications prior to a maintenance period and subsequent dedication if the development is approved.

Policy 7.2 Subdivision – Release of Subdivision Plans

The proposed development, being for a subdivision, will require compliance with this policy as part of the Subdivision Certificate release.

Policy 7.5 Notification of Development Applications

This policy does not apply to development applications that are required to be notified under specific legislation.

The application is for 'Integrated Development' therefore the proposal was notified to surrounding landowners and placed on display for a period of 30 days to coincide with the required advertising period and therefore complies with Council's Policy.

Policy 7.10 Voluntary Planning Agreements

A Voluntary Planning Agreement (VPA) has been negotiated with the developer as per Section 7.4 of the *Environmental Planning & Assessment Act 1979* in relation to this proposal. The plan has been created as per the Policy and will be advertised appropriately for compliance.

The Developer shall make cash contributions and carry out works as follows:

1. The Developer shall pay to Council an amount of \$2,550 per allotment to go towards community facilities and open space.
2. The Developer shall construct a cycleway 250 metres long within Lot 79 linking the proposed active Open Space area within lot 79 to the new public road in the vicinity of lot 36 (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).
3. The Developer shall construct a cycleway 140 metres long within Lot 79 linking the proposed active Open Space area within lot 79 to the new public road in the vicinity of lot 58 (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).
4. The Developer shall upgrade the sewer crossing linking the two cycleways within lot 79 to a 2 metre wide minimum steel bridge to cater for bicycles and pedestrian traffic (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).
5. Construct a shared cycleway from the intersection of the Great Western Highway to a point adjacent to lot 10 (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).

The total of cash and 'works in kind' contributions equate to \$6,200 per allotment. A Draft Planning Agreement has now been prepared for endorsement so the required public notification process may proceed.

5.2 FINANCIAL IMPLICATIONS (eg Section 94)

Water Management Act 2000

Under the Water Management Act 2000, Section 305, an application for Certificate of Compliance must be submitted to Council. This Act states:

- (1) A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.*
- (2) An application must be accompanied by such information as the regulations may prescribe.*

Therefore Councils Section 64 Contributions under Local Government Act 1993 for water and sewer connections will be required to be paid prior to the Subdivision Certificate release for each stage.

The following condition would be included in the condition of consent:

- An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the following allotments created being: Stage 1= 7 lots, Stage 2=12 lots, Stage 3= 13 lots, Stage 4= 14 lots, Stage 5= 4 lots and Stage 6= 29 lots. The rate of contribution per lot/ET is \$2,921 for water and \$14,213 for sewer as set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted by any subsequent Development Servicing Plan, annually adjusted for CPI (Sydney) applicable at the time of payment.

Planning Agreements

See previous commentary under **Policy 7.10** above.

5.3 LEGAL IMPLICATIONS

Contaminated Land Management Act 1997 No 140

The land is not contaminated land as defined under this Act.

Conveyancing Act 1919

The proposed development will have the following condition of consent imposed in accordance with the Act as proposed by Council:

- *No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the Conveyancing Act 1919 with Council having the right to vary, modify or release this restriction.*

Environmental Protection and Biodiversity Conservation Act 1991

No federally listed Threatened Species or Endangered Ecological Community is required to be cleared as a result of this application. Accordingly, there are no legal implications of this Act on the proposed development.

Local Government Act 1993

If this application is approved, the applicant must obtain a written Section 68 application for connection to Council's water and sewerage supply. This must be lodged and approved prior to commencement of any work on site and shall be at full cost to the applicant.

The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicably supporting information for the proposed works. All conditions of the Section 68 Approval must be complied with prior to the release of the Subdivision Certificate for each Stage.

Roads Act 1993

The proposed roads with this subdivision are to be dedicated to Council under this Act. Council will become the controlling authority for the roads once construction works are satisfactory and the Subdivision Certificate release. The proposal will meet the requirements of the Act subject to conditions of consent.

Rural Fires Act 1997

The development is integrated under this Act (via Section 91 of the EP & A Act 1979). Accordingly the approval of the Rural Fire Service was required prior to Council being in a position to determine the application. Recommendations from the Rural Fire Service have been obtained and it is considered that subject to conditions of consent the development will comply with the provisions of this Act.

Telecommunications Act 1997

It is recommended that consent authorities adopt the following model condition when issuing development consents for subdivision as per Planning Circular 17-005 (17.11.17) -Conditions of consent for fibre-ready facilities and telecommunications infrastructure, as below:

- *Prior to the issue of the Subdivision or Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:*
 - (i) *the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.*
 - and*
 - (ii) *the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.*
- (Note real estate development project has the meanings given in section 372Q of the Telecommunications Act).*

Water Management Act 2000

The development proposes works within a watercourse for proposed sewer services and stormwater infrastructure of the development. Therefore, a Controlled Activity Approval is required from DPI Water as per the below:

91 Activity approvals

- (1) *There are two kinds of activity approvals, namely, controlled activity approvals and aquifer interference approvals.*

- (2) *A controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.*
- (3) *An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.*

Note. *Examples of where an aquifer interference approval may be needed include mining operations, road construction and any other large scale activity that involves excavation.*

The application was referred to DPI Water for an Integrated Approval under this Act as per Section 4.46 of the *Environmental Planning & Assessment Act 1979*. Comments provided by Water NSW on the matter are detailed further in this report and provide compliance with the Act.

Biodiversity Conservation Act 2016

This Act is applicable where development involves clearing of native vegetation in non-rural zones. It establishes a framework to avoid, minimise and offset impacts for all types of development that are likely to have a significant impact on biodiversity.

The BC Act commenced in full on 25 February 2018. As this application was lodged prior to this date, it becomes a "*pending or interim planning application*" for the purposes of this Act under the transitional regulations and therefore must be considered under the former provisions being the Threatened Species Conservation Act.

Council has undertaken a desktop assessment using the BioNet Atlas and found that there were no known threatened species or endangered ecological communities found on the site or in nearby proximity.

A vegetation management plan that supports the application also concluded from a ground truth survey that there were no known threatened species or endangered ecological communities present at the time of their inspection.

The VMP recommends an offset area of planting in the location adjacent to proposed Lot 14 to compensate for loss of vegetation of proposed Lot 60. The VMP also recommends a rehabilitation plan to be implemented over proposed Lot 79 to conserve and improve the riparian corridors with weed removal a priority.

The land was also not indicated on the Biodiversity Values Map of the BC Act, 2016.

The development if carried out in accordance with recommended conditions of consent will result in a positive impact on biodiversity in the location. It is therefore considered that no significant impact will result.

Environmental Planning and Assessment Act 1979

In determining a development application, a consent authority is required to take into consideration the matters of relevance under Section 4.15 of the *Environmental Planning and Assessment Act 1979*. These matters for consideration are as follows:

5.3.1 Any Environmental Planning Instruments

Relevant State Environmental Planning Instruments

State Environmental Planning Policy 44 – Koala Habitat Protection

SEPP 44 is applicable to site given that it exceeds 1ha in size and is located within the Lithgow Local Government Area to which the SEPP applies. Part 2 of the SEPP requires Council to consider whether the land the subject of the application retains potential and subsequently core koala habitat.

Many of the trees listed within Schedule 2 of the SEPP are common within the Lithgow Local Government area, however core koala habitat within this area is rare, with only 12 koala sightings ever reported on private land within the LGA.

Comment: Given that minimal trees are to be removed as part of the development, and the section of the subject site relevant to the application is devoid of native vegetation it is considered unnecessary to proceed further with SEPP 44 assessment. It is unlikely that the vegetation would be considered core koala habitat.

State Environmental Planning Policy No 55—Remediation of Land

SEPP 55 – Compliance Check		
Clause		Compliance
7	Contamination and remediation to be considered in determining development application	Yes
8	Remediation work permissible	Yes
9	Category 1 remediation work: work needing consent	Yes
13	Advertising of development application	Yes
17	Guidelines and notices: all remediation work	Yes
18	Notice of completion of remediation	Yes

Comment: Council has considered whether the land is contaminated by requesting a preliminary contamination report to be submitted with the application. This report found that there is general refuse including tyres, tiles, plastic and steel drums and bricks along the drainage gullies of the site. Additionally, fill stockpiles comprising of silty sand and sandy clay with bricks and concrete were identified in several areas across the site. Ninety two (92) discrete soil samples were collected over the general areas from 0 to 100mm soil depth as shown on the below plan:



As a result soil samples did not detect environmental background levels and were below the adopted residential and recreational land-use thresholds. Therefore the site is considered suitable for residential and recreational land uses. However it was suggested that the fill stockpiles identified require removal for suitability of residential and recreational land use and will form a condition of consent if approved.

Additionally, Council will require the removal of the general refuse from the site and disposal at a licenced waste facility. Evidentiary recording will also be required.

Therefore, the development will comply with the provisions of the SEPP with the remediation of land to be done prior to Stage 1, if the development is approved.

State Environmental Planning Policy (Infrastructure) 2007

SEPP (Infrastructure) 2007 – Compliance Check		
Clause		Compliance
Division 5 Electricity transmission or distribution		
Subdivision 2 Development likely to affect an electricity transmission or distribution network		
45	Determination of development applications—other development	Yes
Division 17 Roads and traffic		
Subdivision 2 Development in or adjacent to road corridors and road reservations		
104	Traffic-generating development	NA

Comment: The proposed development is within proximity of existing electricity infrastructure and may require the upgrade of these existing services. Therefore the development was referred to Endeavour Energy and TransGrid for comments as per the SEPP. Endeavour Energy and TransGrid supplied their comments of the proposal which are detailed further on this report and therefore the proposal meets the requirements of the SEPP.

The application does not meet the requirements of traffic generating development, however a referral for information was sent to the RMS. Comments are detailed further in this report.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011

SEPP (Sydney Drinking Water Catchment) 2011 – Compliance Check		
Clause		Compliance
10	Development consent cannot be granted unless neutral or beneficial effect on water quality	Yes
11	Development that needs concurrence of the Chief Executive	Yes

Comment: The proposed development was referred to Water NSW as per the requirements of the SEPP given the proposal is for a 79 lot subdivision within the Sydney Drinking Water Catchment. Water NSW has provided correspondence on the proposal with no objections subject to conditions of consent if approved. Water NSW agrees that the development can achieve a neutral or beneficial effect on water quality and complies with the provisions of the SEPP.

Local Environmental Plan

Lithgow Local Environmental Plan 2014

LEP 2014 – Compliance Check		
Clause		Compliance
Land Use table	R2 Low Density Residential	Yes
Land Use table	E3 Environmental Management	Yes
4.1	Minimum subdivision lot size	Yes
4.1B	Minimum lot sizes for certain split zones	Yes
7.1	Earthworks	Yes
7.2	Flood Planning	Yes
7.3	Stormwater management	Yes
7.4	Terrestrial biodiversity	Yes
7.5	Groundwater vulnerability	Yes
7.7	Sensitive lands	Yes
7.10	Essential Services	Yes

Comment: The proposed subdivision will be providing for housing needs of the community in a larger lot size development which meets the day to day needs of potential residents. The proposal will also protect the ecological and aesthetic values of the area being the riparian corridors through dedication to Council. The proposal will maintain the rural character of the surrounding area while allowing for larger allotment residential uses that should not cause land use conflict. The development limits the range of development within the E3 Environmental Management zoning to provide for a riparian corridor and passive open space. The proposal will provide sewer, water, electricity and telecommunications to the satisfaction of Council and other authorities subject to conditions if approved.

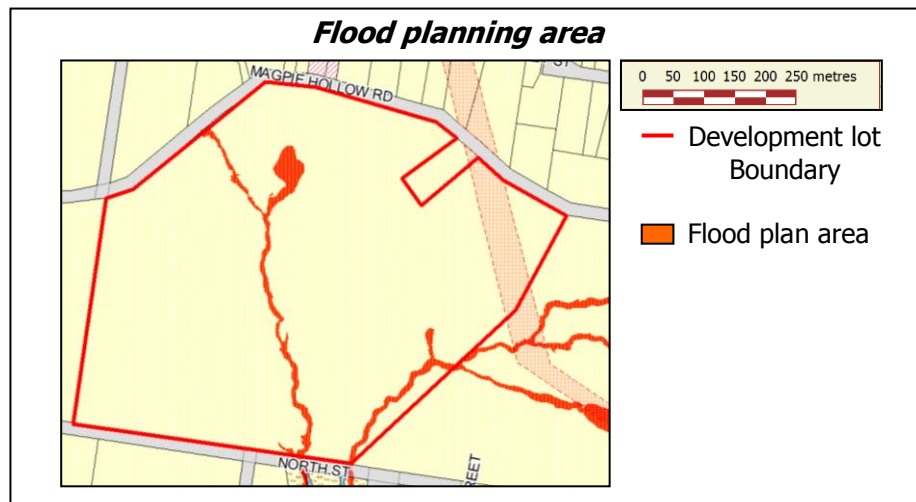
The proposal will have a neutral or beneficial effect on water quality of the surrounding catchments as assessed by Water NSW.

As previously discussed as the proposal does not meet the MLS requirements for proposed Lot 79 being 40ha the development is not permitted under clause 4.1. However as the land has a split zoning of residential and environmental, Clause 4.1B of the LEP is applicable and allows Council to consider consent for the development as lot 79 is to be created for a public purpose and dedicated to Council as discussed in Section 5 of this report.

The development will require earthworks to be undertaken for civil and road works of the subdivision. This will be completed in stages and impacts minimised by proposed conditions of consent to reduce erosion and sedimentation issues. The development has also been assessed by DPI Water in which conditions to protect the riparian corridors has been undertaken with no objection subject to conditions of consent being imposed if approved. The proposed works are necessary to allow for the development which is a suitable design for the area and enhances the existing landscape.

The land is within the flood planning area as per Lithgow Flood Study Review (Lyll and Associates 2017) as shown below. However, this area will be part of the open space allotment and drainage reserve for the development. The proposal includes stormwater management of the development to be diverted and

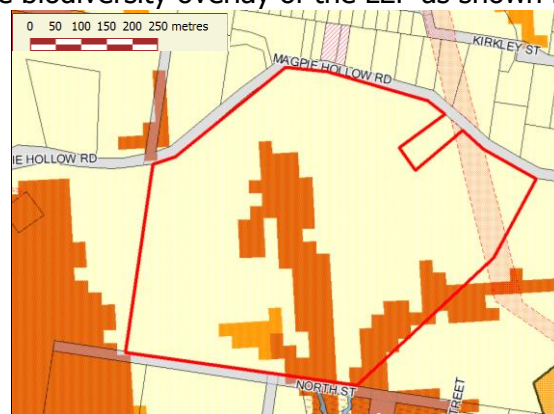
redirected to these areas of the proposal. Lots 28 & 29 are currently the only two proposed allotments within the flood planning area given they retain a dam. The proposed ring road as part of the development will change the overall flood planning area by diverting waters to the stormwater system and bioretention basins/swales that are to be located within proposed lot 79. These allotments will not be affected by flood waters once the development works have been completed removing the dam.



Council will require a geotechnical report verifying that the area of the removed dam in proposed Lots 28 and 29 is compacted to a standard suitable for residential development prior to the release of the subdivision certificate for Stage 3 containing those allotments.

The proposed development has been submitted with a stormwater management plan that has been assessed by Water NSW and Council's Operations Department. The development is practicable and will minimise impacts of stormwater runoff through design and conditions of consent if approved.

The land is within the biodiversity overlay of the LEP as shown below:



The majority of the vegetation is along the riparian corridor and within the E3 Environmental Management Zone. The biodiversity mapping prepared by OEH identifies that the majority of the vegetation along the riparian corridors is an Endangered Ecological Community (EEC) being identified as Tableland Granite Grassy Woodland (Southern Tableland Grassy Woodland) It will be retained within the open space allotment (proposed Lot 79) Therefore Council requested a more detailed site

specific Vegetation Management Plan (VMP) to be prepared to ground truth and assess the vegetation on site. The author of the VMP, *New Era Mine Site Revegetation*, concluded that no significant EEC was found to be present on the site and that the site was in parts highly degraded. Further no threatened species were found on the site at the time of the inspection however some species can be difficult to detect at certain times of the year.

Although not considered threatened the *Busaria spinose* subsp. *Lasiophylla* (Blackthorn) is found in abundance along the western flowing Bowens Creek Catchment riparian zone. Blackthorn is known to be breeding habitat to the Purple Copper Butterfly which is a vulnerable species under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC). It is also listed as endangered under the Threatened Species Conservation Act 1995 (TSC). Care must therefore be taken when conducting weed eradication and bush fire hazard reduction measures and will involve manual removal techniques.

The proposal will require the removal of some vegetation as detailed in the below plan:



The removal of vegetation has been minimised through the design and layout of the subdivision. The proposed removal of vegetation will be minimal and mainly for the provision of road and civil infrastructure. The development is not expected to have an impact to the biodiversity structure, function or significance.

The VMP has identified that there are several varieties of weed infestation within proposed Lot 79 that will be required to be addressed by a rehabilitation plan. The VMP has recommended that the rehabilitation of the Bowens Creek catchment riparian zones should be started pre-construction phase of the subdivision and progressively through construction and longer term once handed over to Council. The priority is not considered to be revegetation, but rather targeted weed removal or control.

The VMP states that there is a requirement to revegetate land adjacent to proposed Lot 14, being a heavily sloped and disturbed area to be returned to natural bushland as an offset, to compensate for the removal of the small section of vegetation community that encroaches Lot 60.

The development will be required to provide a street tree planting plan which will be implemented during construction works and prior to Subdivision Certificate Release to offset some of the clearing proposed.

The development has been assessed by Water NSW and found to be suitable subject to conditions of consent. Therefore, it is not expected that the development will cause impacts to the groundwater systems.

The preliminary contamination report detailed recommendations which will be required to be actioned prior to the release of stage 1 of the development to ensure no potential contaminating impacts are continued on the site.

The design layout is considered suitable to reduce impacts on groundwater of the area.

All allotments will have a slope no greater than 25% and there is expected to be minimal erosion potential. However, conditions of consent will be imposed if approved to minimise impacts on sensitive lands of the area. The open space allotment (proposed lot 79) contains larger slopes and potential impacts to sensitive land if it was developed. Therefore, the design of the proposal has adequately minimised impacts on potentially sensitive lands.

The development seeks to provide adequate reticulated water and sewer services through upgrades of existing systems of the area. Additionally, the proposal will be required to connect to electricity and will have adequate road access to each allotment. The proposal will meet all requirements for essential services in relation to the development.

The proposal meets the provisions of the LEP.

5.3.2 Any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority

Nil.

5.3.3 Any Development Control Plan

At the time of submission of the Development Application, no Development Control Plans were in force. However, a previously repealed DCP. South Bowenfels DCP has been applied as a guideline for design purposes and consistency of assessments across the South Bowenfels development areas. An assessment of this proposal against those guidelines is summarised below with further comments made in Section 5.36 and 5.37 of this report:

South Bowenfels Development Control Plan (DCP) however REPEALED

South Bowenfels DCP – Compliance Check		
	Clause	Compliance
1.4	Aims & Objectives of the Plan	Yes
5.1	Lot Layout and size	yes
5.2	Street Design	Yes
5.3	Utility Services	Yes
5.4	Soil and Stormwater Management	Yes
5.5	Public Open Space	Yes
5.6	Heritage	Yes
5.7	Hazards/ Environmental Constraints	Yes
5.8	Benching/Cut & Fill Objectives	Yes
5.9	Visually Prominent Areas & Ridgelines	Yes
5.10	Protection of Watercourses and Riparian Corridors	Yes

5.3.4 Any planning agreement that has been entered into under Section 7.4 (pvSection 93F), or any draft planning agreement that a developer has offered to enter into under Section 7.4(pv S 93F)

A Voluntary Planning Agreement (VPA) has been negotiated with the developer as per Section 7.4 of the *Environmental Planning & Assessment Act 1979* in relation to this proposal.

See previous commentary under **Policy 7.10** above.

5.3.5 Any matters prescribed by the regulations that apply to the land

There are no demolition works, rebuilding or extension of the building is proposed as part of this application.

Environmental Planning & Assessment Regulation 2000

The above regulation is applicable to the development and which states the following:

5 Advertised development

(1) *For the purposes of the definition of advertised development in section 4 (1) of the Act, the following types of development (not being designated development or State significant development) are identified as advertised development:*

(b) *integrated development (not being threatened species development or Class 1 aquaculture development) that requires an approval (within the meaning of section 90A of the Act) under:*

(ii) *a provision of the Water Management Act 2000 specified in section 91 (1) of the Act, or*

Therefore, the proposal being integrated development has been advertised for a period of 30 days and submission supplied to the Department of Primary Industries-Water for consideration. The development complies with the requirements of the Reg.

5.3.6 The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Strategic Context:

The development site is located on the fringe of the South Bowenfels residential release area. The change in minimum lot size of this area to 2000m² fully serviced acts as a transition control between standard low density residential landuse and the adjoining large lot residential and rural lands. The larger allotments also allow developments to appropriately respond to varying topography and natural constraints across the site.

The subdivision layout has provided an internal road layout that considers the need for future access to Lot 80 and by providing a hard edge to the adjacent riparian corridors also improves natural resource outcomes on proposed lot 79.

Services:

All modern services will be made available to the development. Sewer provision is currently not yet available however.

Open space:

The development proposes the dedication of 9.17ha of land that forms predominantly the riparian zones of the Bowen Creek Catchment within the development lot and that are currently zoned E3 Environmental Management. The dedication of these lands for the public purpose of end of line drainage structures, service infrastructure; bush fire outer protection zones and protection of riparian corridors satisfies the provisions of Clause 4.1B (Split Zones Clause) of the Lithgow LEP. This is not without ongoing maintenance costs for Council, however lands being in public ownership will allow Council to access more grant opportunities than could be accessed by private landowners and will facilitate greater natural resource outcomes.

It does not however replace the obligation of the applicant to provide an area of useable open space for the development.

The development site is located more than 500m from any other developed active open space area. This is further exacerbated by the fact that no local road or pedestrian access to public land further north is available. Although the developed lots within the subdivision will be larger than the remainder of South Bowenfels and will provide for a much larger area of private open space to be provided by landowners, it is still considered necessary to provide for neighbourhood and communal spaces to encourage social activity and connectivity for future residents.

Using the standard formula for open space below: an area of 0.5ha should be provided to service the development.

- 2.83ha per 1000 population x single lot/dwelling is equivalent to 2.3 persons
- $(2.83\text{ha} / 1000 \text{ population}) \times (2.3 \text{ persons} \times 78 \text{ lots}) = 5,077\text{m}^2$

This area can be contained within proposed lot 79 provided that it is suitably located on land of appropriate grade and can be readily accessed via a shared pedestrian and cycle way off the main road access either side of the creek. The construction of the shared path will activate the active space area and encourage residents to value the large area of natural landscape accessible to them and assist with resident pride to maintain the area. This will be achieved through a combination of conditions of consent and VPA.

The monetary contribution of the VPA can then be, in part, applied to the embellishment of this open space area to a local park standard once the land has been fully dedicated to Council following compliance of all relevant conditions of the development consent.

Access/traffic:

Council's Engineers have examined the proposal and have no concerns with access or traffic generation. Further discussion is found below under Section 5.3.8.

Social and Economic Impact:

The social impact of additional population is considered to be negligible. Some economic growth is envisaged as a result of this land release.

Noise and Vibration:

There will be impacts to existing neighbours during construction. These are considered to be within reason and relatively short lived in duration.

5.3.7 The Suitability of the site for the development

The surrounding land uses are for residential pursuits. The proposal is compatible with the objectives of the zone and is considered to have minimal impact on the surrounding amenity subject to conditions of consent if approved. Therefore, the site is considered to be suitable for the proposed development.

The application proposes a scale and density that meets the requirements of the locality, the overarching LEP as well as relevant provisions of the former South Bowenfels DCP that have been used as a tool to guide development assessment and evaluation.

It is considered that the applicant is proposing lots that have good solar and aesthetic orientation.

The development does not have slopes over 25% which could be subject to high erosion potential. The proposed road layout is logical and practical providing for appropriate connections and a ring road for the riparian corridor.

All proposed lots meet the requirement of depth 20m and most frontages meet the minimum of 18.5m. Given that these dimensions were appropriate for a higher density of 800m² lots this would be expected. The proposal meets the current minimum lot size requirements of LEP2014 being 2000m² with lot sizes ranging from 2000m² to 6700m² and therefore is acceptable.

The lot layout has allowed for adjoining land of Lot 80 to be potentially developed into the future with the ring road. The road system has been assessed by Council's Engineers and found to be appropriate for a local access road.

The proposal will be required to have street trees and a lighting plan prior to Subdivision Certificate Release. The proposal will also be adequately serviced with electricity and telecommunications facilities.

Sewer and water facilities will be available subject to Section 68 approvals under *Local Government Act 1993* and civil works to Council's satisfaction. All services are to be underground and permitted by the associated authority. A restrictive covenant will be imposed ensuring that no coal burning appliances are permitted within the subdivision.

The development has been designed in accordance with Council and Water NSW requirements in relation to stormwater systems, drainage and retention with all appropriate reports submitted. The development is required to meet the design requirements and proposed conditions of consent to ensure that the development will have a neutral or beneficial effect on water quality and meet Council's construction requirements.

It is not expected that the development will have an impact on heritage items or places within the area.

The land is bushfire prone and referral to the Rural Fire Service was undertaken for assessment in relation to bushfire risks.

The land has been assessed in relation to contamination issues given the slaughterhouse and cattle yards onsite. The land is not significantly contaminated and some remediation is required prior to Stage 1. This has been further discussed in Section 5.3.1 of this report.

The land is not known to have landslip affected soils but is within a flood affected area. The area requires drainage changes which will change the flood paths onsite by removing the existing dam feature. It is expected that no residential allotment will be within a flood affected area once all works are completed for the subdivision.

The proposal will have some disturbance to soils for the road construction and civil works which will be controlled by erosion and sedimentation controls as per conditions of consent.

5.3.8 Any submissions made in accordance with this Act or the Regulations

The development constitutes integrated development under Section 4.46 of the Environmental Planning and Assessment Act, 1979.

The proposal was sent to Water NSW, Rural Fire Service, Roads and Maritime Services, Endeavour Energy, TransGrid, Department of Primary Industries -Water, Council's Water & Wastewater Officer and Engineers for commenting with recommendations detailed below. The proposal was also sent to surrounding landowners and placed on public display in Council's Administration Building for a

period of 30 days with 1 submission received representing the owners of four properties and one late submission which are summarised below.

WATER NSW

Reference is made to Council's letter received 15 February 2018 requesting the concurrence of Water NSW under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 with a proposal for an 80-lot urban subdivision including a residue lot. Additional information was received in May, June, July and August.

The subject property, which has been inspected by Water NSW, is located within the Warragamba catchment which forms part of Sydney's water supply.

The following documents all prepared by CEH Survey have been considered in the assessment of the application:

- a Statement of Environmental Effects (undated); Concept Lot Layout Plan (dated 28 March 2018) and Staging Plan (dated 4 May 2018)
- the CEH Letter (dated 26 April 2018)
- the Proposed Concept Servicing Plan – Pump Station (dated 16 May 2018) and Servicing Plans (dated 4 May 2018), and
- a Stormwater Management Report (dated May 2018) incorporating a MUSIC stormwater quality model and associated MUSIC Treatment Plans (dated 6 June 2018).

It is noted that the subdivision is proposed to be staged as follows:

- Stage-1 comprising proposed Lots 1 to 7,
- Stage-2 consisting of proposed Lots 8 to 19,
- Stage-3 consisting of proposed Lots 20 to 32,
- Stage-4 consisting of proposed Lots 33 to 46,
- Stage-5 consisting of proposed Lots 47, 48, 51 & 52, and
- Stage-6 consisting of proposed Lots 49, 50 & 53 to 80.

Water NSW notes that the site is highly sensitive with the following key issues identified:

1. Highly erodible soils and/or steep slopes are present across the site, particularly within the steeper riparian zones of the two tributaries of Bowens Creek. No works are proposed within the tributaries of Bowens Creek apart from one creek crossing in the southern portion of proposed Lot 79 to allow sewerage infrastructure to the proposed sewage pumping station. The stormwater management measures proposed for Stages 2 to 6 are also likely to occur along the perimeter of these steep riparian areas, so suitably designed and stabilised discharge outlets would be required to minimise potential erosion and water quality risks.

2. Council has advised that the area can be seweraged however, detailed design of the sewerage system, including the proposed new sewage pumping station (SPS), have not been finalised. The proposed SPS is proposed to be located directly above the confluence of tributaries of Bowens Creek, presenting a potential water quality risk from failure and overflows.

In light of the above, Water NSW has identified this development proposal as presenting a high-water quality risk. As such, Water NSW requests the following:

- that Council please advise when construction is due to commence so that a joint inspection can be arranged with appropriate Water NSW and Council officers during that phase of the development
- a certified professional is required to oversee the construction works to ensure adequate erosion and sediment controls are in place, to reduce potential local water quality impacts, and
- Water NSW considers that the SPS design should include appropriate bunding around the perimeter so as to divert run-on away from the sewage pump station and prevent any overflows reaching Bowens Creek.

Based on Water NSW's site inspection and the information provided, the proposed development has been assessed by Water NSW as being able to achieve a neutral or beneficial effect on water quality provided appropriate conditions are included in any development consent and are subsequently implemented.

If, after receipt of this letter, revisions are made to any of the DA plans, Council does not need to refer the plans to Water NSW if the revisions do not impact on water quality. Council is requested to amend the relevant Water NSW condition/s to reference the revised plans, and notify the assessing officer by email.

Water NSW concurs with Council granting consent to the application subject to the following conditions:

General

1. The lot layout, works and staging shall be as specified in the Statement of Environmental Effects (undated) and shown on the proposed Concept Lot Layout Plan (Dwg No. 4786_LOT_v2; Amdt 1; dated 28/03/2018) and Staging Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) all prepared by CEH Survey. No revisions to lot layout, works or staging of the subdivision that will impact on water quality, shall be permitted without the agreement of Water NSW.

Reason for Condition 1 - Water NSW has based its assessment under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 on this version of the subdivision.

Sewage Pump Station and associated infrastructure

2. The existing sewage pump station on proposed Lot 2 shall be decommissioned as part of the Stage 1 development as specified in a letter from CEH Survey to Council (dated 26 April 2018).

3. Final design and construction of the sewage pump station proposed to be located in the southern portion of proposed Lot 79 and associated sewer main as shown on the Proposed Concept Servicing Plan – Pump Station (Dwg No. 4786_SERVICE_PUMP; dated 16/05/2018) and the Servicing Plan (Dwg No. 4786_SERVICE_STG1; dated 4/5/2018) all prepared by CEH Survey shall be finalised to the satisfaction of Council prior to the issuance of a Subdivision Certificate for Stage 1. The final design of the sewage pump station shall have consideration for and include the following:

- the electrical switchgear and access points associated with the sewage pump station shall be located above the 1% Annual Exceedance Probability (1 in 100 year) flood level,

- the sewage pump station shall have a minimum emergency storage volume equivalent to at least 3 hours peak wet weather flow,
- the sewage pump station and the rising main(s) shall be designed with sufficient capacity to collect and transfer all wastewater generated by the subdivision,
- the upgrade of any existing sewerage infrastructure shall ensure it has sufficient hydraulic capacity to accommodate the additional wastewater load generated by the subdivision,
- an appropriate emergency storage capacity of the sewage pump station to accommodate wet weather flow, including a permanent standby pump and access to an emergency power generation unit to ensure continuity of operation in the event of pump or power failure,
- an alarm system to trigger when the pump fails or when the system is reaching its capacity to ensure sufficient residual capacity for emergencies such as power failure or pump malfunction,
- appropriate bunding around the sewage pump station so as to divert run-on away from the sewage pump station and prevent any overflows reaching natural drainage system or stormwater drains, and
- the sewer main crossing of the tributary of Bowens Creek within proposed Lot 79 shall be appropriately designed and located, consistent with the Proposed Concept Servicing Plan – Pump Station and the Concept Sewer Crossing Longitudinal Section (All with Dwg No. 4786_SERVICE_PUMP; dated 16.05.2018) all prepared by CEH Survey; and any requirements for Controlled Activities Approval under the *Water Management Act, 2000* issued by the Department of Industry - Water.

4. Prior to issuance of Subdivision Certificate for each stage of the subdivision, wastewater from the proposed lots, as relevant to each stage of the subdivision, shall be connected to via sewer main to the sewerage pumping station as shown on the Servicing Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) prepared by CEH Survey.

Reason for Conditions 2 to 4 – To ensure that the design and operation of the sewerage infrastructure is undertaken in a way that minimises the risk of sewage overflows so as to ensure a sustainable neutral or beneficial effect on water quality over the longer term.

Subdivision Roads

5. The subdivision roads shall be located and constructed as shown on the Concept Lot Layout Plan (Dwg No. 4786_LOT_v2; Amdt 1; dated 28/03/2018) and the Servicing Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) prepared by CEH Survey, but with the following specifications and requirements:

- be sealed and otherwise constructed in accordance with Council's engineering standards, and
- incorporate suitable crossfall with runoff to be collected via a series of pits and pipes and directed to various water quality treatment measures detailed in the following conditions.

6. All stormwater structures and drainage works associated with the proposed subdivision roads shall be wholly included in the road or drainage reserve or within suitably defined easements.

Reason for Conditions 5 & 6 – To ensure that the proposed subdivision roads and associated infrastructure will have a sustainable neutral or beneficial impact on water quality during the operational phase of the development.

Stormwater Management

7. All stormwater management measures as specified in the Stormwater Management Plan (dated May 2018) and shown on the MUSIC Treatment Train Plans (Dwg No. 4786_MUSIC_STG2 to 4786_MUSIC_STG6; dated 6/6/18) and Servicing Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) all prepared by CEH Survey, shall be implemented in particular as elaborated or varied in the following conditions. The stormwater management measures as a minimum shall include:

- pits, pipes, and interallotment drainage
- grassed swales, and
- bioretention basins for Stages 2 to 6.

8. Bioretention basins shall be designed and constructed as per the Stormwater Management Plan (dated May 2018) and shown on the MUSIC Treatment Train Plan – Typical Bio Retention & Outlet Scour Protection (Dwg No. 4786_MUSIC_OSP; dated 6/6/2018) both prepared by CEH Survey to capture and treat all runoff from all subdivision roads and residential areas. Each bioretention basin shall also incorporate the following specifications and requirements:

- **For Stage 2:** two bioretention basins shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 2 (Dwg No. 4786_MUSIC_STG2; dated 6/6/2018) prepared by CEH Survey with a total combined surface area and filter area of 55 square metres.
- **For Stage 3:** a bioretention basin shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 3 (Dwg No. 4786_MUSIC_STG3; dated 6/6/2018) prepared by CEH Survey with a total surface area and filter area of 40 square metres.
- **For Stage 4:** two bioretention basins shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 4 (Dwg No. 4786_MUSIC_STG4; dated 6/6/2018) prepared by CEH Survey with a combined total surface area and filter area of 80 square metres.
- **For Stage 5:** a bioretention basin shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 5 (Dwg No. 4786_MUSIC_STG5; dated 6/6/2018) prepared by CEH Survey with a total surface area and filter area of 45 square metres.
- **For Stage 6:** two bioretention basins shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 6 (Dwg No. 4786_MUSIC_STG6; dated 6/6/2018) prepared by CEH Survey with a combined total surface area and filter area of 120 square metres
- all bioretention basins shall be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems Version 2 (Payne *et al*, 2015, Melbourne, CRC for Water Sensitive Cities) and shall also incorporate the following specifications:
 - a filter media consisting of a clean sandy loam with a certified median particle diameter of 0.5 mm, a maximum orthophosphate concentration of 40 mg/kg and a maximum total nitrogen concentration of 400 mg/kg,

- be planted with appropriate deep-rooted, moisture-tolerant vegetation protected by rock mulch (grass and turf is not appropriate vegetation and organic mulch is not suitable),
- direct all discharge and overflow to the unnamed tributaries of Bowens Creek via armoured discharge points such that discharge does not cause erosion, as per the Outlet Scour Protection Cross Section (Dwg No. 4786_MUSIC_OSP; dated 6/6/18) prepared by CEH Survey,
- be accessible from the subdivision roads by machinery to facilitate cleaning, monitoring and maintenance of the structures,
- ensure the discharge outlets are consistent with the requirements of any Controlled Activity Approval under the *Water Management Act (2000)* from the Department of Industry-Water
- be permanently protected from vehicular damage by bollards, fences, castellated kerbs or similar structures, with a sign to be erected to advise of its nature and purpose in water quality management, and
- be protected by sediment and erosion control measures during any construction and post-construction phase until the ground surface is revegetated or stabilised.

9. The bioretention basins **for Stages 2 to 6** of the subdivision shall be constructed after all hardstand areas i.e. road construction for that stage of the subdivision, have been completed and all ground surfaces have been stabilised.

10. No changes to stormwater treatment and management that will impact on water quality, shall be permitted without the agreement of Water NSW.

11. A suitably qualified stormwater consultant or engineer shall certify in writing to Water NSW and Council **prior to the issuance of a Subdivision Certificate** for each stage of the subdivision that all stormwater management structures have been installed as per these conditions of consent and are in a functional state.

12. An Operational Environmental Management Plan (OEMP) **for each stage** of the subdivision shall be prepared in consultation with Water NSW and Council by a person with knowledge and experience in the preparation of such plans. Each OEMP shall be prepared prior to the issuance of a Subdivision Certificate for that stage of the subdivision, and may be updated from the OEMP for the previous stage. The OEMP shall be provided to Council when the management and maintenance of the bioretention basins is handed over to Council. The OEMP as a minimum shall include but not be limited to:

- details on the location, description and function of stormwater management structures such as pits, pipes, interallotment drainage, bioretention basins, swales, and any other stormwater structures and drainage works
- an identification of the responsibilities and detailed requirements for the inspection, monitoring and maintenance of all stormwater management structures, before and after handing over to Council, including the frequency of such activities
- the identification of the individuals or positions responsible for inspection and maintenance activities, before and after handing over to Council, including a reporting protocol and hierarchy
- the identification of detailed requirements and measures for the protection of bioretention basins from future upstream construction works i.e. construction of dwellings on future lots, and

- checklists for recording inspections and maintenance activities.

13. All stormwater treatment devices, particularly bioretention basins, shall be monitored, maintained and managed as per the Operational Environmental Management Plan referred in Condition 12 above.

Reason for Conditions 7 to 13 – To ensure that the stormwater quality management measures and structures for the proposed subdivision have a sustainable neutral or beneficial impact on water quality over the longer term.

Construction Activities

14. A Soil and Water Management Plan shall be prepared for all works proposed or required as part of Stages 2 to 6 of the subdivision, including the subdivision roads, by a person with knowledge and experience in the preparation of such plans. The Plan shall meet the requirements outlined in Chapter 2 of NSW Landcom's Soils and Construction: Managing Urban Stormwater (2004) manual - the "Blue Book". The Plan shall be developed in consultation with Water NSW and be prepared prior to Council issuance of a Construction Certificate for that stage of the subdivision and shall be to the satisfaction of Council.

15. A suitably qualified, certified professional shall oversee the implementation of the Soil and Water Management Plan for Stages 2 to 6 of the subdivision and effective erosion and sediment controls at the site prior to and during any construction activity including site access and works within waterways and shall certify in writing to Water NSW and Council that erosion and sediment controls have been installed and maintained at the site in accordance with Condition 14 above. The controls shall prevent sediment or polluted water leaving the site or entering any stormwater drain or natural drainage system. The controls shall be regularly maintained and retained until works have been completed and ground surface stabilised or groundcover re-established.

Reason for Conditions 14 & 15 – To manage adverse environmental and water quality impacts during the construction phase of the development so as to minimise the risk of erosion, sedimentation and pollution within or from the site during this phase.

Subsequent Development Applications

Any subsequent applications for dwellings and/or other developments on the proposed lots will be subject to the provisions of State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (the SEPP) and will need to be assessed according to the Neutral or Beneficial Effects test (NorBE) in relation to the potential effect of the development on water quality.

RURAL FIRE SERVICE

Reference is made to Council's letter dated 14 February 2018 seeking general terms of approval for the Integrated Development in accordance with Section 91 of the 'Environmental Planning and Assessment Act 1979'.

This response is to be deemed a bush fire safety authority as required under section 100B of the 'Rural Fires Act 1997' and is issued subject to the following numbered conditions:

Asset Protection Zones

The intent of measures is to provide sufficient space and maintain reduced fuel loads so as to ensure radiant heat levels of buildings are below critical limits and to prevent direct flame contact with a building. To achieve this, the following conditions shall apply:

1. At the issue of subdivision certificate and in perpetuity the entire property of each residential lot shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.
2. At the issue of subdivision certificate and in perpetuity the entire property of the open space between lot 27 and 47 as per the subdivision plan drawn by CEH Survey, DWG No. 4786_STAGE, dated 5/12/2017 shall be managed as an outer protection area (OPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Water and Utilities

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions shall apply:

3. Water, electricity and gas are to comply with section 4.1.3 of 'Planning for Bush Fire Protection 2006'.

Access

The intent of measures for public roads is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area. To achieve this, the following conditions shall apply:

4. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

General Advice – consent authority to note

This approval is for the subdivision of the land only. Any further development application for class 1,2 & 3 buildings as identified by the 'Building Code of Australia' may be subject to separate application under section 79BA of the EP & A Act and address the requirements of 'Planning for Bush Fire Protection 2006'.

ROADS AND MARITIME SERVICES

Thank you for your letter dated 14 February 2018 and a follow up email on 14 June 2018 referring DA022/18 to Roads and Maritime Services for comment.

The documentation submitted in support of the proposed development has been reviewed and Roads and Maritime notes the following:

- The proposal is for a 79 lot residential subdivision on land with frontage to Magpie Hollow Road.
- Magpie Hollow Road intersects with the Great Western Highway (HW5) approximately 230 metres east of the subject site.

Pursuant to *State Environmental Planning Policy (Infrastructure) 2007* and the *Roads Act 1993*, DA022/18 does not require referral to Roads and Maritime for comment or concurrence. However, given the land's proximity to the Great Western Highway, and the cumulative impact of this proposal and other proposed subdivisions in the South Bowenfels locality, Roads and Maritime appreciates the opportunity to comment on this proposal.

To assist Council in its assessment and determination of DA022/18, Roads and Maritime provides the following advice for your consideration:

- Safe Intersection Sight Distance (SISD) requirements outlined in Part 4A *Austroads Guide to Road Design* is to be provided and maintained at intersections within the development site and at intersections and/or accesses to Magpie Hollow Road.
- Magpie Hollow Road is a local arterial/feeder road that has a sign posted speed zone of 80km/h. To maintain traffic efficiency and a high level of road safety on this road, the subdivision should be redesigned to provide all vehicular access to the proposed allotments from the internal road network and not from Magpie Hollow Road.
- To provide connectivity to residential, commercial and public services/facilities in South Bowenfels, consideration should be given to providing a link road between Magpie Hollow Road and Kirkley Street.

A review of the speed zone will need to be done in accordance with the NSW Speed Zoning Guidelines. Your request will be triaged in accordance with the guidelines and should a review of the speed zone be warranted, added to the existing program for reviews and prioritised accordingly.

With regard to the DA, speed zone reviews, in accordance with the guidelines, assess the existing road environment, not proposed environment. Therefore, the proposed subdivision wouldn't have much, if any, bearing on the speed zone review.

ENDEAVOUR ENERGY

As mentioned in the submission, Endeavour Energy generally does not support the subdivision of easements and their incorporation into to multiple/private owned lots.

The amended plan of subdivision is an improvement but with some additional amendments it is believed that potentially Lots 7 and 16 may not be subject to the easement.

It looks as if the minimum 2,000 square metre lot size could still be provided for Lots 7 and 16 without utilising any of the easement area. This would leave 5 private lots affected by the easement, which still isn't Endeavour Energy's preferred outcome, but certainly an improvement compared to the previous 8 private lots affected by the easement. It is acknowledged that Lot 1 DP 1229039 is not part of the land subject of the Development Application and it already has an existing dwelling. However, as a minimum, the boundaries need to be adjusted so that Lot 16 does not dissect/include any of the easement area.

For Lots 8 and 15 where the easement area is to rear of the lots, any future development of these lots needs to ensure ready access to the easement area is still available ie. any dwellings should allow sufficient 'side access' to the back yard/easement area ie. Endeavour Energy's now standard terms of easement allows Endeavour Energy to 'enter the lot burdened using the most practical route' and is not just restricted to the 'easement site'.

The site plans from Endeavour Energy's G/Net master facility model shows:

- An easement over the site benefitting Endeavour Energy for 132,00 volt/132 KV high voltage overhead power lines.
- To the Hillcrest Avenue road verge/roadway there are:
 - 11,000 volt / 11 kV high voltage overhead power lines to a pole mounted substation no. 221548 with an extended overhead service conductor with a customer owned pole (indicated by the green circle) on the site.
 - Low voltage overhead power lines to a extended overhead service conductor with a customer owned pole (indicated by the green circle) to the customer connection point on the site.

Endeavour Energy's preference is to have continuity of its easements over the most direct and practicable route affecting the least number of lots as possible. The incorporation of electricity easements into such privately owned lots is generally problematic for both Endeavour Energy and the future landowner. Dissecting the easement along its length with the overhead power lines located within private lots results in restriction of access, and requires additional easement management to ensure no uncontrolled activities/encroachments occur within the easement area.

Where a subdivision does result in the incorporation of Endeavour Energy's easement into multiple lots, not only must the easements, rights and restrictions, covenants etc. be retained over the effected lots and in accordance with the requirements of NSW Land and Property Information (LPI), but Endeavour Energy may need to include additional requirements/restrictions to be registered on titles to each of the lots to ensure it can reasonably access and manage its existing electricity infrastructure within the easement.

Subject to the foregoing, whilst still not representing Endeavour Energy's preferred outcome, Endeavour Energy has no further objection to the Development Application.

• ***Network Capacity/Connection***

In due course the applicant, for the future proposed development of the site will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Depending on the outcome of the assessment, any required padmount substation will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefitting and gifted to Endeavour Energy.

• ***Urban Residential Subdivision***

The site is subject to Endeavour Energy Underground Residential Distribution (URD) policy that states:

5.16.1 Distribution reticulation

In order to improve the reliability performance of and to reduce the operating expenditure on the network over the long term the company has adopted the strategy of requiring new lines to be either underground cables or where overhead is permitted, to be predominantly of covered or insulated construction.

5.16.2 Urban areas

Reticulation of new residential subdivisions will be underground. In non-bushfire prone areas, new lines within existing overhead areas can be overhead, unless underground lines are cost justified or required by local council.

Extensions to the existing overhead 11kV/22kV network must generally be underground.

• Bushfire

The network required to service the proposed development must be fit for purpose and meet the technical specifications, design, construction and commissioning standards based on Endeavour Energy's risk assessment associated with the implementation and use of the network connection/infrastructure for a bushfire prone site.

• Earthing

The construction of any building or structure (including fencing, signage, flag poles etc.) that is connected to or in close proximity to Endeavour Energy's electrical network is required to comply with AS/NZS 3000:2007 'Electrical installations' to ensure that there is adequate connection to the earth. Inadequate connection to the earth places persons and the electricity network at risk.

• Easement Management/Network Access

The following is a summary of the usual/main terms of Endeavour Energy's electrical easements requiring that the land owner:

- Not install or permit to be installed any services or structures within the easement site.
- Not alter the surface level of the easement site.
- Not do or permit to be done anything that restricts access to the easement site without the prior written permission of Endeavour Energy and in accordance with such conditions as Endeavour Energy may reasonably impose.

Endeavour Energy's preference is for no activities or encroachments to occur within its easement areas. If any proposed works or activities (other than those approved/certified by Endeavour Energy's Network Connections Branch as part of an enquiry/application for load) will encroach/affect Endeavour Energy's easements, contact must first be made with the Endeavour Energy's Easements Officer.

It is imperative that the access to the existing electrical infrastructure adjacent and on the site is maintained at all times. To ensure that supply electricity is available to the community, access to the electrical assets may be required at any time.

- ***Vegetation Management***

The planting of large trees in the vicinity of electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure. Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure (at least the same distance from overhead power lines as their potential full grown height) and even with underground cables, be installed with a root barrier around the root ball of the plant.

- ***Noise***

Where development is proposed in the vicinity of electricity infrastructure, Endeavour Energy is not responsible for any acoustic/noise amelioration measures for such noise that may impact on the nearby proposed development.

- ***Dial before You Dig***

Before commencing any underground activity the applicant is required to obtain advice from the ***Dial before You Dig 1100*** service in accordance with the requirements of the *Electricity Supply Act 1995* (NSW) and associated Regulations. This should be obtained by the applicant not only to identify the location of any underground electrical and other utility infrastructure across the site, but also to identify them as a hazard and to properly assess the risk.

- ***Public Safety***

Workers involved in work near electricity infrastructure run the risk of receiving an electric shock and causing substantial damage to plant and equipment. Endeavour Energy's public safety training resources, which were developed to help general public/workers to understand why you may be at risk and what you can do to work safely is available via Endeavour Energy's website via the following link:

<http://www.endeavourenergy.com.au/wps/wcm/connect/ee/nsw/nsw+homepage/communitynav/safety/safety+brochures>

- ***Emergency Contact***

In case of an emergency relating to Endeavour Energy's electrical network, the applicant should note the Emergencies Telephone is 131 003 which can be contacted 24 hours/7 days.

TRANSGRID

Thank you for referring the Development Application to TransGrid. Please be advised after reviewing the proposed Development Application, TransGrid can confirm we have no objection to the DA as it does not affect TransGrid's infrastructure.

DEPARTMENT OF PRIMARY INDUSTRIES WATER

Reference is made to Council's letter regarding an integrated Development Application (DA) proposal. The Natural Resources Access Regulator's General Terms of Approval (GTA) for part of the proposed development requires a Controlled Activity approval under the *Water Management Act 2000* (WM Act), as detailed in the subject DA.

Council's statutory obligations under section 4.47 of the *Environmental Planning and Assessment Act 1979* (EPA Act) which requires a consent, granted by a consent

authority, to be consistent with the general terms of any approval proposed to be granted by the approval body.

If the proposed development is approved by Council, NRAR requests the GTA be included (in their entirety) in Council's development consent. Please also note NRAR requests notification:

- if any plans or documents are amended and these amendments significantly change the proposed development or result in additional works or activities (i) in the bed of any river, lake or estuary; (ii) on the banks of any river lake or estuary, (iii) on land within 40 metres of the highest bank of a river lake or estuary; or (iv) any excavation which interferes with an aquifer.

NRAR will ascertain from the notification if the amended plans require review of or variation/s to the GTA. This requirement applies even if the amendment is part of Council's proposed consent conditions and do not appear in the original documentation.

- if Council receives an application under s96 of the EPA Act to modify the development consent and the modifications change the proposed work or activities described in the original DA.
- of any legal challenge to the consent.

As the proposed work or activity cannot commence before the applicant applies for and obtains an approval, NRAR recommends the following condition be included in the development consent:

1. The Natural Resources Access Regulator's (NRAR) General Terms of Approval (GTA), for part of the proposed development requires a Controlled Activity approval under the Water Management Act 2000 (WM Act). The development consent holder must apply to NRAR for a Controlled Activity approval. The General Terms of Approval is attached to this consent and is to be complied with prior to works or activities commencing on the site.

The attached GTA issued by NRAR do not constitute an approval under the *Water Management Act 2000*. The development consent holder must apply to NRAR for a Controlled Activity approval **after consent** has been issued by Council **and before** the commencement of any work or activity.

2. A completed application form must be submitted to NRAR together with any required plans, documents, application fee, security deposit or bank guarantee (if required) and proof of Council's development consent. Finalisation of an approval can take up to eight (8) weeks from the date the application and all required supporting documentation is received. Application forms are available from the NRAR website at:

[www.industry.nsw.gov.au WaterLicensing & TradeApprovals](http://www.industry.nsw.gov.au/WaterLicensing&TradeApprovals).

NRAR requests that Council provide a copy of this letter to the development consent holder.

NRAR also requests a copy of the determination for this development application be provided by Council as required under section 91A (6) of the EPA Act.

COUNCIL'S WATER & WASTEWATER OFFICER

Reference is made to the development application in regard to Council's Planner's referral dated 2 September 2018.

Please be advised of the following:

- **NOTES OF ASSESSMENT**

Attached to the consent conditions are the general design requirements in relation to the servicing requirements for water and sewerage as part of the Development Application.

The attached conditions do not constitute approval under *section 68, Local Government Act 1993*. Prior to the commencement of any works as described below;

- Undertaking of water supply works
- Undertaking of sewerage works
- Installation, alteration, disconnection or removal of a meter connected to a service pipe

The developer must obtain written Section 68 approval from Council; this will be required prior to the issue of any Construction Certificate or commencement of any works. The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicable supporting information for the proposed works.

If the Section 68 application is approved, Council will issue a Section 68 approval containing conditions that must be complied with during construction.

The staged development would require Section 68 approval for each stage to ensure compliance for the construction of water and sewer assets.

Water and Sewer conditions are detailed within the consent conditions under Schedule A.

COUNCIL'S ENGINEERS

Reference is made to the Application in regard to Council's Planner's referral dated 14 February 2018.

It is suggested that the following conditions be placed on any Development Consent:

1. A Construction Certificate must be obtained prior to the commencement of any Civil Works.
2. Plans are to be lodged to Council for the issue of a Construction Certificate prior to the commencement of any Civil Works.
3. All engineering works are to be to the standard specified in Council's "Guidelines for Civil Engineering Design and Construction for Development". This document is available on Council's website or upon request from Council's administration desk.
4. That a Geotechnical Report be provided for all proposed roads, including subgrade design prior to a Construction Certificate being issued. Geotechnical compaction tests and visual deflection tests are to be undertaken and to be approved by Council prior

to the application of seal. Such tests are to be included with the Construction Certificate Engineering Drawings.

5. The road crossfall must not exceed a maximum of 3% at any point.

6. The footpath crossfall must not exceed a maximum of 4% at any point.

7. Prior to the release of Stage 2 subdivision certificate the Shared Path on Magpie Hollow Road, from the intersection of Road 1 to the intersection with the Great Western Highway, is to be constructed in accordance with Council's standard engineering drawing EN1009. Council's standard drawings are available on Council's website.

8. All batters must not exceed a maximum gradient of 1:5. Where variation to this condition is required, approval may be granted subject to discussion with Council.

9. The road grade must not exceed a maximum of 12% at any point. Where variation to this condition is required, approval may be granted subject to discussion with Council. All internal roads shall have a minimum of 150mm (subject to testing) of DGB-20 road base applied and compacted providing a smooth transitional surface. Road 1 is to be a 13m wide carriage way within a minimum 20m wide road reserve along the frontage of lot 80 and an 11m wide carriage way within a minimum 18m wide road reserve elsewhere. Roads 2, 3 and 4 are to be an 8m wide carriage way within a minimum 15m wide road reserve.

10. All internal residential roads are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Layers of asphaltic concrete may be included in the total design pavement depth, but should not be assigned a layer equivalency of greater than unity. Where variation to this condition is required, approval may be granted subject to discussion with Council.

11. All cul-de-sacs/turning circles are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Cul-de-sacs/turning circles are to be constructed so that a minimum kerbline radius of 9.5 metres is achieved from the centre of the cul-de-sac/turning circle. The boundary of the road reserve should be curved with a minimum radius of 14 metres to provide for a 4.5 metre wide footpath. Where the head of the cul-de-sac is located on the low side of the road, special provision should be made to convey overland storm water flows through easements or drainage reserves.

12. Roll top kerb and guttering is to be provided on both sides of all internal roads. Where variation to this condition is required, approval may be granted subject to discussion with Council". This will allow potential use of edge strip if water modelling/engineering deems suitable.

13. 2 x 3.5m wide footways are to be provided adjacent to all internal roads. Footpaths must continue to all intersections.

14. Street signs are required at all road junctions. Signs shall be purchased from Council. The location of proposed street signs is to be shown on the Engineering Drawings submitted with the construction certificate.

15. Traffic signs, traffic signals, pavement markings, guide posts, delineators, safety barriers and the like, whether permanent or temporary, are to be designed and installed at all roads in accordance with guidelines contained within the Austroads publication, "Guide to Traffic Engineering Practice – Part 8: Traffic Control Devices", Australian Standard 1742 – Manual of Uniform Traffic Control Devices and the Roads and Traffic Authority "Road Design Guide". All traffic control devices and signage are to be detailed in the engineering drawings submitted with the construction certificate. The consent of Lithgow City Council's Executive Manager of Operations or appointed officer will be required prior to the installation of any traffic control devices on existing roads.

16. Two street trees per lot are to be planted within the road reserve. The developer shall consult with and seek approval from Council regarding the species to be used. Only non-frangible trees, having a mature diameter of less than 100mm, shall be planted near road verges and medians. A landscaping plan showing, but not limited to, plant species and estimated height and spread of mature trees is to be provided to Council with the construction certificate.

17. Street lighting shall be provided on all internal access roads in accordance with Australian Standard 1158 – Road Lighting. Energy absorbing columns may be required where fallen columns would be particularly hazardous. The use of energy-saving lighting fixtures is encouraged, however no rebate will be issued to the developer if these types of lamps are approved.

18. A fully certified traffic control plan and road works signage will be required where machinery may obstruct traffic on any Public Road whilst construction work is being undertaken. A traffic control plan and certification of fully qualified contractors/persons will be required to be submitted to Council prior to any work commencing on the shoulder of any Public Road. Failure to comply may result in Work Cover Intervention and may also include Council stopping all work immediately until such time the developer complies with suitable traffic management procedures.

19. A maintenance bond of 5% of final construction costs shall be paid to Council upon final inspection and approval of all civil works. The value of the maintenance bond shall be approved by Council after witnessing a certified copy of the contract documentation showing all civil construction costs for the subdivision. The maintenance period will start from the date of final inspection for a period of 12 months. At the conclusion of the 12 month period a final inspection is to be undertaken by Council at the request of the developer to determine if any defects have arisen during this time. All deficiencies are to be rectified by the developer, should outstanding works remain Lithgow City Council reserves the right to expend bond monies on rectification works.

20. A site investigation is to be performed which is to include logging of test holes to a depth not less than one metre below design subgrade levels (unless rock is encountered). Soil tests shall be taken at the design depth and samples taken for CBR testing in accordance with Australian Standard 1289. The design California Bearing Ratio (CBR) shall be selected following a careful assessment of the materials

encountered in the site investigation and the variability of subgrade moisture and density conditions likely in service. The design CBR value should assume poor drainage and shall be determined from soaked CBR. A copy of the site investigation, including test results, is to be included with the Engineering Drawings. Where the design subgrade CBR is below 3, the subgrade shall be chemically stabilised to a minimum depth of 150mm, and the pavement design based on a CBR of 3.

21. Each layer of pavement shall be tested for compaction and deflection as detailed below. The Executive Manager of Operations or his delegate must approve each layer prior to the placing and compaction of subsequent layers.

(a) Compaction Testing:

The subgrade, and all pavement layers, shall be density tested in-situ at the start and finish of the work (within the first/last five metres), and thereafter at intervals of no more than 50 metres, or as indicated by Council's Development Engineer. A minimum of two tests will be required for road pavements less than 50 metres in length. At cul-de-sacs, additional testing will be required at the turning head. The test sites selected should be representative of the likely minimum pavement compaction levels achieved. Density testing must be undertaken by an authorised representative of a laboratory registered by the National Association of Testing Authorities (NATA). Density testing may be conducted using either the sand replacement test, nuclear gauge, or other NATA approved method.

Where a nuclear gauge in direct transmission mode is used to determine pavement density, the test method shall comply with RTA Test Method T173. Results of density testing shall be forwarded directly to Council for approval. No pavement layer shall be covered by a subsequent layer until the results of the density testing have been delivered to and approved by Council's Development Engineer. Table 1 below sets out the minimum compaction requirement for each pavement layer.

Layer	Compaction Requirement	Standard
Subgrade	98% standard maximum dry density California Bearing Ratio (CBR) test	AS 1289.E1.1 AS 1289.F1.1
Sub-Base	100% standard maximum dry density	AS 1289.E1.1
Base	100% standard maximum dry density • <i>Unbound Materials</i> • <i>Cemented Materials</i> Density in place test California Bearing Ratio (CBR) test	AS 1289.E2.1 AS 1289.E3.1 AS 1289.E3.1 AS 1289.F1.1

Laboratory determination of maximum dry density for pavement materials which have been modified with cement must be undertaken within 4 hours of the cement being added to the material. Materials tested outside this time will be subject to an adjustment to correctly determine the maximum dry density of the sample. For either natural or modified material, the laboratory determination of maximum dry density shall be undertaken at a frequency of no less than one determination for each days production of material.

(b) Deflection Testing:

All pavement layers must be proof-rolled, and approved by Council's Development Engineer prior to the placement of subsequent pavement layers.

The proof-rolling will be conducted using either:

i) a roller having a load intensity of seven (7) tonnes per metre width of roller.

ii) a tandem axle rigid vehicle, having a maximum load of 15 tonnes per axle group (8 tyres), 12 tonnes per axle group (6 tyres), or 10 tonnes per axle group (4 tyres). Single axle vehicles should have maximum loads of 8.5 tonnes (dual tyres), or 5.4 tonnes (single tyres).

Any movement of the pavement layer under loading will be deemed a failure.

Although not a subdivision requirement at this stage, Council strongly encourages Developers to specify in their contracts the use of Benkelman Beam tests to test for any deflection in the pavement layers, and as a means of quality assurance.

(c) Final Road Profile:

The mean construction tolerance on pavement surface crossfalls should be within $\pm 5\%$ of the design crossfall. The maximum allowable construction tolerance is $\pm 5\%$, and the maximum standard deviation of crossfalls is 5%. The vertical alignment should not deviate by more than 25mm from the value shown on the drawings.

22. All road, drainage, kerb and gutter, water and sewerage reticulation works associated with a development shall be inspected by Council's Operations Department. The whole of the works are to be carried out to the satisfaction of the Executive Manager of Operations. Council shall inspect engineering works at the following stages as a minimum:

- Following site regrading and shaping, and prior to installation of footway services;
- Installation of erosion and sedimentation control measures;
- Storm water drainage lines prior to backfill;
- Water and sewer lines prior to backfill;
- Testing of water and sewer lines;
- Subgrade preparation, before placing pavement;
- Establishment of line and level for kerb and gutter placement;
- Completion of each pavement layer ready for testing;
- Road pavement surfacing;
- Completion of works

The developer or contractor shall give Council a minimum 24 hours' notice when requesting an inspection to ensure that development works are not delayed. The developer shall, if required by a Council Engineer, submit delivery dockets for all materials used, and all material and performance test results obtained in the development.

23. Works as Executed (WAE) Plans detailing all services and infrastructure are to be prepared by a registered surveyor or professional engineer, and submitted to Council. The WAE plans shall be lodged prior to the release of the linen plan. The applicant is required to submit three complete sets of hard copy plans (one A1-sized, two A3-sized) and one set of electronic plans in AUTOCAD format.

24. A "Work-As-Executed" (WAE) plan is required to be prepared by a Registered Surveyor or professional engineer and forwarded to Council prior to the final inspection. The WAE is to include, as a minimum:

- certification that all works have been completed generally in accordance with the approved plans and specification,
- any departure from the approved plans,
- any additional/deleted work,
- the location of conduits, subsoil lines, stub mains and inter-allotment drainage lines,
- pipeline long sections showing the constructed invert levels of each pipe at each pit and pipe dimensions,
- details of overland flow provisions,
- site regrading areas by new contours, and
- all other details which have a bearing on the extent of works and their acceptance by Council

25. All Engineering Drawings submitted to Council for approval are to have a title block showing the following:

- Applicant's Name,
- Consultant's Name, Address, Phone No. 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 File Reference,
- Stage Number,
- Drawing Title,
- Scale with Scale Bar, and
- Signature of Authorised Person

26. Construction noise shall be in accordance with the 'Noise Control Guidelines for Construction Noise Standards'. Hours of operation shall be permitted between 7am and 6pm Monday to Friday and 8am and 1pm Saturdays. No heavy machinery work or usage shall be permitted on Sundays or Public Holidays.

27. The applicant shall submit a soil erosion and sedimentation control plan with the engineering design for Council approval. Such shall address both short and long term management of all disturbed areas and specified methods and structures to be employed to minimise any impact.

28. Prior to and during the commencement of works the applicant shall erect soil erosion and sedimentation controls for the following purposes:

- control of soil erosion and sedimentation movement during the bulk earthworks stage,
- control of run off and diversion of the sedimentation trap prior to the development of land,
- method of stabilising the land from erosion and sediment movement after the completion of works and prior to the development of the land.

29. The applicant is to comply with all reasonable requests from Council with regard to any complaints received during construction works.

30. The applicant shall consult with an Authorised Telecommunications, Electricity and Gas Authorities for the provision of underground telephone, electricity, and gas services to each allotment. Notification of Arrangement for provision to each allotment shall be lodged with Council prior to the issue of a Subdivision Certificate for each stage.

31. All stormwater drainage is the responsibility of the applicant and shall be satisfactorily disposed of into Council's existing stormwater infrastructure or natural drainage features.

32. The following conditions apply to Stormwater Drainage design and construction:

a) Stormwater Drainage plans shall submitted to Council as part of the construction certificate, drawn at a scale sufficient to show all necessary details, nominally 1:200, 1:500, 1:1000 or 1:2000. The following data is to be included with a contoured catchment area plan:

- i. Catchment areas and sub-areas, watershed (catchment boundary), overland flow paths, existing and proposed pipe layout. For large catchments, the total catchment area should be shown at a large scale on a separate plan or inset.
- ii. All sub-areas, drainage lines and pits are to be logically numbered.
- iii. A schedule of pipe details, including pipe number, size, class, bedding type, joint type, invert levels at inlet and outlet, slope, and length.
- iv. A schedule of pit details, including pit number, type, road chainage, surface level to the Australian Height Datum (AHD), invert level to AHD, depth, and lintel length.
- v. North point and legend.
- vi. Setout information.
- vii. Accurate position and level of all services and utilities which cross underground drainage pipelines.
- viii. Identify those building allotments adjacent to channels and major storm flow paths which may be liable to flooding in major flood events, and the minimum design habitable floor level adjacent to prevent flooding in the design flood event.
- ix. Inlet and outlet treatments.
- x. Measures for the prevention of erosion and sedimentation.

b) Stormwater pit construction:

- i. Pits shall be provided in drainage lines at all changes in grade, level, and direction, and at all pipe junctions and shall be spaced at no more than 85m apart.
- ii. Drainage pits are to conform to Council's standard Drawings, or RTA standards for Classified Roads. Non-standard structures shall be constructed as detailed in the design drawings. Such designs shall comply with AS3600 –Concrete Code, AS4100 – Steel Structures, AS1657 – SAA code for fixed platforms, walkways, stairways and ladders; and any other relevant standard.
- iii. Pits used for storm water drainage shall be fitted with square lids to distinguish them from sewer manholes.

- iv. Junction pits shall be fitted with reinforced lids and approved lifting eyes.
 - v. Grated inlet pits shall not be used for street or roadway drainage.
 - vi. Precast pits, incorporating insitu bases, may be used if the prior approval of the pit type and design are approved by the Group Manager of Operations.
 - vii. Every endeavour shall be made to maintain flow velocities through pits. Excessive drops will not be permitted.
 - viii. Pipe grading across pits should be designed on the following basis:
 - No change in direction or diameter - minimum 50mm;
 - Direction change but no change in diameter - minimum 70mm;
 - Changes in pipe diameter should be graded from obvert to obvert;
 - ix. At pit connections, a 3 metre length of approved subsoil drainage pipe enclosed in a geofabric sock shall be placed alongside the main pipe so as to enter the pit at the same invert level and adequately drain the main trench, in accordance with Council's standard drawing EN 1016 (copy attached).
- c) Location of pits in roadways, for the adopted minor drainage system annual exceedance probability:
- i. Inlet pits shall be located so as to restrict the maximum gutter flow width to 2.5 metres.
 - ii. Maximum spacing between any two consecutive pits is 85 metres.
 - iii. Pit bypass flows should be limited to 15% of the gutter flow at that location.
 - iv. At intersections, kerb inlet pits shall be constructed adjacent to the upstream kerb return tangent point where flows exceed 20 litres per second or gutter flow width is more than 1 metre.
 - v. The minimum clearance from the top of the manhole to the design pit water level should be 150mm.
 - vi. The product of flow velocity and depth of flow in the kerb and gutter should not exceed 0.4 m²/s.
 - vii. Kerb inlet pits should be located clear of horizontal curves, pedestrian desire lines, and vehicle driveways.
 - viii. Inlet conditions shall be designed so that the potential for blockage by silt and debris is minimised. This may require special treatment of the inlet sump under some conditions.
- d) Hydraulic Design
- i. Pit inlet capacities shall be estimated from design charts and formulae, based on lintel size for on-grade pits and depth of ponding for sag pits. The calculated inlet capacity shall be reduced by a factor of 50% for sag pits, and 20% for on-grade pits, on the assumption that debris is preventing some inflow.
 - ii. Standard lintel sizes of 1.8, 2.4, 3.0, or 3.6 metres should be used when possible.
 - iii. The minimum internal lintel size on a sag should be 2.4 metres.
 - iv. The head loss through pits shall be determined from Missouri Charts or other recognised methods.

33. The Bio-Retention Swales are to be constructed to a grassed swale standard prior to the release of the relevant subdivision certificate.

34. Prior to the handover of stormwater assets the following conditions must be met:

- a. Certification that the asset has been constructed in accordance with approved plans
- b. Work as executed drawings and engineering certifications have been provided
- c. All required sediment and water management controls are in place and functioning as intended
- d. Details of any incidents including Work Health and Safety incidents, public safety and complaints received are documented and provided to Council
- e. Any required maintenance and security bonds have been received

35. The following stormwater asset maintenance and security bonds are required prior to asset handover:

- a. Bio-Retention Basins – a bond totalling the cost to complete the Bio-Retention Basin construction (if not already constructed to bio-retention stage) and expected maintenance costs for a 2 year maintenance period are to be provided to Council prior to asset handover. The value of which is to be agreed between the developer and Council prior to the release of the relevant subdivision certificate.
- b. Bio Swales - a bond totalling the cost to complete the Bio-Swale construction (if not already constructed) and expected maintenance costs for a 2 year maintenance period are to be provided to Council prior to asset handover. The value of which is to be agreed between the developer and Council prior to the release of the relevant subdivision certificate.

PUBLIC SUBMISSIONS

During the public advertisement/exhibition period with two (2) submissions received, one submission represented eight property owners (four properties). The concerns raised in this submission are detailed as below:

1. Access to Magpie Hollow Road:

The proposal shows that at least 8 allotments will not have access to internal proposed roads and access would be from Magpie Hollow Road. Additionally, other 10 allotments have the choice to access from Magpie Hollow Road or internal proposed roads.

- *This is unacceptable and is nothing more than ribbon development along Magpie Hollow Road, a busy road leading to lake Lyell and villages such as Rydal, Tarana and beyond.*
- *The traffic and safety implications are very negative*
- *All blocks in the subdivision should have entry/exit from the proposed roads within the subdivision and no direct access to magpie Hollow Road.*
- *On this basis the application should be amended or rejected.*

2. Street width and parking:

Street width is shown as 15 to 20 metres. This width includes the distance from front boundary to front boundary of the opposite lots and does not show the actual width of the sealed roads. Nor does it show the distance from sealed road to property boundary (i.e. "footpath" area).

- Given the traffic and parking congestion experienced in other subdivisions in Lithgow (eg Hillcrest Estate, Strathlone Estate and Bowen Vista), there should be dedicated areas for overflow parking in parking bays along the streets and in dedicated off street overflow parking areas.*
- On this basis the approval should be withheld until adequate road width and parking areas are provided.*

3. Staged development:

The subdivision is planned in stages with Stage 1 restricted to allotments with access onto Magpie Hollow Road

- Does this mean that minimal subdivision development is required for stage 1 (i.e. no roads or services are required?)*
- This also raises a question about the planned sewerage pumping station which is located at the southern boundary of Block 79 in Stage 6.*

4. Open Space:

The plan includes development for 77 home building blocks with one small area of 1492 square metres shown as open space and another 9.17 hectares open space. Both spaces are not included until Stage 6 of the development which could be years away.

- This seems very adequate until the landform is considered. Block 79 is steep, wooded watercourse and generally inaccessible; it is also under control of Sydney Water Catchment Authority. This cannot be seen as open space for residents or for picnic or playground equipment, in spite of the cycle ways shown in Lot 79.*
- On this basis the proposal should be withheld until adequate, accessible open space with recreational and playground installations are included.*

5. Bus Stop:

There is no provision on the plans for an off road bus stop bay to serve the needs of school bus transport and community bus transport. Given the number of blocks planned, it can be expected that there would be significant number of young people travelling to school for approximately 201 days per year and a safe off-road bus stop must be provided.

6. Fencing:

Fencing around each building block should be attractive, rural style fencing, not colour bond along boundaries facing Magpie Hollow Road, to maintain the rural, open space appeal of the area.

Boundary fencing should be maintained to prevent dogs from entering adjoining properties and causing harm to livestock and pets.

7. Emergency Access between properties:

Access from an adjoining property through the proposed development for bushfire evacuation purposes should be maintained. This was a verbal agreement between the property owners.

Applicants Comments:

1) The development proposes that 9 lots will gain access from Magpie Hollow Road. No other lots will be allowed an access from Magpie Hollow Road. There are currently 15 existing dwellings on other properties which gain access from Magpie Hollow Road. A majority of these have the potential to be subdivided with the majority of these potential new lots having a frontage to Magpie Hollow Road. It is considered that the addition of 9 lots to front Magpie Hollow Road is not a significant concern given the current and likely future development of this road.

2) Road reserve widths are as per the council engineering guidelines and the now repealed South Bowenfels DCP. They are deemed suitable for the scale of vehicular traffic which will be developed by the proposal. Off street parking is a consideration of each individual dwelling application. The size the lots proposed (minimum 2000m²) as opposed to Bowen Vista (800m²) allows for much more space for off street parking.

3) The sewage pump station is to be relocated in the first stage of development.

4) Lot 79 is to be dedicated to council as open space. The land is zoned E3 and must remain as a single allotment under clause 4.1B of the LEP. The land is not under the control of Water NSW (which is assumed to be what is meant by the Sydney Water Catchment Authority). The land however is subject to SEPP (Sydney Drinking Water Catchment) 2011. As such, water quality modelling has been completed and water quality treatment measures proposed as part of the development. The open space area does contain some steep land around the riparian zones, but there are large areas of flatter land alongside road 1 (opposite lots 56 to 58), at the south western part of lot 79 and also the southern part of lot 79.

5) Off road bus stops are not required by any council or RMS guidelines for residential streets. The NSW road rules prevent parking around designated bus stops.

6) The fencing of each residential allotment will be at the discretion of the individual allotment owner.

Planning Comments:

The applicant's comments are considered reasonable and are generally agreed with. The proposal is for a subdivision that complies with Council's controls and guidelines.

It is considered reasonable that some lots front Magpie Hollow Road due to the land opposites being able to do so. The speed limit needs to be reduced in any case.

It is prudent to build the sewer pump station at stage 1.

Through a combination of conditions of consent and VPA Council and the Applicant have agreed that at least 0.5ha within proposed Lot 79 will be provided as a local park open space activated by the provision of shared path and cycleway that will be connected from the east and west sides of the riparian corridor by a pedestrian bridge.

Council will not be requiring the provision for bus stops.

Urban and rural land use conflict often occurs at the interface. As boundary fencing is not governed by Council, it is felt best to leave this issue to private property owners. Fencing falls under the Dividing Fences Act 1991.

The development does not give provisions for an emergency evacuation route for the adjoining property. As there is and has never been a formal arrangement or requirement from the Rural Fire Service, an emergency access road for the adjoining property to gain access through the development is not required.

5.3.9 The public interest

There have been no issues raised from the public regarding planning issues.

Road Extension: The development requires four new roads, being a loop road, connecting roads and a cul-de-sac. As a result, this road extension will be dedicated to Council. Therefore, Council is required to be satisfied that this road will be at a standard acceptable as a roads authority and will impose appropriate conditions of consent if approved. This is of public interest as the additional road extension will be required to be maintained by Council resulting in future costs to the community.

Sewer: The development requires additional connections to Council's reticulated sewer and sewer upgrades including a new pumping station to allow for the additional loadings. The cost of these of upgrades will be borne by the developer; however the ongoing maintenance of the services will be the responsibility of Council. It is important for Council to ensure that these services are properly provided to minimise potential unnecessary maintenance in the future. This is of public interest as there are additional sewer services that will be required to be maintained by Council resulting in future costs to the community. However, contributions through the Water Management Act 2000 will be applicable and will provide support to Council's ongoing maintenance of this utility.

Water: The development requires additional connections to the reticulated water services. The cost of these of upgrades will be borne by the developer; however the ongoing maintenance of the services will be the responsibility of Council. It is important for Council to ensure that these services are properly provided to minimise potential unnecessary maintenance in the future. This is of public interest as there are additional water services that will be required to be maintained by Council resulting in future costs to the community. However, contributions through the Water Management Act 2000 will be applicable and will provide support to Council's ongoing maintenance of this utility.

Dedication of land and associated assets: The development proposes to dedicate land to Council which retains the stormwater infrastructure and open space. These lands will contain bio-retention basins/swales and will require ongoing maintenance once the land was dedicated to Council. This is of public interest as there is additional land and infrastructure that will require maintenance by Council resulting in future costs to the community.

6. DISCUSSION AND CONCLUSIONS

The proposal is considered to generally comply with the relevant provisions of the applicable Environmental Planning Instruments. The proposal is not considered likely

to have any significant negative impacts upon the environment or upon the amenity of the locality. As such it is recommended that development consent is issued subject to the conditions outlined below.

7. ATTACHMENTS

Schedule A- Conditions of consent.

Schedule B-Natural Resources Access Regulator General Terms of Approval

8. RECOMMENDATION

THAT development application DA022/18 is approved subject to conditions set out in Schedule A.

Report prepared by:

Supervisor:

Signed:.....

Signed:.....

Dated:.....

Dated:.....

REASONS FOR CONDITIONS

The conditions in Schedule A have been imposed for the following reasons:

- To ensure compliance with the terms of the relevant Planning Instruments
- To ensure no injury is caused to the existing and likely future amenity of the neighbourhood
- Due to the circumstances of the case and the public interest.
- To ensure that adequate road and drainage works are provided.
- To ensure that satisfactory arrangements are made to satisfy the increased demand for public recreation facilities.
- To ensure access, parking and loading arrangements will be made to satisfy the demands created by the development.
- To ensure the structural integrity of the development.
- To ensure the protection of the health and safety of the occupants of the development.
- To protect the environment.
- To prevent, minimise, and/or offset adverse environmental impacts.
- To ensure lots are adequately serviced.
- To ensure there is no unacceptable impact on the water quality.
- To ensure compliance with the requirements of the Rural Fire Services.
- To ensure adequate soil conservation and protect against movement of soil and sediments.

Schedule A

Conditions of Consent (Consent Authority) and General Terms of Approval (Integrated Approval Body)

Please Note: It should be understood that this consent in no way relieves the owner or applicant from any obligation under any covenant affecting the land.

ADMINISTRATIVE CONDITIONS

1. That the development be carried out in accordance with the application, Statement of Environmental Effects, accompanying information, plans listed in the approval and any further information provided during the process unless otherwise amended by the following conditions.
2. That the a Subdivision Certificate Application, release fee, Registered Surveyors Plans (original & 11 copies) along with associated 88B instrument if applicable, be submitted to Council for finalisation following the compliance with all conditions of this consent.
3. Minor boundary alterations will need to be adjusted so that Lot 16 does not dissect/include any of the electrical easement.
4. No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the *Conveyancing Act 1919* with Council having the right to vary, modify or release this restriction.
5. A street tree planting plan is to be submitted to Council and approved for the overall subdivision prior to Subdivision Certificate release of Stage 1. The street trees are to be implemented within each stage prior to Subdivision Certificate release of those stages respectively.
6. Prior to the issue of the Subdivision or Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:
 - (i) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.
 - and
 - (ii) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.

Note: real estate development project has the meanings given in section 372Q of the Telecommunications Act.

Section 64

7. An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the following allotments created being: Stage 1= 7 lots, Stage 2=12 lots, Stage 3= 13 lots, Stage 4= 14 lots, Stage 5= 4 lots and Stage 6= 29 lots. The rate of contribution per lot/ET is \$2,921 for water and \$14,213 for sewer as set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted in any subsequent Development Servicing Plan annually adjusted for CPI (Sydney) applicable at the time of payment.

Voluntary Planning Agreement

8. That a Voluntary Planning Agreement (VPA) be endorsed by all parties as proposed by Rosaton Pty Ltd on 23 October 2018 prior to the Subdivision Certificate release of Stage 1. Additionally, the contribution agreed to within the VPA is to be paid at a rate of \$2,550 per lot for community facilities and public open space prior to the issue of the Subdivision Certificate release of each Stage 1 to 6.

Stage 1 - \$1,7850 for 7 lots + 250m of cycleway as per #2 in VPA

Stage 2 - \$30,600 for 12 lots + shared cycleway to GWH as per #5 in VPA

Stage 3 - \$33,150 for 13 lots

Stage 4 - \$35,700 for 14 lots

Stage 5 - \$10,200 for 4 lots + steel bridge as per #4 in VPA

Stage 6 - \$73,950 for 29 lots + 140m of cycleway as per #3 in VPA.

Site Remediation

9. That the fill stockpiles and general refuse identified within Envirowest Consulting's Preliminary Contamination Investigation Report August 2017 is required to be removed from the site to a licenced waste facility to provide suitability of residential and recreational land uses. A report and photographic record of this removal, transport and disposal of this waste is required to be submitted to Council. The removal of these materials is to be completed prior to release of Stage 1 Subdivision Certificate.

Utilities

10. The applicant shall consult with an Authorised telecommunications, Electricity and Gas Authorities for the provision of telephone, electricity and gas to each allotment. Confirmation of connection to each allotment or a 'Notification of Arrangement' shall be lodged from each authority, with Council prior to the issue of a Subdivision Certificate.

Environmental Protection

11. The applicant, upon the release of Stage 1 Subdivision Certificate shall commence implementation of the recommendations of the Vegetation Management Plan (VMP) prepared by *New Era Mine Site Revegetation* accompanying the development application as it relates to proposed Lot 79.
12. The applicant is to ensure that all recommendations of the VMP are implemented. Once all conditions have been implemented, the applicant will undertake a maintenance and reporting regime for a minimum period of two years to ensure the outcomes of the VMP are being achieved. Council will not accept dedication of lot 79 until the completion of the 2 year maintenance period and demonstration that the VMP outcomes have been met. The release of the subdivision certificate for stage 6 can happen independently of the terms of this condition.
13. The applicant is to pay a maintenance bond to ensure compliance of this condition. The bond amount is to be agreed to by Council and the proponent prior to the release of Stage 1 Subdivision Certificate based on a cost estimate to be provided by the applicant. Council will routinely inspect the site to monitor compliance and at the completion of the bond period. If work is deemed to be either outstanding or defective in any way Council reserves the right to expend the bond monies on rehabilitation work.

DEPARTMENT OF PRIMARY INDUSTRIES – WATER

14. The Natural Resources Access Regulator's (NRAR) General Terms of Approval (GTA), for part of the proposed development requires a Controlled Activity approval under the Water Management Act 2000 (WM Act). The development consent holder must apply to NRAR for a Controlled Activity approval. The General Terms of Approval is attached to this consent and is to be complied with prior to works or activities commencing on the site.

15. A completed application form must be submitted to NRAR together with any required plans, documents, application fee, security deposit or bank guarantee (if required) and proof of Council's development consent. Finalisation of an approval can take up to eight (8) weeks from the date the application and all required supporting documentation is received. Application forms are available from the NRAR website at:

www.industry.nsw.gov.au WaterLicensing & TradeApprovals.

WATER NSW CONDITIONS

General

16. The lot layout, works and staging shall be as specified in the Statement of Environmental Effects (undated) and shown on the proposed Concept Lot Layout Plan (Dwg No. 4786_LOT_v2; Amdt 1; dated 28/03/2018) and Staging Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) all prepared by CEH Survey. No revisions to lot layout, works or staging of the subdivision that will impact on water quality, shall be permitted without the agreement of Water NSW.

Reason for the above Condition - Water NSW has based its assessment under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 on this version of the subdivision.

Sewage Pump Station and Associated Infrastructure

17. The existing sewage pump station on proposed Lot 2 shall be decommissioned as part of the Stage 1 development as specified in a letter from CEH Survey to Council (dated 26 April 2018).
18. Final design and construction of the sewage pump station proposed to be located in the southern portion of proposed Lot 79 and associated sewer main as shown on the Proposed Concept Servicing Plan – Pump Station (Dwg No. 4786_SERVICE_PUMP; dated 16/05/2018) and the Servicing Plan (Dwg No. 4786_SERVICE_STG1; dated 4/5/2018) all prepared by CEH Survey shall be finalised to the satisfaction of Council prior to the issuance of a Subdivision Certificate for Stage 1. The final design of the sewage pump station shall have consideration for and include the following:
- the electrical switchgear and access points associated with the sewage pump station shall be located above the 1% Annual Exceedance Probability (1 in 100 year) flood level,
 - the sewage pump station shall have a minimum emergency storage volume equivalent to at least 3 hours peak wet weather flow,
 - the sewage pump station and the rising main(s) shall be designed with sufficient capacity to collect and transfer all wastewater generated by the subdivision,
 - the upgrade of any existing sewerage infrastructure shall ensure it has sufficient hydraulic capacity to accommodate the additional wastewater load generated by the subdivision,
 - an appropriate emergency storage capacity of the sewage pump station to accommodate wet weather flow, including a permanent standby pump and access to an emergency power generation unit to ensure continuity of operation in the event of pump or power failure,
 - an alarm system to trigger when the pump fails or when the system is reaching its capacity to ensure sufficient residual capacity for emergencies such as power failure or pump malfunction,
 - appropriate bunding around the sewage pump station so as to divert run-on away from the sewage pump station and prevent any overflows reaching natural drainage system or stormwater drains, and
 - the sewer main crossing of the tributary of Bowens Creek within proposed Lot 79 shall be appropriately designed and located, consistent with the Proposed Concept Servicing Plan – Pump Station and the Concept Sewer Crossing Longitudinal Section (All with Dwg No. 4786_SERVICE_PUMP; dated 16.05.2018) all prepared by CEH Survey; and any requirements for Controlled Activities Approval under the *Water Management Act, 2000* issued by the Department of Industry - Water.

19. Prior to issuance of Subdivision Certificate for each stage of the subdivision, wastewater from the proposed lots, as relevant to each stage of the subdivision, shall be connected to via sewer main to the sewerage pumping station as shown on the Servicing Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) prepared by CEH Survey.

Reason for the above Conditions – To ensure that the design and operation of the sewerage infrastructure is undertaken in a way that minimises the risk of sewage overflows so as to ensure a sustainable neutral or beneficial effect on water quality over the longer term.

Subdivision Roads

20. The subdivision roads shall be located and constructed as shown on the Concept Lot Layout Plan (Dwg No. 4786_LOT_v2; Amdt 1; dated 28/03/2018) and the Servicing Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) prepared by CEH Survey, but with the following specifications and requirements:
- be sealed and otherwise constructed in accordance with Council's engineering standards, and
 - Incorporate suitable crossfall with runoff to be collected via a series of pits and pipes and directed to various water quality treatment measures detailed in the following conditions.
21. All stormwater structures and drainage works associated with the proposed subdivision roads shall be wholly included in the road or drainage reserve or within suitably defined easements.

Reason for the above Conditions – To ensure that the proposed subdivision roads and associated infrastructure will have a sustainable neutral or beneficial impact on water quality during the operational phase of the development.

Stormwater Management

22. All stormwater management measures as specified in the Stormwater Management Plan (dated May 2018) and shown on the MUSIC Treatment Train Plans (Dwg No. 4786_MUSIC_STG2 to 4786_MUSIC_STG6; dated 6/6/18) and Servicing Plans (Dwg No. 4786_SERVICE_STG1 to 4786_SERVICE_STG6; dated 4/5/2018) all prepared by CEH Survey, shall be implemented in particular as elaborated or varied in the following conditions. The stormwater management measures as a minimum shall include:
- pits, pipes, and interallotment drainage
 - grassed swales, and
 - bioretention basins for Stages 2 to 6.
23. Bioretention basins shall be designed and constructed as per the Stormwater Management Plan (dated May 2018) and shown on the MUSIC Treatment Train Plan – Typical Bio Retention & Outlet Scour Protection (Dwg No. 4786_MUSIC_OSP; dated 6/6/2018) both prepared by CEH Survey to capture and treat all runoff from all subdivision roads and residential areas. Each bioretention basin shall also incorporate the following specifications and requirements:
- **For Stage 2:** two bioretention basins shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 2 (Dwg No. 4786_MUSIC_STG2; dated 6/6/2018) prepared by CEH Survey with a total combined surface area and filter area of 55 square metres.
 - **For Stage 3:** a bioretention basin shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 3 (Dwg No. 4786_MUSIC_STG3; dated 6/6/2018) prepared by CEH Survey with a total surface area and filter area of 40 square metres.
 - **For Stage 4:** two bioretention basins shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 4 (Dwg No. 4786_MUSIC_STG4; dated 6/6/2018) prepared by CEH Survey with a combined total surface area and filter area of 80 square metres.
 - **For Stage 5:** a bioretention basin shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 5 (Dwg No. 4786_MUSIC_STG5; dated 6/6/2018) prepared by CEH

Survey with a total surface area and filter area of 45 square metres.

- **For Stage 6:** two bioretention basins shall be located and constructed as per the MUSIC TREATMENT PLAN - STAGE 6 (Dwg No. 4786_MUSIC_STG6; dated 6/6/2018) prepared by CEH Survey with a combined total surface area and filter area of 120 square metres
 - all bioretention basins shall be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems Version 2 (Payne *et al*, 2015, Melbourne, CRC for Water Sensitive Cities) and shall also incorporate the following specifications:
 - a filter media consisting of a clean sandy loam with a certified median particle diameter of 0.5 mm, a maximum orthophosphate concentration of 40 mg/kg and a maximum total nitrogen concentration of 400 mg/kg,
 - be planted with appropriate deep-rooted, moisture-tolerant vegetation protected by rock mulch (grass and turf is not appropriate vegetation and organic mulch is not suitable),
 - direct all discharge and overflow to the unnamed tributaries of Bowens Creek via armoured discharge points such that discharge does not cause erosion, as per the Outlet Scour Protection Cross Section (Dwg No. 4786_MUSIC_OSP; dated 6/6/18) prepared by CEH Survey,
 - be accessible from the subdivision roads by machinery to facilitate cleaning, monitoring and maintenance of the structures,
 - ensure the discharge outlets are consistent with the requirements of any Controlled Activity Approval under the *Water Management Act (2000)* from the Department of Industry-Water
 - be permanently protected from vehicular damage by bollards, fences, castellated kerbs or similar structures, with a sign to be erected to advise of its nature and purpose in water quality management, and
 - be protected by sediment and erosion control measures during any construction and post-construction phase until the ground surface is revegetated or stabilised.
24. The bioretention basins **for Stages 2 to 6** of the subdivision shall be constructed after all hardstand areas i.e. road construction for that stage of the subdivision, have been completed and all ground surfaces have been stabilised.
25. No changes to stormwater treatment and management that will impact on water quality, shall be permitted without the agreement of Water NSW.
26. A suitably qualified stormwater consultant or engineer shall certify in writing to Water NSW and Council **prior to the issuance of a Subdivision Certificate** for each stage of the subdivision that all stormwater management structures have been installed as per these conditions of consent and are in a functional state.
27. An Operational Environmental Management Plan (OEMP) **for each stage** of the subdivision shall be prepared in consultation with Water NSW and Council by a person with knowledge and experience in the preparation of such plans. Each OEMP shall be prepared prior to the issuance of a Subdivision Certificate for that stage of the subdivision, and may be updated from the OEMP for the previous stage. The OEMP shall be provided to Council when the management and maintenance of the bioretention basins is handed over to Council. The OEMP as a minimum shall include but not be limited to:
- details on the location, description and function of stormwater management structures such as pits, pipes, interallotment drainage, bioretention basins, swales, and any other stormwater structures and drainage works
 - an identification of the responsibilities and detailed requirements for the inspection, monitoring and maintenance of all stormwater management structures, before and after handing over to Council, including the frequency of such activities

- the identification of the individuals or positions responsible for inspection and maintenance activities, before and after handing over to Council, including a reporting protocol and hierarchy
- the identification of detailed requirements and measures for the protection of bioretention basins from future upstream construction works i.e. construction of dwellings on future lots, and
- checklists for recording inspections and maintenance activities.

28. All stormwater treatment devices, particularly bioretention basins, shall be monitored, maintained and managed as per the Operational Environmental Management Plan referred in the Condition above.

Reason for the above Conditions – To ensure that the stormwater quality management measures and structures for the proposed subdivision have a sustainable neutral or beneficial impact on water quality over the longer term.

Construction Activities

29. A Soil and Water Management Plan shall be prepared for all works proposed or required as part of Stages 2 to 6 of the subdivision, including the subdivision roads, by a person with knowledge and experience in the preparation of such plans. The Plan shall meet the requirements outlined in Chapter 2 of NSW Landcom's Soils and Construction: Managing Urban Stormwater (2004) manual - the "Blue Book". The Plan shall be developed in consultation with Water NSW and be prepared prior to Council issuance of a Construction Certificate for that stage of the subdivision and shall be to the satisfaction of Council.

30. A suitably qualified, certified professional shall oversee the implementation of the Soil and Water Management Plan for Stages 2 to 6 of the subdivision and effective erosion and sediment controls at the site prior to and during any construction activity including site access and works within waterways and shall certify in writing to Water NSW and Council that erosion and sediment controls have been installed and maintained at the site in accordance with Condition 14 above. The controls shall prevent sediment or polluted water leaving the site or entering any stormwater drain or natural drainage system. The controls shall be regularly maintained and retained until works have been completed and ground surface stabilised or groundcover re-established.

Reason for the above Conditions – To manage adverse environmental and water quality impacts during the construction phase of the development so as to minimise the risk of erosion, sedimentation and pollution within or from the site during this phase.

Subsequent Development Applications

31. Any subsequent applications for dwellings and/or other developments on the proposed lots will be subject to the provisions of State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (the SEPP) and will need to be assessed according to the Neutral or Beneficial Effects test (NorBE) in relation to the potential effect of the development on water quality.

RURAL FIRE SERVICE (RFS) REQUIREMENTS

Asset Protection Zones

The intent of measures is to provide sufficient space and maintain reduced fuel loads so as to ensure radiant heat levels of buildings are below critical limits and to prevent direct flame contact with a building. To achieve this, the following conditions shall apply:

32. At the issue of subdivision certificate and in perpetuity the entire property of each residential lot shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of

'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

33. At the issue of subdivision certificate and in perpetuity the entire property of the open space between lot 27 and 47 as per the subdivision plan drawn by CEH Survey, DWG No. 4786_STAGE, dated 5/12/2017 shall be managed as an outer protection area (OPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Water and Utilities

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions shall apply:

34. Water, electricity and gas are to comply with section 4.1.3 of 'Planning for Bush Fire Protection 2006'.

Access

The intent of measures for public roads is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area. To achieve this, the following conditions shall apply:

35. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

ENDEAVOUR ENERGY REQUIREMENTS

Network Capacity/Connection

36. In due course the applicant, for the future proposed development of the site will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Depending on the outcome of the assessment, any required padmount substation will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefiting and gifted to Endeavour Energy.

Urban Residential Subdivision

37. The site is subject to Endeavour Energy Underground Residential Distribution (URD) policy that states:

5.16.1 Distribution reticulation

In order to improve the reliability performance of and to reduce the operating expenditure on the network over the long term the company has adopted the strategy of requiring new lines to be either underground cables or where overhead is permitted, to be predominantly of covered or insulated construction.

5.16.2 Urban areas

Reticulation of new residential subdivisions will be underground. In non-bushfire prone areas, new lines within existing overhead areas can be overhead, unless underground lines are cost justified or required by local council.

Extensions to the existing overhead 11kV/22kV network must generally be underground.

Bushfire

38. The network required to service the proposed development must be fit for purpose and meet the technical specifications, design, construction and commissioning standards based on Endeavour Energy's risk assessment associated with the implementation and use of the network connection/infrastructure for a bushfire prone site.

Earthing

39. The construction of any building or structure (including fencing, signage, flag poles etc.) that is connected to or in close proximity to Endeavour Energy's electrical network is required to comply with AS/NZS 3000:2007 'Electrical installations' to ensure that there is adequate connection to the earth. Inadequate connection to the earth places persons and the electricity network at risk.

Easement Management/Network Access

40. The following is a summary of the usual/main terms of Endeavour Energy's electrical easements requiring that the land owner:
- Not install or permit to be installed any services or structures within the easement site.
 - Not alter the surface level of the easement site.
 - Not do or permit to be done anything that restricts access to the easement site without the prior written permission of Endeavour Energy and in accordance with such conditions as Endeavour Energy may reasonably impose.

Endeavour Energy's preference is for no activities or encroachments to occur within its easement areas. If any proposed works or activities (other than those approved/ certified by Endeavour Energy's Network Connections Branch as part of an enquiry/ application for load) will encroach/affect Endeavour Energy's easements, contact must first be made with the Endeavour Energy's Easements Officer.

It is imperative that the access to the existing electrical infrastructure adjacent and on the site is maintained at all times. To ensure that supply electricity is available to the community, access to the electrical assets may be required at any time.

Vegetation Management

41. The planting of large trees in the vicinity of electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure. Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure (at least the same distance from overhead power lines as their potential full grown height) and even with underground cables, be installed with a root barrier around the root ball of the plant.

Noise

42. Where development is proposed in the vicinity of electricity infrastructure, Endeavour Energy is not responsible for any acoustic/noise amelioration measures for such noise that may impact on the nearby proposed development.

Dial before You Dig

43. Before commencing any underground activity the applicant is required to obtain advice from the ***Dial before You Dig 1100*** service in accordance with the requirements of the *Electricity Supply Act 1995* (NSW) and associated Regulations. This should be obtained by the applicant not only to identify the location of any underground electrical and other utility infrastructure across the site, but also to identify them as a hazard and to properly assess the risk.

Public Safety

44. Workers involved in work near electricity infrastructure run the risk of receiving an electric shock and causing substantial damage to plant and equipment. Endeavour Energy's public safety training resources, which were developed to help general public/workers to understand why you may be at risk and what you can do to work safely is available via Endeavour Energy's website via the following link:

<http://www.endeavourenergy.com.au/wps/wcm/connect/ee/nsw/nsw+homepage/communitynav/safety/safety+brochures>

Emergency Contact

45. In case of an emergency relating to Endeavour Energy's electrical network, the applicant should note the Emergencies Telephone is 131 003 which can be contacted 24 hours/7 days.

Engineering Requirements

46. A Construction Certificate must be obtained prior to the commencement of any Civil Works.
47. Plans are to be lodged to Council for the issue of a Construction Certificate prior to the commencement of any Civil Works.
48. All engineering works are to be to the standard specified in Council's "Guidelines for Civil Engineering Design and Construction for Development". This document is available on Council's website or upon request from Council's administration desk.
49. That a Geotechnical Report be provided for all proposed roads, including subgrade design prior to a Construction Certificate being issued. Geotechnical compaction tests and visual deflection tests are to be undertaken and to be approved by Council prior to the application of seal. Such tests are to be included with the Construction Certificate Engineering Drawings.
50. The road crossfall must not exceed a maximum of 3% at any point.
51. The footpath crossfall must not exceed a maximum of 4% at any point.
52. All batters must not exceed a maximum gradient of 1:5. Where variation to this condition is required, approval may be granted subject to discussion with Council.
53. The road grade must not exceed a maximum of 12% at any point. Where variation to this condition is required, approval may be granted subject to discussion with Council. All internal roads shall have a minimum of 150mm (subject to testing) of DGB-20 road base applied and compacted providing a smooth transitional surface. Road 1 is to be a 13m wide carriage way within a minimum 20m wide road reserve along the frontage of lot 80 and an 11m wide carriage way within a minimum 18m wide road reserve elsewhere. Roads 2, 3 and 4 are to be an 8m wide carriage way within a minimum 15m wide road reserve.
54. All internal residential roads are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Layers of asphaltic concrete may be included in the total design pavement depth, but should not be assigned a layer equivalency of greater than unity. Where variation to this condition is required, approval may be granted subject to discussion with Council.

55. All cul-de-sacs/turning circles are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Cul-de-sacs/turning circles are to be constructed so that a minimum kerbline radius of 9.5 metres is achieved from the centre of the cul-de-sac/turning circle. The boundary of the road reserve should be curved with a minimum radius of 14 metres to provide for a 4.5 metre wide footpath. Where the head of the cul-de-sac is located on the low side of the road, special provision should be made to convey overland storm water flows through easements or drainage reserves.
56. Roll top kerb and guttering is to be provided on both sides of all internal roads. Where variation to this condition is required, approval may be granted subject to discussion with Council. This will allow potential use of edge strip if water modelling/engineering deems suitable.
57. 2 x 3.5m wide footways are to be provided adjacent to all internal roads. Footpaths must continue to all intersections.
58. Prior to the release of Stage 2 subdivision certificate the Shared Path on Magpie Hollow Road, from the intersection of Road 1 to the intersection with the Great Western Highway, is to be constructed in accordance with Council's standard engineering drawing EN1009. Council's standard drawings are available on Council's website.
59. Street signs are required at all road junctions. Signs shall be purchased from Council. The location of proposed street signs is to be shown on the Engineering Drawings submitted with the construction certificate.
60. Traffic signs, traffic signals, pavement markings, guide posts, delineators, safety barriers and the like, whether permanent or temporary, are to be designed and installed at all roads in accordance with guidelines contained within the Austroads publication, "Guide to Traffic Engineering Practice – Part 8: Traffic Control Devices", Australian Standard 1742 – Manual of Uniform Traffic Control Devices and the Roads and Traffic Authority "Road Design Guide". All traffic control devices and signage are to be detailed in the engineering drawings submitted with the construction certificate. The consent of Lithgow City Council's Executive Manager of Operations or appointed officer will be required prior to the installation of any traffic control devices on existing roads.
61. Two street trees per lot are to be planted within the road reserve. The developer shall consult with and seek approval from Council regarding the species to be used. Only non-frangible trees, having a mature diameter of less than 100mm, shall be planted near road verges and medians. A landscaping plan showing, but not limited to, plant species and estimated height and spread of mature trees is to be provided to Council with the construction certificate.
62. Street lighting shall be provided on all internal access roads in accordance with Australian Standard 1158 – Road Lighting. Energy absorbing columns may be required where fallen columns would be particularly hazardous. The use of energy-saving lighting fixtures is encouraged, however no rebate will be issued to the developer if these types of lamps are approved.
63. A fully certified traffic control plan and road works signage will be required where machinery may obstruct traffic on any Public Road whilst construction work is being undertaken. A traffic control plan and certification of fully qualified contractors/persons will be required to be submitted to Council prior to any work commencing on the shoulder of any Public Road. Failure to comply may result in Work Cover Intervention and may also include Council stopping all work immediately until such time the developer complies with suitable traffic management procedures.

64. A maintenance bond of 5% of final construction costs shall be paid to Council upon final inspection and approval of all civil works. The value of the maintenance bond shall be approved by Council after witnessing a certified copy of the contract documentation showing all civil construction costs for the subdivision. The maintenance period will start from the date of final inspection for a period of 12 months. At the conclusion of the 12 month period a final inspection is to be undertaken by Council at the request of the developer to determine if any defects have arisen during this time. All deficiencies are to be rectified by the developer, should outstanding works remain Lithgow City Council reserves the right to expend bond monies on rectification works.
65. A site investigation is to be performed which is to include logging of test holes to a depth not less than one metre below design subgrade levels (unless rock is encountered). Soil tests shall be taken at the design depth and samples taken for CBR testing in accordance with Australian Standard 1289. The design California Bearing Ratio (CBR) shall be selected following a careful assessment of the materials encountered in the site investigation and the variability of subgrade moisture and density conditions likely in service. The design CBR value should assume poor drainage and shall be determined from soaked CBR. A copy of the site investigation, including test results, is to be included with the Engineering Drawings. Where the design subgrade CBR is below 3, the subgrade shall be chemically stabilised to a minimum depth of 150mm, and the pavement design based on a CBR of 3.
66. Each layer of pavement shall be tested for compaction and deflection as detailed below. The Executive Manager of Operations or his delegate must approve each layer prior to the placing and compaction of subsequent layers.

(a) Compaction Testing:

The subgrade, and all pavement layers, shall be density tested in-situ at the start and finish of the work (within the first/last five metres), and thereafter at intervals of no more than 50 metres, or as indicated by Council's Development Engineer. A minimum of two tests will be required for road pavements less than 50 metres in length. At cul-de-sacs, additional testing will be required at the turning head. The test sites selected should be representative of the likely minimum pavement compaction levels achieved. Density testing must be undertaken by an authorised representative of a laboratory registered by the National Association of Testing Authorities (NATA). Density testing may be conducted using either the sand replacement test, nuclear gauge, or other NATA approved method.

Where a nuclear gauge in direct transmission mode is used to determine pavement density, the test method shall comply with RTA Test Method T173. Results of density testing shall be forwarded directly to Council for approval. No pavement layer shall be covered by a subsequent layer until the results of the density testing have been delivered to and approved by Council's Development Engineer. Table 1 below sets out the minimum compaction requirement for each pavement layer.

Layer	Compaction Requirement	Standard
Subgrade	98% standard maximum dry density California Bearing Ratio (CBR) test	AS 1289.E1.1 AS 1289.F1.1
Sub-Base	100% standard maximum dry density	AS 1289.E1.1
Base	100% standard maximum dry density • <i>Unbound Materials</i> • <i>Cemented Materials</i> Density in place test California Bearing Ratio (CBR) test	AS 1289.E2.1 AS 1289.E3.1 AS 1289.E3.1 AS 1289.F1.1

Laboratory determination of maximum dry density for pavement materials which have been modified with cement must be undertaken within 4 hours of the cement being added to the

material. Materials tested outside this time will be subject to an adjustment to correctly determine the maximum dry density of the sample. For either natural or modified material, the laboratory determination of maximum dry density shall be undertaken at a frequency of no less than one determination for each day's production of material.

(b) Deflection Testing:

All pavement layers must be proof-rolled, and approved by Council's Development Engineer prior to the placement of subsequent pavement layers.

The proof-rolling will be conducted using either:

- i) a roller having a load intensity of seven (7) tonnes per metre width of roller.
- ii) a tandem axle rigid vehicle, having a maximum load of 15 tonnes per axle group (8 tyres), 12 tonnes per axle group (6 tyres), or 10 tonnes per axle group (4 tyres). Single axle vehicles should have maximum loads of 8.5 tonnes (dual tyres), or 5.4 tonnes (single tyres).

Any movement of the pavement layer under loading will be deemed a failure.

Although not a subdivision requirement at this stage, Council strongly encourages Developers to specify in their contracts the use of Benkelman Beam tests to test for any deflection in the pavement layers, and as a means of quality assurance.

(c) Final Road Profile:

The mean construction tolerance on pavement surface crossfalls should be within $\pm 5\%$ of the design crossfall. The maximum allowable construction tolerance is $\pm 5\%$, and the maximum standard deviation of crossfalls is 5%. The vertical alignment should not deviate by more than 25mm from the value shown on the drawings.

67. All road, drainage, kerb and gutter, water and sewerage reticulation works associated with a development shall be inspected by Council's Operations Department. The whole of the works are to be carried out to the satisfaction of the Executive Manager of Operations. Council shall inspect engineering works at the following stages as a minimum:

- Following site regrading and shaping, and prior to installation of footway services;
- Installation of erosion and sedimentation control measures;
- Storm water drainage lines prior to backfill;
- Water and sewer lines prior to backfill;
- Testing of water and sewer lines;
- Subgrade preparation, before placing pavement;
- Establishment of line and level for kerb and gutter placement;
- Completion of each pavement layer ready for testing;
- Road pavement surfacing;
- Completion of works

The developer or contractor shall give Council a minimum 24 hours' notice when requesting an inspection to ensure that development works are not delayed. The developer shall, if required by a Council Engineer, submit delivery dockets for all materials used, and all material and performance test results obtained in the development.

68. Works as Executed (WAE) Plans detailing all services and infrastructure are to be prepared by a registered surveyor or professional engineer, and submitted to Council. The WAE plans shall be lodged prior to the release of the linen plan. The applicant is required to submit three complete sets of hard copy plans (one A1-sized, two A3-sized) and one set of electronic plans in AUTOCAD format.

69. A "Work-As-Executed" (WAE) plan is required to be prepared by a Registered Surveyor or professional engineer and forwarded to Council prior to the final inspection. The WAE is to include, as a minimum:
- certification that all works have been completed generally in accordance with the approved plans and specification,
 - any departure from the approved plans,
 - any additional/deleted work,
 - the location of conduits, subsoil lines, stub mains and inter-allotment drainage lines,
 - pipeline long sections showing the constructed invert levels of each pipe at each pit and pipe dimensions,
 - details of overland flow provisions,
 - site regrading areas by new contours, and
 - all other details which have a bearing on the extent of works and their acceptance by Council.
70. All Engineering Drawings submitted to Council for approval are to have a title block showing the following:
- Applicant's Name,
 - Consultant's Name, Address, Phone No. 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 File Reference,
 - Stage Number,
 - Drawing Title,
 - Scale with Scale Bar, and
 - Signature of Authorised Person
71. Construction noise shall be in accordance with the 'Noise Control Guidelines for Construction Noise Standards'. Hours of operation shall be permitted between 7am and 6pm Monday to Friday and 8am and 1pm Saturdays. No heavy machinery work or usage shall be permitted on Sundays or Public Holidays.
72. The applicant shall submit a soil erosion and sedimentation control plan with the engineering design for Council approval. Such shall address both short and long term management of all disturbed areas and specified methods and structures to be employed to minimise any impact.
73. Prior to and during the commencement of works the applicant shall erect soil erosion and sedimentation controls for the following purposes:
- control of soil erosion and sedimentation movement during the bulk earthworks stage,
 - control of run off and diversion of the sedimentation trap prior to the development of land,
 - method of stabilising the land from erosion and sediment movement after the completion of works and prior to the development of the land.
74. The applicant is to comply with all reasonable requests from Council with regard to any complaints received during construction works.
75. All stormwater drainage is the responsibility of the applicant and shall be satisfactorily disposed of into Council's existing stormwater infrastructure or natural drainage features.

76. The following conditions apply to Stormwater Drainage design and construction:

- a) Stormwater Drainage plans shall submitted to Council as part of the construction certificate, drawn at a scale sufficient to show all necessary details, nominally 1:200, 1:500, 1:1000 or 1:2000. The following data is to be included with a contoured catchment area plan:
 - i. Catchment areas and sub-areas, watershed (catchment boundary), overland flow paths, existing and proposed pipe layout. For large catchments, the total catchment area should be shown at a large scale on a separate plan or inset.
 - ii. All sub-areas, drainage lines and pits are to be logically numbered.
 - iii. A schedule of pipe details, including pipe number, size, class, bedding type, joint type, invert levels at inlet and outlet, slope, and length.
 - iv. A schedule of pit details, including pit number, type, road chainage, surface level to the Australian Height Datum (AHD), invert level to AHD, depth, and lintel length.
 - v. North point and legend.
 - vi. Setout information.
 - vii. Accurate position and level of all services and utilities which cross underground drainage pipelines.
 - viii. Identify those building allotments adjacent to channels and major storm flow paths which may be liable to flooding in major flood events, and the minimum design habitable floor level adjacent to prevent flooding in the design flood event.
 - ix. Inlet and outlet treatments.
 - x. Measures for the prevention of erosion and sedimentation.
- b) Stormwater pit construction:
 - i. Pits shall be provided in drainage lines at all changes in grade, level, and direction, and at all pipe junctions and shall be spaced at no more than 85m apart.
 - ii. Drainage pits are to conform to Council's standard Drawings, or RTA standards for Classified Roads. Non-standard structures shall be constructed as detailed in the design drawings. Such designs shall comply with AS3600 –Concrete Code, AS4100 – Steel Structures, AS1657 – SAA code for fixed platforms, walkways, stairways and ladders; and any other relevant standard.
 - iii. Pits used for storm water drainage shall be fitted with square lids to distinguish them from sewer manholes.
 - iv. Junction pits shall be fitted with reinforced lids and approved lifting eyes.
 - v. Grated inlet pits shall not be used for street or roadway drainage.
 - vi. Precast pits, incorporating insitu bases, may be used if the prior approval of the pit type and design are approved by the Group Manager of Operations.
 - vii. Every endeavour shall be made to maintain flow velocities through pits. Excessive drops will not be permitted.
 - viii. Pipe grading across pits should be designed on the following basis:
 - No change in direction or diameter - minimum 50mm;
 - Direction change but no change in diameter - minimum 70mm;
 - Changes in pipe diameter should be graded from obvert to obvert;
 - ix. At pit connections, a 3 metre length of approved subsoil drainage pipe enclosed in a geofabric sock shall be placed alongside the main pipe so as to enter the pit at the same invert level and adequately drain the main trench, in accordance with Council's standard drawing EN 1016 (copy attached).
- c) Location of pits in roadways, for the adopted minor drainage system annual exceedance probability:
 - i. Inlet pits shall be located so as to restrict the maximum gutter flow width to 2.5 metres.
 - ii. Maximum spacing between any two consecutive pits is 85 metres.

- iii. Pit bypass flows should be limited to 15% of the gutter flow at that location.
- iv. At intersections, kerb inlet pits shall be constructed adjacent to the upstream kerb return tangent point where flows exceed 20 litres per second or gutter flow width is more than 1 metre.
- v. The minimum clearance from the top of the manhole to the design pit water level should be 150mm.
- vi. The product of flow velocity and depth of flow in the kerb and gutter should not exceed 0.4 m²/s.
- vii. Kerb inlet pits should be located clear of horizontal curves, pedestrian desire lines, and vehicle driveways.
- viii. Inlet conditions shall be designed so that the potential for blockage by silt and debris is minimised. This may require special treatment of the inlet sump under some conditions.

d) Hydraulic Design

- i. Pit inlet capacities shall be estimated from design charts and formulae, based on lintel size for on-grade pits and depth of ponding for sag pits. The calculated inlet capacity shall be reduced by a factor of 50% for sag pits, and 20% for on-grade pits, on the assumption that debris is preventing some inflow.
 - ii. Standard lintel sizes of 1.8, 2.4, 3.0, or 3.6 metres should be used when possible.
 - iii. The minimum internal lintel size on a sag should be 2.4 metres.
 - iv. The head loss through pits shall be determined from Missouri Charts or other recognised methods.
77. The Bio-Retention Basins are to be constructed to sedimentation basin stage prior to the release of the relevant subdivision certificate.
78. The Bio-Retention Swales are to be constructed to a grassed swale standard prior to the release of the relevant subdivision certificate.
79. Prior to the handover of stormwater assets the following conditions must be met:
- a. Certification that the asset has been constructed in accordance with approved plans
 - b. Work as executed drawings and engineering certifications have been provided
 - c. All required sediment and water management controls are in place and functioning as intended
 - d. Details of any incidents including Work Health and Safety incidents, public safety and complaints received are documented and provided to Council
 - e. Any required maintenance and security bonds have been received
80. The following stormwater asset maintenance and security bonds are required prior to asset handover:
- a. Bio-Retention Basins – a bond totalling the cost to complete the Bio-Retention Basin construction (if not already constructed to bio-retention stage) and expected maintenance costs for a 2 year maintenance period are to be provided to Council prior to asset handover. The value of which is to be agreed between the developer and Council prior to the release of the relevant subdivision certificate.
 - b. Bio Swales - a bond totalling the cost to complete the Bio-Swale construction (if not already constructed) and expected maintenance costs for a 2 year maintenance period are to be provided to Council prior to asset handover. The value of which is to be agreed between

the developer and Council prior to the release of the relevant subdivision certificate.

Water and Sewer Requirements

81. S68 Approval issued under the provision of the *Local Government Act 1993* or a Subdivision Works Certificate issued under the provision of the Environmental Planning and Assessment Act 1979 shall be required for all Water and Sewer works. If the development is staged then each stage will require a separate Section 68 Approval or Subdivision Works Certificate for construction work covered under that stage.
82. All lots to connect to a gravity sewer reticulation system. This will coincide with the construction of new sewerage pump station to service this area in accordance with Councils Development Services Plan and the West Bowenfels Sewerage Strategy.
83. The sewer pump station shall be located as shown in the Concept Plan by CEH SURVEY Dated 4/5/18. Council is to be dedicated the land proposed upon registration of the plan for the first lots created.
84. Council will construct the sewage pump station and rising main with design advice to be provided by the applicant. The cost of the construction will be borne by Council and recovered through Development Contributions in accordance with Council's Development Servicing Plan. Should the applicant wish to proceed prior to Council allocating a budget for the construction the applicant can opt to pay contributions in advance to fund the construction.
85. All reticulation works, water and sewer are to be constructed by the developer at full cost to the developer.
86. The existing Sewer Pump Station located on Magpie Hollow Road shall be decommissioned and removed. The applicant shall design the connection of the existing gravity sewer pipeline to include a changeover manhole once the new sewer pump station has been completed and commissioned.
87. Lot 1 DP1229039 (existing house) shall be provided with a gravity sewer point of connection. When the applicant submits a Section 68 application for Stage 1 then full consideration shall be given in the design to provide a sewer point of connection for the allotment via the boundary of Lot 7. If the levels do not allow gravity connection to Stage 1 sewer design then a sewer point of connection will be provided prior to the completion of stage 2. All works at developers costs.
88. The applicant is to include a sewer point of connection for Lot 80 in the sewer design via a receiving manhole prior to completion of stage 2.
89. The applicant shall provide a full Water and Sewer Design Plan for approval prior to the release of the S68 Approval or Subdivision Works Certificate. Design is to include, longitudinal sections for each main, minimum depth and cover, maximum depth, grade, chainage, inverts, size, depths, manholes, manhole numbers, manhole depths, pipe velocity, proposed material and positions of junctions and dead ends for all Lots.

OTHER

90. The applicant shall submit a geotechnical report over Lots 28/29 following the removal of the dam from the site to ensure that the dam has been filled and compacted to the standard required for residential development prior to the release of the subdivision certificate for Stage 3.

91. The applicant to provide 0.5ha of active open space of suitable grade to be developed as a local park to service the development. This area can be contained within proposed Lot 79 provided that a shared pedestrian/cycle path is developed at full cost to the applicant to connect the area to both the eastern and western sides of the creek.

Schedule B



Natural Resources
Access Regulator

General Terms of Approval

for proposed development requiring approval
under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS1105167
Issue date of GTA:	18 September 2018
Type of Approval:	Controlled Activity
Description:	Subdivision of 1 lot into 79
Location of work/activity:	33 Magpie Hollow Road SOUTH BOWENFELS
DA Number:	DA022/18
LGA:	Lithgow City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources

The GTA issued by NRAR do not constitute an approval under the *Water Management Act 2000*. The development consent holder must apply to NRAR for the relevant approval **after development consent** has been issued by Council **and before** the commencement of any work or activity.

Condition Number	Details

Design of works and structures

GT0009-00010	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to Natural Resources Access Regulator, and obtained, for a controlled activity approval under the Water Management Act 2000.
GT0019-00003	Any proposed excavation on waterfront land must be undertaken in accordance with a plan submitted as part of a controlled activity approval, to be approved by Natural Resources Access Regulator.

Erosion and sediment controls

GT0014-00007	A. The consent holder must ensure that any proposed materials or cleared vegetation, which may: i. obstruct water flow, or ii. wash into the water body, or iii. cause damage to river banks, are not stored on waterfront land, unless in accordance with a plan held by Natural Resources Access Regulator as part of a controlled activity approval. B. When the carrying out of the controlled activity has been completed, surplus materials must be removed from waterfront land.
GT0021-00001	The proposed erosion and sediment control works must be inspected and maintained throughout the carried out; construction or operation period of the controlled activity and must not be removed until the site is fully stabilised.

Plans, standards and guidelines

GT0002-00523	A. This General Terms of Approval (GTA) only applies to the proposed controlled activity described in the plans and associated documents found in Schedule 1, relating to Development Application 02218 provided by Council to Natural Resources Access Regulator. B. Any amendments or modifications to the proposed controlled activity may render the GTA invalid. If the proposed controlled activity is amended or modified, Natural Resources Access Regulator, Parramatta Office, must be notified in writing to determine if any variations to the GTA will be required.
GT0004-00003	A. A security deposit must be provided, if required by Natural Resources Access Regulator. B. The deposit must be: i. a bank guarantee, cash deposit or equivalent, and ii. equal to the amount required by Natural Resources Access Regulator for that controlled activity approval.
GT0005-00232	A. The application for a controlled activity approval must include the following



General Terms of Approval

for proposed development requiring approval
under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS1105167
Issue date of GTA:	18 September 2018
Type of Approval:	Controlled Activity
Description:	Subdivision of 1 lot into 79
Location of work/activity:	33 Magpie Hollow Road SOUTH BOWENFELS
DA Number:	DA022/18
LGA:	Lithgow City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources
	Plan(s): -i. Erosion and Sediment Control Plan, ii. Stormwater Management Plan, iii. Stormwater Outlet Structure Plan, iv. Vegetation Management Plan, v. Watercourse Crossing Plan. B. The plan(s) must be prepared in accordance with Natural Resources Access Regulator's guidelines located on the website https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities .
GT0010-00006	All documents submitted to Natural Resources Access Regulator as part of an application for a controlled activity approval must be prepared by a suitable qualified person.
GT0012-00004	Any proposed controlled activity must be carried out in accordance with plans submitted as part of a controlled activity approval application, and approved by Natural Resources Access Regulator.
GT0030-00006	The application for a controlled activity approval must include plans prepared in accordance with Natural Resources Access Regulator's guidelines located on the website https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities .
	Rehabilitation and maintenance
GT0023-00001	Vegetation clearance associated with the proposed controlled activity must be limited to where the controlled activity is to be carried out, as shown on the approved plan(s).
	Reporting requirements
GT0016-00003	The consent holder must inform Natural Resources Access Regulator in writing when any proposed activity carried out under a controlled activity approval has been completed.

SCHEDULE 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by NRAR for integrated development associated with DA022/18 as provided by Council:

- Proposed 80 Lot Subdivision 41 Magpie Hollow Road, South Bowenfels NSW 2790, Concept Lot Layout, Dwg No. 4786_LOTv3, CEH Survey, Dated 27/08/2018.

Schedule C

Please find attached general design requirements in relation to the servicing requirements for water and sewerage as part of the abovementioned Development Application based on Preliminary Design drawing received by Council.

The attached conditions do not constitute approval under *section 68, Local Government Act 1993*. Prior to the commencement of any works as described below;

- Undertaking of water supply works
- Undertaking of sewerage works
- Installation, alteration, disconnection or removal of a meter connected to a service pipe
- Connect a private drain or sewer with a public drain or sewer under the control of a council or with a drain or sewer which connects with such a public drain or sewer
- The developer must obtain written Section 68 approval from Council; this will be required prior to the issue of the Construction Certificate. The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicable supporting information for the proposed works.

If your Section 68 application is approved, Council will issue you with a Section 68 approval containing conditions that must be complied with during construction.

-
1. S68 Approval issued under the provision of the *Local Government Act 1993* or a Subdivision Works Certificate issued under the provision of the Environmental Planning and Assessment Act 1979 shall be required for all Water and Sewer works. If the development is staged then each stage will require a separate Section 68 Approval or Subdivision Works Certificate for construction work covered under that stage.
 2. All lots to connect to a gravity sewer reticulation system. This will coincide with the construction of new sewerage pump station to service this area in accordance with Councils Development Services Plan and the West Bowenfels Sewerage Strategy.
 3. The sewer pump station shall be located as shown in the Concept Plan by CEH SURVEY Dated 4/5/18. Council is to be dedicated the land proposed upon registration of the plan for the first lots created.
 4. Council will construct the sewage pump station and rising main with design advice to be provided by the applicant. The cost of the construction will be borne by Council and recovered through Development Contributions in accordance with Council's Development Servicing Plan. Should the applicant wish to proceed prior to Council allocating a budget for the construction the applicant can opt to pay contributions in advance to fund the construction.
 5. All reticulation works, water and sewer are to be constructed by the developer at full cost to the developer.

6. The existing Sewer Pump Station located on Magpie Hollow Road shall be decommissioned and removed. The applicant shall design the connection of the existing gravity sewer pipeline to include a changeover manhole once the new sewer pump station has been completed and commissioned.
7. The On-site sewerage management system located on Lot 1 DP1229039 (existing house) temporary septic pump out to sewer system shall be re - routed and connected to the end of line sewer man hole constructed on proposed lot 7 prior to commencement of Stage 2. All works at developers costs.
8. Prior to completion of Stage 2 the On-site sewerage management waste system located on lot 1 DP1229039 shall be decommissioned to the satisfaction of Council and the sanitary drainage reconnected to the 150mm sewer point of connection at the South Eastern corner of the allotment at the developers costs.
9. The applicant is to include a sewer point of connection for Lot 80 in the sewer design via a receiving manhole prior to completion of stage 2.
10. The applicant shall provide a full Water and Sewer Design Plan for approval prior to the release of the S68 Approval or Subdivision Works Certificate. Design is to include, longitudinal sections for each main, minimum depth and cover, maximum depth, grade, chainage, inverts, size, depths, manholes, manhole numbers, manhole depths, pipe velocity, proposed material and positions of junctions and dead ends for all Lots.
11. Maximum Grade of 20% is permitted for gravity sewer design purposes. Applicant is to provide details of addressing hydraulic jump, odour suppression and the use of energy dissipaters and sewer vents.
12. The maximum allowable sewer flow velocity shall be 3.0 m/s.
13. Applicant to gain full approval for any easements required for water and sewer works prior to release of construction certificate.
14. Privately owned Low Pressurised Sewer Systems and Package Pump Stations shall not be accepted.
15. Sewer mains located within lots adjacent to stormwater drainage lines shall be a minimum of 750 mm clear of the stormwater pipe.
16. Plans showing all proposed easements to be created over water and sewer infrastructure shall be submitted to Council prior to the release of S68 Approval or Subdivision Works Certificate.
17. All Water and Sewer works, including minimum and maximum flows and velocities, shall be designed in accordance WSAA code.
18. Manholes that have been elevated for flood zone requirements shall require work platforms for WHS purposes.
19. Full vehicular access shall be provided to all sewer man holes to allow for servicing and maintenance.
20. Rain gardens, Bio Retention Basins and Swales are not to be constructed over sewer mains. A sewer design plan with stormwater overlay shall be required for assessment prior to the issue of S68 Approval or Subdivision Works Certificate.

21. The applicant shall provide detailed water design to include a ring main. Stage 1 (7 lots) water reticulation system shall be connected to the existing 100mm AC line located on the Northern side of Magpie Hollow Road. The new water supply network shall connect into the Council reticulation network via two points of connection. Live connections by Council at owner's costs.
22. The applicant is to ensure completion of the proposed 200mm water main supplied from Gills Hill reservoir and make connection prior to the release of the Subdivision Certificate for Stage 5. The new water supply shall terminate with a ring main and property service for lot 80.
23. The design of water reticulation shall generally be in accordance with the latest version of the Water Services Association of Australia (WSAA) "Water Supply Code of Australia" (WSA 03).
24. The applicant shall provide fire flow analysis for all water supply networks prior to the release of the Construction Certificate, to ensure that the network is capable of providing the performance for the design of pressure for spring hydrants. Maximum spacing of hydrants shall be 60 metres. (Residential)
25. Construction Certificate design drawings and specifications shall clearly address the following:
 - a. Location of pipelines, valves, hydrants, pipe materials, size, pressure class, jointing methods and corrosion protection measures.
 - b. Specifications for products, materials, site investigation, excavation / trench details and other technical matters.
 - c. Documentation of design assumptions, constraints and issues relevant to the design and not otherwise noted in the Concept Plan.
26. Water supply design to provide Desirable Minimum Static Pressure of 350kpa. Static Pressure shall not to exceed 500kpa at each house hold boundary.
27. Stop (dividing and isolating) and control valves shall be positioned to give required control of the system and to provide an alternative means of supply when a distribution main is taken out of service.
28. Minimum and maximum allowable service pressures will not be exceeded in each zone.
29. Minimum and maximum flows and velocities shall be in accordance with the WSAA Code.
30. A geotechnical report shall be submitted to Council prior to the release of the Construction Certificate. All Pipe and fitting materials must be suitable for application and environment.
31. The spacing and positioning of valves shall allow for isolation of individual zones.
32. Water mains shall only be installed in undisturbed ground.
33. All stop valves shall be anticlockwise closing and be positioned at a minimum of every 300 metres. Valves shall be positioned adjacent to branch take offs.
34. Each lot shall have an individual water meter, which shall be purchased from Council at the applicants full cost and held at Council store.
35. Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.

36. Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will installed the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

Sewerage

1. General Design Considerations

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*

1.1 Objectives

The sewerage objectives are seen as being achieved when:

- i. The planning, design and construction of new facilities are adequate in servicing new and future developments.
- ii. there is compatibility with the existing facilities, methods of operation, and maintenance techniques; and
- iii. The facilities provide public health, environmental, and asset protection consistent with the accepted design and construction requirements set out in this document and with developments in technology as approved from time to time.

The pipe system may, on occasions, be subject to "surcharge" (where the hydraulic grade line is higher than the pipe obvert) or "overflows" (where sewage overflows out of maintenance holes). These situations may be the result of blockages and/or flows in excess of the design flows. In establishing the layout of the pipe network, designers should take care to ensure that any overflows are likely to cause only minimal nuisance or damage.

1.2 Maintenance Aspects

1.2.1 General

The sewerage system is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

Maintenance holes located in readily identifiable locations (e.g. opposite a building line), and not within leased properties, are an aid to rapid clearance of sewer blockages.

1.2.2 Special equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

1.3 Discharges from stormwater systems to sewers

Unless approved otherwise, under the specific *Trade Waste Agreement*, no stormwater discharge will be accepted into sewers.

2. Location of Sewers

2.1 Sewer Locations

2.1.1 Sewers located outside privately owned lands

The design of a sewer system should take into account the fact that there is a significant increase in the risk of tree root blockages after a period of about 20 years. Further, the access to sewers for maintenance is a major problem in the Lithgow despite the use of sewerage reserves for this purpose. Therefore minimising the use of sewer alignments and reserves in leased land is an important feature of good sewer design. Where there is public land at the rear or the side of privately owned block the sewer should be located within the public land rather than within the leased/privately owned block.

i. Diversion of principal carrier sewers around leased lands

Blockages in the sewer system have the potential to result in sewage overflows into leased properties. To minimise problems caused by blockages, wherever practicable, sewers, particularly main carriers, shall be located in public areas rather than within leases.

ii. Other situations

Where a sewer is to be constructed across open areas it is to be sited to;

- (1) Maximise its use for future development, and
- (2) Minimise its impact on possible future use of the site.

Wherever possible sewers under playing fields are to be sited so that maintenance holes are not located within the playing area.

2.1.2 Sewers located within leased lands

Where a sewer is to be constructed within privately owned properties a 3m wide easement is to be created in favour of Council, with the pipe(s) centrally located within the easement and in a location that minimises the impact on the future development potential of the leased/ privately owned land(s).

2. Hydraulic Design

2.1 General Hydraulic Aspects

All sewer works in connection with the application are to be of a size no less than 150mm to the service tie or buried vertical riser

i. Minimum grades for DN150 pipes

Minimum permissible grades of the uppermost reaches of sewers are to be no less than 1.00%

This is the absolute minimum grades that shall be used. In general, it is not considered good practice to use a minimum grade on a short intermediate section of sewer when the upstream and downstream sections are laid at steeper grades.

ii. Maximum grades for sewers

Restrictions are placed on the maximum grades of sewers to limit internal erosion of pipe material, and/or pipe movement (due to trench flows causing loss of bedding).

The maximum pipe grade for sewers larger than DN150 is 15%. Where grades steeper than 15% are planned the circumstances are to be referred to Lithgow City Council for assessment.

To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, scour stops or trench stops may be required. To enable easy location, scour and trench stops shall be placed at intervals of equal length with spacing not exceeding that which is specified. The actual spacing and number of stops shall be nominated on layout drawings.

iii. Grade changes between pipe reaches

It is essential in the lower reaches of the sewerage system, where sewage may have low dissolved oxygen levels, that turbulence leading to the release of hydrogen sulphide from solution be avoided. In these areas, conditions such as a rapid change from steep to flat pipe slope, which favors the formation of a hydraulic jump at dry weather flows, must be avoided.

3. Structural Design

3.1 Sewer pipe materials and construction methods

3.1.1 Types of pipe

Sewers shall be constructed from materials proven to be structurally sound and durable, and shall have satisfactory jointing systems. The use of two or more types of pipe material on a single run of pipe between adjacent maintenance holes is not acceptable.

Materials approved for use in sewers are:

- Vitrified Clay - VC
- Reinforced Concrete - RC, see notes 1, 2 and 3
- Ductile Iron - DICT, see notes 1, 2
- Unplasticised Poly Vinyl Chloride – uPVC (Equivalent to class SEH, solid wall or approved structured wall), **150mm x 3m RRJ SN8 pipes and junctions are Councils preferred material**
- Glass Reinforced Plastics - GRP, see note 4 (Polyester Based)
- Polyethylene – HD-PE, see note 4

Notes

1. Not to be used within, nor up to 1 km downstream of industrial areas or hospitals.
2. Concrete shall be made with Type "SR" sulphate resisting cement with a tri-calcium aluminate content not greater than 5%, or Type "LH" low heat cement. Concrete pipes intended for other than trunk sewers shall be manufactured with a minimum 10mm sacrificial layer on the inside of the pipe.
3. Concrete pipes are not acceptable for DN150 and DN225 sewers.
4. Subject to special conditions and only with written approval of Lithgow City Council.

Proposals for the use of other materials will be considered if supported by adequate technical and performance data.

Where the pipe material is known it shall be shown on the drawings. Where the pipe material is not known prior to submission for detailed design acceptance, the drawings are to contain notes ensuring that the above requirements are satisfied.

4.1.2 Class of pipes

- Sewerage pipes must be of adequate strength to meet overburden and traffic loads. Loads are to include loads created from likely construction and maintenance activities;
- VC pipes shall be Class 4 or stronger;
- Class 2 (X), 3 (Y) and 4 (Z) reinforced concrete pipes manufactured in accordance with the latest version of AS 4058 are acceptable if used in accordance with the requirements of AS 3725;
- uPVC pipes shall be of grade Sewer Extra Heavy (SEH) or of equivalent SN grade in accordance with AS/NZS 1260;
- Classes for Ductile Iron, Glass Reinforced Plastics, Polyethylene, or ABS pipes shall be approved by Lithgow City Council prior to use.

Notes

1. Where load limits apply the locations shall be clearly designated on drawings.
2. During the construction phase specific load provision shall be made for heavy construction equipment where required.
3. No more than one type of pipe material will be used between successive maintenance holes or sewer maintenance shafts.

4.1.3 Pipe jointing

The sewer pipes are to be capable of excluding groundwater, resisting root intrusion, and withstanding pressure loading, both internal and external. Sewer systems must also have some flexibility, either through controlled deflection at joints (rigid materials) or pipe bending (flexible materials).

Acceptable pipe jointing systems are:

- i. VC pipes with rubber ring jointing comprising:
 - Spigot - Socket system;
 - Spigot - Spigot system utilising approved Socket-Socket coupler.
- ii. Reinforced Concrete Pipes, Spigot-Socket, with rubber ring jointing.
- iii. PVC pipes:
 - DN100: solvent welded;
 - DN150: rubber ring jointed or solvent welded; *
 - Larger than DN150: rubber ring jointed. *

Note: For proclaimed mine subsidence areas, the Mine Subsidence Board should be referred to for advice of subsidence design parameters for proposed drainage systems.

4.2 Depth of sewer and cover

- i. Depth of Cover

Sewers shall be laid with a depth of cover, measured from the top of the pipe socket or inspection opening to the ground surface as per section 3.7 of AS/NZS 3500.2, unless the product specific Standard specifies, or the manufacturer recommends, a greater depth.

ii. Maximum Depth

Sewer mains are to be designed for a maximum depth to invert of 5.0 metres. In special cases (e.g. to avoid a pump station or for a short length of line through a ridge) specific approval may be sought from Council to exceed this limit.

4.3 Sewer main junctions

Within a sewerage system it is mandatory that all sewer main junctions occur within maintenance holes. However, DN150 sewer tie connections can be connected by means of maintenance holes or sloped junctions. For connection of service ties see section 4.4.

4.4 Sewer Service Connections

Service ties (house junctions)

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*.

4.4.1 Location

A service tie connecting to a sewer outside a residential block should generally be at right angles to the sewer. Where a service is a maintenance hole (manhole) or "dead-end", the service shall be at an angle between 90° and 180° from the downstream sewer to ensure a smooth flow of entry into the main line.

Service ties shall be located clear of all authorities easements, driveways and retaining walls.

Where the sewer main is located outside of the residential block, the service tie shall extend inside the property boundary and an inspection shaft extended vertically upward to the surface ground level to form a shaft. The tie should generally be located on the sewer main line at 1.0 metre from the lowest corner of the property and extend 1 metre into the boundary.

The upstream end of any "dead-end" sewer shall extend to at least 1 metre past the boundary to accommodate a service tie within a maintenance hole.

4.4.2 Size of Tie

Sewer service ties are normally 150mm solvent welded pipes or rubber ring (in mine subsidence areas). For multiple dwellings a single tie is to be provided per property.

4.4.3 Depth of Tie

A service tie is required to serve the entire leased block. However where building restrictions do not permit part of the block to be developed (e.g. set back distances from the front building line), then depths need to make allowance for this limitation.

In calculating the depth the designer should be familiar with the requirements for grade and depth provided in *AS/NZS 3500.2 sections 3.4 and 3.7*.

An acceptable design will have the following minimum depths of tie:

- For residential blocks: calculated on the basis of minimum cover with a property of 300mm and a maximum possible length of house drain at a grade of 1 in 60
- For residential blocks: calculated on the basis of minimum cover with in the property, if subject to vehicular traffic, of 500mm and a maximum possible length of house drain at a grade of 1 in 60.

4.4.4 Grades

The service tie shall have a minimum grade of 1.0 % and a maximum of 20 %. For ties to deep sewers, a buried vertical riser is to be used (refer section 4.4.5)

4.4.5 Buried Vertical Risers (BVR)

On deep sewers that are near boundaries it may be necessary to use a BVR. These are to be noted on work-as-executed drawings

It is absolutely critical that BVR's are installed on a compacted trench base with suitable concrete support

4.4.6 Manholes

Manholes shall be located along a sewer main at all changes in grade, level and direction and at the intersections with other mains or dead-ends. Manholes will not be accepted within the carriageway of public roads.

The maximum permissible spacing between adjoining manholes is 80 metres.

Manholes are to be designed so that sewage is not forced to deflect by an angle of more than 90 degrees.

Manholes shall be constructed using 20 MPa concrete cast in-situ base. Either Type C or Type D cement shall be used in the concrete mix.

Chamber and covers shall be constructed from precast concrete components of a type authorised by Council.

Drop manholes or Jump-ups may only be used to avoid underground services, or at the intersection of shallow and deep mains where the difference in the invert level exceeds 450mm. The maximum difference in invert levels is 2.0 metres. Drop manholes or Jump-ups are to be constructed as per the requirements of *section 4.10 of AS/NZS 3500.2*

5. Testing

All drainage work is subject to testing and shall comply with the with the requirements of *section 12 of AS/NZS 3500.2*

Water

1.1.1 General

Lithgow's Water Supply System is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

1.1.2 Special Equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

This requirement also extends to the need to use special techniques or hired equipment. To ensure that maintenance personnel can respond and overcome operational problems consistent with service

objectives, it is essential that maintenance of the system is not dependent on non-standard techniques or equipment

2 Location of Water Mains

Water mains shall be constructed within road or public reserves or require the creation of a 3 metre wide easement for water supply, in favour of Council and subject to approval by Council. The pipe is to be centrally located within that easement should approval be given.

Easements across privately owned lands should be avoided.

Marking tape to *AS 2648* shall be laid in a continuous length on top of the pipe embedment material, 150mm above all water mains.

2.1 Provision of branches for future connection

Many branches provided for future development turn out to be either the wrong size, in the wrong place, or not eventually required. Temporary end caps on such branches are often not satisfactorily anchored, and become a liability if the branch is not subsequently used. To avoid this, the following is required:

- branches for future development shall not be provided unless the alignment and diameter of the future connecting mains are confidently known, and the extension is to occur within a short time span (less than 12 months);
- To avoid anchorage problems and future shut downs of the main, a flanged branch with a stop valve is preferred to a branch with an end cap. Valves shall be blank flanged. Where an end cap is necessary a full and adequate thrust block shall be provided;
- Where a branch is proposed to be laid across a road, the section across the road should be end capped at both ends rather than connected at one end initially (to avoid future road openings). If the pipes are not to be connected within 24 months, consideration should be given to charging it via a DN20 service connection and then flushing periodically.

3 Material, Size and Cover Requirements

Unless specifically approved otherwise by Lithgow City Council, pipes for water supply shall be selected from the following approved materials:

- Ductile iron, cement lined and rubber ring jointed, produced in standard lengths of 5.5 metres to AS 2280, having sizes of DN100, 150, 225, 300, 375, 450, 500, 600 and 750. For pipes up to DN300 an approved seal coating on the internal cement mortar lining is applied to reduce leaching. Class K9 shall be used for general application and class K12 where additional structural capability is required;
- PVC Class 16 to AS/NZS 1477 Series 2, having sizes of DN100, 150, 225, 300 and 375.
- **Modified PVC (PVC-M) Class 16 to AS/NZS 4765 (Int) Series 2**, having sizes **DN100**, 150, 225, 300, 375 and 450.
- Molecular Oriented PVC (PVC-O) Class 16 to AS/NZS 4441 (Int) Series 2, having sizes DN100, 150, 225, 300 and 375.
- for sizes above DN750, steel pipe to AS 1579, cement mortar lined to AS 1281, and externally coated with fusion bonded polyethylene;
- PE, pressure class PN16, to AS/NZS 4130 having size DN63. Direct tapping not permitted.

The minimum **cover to water mains** shall normally be **750mm** in roadways or traffic areas and 600mm elsewhere. The minimum **cover to water services** shall be 450mm in roadways or traffic areas and 375mm elsewhere. Provision shall be made for transient loads such as construction equipment where cover is reduced during the construction phase.

A pipeline shall be lowered when cover is removed from existing pipelines for new works (such as roads). If this is physically impossible then consideration shall be given to protection by a suitably designed reinforced concrete relieving slab; extending at least 500mm into natural ground beyond existing pipe trench lines. This slab shall be segmented by construction joints into maximum 1.0 metre long easily removed segments, and separated from the pipe above by no less than 25mm of granular or compressible material.

Thrust or anchor blocks of plain or reinforced concrete, which have been designed to resist unbalanced hydraulic forces, shall be provided at all bends, tees, tapers, in-line stop valves and dead ends. To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, trench stops and scour stops may be required. Scour stops shall be provided along inclined mains where the slope is 5 to 30%. Trench stops can be regarded as an alternative to scour stops and may be provided along inclined mains where the slope is 5 to 15%. To enable easy location, trench and scour stops shall be placed at intervals of equal length with spacing not exceeding that which is specified

4. Service Connections

Water service connections works are to be undertaken under the provisions of *section 152 of the Local Government (General) Regulations 2005*

Water services should be of single service drawn **copper pipe, Type A**, manufactured in accordance with *AS 1432*. Services are to be a minimum of 20mm diameter, with 1.4mm wall thickness.

Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.

Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will install the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

Brass or copper capillary fittings are to be installed at all joints, branches, and bends. Meter boxes, meters, maincocks and elbows are to be of a type approved by the Water and Wastewater Manager or alternatively these fittings can be provided by Council at full cost recovery.

Separate metered water services are to be provided to every allotment, as well as parks, reserves and landscaped roundabouts.

The meter box for each lot should be located approximately **500mm outside the front and side property boundaries**. Services should be located in pairs at side property boundaries. Note that the stop valve should be located no more than 450mm from the water meter, measured from the road alignment.

All service connections should cross the road perpendicular to the road centreline. Non-detectable marking tape to *AS 2648* shall be laid 150mm above all water services. Such connections should be marked on each kerb with a "W"

A Work as Executed plan (WAE) **MUST** be submitted to council prior to the release of the linen plan, outlining the following:

- Service meter location
- All main isolation valves hydrants and scours
- Water mains lay out and property services

5. Pipe Fittings

Fire hydrants of an approved type are to be installed along the water main at such convenient distances, and at such places, as may be necessary for the ready supply of water to extinguish fires accordance with AS/NZS 2419.

On water mains without hydrants (e.g. generally bulk supply mains), scour (or drain) outlets, with isolating valve control, shall be provided at all low points. Wherever possible, on water mains with hydrants (e.g. reticulation), a hydrant should be located at or near all low points, and are to be discharged via a pipe to a storm water drainage pit.

Stop valves are generally located adjacent to tees, and so that no more than 25 properties are isolated at any one time, by closing no more than four valves. To close a valve, the spindle will turn anticlockwise, as viewed, when facing the spindle cap

Provision shall be made concerning air release from all high points on water mains. This should normally be achieved in reticulation mains by means of a fire hydrant, a branch, or a service pipe located at the high point. Where this cannot be achieved a DN25 single orifice air valve should be provided

All maincocks, tees, hydrants, stop valves, scour valves, and air valves should be located within the public footway and shall be of type approved by Council.

All gibaults are to be long sleeved.

At road intersections, two forty-five degree (45o) bends should be used to negotiate the corner.

Thrust blocks shall be provided at all bends, tees, and dead-ends.

All valves and hydrants shall be enclosed within valve chambers.

Markings and indicator posts shall be provided at all hydrants and valves.

6. Testing

Prior to acceptance of the water reticulation network, all pipelines shall be inspected and pressure testing will be carried out.

7. Mains in Cul-de-Sacs

Where the cul-de-sac incorporates an adjacent street connected by a pathway, or ends in a public reserve, the water main shall extend through the pathway or reserve so that a dead-end is not created in the main.

In all other cases, the main is to be looped around the cul-de-sac.

Work as Executed Plans

Following the satisfactory completion of works, 'Works-As-Executed' (W.A.E.) plans prepared by a registered surveyor or professional engineer shall be submitted to Council's Group Manager of Operations. Such plan must be lodged prior to the release of the subdivision linen plan, or prior to occupation or use of the development.

The W.A.E. plans shall be Engineering Drawings as modified, and shall include the following items:

- invert levels of all drainage and sewerage lines at entrance and exit of MH;
- location, class, size, and material of all pipes and subsoil lines;
- location and diameter of service conduits;
- location of stop valves, hydrants, water services,
- longitudinal sections for each sewer main,
- depth of sewer manholes,
- sewer man hole schedule numbered
- location of sewer junctions measured from downstream of MH
- minimum depth and cover, maximum depth, grade, chainage, inverts,
- storm water and interallotment drainage pits;
- location of water meters and serial number of meter installed in relation to the lot it is installed on
- site regarding details – finished surface levels at centre of front and rear boundaries;
- the location and level of any permanent survey marks;

Each Works-As-Executed plan must include certification by the Registered Surveyor responsible for the preparation of the plan

- location, class, size, and material of all pipes and subsoil lines;
- location and diameter of service conduits;
- location of stop valves, hydrants, water services,
- longitudinal sections for each sewer main,
- depth of sewer manholes,
- sewer man hole schedule numbered
- location of sewer junctions measured from downstream of MH
- minimum depth and cover, maximum depth, grade, chainage, inverts,
- storm water and interallotment drainage pits;
- location of water meters and serial number of meter installed in relation to the lot it is installed on
- site regarding details – finished surface levels at centre of front and rear boundaries;
- the location and level of any permanent survey marks;

Each Works-As-Executed plan must include certification by the Registered Surveyor responsible for the preparation of the plan.

PLANNING AGREEMENT

Parties

LITHGOW CITY COUNCIL of 180 MORT STREET, LITHGOW, New South Wales
(Council)

and

ROSATON PTY LTD of 898 GREAT WESTERN HIGHWAY, SOUTH BOWENFELS, New
South Wales (Developer).

Background

- A. On, 8 February 2018, the Developer made a Development Application to the Council for Development Consent to carry out the Development on the Land.
- B. That Development Application was accompanied by an offer by the Developer to enter into this Agreement to make Development Contributions community facilities and open space if that Development consent was granted.

Operative Provisions

1 Planning agreement under the Act

The Parties agree that this Agreement is a planning agreement governed by Subdivision 2 of Division 6 of Part 4 of the Act.

2 Application of this Agreement

This application applies to Lot 2 & 3 DP 1229039, 33 Magpie Hollow Road South Bowenfels for a subdivision of 1 into 79 lots.

3 Operation of this Agreement

This agreement takes effect on the date of execution. All contributions must be paid prior to the release of a subdivision certificate for each stage of the development.

4 Definitions and interpretation

4.1 In this Agreement the following definitions apply:

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

Dealing, in relation to the Land, means, without limitation, selling,

transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land.

Development means that associated with DA022/18 for a subdivision of 1 into 79 lots.

Development Application has the same meaning as in the Act.

Development Consent has the same meaning as in the Act.

Development Contribution means a monetary contribution, the dedication of land free of cost or the provision of a material public benefit.

GST has the same meaning as in the GST Law.

GST Law has the meaning given to that term in A New Tax System (Goods and Services Tax) Act 1999 (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

Land means Lot 2 & 3 DP 1229039, known as 33 Magpie Hollow Road South Bowenfels Hillcrest Avenue.

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

Regulation means the Environmental Planning and Assessment Regulation 2000.

4.2 In the interpretation of this Agreement, the following provisions apply unless the context otherwise requires:

- (a) Headings are inserted for convenience only and do not affect the interpretation of this Agreement.
- (b) A reference in this Agreement to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.
- (c) If the day on which any act, matter or thing is to be done under this Agreement is not a business day, the act, matter or thing must be done on the next business day.
- (d) A reference in this Agreement to dollars or \$ means Australian dollars and all amounts payable under this Agreement are payable in Australian dollars.
- (e) A reference in this Agreement to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under

that legislation or legislative provision.

- (f) A reference in this Agreement to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.
- (g) A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Agreement.
- (h) An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- (i) Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- (j) A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.
- (k) References to the word 'include' or 'including' are to be construed without limitation.
- (l) A reference to this Agreement includes the agreement recorded in this Agreement.
- (m) A reference to a party to this Agreement includes a reference to the servants, agents and contractors of the party, and the party's successors and assigns.
- (n) Any schedules and attachments form part of this Agreement.

5 Development Contributions to be made under this Agreement

The Developer shall make cash contributions and carry out works as follows:

1. The Developer shall pay to Council an amount of \$2,550 per allotment to go towards community facilities and open space.
2. The Developer shall construct a cycleway 250 metres long within Lot 79 linking the proposed active Open Space area within lot 79 to the new public road in the vicinity of lot 36 (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).
3. The Developer shall construct a cycleway 140 metres long within Lot 79 linking the proposed active Open Space area within lot 79 to the new public road in the vicinity of lot 58 (see CEH Survey Drawing 4786_C_RD dated 28

December 2017).

4. The Developer shall upgrade the sewer crossing linking the two cycleways within lot 79 to a 2 metre wide minimum steel bridge to cater for bicycles and pedestrian traffic (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).
5. Construct a shared cycleway from the intersection of the Great Western Highway to a point adjacent to lot 10 (see CEH Survey Drawing 4786_C_RD dated 28 December 2017).

All cycleways shall be a minimum of 2 metres wide and comply with the relevant construction standards set out within the Lithgow City Council Engineering Guidelines 2012.

6 Application of the Development Contributions

Payments or provision of material public benefits must be made prior to the issue of a subdivision certificate for each stage.

7 Application of Section 7.11 (previously s94) and Section 7.12 (previously s94A) of the Act to the Development

Sections 7.11 and 7.12 do not otherwise apply to this development.

8 Registration of this Agreement

This Agreement will not be registered as provided for in Section 7.6 (previously s93H) of the Act as its provisions are to be finalised prior to the issue of any occupation certificate.

9 Review of this Agreement

This Agreement shall not be reviewed except with the approval of both parties.

10 Dispute Resolution

Should a dispute arise as part of this agreement that cannot be resolved between the parties then the parties may engage an independent mediator to be equally funded by the parties to assist in resolving the dispute. If the dispute is not resolved by mediation then before either party has recourse to litigation, the party must submit the dispute to external appraisal. If the parties do not agree upon an independent expert, either may request the Secretary General of the Australian Commercial Disputes Centre to nominate an expert.

11 Enforcement

If this Agreement is not honoured prior to any request for the issue of any subdivision certificate, then the parties agree that enforcement shall mean any subdivision certificate will not be issued.

12 Notices

12.1 Any notice, consent, information, application or request that must or may be given or made to a Party under this Agreement is only given or made if it is in writing and sent in one of the following ways:

- (a) Delivered or posted to that Party at its address set out below.
- (b) Faxed to that Party at its fax number set out below.
- (c) Emailed to that Party at its email address set out below.

Council

Attention: Andrew Muir
Address: 180 Mort Street, Lithgow, NSW 2790
Phone Number: 02 6354 9999
Email: andrew.muir@lithgow.gov.au

Developer

Attention: Rosaton Pty Ltd
Address: 898 Great Western Highway, South Bowenfels, NSW 2790
Phone Number: 0438514102

12.2 If a Party gives the other Party 3 business days' notice of a change of its address or fax number, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted or faxed to the latest address or fax number.

12.3 Any notice, consent, information, application or request is to be treated as given or made at the following time:

- (a) If it is delivered, when it is left at the relevant address.

(b) If it is sent by post, 2 business days after it is posted.

(c) If it is sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number.

12.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

13 Approvals and consent

Except as otherwise set out in this Agreement, and subject to any statutory obligations, a Party may give or withhold an approval or consent to be given under this Agreement in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding consent or for giving consent subject to conditions.

14 Assignment and Dealings

The parties agree that this agreement shall not be assigned to any other party. Should the developer wish to sell, transfer or otherwise dispose of the property the terms of this Agreement are to be honoured by the purchaser, transferee or receiver prior to such sale, transfer or disposition.

15 Costs

Any incidental costs associated with the Agreement shall be borne by the developer.

16 Entire agreement

This Agreement contains everything to which the Parties have agreed in relation to the matters it deals with. No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Agreement was executed, except as permitted by law.

17 Further acts

Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to affect, perfect or complete this Agreement and all transactions incidental to it.

18 Governing law and jurisdiction

This Agreement is governed by the law of New South Wales. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

19 Joint and individual liability and benefits

Except as otherwise set out in this Agreement, any agreement, covenant, representation or warranty under this Agreement by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

20 No fetter

Nothing in this Agreement shall be construed as requiring Council to do anything that would cause it to be in breach of any of its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

21 Representations and warranties

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

22 Severability

If a clause or part of a clause of this Agreement 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 Agreement, but the rest of this Agreement is not affected.

23 Modification

No modification of this Agreement will be of any force or effect unless it is in writing and signed by the Parties to this Agreement.

24 Waiver

The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another Party. A waiver by a Party is only effective if it is in writing. A written waiver by a Party is only effective in relation to the particular obligation or breach in respect of which it is given. It

is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

25 GST

If any Party reasonably decides that it is liable to pay GST on a supply made to the other Party under this Agreement and the supply was not priced to include GST, then recipient of the supply must pay an additional amount equal to the GST on that supply.

Execution

Dated:

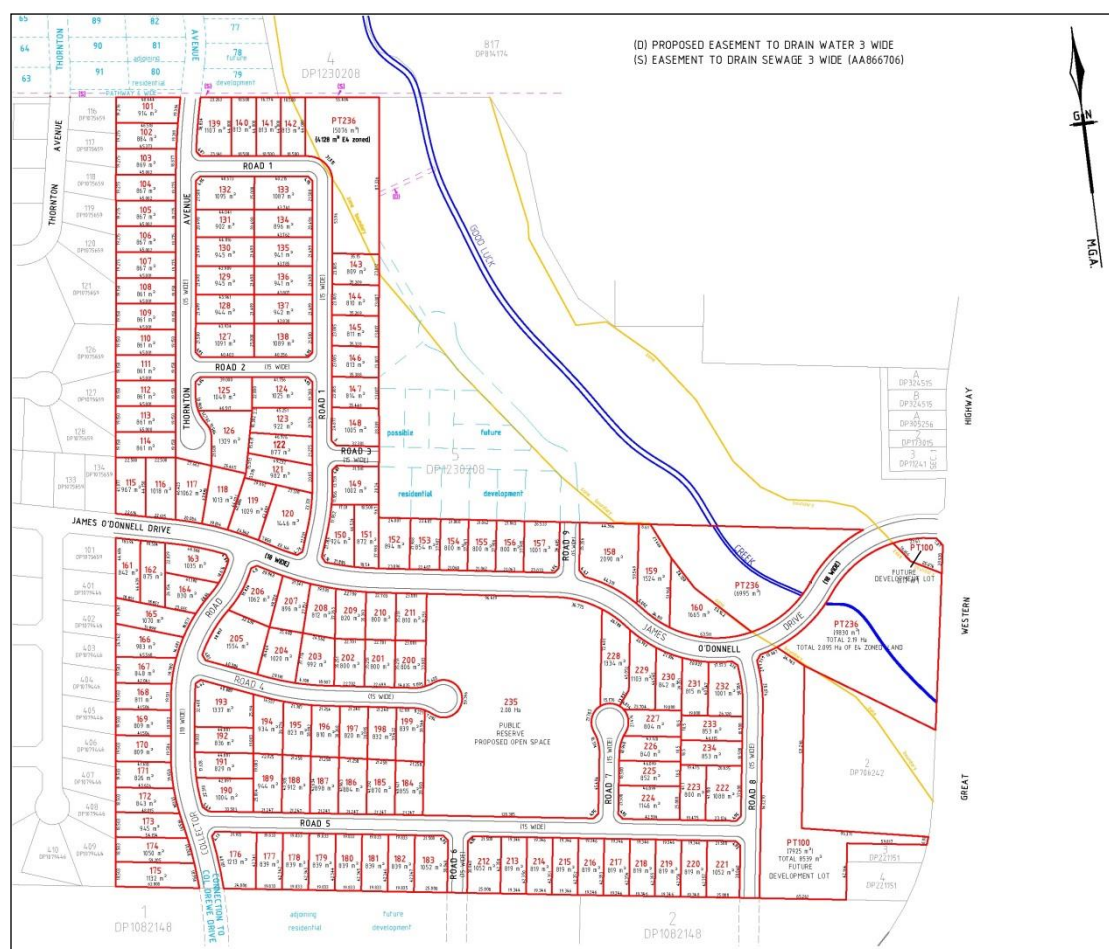
Executed as an Agreement:

.....
Rosaton Pty Ltd

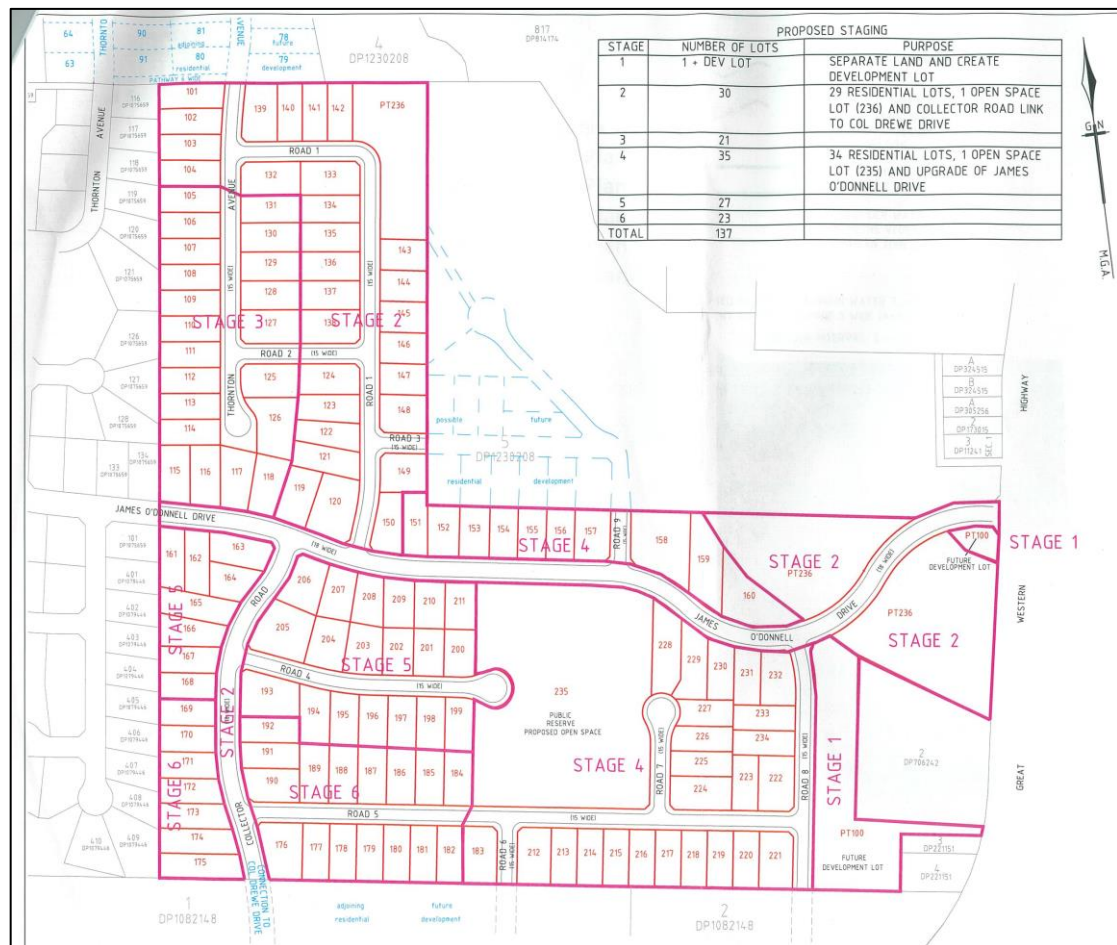
.....
Lithgow City Council

1. PROPOSAL

Below is the subdivision proposal (for 134 residential lots):



The staging plan is shown below:



The proposal also includes infrastructure for stormwater, reticulated water and sewer services. These proposed services include development on Lot 5 DP 1230208. Lot 1 DP 1082148 (Sweetbriar) is also required for access to Col Drewe Drive.

The development is proposed to be undertaken in six (6) stages being:

- Stage 1= 1 development lot.
- Stage 2= 29 residential lots, one drainage reserve and link road reserve to Col Drewe Drive.
- Stage 3= 21 lots (and construction of link road to Col Drewe Drive).
- Stage 4= 34 residential lots and one open space lot.
- Stage 5= 27 lots.
- Stage 6= 23 lots.

2. SUMMARY

To assess Development Application DA142/18 with the recommendation being for approval subject to conditions.

3. LOCATION OF THE PROPOSAL

Legal Description: Lot 2 DP 1049398, Lot 5 DP1230208 and Lot 1 DP 1082148 (Sweetbriar)

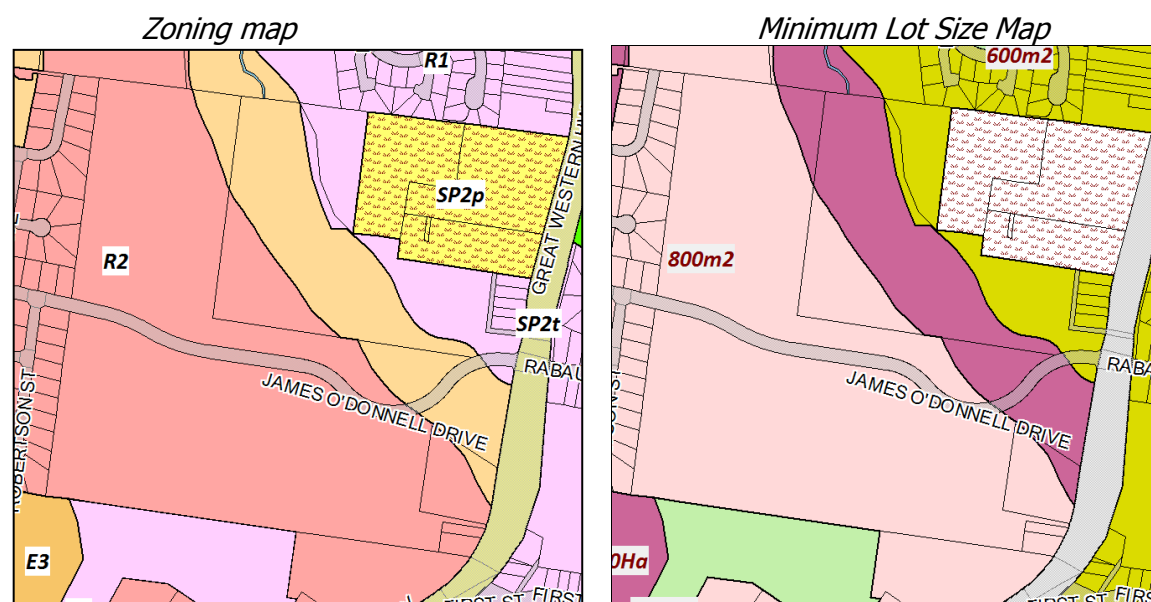
Property Address: 994, 998 and Sweetbriar, Great Western Highway, Bowenfels

4. ZONING: The land is zoned R2 Low Density Residential & E4 Environmental Living under Lithgow Local Environmental Plan (LEP) 2014.

5. PERMISSIBILITY: The development, being a subdivision, is permissible under Lithgow Local Environmental Plan 2014. The following Clause applies:

4.1 Minimum subdivision lot size

(3) *The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.*



The development being a subdivision of land in the R2 Low Density Residential zoning is permissible for Lots 100 to 235 under Clause 4.1 as each lot meets the minimum lot size (MLS) of 800m² as per the Lot Size Map under LEP 2014. It is noted that two (2) lots will have slivers of E4 zoned land in which the 20ha MLS would be applicable. It is considered that this does not need to preclude the proposed lot layout, shape and size of lots and should not change the overall design proposal of the development. However, the proposed lots created for the drainage reserves (shown as Lot 236) do not meet the MLS of 20ha as per the Lot Size Map under Clause 4.1 of LEP 2014. These drainage reserves are within the E4 Environmental Living zone and therefore the entire proposal would be prohibited apart from Clause 4.1B for split zones below which states:

4.1B Minimum subdivision lot size for certain split zones

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

- (a) *to provide for the subdivision of lots that are within more than one zone but cannot be subdivided under clause 4.1, 4.1AA or 4.2C,*
- (b) *to ensure that the subdivision occurs in a manner that promotes sustainable land uses and development.*

- (2) This clause applies to any lot (an **original lot**) that contains:
- (a) land in Zone RU5 Village or in a residential, business or industrial zone, and
 - (b) land in a rural zone or environment protection zone.
- (3) Development consent may be granted to the subdivision of an original lot to create other lots if:
- (a) one of the resulting lots will contain:
 - (i) all of the land of the original lot that is in a rural zone or environment protection zone, and
 - (ii) land in Zone RU5 Village, or in a residential, business or industrial zone, that has an area not less than the minimum size shown on the [Lot Size Map](#) in relation to that land, and
 - (b) each of the other resulting lots will have an area that is not less than the minimum size shown on the [Lot Size Map](#) in relation to that land.
- (4) Development consent may be granted to the subdivision of an original lot to create another lot that:
- (a) contains land in an environment protection zone, and
 - (b) is less than the minimum size shown on the [Lot Size Map](#) in relation to that land, but only if the consent authority is satisfied that the resulting lot will be used for a public purpose.
- (5) Subclauses (3) and (4) have effect despite clauses 4.1, 4.1AA and 4.2C.
- (6) Land identified as "Area 1" or "Area 2" on the [Lot Size Map](#) may not be subdivided under this clause.
- (7) Development consent may only be granted under this clause if the consent authority is satisfied that the subdivision:
- (a) is not likely to have a significant adverse impact on the environmental values of the land, and
 - (b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and
 - (c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.
- (8) In this clause, **rural zone** means Zone RU1 Primary Production, Zone RU2 Rural Landscape or Zone RU3 Forestry.

The land has two zonings (residential and environmental) and cannot be subdivided under Clause 4.1, 4.1AA or 4.2C, however the current plan for subdivision promotes suitable land uses as per Clause 4.1B(1) & (2). The proposed Lot 236 (three sections in total) will incorporate the E4 Environmental Living zones and it is proposed that this lot be dedicated to Council for stormwater infrastructure. This proposal will comply with the provisions of Clause 4.1B(4)(b) and the allotments for stormwater infrastructure are for a public purpose.

Having determined that the proposed Lot 236 is for a public purpose Council must also be satisfied that the subdivision will comply with Clause 4.1B(7) as follows:

- a) is not likely to have a significant adverse impact on the environmental values of the land, and*
- (b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and*
- (c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.*

The proposal is will not have a significant adverse impact on the environmental values of the land if appropriately managed. The retention of the riparian corridors and vegetated areas of the development site within one allotment will prevent further fragmentation of these areas and development works that may impact on the biodiversity values of the land.

Proposed lot 236 is proposed to be dedicated to Council to ensure that the land can continue to be appropriately managed beyond the subdivision phase of the development. It is considered that public ownership is the best available means to ensure the environmental integrity of the end of line drainage structures and protection of the riparian corridors.

The creation of Lot 236 for a public purpose consistent with the environmental values of the land will not impact any primary production lands. The surrounding landuse is residential and urban landuse.

5.1 POLICY IMPLICATIONS (OTHER THAN DCP's)

Policy 1.2 Acquisition and Disposal of Assets

This Policy needs to be considered when Council is considering the acquisition and/or development of assets. This Development Application proposes to construct bio-retention basins, stormwater infrastructure and roads. Two drainage reserves and new road networks will be dedicated to Council as an asset as part of the Subdivision Certificate release process.

Council's Acting Director Infrastructure Services has advised that these assets satisfy the criteria identified within this Policy. The developer will be required to construct the assets to Council's specifications prior to a maintenance period and subsequent dedication if the development is approved.

Policy 7.2 Subdivision – Release of Subdivision Plans

The proposed development, being for a subdivision, will require compliance with this Policy as part of the Subdivision Certificate release.

Policy 7.5 Notification of Development Applications

This policy does not apply to development applications that are required to be notified under specific legislation.

The application is for 'Integrated Development' therefore the proposal was notified to surrounding landowners and placed on display for a period of 30 days to coincide with the required newspaper advertising period and therefore complies with Council's Policy. Wide notification occurred given the potential increase in traffic to Bowenfels. Written notification was undertaken to surrounding or adjacent landowners.

Policy 7.10 Voluntary Planning Agreements

A Voluntary Planning Agreement (VPA) has been negotiated with the developer in accordance with Section 7.4 of the *Environmental Planning & Assessment Act 1979* in relation to this proposal. The plan has been created as per the Policy and will be advertised appropriately for compliance.

The developer has agreed to make a contribution of \$6200.00 per lot (total of \$830,800) to go toward community facilities and open space. This will be comprised of:

1. Dedication of 2.08 hectares of land for Public Reserve. This will comprise of 0.88 hectares as a condition of consent and 1.2 hectares offered under this Agreement. The value of the 1.2 hectares at May 2018 is \$82,679.42 and equates to \$617.01 per residential allotment. The land value is subject to

valuation by the Valuer General at the time of Council signing the Subdivision Certificate to release the land.

2. Payment to Council an amount of \$5,582.99 per allotment. Of this amount, \$1924.50 is to be allocated to embellish the Public Reserve Lot 235 and \$3658.49 is to be allocated to nearby community facilities.

The details of the VPA have been incorporated into this Report with a recommendation made for endorsement.

Council's Open Space and Recreation Needs Study has been used to inform how open space in Bowenfels should be supplied and embellished. It states the following:

Lithgow Precinct

Priority Recommendations

Key priority recommendations include:

- *one local recreation park and one district recreation park within the South Bowenfels area*
- *embellishment of the detention basin in Thornton Avenue to a local recreation park standard*

8. Summary and Recommendations

Facilities

- *develop a utility open space on Thornton Avenue to a local recreation park standard.*

The Draft VPA outcome will go towards the implementation of these priority recommendations.

The following table, as taken from the Open Space and Recreation Study shows the indicative embellishments for the both a local recreation park and district recreation park.

Table 13: Indicative Embellishments for the hierarchy of Recreation Parks

Park Element	Local Recreation Park	District Recreation Park
Recreation activity areas. Elements selected will be sensitive to the setting of the park (urban to natural) and provide a mix of opportunities across communities.	Mix of 2 or 3, (e.g. toddlers, kick-about, children, active youth space, free to use courts)	Mix of 4 to 6, clustered in two or more nodes (e.g. mix of toddlers, children, youth, picnic & BBQ area, dog off-leash, skate park, meeting area, older adults, pathway systems)
Fencing/bollards, lock rail	Yes	Yes
Landscaping	Shade trees, landscaping to enhance amenity and screen boundaries	Significant landscaping
Significant revegetation required for more natural settings	As identified by relevant master plan	As identified by relevant master plan
Irrigation	Dependant on access to water, ideally high use areas are irrigated	Yes in high use areas
Feature paving/ concrete stencilling	No	Small areas around entrances
Lighting	Roadside lighting only, picnic nodes as demanded	Yes, picnic nodes and possibly some key pathways

Park Element	Local Recreation Park	District Recreation Park
Pedestrian pathway access network (Surface material will reflect the park setting and desired degree of accessibility (e.g. natural settings are enhanced with grass or gravel paths and board-walking))	Access paths, 1.2m width minimum	Access paths. May contain walk/ cycle circuit within park, 2m width minimum
Bike racks	No	Ideally
Signage	Park name sign, located at main entrance. Generic 'Local Park' street signage where entrances are on cul-de-sacs	1 to 3 as required, located at key entrances. Possibly interpretive signage (for nature appreciation areas) or trail signage (e.g. distance markers on recreation corridors)
Shade structures (over playgrounds)	Yes	Yes
Tap/bubbler	No	Yes
Bench seating	1 to 2 (if no other seating is provided), positioned for supervision of any play area, or for views/ appreciation of the surrounding park/ area	3 to 4, depending on need. Located for supervision of any play area (if not otherwise serviced by sheltered tables), and/or along recreational corridors to provide rest stops
Barbeque	No	Minimum of one, with potential to expand if demand increases
Shelters/ gazebo with tables and seating	May be provided as an activity area (e.g. a scenic viewing area)	1 to 3
Rubbish bins	Minimum of one, located near activity area, or at key access points on recreation corridors	2 or more as required to service activity area/ picnic nodes and any recreation corridors
Toilet	No	Yes
Public artwork	If available	Possible
Internal roads	No	No
Car parking	On-road only	Yes, 10 to 20 spaces with additional on-road parking
Bus pull-through	No	Ideally
Bus parking	No	No

The design of the district level park on proposed lot 235 will have consideration to these indicative embellishment requirements. The design will also be informed by community consultation prior to construction.

The VPA will provide a wider public benefit than would otherwise been able to be achieved. The dedication of the larger area of land to develop a district level park will benefit the residents of the adjoining neighbourhoods and enable a public space that responds to current and future community needs.

5.2 FINANCIAL IMPLICATIONS

Water Management Act 2000

Under the Water Management Act 2000, Section 305, an application for Certificate of Compliance must be submitted to Council. This Act states:

- (1) A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.*
- (2) An application must be accompanied by such information as the regulations may prescribe.*

Therefore Council's Section 64 Contributions under the Local Government Act 1993 for water and sewer connections will be required to be paid prior to the Subdivision Certificate release for each stage.

The following condition would be included in the conditions of consent:

- An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the following allotments created being: Stage 1= 1 lot, Stage 2= 29 lots, Stage 3= 21 lots, Stage 4= 34 lots, Stage 5=27 lots and Stage 6= 23 lots. The rate of contribution per lot/ET is \$2,921 for water and \$14,213 for sewer as set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted by any subsequent Development Servicing Plan, annually adjusted for CPI (Sydney) applicable at the time of payment.

Planning Agreements

See previous commentary under **Policy 7.10** above.

5.3 LEGAL IMPLICATIONS

Conveyancing Act 1919

The proposed development will have the following conditions of consent imposed in accordance with the Act as proposed by Council:

- *No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the Conveyancing Act 1919 with Council having the right to vary, modify or release this restriction.*

Environmental Protection and Biodiversity Conservation Act 1991

No federally listed Threatened Species or Endangered Ecological Community is required to be cleared as a result of this application. Accordingly, there are no legal implications of this Act on the proposed development.

Local Government Act 1993

If this application is approved, the applicant must obtain a Section 68 application for connection to Council's water and sewerage supply. This must be lodged and approved prior to commencement of any work on site and shall be at full cost to the applicant.

The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicably supporting information for the proposed works. All conditions of the Section 68 Approval must be complied with prior to the release of the Subdivision Certificate for each Stage.

Roads Act 1993

The proposed roads with this subdivision are to be dedicated to Council under this Act. Council will become the controlling authority for the roads once construction works are satisfactory and the Subdivision Certificate is released. The proposal will meet the requirements of the Act subject to conditions of consent.

Telecommunications Act 1997

It is recommended that consent authorities adopt the following model condition when issuing development consents for subdivision as per Planning Circular 17-005

(17.11.17) -Conditions of consent for fibre-ready facilities and telecommunications infrastructure, as below:

- *Prior to the issue of the Subdivision or Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:*
 - (i) *the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.*
 - and
 - (ii) *the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.**(Note real estate development project has the meanings given in section 372Q of the Telecommunications Act).*

Water Management Act 2000

The development proposes works within a watercourse for proposed sewer services for the development. Therefore, a Controlled Activity Approval is required from Department of Primary Industries (DPI) - Water as per the below:

91 Activity approvals

- (1) *There are two kinds of activity approvals, namely, controlled activity approvals and aquifer interference approvals.*
- (2) *A controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.*
- (3) *An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.*

The application was referred to DPI Water for an Integrated Approval under this Act as per Section 4.46 of the *Environmental Planning & Assessment Act 1979*. Comments provided by DPI Water on the matter are detailed further in this report and provide compliance with the Act.

Biodiversity Conservation Act 2016(BC Act)

This Act is applicable where development involves clearing of native vegetation in non-rural zones. It establishes a framework to avoid, minimise and offset impacts for all types of development that are likely to have a significant impact on biodiversity.

The BC Act commenced in full on 25 February 2018 and applies to this development application.

Council officers have assessed that the application does not trigger the area or map thresholds of the Biodiversity Offset Scheme (BOS) as follows:

- The area of land to be cleared does not exceed 0.25ha
- Part of the land the subject of the application is identified on the Biodiversity Values Map, being the vegetated riparian corridor. There will be minimal construction activity or clearing within this area, except for a stormwater drainage line that will require a NSW Office of Water controlled activity

approval. Any impact on vegetation in this area will be minimised as far as practicable.

Having determined that the BOS has not been triggered, Council must still consider if the development is likely to have a significant impact on threatened species in accordance with the test in 7.3 of the BC Act.

Council has undertaken a desktop assessment of threatened species through the BioNet Atlas and did not find any threatened species present either on the site or within the locality.

The development proposes to dedicate to Council part of the riparian corridor along Good Luck Hollow Creek to Council. This will prevent this area from any future development activity and fragmentation and will allow better natural resource outcomes to be achieved.

A vegetation management plan (over proposed lot 236) (VMP) prepared by a suitably qualified person to accord with the *DPI –Office of Water – Guidelines for vegetation management plans on waterfront land* or other equivalent document will be required to be submitted to Council prior to the issue of the Subdivision Certificate for Stage 1.

The applicant will also be requested to implement the recommendations of that plan during construction of the remaining stages of development prior to the final dedication of those lands to Council.

Environmental Planning and Assessment Act 1979

In determining a development application, a consent authority is required to take into consideration the matters of relevance under Section 4.15 of the *Environmental Planning and Assessment Act 1979*. These matters for consideration are as follows:

5.3.1 Any Environmental Planning Instruments

Lithgow Local Environmental Plan 2014

LEP 2014 – Compliance Check		
Clause		Compliance
Land Use table	R2 Low Density Residential	Yes
Land Use table	E4 Environmental Living	Yes
4.1	Minimum subdivision lot size	Yes
4.1B	Minimum lot sizes for certain split zones	Yes
7.1	Earthworks	Yes
7.2	Flood planning	Yes
7.3	Stormwater management	Yes
7.4	Terrestrial biodiversity	Yes
7.5	Groundwater vulnerability	Yes
7.6	Riparian land and watercourses	Yes
7.7	Sensitive lands	Yes
7.10	Essential Services	Yes

Comment: The proposed development meets the Objectives of zone R2 Low Density Residential as it will be providing for the housing needs of the community by supplying land for residential use. The development will be providing facilities and services required for the subdivision.

The proposed development also meets the Objectives of zone E4 Environmental Living by low impact to this zoning and the creation of drainage reserves. The proposal will not have significant effects on the ecological, scientific or aesthetic values of the area. The surrounding area will maintain the rural character of the land while allowing for urban growth through the subdivision. The proposal does not create unreasonable and uneconomic demands on the provisions or extension of public infrastructure, amenities or services, subject to conditions of consent.

The proposal has been assessed by WaterNSW to have a neutral or beneficial effect on water quality of the receiving water catchments.

As previously discussed, the proposed subdivision does not meet the requirements of Clause 4.1 of the LEP due to the MLS of 20ha not being met. However, the split zoning Clause 4.1B is applicable and allows for the subdivision to be permissible with consent. This allows allotments that do not meet the MLS of 20ha to be dedicated to Council for a public purpose - being for stormwater infrastructure.

Clause 7.1 The proposed development will include earthworks for services and road construction which will change the drainage patterns of the area. The road network and stormwater infrastructure proposed has been designed to allow for the diversion of stormwater to be captured within bio-retention basin systems and treated before being naturally dispersed in the area. There will be conditions of consent imposed to ensure dust, noise and erosion is minimised during works and in perpetuity as a result of earthworks. The development has been assessed by appropriate authorities in relation to potential impacts from earthworks on water courses and found to be satisfactory subject to conditions of consent if, approved. It is unlikely that the development will disturb relics on the site given the site history is grazing land. The development will comply with the requirements of the earthworks provisions.

Clause 7.2 The extend of flood prone land is considered negligible. The development proposes no future residential development that would be affected.

Clause 7.3 The proposal has been designed to maximise water permeable surfaces with minimal road networks and stormwater infrastructure. The development will have minimal runoff to adjoining properties as it will be retained onsite and dispersed adequately into adjoining water catchments as per existing arrangements. The development has been assessed by appropriate authorities with no objection to the stormwater management proposals subject to appropriate conditions of consent being imposed, if approved.

Clause 7.4 The development land is within the terrestrial biodiversity area. As a very minimal section of the land is within this mapping it was not required that any further reports on flora or fauna be supplied. The land is generally devoid of native vegetation and contains mostly grassland. The removal of three trees is not expected to have an adverse effect on the habitat or survival of native fauna and the ecological value and significance is minimal. The development will be required to

implement tree planting along roads and vegetation within drainage reserves to offset the minimal clearing proposed.

Clause 7.5 The land is partly within the groundwater vulnerability overlay. As the development can achieve a neutral or beneficial effect on water quality and is also sewered, no concern is raised.

Clause 7.6 DPI Water have consented to the application.

Clause 7.7 A small section at the north of the property is within the sensitive lands overlay of the LEP. The development has slopes of over 25% and shallow soils which could be subject to high erosion potential. The applicant has generally avoided proposed lots with slopes of greater than 20%. This has been assessed as part of the application and considered suitable. The proposed design seeks to minimise the impact on the most sensitive land which will be further controlled through conditions of consent, if approved. WaterNSW has determined the site to be highly erodible and have provided their concurrence for approval.

Clause 7.10 The development will provide reticulated water, underground electricity, sewerage management/disposal, stormwater drainage and suitable vehicular access through the design and via conditions of consent if approved. The subject site is unsewered. See the assessment of sewer provision later in this Report. The development will have all essential services as required.

The development therefore complies with the overarching requirements of the LEP appropriately. An assessment of the lot layout, size, shape and orientation is below under Section 5.3.3.

State Environmental Planning Policy 44 – Koala Habitat Protection

SEPP 44 is applicable to the site given that it exceeds 1ha in size and is located within the Lithgow Local Government Area to which the SEPP applies. Part 2 of the SEPP requires Council to consider whether the land, the subject of the application, retains potential and subsequently core koala habitat. Many of the trees listed within Schedule 2 of the SEPP are common within the Lithgow Local Government area, however core koala habitat within this area is rare, with only 12 koala sightings ever reported on private land within the LGA.

Comment: Given that three (3) trees are to be removed as part of the development, and the section of the subject site relevant to the application is largely devoid of native vegetation it is considered unnecessary to proceed further with the SEPP 44 assessment.

State Environmental Planning Policy (Infrastructure) 2007

SEPP (Infrastructure) 2007 – Compliance Check		
Clause		Compliance
Division 5 Electricity transmission or distribution		
Subdivision 2 Development likely to affect an electricity transmission or distribution network		
45	Determination of development applications—other development	Yes
Schedule 3	Traffic generating development to be referred to the RTA (RMS)	Yes

Comment: The proposed development is within proximity of existing electricity infrastructure and may require the upgrade of these existing services. Therefore the development was referred to Endeavour Energy for comment as per the SEPP. Endeavour Energy supplied their comments, being no objection to the proposal, which are detailed later in this Report. Therefore the proposal meets the requirements of the SEPP.

The application was referred to the RMS as required. See Section 5.3.8 below for the response.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011

SEPP (Sydney Drinking Water Catchment) 2011 – Compliance Check		
	Clause	Compliance
10	Development consent cannot be granted unless neutral or beneficial effect on water quality	Yes
11	Development that needs concurrence of the Chief Executive	Yes

Comment: The proposed development was referred to Water NSW under the SEPP given the proposal is within the Sydney Drinking Water Catchment. Water NSW has provided correspondence on the proposal with no objections subject to conditions of consent if approved. Water NSW agrees that the development can achieve a neutral or beneficial effect on water quality and complies with the provisions of the SEPP.

5.3.2 Any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority

Nil.

5.3.3 Any Development Control Plan

At the time of submission of the Development Application, no Development Controls Plans were in force. However, a previously repealed DCP. South Bowenfels DCP has been applied as a guideline for design purposes and consistency of assessments across the South Bowenfels development areas. An assessment of this proposal against those guidelines is summarised below with further comments.

South Bowenfels Development Control Plan (DCP) however REPEALED

South Bowenfels DCP – Compliance Check		
	Clause	Compliance
1.4	Aims & Objectives of the Plan	Yes
5.1	Lot Layout and size	Yes
5.2	Street Design	Yes
5.3	Utility Services	Yes
5.4	Soil and Stormwater Management	Yes
5.5	Public Open Space	Yes, however also see VPA
5.6	Heritage	Yes
5.7	Hazards/ Environmental Constraints	Yes
5.8	Benching/Cut & Fill Objectives	Yes
5.9	Visually Prominent Areas & Ridgelines	Yes
5.10	Protection of Watercourses and Riparian Corridors	Yes

Comment: The application proposes a scale and density that meets the requirements of the locality and the DCP. Due to the size and shape of the existing allotment the subdivision pattern is somewhat pre-determined and was also previously envisaged in the DCP Map 2. It is considered that the applicant is proposing lots that have reasonable solar and good aesthetic orientation. The proposed road layout is for some new streets to be orientated north-south by necessity. In order to compensate for east-west facing lots the majority of lots are greater than 20m wide to allow for the potential of north facing dwellings without impacting on neighbouring privacy and amenity. The proposed road layout is logical and connects to adjoining subdivisions to the west and north and also to indicative proposals to the south. Council staff encouraged the approximate location of the north-south collector (link) road.

The development has slopes over 25% which could be subject to high erosion potential. See the previous comments as to how steep slopes have been addressed under Clause 7.7. The applicant has essentially avoided developing in such areas.

The DCP contained various prescriptive measures. These are mentioned below. All proposed lots meet the requirement of minimum depth of 20m and frontage of minimum 18.5m. Two lots in Road 7 do not comply however this is considered acceptable as future dwellings would be able to be located where the width of the allotment is 18.5m or more at the front building line.

The proposal meets the average lot size of over 700m², with lot sizes ranging from 800m² to 2090m². This meets the current minimum lot size requirement of LEP 2014 being 800m² and is therefore acceptable.

The lot layout follows the existing pattern of subdivision on the adjoining land to the west. The road system has been assessed by Council's Engineers and found to be appropriate for local access and collector roads, being James O'Donnell Drive and a new north/south collector road.

The proposal will be required to have street trees and a lighting plan prior to Subdivision Certificate Release. The proposal will also be adequately serviced with electricity and telecommunications facilities. The existing electricity infrastructure (power poles) along James O'Donnell Drive will be required to be relocated underground within the area zoned R2.

Sewer and water facilities will be available in the future in accordance with Council's recently adopted Development Servicing Plans for Water Supply and Sewerage 2018 subject to Section 68 approvals under the *Local Government Act 1993* and civil works to Council's satisfaction. All services are to be underground and permitted by the relevant authority. A restrictive covenant will be imposed ensuring that no coal burning appliances are permitted within the subdivision.

The development has been designed in accordance with Council and Water NSW requirements in relation to stormwater systems, drainage and retention with all appropriate reports submitted. The development is required to meet the design requirements and proposed conditions of consent to ensure that the development will have a neutral or beneficial effect on water quality and meet Council's construction requirements.

Contributions have been requested towards the dedication of open space and its embellishment. A requirement for open space for this development would equate to the calculation below:

- 2.83ha per 1000 population x single lot/dwelling is equivalent to 2.3 persons
- $(2.83\text{ha} / 1000 \text{ population}) \times (2.3 \text{ persons} \times 135 \text{ lots}) = \mathbf{0.88 \text{ hectares}}$

Pre-DA discussions with Council's strategic planning and development planning officers determined that a district level park is required in Bowenfels for providing open space use to accommodate the needs for development of the overall surrounding area.

As the developer already proposed \$6000.00 per lot as part of a voluntary planning agreement (which is consistent with other subdivision contributions in South Bowenfels), it was suggested that a further \$200 per lot could be applicable to be utilised on embellishments for the new park. This would also align with the recommendations from the Lithgow Open Space and Recreational Needs Study February 2011.

The Developer will contribute a total value of \$6,200.00 for open space and community facilities. This will be comprised of:

1. dedication of 2.08 hectares of land for Public Reserve. This will comprise of 0.88 hectares as a condition of consent and 1.2 hectares offered under this Agreement. The value of the 1.2 hectares at May 2018 is \$82,679.42 and equates to \$617.01 per residential allotment. The land value is subject to valuation by the Valuer General at the time of Council signing the Subdivision Certificate to release the land.
2. payment to Council an amount of \$5,582.99 per allotment. Of this amount, \$1924.50 is to be allocated to embellish the Public Reserve Lot 235 and \$3658.49 is to be allocated to nearby community facilities.

The proposed development will meet the requirements of 400m walking distance from public open space or no more than 500m walking distance from an active open space area/ playground.

It is not expected that the development will have an impact on the heritage of the area.

The land is not mapped as bushfire prone.

The land is not expected to have contamination issues as previous land uses have been for grazing. The land is not known to have landslip affected soils or within a flood affected area. The area requires drainage changes as it adjoins a natural drainage area in another ownership.

The proposal will have some disturbance to soils for the road construction and civil works which will be controlled by erosion and sedimentation controls as per conditions of consent. The proposal will have conditions of consent to minimise any impact of these works, if approved.

It is unlikely that any roofline would exceed 960 AHD to impact on the view of Three Tree Hill however will need to be reviewed for Lots 174 and 175 when built upon.

The future dwellings will be visible from the Highway in the same way that Hillcrest estate already is. No concern is raised in this regard.

Therefore, the proposed development complies with the provisions of the former DCP.

5.3.4 Any planning agreement that has been entered into under Section 93F, or any draft planning agreement that a developer has offered to enter into under Section 93F?

A Voluntary Planning Agreement (VPA) has been negotiated with the developer as per Section 7.4 Planning Agreements of the *Environmental Planning & Assessment Act 1979* in relation to this proposal.

See previous commentary under **Policy 7.10** above.

The details of the VPA have been incorporated into this Report with a recommendation made for endorsement.

5.3.5 Any matters prescribed by the regulations that apply to the land

There are no demolition works, rebuilding or extension of buildings proposed as part of this application.

Environmental Planning & Assessment Regulation 2000

The above regulation is applicable to the development which states the following:

5 Advertised development

(1) For the purposes of the definition of advertised development in section 4 (1) of the Act, the following types of development (not being designated development or State significant development) are identified as advertised development:

(b) integrated development (not being threatened species development or Class 1 aquaculture development) that requires an approval (within the meaning of section 90A of the Act) under:

(ii) a provision of the Water Management Act 2000 specified in section 91 (1) of the Act,

Therefore, the proposal being integrated development has been advertised for a period of 30 days and submission supplied to the Department of Primary Industries-Water for consideration. The development complies with the requirements of the Regulation.

5.3.6 The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Adjoining Landuse:

The proposed subdivision pattern, road configuration and lots sizes largely reflect that of the neighbouring subdivision to the west. Minimal impact to the surrounding area is envisaged.

Services:

All modern services will be made available to the development. Sewer provision is currently not yet available however.

Open space:

The development includes the provision of open space. In fact, Council's Director Economic Development and Environment has sought the dedication of open space in addition to that required by this subdivision such that a district level park can be provided. The 'extra' open space is provided by way of a Voluntary Planning Agreement providing the developer with some offsets, the details of which can be found in previous commentary under **Policy 7.10** above.

Access/ traffic:

Council's Engineers have examined the proposal and have no concerns with access or traffic generation apart from the intersection of James O'Donnell Drive with the Great Western Highway. Roads and Maritime Services (RMS) has expressed the same concern for safety. Further discussion is found below under Section 5.3.8.

Social and Economic Impact:

The social impact of additional population is considered to be negligible. Some economic growth is envisaged as a result of this land release.

Noise and Vibration:

There will be impacts to existing neighbours during construction. These are considered to be within reason and relatively short lived in duration.

5.3.7 The Suitability of the site for the development

The surrounding land uses to the west are for residential pursuits with the size and nature of the development to be consistent with those in the surrounding area. The proposal is compatible with the objectives of the zone and is considered to have minimal impact on the surrounding amenity subject to conditions of consent, if approved. Therefore, the site is considered to be suitable for the proposed development.

5.3.8 Any submissions made in accordance with this Act or the Regulations

The proposal was sent to WaterNSW, Roads and Maritime Services, Endeavour Energy, NSW Office of Water, Council's Water & Wastewater Officer and Engineers for commenting with recommendations detailed below. The proposal was also sent to surrounding landowners and placed on public display in Council's Administration Building for a period of 30 days with one (1) submission received which is summarised below.

WATER NSW

Reference is made to Council's email received 18 September 2018 providing amended plans for a proposed urban subdivision and requesting amendments to previous concurrence conditions accordingly. Water NSW provided concurrence advice to original application on 20 July 2018 under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011. The amended plans seek to widen

the proposed Road 9; change the construction of Collectctor Road to Stage 2 to be connected to Col Drewe Drive via a new road proposed over Lot 1 DP1082148.

The subject property, which has been inspected by Water NSW, is located within the Warragamba catchment which forms part of Sydney's water supply. Amended plans along with previous documentation, have been considered in the assessment of the application.

Water NSW requests Council to address management of stormwater runoff from the proposed new road in Lot 1 DP1082148 connecting the proposed Collectctor Road to Col Drewe Drive considering Lot 1 DP1082148 is not part of the proposed subdivision.

Based on Water NSW's site inspection and the information provided, including that previously provided, the proposed development has been assessed by Water NSW as being able to achieve a neutral or beneficial effect on water quality provided appropriate conditions are included in any development consent and are subsequently implemented.

If, after receipt of this letter, revisions are made to any of the DA plans, Council does not need to refer the plans to Water NSW if the revisions do not impact on water quality. Council is requested to amend the relevant Water NSW's condition/s to reference the revised plans, and notify the assessing officer by email.

Water NSW concurs with Council granting consent to the amended application subject to Water NSW's previously provided Conditions 1 and 2 being replaced with the following. All other conditions in Water NSW's previous concurrence advice to Council (dated 20 July 2018) still apply.

The conditions are detailed in Schedule A of this Report.

ROADS AND MARITIME SERVICES

Council's engineers and the applicant reviewed the RMS response and have arrived at a solution. By way of background, the RMS were involved in pre-DA discussions the applicant was having with Council last year. The RMS reviewed a proposal for a 238 lot subdivision (essentially being this DA combined with DA021/18). Their advice is still in response to the total number of lots. The RMS response splits the increased traffic, its impacts and remedies between the two subdivisions which is considered to be fair and the only reasonable way to approach the issue. Their letter is reproduced below:

Thank you for your letter dated 18 June 2018 referring DA142/18 to Roads and Maritime Services for comment. Reference is made to Roads and Maritime's earlier letter to the applicant, Andrew Burge, on 12 January 2017. I note Roads and Maritime's earlier letter referred to a 235 lot subdivision, however, the applicant has now broken the proposal into two, with the possibility of a third, application.

Roads and Maritime notes that DA142/18 includes:

- *Subdivision of existing undeveloped land into 134 residential allotments.*
- *Construction of local roads to provide access to each lot.*

Roads and Maritime, pursuant to Section 104 of State Environmental Planning Policy (Infrastructure) 2007, does not object to the proposed subdivision and provides the following recommendations for Council's consideration:

- 1. Prior to the issuance of a subdivision certificate for/or including, the thirtieth (30th) allotment, the following road works are to be completed:*
 - o A road link between the proposed subdivision and Col Drewe Drive is to be constructed, dedicated as a public road and open to traffic.*
 - o Right turn and cross flow vehicular movements from Rabaul Street and James O'Donnell Drive into and/or across the Great Western Highway are to be prevented by way of signage and concrete islands.*
- 2. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the developer and Roads and Maritime for the developer to undertake "private financing and construction" of any works on the Great Western Highway. This agreement is necessary for works in which Roads and Maritime has a statutory interest.*
- 3. Prior to the commencement of road construction works, the proponent is to contact Roads and Maritime's Field Traffic Manager to determine if a Road Occupancy Licence (ROL) is required. In the event that an ROL is required, the proponent is to obtain the ROL prior to works commencing within three (3) metres of the travel lanes on the Great Western Highway.*

The applicant was advised and he expressed the impracticalities of having to construct a road link on someone else's land (commonly known as the Sweet Briar land behind the Hospital). The applicant instead offered to install traffic lights on the Great Western Highway at James O'Donnell Drive. The RMS were informed of this proposal and responded by advising that traffic lights were not supported. Therefore owner's consent was obtained for a road link to connect from James O'Donnell Drive to Col Drewe Drive. This will allow for the safe movement of traffic wishing to turn right out of the area onto the Highway as the RMS have committed to traffic lights at Col Drewe Drive only (however no budget currently exists for these lights). This scenario accords with Council's long term vision and strategic planning for the Bowenfels area. Council's engineers have reviewed the requirement of left turn only movements out of James O'Donnell Drive and Rabaul Street and have no objection to this subject to the dedication of the link road.

With that in mind is considered that the proposed RMS conditions be imposed on any consent. The consent will need to be staged such that Stage 2 is dependent on the construction and dedication of the road link. This has been incorporated into the Recommendation.

ENDEAVOUR ENERGY

Endeavour Energy provided a detailed response which is not reproduced here. It contains much in the way of generic advice and guidelines. It can be summarised as 'no objection' however it is noted that the powerpoles in James O'Donnell Drive must be undergrounded and a possible padmount substation may be required and that the

siting of that will need to be determined. The applicant has advised that it can simply occur in the footpath. This is considered acceptable.

NSW OFFICE OF WATER

The Department of Primary Industries –Water has issued their General Terms of Approval under the Water Management Act 2000. It is required to attach these to any consent issued and that is shown in Schedule B.

COUNCIL'S WATER & WASTEWATER OFFICER

Council's Water and Wastewater Department have provided conditions of consent. These are attached to the conditions within the Recommendation. An item of significant importance is that the subject site is unsewered. Council (or the developer) have no way of providing sewer without the construction of a new sewer pumping station. The applicant is well aware of this. Council's Water and Wastewater Department have recently finalised a Developer Servicing Plan to address urban growth throughout the LGA. A new strategy for Bowenfels and South Bowenfels has been adopted by Council such that developers can be guided by the plan and not be forced to construct piecemeal or one off interim solutions. The applicant has acknowledged that the development can not proceed until Council installs a new sewer pumping station in this area. Staff have advised that the timeframe for this to occur is five (5) years.

COUNCIL'S ENGINEERS

Council's Engineers provided comment on the RMS submission to the effect that they have no objection to the staging of the link road and changes to the James O'Donnell Drive intersection with the Great Western Highway. Otherwise, no objection is raised and conditions of consent have been provided and are found in the Recommendation.

PUBLIC SUBMISSIONS

During the advertising/exhibition period from 18 June 2018 to 23 July 2018, one (1) submission was received with the concerns that were raised summarised below in italics. The applicant was invited to respond to these issues. Whilst a response was received and contained some detail, it essentially said that the issues are for Council to address. This is agreed with and a Planning Comment is therefore provided below the items.

- *Frontage widths are too narrow.*

All frontage widths comply with the former DCP apart from Lot 229.

- *Area of the allotments are too small.*

All lots comply with the minimum lot size stipulated in the LEP being 800m².

- *The population density is too great.*

The density complies with the LEP.

- *Safety Issue: Dwellings built on smaller blocks without the provision of side access means the vehicles are stored in front garages with 'overflow' forced to driveways or roads. This limits visibility on both road uses and pedestrians and reduces reaction opportunities should a child, adult, animal or other car enter the roadway.*

It is considered that 800m² lots with 18m frontages will allow for rear vehicular access if desired. Regardless, cars will inevitably park on the street. The proposal provides for 8m wide carriageways which is ample width for safe on street parking to occur.

- *Resource Limitations: Garbage collection will be hindered if more vehicles are parked on the roadway due to 'garage overflow'.*

As above, the road designs accord with Council's current standards.

- *Safety Issue: smaller blocks mean increased fire risk spreading between dwellings which are close together. Having a fire break in the form of a driveway beside the house would be of great benefit however is only possible with wider allotments.*

Bushfire risk will be assessed on case by case basis for each new dwelling.

- *Resource Limitations: The NBN has commenced in Lithgow, information received details that Hillcrest Estate will only be receiving the "budget" option (fibre to the node- FTTN). This technology is heavily affected by user load and with the increase of 134 plus 92 lots, internet speed and reliability will be effected. This is an essential service especially for people who work from home.*

NBN Co has verbally indicated that it will extend its current greater Lithgow rollout into all new urban subdivisions without any loss to service levels.

- *Precedent: Hillcrest is currently 140 blocks ranging in size from 856m² to 1980m² being an average of 1180m² with frontages of 23.1m to 30m. Compared to the current proposal with an average of 850m² with widths as low as 18.5m. This is a significant reduction. These need to increase to maintain the current Hillcrest standard.*

Whilst the lots sizes in the established subdivision of Hillcrest Estate are generally a minimum lot size of 900m² with many lots of 1000m², as mentioned the application complies with the LEP. Steeper lots are generally larger in size with most of the smaller 800m² lots being located on the flatter land and predominantly on slopes of less than 15%.

5.3.9 The public interest

The development proposal is considered to be advantageous to the public interest by way of providing for housing growth and supply close to services and facilities in

Lithgow. Current demand for building blocks remains to be high whilst supply is fairly limited. The cost of vacant lots may be eased slightly for the community.

6. DISCUSSION AND CONCLUSIONS

The proposal is considered to comply with all the relevant provisions of the applicable Environmental Planning Instruments. The proposal is not considered likely to have any significant negative impacts upon the environment or upon the amenity of the locality. As such it is recommended that development consent is issued subject to the conditions outlined below.

7. ATTACHMENTS

Schedule A- Conditions of consent.

Schedule B- Natural Resources Access Regulator General Terms of Approval

Schedule C- Section 68, Local Government Act 1993

8. RECOMMENDATION

THAT development application DA142/18 is approved subject to conditions set out in Schedule A.

Report prepared by:

Supervisor:

Signed:.....

Signed:.....

Dated:.....

Dated:.....

REASONS FOR CONDITIONS

The conditions in Schedule A have been imposed for the following reasons:

- To ensure compliance with the terms of the relevant Planning Instruments
- To ensure no injury is caused to the existing and likely future amenity of the neighbourhood
- Due to the circumstances of the case and the public interest.
- To ensure that adequate road and drainage works are provided.
- To ensure that satisfactory arrangements are made to satisfy the increased demand for public recreation facilities
- To ensure access, parking and loading arrangements will be made to satisfy the demands created by the development.
- To protect the environment.
- To prevent, minimise, and/or offset adverse environmental impacts.
- To ensure lots are adequately serviced.
- To ensure there is no unacceptable impact on the water quality.
- To ensure compliance with the requirements of the Rural Fire Services.
- To ensure adequate soil conservation and protect against movement of soil and sediments.

Schedule A

Conditions of Consent (Consent Authority) and General Terms of Approval (Integrated Approval Body) (*delete highlighted if not integrated*)

Please Note: It should be understood that this consent in no way relieves the owner or applicant from any obligation under any covenant affecting the land.

ADMINISTRATIVE CONDITIONS

1. That the development be carried out in accordance with the application, Statement of Environmental Effects, accompanying information, plans listed in the approval and any further information provided during the process unless otherwise amended by the following conditions.
2. This development consent is for a **staged approval** being six stages in total being:
Stage 1= 1 development lot.
Stage 2= 29 residential lots, one drainage reserve and link road reserve to Col Drewe Drive.
Stage 3= 21 lots (and construction of link road to Col Drewe Drive).
Stage 4= 34 residential lots and one open space lot.
Stage 5= 27 lots.
Stage 6= 23 lots.

The Subdivision Certificate for Stage 1 is not to be released until a sewer connection is made available on Lot 4 DP 1230208.

Construction of Stage 3 is not to commence until a road link between James O'Donnell Drive and Col Drewe Drive is constructed, dedicated as a public road and open to traffic.

3. That the a Subdivision Certificate Application, release fee, Registered Surveyors Plans (original & 11 copies) along with associated 88B instrument if applicable, be submitted to Council for finalisation following the compliance with all conditions of this consent.
4. No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the *Conveyancing Act 1919* with Council having the right to vary, modify or release this restriction.
5. 2.08ha of land is to be dedicated to Council as open space/public reserve prior to the issue of the Subdivision Certificate for stage 4.
6. A street tree planting plan is to be submitted to Council and approved for the overall subdivision prior to Subdivision Certificate release of Stage 1. The street trees are to be implemented within each stage prior to Subdivision Certificate release of those stages respectively.
7. A street lighting plan is to be provided with adequate street lighting in accordance with AS/NZS and be to the satisfaction of the relevant electricity supplier prior to release of Stage 1. Such lighting shall have regard to its visual impact and be designed to complement the streetscape. Street lighting is to be implemented for each stage prior to the Subdivision Certificate Release of each stage respectively.

Utilities

8. The applicant shall consult with an Authorised telecommunications, Electricity and Gas Authorities for the provision of telephone, electricity and gas to each allotment. Confirmation of connection to each allotment or a 'Notification of Arrangement' shall be lodged from each authority, with Council prior to the issue of a Subdivision Certificate.
9. Prior to the issue of the Subdivision or Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:
 - (i) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.
 - and
 - (ii) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.

Note: real estate development project has the meanings given in section 372Q of the Telecommunications Act.

Voluntary Planning Agreement

10. That the Voluntary Planning Agreement (VPA) be endorsed by all parties as proposed by Voerman & Ratsep Land Surveyors on 04/06/2018 prior to the Subdivision Certificate release of Stage 1. Additionally, the contribution agreed to within the VPA is to be paid at a rate of \$6200.00 per lot for community facilities (\$6000) and public open space (\$200) prior to the Subdivision Certificate release of each stage. The dedication of the open space is to be undertaken prior to the Subdivision Certificate release of stage 4.

Section 64 Contributions

11. An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the following allotments created being: Stage 1= 1 lot, Stage 2= 29 lots, Stage 3= 21 lots, Stage 4= 34 lots, Stage 5=27 lots and Stage 6= 23 lots. as The rate of contribution per lot/ET is \$2,921 for water and \$14,213 for sewer set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted in any subsequent Development Servicing Plan, annually adjusted for CPI (Sydney) applicable at the time of payment.

Environmental Protection

12. Prior to the issue of the Subdivision Certificate, Council is to be provided with a report from Upper Macquarie County Council indicating:
 - Noxious plants are under adequate management; or
 - Noxious plant management has been undertaken and adequate control measures are in place; or
 - Noxious plants are not a concern for the property

A vegetation management plan (VMP) over proposed lot 236 shall be prepared by a suitably qualified person to accord with the *DPI –Office of Water – Guidelines for vegetation management plans on waterfront land* or other equivalent document is to be submitted to Council prior to the issue of the Subdivision Certificate for Stage 1.

The applicant is to implement the recommendations of that plan during construction of the remaining stages of development prior to the final dedication of those lands to Council.

The applicant is to pay a maintenance bond to ensure compliance of this condition. The bond amount is to be agreed to by Council and the proponent prior to the release of Stage 1 Subdivision Certificate based on a cost estimate to be provided by the applicant. Council will routinely inspect the site to monitor compliance and at the completion of the bond period. If work is deemed to be either outstanding or defective in any way Council reserves the right to expend the bond monies on rehabilitation work.

WATER AND WASTEWATER REQUIREMENTS

13. Section 68 Approval is required for all Water and Sewer works prior to release of the Construction Certificate. Each stage will require a separate Section 68 Approval for construction.
14. All lots to connect to a gravity sewer reticulation system. This will coincide with the construction of new sewerage pump station to service this area in accordance with Councils Development Services Plan and the West Bowenfels Sewerage Strategy.
15. The applicant shall provide a full Water and Sewer Design Plan for approval prior to the release of the Construction Certificate/Subdivision Works Certificate. Design to include, longitudinal sections for each main, minimum depth and cover, maximum depth, grade, chainage, inverts, size, depths, manholes, manhole numbers, manhole depths, pipe velocity, proposed material and positions of junctions and dead ends for all Lots.

ENGINEERING REQUIREMENTS

16. A Construction Certificate must be obtained prior to the commencement of any Civil Works.
17. Plans are to be lodged to Council for the issue of a Construction Certificate prior to the commencement of any Civil Works.
18. All engineering works are to be to the standard specified in Council's "Guidelines for Civil Engineering Design and Construction for Development". This document is available on Council's website or upon request from Council's administration desk.
19. That a Geotechnical Report be provided for all proposed roads, including subgrade design prior to a Construction Certificate being issued. Geotechnical compaction tests and visual deflection tests are to be undertaken and to be approved by Council prior to the application of seal. Such tests are to be included with the Construction Certificate Engineering Drawings.
20. The road crossfall must not exceed a maximum of 3% at any point.
21. The footpath and shared path crossfall must not exceed a maximum of 4% at any point.
22. All batters must not exceed a maximum gradient of 1:5.
23. The road grade must not exceed a maximum of 12% at any point. All internal roads shall have a minimum of 150mm (subject to testing) of DGB-20 road base applied and compacted providing a smooth transitional surface. The road surface is to be constructed to an 8m wide carriageway formation within a 15m wide minimum road reserve, an 11m wide carriageway

formation within an 18m wide minimum road reserve and a 13m wide carriageway formation within a 20m wide minimum road reserve.

24. All internal residential roads are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Layers of asphaltic concrete may be included in the total design pavement depth, but should not be assigned a layer equivalency of greater than unity. Where variation to this condition is required, approval may be granted subject to discussion with Council.
25. All cul-de-sacs/turning circles are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Cul-de-sacs/turning circles are to be constructed so that a minimum kerbline radius of 9.5 metres is achieved from the centre of the cul-de-sac/turning circle. The boundary of the road reserve should be curved with a minimum radius of 14 metres to provide for a 4.5 metre wide footpath. Where the head of the cul-de-sac is located on the low side of the road, special provision should be made to convey overland storm water flows through easements or drainage reserves.
26. Roll top kerb and guttering is to be provided on both sides of all internal roads. Where a road borders onto an open space area integral kerb and gutter is to be constructed. Gutter crossovers are to be constructed to provide access to the open space area with a removable bollard installed to prevent unauthorized access. The location of gutter crossovers is to be determined in consultation with Council's Development Engineer.
27. 2 x 3.5m wide footways are to be provided adjacent to all internal roads. Footpaths must continue to all intersections.
28. Street signs are required at all road junctions. Signs shall be purchased from Council. The location of proposed street signs is to be shown on the Engineering Drawings submitted with the construction certificate.
29. Traffic signs, traffic signals, pavement markings, guide posts, delineators, safety barriers and the like, whether permanent or temporary, are to be designed and installed at all roads in accordance with guidelines contained within the Austroads publication, "Guide to Traffic Engineering Practice – Part 8: Traffic Control Devices", Australian Standard 1742 – Manual of Uniform Traffic Control Devices and the Roads and Traffic Authority "Road Design Guide". All traffic control devices and signage are to be detailed in the engineering drawings submitted with the construction certificate. The consent of Lithgow City Council's Executive Manager of Operations or appointed officer will be required prior to the installation of any traffic control devices on existing roads.
30. Two street trees per lot are to be planted within the road reserve. The developer shall consult with and seek approval from Council regarding the species to be used. Only non-frangible trees, having a mature diameter of less than 100mm, shall be planted near road verges and medians. A landscaping plan showing, but not limited to, plant species and estimated height and spread of mature trees is to be provided to Council with the construction certificate.
31. Street lighting shall be provided on all internal access roads in accordance with Australian Standard 1158 – Road Lighting. Energy absorbing columns may be required where fallen columns would be particularly hazardous. The use of energy-saving lighting fixtures is encouraged, however no rebate will be issued to the developer if these types of lamps are

approved.

32. A fully certified traffic control plan and road works signage will be required where machinery may obstruct traffic on any Public Road whilst construction work is being undertaken. A traffic control plan and certification of fully qualified contractors/persons will be required to be submitted to Council prior to any work commencing on the shoulder of any Public Road. Failure to comply may result in Work Cover Intervention and may also include Council stopping all work immediately until such time the developer complies with suitable traffic management procedures.
33. A maintenance bond of 5% of final construction costs shall be paid to Council upon final inspection and approval of all civil works. The value of the maintenance bond shall be approved by Council after witnessing a certified copy of the contract documentation showing all civil construction costs for the subdivision. The maintenance period will start from the date of final inspection for a period of 12 months. At the conclusion of the 12 month period a final inspection is to be undertaken by Council at the request of the developer to determine if any defects have arisen during this time. All deficiencies are to be rectified by the developer, should outstanding works remain Lithgow City Council reserves the right to expend bond monies on rectification works.
34. A site investigation is to be performed which is to include logging of test holes to a depth not less than one metre below design subgrade levels (unless rock is encountered). Soil tests shall be taken at the design depth and samples taken for CBR testing in accordance with Australian Standard 1289. The design California Bearing Ratio (CBR) shall be selected following a careful assessment of the materials encountered in the site investigation and the variability of subgrade moisture and density conditions likely in service. The design CBR value should assume poor drainage and shall be determined from soaked CBR. A copy of the site investigation, including test results, is to be included with the Engineering Drawings. Where the design subgrade CBR is below 3, the subgrade shall be chemically stabilised to a minimum depth of 150mm, and the pavement design based on a CBR of 3.
35. Each layer of pavement shall be tested for compaction and deflection as detailed below. The Executive Manager of Operations or his delegate must approve each layer prior to the placing and compaction of subsequent layers.

(a) Compaction Testing:

The subgrade, and all pavement layers, shall be density tested in-situ at the start and finish of the work (within the first/last five metres), and thereafter at intervals of no more than 50 metres, or as indicated by Council's Development Engineer. A minimum of two tests will be required for road pavements less than 50 metres in length. At cul-de-sacs, additional testing will be required at the turning head. The test sites selected should be representative of the likely minimum pavement compaction levels achieved. Density testing must be undertaken by an authorised representative of a laboratory registered by the National Association of Testing Authorities (NATA). Density testing may be conducted using either the sand replacement test, nuclear gauge, or other NATA approved method.

Where a nuclear gauge in direct transmission mode is used to determine pavement density, the test method shall comply with RTA Test Method T173. Results of density testing shall be forwarded directly to Council for approval. No pavement layer shall be covered by a subsequent layer until the results of the density testing have been delivered to and approved by Council's Development Engineer. Table 1 below sets out

the minimum compaction requirement for each pavement layer.

Layer	Compaction Requirement	Standard
Subgrade	98% standard maximum dry density California Bearing Ratio (CBR) test	AS 1289.E1.1 AS 1289.F1.1
Sub-Base	100% standard maximum dry density	AS 1289.E1.1
Base	100% standard maximum dry density • <i>Unbound Materials</i> • <i>Cemented Materials</i> Density in place test California Bearing Ratio (CBR) test	AS 1289.E2.1 AS 1289.E3.1 AS 1289.E3.1 AS 1289.F1.1

Laboratory determination of maximum dry density for pavement materials which have been modified with cement must be undertaken within 4 hours of the cement being added to the material. Materials tested outside this time will be subject to an adjustment to correctly determine the maximum dry density of the sample. For either natural or modified material, the laboratory determination of maximum dry density shall be undertaken at a frequency of no less than one determination for each days production of material.

(b) Deflection Testing:

All pavement layers must be proof-rolled, and approved by Council's Development Engineer prior to the placement of subsequent pavement layers.

The proof-rolling will be conducted using either:

- (i) a roller having a load intensity of seven (7) tonnes per metre width of roller.
- (ii) a tandem axle rigid vehicle, having a maximum load of 15 tonnes per axle group (8 tyres), 12 tonnes per axle group (6 tyres), or 10 tonnes per axle group (4 tyres). Single axle vehicles should have maximum loads of 8.5 tonnes (dual tyres), or 5.4 tonnes (single tyres).

Any movement of the pavement layer under loading will be deemed a failure.

Although not a subdivision requirement at this stage, Council strongly encourages Developers to specify in their contracts the use of Benkelman Beam tests to test for any deflection in the pavement layers, and as a means of quality assurance.

(c) Final Road Profile:

- (i) The mean construction tolerance on pavement surface crossfalls should be within $\pm 5\%$ of the design crossfall. The maximum allowable construction tolerance is $\pm 5\%$, and the maximum standard deviation of crossfalls is 5%. The vertical alignment should not deviate by more than 25mm from the value shown on the drawings.

36. All road, drainage, kerb and gutter, water and sewerage reticulation works associated with a development shall be inspected by Council's Operations Department. The whole of the works are to be carried out to the satisfaction of the Executive Manager of Operations. Council shall inspect engineering works at the following stages as a minimum:

- Following site regrading and shaping, and prior to installation of footway services;
- Installation of erosion and sedimentation control measures;
- Storm water drainage lines prior to backfill;
- Water and sewer lines prior to backfill;
- Testing of water and sewer lines;
- Subgrade preparation, before placing pavement;
- Establishment of line and level for kerb and gutter placement;

- Completion of each pavement layer ready for testing;
- Road pavement surfacing;
- Completion of works

The developer or contractor shall give Council a minimum 24 hours' notice when requesting an inspection to ensure that development works are not delayed. The developer shall, if required by a Council Engineer, submit delivery dockets for all materials used, and all material and performance test results obtained in the development.

37. Works as Executed (WAE) Plans detailing all services and infrastructure are to be prepared by a registered surveyor or professional engineer, and submitted to Council. The WAE plans shall be lodged prior to the release of the linen plan. The applicant is required to submit three complete sets of hard copy plans (one A1-sized, two A3-sized) and one set of electronic plans in AUTOCAD format.
38. A "Work-As-Executed" (WAE) plan is required to be prepared by a Registered Surveyor or professional engineer and forwarded to Council prior to the final inspection. The WAE is to include, as a minimum:
 - certification that all works have been completed generally in accordance with the approved plans and specification,
 - any departure from the approved plans,
 - any additional/deleted work,
 - the location of conduits, subsoil lines, stub mains and inter-allotment drainage lines,
 - pipeline long sections showing the constructed invert levels of each pipe at each pit and pipe dimensions,
 - details of overland flow provisions,
 - site regrading areas by new contours, and
 - all other details which have a bearing on the extent of works and their acceptance by Council.
39. All Engineering Drawings submitted to Council for approval are to have a title block showing the following:
 - Applicant's Name,
 - Consultant's Name, Address, Phone No. 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 File Reference,
 - Stage Number,
 - Drawing Title,
 - Scale with Scale Bar, and
 - Signature of Authorised Person
40. Construction noise shall be in accordance with the 'Noise Control Guidelines for Construction Noise Standards'. Hours of operation shall be permitted between 7am and 6pm Monday to Friday and 8am and 1pm Saturdays. No heavy machinery work or usage shall be permitted on Sundays or Public Holidays.
41. The applicant shall submit a soil erosion and sedimentation control plan with the engineering design for Council approval. Such shall address both short and long term management of all disturbed areas and specified methods and structures to be employed to minimise any impact.

42. Prior to and during the commencement of works the applicant shall erect soil erosion and sedimentation controls for the following purposes:
- control of soil erosion and sedimentation movement during the bulk earthworks stage,
 - control of run off and diversion of the sedimentation trap prior to the development of land,
 - method of stabilising the land from erosion and sediment movement after the completion of works and prior to the development of the land.
43. The applicant is to comply with all reasonable requests from Council with regard to any complaints received during construction works.
44. The following conditions apply to Stormwater Drainage design and construction:
- a) Stormwater Drainage plans shall submitted to Council as part of the construction certificate, drawn at a scale sufficient to show all necessary details, nominally 1:200, 1:500, 1:1000 or 1:2000. The following data is to be included with a contoured catchment area plan:
- i. Catchment areas and sub-areas, watershed (catchment boundary), overland flow paths, existing and proposed pipe layout. For large catchments, the total catchment area should be shown at a large scale on a separate plan or inset.
 - ii. All sub-areas, drainage lines and pits are to be logically numbered.
 - iii. A schedule of pipe details, including pipe number, size, class, bedding type, joint type, invert levels at inlet and outlet, slope, and length.
 - iv. A schedule of pit details, including pit number, type, road chainage, surface level to the Australian Height Datum (AHD), invert level to AHD, depth, and lintel length.
 - v. North point and legend.
 - vi. Setout information.
 - vii. Accurate position and level of all services and utilities which cross underground drainage pipelines.
 - viii. Identify those building allotments adjacent to channels and major storm flow paths which may be liable to flooding in major flood events, and the minimum design habitable floor level adjacent to prevent flooding in the design flood event.
 - ix. Inlet and outlet treatments.
 - x. Measures for the prevention of erosion and sedimentation.
- b) Stormwater pit construction:
- i. Pits shall be provided in drainage lines at all changes in grade, level, and direction, and at all pipe junctions and shall be spaced at no more than 85m apart.
 - ii. Drainage pits are to conform to Council's standard Drawings, or RTA standards for Classified Roads. Non-standard structures shall be constructed as detailed in the design drawings. Such designs shall comply with AS3600 –Concrete Code, AS4100 – Steel Structures, AS1657 – SAA code for fixed platforms, walkways, stairways and ladders; and any other relevant standard.
 - iii. Pits used for storm water drainage shall be fitted with square lids to distinguish them from sewer manholes.
 - iv. Junction pits shall be fitted with reinforced lids and approved lifting eyes.
 - v. Grated inlet pits shall not be used for street or roadway drainage.
 - vi. Precast pits, incorporating insitu bases, may be used if the prior approval of the pit type and design are approved by the Group Manager of Operations.
 - vii. Every endeavour shall be made to maintain flow velocities through pits. Excessive drops will not be permitted.

- viii. Pipe grading across pits should be designed on the following basis:
 - No change in direction or diameter - minimum 50mm;
 - Direction change but no change in diameter - minimum 70mm;
 - Changes in pipe diameter should be graded from obvert to obvert;
- ix. At pit connections, a 3 metre length of approved subsoil drainage pipe enclosed in a geofabric sock shall be placed alongside the main pipe so as to enter the pit at the same invert level and adequately drain the main trench, in accordance with Council's standard drawing EN 1016 (copy attached).

c) Location of pits in roadways, for the adopted minor drainage system annual exceedance probability:

- i. Inlet pits shall be located so as to restrict the maximum gutter flow width to 2.5 metres.
- ii. Maximum spacing between any two consecutive pits is 85 metres.
- iii. Pit bypass flows should be limited to 15% of the gutter flow at that location.
- iv. At intersections, kerb inlet pits shall be constructed adjacent to the upstream kerb return tangent point where flows exceed 20 litres per second or gutter flow width is more than 1 metre.
- v. The minimum clearance from the top of the manhole to the design pit water level should be 150mm.
- vi. The product of flow velocity and depth of flow in the kerb and gutter should not exceed 0.4 m²/s.
- vii. Kerb inlet pits should be located clear of horizontal curves, pedestrian desire lines, and vehicle driveways.
- viii. Inlet conditions shall be designed so that the potential for blockage by silt and debris is minimised. This may require special treatment of the inlet sump under some conditions.

d) Hydraulic Design

- i. Pit inlet capacities shall be estimated from design charts and formulae, based on lintel size for on-grade pits and depth of ponding for sag pits. The calculated inlet capacity shall be reduced by a factor of 50% for sag pits, and 20% for on-grade pits, on the assumption that debris is preventing some inflow.
- ii. Standard lintel sizes of 1.8, 2.4, 3.0, or 3.6 metres should be used when possible.
- iii. The minimum internal lintel size on a sag should be 2.4 metres.
- iv. The head loss through pits shall be determined from Missouri Charts or other recognised methods.

- 45. Prior to the release of the stage 3 sub-division certificate (prior to release of the 31st allotment) a linkage road is to be constructed linking Col Drewe Drive to James O'Donnell Drive. The road is to be constructed to collector road standard as defined in Council's 'Guidelines for Civil Engineering Design and Construction for Development'. Conditions 15 – 23, 25, 42 and 43 are to be met during the design and construction of the linkage road.
- 46. James O'Donnell Drive is to be upgraded to a Collector Road standard as defined in Council's 'Guidelines for Civil Engineering Design and Construction for Development' for the full length within the development (existing kerb and gutter to the Great Western Highway). This includes a carriageway width of 11m, roll top kerb and gutter and a properly designed stormwater drainage system.
 - a. Engineering Plans for the full upgrade are to be submitted prior to the release of the Stage 2 subdivision certificate
 - b. The section of James O'Donnell Drive fronting lots 115 to 120 is to be fully upgraded

prior to the release of the Stage 2 subdivision certificate.

- c. The remaining section of James O'Donnell Drive through the development is to be fully upgraded prior to the release of the Stage 4 subdivision certificate.

- 47. The engineering designs of Bio-Retention 1 & 2 must be consistent with Water by Design, 2014, "Bio-Retention Technical Design Guidelines", Healthy Waterways Ltd, Brisbane. The designs must incorporate an impermeable liner when located in close proximity to Sewer and/or Water infrastructure. In coordination with the engineering designs an Operational and Maintenance Plan for the assets is to be developed and submitted to Council for approval.
- 48. Bio-Retention Basin 1 is to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for stage 2. The asset is to be handed over to Council at this stage. The following conditions must be met prior to asset handover:
 - a) Certification that the asset has been constructed in accordance with approved plans
 - b) Work as executed drawings and engineering certifications have been provided
 - c) All required sediment and water management controls as outlined in the soil and water management plan are in place and functioning as intended
 - d) Details of any incidents including Work Health and Safety incidents, public safety and complaints received are documented and provided to Council
 - e) Any required maintenance and security bonds have been received as detailed in condition 49.
- 49. Bio-Retention Basin 2 is to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for Stage 4. The asset is to be handed over to Council at this stage. The following conditions must be met prior to asset handover:
 - a) Certification that the asset has been constructed in accordance with approved plans
 - b) Work as executed drawings and engineering certifications have been provided
 - c) All required sediment and water management controls as outlined in the soil and water management plan are in place and functioning as intended
 - d) Details of any incidents including Work Health and Safety incidents, public safety and complaints received are documented and provided to Council
 - e) Any required maintenance and security bonds have been received as detailed in condition 49.
- 50. The following stormwater asset maintenance and security bonds are required prior to asset handover:
 - a) Bio-Retention Basins –A bond totalling the cost to complete the Bio-Retention Basin construction and expected maintenance costs for a 2 year maintenance period are to be provided to Council prior to asset handover.

The Bio-Retention Basins are to be completed once the level of development in the catchment has reached 90%. The Bio-Retention Basin construction security bond will be returned to the developer after full construction of the asset.

- 51. Legal access is to be maintained to the Bio-Retention Basins through all stages of the development. Prior to the stage 1 subdivision certificate release details of proposed access to Bio-Retention Basin 2 is to be provided to Council for approval.
- 52. The upgrade of the existing footpath along James O'Donnell Drive to a shared path standard is to occur in conjunction with staged upgrade of James O'Donnell Drive to a Collector Road standard. The developer should also take into consideration the required staging for the

upgrades to power and how this will relate to the shared path. The existing footpath is to be upgraded in accordance with Council's standard engineering drawing EN1009. Council's standard drawings are available on Council's website. The shared path width is to be a minimum of 2.5m.

53. The construction of the new shared path is to be staged in accordance with the staging plan and is to be constructed in accordance with Council's standard engineering drawing EN1009.

ROADS AND MARITIME (RMS) REQUIREMENTS

54. Prior to the issuance of a subdivision certificate for/or including, the thirtieth (30th) allotment, the following road works are to be completed:
- A road link between the proposed subdivision and Col Drewe Drive is to be constructed, dedicated as a public road and open to traffic.
 - Right turn and cross flow vehicular movements from Rabual Street and James O'Donnell Drive into and/or across the Great Western Highway are to be prevented by way of signage and concrete islands.
55. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the developer and Roads and Maritime for the developer to undertake "private financing and construction" of any works on the Great Western Highway. This agreement is necessary for works in which Roads and Maritime has a statutory interest.
56. Prior to the commencement of road construction works, the proponent is to contact Roads and Maritime's Field Traffic Manager to determine if a Road Occupancy Licence (ROL) is required. In the event that an ROL is required, the proponent is to obtain the ROL prior to works commencing within three (3) metres of the travel lanes on the Great Western Highway.

WATERSNSW REQUIREMENTS

General

57. The lot layout, staging and subdivision works shall be as per the Statement of Environmental Effects (dated 30 May 2018); a letter to Council (dated 17 September 2018) and shown on the Proposed Lot Layout Plan and the Staging Plan (both Job Ref: 16084; both Rev 1; both dated 17.09.2018) and Soil and Water Plan (Job Ref: 16084; Rev 1; dated 14.08.2018), all prepared by Voerman & Ratsep Land Surveyors. No revisions to lot layout or staging of the subdivision that will impact on water quality, shall be permitted without the agreement of Water NSW.

Reason for the above Condition - Water NSW has based its assessment under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 on this version of the subdivision.

Subdivision Roads

58. The subdivision roads shall be located and constructed as shown on the Proposed Lot Layout Plan prepared by Voerman & Ratsep Land Surveyors (Job Ref: 16084; Rev 1; dated 17.09.2018), but with the following specifications and requirements:
- be sealed and otherwise constructed in accordance with Council's engineering standards, and
 - incorporate a suitable crossfall with runoff to be collected via a series of pits and pipes and directed to various water quality treatment measures detailed in the following conditions.
59. All stormwater structures and drainage works associated with the proposed subdivision roads shall be wholly included in the road or drainage reserve or within suitably defined easements.

60. An assessment of the proposed road upgrades to James O'Donnell Drive shall be undertaken **prior to issuance of a Construction Certificate for Stage 2 of the subdivision** to assess whether the existing pipe culverts are adequately sized or need upgrade to transfer stormwater runoff from the proposed Stages 4, 5 and 6.

Reason for the above Conditions – To ensure that the proposed subdivision roads and associated infrastructure will have a sustainable neutral or beneficial impact on water quality during the operational phase of the development.

Sewage Pumping Station

61. **No Construction Certificate** for the subdivision shall be issued until appropriate design and specifications for the sewage pumping station and associated infrastructure have been prepared and finalised.

Reason for the above Condition – To ensure that the wastewater from the proposed subdivision will be managed in a manner to have a sustainable neutral or beneficial impact on water quality during the operational phase of the development.

Stormwater Management

62. All stormwater management measures as specified in the Conceptual Stormwater Management Plan (dated 14 May 2018) and shown on the Catchment Plans (Job No 2016.617B; Dwg Nos. P01 and P02; Iss P1; dated 10/05/18), all prepared by Calare Civil Pty Ltd, shall be incorporated in the Final Stormwater Drainage Plans to be prepared **prior to issuance of Construction Certificate for the relevant Stage of the subdivision** and to the satisfaction of Water NSW and approved by Council, and implemented in particular as elaborated or varied in the following conditions.
63. The proposed Lot PT236 and Lot 5 DP 1230208 drainage reserves, shall each have a combined sediment/bioretention basin to be designed and located as per the Conceptual Stormwater Management Plan (dated 14 May 2018), the Catchment Plans (Job No 2016.617B; Dwg Nos. P01 & P02; Iss P1; dated 14/05/18), Basin 01 and Basin 02 Details Plans (Job No. 2016.617B; Dwg Nos. P03 & P04; Iss P1; dated 14/05/18), and Bio-Retention Basin Details Plan (Job No. 2016.617B; Dwg Nos. P05; Iss P1; dated 14/05/18), all prepared by Calare Civil Pty. The basins shall initially be constructed as sediment basins, and converted to combined OSD/bioretention basins when all hardstand areas have been completed and all ground surfaces stabilised. Each bioretention basin, as appropriate, shall capture and treat all runoff from the road and the future dwelling envelopes and shall incorporate the following specifications and requirements:
- **For Stage 2:** a bioretention basin shall be designed, located and constructed as per the Basin 01 Details Plan (Job No. 2016.617AB; Dwg No. P03; Iss P1; dated 14/05/18) prepared by Calare Civil Pty Ltd, with a Surface Area of 80 square metres and Filter Area of 36 square metres
 - **For Stage 4:** a bioretention basin shall be designed, located and constructed as per the Basin 02 Details Plans (Job No. 2016.617B; Dwg No. P04; Iss P1; dated 14/05/18) prepared by Calare Civil Pty Ltd, with a Surface Area of 154 square metres and Filter Area of 108 square metres
 - The bioretention basins shall be constructed after all hardstand areas i.e. road construction, have been completed and all ground surfaces have been stabilised
 - The bioretention basins shall be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems Version 2 (Payne *et al*, 2015, Melbourne, CRC for Water Sensitive Cities) and shall also incorporate the following specifications:
 - a filter media consisting of a clean sandy loam with a certified median particle diameter of 0.5 mm, a maximum orthophosphate concentration of 40 mg/kg and a

maximum total nitrogen concentration of 400 mg/kg

- be planted with appropriate deep-rooted, moisture-tolerant vegetation protected by rock mulch (grass and turf is not appropriate vegetation and organic mulch is not suitable)
- direct all discharge and overflow to the stabilised surfaces via armoured discharge points such that discharge does not cause erosion, as per the Outfall Details Plan (Job No. 2016.617B; Dwg No. P06; Iss P1; dated 14/05/18) prepared by Calare Civil Pty Ltd
- be accessible from the subdivision roads by machinery to facilitate cleaning, monitoring and maintenance of the structures
- ensure the discharge outlets are consistent with the requirements of any Controlled Activity Approval under the *Water Management Act (2000)* from the Department of Industry-Water
- be permanently protected from vehicular damage by bollards, fences, castellated kerbs or similar structures, with a sign to be erected to advise of its nature and purpose in water quality management, and
- be protected by sediment and erosion control measures during any construction and post-construction phase until the ground surface is revegetated or stabilised.

64. All run-on and stormwater from the existing developments upslope of the proposed subdivision shall be diverted around the proposed subdivision e.g. by means of a stabilised bund or drain with provision for energy dissipation at the outlet to prevent scouring or erosion.
65. No changes to stormwater treatment and management that will impact on water quality, shall be permitted without the agreement of Water NSW.
66. A suitably qualified stormwater consultant or engineer shall certify in writing to Water NSW and Council **prior to the issuance of a Subdivision Certificate for each stage of the subdivision** that all stormwater management structures have been installed as per these conditions of consent and are in a functional state.
67. An Operational Environmental Management Plan (OEMP) for each stage of the subdivision shall be prepared in consultation with Water NSW and Council by a person with knowledge and experience in the preparation of such plans. Each OEMP shall be prepared **prior to the issuance of a Subdivision Certificate for that stage of the subdivision**, and may be updated from the OEMP for the previous stage. The OEMP shall be provided to Council when the management and maintenance of the bioretention basins is handed over to Council. The OEMP as a minimum shall include but not be limited to:
 - details on the location, description and function of stormwater management structures such as pits, pipes, bioretention basins and any other stormwater structures and drainage works
 - an identification of the responsibilities and detailed requirements for the inspection, monitoring and maintenance of all stormwater management structures, before and after handing over to Council, including the frequency of such activities
 - the identification of the individuals or positions responsible for inspection and maintenance activities, before and after handing over to Council, including a reporting protocol and hierarchy
 - the identification of detailed requirements and measures for the protection of bioretention basins from future upstream construction works i.e. construction of dwellings on future lots, and
 - checklists for recording inspections and maintenance activities.

68. All stormwater treatment devices, particularly bioretention basins, shall be monitored, maintained and managed as per the Operational Environmental Management Plan referred in the Condition above.

Reason for the above Conditions – To ensure that the stormwater quality management measures and structures for the proposed subdivision have a sustainable neutral or beneficial impact on water quality over the longer term.

Construction Activities

69. A Soil and Water Management Plan shall be prepared for all works proposed or required as part of each stage of the subdivision, including the subdivision road, by a person with knowledge and experience in the preparation of such plans. The Plan shall meet the requirements outlined in Chapter 2 of NSW Landcom's Soils and Construction: Managing Urban Stormwater (2004) manual - the "Blue Book". The Plan shall be developed in consultation with Water NSW and be prepared **prior to Council issuance of a Construction Certificate for that stage of the subdivision** and shall be to the satisfaction of Council.
70. A suitably qualified, certified professional shall oversee the implementation of the Soil and Water Management Plan for each stage of the subdivision and effective erosion and sediment controls at the site prior to and during any construction activity including site access and works within or near waterways and shall certify in writing to Water NSW and Council that erosion and sediment controls have been installed and maintained at the site in accordance with Condition 13 above. The controls shall prevent sediment or polluted water leaving the site or entering any stormwater drain or natural drainage system. The controls shall be regularly maintained and retained until works have been completed and ground surface stabilised or groundcover re-established.

Reason for the above Conditions – To manage adverse environmental and water quality impacts during the construction phase of the development so as to minimise the risk of erosion, sedimentation and pollution within or from the site during this phase.

Subsequent Development Applications

71. Any subsequent applications for dwellings and/or other developments on the proposed lots will be subject to the provisions of State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (the SEPP) and will need to be assessed according to the Neutral or Beneficial Effect (NorBE) test in relation to the potential effect of the development on water quality.

ENDEAVOUR ENERGY REQUIREMENTS

72. The applicant will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Depending on the outcome of the assessment, any required padmount substation will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefiting and gifted to Endeavour Energy. As part of the application, the proposed undergrounding of the existing overhead power lines and the release of easement should also be addressed. Please see Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights'. Further details are available by contacting Endeavour Energy's Network Connections Branch via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm or on Endeavour Energy's website under 'Home > Residential and business > Connecting to our network' via the following link:
<http://www.endeavourenergy.com.au/>

73. The planting of large trees in the vicinity of electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure. Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure and even with underground cables, be installed with a root barrier around the root ball of the plant. Landscaping that interferes with electricity infrastructure may become subject to Endeavour Energy's Vegetation Management program and/or the provisions of the Electricity Supply Act 1995 (NSW) Section 48 'Interference with electricity works by trees' by which under certain circumstances the cost of carrying out such work may be recovered.

Schedule B



Natural Resources
Access Regulator

General Terms of Approval

for proposed development requiring approval
under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS1108003
Issue date of GTA:	21 August 2018
Type of Approval:	Controlled Activity
Description:	Subdivision - 1 lot into 134 residential lots including open space, drainage reserves, split Zone lots, residue lot & new roads
Location of work/activity:	994 & 998 Great Western Highway BOWENFELS
DA Number:	DA142/18
LGA:	Lithgow City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources

The GTA issued by DPI Water do not constitute an approval under the *Water Management Act 2000*. The development consent holder must apply to DPI Water for the relevant approval **after development consent** has been issued by Council **and before** the commencement of any work or activity.

Condition Number	Details
Design of works and structures	
GT0009-00010	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to Natural Resources Access Regulator, and obtained, for a controlled activity approval under the Water Management Act 2000.
GT0019-00003	Any proposed excavation on waterfront land must be undertaken in accordance with a plan submitted as part of a controlled activity approval, to be approved by Natural Resources Access Regulator
Erosion and sediment controls	
GT0014-00007	A. The consent holder must ensure that any proposed materials or cleared vegetation, which may: i. obstruct water flow, or ii. wash into the water body, or iii. cause damage to river banks, are not stored on waterfront land, unless in accordance with a plan held by Natural Resources Access Regulator as part of a controlled activity approval. B. When the carrying out of the controlled activity has been completed, surplus materials must be removed from waterfront land.
GT0021-00004	The proposed erosion and sediment control works must be inspected and maintained throughout the construction or operation period of the controlled activity and must not be removed until the site is fully stabilised.
Plans, standards and guidelines	
GT0002-00480	A. This General Terms of Approval (GTA) only applies to the proposed controlled activity described in the plans and associated documents found in Schedule 1, relating to Development Application 142/18 provided by Council to Natural Resources Access Regulator. B. Any amendments or modifications to the proposed controlled activity may render the GTA invalid. If the proposed controlled activity is amended or modified, Natural Resources Access Regulator, Parramatta Office, must be notified in writing to determine if any variations to the GTA will be required.
GT0004-00003	A. A security deposit must be provided, if required by Natural Resources Access Regulator. B. The deposit must be: i. a bank guarantee, cash deposit or equivalent, and ii. equal to the amount required by Crown Lands and Water Division for that controlled activity approval.



General Terms of Approval

**for proposed development requiring approval
under s89, 90 or 91 of the Water Management Act 2000**

Reference Number:	IDAS1108003
Issue date of GTA:	21 August 2018
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Location of work/activity:	994 & 998 Great Western Highway BOWENFELS
DA Number:	DA142/18
LGA:	Lithgow City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources

Condition Number	Details

GT00005-00217	A. The application for a controlled activity approval must include the following plan(s): - Sediment and Erosion Control Plan, Stormwater Management, Stormwater Outlet Structure Plan, Vegetation Management Plan. B. The plan(s) must be prepared in accordance with Crown Lands and Water Division's guidelines located on the website http://www.water.nsw.gov.au/water-Licensing/approvals/controlled-activity .
GT0010-00006	All documents submitted to Natural Resources Access Regulator as part of an application for a controlled activity approval must be prepared by a suitable qualified person.
GT0012-00004	Any proposed controlled activity must be carried out in accordance with plans submitted as part of a controlled activity approval application, and approved by Natural Resources Access Regulator.
GT0030-00006	The application for a controlled activity approval must include plans prepared in accordance with Natural Resources Access Regulator's guidelines located on the website https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities .

Rehabilitation and maintenance

GT0023-00001	Vegetation clearance associated with the proposed controlled activity must be limited to where the controlled activity is to be carried out, as shown on the approved plan(s).

Reporting requirements

GT0016-00003	The consent holder must inform Natural Resources Access Regulator in writing when any proposed activity carried out under a controlled activity approval has been completed.

SCHEDULE 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by NRAR for integrated development associated with DA142/18 as provided by Council:

1. Statement of Environmental Effects#16084, Voerman & Ratsep, Dated 14.8.2018.
2. Soil & Water Plan, Ref#16084, Voerman & Ratsep, Dated 07.03.2018

Schedule C

Please find attached general design requirements in relation to the servicing requirements for water and sewerage as part of the abovementioned Development Application based on Preliminary Design drawing received by Council.

The attached conditions do not constitute approval under *section 68, Local Government Act 1993*. Prior to the commencement of any works as described below;

- Undertaking of water supply works
- Undertaking of sewerage works
- Installation, alteration, disconnection or removal of a meter connected to a service pipe
- Connect a private drain or sewer with a public drain or sewer under the control of a council or with a drain or sewer which connects with such a public drain or sewer
- The developer must obtain written Section 68 approval from Council; this will be required prior to the issue of the Construction Certificate. The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicable supporting information for the proposed works.

If your Section 68 application is approved, Council will issue you with a Section 68 approval containing conditions that must be complied with during construction.

-
1. The gravity sewer design for all lots shall include the connection of the proposed reticulation system to a manhole located on Councils trunk main located downstream of the development.
 2. Stage 1 sewer design shall provide points of connection for the existing properties located on Lot 4 DP221151 and Lot 2 DP706242.
 3. The existing On-site sewerage management systems located on Lot 4 DP 221151 and Lot 2 DP 706242 shall be decommissioned and removed at owner's costs. The sanitary drainage from each dwelling shall be reconnected to the sewer reticulation systems point of connection at owner's costs and prior to the completion of Stage 6.
 4. Maximum Grade of 20% is permitted for gravity sewer design purposes. Applicant is to provide details of addressing hydraulic jump, odour suppression and the use of energy dissipaters and sewer vents.
 5. The maximum allowable sewer flow velocity shall be 3.0 m/s.
 6. Applicant to gain full approval for any easements required for water and sewer works prior to release of construction certificate.
 7. Privately owned Low Pressurised Sewer Systems and Package Pump Stations shall not be accepted.
 8. Sewer mains located within lots adjacent to stormwater drainage lines shall be a minimum of 750 mm clear of the stormwater pipe.

9. Plans showing all proposed easements to be created over water and sewer infrastructure shall be submitted to Council prior to the release of the Construction Certificate.
10. All Water and Sewer works, including minimum and maximum flows and velocities, shall be designed in accordance WSA code.
11. Manholes that have been elevated for flood zone requirements shall require work platforms for WHS purposes.
12. Full vehicular access shall be provided to all sewer man holes to allow for servicing and maintenance.
13. Rain gardens, Bio Retention Basins and Swales are not to be constructed over sewer mains. A sewer design plan with stormwater overlay shall be required for assessment prior to the issue of S68 approval.
14. The applicant shall provide detailed water design to include a ring main. The new water supply network shall connect into the Council reticulation network via two points of connection. Live connections by Council at owner's costs.
15. The design of water reticulation shall generally be in accordance with the latest version of the Water Services Association of Australia (WSAA) "Water Supply Code of Australia" (WSA 03).
16. The applicant shall provide fire flow analysis for all water supply networks prior to the release of the Construction Certificate, to ensure that the network is capable of providing the performance for the design of pressure for spring hydrants. Maximum spacing of hydrants shall be 60 metres. (Residential)
17. Construction Certificate design drawings and specifications shall clearly address the following:
 - a. Location of pipelines, valves, hydrants, pipe materials, size, pressure class, jointing methods and corrosion protection measures.
 - b. Specifications for products, materials, site investigation, excavation / trench details and other technical matters.
 - c. Documentation of design assumptions, constraints and issues relevant to the design and not otherwise noted in the Concept Plan.
18. Water supply design to provide Desirable Minimum Static Pressure of 350kpa. Static Pressure shall not to exceed 500kpa at each house hold boundary.
19. Stop (dividing and isolating) and control valves shall be positioned to give required control of the system and to provide an alternative means of supply when a distribution main is taken out of service.
20. Minimum and maximum allowable service pressures will not be exceeded in each zone.
21. Minimum and maximum flows and velocities shall be in accordance with the WSAA Code.
22. A geotechnical report shall be submitted to Council prior to the release of the Construction Certificate. All Pipe and fitting materials must be suitable for application and environment.
23. The spacing and positioning of valves shall allow for isolation of individual zones.
24. Water mains shall only be installed in undisturbed ground.

25. All stop valves shall be anticlockwise closing and be positioned at a minimum of every 300 metres. Valves shall be positioned adjacent to branch take offs.
26. Each lot shall have an individual water meter, which shall be purchased from Council at the applicants full cost and held at Council store.
27. Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.
28. Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will installed the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

General Design Plans

Sewerage

1. General Design Considerations

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*

1.1 Objectives

The sewerage objectives are seen as being achieved when:

- i. The planning, design and construction of new facilities are adequate in servicing new and future developments.
- ii. there is compatibility with the existing facilities, methods of operation, and maintenance techniques; and
- iii. The facilities provide public health, environmental, and asset protection consistent with the accepted design and construction requirements set out in this document and with developments in technology as approved from time to time.

The pipe system may, on occasions, be subject to "surcharge" (where the hydraulic grade line is higher than the pipe obvert) or "overflows" (where sewage overflows out of maintenance holes). These situations may be the result of blockages and/or flows in excess of the design flows. In establishing the layout of the pipe network, designers should take care to ensure that any overflows are likely to cause only minimal nuisance or damage.

1.2 Maintenance Aspects

1.2.1 General

The sewerage system is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

Maintenance holes located in readily identifiable locations (e.g. opposite a building line), and not within leased properties, are an aid to rapid clearance of sewer blockages.

1.2.2 Special equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

1.3 Discharges from stormwater systems to sewers

Unless approved otherwise, under the specific *Trade Waste Agreement*, no stormwater discharge will be accepted into sewers.

2. Location of Sewers

2.1 Sewer Locations

2.1.1 Sewers located outside privately owned lands

The design of a sewer system should take into account the fact that there is a significant increase in the risk of tree root blockages after a period of about 20 years. Further, the access to sewers for maintenance is a major problem in the Lithgow despite the use of sewerage reserves for this purpose. Therefore minimising the use of sewer alignments and reserves in leased land is an important feature of good sewer design. Where there is public land at the rear or the side of privately owned block the sewer should be located within the public land rather than within the leased/privately owned block.

i. Diversion of principal carrier sewers around leased lands

Blockages in the sewer system have the potential to result in sewage overflows into leased properties. To minimise problems caused by blockages, wherever practicable, sewers, particularly main carriers, shall be located in public areas rather than within leases.

ii. Other situations

Where a sewer is to be constructed across open areas it is to be sited to;

- (1) Maximise its use for future development, and
- (2) Minimise its impact on possible future use of the site.

Wherever possible sewers under playing fields are to be sited so that maintenance holes are not located within the playing area.

2.1.2 Sewers located within leased lands

Where a sewer is to be constructed within privately owned properties a 3m wide easement is to be created in favour of Council, with the pipe(s) centrally located within the easement and in a location that minimises the impact on the future development potential of the leased/ privately owned land(s).

2. Hydraulic Design

2.1 General Hydraulic Aspects

All sewer works in connection with the application are to be of a size no less than 150mm to the service tie or buried vertical riser.

i. Minimum grades for DN150 pipes

Minimum permissible grades of the uppermost reaches of sewers are to be no less than 1.00%

This is the absolute minimum grades that shall be used. In general, it is not considered good practice to use a minimum grade on a short intermediate section of sewer when the upstream and downstream sections are laid at steeper grades.

ii. Maximum grades for sewers

Restrictions are placed on the maximum grades of sewers to limit internal erosion of pipe material, and/or pipe movement (due to trench flows causing loss of bedding).

The maximum pipe grade for sewers larger than DN150 is 15%. Where grades steeper than 15% are planned the circumstances are to be referred to Lithgow City Council for assessment.

To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, scour stops or trench stops may be required. To enable easy location, scour and trench stops shall be placed at intervals of equal length with spacing not exceeding that which is specified. The actual spacing and number of stops shall be nominated on layout drawings.

iii. Grade changes between pipe reaches

It is essential in the lower reaches of the sewerage system, where sewage may have low dissolved oxygen levels, that turbulence leading to the release of hydrogen sulphide from solution be avoided. In these areas, conditions such as a rapid change from steep to flat pipe slope, which favors the formation of a hydraulic jump at dry weather flows, must be avoided.

3. Structural Design

3.1 Sewer pipe materials and construction methods

3.1.1 Types of pipe

Sewers shall be constructed from materials proven to be structurally sound and durable, and shall have satisfactory jointing systems. The use of two or more types of pipe material on a single run of pipe between adjacent maintenance holes is not acceptable.

Materials approved for use in sewers are:

- Vitrified Clay - VC
- Reinforced Concrete - RC, see notes 1, 2 and 3
- Ductile Iron - DI, see notes 1, 2
- Unplasticised Poly Vinyl Chloride – uPVC (Equivalent to class SEH, solid wall or approved structured wall), **150mm x 3m RRJ SN8 pipes and junctions are Councils preferred material**
- Glass Reinforced Plastics - GRP, see note 4 (Polyester Based)
- Polyethylene – HD-PE, see note 4

Notes

1. Not to be used within, nor up to 1 km downstream of industrial areas or hospitals.

2. Concrete shall be made with Type "SR" sulphate resisting cement with a tri-calcium aluminate content not greater than 5%, or Type "LH" low heat cement. Concrete pipes intended for other than trunk sewers shall be manufactured with a minimum 10mm sacrificial layer on the inside of the pipe.
3. Concrete pipes are not acceptable for DN150 and DN225 sewers.
4. Subject to special conditions and only with written approval of Lithgow City Council.

Proposals for the use of other materials will be considered if supported by adequate technical and performance data.

Where the pipe material is known it shall be shown on the drawings. Where the pipe material is not known prior to submission for detailed design acceptance, the drawings are to contain notes ensuring that the above requirements are satisfied.

4.1.2 Class of pipes

- Sewerage pipes must be of adequate strength to meet overburden and traffic loads. Loads are to include loads created from likely construction and maintenance activities;
- VC pipes shall be Class 4 or stronger;
- Class 2 (X), 3 (Y) and 4 (Z) reinforced concrete pipes manufactured in accordance with the latest version of AS 4058 are acceptable if used in accordance with the requirements of AS 3725;
- uPVC pipes shall be of grade Sewer Extra Heavy (SEH) or of equivalent SN grade in accordance with AS/NZS 1260;
- Classes for Ductile Iron, Glass Reinforced Plastics, Polyethylene, or ABS pipes shall be approved by Lithgow City Council prior to use.

Notes

1. Where load limits apply the locations shall be clearly designated on drawings.
2. During the construction phase specific load provision shall be made for heavy construction equipment where required.
3. No more than one type of pipe material will be used between successive maintenance holes or sewer maintenance shafts.

4.1.3 Pipe jointing

The sewer pipes are to be capable of excluding groundwater, resisting root intrusion, and withstanding pressure loading, both internal and external. Sewer systems must also have some flexibility, either through controlled deflection at joints (rigid materials) or pipe bending (flexible materials).

Acceptable pipe jointing systems are:

- i. VC pipes with rubber ring jointing comprising:
 - Spigot - Socket system;
 - Spigot - Spigot system utilising approved Socket-Socket coupler.
- ii. Reinforced Concrete Pipes, Spigot-Socket, with rubber ring jointing.
- iii. PVC pipes:
 - DN100: solvent welded;
 - DN150: rubber ring jointed or solvent welded;

- Larger than DN150: rubber ring jointed.

Note: For proclaimed mine subsidence areas, the Mine Subsidence Board should be referred to for advice of subsidence design parameters for proposed drainage systems.

4.2 Depth of sewer and cover

i. Depth of Cover

Sewers shall be laid with a depth of cover, measured from the top of the pipe socket or inspection opening to the ground surface as per section 3.7 of AS/NZS 3500.2, unless the product specific Standard specifies, or the manufacturer recommends, a greater depth.

ii. Maximum Depth

Sewer mains are to be designed for a maximum depth to invert of 5.0 metres. In special cases (e.g. to avoid a pump station or for a short length of line through a ridge) specific approval may be sought from Council to exceed this limit.

4.3 Sewer main junctions

Within a sewerage system it is mandatory that all sewer main junctions occur within maintenance holes. However, DN150 sewer tie connections can be connected by means of maintenance holes or sloped junctions. For connection of service ties see section 4.4.

4.4 Sewer Service Connections

Service ties (house junctions)

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*.

4.4.1 Location

A service tie connecting to a sewer outside a residential block should generally be at right angles to the sewer. Where a service is a maintenance hole (manhole) or "dead-end", the service shall be at an angle between 90° and 180° from the downstream sewer to ensure a smooth flow of entry into the main line.

Service ties shall be located clear of all authorities easements, driveways and retaining walls.

Where the sewer main is located outside of the residential block, the service tie shall extend inside the property boundary and an inspection shaft extended vertically upward to the surface ground level to form a shaft. The tie should generally be located on the sewer main line at 1.0 metre from the lowest corner of the property and extend 1 metre into the boundary.

The upstream end of any "dead-end" sewer shall extend to at least 1 metre past the boundary to accommodate a service tie within a maintenance hole.

4.4.2 Size of Tie

Sewer service ties are normally 150mm solvent welded pipes or rubber ring. For multiple dwellings a single tie is to be provided per property.

4.4.3 Depth of Tie

A service tie is required to serve the entire leased block. However where building restrictions do not permit part of the block to be developed (e.g. set back distances from the front building line), then depths need to make allowance for this limitation.

In calculating the depth the designer should be familiar with the requirements for grade and depth provided in *AS/NZS 3500.2 sections 3.4 and 3.7*.

An acceptable design will have the following minimum depths of tie:

- For residential blocks: calculated on the basis of minimum cover with a property of 300mm and a maximum possible length of house drain at a grade of 1 in 60
- For residential blocks: calculated on the basis of minimum cover with in the property, if subject to vehicular traffic, of 500mm and a maximum possible length of house drain at a grade of 1 in 60.

4.4.4 Grades

The service tie shall have a minimum grade of 1.0 % and a maximum of 20 %. For ties to deep sewers, a buried vertical riser is to be used (refer section 4.4.5)

4.4.5 Buried Vertical Risers (BVR)

On deep sewers that are near boundaries it may be necessary to use a BVR. These are to be noted on work-as-executed drawings

It is absolutely critical that BVR's are installed on a compacted trench base with suitable concrete support

4.4.6 Manholes

Manholes shall be located along a sewer main at all changes in grade, level and direction and at the intersections with other mains or dead-ends. Manholes will not be accepted within the carriageway of public roads.

The maximum permissible spacing between adjoining manholes is 80 metres.

Manholes are to be designed so that sewage is not forced to deflect by an angle of more than 90 degrees.

Manholes shall be constructed using 20 MPa concrete cast in-situ base. Either Type C or Type D cement shall be used in the concrete mix.

Chamber and covers shall be constructed from either precast concrete or ductile iron covers in concrete surround, Class B or D load applications in accordance with AS3996 will apply or components of a type authorised by Council.

Drop manholes or Jump-ups may only be used to avoid underground services, or at the intersection of shallow and deep mains where the difference in the invert level exceeds 450mm. The maximum difference in invert levels is 2.0 metres. Drop manholes or Jump-ups are to be constructed as per the requirements of *section 4.10 of AS/NZS 3500.2*

5. Testing

All drainage work is subject to testing and shall comply with the with the requirements of *section 12 of AS/NZS 3500.2*

Water

1.1.1 General

Lithgow's Water Supply System is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

1.1.2 Special Equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

This requirement also extends to the need to use special techniques or hired equipment. To ensure that maintenance personnel can respond and overcome operational problems consistent with service objectives, it is essential that maintenance of the system is not dependent on non-standard techniques or equipment

2 Location of Water Mains

Water mains shall be constructed within road or public reserves or require the creation of a 3 metre wide easement for water supply, in favour of Council and subject to approval by Council. The pipe is to be centrally located within that easement should approval be given.

Easements across privately owned lands should be avoided.

Marking tape to *AS 2648* shall be laid in a continuous length on top of the pipe embedment material, 150mm above all water mains.

2.1 Provision of branches for future connection

Many branches provided for future development turn out to be either the wrong size, in the wrong place, or not eventually required. Temporary end caps on such branches are often not satisfactorily anchored, and become a liability if the branch is not subsequently used. To avoid this, the following is required:

- branches for future development shall not be provided unless the alignment and diameter of the future connecting mains are confidently known, and the extension is to occur within a short time span (less than 12 months);
- To avoid anchorage problems and future shut downs of the main, a flanged branch with a stop valve is preferred to a branch with an end cap. Valves shall be blank flanged. Where an end cap is necessary a full and adequate thrust block shall be provided;
- Where a branch is proposed to be laid across a road, the section across the road should be end capped at both ends rather than connected at one end initially (to avoid future road openings). If the pipes are not to be connected within 24 months, consideration should be given to charging it via a DN20 service connection and then flushing periodically.

3 Material, Size and Cover Requirements

Unless specifically approved otherwise by Lithgow City Council, pipes for water supply shall be selected from the following approved materials:

- Ductile iron, cement lined and rubber ring jointed, produced in standard lengths of 5.5 metres to AS 2280, having sizes of DN100, 150, 225, 300, 375, 450, 500, 600 and 750. For pipes up to DN300 an approved seal coating on the internal cement mortar lining is applied to reduce leaching. Class K9 shall be used for general application and class K12 where additional structural capability is required;
- PVC Class 16 to AS/NZS 1477 Series 2, having sizes of DN100, 150, 225, 300 and 375.
- **Modified PVC (PVC-M) Class 16 to AS/NZS 4765 (Int) Series 2**, having sizes **DN100**, 150, 225, 300, 375 and 450.
- Molecular Oriented PVC (PVC-O) Class 16 to AS/NZS 4441 (Int) Series 2, having sizes DN100, 150, 225, 300 and 375.
- for sizes above DN750, steel pipe to AS 1579, cement mortar lined to AS 1281, and externally coated with fusion bonded polyethylene;
- PE, pressure class PN16, to AS/NZS 4130 having size DN63. Direct tapping not permitted.

The minimum **cover to water mains** shall normally be **750mm** in roadways or traffic areas and 600mm elsewhere. The minimum **cover to water services** shall be 450mm in roadways or traffic areas and 375mm elsewhere. Provision shall be made for transient loads such as construction equipment where cover is reduced during the construction phase.

A pipeline shall be lowered when cover is removed from existing pipelines for new works (such as roads). If this is physically impossible then consideration shall be given to protection by a suitably designed reinforced concrete relieving slab; extending at least 500mm into natural ground beyond existing pipe trench lines. This slab shall be segmented by construction joints into maximum 1.0 metre long easily removed segments, and separated from the pipe obvert by no less than 25mm of granular or compressible material.

Thrust or anchor blocks of plain or reinforced concrete, which have been designed to resist unbalanced hydraulic forces, shall be provided at all bends, tees, tapers, in-line stop valves and dead ends.

To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, trench stops and scour stops may be required. Scour stops shall be provided along inclined mains where the slope is 5 to 30%. Trench stops can be regarded as an alternative to scour stops and may be provided along inclined mains where the slope is 5 to 15%. To enable easy location, trench and scour stops shall be placed at intervals of equal length with spacing not exceeding that which is specified

4. Service Connections

Water service connections works are to be undertaken under the provisions of *section 152 of the Local Government (General) Regulations 2005*

Water services should be of single service drawn **copper pipe, Type A**, manufactured in accordance with *AS 1432*. Services are to be a minimum of 20mm diameter, with 1.4mm wall thickness.

Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water

meter valve with a stainless steel locking device prior to the subdivision certificate being released.

Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will installed the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

Brass or copper capillary fittings are to be installed at all joints, branches, and bends. Meter boxes, meters, maincocks and elbows are to be of a type approved by the Water and Wastewater Manager or alternatively these fitting can be provided by Council at full cost recovery.

Separate metered water services are to be provided to every allotment, as well as parks, reserves and landscaped roundabouts.

The meter box for each lot should be located approximately **500mm outside the front and side property boundaries**. Services should be located in pairs at side property boundaries. Note that the stop valve should be located no more than 450mm from the water meter, measured from the road alignment.

All service connections should cross the road perpendicular to the road centreline. Non-detectable marking tape to *AS 2648* shall be laid 150mm above all water services. Such connections should be marked on each kerb with a "W"

A Work as Executed plan (WAE) **MUST** be submitted to council prior to the release of the linen plan, outlining the following:

- Service meter location
- All main isolation valves hydrants and scours
- Water mains lay out and property services

5. Pipe Fittings

Fire hydrants of an approved type are to be installed along the water main at such convenient distances, and at such places, as may be necessary for the ready supply of water to extinguish fires accordance with AS/NZS 2419.

On water mains without hydrants (e.g. generally bulk supply mains), scour (or drain) outlets, with isolating valve control, shall be provided at all low points. Wherever possible, on water mains with hydrants (e.g. reticulation), a hydrant should be located at or near all low points, and are to be discharged via a pipe to a storm water drainage pit.

Stop valves are generally located adjacent to tees, and so that no more than 25 properties are isolated at any one time, by closing no more than four valves. To close a valve, the spindle will turn anticlockwise, as viewed, when facing the spindle cap

Provision shall be made concerning air release from all high points on water mains. This should normally be achieved in reticulation mains by means of a fire hydrant, a branch, or a service pipe located at the high point. Where this cannot be achieved a DN25 single orifice air valve should be provided

All maincocks, tees, hydrants, stop valves, scour valves, and air valves should be located within the public footway and shall be of type approved by Council.

All gibaults are to be long sleeved.

At road intersections, two forty-five degree (45o) bends should be used to negotiate the corner.

Thrust blocks shall be provided at all bends, tees, and dead-ends.

All valves and hydrants shall be enclosed within valve chambers.

Markings and indicator posts shall be provided at all hydrants and valves.

6. Testing

Prior to acceptance of the water reticulation network, all pipelines shall be inspected and pressure testing will be carried out.

7. Mains in Cul-de-Sacs

Where the cul-de-sac incorporates an adjacent street connected by a pathway, or ends in a public reserve, the water main shall extend through the pathway or reserve so that a dead-end is not created in the main.

In all other cases, the main is to be looped around the cul-de-sac.

Work as Executed Plans

Following the satisfactory completion of works, 'Works-As-Executed' (W.A.E.) plans prepared by a registered surveyor or professional engineer shall be submitted to Council's Group Manager of Operations. Such plan must be lodged prior to the release of the subdivision linen plan, or prior to occupation or use of the development.

The W.A.E. plans shall be Engineering Drawings as modified, and shall include the following items:

- invert levels of all drainage and sewerage lines at entrance and exit of MH;
- location, class, size, and material of all pipes and subsoil lines;
- location and diameter of service conduits;
- location of stop valves, hydrants, water services,
- longitudinal sections for each sewer main,
- depth of sewer manholes,
- sewer man hole schedule numbered
- location of sewer junctions measured from downstream of MH
- minimum depth and cover, maximum depth, grade, chainage, inverts,
- storm water and interallotment drainage pits;
- location of water meters and serial number of meter installed in relation to the lot it is installed on
- site regarding details – finished surface levels at centre of front and rear boundaries;
- the location and level of any permanent survey marks;

Each Works-As-Executed plan must include certification by the Registered Surveyor responsible for the preparation of the plan.

PLANNING AGREEMENT

Parties

LITHGOW CITY COUNCIL of 180 MORT STREET, LITHGOW, New South Wales
(Council)

and

Mary Bridget Craig of 994 Great Western Highway, Bowenfels, New South Wales
(Developer).

Background

- A. On, 1st June 2018, the Developer made a Development Application to the Council for Development Consent to carry out the Development on the Land.
- B. That Development Application was accompanied by an offer by the Developer to enter into this Agreement to make Development Contributions towards the Public Facilities if that Development consent was granted.

Operative Provisions

1 Planning agreement under the Act

The Parties agree that this Agreement is a planning agreement governed by Subdivision 2 of Division 6 of Part 4 of the Act.

2 Application of this Agreement

This application applies to Lot 2 in DP 1049398, James O'Donnell Drive, Bowenfels for a subdivision of 1 into 136 lots (134 residential lots).

3 Operation of this Agreement

This agreement takes effect on the date of execution. All contributions must be paid prior to the release of a subdivision certificate for each stage of the development.

4 Definitions and interpretation

4.1 In this Agreement the following definitions apply:

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

Dealing, in relation to the Land, means, without limitation, selling,

transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land.

Development means that associated with DA142/18 for a subdivision of 1 into 136 lots.

Development Application has the same meaning as in the Act.

Development Consent has the same meaning as in the Act.

Development Contribution means a monetary contribution, the dedication of land free of cost or the provision of a material public benefit.

GST has the same meaning as in the GST Law.

GST Law has the meaning given to that term in A New Tax System (Goods and Services Tax) Act 1999 (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

Land means Lot 2 DP 1049398, known as 994 Great Western Highway, Bowenfels.

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

Regulation means the Environmental Planning and Assessment Regulation 2000.

4.2 In the interpretation of this Agreement, the following provisions apply unless the context otherwise requires:

- (a) Headings are inserted for convenience only and do not affect the interpretation of this Agreement.
- (b) A reference in this Agreement to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.
- (c) If the day on which any act, matter or thing is to be done under this Agreement is not a business day, the act, matter or thing must be done on the next business day.
- (d) A reference in this Agreement to dollars or \$ means Australian dollars and all amounts payable under this Agreement are payable in Australian dollars.
- (e) A reference in this Agreement to any law, legislation or legislative provision includes any statutory modification, amendment or re-

enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.

- (f) A reference in this Agreement to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.
- (g) A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Agreement.
- (h) An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- (i) Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- (j) A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.
- (k) References to the word 'include' or 'including' are to be construed without limitation.
- (l) A reference to this Agreement includes the agreement recorded in this Agreement.
- (m) A reference to a party to this Agreement includes a reference to the servants, agents and contractors of the party, and the party's successors and assigns.
- (n) Any schedules and attachments form part of this Agreement.

5 Development Contributions to be made under this Agreement

The Developer will contribute a total value of \$6,200.00 for open space and community facilities. This will be comprised of:

1. dedication of 2.08 hectares of land for Public Reserve. This will comprise of 0.88 hectares as a condition of consent and 1.2 hectares offered under this Agreement. The value of the 1.2 hectares at May 2018 is \$82,679.42 and equates to \$617.01 per residential allotment. The land value is subject to valuation by the Valuer General at the time of Council signing the Subdivision Certificate to release the land.
2. payment to Council an amount of \$5,582.99 per allotment. Of this amount, \$1924.50 is to be allocated to embellish the Public Reserve Lot 235 and \$3658.49 is to be allocated to nearby community facilities.

6 Application of the Development Contributions

Payments or provision of material public benefits must be made prior to the issue of a subdivision certificate for each stage.

7 Application of Section 7.11 (previously s94) and Section 7.12 (previously s94A) of the Act to the Development

Sections 7.11 and 7.12 do not otherwise apply to this development.

8 Registration of this Agreement

This Agreement will not be registered as provided for in Section 7.6 (previously s93H) of the Act as its provisions are to be finalised prior to the issue of any occupation certificate.

9 Review of this Agreement

This Agreement shall not be reviewed except with the approval of both parties.

10 Dispute Resolution

Should a dispute arise as part of this agreement that cannot be resolved between the parties then the parties may engage an independent mediator to be equally funded by the parties to assist in resolving the dispute. If the dispute is not resolved by mediation then before either party has recourse to litigation, the party must submit the dispute to external appraisal. If the parties do not agree upon an independent expert, either may request the Secretary General of the Australian Commercial Disputes Centre to nominate an expert.

11 Enforcement

If this Agreement is not honoured prior to any request for the issue of any subdivision certificate, then the parties agree that enforcement shall mean any subdivision certificate will not be issued.

12 Notices

12.1 Any notice, consent, information, application or request that must or may be given or made to a Party under this Agreement is only given or made if it is in writing and sent in one of the following ways:

- (a) Delivered or posted to that Party at its address set out below.
- (b) Faxed to that Party at its fax number set out below.
- (c) Emailed to that Party at its email address set out below.

Council

Attention: Andrew Muir
Address: 180 Mort Street, Lithgow, NSW 2790
Phone Number: 02 6354 9999
Email: andrew.muir@lithgow.gov.au

Developer

Attention: Mary Bridget Craig
Address: 994 Great Western Highway, Bowenfels, NSW 2790
Phone Number: 6351 3984

12.2 If a Party gives the other Party 3 business days' notice of a change of its address or fax number, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted or faxed to the latest address or fax number.

12.3 Any notice, consent, information, application or request is to be treated as given or made at the following time:

- (a) If it is delivered, when it is left at the relevant address.
- (b) If it is sent by post, 2 business days after it is posted.
- (c) If it is sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number.

12.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

13 Approvals and consent

Except as otherwise set out in this Agreement, and subject to any statutory obligations, a Party may give or withhold an approval or consent to be given under this Agreement in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding consent or for giving consent subject to conditions.

14 Assignment and Dealings

The parties agree that this agreement shall not be assigned to any other party. Should the developer wish to sell, transfer or otherwise dispose of the property the terms of this Agreement are to be honoured by the purchaser, transferee or receiver prior to such sale, transfer or disposition.

15 Costs

Any incidental costs associated with the Agreement shall be borne by the developer.

16 Entire agreement

This Agreement contains everything to which the Parties have agreed in relation to the matters it deals with. No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Agreement was executed, except as permitted by law.

17 Further acts

Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to affect, perfect or complete this Agreement and all transactions incidental to it.

18 Governing law and jurisdiction

This Agreement is governed by the law of New South Wales. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

19 Joint and individual liability and benefits

Except as otherwise set out in this Agreement, any agreement, covenant, representation or warranty under this Agreement by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

20 No fetter

Nothing in this Agreement shall be construed as requiring Council to do anything that would cause it to be in breach of any of its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

21 Representations and warranties

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

22 Severability

If a clause or part of a clause of this Agreement 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 Agreement, but the rest of this Agreement is not affected.

23 Modification

No modification of this Agreement will be of any force or effect unless it is in writing and signed by the Parties to this Agreement.

24 Waiver

The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another Party. A waiver by a Party is only effective if it is in writing. A written waiver by a Party is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

25 GST

If any Party reasonably decides that it is liable to pay GST on a supply made to the other Party under this Agreement and the supply was not priced to include GST, then recipient of the supply must pay an additional amount equal to the GST on that supply.

Execution

Dated:

Executed as an Agreement:

.....
Mary Bridget Craig

.....
Lithgow City Council

DRAFT

DEVELOPMENT ASSESSMENT REPORT – DA170/18 - SUBDIVISION 1 LOT INTO 2 & DEMOLITION OF GARAGE, 27 PIMPALA STREET MARRANGAROO NSW 2790

1. PROPOSAL

Council is in receipt of a Development Application DA170/18 for a subdivision of 1 lot into 2 lots and the demolition of an existing garage at 27 Pimpala Street, Marrangaroo.

The property currently contains an area of 4000m² and is proposed to be subdivided into 2 residential allotments. Both proposed lots will be 2000m² in size. Proposed Lot 1 is to contain the existing dwelling. Proposed Lot 2 will be vacant following the demolition of the existing garage. The proposed subdivision will result in a rear "battle-axe" shaped lot. The area of the access handle for the rear lot is included in the 2000m² size of the lot.

Access to proposed Lot 1 exists, with a new access driveway to be constructed for proposed Lot 2 along the battle-axe handle.

The land slopes gently from east to west, with a variety of planted vegetation around the existing dwelling and along the property boundaries. A row of larger trees are located on the property to the rear (golf course) near the rear boundary.

The property is shown in the picture below:



Past Applications

003/09CDC Swimming Pool
BA188/90 Dwelling
BA133/91 Garage
DACC463/05 Dwelling Addition

2. SUMMARY

To assess and recommend determination of DA170/18 with recommendation for refusal on the following grounds:

- a) The application has been assessed pursuant to Section 4.15 of the Environmental Planning and Assessment Act 1979 and it is considered that the development is likely to have detrimental impacts on the character of the locality and the site is not considered suitable for the development,
- b) The proposed subdivision is inconsistent with the R2 Low Density Residential Zone objectives in *Lithgow Local Environmental Plan 2014*,
- c) The proposed subdivision is inconsistent with the objectives of clause 4.1 Minimum Subdivision Lot Size in *Lithgow Local Environmental Plan 2014*,
- d) The proposed subdivision is inconsistent with the existing subdivision pattern in the locality,
- e) The proposed subdivision results in the potential for significant additional development on the lot that would not be in keeping with the character of the locality.

3. LOCATION OF THE PROPOSAL

Legal Description: Lot 34 DP 793965

Property Address: 27 Pimpala Street MARRANGAROO NSW 2790

4. ZONING

The land is zoned R2 Low Density Residential in accordance with Council's current planning instrument, being *Lithgow Local Environmental Plan 2014* (LEP 2014).

5. PERMISSIBILITY

The development being a 'subdivision' is permissible under LEP 2014, subject to development consent as per Clause 4.1 below.

4.1 Minimum subdivision lot size

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

(a) *to minimise the cost to the community of:*

(i) *fragmented and isolated development of rural land, and*

(ii) *providing, extending and maintaining public amenities and services,*

(b) *to ensure that the character and landscape setting of an area is protected and enhanced by any development,*

(c) *to promote development on appropriately sized lots and to ensure access to available essential services.*

(2) *This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.*

(3) *The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.*

(4) *This clause does not apply in relation to the subdivision of individual lots in a strata plan or community title scheme.*

(4A) *Despite any other provision of this clause, land identified as "Area 1" or "Area 2" on the Lot Size Map may not be further subdivided.*

The minimum allotment size identified on the Lot Size Map for the area is 2000m². The size of the lots complies with the minimum allotment size identified on Council's Lot Size Map.

Notwithstanding compliance with the minimum lot size, the use of the access handle to achieve the minimum lot size for the rear lot is considered inappropriate. If the area of the access handle was excluded, the rear lot would be 1496m², significantly less than the minimum lot size of 2000m².

Pursuant to clause 2.7 of LEP 2014, the demolition of the garage is also permissible with consent.

5.1 POLICY IMPLICATIONS (OTHER THAN DCP's)

Guidelines for Civil Engineering Design and Construction for Development

Section 2.3.8.3 of the Guidelines state that "*Urban Battleaxe Lots are generally NOT permitted in new subdivision development. In special circumstances Lithgow City Council may consider a genuine need for construction of a battleaxe lot, in which case conditions for construction will be provided on a case by case basis*".

The proposal is inconsistent with the guidelines. It is not considered that there are special circumstances or a genuine need in this case to warrant departure from standard subdivision practices.

Policy 7.2 Subdivision – Release Of Subdivision Plans

- 1. Council will endorse subdivision certificates prior to completion of subdivision works only on the following basis:*
 - a) Subdivision works must be substantially complete. "Substantially complete" means that all civil works have been completed including roads, water supply, sewerage and drainage. Minor outstanding works refers to installation of street signage, final rectification/seeding of excavations & batters and landscaping.*
 - b) Works as executed plans must have been submitted to Council and accepted.*
 - c) Security for incomplete works must be provided to Council prior to the endorsement of the subdivision certificate, either by cash deposit or unconditional bank guarantee.*
 - d) The amount of the security must be 100% of the estimated cost of completion of the outstanding works.*
- 2. The General Manager is authorised to determine the amounts of security deposits for outstanding subdivision work and to release security upon satisfactory completion and to vary the time periods for completion of works as deemed necessary.*
- 3. The General Manager is authorised to decline to allow bonding of outstanding subdivisions works where the deferred completion of works would not be in the best interest of Council and the community.*
- 4. The owner of the land to which the subdivision relates must provide written authority allowing Council to enter the site and make all necessary arrangements to have outstanding works completed within six (6) months of the date of the subdivision certificate.*
- 5. The General Manager may sub delegate any function under this policy including the issue of a Subdivision Certificate.*

If the application were to be approved, the following condition would be placed on the consent:

That a Subdivision Certificate Application be lodged to Council for approval.

Policy 7.5 Notification Of Development Applications

Subdivisions within the R2 Zone are not defined as being exempt of notification under Council's Policy. Therefore the following clause applies:

5. Who will be notified under this Policy and how long is the notification period?

- 5.1 Except for specified types of development outlined in 6.3 below, written notice of a development application will be given to landowners adjoining the Lithgow City Council Policy 7.5 – Notification of Development Applications land on which the development is proposed for a period of 14 calendar days. For the purposes of this policy adjoining land is land that directly abuts the subject site; shares a common boundary; or is situated directly opposite to the site where separated by a road, pathway or driveway.*

The proposal was notified to surrounding landowners and placed on display for a period of 14 days and therefore complies with Council's Policy.

5.2 FINANCIAL IMPLICATIONS

Water Management Act 2000

This financial implication may apply if the development places an additional load on Council's water or sewer systems. I.e. new allotments being created, Hospitals, Schools, Public Toilets, Hotels, Motels, Caravan Parks, Flats/Units/Dual Occupancy, Clubs, Commercial Development & Industrial Developments.

Under the Water Management Act 2000, Section 305, an application for Certificate of Compliance must be submitted to Council. This Act states:

- (1) A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.*
- (2) An application must be accompanied by such information as the regulations may prescribe.*

Therefore, if the application were to be approved, Councils Section 64 Contributions under Local Government Act 1993 for water and sewer connections will be required to be paid prior to the release of the Subdivision Certificate release. The following condition would be included in the condition of consent:

An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. These contributions may be found in the current Lithgow Council Fees and Charges or any applicable document adopted by Council in relation to contributions under Section 64 of the Local Government Act 1993.

Section 94A (Section 7.12) Development Contributions Plan 2015

Under Section 7.12 of the Environmental Planning and Assessment Act 1979, Council can apply a development contribution levy as a percentage of the cost of the development. Given this application is for a subdivision and demolition, and the total cost is less than \$100,000, no levy is applicable. If the application were to be approved and a dwelling be proposed on the rear lot, a contribution may be applicable at that time.

5.3 LEGAL IMPLICATIONS

Conveyancing Act 1919

An 88B Instrument exists for the property and shows a sewerage easement running across the rear of the property, approximately 1m from the boundary. A number of restrictions are contained on the S88B instrument applying to all lots in the Marangaroo Fields Estate registered under DP 793965. One of these restrictions states that "*not more than one (1) main building shall be erected on the land hereby burdened*". Other restrictions apply to connections to services, size of the living areas and fencing.

The purpose of the restriction relating to the number of main buildings does not prevent dual occupancy development on a lot, which is permitted with consent under LEP 2014 (and was permitted with consent under the former Marangaroo Fields Estate DCP). Rather, the restriction seeks to limit the scale of any other buildings on each lot so that they are smaller than the main dwelling (such as a secondary dwelling or "granny flat").

The proposed subdivision will not of itself impact on the sewerage easement or any of the S88B restrictions. However, it will facilitate an additional "main" dwelling on the proposed rear lot and would facilitate a dual occupancy on both of the proposed lots, resulting in development that is inconsistent with the character of the locality and not in keeping with the intent of the S88B restriction.

Local Government Act 1993

If this application is approved, the applicant must obtain a written Section 68 application for connection to Council's water and sewerage supply. This must be lodged and approved prior to commencement of any work on site and shall be at full cost to the applicant.

The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicably supporting information for the proposed works. All conditions of the Section 68 Approval must be complied with prior to the release of the Subdivision Certificate/Occupation Certificate.

Environmental Planning and Assessment Act 1979

In determining a development application, a consent authority is required to take into consideration the matters of relevance under Section 4.15 of the *Environmental Planning and Assessment Act 1979*. These matters for consideration are as follows:

5.3.1 Any Environmental Planning Instruments

Lithgow Local Environmental Plan 2014

LEP 2014 – Compliance Check		
Clause		Compliance
Land Use table	R2 Low Density Residential	Yes
4.1	Minimum subdivision lot size	Yes
7.3	Stormwater management	Yes
7.5	Groundwater vulnerability	Yes

Comment: Notwithstanding compliance with the relevant provisions of LEP 2014, the development is not considered to be consistent with the objectives of the R2 zone as they relate to the locality. The zone objectives are:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To maintain or improve the water quality of receiving water catchments.*

The proposal is not considered to be consistent with the low density residential environment of the Marangaroo Fields Estate.

The surrounding area is generally for low density residential purposes, with the Lithgow Golf Club adjoining the property to the rear. A dual occupancy development exists on the adjoining lot to the west, however this is not typical of development in the Marangaroo Fields Estate, though dual occupancy development is permitted with consent. The majority of lots in the estate have a relatively regular shape taking into account the street layout. There are no other "battle-axe" lots currently in the estate. The typical form of development in the estate is large dwellings, with generous setbacks and established landscaping on large yards.

The visual impact of a future dwelling or dual occupancy on the rear lot cannot be assessed as part of this application. While a relatively small single storey dwelling on the rear lot may have minimal visual impact (as evidenced by the dual occupancy on the adjoining lot), a large two storey dwelling potentially has a negative visual impact. Further, the potential for dual occupancy development on

both lots would be likely to have a negative impact on the character and landscape setting of the estate.

Given the above, the proposal is not considered to be consistent with the character of existing development in the estate.

The Marangaroo Fields Estate has a current lot average of approximately 3,330m² per lot (consistent with the provisions of the original DCP for the estate). Given the vast majority of the lots in the estate have a single dwelling, the dwelling density is approximately 3,250m² per dwelling. Combined, the lot average and the dwelling density establish the current scale and character of the locality.

Should the application be approved, the dwelling density across the two lots would be 2,000m² per dwelling, further reducing the overall dwelling density of the estate to approximately 3,220m². Given the potential under LEP 2014 for dual occupancy development on each lot, the dwelling density across the two lots could be reduced further to 1,000m² per dwelling. This would reduce the dwelling density of the estate to approximately 3,145m².

The precedent created by the approval of this application may lead to additional subdivision proposals that would continue to result in reducing the lot average and dwelling density in the Marangaroo Fields Estate. The former DCP for the Estate contained a provision stating that "*the average size of allotment thereby created is not less than 3,000m²*". While the current proposal would not result in a density less than 3,000m², it does give rise to the potential for additional subdivisions of a similar nature being proposed that if approved would increase the density of the estate such that the average lot size would be reduced to below 3,000m².

The former DCP also contained a provision stating that "*notwithstanding the above, a person shall not further subdivide an approved allotment to which this Development Control Plan applies*".

While the former DCP has been repealed and there is no current DCP applying to the land, the former DCP provisions are relevant in so far as they provide guidance as to the planned scale and character of development in the estate.

The proposed subdivision is also not considered to be consistent with the objectives of clause 4.1 Minimum subdivision lot size of LEP 2014. The objectives are:

- (a) to minimise the cost to the community of:*
 - (i) fragmented and isolated development of rural land, and*
 - (ii) providing, extending and maintaining public amenities and services,*
- (b) to ensure that the character and landscape setting of an area is protected and enhanced by any development,*
- (c) to promote development on appropriately sized lots and to ensure access to available essential services.*

As discussed above, the proposed subdivision is not considered to be consistent with the existing character of the Marangaroo Fields Estate. The creation of a rear "battle-axe" lot that relies on the area of the access handle to achieve the minimum lot size is out of character with the prevailing subdivision pattern. There are no other similar lots in the estate. As noted above, Council's current civil engineering design guidelines do not encourage the development of battle-axe lots.

In relation to this issue, the applicant provided the following response:

- *In support of my request to have the access handle included in the calculation of the allotment MLS, we are willing to amend the original proposal by removing the existing concrete driveway, from a point adjacent to the existing rear verandah. This would provide additional area for landscaping around the new access driveway for the rear lot and remove the amount of hardstand area as viewed from Pimpala St thereby helping to retain the current amenity of the area. It would also create additional impervious area to assist with onsite stormwater detention. Also of interest is the approach that Blacktown Council adopts in accessing the area of battle-axe allotments with the part of the access handle greater than 8m being included in the MLS calculation.*

The removal of the existing concrete driveway would assist in reducing the extent of hard surfaces and provide additional landscaping opportunity to soften the appearance of a future development and driveway on the rear lot. However, the visual impact of a future dwelling or dual occupancy on the rear lot cannot be assessed as part of this application. While a relatively small single storey dwelling on the rear lot may have minimal visual impact (as evidenced by the dual occupancy on the adjoining lot), a large two storey "main" dwelling potentially has a negative visual impact. Further, the potential for dual occupancy development on both lots would be likely to have a negative impact on the character and landscape setting of the estate.

The applicant has advised that they are willing to restrict the development of a dual occupancy on the rear lot by applying an 88B restriction on the new lot to not allow this type of development. The application of a S88B restriction to prevent a dual occupancy on the rear lot would be similar to the existing restriction relating to one main dwelling, in that it could only be enforced if Council was a party to the covenant and as a separate matter to the assessment of a development application for a dual occupancy on the lot which is permissible with consent.

The property is subject to groundwater vulnerability. The development is designed and, if the application were to be approved, will be managed to avoid any significant adverse environmental impact. The development is not expected to have contamination impacts as the use of the land will remain. A NorBE assessment was undertaken for the development and was found to be satisfied. The NorBE assessment is found later in this report.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011

SEPP (Sydney Drinking Water Catchment) 2011 – Compliance Check		
	Clause	Compliance
10	Development consent cannot be granted unless neutral or beneficial effect on water quality	Yes
11	Development that needs concurrence of the Chief Executive	N/A

Comment: The application is required to be assessed using the Neutral or Beneficial Effect on Water Quality Assessment Tool as below. Given the development satisfies this assessment the development complies with the SEPP.

NEUTRAL OR BENEFICIAL EFFECT ON WATER QUALITY ASSESSMENT TOOL

General Information:

Council Name	Lithgow City
Date	11 October 2018
DA Number	170/18
Assessing Officer	Lauren Stevens

Development Class	Subdivision sewered <=3 lots

Assessment Summary:

NorBE Status: **Determined**

System Outcome: **Satisfied**

Determination outcome: **Granted**

User Outcome: **Satisfied**

Determination date: **11 October 2018**

Pre- Assessment Checklist:

Located within Sydney drinking water Catchment	Yes
Is development consistent with any existing SCA 88B Instruments on title?	N/A
Crown perpetual leasehold land?	No
Water quality impact identifies?	Yes
Concentration of flow of water?	No
Flow of water impeded?	No
Discharge of pollutants?	Yes
Any other matter?	Yes
Documentation is completed?	Yes
Does Water Cycle management Study meet SCA/Council requirements?	N/A

5.3.2 Any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority

Nil.

5.3.3 Any Development Control Plan

Nil.

5.3.4 Any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7.4?

Nil.

5.3.5 Any matters prescribed by the regulations that apply to the land

The development has been forwarded to Council's Building Officer for assessment under appropriate regulations. If the application were to be approved, conditions of consent relating to the demolition of the garage would be imposed.

5.3.6 The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Adjoining Landuse: The surrounding area is generally for low density residential purposes, with the Lithgow Golf Club adjoining the property to the rear. A dual occupancy development exists on the adjoining lot to the west, however this is not typical of development in the Marangaroo Fields Estate, though dual occupancy development is permitted with consent. The majority of lots in the estate have a relatively regular shape taking into account the street layout. There are no other "battle-axe" lots currently in the estate. The typical form of development in the estate is large dwellings, with generous setbacks and established landscaping on large yards. The proposal is not considered to be consistent with the character of existing development in the estate.

Services: The subdivision can be serviced with both water and sewer provided a sewer main extension is created to service the existing Lot 1 and burden proposed lot 2. An easement would be required over the new sewer main. The existing house on Lot 1 would need to provide a new connection to the sewer main extension. A new water meter will be required to service the new lot.

The existing dwelling located on proposed Lot 1 will have no change to existing stormwater disposal. Any future development on Lot 2 is proposed to run into the an overland flow path and pit located on the golf course land north of the property.

Additionally, there is access to electricity and telecommunication services nearby. Therefore, it is considered that the proposal will be adequately serviced.

Context and Setting: The Marangaroo Fields Estate was established with a low density residential rural residential character. The aims of the former Marangaroo Fields Estate DCP included *"to provide a residential environment which has a distinctly rural atmosphere"* and *"to restrict the density of development within the area so as to maintain its rural character"*. The estate has developed with this character and no recent developments have resulted in any significant change to this character.

The proposed subdivision has the potential to significantly change the character of the estate, through a more residential scale and density of development on the proposed lots, and through the precedent it sets for future similar developments.

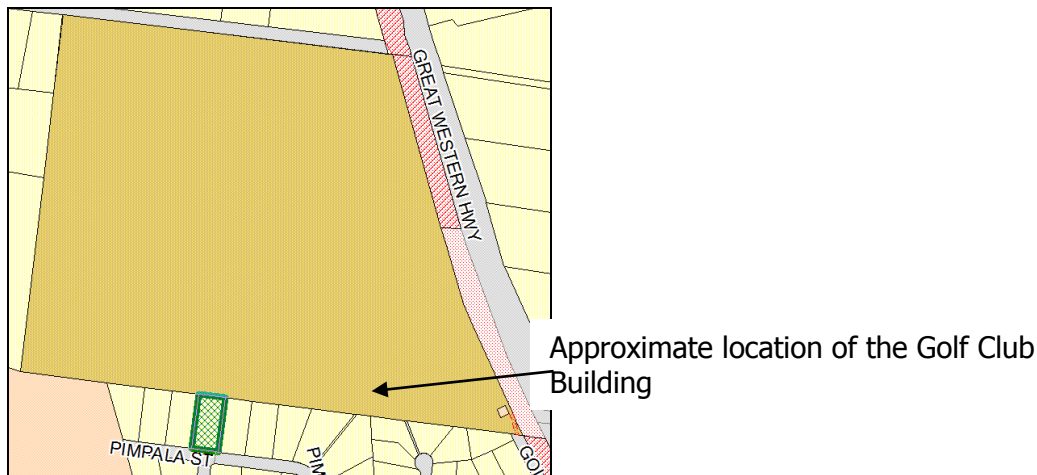
Access/ traffic: Access to both lots is proposed to be from Pimpala Street. Access to the dwelling on proposed Lot 1 is existing. The second lot would be accessed from a new driveway along the eastern boundary, which would be in excess of 56m in length.

The potential for a dual occupancy development to be erected on the rear lot and an additional dwelling to create a dual occupancy (or secondary dwelling) on the front lot would create additional traffic in an estate that has access issues, including a constrained intersection with the Great Western Highway.

Heritage: The property is not heritage listed or contains heritage items. The property adjoins the Lithgow Golf Club which is a heritage item under Council's LEP 2014.

The golf club building was built approximately 1880 as a two storey house with orchards, cultivation paddocks and gardens. For the past 60 years the house has been utilised as the golf club with the surrounding paddocks turned into the golf course. Overtime alterations have been undertaken to the club.

The development is not proposed to impact the heritage significance of the Golf Club building as the property is located approximately 350m from apart and is separated by scattered vegetation.



Flora and Fauna: No proposed clearing is required and the development will have no impact on flora or fauna.

Social and Economic Impact: The potential for the development to result in a change to the character of the Marangaroo Fields Estate is likely to have negative social impacts on existing residents of the estate. Were the application to be approved, it is likely that similar subdivision proposals would be submitted to Council adding to the change in character of the estate and placing a greater burden on local services and infrastructure, with negative economic impacts for the broader community.

Soils: The proposed development will have no significant impact on soils. There is no reason to believe the site would be affected by acid sulphate soil or contamination problems.

Water: The proposed development has been assessed using the NorBE tool as required by the *State Environmental Planning Policy (Sydney Catchment Drinking Water) 2011* with a result of satisfied. If the application were to be approved, appropriate conditions would be placed on the development consent.

Air and Microclimate: There will be no significant impact on air or microclimate.

Natural Hazards: The land is not subject to bushfire or flooding.

Noise and Vibration: There are no nearby sources of noise or vibration that would impact detrimentally the proposal. The proposal is not expected to cause any noise issues in the surrounding area, given it is for a subdivision.

Other Land Resources: The development will not impact on the value of the land in terms of agricultural potential or mining as it is zoned for residential purposes and adjacent to an established residential area.

5.3.7 The Suitability of the site for the development

To achieve compliance with the minimum lot size, the proposed subdivision relies on including the area of the access handle in the calculation of the size of the rear lot. While there are no current provisions prohibiting this, it is not a desirable outcome for the subject site. The effective area of the rear lot on which a dwelling or dual occupancy could be provided, along with other residential outbuildings, private open space and landscaping area, is less than 1500m². The need for an access

handle greater than 56m in length and the lack of structured stormwater disposal also result in the site not being suitable for the proposed development.

5.3.8 Any submissions made in accordance with this Act or the Regulations

The proposal was sent to Council's Building Officer, Water & Wastewater Officer and Engineers for commenting with recommendations detailed below. The proposal was also sent to surrounding landowners and placed on public display in Council's Administration Building for a period of 14 days with two submissions received which are summarised below.

COUNCIL'S BUILDING OFFICER

Should the development application be approved, the following conditions would apply in relation to the demolition of the shed and the existing swimming pool and fencing:

- **Demolition of shed**

The demolition works shall be executed, by competent persons with due regard at all times for safe working practices. The demolition works must be carried out in accordance with AS2601-2001, 'The demolition of structures'. A copy of the Work Plan and Waste Management Plan shall be submitted to Council prior to commencement of works.

The structure to be demolished and all its components shall be maintained in a stable and safe condition at all stages of the demolition work.

That minimal disturbance is caused to the site during construction works

All demolished material and excess spoil from the site shall be disposed of at the Lithgow Waste Management facility in a location and in a manner approved of by Council and its contractor.

- **Existing Swimming Pool and fencing**

During demolition of the shed and subdivision works the swimming pool fencing/barrier shall be maintained in accordance with Australian Standard 1926.1:2012 Safety barriers for swimming pools.

All demolition and construction materials and associated items shall not be stored or located within the non-climbable zone (not less than 900mm radius from the top of the outside of the pool fence) in accordance with Australian Standard 1926.1:2012 Safety barriers for swimming pools.

COUNCIL'S WATER & WASTEWATER OFFICER

Should the development application be approved, conditions would be required to be imposed to address the following issues:

- A sewer main extension is required to service the existing Lot 1 and burden proposed Lot 2. An easement would be required over the new sewer main. The existing house on Lot 1 would need to provide a new connection to the sewer main extension.
- A new water meter would be required for proposed Lot 2.

COUNCIL'S ENGINEERS

The following comments were provided by Council's Engineers:

- The existing stormwater drainage system was designed with capacity for the existing level of development and features roadside open swales which are more consistent with the large lot style of the subdivision.
- Access to the development is provided from the Great Western Highway by a single lane bridge over the rail corridor with minimal storage space between the bridge and the Highway. It should be noted that an approved extension of the residential area towards the south requires the construction of a second bridge over the rail corridor.
- This development proposes the subdivision of an existing 4000sqm lot into two separate 2000sqm lots. The surrounding lots in the residential subdivision are all of similar size to the existing allotment. Whilst the subdivision of this allotment is unlikely to have a substantial impact on the capacity of the existing services, the combined effect of multiple subdivisions of this type occurring could potentially exceed the capacity of some existing services (including the stormwater system and the single lane bridge into the development).
- It is recommended that no further subdivision occurs within the residential area unless/until capacity improvements are made to the services mentioned in the above comments.
- Should the development application be approved, the following condition should be placed on any development consent:
 - The Concrete driveway is to be constructed in accordance with Lithgow City Council's "Specification for the construction of Driveways, Footpath/Gutter Crossings and Footpaving" (Policy 10.18). A copy is available on Council's website, or on request from Council's Administration.

To prevent disruption to the flow of stormwater through the table drain at the front of the allotment, one of the following must be installed:

1. A concrete dish drain constructed in accordance with standard drawing EN
2. A minimum 300mm diameter pipe installed, with headwalls attached on each side of the piped culvert. The pipe is to be of a reinforced concrete standard with precast headwalls, with a minimum cover of 300mm. The pipes and headwalls are to be formed in such a way as to not obstruct the flow of water through the existing table drain.

Note: Any future development on the lot will need to be designed to direct stormwater into Council's existing Stormwater Infrastructure.

PUBLIC SUBMISSIONS

Two objections were lodged in response to the notification of the development application, raising the following concerns:

- The proposal is inconsistent with the country style living that is expected by residents in the Marangaroo Fields Estate.
- The proposal would convert the estate into suburbia.
- The proposal will set a precedent that will result in an unacceptable strain on the present infrastructure and facilities.

- Further subdivision in the estate would require the one lane bridge access to the estate to be addressed.
- The proposal is inconsistent with the development standards that previously applied in the Marrangaroo Fields Estate DCP.
- A battle-axe lot is not in keeping with a rural style subdivision.
- The proposal will result in additional residences close to the golf course, raising issues of personal injury and property damage from errant golf balls.

The applicant provided the following response to the issues raised in submissions:

- *The proposed development is compatible with the low density residential amenity of the area. Marrangaroo Field is not a rural estate. The proposed allotment will adopt the same open style fencing that is dominant throughout the estate, with dwelling setbacks that are consistent with those on existing lots. The allotment is of a size and scale that is consistent with that of other allotments in the locality, and in reality will be no more obtrusive than the dual occupancy development located on the adjoining lot.*
- *The proposal is consistent with the intent of the R2 – Low Density Residential zone and does not undermine the zone objectives. The concept of "suburbia" is subjective and in literal terms means "the outer parts of a town, where there are houses, but no large shops, places of work, or places of entertainment". Perhaps for some Marrangaroo Fields is already suburbia??*
- *The proposed development meets the development standards set in the Lithgow LEP 2014. The idea of precedent is managed through strategic planning processes. The establishment of the minimum lot size at 2000m² has already set the standard and precedent for lot sizes in this locality. Council has already approved a subdivision of another allotment at 14 Pimpala St into 2 allotments of approx. 2000m² each. This decision supports the planning objectives set for this area. The existing services in the locality including water, sewer, electricity, gas and telephone are all available to the allotment with no major upgrades required to cater for the development.*
- *The proposed subdivision will only generate an additional 6 vehicle movements per day. This amount of traffic would not warrant upgrading of the access bridge.*
- *The DCP has been repealed and even if it were still current, cannot be any more restrictive than the development standards in the Lithgow LEP. The development does however predominantly still meet the main objectives of the old DCP which was to primarily retain that rural/residential amenity. The siting of the dwelling back from the road, does more to maintain this amenity in my view than additional allotments with street frontage. With appropriate landscaping, design and siting, the rear dwelling will be obscured from the Pimpala St frontage and will address the public open space to the rear. The dwelling located on 29 Pimpala St does not have living or outdoor areas that have direct views over the new lot and the house on 31 Pimpala St, while having its outdoor areas orientated with views to the east, would have its views of the new dwelling obscured by the existing double colourbond garage located on the rear of 29 Pimpala St. The bulk and scale of the new dwelling can be adequately obscured from view lines with appropriately placed tree planting and landscaping.*
- *While it is acknowledged that this subdivision is the first in the estate to create a battle axe allotment, a number of allotments off Windarra Drive are irregular in shape and are not considered out of keeping with the character of the area. This development will still retain the important building elements of rural type fencing and generous building setbacks that reinforce the open and rural nature of the area. Also, the retention of existing landscape features and mature trees on the allotments and the incorporation of new and strategically placed landscaping features will assist in integrating the new allotment into the existing subdivision pattern. It is noted that the adjoining Marrangaroo Estate subdivision that was approved by Council recently does include numerous battle axe allotments also. While the use and application of battleaxe allotments is not ideal, it*

does have its place particularly in infill development situations to make best use of serviced and appropriately zoned land. Most LEP across NSW allow battleaxe developments in appropriate infill and greenfield locations.

- *The design of the 8th hole and tee placement directs golf ball away from the allotment.*

5.3.9 The public interest

The public interest issues raised in submissions to the proposal relate to impacts on the character and density of the Marangaroo Fields Estate. The applicant has provided responses to these issues, however it is considered that the proposal would remain inconsistent with the character of the location and will likely lead to further subdivision proposals increasing the density of the estate. It is not considered that the proposal is in the public interest.

6. DISCUSSION AND CONCLUSIONS

While the proposal complies with the relevant provisions of the applicable Environmental Planning Instruments, it is not considered to be consistent with the zone or subdivision objectives and is considered to be inconsistent with the prevailing subdivision pattern and character of the Marangaroo Fields Estate. The proposal, and the resultant likelihood of additional subdivision proposals, is considered likely to have a negative impact on the amenity of the locality. As such it is recommended that the development application be refused for the reasons outlined below.

7. ATTACHMENTS

Nil

8. RECOMMENDATION

THAT development application DA 170/18 is refused for the reasons outlined below.

Report prepared by: Mark Hitchenson Supervisor: Lauren Stevens

Signed:..... Signed:.....

Dated:..... Dated:.....

REASONS FOR REFUSAL

- The application has been assessed pursuant to Section 4.15 of the Environmental Planning and Assessment Act 1979 and it is considered that the development is likely to have detrimental impacts on the character of the locality and the site is not considered suitable for the development,
- The proposed subdivision is inconsistent with the R2 Low Density Residential Zone objectives in Lithgow Local Environmental Plan 2014,
- The proposed subdivision is inconsistent with the objectives of clause 4.1 Minimum Subdivision Lot Size in *Lithgow Local Environmental Plan 2014*,
- The proposed subdivision is inconsistent with the existing subdivision pattern in the locality,

- The proposed subdivision results in the potential for significant additional development on the lot that would not be in keeping with the character of the locality.
- .
- The proposed subdivision is inconsistent with the objectives of clause 4.1 Minimum Subdivision Lot Size in Lithgow Local Environmental Plan 2014.

Proposed Subdivision
Lot 34 DP 793965





1. ACQUISITION AND DISPOSAL OF ASSETS

Policy 1.6

LAND ACQUISITION AND DISPOSAL

Version 1

LAND ACQUISITION AND DISPOSAL POLICY

From time to time Council may acquire or dispose of land for the purpose of exercising its functions and achieving its strategic objectives.

It is Council's policy to acquire and dispose of land in a manner that is consistent with the Guiding Principles for Local Government, including:

- achieving best value for public money;
- being accountable and transparent;
- ensuring all interested parties are given a fair chance;
- avoiding conflicts of interest; and
- minimising risk.

To achieve the objectives of this Policy Council adheres with the Land Acquisition and Disposal Procedures included with this Policy, applicable procedures set in legislation and government adopted guidelines.

The scope of this policy and the accompanying procedures is limited to land owned by Lithgow City Council or land to be purchased by Lithgow City Council from a third party. For the avoidance doubt, this policy and the accompanying procedures do not address acquisition or disposal of Crown land, which must be dealt with in accordance with the *Crown Land Management Act 2016*.

LAND ACQUISITION – PROCEDURE

Definitions

For the purpose of this land acquisition procedure the following definitions apply:

acquire or **acquisition** of land means an acquisition of land or of any interest in land.

Council means Lithgow City Council.

LA Act means *Land Acquisition (Just Terms Compensation) Act 1991*.

LG Act means *Local Government Act 1993*.

land has the meaning set out in the *Interpretation Act 1987* and includes an interest in land.

public sale means the land is:

- (a) advertised by the owner as being available for sale, or
- (b) listed by the owner with a real estate agent as being available for sale, or
- (c) otherwise held out by the owner as being available for sale.

Power of council to acquire land

A Council may only acquire land for the purpose of exercising its functions or, in its capacity as a roads authority for a purpose specified in the *Roads Act 1993* including road widening.

Procedure

1. Assessing whether to acquire the land

Council identifies land based upon the purpose for which Council needs to acquire the land. Matters to be considered when assessing whether to acquire land include:

- What is the nature of interest, for example freehold, leasehold, public-private partnership, easement, etc?
- Does the use of the land fall within Council's strategic plan?
- What value will the land bring to the community or service?

- Is the land suitable for its intended use?
- Will the community receive a return on investment?
- What is the projected cost of ownership, including ongoing maintenance costs?

2. Classification of land

All public land must be classified as either “community” or “operational” prior to acquisition or within 3 months, otherwise the land will automatically be deemed “community”. Note however, in limited circumstances, compulsory acquisition of land that is classified as “community land” before acquisition must remain community land after acquisition.

At the time of resolving to acquire land (point 8 below), the land should be classified as either “operational” or “community”.

3. Method of purchase - land listed for public sale

Land that is being sold on the open market falls outside the scope of the LA Act. In this situation the procedure for purchase is governed by the general property law. Note however, that Council must adhere to the requirements of Council resolution and classification of land.

For land available by public sale Council’s officers will either:

- instruct Council’s appointed agent or solicitor to negotiate with the vendor or the vendor’s agent; or
- negotiate directly with the vendor or the vendor’s agent.

All negotiations must be on the basis that a formal offer cannot be made until Council has resolved to purchase the land.

4. Method of acquisition - land not listed for public sale (acquisition by private agreement)

Council may acquire land by entering direct negotiations with the owner. In this situation Council will first obtain a valuation of the land which will form the basis of its negotiations with the owner.

Where Council resolves to acquire land by private agreement, it does not need to follow the same processes that apply to compulsory acquisitions, but Council must comply with the compensation provisions of the LA Act.

5. Method of acquisition - compulsory acquisition (with consent of owner)

The owner of the land and Council can agree to a compulsory acquisition under the LA Act.

If all relevant terms of the acquisition are agreed by the parties, including the amount of compensation, there is no requirement for Council to comply with the provisions regarding pre-acquisition procedures and compensation for acquisition of land. However, in all other respects, Council must comply with the LA Act.

6. Method of acquisition - compulsory acquisition (without consent of the owner)

Before compulsorily acquiring land Council must make reasonable efforts for at least 6 months to acquire the land by agreement. If agreement cannot be reached, Council can acquire land without the owner's consent and must strictly adhere with the provisions of the LA Act.

After Council has made a valid resolution to acquire the land, the consent of the Minister for Local Government and/or the Governor to compulsorily acquire the land or any interest in the land is required.

Acquiring land for re-sale is not allowed without the owner's consent, unless the land forms part of, or adjoins or lies in the vicinity of, other land acquired at the same time for a purpose other than re-sale.

7. Probity plan

A probity plan is to be prepared to establish and document tasks, procedures and treatment options for managing acquisition of the particular land. The probity plan will address the following matters:

- how the acquisition will achieve Council's strategic objectives;
- the method of acquisition to be adopted (based on 3, 4, 5 or 6 above);
- conflicts of interest (where applicable, any actual or perceived conflicts of interest must be disclosed and effectively managed);

- accountability and transparency (the manner in which Council will ensure a clear audit trail).

8. Report to Council and resolution to acquire land

Prepare a report to Council seeking a resolution to acquire the land. The report is to cover the matters listed in 1 to 7 above.

A Council's power to acquire land or an interest in land cannot be delegated to staff or individual councillors. Only the Council can determine to acquire land, which it must do by way of a resolution.

Summary of land acquisition procedure

1. Assess whether to acquire the particular land, having regard to the factors outlined in 1. above.
2. Consider whether the classification of the land should be either "community" or "operational".
3. Consider what the most suitable method of acquisition will be – see points 3, 4, 5 and 6 above.
4. If the land is not listed for public sale, obtain an independent valuation report to use as the basis for negotiation.
5. Prepare a probity plan.
6. Prepare a report to Council for resolution purposes.

LAND DISPOSAL – PROCEDURE

Definitions

For the purpose of this land disposal procedure the following definitions apply:

Council means Lithgow City Council.

direct negotiation means exclusive negotiations between Council and a proponent without first undergoing a competitive process.

dispose or disposal includes sell, exchange or otherwise dispose of.

land has the meaning set out in the *Interpretation Act 1987* and includes an interest in land.

LG Act means the *Local Government Act 1993*.

Power of council to dispose of land

A Council may dispose of land for the purpose of exercising its functions. All negotiations to dispose of land are to be conducted subject to and conditional upon a resolution of Council to dispose of the land.

This procedure does not apply to sale of land due to non-payment of rates. For a sale of land due to non-payment of rates Council must comply with the requirements set out in the LG Act and any other applicable legislation.

Procedure

1. Assessing whether to dispose of land

Prior to disposing of land Council will assess the benefit to be gained from disposing of the land, whether financial or otherwise, factoring in:

- Restrictions or limitations – are there any existing encumbrances or interests over the land, such as trust arrangements, licences, leases, caveats, or other contracts entered by Council, which negate the ability of Council to dispose of the land?
- Site limitations – is the land subject to flooding, contamination, land slip, mine subsidence, road widening or other physical impairment?

- Conservation value – does the land have cultural significance, such as heritage value, works on the land, vegetation or relics?
- Strategic objectives – is the land suitable for future needs of the community, including open space, social, recreational, ecological, environmental considerations?
- Future needs of Council – can the land be utilised in the future by Council?
- Economic assessment:
 - o what is the cost of retaining and maintaining the land, including the day to day management, maintenance, insurance, security and cleaning?
 - o what is the difference between the value of land and the disposal costs?
- any other relevant considerations.

If, on balance, the assessment indicates that disposal of the land will not benefit the community or the functions of Council, Council may decide not to proceed with disposal.

2. Classification of land

Council may dispose of land that is classified “operational”. However, Council has no power to sell, exchange or otherwise dispose of “community” land, unless the land is to become, or be added to, a Crown reserve or land that is reserved or dedicated under the *National Parks and Wildlife Act 1974*.

If Council identifies an area of “community” land to be sold, exchanged or otherwise disposed of the land must first be re-classified as “operational”. Reclassification of land may be effected either by a local environmental plan or by means of a resolution of Council under sections 31, 32 or 33 of the LG Act.

3. Valuation

Prior to initiating the disposal of land an independent valuation must be obtained to determine the market value of the land. The valuation will form part of Council’s assessment (point 1. above) and assist with determining

the reserve price at auction or the basis for direct negotiations (if applicable).

4. Tender or other competitive process

Although Council is exempt from the requirement to tender in relation to disposal of land, if the Council is of the view that the disposal is at risk of being considered controversial, contentious or political, it may, by resolution, apply the tender process, in which case Council must adhere with the requirements of Part 7 of the *Local Government (General) Regulation 2005*.

In all other situations (except where direct negotiation is warranted) Council must dispose of land through a competitive process, consistent with the Principles for Local Government, by way of auction or expression of interest.

5. Direct negotiation

Direct negotiation may be warranted and used as the method of disposal in very limited circumstances, such as where:

- the land is required for use by another government agency for the purpose of infrastructure;
- the land will only be of benefit to a particular landowner(s) - for example, a laneway that is not large enough to be used as an independent parcel of land would be of use only to adjoining owners;
- Council is bound by a contractual obligation; for example, Council may have obligations under a contract that provides the other party with a right of first refusal, an option to purchase or an option to lease;
- a competitive process undertaken in the last 12 months has failed to achieve the desired result;
- Council has undertaken to achieve a unique project that is part of Council's strategic objectives; for example, a land swap.

Where Council determines it is appropriate to use direct negotiation as the method of disposal, a business case will be prepared to demonstrate why direct negotiation is warranted in light of the circumstances.

6. Probity Plan

A probity plan is to be prepared to establish and document tasks, procedures and treatment options for managing disposal of the particular land. The probity plan will address the following matters:

- achieving best value for money (this does not necessarily mean the highest price, but may include non-price elements, such as the use to which the land will be put, the settlement time, etc);
- the reason for using direct negotiation (if applicable);
- dealing with conflicts of interest (where applicable, any actual or perceived conflicts of interest must be disclosed and effectively managed);
- impartiality (where land is sold subject to a development application, the development application will be referred to an independent panel for assessment);
- ensuring accountability and transparency (the manner in which Council will ensure a clear audit trail).

7. Report to Council and resolution to dispose of land

Prepare a report to Council (following assessment of the matters listed in 1 to 6 above), including a copy of the valuation and probity plan. The report will form the basis of Council's resolution.

The report to Council shall recommend where any proceeds of sale are to be applied, for example any proceeds may be internally restricted for future acquisition purposes.

A Council's power to dispose of land cannot be delegated to staff or individual councillors. Only the Council can determine to dispose of land, which it must do by way of a resolution.

Summary of land disposal procedure

1. Assess whether disposal of the land will be beneficial, having regard to the factors outlined in 1. above.
2. Establish whether the land is classified as operational or community. If community, explore whether it is capable of reclassification.
3. Obtain an independent valuation.

4. Determine the method to be used for disposal of the land, based on 4. and 5. above.
5. Prepare a probity plan, and a business case if disposal is to be by way of direct negotiation.
6. Prepare a report to Council for resolution purposes.

Source of information

The following sources have assisted with preparing this policy:

Interpretation Act 1987

Local Government Act 1993

Local Government (General) Regulation 2005

Land Acquisition (Just Terms Compensation) Act 1991

Roads Act 1993

DLG – Guidelines for the Compulsory Acquisition of Land by Councils, June 2006

DLG - Tendering Guidelines for NSW Local Government, October 2009

ICAC – Direct negotiations, Guidelines for managing risks in direct negotiations, May 2006

ICAC - Probity and probity advising, Guidelines for managing public sector projects, November 2005

NSW Treasury – Total Asset Management Guideline, Asset Disposal Strategic Planning, June 2004

Maintained by Department:	Economic Development & Environment	Approved by:	Council		
Reference:	Dataworks: Policy Register	Council Policy No:		Effective Date:	
Min No:		Version No:		Reviewed Date:	
Attachments:					

Current Version - Proposed to be replaced



7. PLANNING

Policy 7.5

NOTIFICATION OF DEVELOPMENT APPLICATIONS

Version 2

7. PLANNING

7.5 NOTIFICATION OF DEVELOPMENT APPLICATIONS

OBJECTIVE

To provide procedures for the notification of development applications.

POLICY

1. APPLICATION OF POLICY

1.1 DEVELOPMENT APPLICATIONS THAT THE POLICY APPLIES TO

Unless excluded by Section 1.2 and/or Section 2 all development will be notified in accordance with this Policy.

All development applications within zones Residential 2(a) and Village 2(v) will be notified in accordance with Clause 21 of Lithgow Local Environmental Plan 1994 and the provisions of this Policy. Schedule 2 of the LEP also lists certain types of development that require notification including:

Demolition of a building or work that is a heritage item.

Development for the purpose of boarding-houses, hotels, motels, residential units or tourist facilities.

Development for the purpose of industries (other than rural industries) in Zone No. 1 (a).

- *Development for the purpose of;*
- *abattoirs,*
- *hazardous storage establishment,*
- *intensive livestock keeping establishments,*
- *junk yards,*
- *offensive or hazardous industries,*
- *sawmills, stock and sale yards."*

Note: Clause 21 and Schedule 2 of the Lithgow LEP 1994 will cease to apply upon the commencement date of Lithgow Local Environmental Plan 2014 and any reference or requirement will be removed from this policy.

1.2 DEVELOPMENT APPLICATIONS THAT THE POLICY DOES NOT APPLY TO

1.2.1 LEGISLATED NOTIFICATIONS

This Policy does not apply to development applications that are required to be notified under specific legislation. At the date of commencement of this policy this included notification procedures for the following types of development defined under the Environmental Planning and Assessment Act, 1979 and its regulations, including:

- Complying Development
- Designated Development

- Advertised Development including Integrated Development
- State Significant Development
- Development under State Environmental Planning Policy 33
- Development under State Environmental Planning Policy 55

In these circumstances the notification procedure will be in accordance with the relevant legislation.

In the event that there is any inconsistency between this policy and relevant legislation, the legislation will prevail to the extent of that inconsistency.

1.2.2 APPLICATIONS WITHIN THE SOUTH BOWENFELS RELEASE AREA

This Policy does not apply to development applications that are within the South Bowenfels Release Area as defined in the South Bowenfels Development Control Plan whilst ever that DCP remains in force.

2. APPLICATIONS FOR WHICH NOTIFICATION WILL NOT BE GIVEN UNDER THIS POLICY

Development applications for the following types of development will not be notified. (NB: Any structure must conform to applicable setback requirements):

- Single storey dwellings (providing this does not involve demolition of an existing dwelling)
- Additions to single storey dwellings that do not involve adding an additional storey to the dwelling
- Internal alterations that do not alter the use of a building or its Class under the Building Code of Australia
- Carports, pergolas and verandahs in association with a dwelling
- Detached garage or shed associated with a dwelling and to be used in conjunction with a dwelling that does not exceed 36 square metres in floor area or 3.6 metres roof ridge height.
- Dwellings (up to 2 storey's) and sheds on land zoned RU1 or RU2 land that is greater than 2 hectares
- Subdivision creating less than 5 new lots on land zoned RU1 or RU2
- Boundary alterations
- Strata subdivisions
- With the exception of Restricted Premises and Sex Services Premises, Commercial or industrial development comprising non-structural alterations to an existing building
- Development involving a change of use that does not involve the change to a Restricted Premises, Sex Services Premises, Food and Drink Premises, Funeral Chapel, Funeral Home or Retail Premises involving the sale of firearms within the meaning of the *Firearms Act 1996*
- Signage
- Any other development of a minor nature that, in the opinion of the assessing officer, does not have the potential to create a negative impact on the amenity of the neighbourhood by way of the emission of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash,

dust, waste water, waste products, grit or oil, traffic generation or otherwise.

2.1 NOTIFICATION FOLLOWING SITE INSPECTION

Notification of development applications may also occur following the site inspection and consideration of factors such as the character of existing development, slope of the site, local amenity, potential overshadowing and any other issues considered by Council to be relevant to the proposed development.

3. Notification of Amended Development Applications

- 3.1 If a development application is amended prior to being determined, the application will only be re-notified if the environmental impact is deemed by Council to be greater than that of the original development proposal.
- 3.2 If Council decides that re-notification is necessary having regard to 3.1 it shall notify:
 - (a) those persons previously notified of the original development application
 - (b) those persons who made submissions to the original development application; and
 - (c) any other persons who, in the opinion of the Development Assessment Officer, may be affected by the amended development application.

4. Notification of Section 96 Applications

- 4.1 Section 96(1) modifications that involve minor error, misdescription or miscalculation will not be notified.
- 4.2 Section 96(1A) modifications that involve minimal environmental impact will not be notified unless in the opinion of Council, the proposed modification has the potential to increase the impact of the development on adjoining land.
- 4.3 Section 96(2) modifications which cause increased environmental impact will be notified the same as the original application was notified. Also, any person who made a submission to the original development application will be notified.
- 4.4 In the event that Council decides notification is necessary it will notify the application for modification in the same manner as the original development application and also notify those persons who previously made submission.

5. Who will be notified under this Policy and how long is the notification period?

- 5.1 Except for specified types of development outlined in 6.3 below, written notice of a development application will be given to landowners adjoining the

land on which the development is proposed for a period of 14 calendar days. For the purposes of this policy adjoining land is land that directly abuts the subject site; shares a common boundary; or is situated directly opposite to the site where separated by a road, pathway or driveway.

- 5.2 In the case of the adjoining land being part of a strata plan, notification will be given to the Body Corporate only.
- 5.3 Certain types of development will be notified to adjoining landowners as well as the wider neighbourhood, and in some circumstances for 21 days, as indicated in the following table:

Type of Development Proposed	Minimum Notification Required (Surrounding Landowners)	Period
Subdivisions, for more than 10 lots, on land zoned land zoned R1, R2, R5 and RU5	6 either side of the subject site, 6 at the rear and 6 opposite the site	21 days
Bed & Breakfast, Home industries, restaurant or café, Self Storage Units	6 either side of the subject site, 6 at the rear and 6 opposite the site	21 days
Multi-dwelling Housing, hostels, boarding houses, child care centres, Hotels, Motels, Tourist Facilities, residential flat buildings, residential care facility, seniors housing, serviced apartments, places of public worship, recreation facility, amusement centres, professional consulting rooms	6 either side of the subject site, 6 at the rear and 6 opposite the site	21 days

6. Form of Notification

- 6.1 The notice of a development application will include the following information:

- development application number
- address of the proposed development site
- description of the development
- the applicant
- where and when the plans can be inspected
- the time period within which submissions may be made
- that the substance of written submissions may be included in reports and be available for the applicant to consider.
- making a public submission (whether opposing or supporting the application) in relation to a relevant planning application must disclose all reportable political donations and gifts, made by the person making the submission or any associate of that person to any local Councillor or Council employee within the period commencing two (2) years before the submission is made and ending when the application is determined. If the political donations and gifts were

made after the application of submission was made, the disclosure must be made within seven (7) days after the donations and gifts were made; and that in accordance with the Act, the disclosure will be made available to the public via Council's website.

7. Notification over the Christmas Period

- 7.1 If a development application is to be notified during the period where Council is closed over Christmas and New Year, then the number of working days in which Council is closed is to be added to the duration of the notification period.

8. Submissions

- 8.1 Written submissions are to be received by Council by the due date otherwise they will not be considered as part of Council's assessment of the development application.
- 8.2 Petitions and form letters will be treated as a single submission relating to a development application.
- 8.3 Should the determination of a development application be considered by the elected Council, all persons who lodged a submission will be provided with advice detailing that Council is considering the development application at the nominated meeting and that members of the public are able to attend.
- 8.4 Written submissions cannot remain confidential (unless otherwise specified for appropriate reasons) and may be referred to the applicant as they may be used to assist in negotiations with the owners/applicant of the proposed development. Submissions may also be the subject of Government Information (Public Access) Act requests and included in Council business papers.

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Reference:	Dataworks: Policy Register	Council Policy No:	7.5	Effective Date:	27/10/14
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Attachments:					



7. PLANNING

Policy 7.5

NOTIFICATIONS POLICY FOR DEVELOPMENT APPLICATIONS

Version 3

7. PLANNING

7.5 NOTIFICATIONS POLICY FOR DEVELOPMENT APPLICATIONS & COMBINED DEVELOPMENT APPLICATIONS

PURPOSE:

To provide the requirements for the notification of developments in the Lithgow City Council Local Government Area.

OBJECTIVES:

- To provide the community with an opportunity to assist Council in its decision making process for development applications.
- To detail the criteria for notifying persons of development applications being considered by Council.
- To assist the public in understanding Council's notification obligations, requirements and procedures.
- To ensure the persons lodging submissions are informed of Council's determination of development applications.

DEFINITIONS:

Terms used in this Policy have the meaning ascribed by the relevant Local Environmental Plan, Environmental Planning and Assessment Act, any other relevant legislation or as commonly defined except where specifically defined below;

Applicant – means the person/company that has lodged a Development Application.

Application – means a Development Application or a combined DA/CC.

Advertised Development - means development, other than designated development, that is identified as such by the Environmental Planning and Assessment Act, 1979, its regulations, an environmental planning instrument or development control plan.

Complying Development - means development specified in a complying development code that meets the standards specified for that development and that complies with the requirements of Division 2 for complying development in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Designated Development – means development that is declared to be designated development by an environmental planning instrument or the Regulation.

Exempt Development - means development that is specified in an exempt development code that meets the standards specified for that development and that

complies with the requirements of Division 2 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Integrated Development – means development (not being exempt or complying) that requires development consent as well as one or more approvals as specified in the Environmental Planning and Assessment Act, 1979.

Owners of Adjoining or Neighbouring Lands - means the person/s identified on Council's property system, at the time the notification is prepared, as owning land that has a common boundary with the proposed development site or neighbours the proposed development site or is separated only by a pathway, driveway, laneway or public road, as identified in Diagram 1.

Submission – means a letter, petition or similar written representation received from individuals or groups of people regarding environmental or planning issues related to an application.

POLICY:

Notification for the purposes of this Policy involves advising relevant persons of the lodgement of a development application or combined development application and inviting submissions to assist Council in its determination process. It also involves advising those who made submissions of the determination of the application.

1.0 APPLICATION OF POLICY

1.1 DEVELOPMENT APPLICATIONS THAT THE POLICY APPLIES TO

All development applications will be notified in accordance with this Policy unless indicated in Section 1.2 or Section 2.

1.2 DEVELOPMENT APPLICATIONS THAT THE POLICY DOES NOT APPLY TO

1.2.1 LEGISLATED NOTIFICATIONS

This Policy does not apply to development applications that are required to be notified as a matter of law. Notification procedures for the following types of development are provided in the Environmental Planning and Assessment Act, 1979 and accompanying Regulation, including but not limited to:

- Complying Development
- Designated Development
- Advertised Development including Integrated Development
- State Significant Development
- Development under State Environmental Planning Policy 33
- Development under State Environmental Planning Policy 55
- Demolition of Heritage Items

- Any other proposal to which specific notification legislation relates.

In these circumstances the notification procedure will be in accordance with the relevant legislation.

2.0 APPLICATIONS FOR WHICH NOTIFICATION WILL NOT BE GIVEN

Council will **not** give notice of an application in the following instances:

- The proposal is Exempt Development.
- The application is rejected on the basis of inadequate, unclear or illegible information.
- An application is received to carry out alterations for the purpose of fire safety upgrading of existing buildings in conjunction with a fire safety order from Council.
- An application to strata subdivide an existing approved building(s).
- An application involving a boundary adjustment.
 - Single storey dwellings (providing this does not involve demolition of an existing dwelling).
 - Additions to single storey dwellings that do not involve adding an additional storey to the dwelling.
 - Internal alterations that do not alter the use of a building or its Class under the Building Code of Australia.
 - Carports, pergolas and verandahs in association with a dwelling.
 - Detached garage or shed associated with a dwelling and to be used in conjunction with a dwelling that does not exceed 36 square metres in floor area or 3.6 metres roof ridge height located in R1, R2 , RU5, E3 and E4 zones.
 - Detached garage or shed associated with a dwelling and to be used in conjunction with a dwelling that does not exceed 50 square metres in floor area located in R5 zones.
 - Detached garage or shed associated with a dwelling and to be used in conjunction with a dwelling that does not exceed 200 square metres in floor area located in RU1 and RU2 zones.
 - Dwellings (up to 2 storeys) on land zoned RU1, RU2 or R5.
 - Subdivision creating less than 5 new lots on land zoned RU1 or RU2
 - Commercial or industrial development comprising non-structural alterations to an existing building (With the exception of Restricted Premises and Sex Services Premises).
 - Development involving a change of use that does not involve the change to a Restricted Premises, Sex Services Premises, Funeral Chapel, Funeral Home or Retail Premises involving the sale of firearms within the meaning of the *Firearms Act 1996*.
 - Advertising signage.
 - Any other development of a minor nature that, in the opinion of the assessing officer, does not have the potential to create a negative impact on the amenity of the neighbourhood by way of the emission

of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, traffic generation or otherwise.

- Retaining walls less than 1.5 metre high located in R1, R2 and RU5 zones
- Retaining walls located within 1m of a boundary and less than 1 metre high
- Earthworks if exempted under Council Policy – Filling and Levelling Land.

3.0 NOTIFICATION PROCEDURES FOR DEVELOPMENT APPLICATIONS OR COMBINED DEVELOPMENT APPLICATIONS

3.1 LANDOWNERS/OCCUPIERS TO BE NOTIFIED

Notice of the application will be sent to person/s who own land (according to Council's Property Information System) adjoining or neighbouring a proposed development site. In certain instances, based on the potential impact of the development; Council will, at the discretion of the Development Assessment Officer, undertake wider notification of a Development Application where property is deemed to be potentially "affected".

Diagram 1 below shows the land to be considered as "Adjoining or neighbouring land" for the purposes of this Policy.

When a site and adjoining land are not in the configuration as shown in Diagram 1 below, Council's Development Assessment Officers will form an opinion based on the potential impact of the development, as to what is to be considered as "affected land" using the criteria listed below.

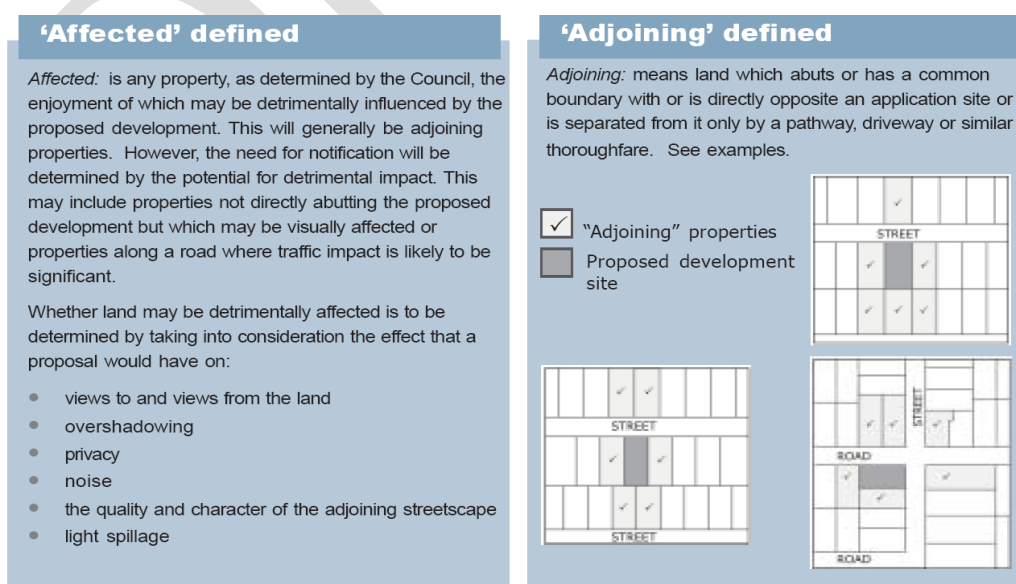


Diagram 1

3.1.1 Strata Plans

In the case of the adjoining land being part of a strata plan, notification will be given to individual unit owners and also the Body Corporate.

3.1.2 Persons in adjoining Council areas

Some development proposals can adjoin or neighbour land in other Council areas. In this instance, Council will send a notification letter to the adjoining Council asking that they inform its residents/ratepayers likely to be affected.

Any submissions from residents in adjoining Council areas will be taken into consideration in the determination of the application.

3.2 NOTIFICATION PERIOD

The minimum notification period is in accordance with this Policy is 14 days.

The notification period commences on the date shown on the notification letter.

Submissions will be received at any time within the notification period up to and including the last day as detailed in the notice given.

3.2. 1 Development applications made over the Christmas holiday period

If a development application is to be notified during the period where Council is closed over the Christmas and New Year Holiday Period, then the number of working days in which Council is closed is to be added to the duration of the notification period.

3.3 FORM OF WRITTEN NOTIFICATION

The notification letter shall contain the following details:

- The development application number.
- The Applicant
- The address of the proposed development site.
- A description of the proposed development.
- A notification plan (where practical) of any proposed building work which depicts its height, external configuration and siting.
- Advice that the plans may be inspected at Council's Customer Service Centre during normal office hours.
- The closing date for written submissions.
- Advice that the authors' details may be disclosed at some point in the determination process if required by law.
- Advice that, any person making a public submission (whether opposing or supporting the application) in relation to a relevant planning application must disclose all reportable political donations and gifts, made by the person making the submission or any associate of that person to any local

Councillor or Council employee within the period commencing two (2) years before the submission is made and ending when the application is determined. If the political donations and gifts were made after the application of submission was made, the disclosure must be made within seven (7) days after the donations and gifts were made; and that in accordance with the Act, the disclosure will be made available to the public via Council's website.

3.4 NOTIFICATION OF A DEVELOPMENT APPLICATION AMENDED PRIOR TO DETERMINATION

Where a development application is amended prior to determination, Council will renotify

- (a) those persons previously notified of the original development application
- (b) those persons who made submissions to the original development application; and
- (c) any other persons who, in the opinion of the Development Assessment Officer, may be affected by the amended development application.

The notification period for an amended application is the same as the original notification.

If in the opinion of the Development Assessment Officer the amendments are minor the amended application will **not** be renotified.

3.5 NOTIFICATION OF AN APPLICATION FOR MODIFICATION OF DEVELOPMENT CONSENT (SECTION 4.55 OF THE EP&A ACT).

Council will notify an application to modify a development consent if the original assessment of the development application was notified or advertised. This includes an application to modify a development consent that was granted by the Land and Environment Court.

Council will notify the application for modification in the same manner as the original development application.

Council will notify those persons who previously made submission(s) and any other person, who in the opinion of the Development Assessment Officer may now be affected by the application for modification.

Notwithstanding the above, Council will not notify S4.55(1) and S4.55(1A) applications where the Development Assessment Officer is of the opinion that the application involves minimal environmental impact and is unlikely to prejudice any person(s) who were originally notified, any person(s) who previously made a submission or having regard to any matter raised in those submissions.

3.6 NOTIFICATION OF APPLICATIONS TO REVIEW A DETERMINATION OF A DEVELOPMENT APPLICATION (UNDER S.8.2 OF EP& A ACT)

All applications made under Section 8.2 of the Environmental Planning and Assessment Act, 1979, for review of determinations of development applications will be notified in the same manner as the original development application in accordance with this Policy.

3.7 VIEWING OF APPLICATIONS

All applications that have been notified will be made available for inspection at Council's Customer Service Centre, 180 Mort Street, Lithgow, during normal business hours.

3.7.1 Information to be made available for viewing

All plans and information lodged with an application will be available for viewing. Generally this will include: all plans, the application form, the Statement of Environmental Effects and in the case of designated developments, an Environmental Impact Statement and any supplementary reports etc.

3.8 SUBMISSION REQUIREMENTS

During the notification period any person may make a written submission to Council in respect of a development application.

A submission is required to:

- be submitted in writing addressed to the General Manager
- be received by the closing date of the notification period;
- to contain the following:
 - The name, address, and where possible the email address, of the person making the submission.
 - The relevant development application number.
 - The address of the property that is the subject of the application.
 - Details of the submission, noting that any submission by way of objection must set out the grounds of the objection.

Council will provide assistance to anyone who may experience difficulty in placing their concerns in writing, including the provision of an interpreter through a telephone service.

3.8.1 Petitions

To assist Council to consider a submission by way of a petition the following will be required:

- The petition is to clearly identify the application and the nature of the objection or support given on each page of the document.
- Each name entry is to be provided by way of printed form and signature to enable verification. Each name entry must provide relevant address details.
- A head petitioner is to be identified so that Council may contact the group through this person.

3.8.2 Receipt of Submissions

Submissions may be received by mail, facsimile or email provided they are received prior to 4.30pm on the last day of the notification period.

An email or letter acknowledging receipt of a submission will be issued within 5 working days of its receipt.

3.9 CONSIDERATION OF SUBMISSIONS

Written submissions are to be received by Council by the due date otherwise they will not be considered as part of Council's assessment of the development application.

Petitions and form letters will be treated as a single submission relating to a development application.

Should the determination of a development application be considered by the elected Council, all persons who lodged a submission will be provided with advice detailing that Council is considering the development application at the nominated meeting and that members of the public are able to attend.

Written submissions cannot remain confidential (unless otherwise specified for appropriate reasons) and may be referred to the applicant as they may be used to assist in negotiations with the owners/applicant of the proposed development. Submissions may also be the subject of Government Information (Public Access) Act requests and included in Council business papers.

3.10 POST DETERMINATION NOTIFICATION

3.10.1 Those who made submissions

Council will notify all those who made submissions of the determination of an application by a letter dated and posted or email within 14 days from the date of determination.

3.10.2 General public

Council will provide a notice in the local newspaper on a regular basis including a list of all determinations in accordance with the relevant legislation at the time.

Council will maintain a register of 'Reasons for Decisions' on its web site.

DRAFT

Maintained by Department:	Economic Development and Environment	Approved by:	Council	Exhibition Date:	Insert date advertised from
Reference:	Policy Register	Council Policy No:	7.5	Effective Date:	Date of Council resolution to adopt
Min No:	Council meeting minute number	Version No:	3	Review Date:	Date July 2018
Attachments:	Nil				



7. PLANNING

Policy 7.8

Sex Services Premises and Home Occupation (Sex Services) Premises Requirements

Version 2

7. PLANNING

7.8 SEX SERVICES PREMISES REQUIREMENTS

OBJECTIVES:

To provide location requirements, development guidelines and advice to applicants on the information required to be submitted with a development application for a sex services premises and home occupation (sex services) premises.

DEFINITIONS

home occupation (sex services) means the provision of sex services in a dwelling that is a brothel, or in a building that is a brothel and is ancillary to such a dwelling, by no more than 2 permanent residents of the dwelling and that does not involve:

- (a) the employment of persons other than those residents, or
- (b) interference with the amenity of the neighbourhood by reason of the emission of noise, traffic generation or otherwise, or
- (c) the exhibition of any notice, advertisement or sign, or
- (d) the sale of items (whether goods or materials), or the exposure or offer for sale of items, by retail, but does not include a home business or sex services premises.

restricted premises means business premises or retail premises that, due to their nature, restrict access to patrons or customers over 18 years of age, and includes sex shops and similar premises, but does not include hotel or motel accommodation, a pub, home occupation (sex services) or sex services premises..

sex services means sexual acts or sexual services in exchange for payment

sex services premises means a brothel, but does not include home occupation (sex services).

POLICY:

Development Application - Information to be Supplied

A development application for a sex services premises must be accompanied by all information as required by Schedule 1 of the Environmental Planning and Assessment Regulation 2000¹ and also must include:

- A description of the activities that are proposed to be undertaken at the premises.
- A site and location plan to scale showing the proximity of the subject site to adjoining properties and sensitive land uses such as dwellings, dwelling houses, child care centres, educational establishments, places of public entertainment, places of assembly, recreation establishments, recreation facilities, places of

¹ Or should this regulation be repealed, any new or amending regulation

worship, hospitals and any other place where children or young people are likely to regularly congregate including railway stations and major bus stops.

- A floor plan to scale showing all room uses (including the identification of rooms proposed to be used for the conduct of prostitution), layouts, location of windows and doors including all entrances/exits from the building and the nomination of the primary access.
- An elevation plan.
- Food premises construction and fit-out plans.
- Proof of permissibility within the zone under the current Lithgow City Local Environmental Plan.
- Assessment of the proposed use against any applicable State Environmental Planning Policy, Regional Environmental Plan, Development Control Plan, this Policy and any other applicable Federal or State legislation.
- Location, number and layout of car parking.
- A Social Impact Statement prepared by a qualified social practitioner.
- Details of compliance with the Disability Discrimination Act 1992.
- Details of proposed signage indicating the size, number, colour, illumination, content and position.
- Details of existing and proposed external lighting.
- A plan of management detailing the operation and management of the sex services premises in terms of:
 - o Management and staff arrangements – details of the operator and owner including contact phone numbers; the number of sex workers and support staff; number of security guards and any other staff and their role.
 - o Access for clients – how access and egress will be provided for people including those with disabilities. It should also include how access is to be restricted to ensure that no person under 18 years of age gains access to the premises.
 - o Hours of operation – list proposed hours.
 - o Safe sex assurance – outline how safe sex information and equipment eg. condoms etc are to be made available to all occupants of the premises.
 - o Arrangement of appointments – outline a procedure for the admission of clients by appointment only noting that a telephone booking is preferred.
 - o Control of antisocial or violent behaviour – strategies which are to be implemented to deal with inappropriate behaviour in the premises. Relevant qualifications of security staff should be included to ensure that they can appropriately deal with such behaviour.
 - o Sale and supply of drugs – detail strategies to ensure that the sale and supply of drugs does not occur on the premises.
 - o Safety and security – measures to be taken to ensure the safety of both staff and clients within and outside of the premises. It should address matters such as the management and monitoring of people on the premises; maintaining a current list of emergency numbers; maintenance of an incident book on the premises which can be accessed by the police; alarm and surveillance systems; security patrols by licensed security firms.
 - o Waste and recycling management – demonstrate that adequate facilities have been provided for the storage and management of waste in accordance with NSW Health and WorkCover NSW Guidelines for Brothels and this Policy.
 - o Presentation of the premises – strategies demonstrating general upgrading and ongoing maintenance of the condition of the premises.

- o Cleanliness of the premises – demonstrate how the premises is to be kept clean and tidy in accordance with NSW Health and WorkCover NSW Guidelines for Brothels.
- o Access for Council officers and other regulatory staff – detail how access to the premises will be provided.

NOTE: Council encourages a pre-development application meeting to ensure that applicants are familiar with the relevant requirements.

Notification of Development Application

Development applications will be advertised and notified in accordance with the following:

- A letter being sent to the owners and occupiers of adjoining land and any other individual, group, organisation or similar deemed by Council to have, or likely to have an interest in the proposed development. The letter shall contain:
 - o the address of the proposed site
 - o a description of the proposed work/use
 - o an A4 notification plan (where practical) of any proposed building work which depicts its height, external configuration and siting
 - o name and contact number of the relevant Environmental Planner
 - o advice that the application may be inspected at Council's offices during normal office hours
 - o the closing date for written submissions
 - o advice that the authors details may be disclosed at some point in the determination process.
- An advertisement in a local newspaper.
- Notification period is for 14 days from the date of the advertisement in the local newspaper. Council maintains discretion to lengthen the notification period if considered necessary.

Written submissions or objections will be taken into consideration in Council's determination of the development application.

Referral

Development applications will be referred to the NSW Police, NSW Health, NSW Department of Education and other relevant government agencies for comment where considered appropriate.

Limits on Consent

If Council grants development consent, it shall impose a condition limiting the life of the consent to a period of 2 years from the date of issue of the Occupation Certificate.

Should the proponent wish to continue operations then this will be the subject of a new development application or modification application should the premises have operated without complaint during the period since development consent was granted.

Location

Home occupation (sex services) premises and sex services premises are permissible with consent only in the Industrial 4 Zone of the current Lithgow City Local Environmental Plan. In addition, a sex services premises shall not be located:

- within 80 metres of a restricted premises, another sex services premises, school, church, child care centre or recreational facility. This distance is to be measured on a direct route via the nearest public road.
- on a property that adjoins an arterial road.

Scale and Character

- Sex services premises are to be restricted in total floor space such as that it is to provide not more than 5 rooms in which acts of prostitution are to take place.
- No portion of any sex services premises not approved for use as a sex services premises is to be used for the conduct of acts of prostitution. Prostitution within an approved sex services premises is to be confined to rooms or areas so nominated on the submitted plans which are the subject of Council's consent.
- The sex services premises is to be provided with an adequate reception area/waiting room being a minimum area of 20m².
- The sex services or home occupation (sex services) premises is to be located on an allotment with a minimum size of 900m².
- A sex services premises is not to be located in a building that contains a dwelling.
- Any new building or refurbishment of an existing building is to be designed so as to be compatible with the built form of adjoining premises and integrated into the streetscape. The finishes on the building are not to draw undue attention to the premises.
- There is to be only 1 visible entrance/exit at street level and it is to be discreet, safe and unobtrusive.
- The premises must be numbered, with the number clearly visible from the street in a manner that does not draw undue attention to the premises.
- The interior of the premises must not be visible from any public place.
- Where the interior of the premises may be visible from neighbouring buildings, adequate measures should be taken to screen the interior of the building (ie. blinds, screens etc). Such screening is to match the outside colour of the building.
- Access for people with disability must be provided in accordance with all relevant

legislation.

- The premises must provide the following minimum staff facilities:
 - o Sanitary facilities (toilet, hand basin and shower)
 - o Rest area with seating
 - o Dining area with food preparation and storage areas
 - o Sink with running water, water boiling facilities and fridge
 - o Lockers to store personal items
 - o Notice board containing details required to be displayed to fulfil requirements of the Plan of Management.

Amenity

- The use of the premises shall not give rise to:
 - o Offensive noise as defined in the Protection of the Environment Operations Act 1997.
 - o A sound level at any point on the boundary of the premises greater than the background level which is to be provided to Council prior to issue of Occupation Certificate.
- There is to be no distinctive external lighting (ie. coloured globes).
- Spruikers (staff at the door or outside the premises who encourage patrons to enter) are not permitted.
- The premises shall not display sex workers or sex related products from windows, the entrance/exit or outside the premises.

NOTE: Council will exercise its discretion in relation to hours of operation, taking into consideration the nature of the surrounding land use, the approved hours of operation of surrounding land uses and any possible conflicts with these uses.

Parking

Parking shall be provided at the rate of 1 space per staff working at any one time in the premises, plus 1 space per room where acts of prostitution are conducted.

Signage (Sex Services Premises)

Signage shall be in accordance with the State Environmental Planning Policy No. 64 and Lithgow City Council – Outdoor Advertising Development Control Plan. In addition, any signage must also comply with the following:

- Only 1 flush wall or window sign as defined in the Greater Lithgow City Council – Outdoor Advertising Development Control Plan is permitted per premises.
- The sign must not exceed 0.3 metres by 0.6 metres in size and may only identify the registered name of the business.
- The sign shall not display words or images which are in the opinion of the Council

sexually explicit, lewd or otherwise offensive.

- Signs must not be illuminated.
- The sign must be compatible with the design of the building to which it is attached and the streetscape.
- No advertising is to be provided on bus shelters, seating or the like within the Local Government Area.

Security

- The design of carpark, landscaping and entrance/exit should facilitate casual or formal surveillance.
- The entrance/exit to the premises must be designed to facilitate the privacy of workers and clients without compromising personal safety.
- Adequate lighting of the carpark and entrance/exit is essential but not to the extent where it becomes a prominent feature in the streetscape.
- Any landscaping that is proposed should not obstruct the visibility and overlooking from public areas of the entrance/exit so as to ensure the safety of all workers and clients to premises.
- The operator of the premises is to provide a security patrol in the vicinity of the premises to ensure the proper conduct of patrons and the safety of staff leaving the premises.
- The premises must include adequate safety and surveillance systems.
- Secure entry and controlled internal and external access, preferably with remote door release mechanisms should be provided.
- The premises must have a duress alarm and intercom in each room that is used for acts of prostitution. These alarms are to be connected back to a central base (such as reception) that is to be monitored at all times.
- Rooms used for acts of prostitution must not include the provision of door locks.

NOTE: Operators must comply with the requirements of the Workplace Surveillance Act 2005 and Summary Offences Act 1988.

Building Standards

The premises is to comply with the provisions of the Building Code of Australia.

Health Standards

- The premises must comply with the NSW Health and WorkCover NSW Guidelines for Brothels and all premises must have a copy available for viewing in all staff and client waiting areas.
- Each room used or available for the conduct of acts of prostitution is to contain or have direct access to its own shower, toilet and wash hand basin facilities for the use of clients.
- Separate toilet and shower facilities must be provided for staff.
- All hand wash basins must be provided with an adequate supply of potable water at a temperature of 40.5 to 43.5°C and delivered through an appropriate mixing device that may be adjusted to enable hand washing under warm running water. Liquid antibacterial soap and single use paper towel or air dryers are also to be provided.
- Warm water systems must comply with the requirements of the Public Health Act 1991 and Public Health (Microbial Control) Regulation 2000.
- Any food preparation areas are to be constructed in accordance with AS 4674 Design, construction and fit-out of food premises.
- Swimming and Spa pools must comply with the NSW Health's Public Swimming Pool and Spa Pool Guidelines and the Protocol for Minimising Risk of Cryptosporidium Contamination in Public Swimming Pools and Spa Pools.
- Spa baths must be drained, filled and dosed with a non toxic solvent and surfactant, circulated, drained and then rinsed, on a weekly basis. Spa baths must be drained after each use so they can be cleaned and refilled with fresh water.
- Contaminated waste i.e. waste containing bodily fluids are to be double bagged in plastic and placed into a waste receptacle provided on the premises. Contaminated wastes are to be disposed of by a licensed waste contractor.
- Information on safe sex, sexually transmitted diseases and good sexual health practices must be freely available in English and a variety of community languages. This information is to be displayed in a waiting/reception area and be clearly visible to anyone entering the premises. All information must be medically accurate.

Other General Requirements

- Should the specified operator change, Council must be notified prior to the business operating.
- No alcohol is to be provided or offered for sale.
- Council will request regular reports from the local Police that the premises are being operated in a satisfactory manner.

Health Service Access and Inspections

The operators of sex services premises must provide reasonable access to the premises for authorised staff from health service providers and other agencies to provide information and educational activities to support the health and safety of staff and clients to the premises.

Council Officers will conduct inspections of all premises to assess their compliance with health standards and with conditions of development consent.

Operation Without Consent

Council has a responsibility to enforce the Environmental Planning and Assessment Act 1979² to ensure that sex services premises and home occupation (sex services) premises do not operate without consent from Council. This Act allows Council to take legal action against operators of sex services premises or home occupation (sex services) premises if they operate without consent or contrary to the consent conditions issued by Council.

If the premises do not have a consent to operate as a sex services premises or home occupation (sex services) premises, Council will investigate the matter and take action to ensure that the use is ceased.

If the premises does have consent, Council may still investigate to ensure it is operating within the conditions of consent. If the premises is not operating within the conditions of consent, Council may take legal action to ensure that it does.

Maintained by Department:	Development	Approved by:	Council	Exhibition:	August 2006
Reference:	Dataworks: Policy Register	Council Policy No:	7.8	Effective Date:	4 Dec 2006
Min No:	V1 - 06-414 V2 - 14-335	Version No:	2	Review Date:	October 2013 Aug 2014
Attachments:					

² Or should this Act be repealed, any amending or replacement legislation



7. PLANNING

Policy 7.9

REQUIREMENTS FOR RESTRICTED PREMISES

Version 3

7. PLANNING

7.9 REQUIREMENTS FOR RESTRICTED PREMISES

OBJECTIVES:

To provide development guidelines and advice to applicants on the information required to be submitted with a development application for restricted premises.

POLICY:

Development Application – Information to be Supplied

A development application for a restricted premises must be accompanied by all information as required by Schedule 1¹ of the Environmental Planning and Assessment Regulation 2000 and also must include:

- A description of the activities that are proposed to be undertaken at the premises.
- A site and location plan to scale showing the proximity of the subject site to sensitive land uses such as dwellings, dwelling houses, child care centres, educational establishments, places of public entertainment, places of assembly, recreation establishments, recreation facilities, places of worship, hospitals and any other place where children or young people are likely to regularly congregate including railway stations and major bus stops.
- A floor plan to scale showing all room uses, layouts, location of windows and doors including all entrances/exits from the building and the nomination of the primary access.
- An elevation plan.
- Proof of permissibility within the zone under the current Lithgow City Local Environmental Plan.
- Assessment of the proposed use against any applicable State Environmental Planning Policy, Regional Environmental Plan, Development Control Plan, this Policy and any other applicable Federal and State legislation.
- Location, number and layout of car parking.
- A description of the anticipated impact on the surrounding area due to the proposed restricted premises. In some instances a Social Impact Statement prepared by a qualified social practitioner may be required.
- Details of compliance with the Disability Discrimination Act 1992.
- Details of proposed signage indicating the size, number, colour, illumination, content and position.
- A plan of management detailing the operation and management of the restricted premises in terms of:
 - Management and staff arrangements – details of the operator and owner including contact phone numbers; the number of staff and number of security guards (if proposed).
 - Access for clients – how access and egress will be provided for people including those with disabilities.
 - Hours of operation – list proposed hours.
 - Methods to restricting access to ensure that no person under 18 years of age gains access to the premises.

¹ Or should this Regulation be repealed, any amended Regulation

- Control of antisocial or violent behaviour – strategies which are to be implemented to deal with inappropriate behaviour in the premises. Relevant qualifications of security staff should be included to ensure that they can appropriately deal with such behaviour, if proposed.
- Safety and security – measures to be taken to ensure the safety of both staff and clients within and outside of the premises.
- Waste and recycling management – demonstrate that adequate facilities are provided for waste and recycling.
- Presentation of the premises – strategies demonstrating general upgrading and ongoing maintenance of the condition of the premises.
- Access for Council officers and other regulatory staff – detail how access to the premises will be provided.

Notification of Development Application

Development applications will be advertised and notified in accordance with the following:

- A letter being sent to the owners and occupiers of adjoining land and any other individual, group, organisation or similar deemed by the Council to have, or likely to have an interest in the proposed development. The letter shall contain:
 - the address of the proposed site
 - a description of the proposed work/use
 - an A4 notification plan (where practical) of any proposed building work which depicts its height, external configuration and siting
 - name and contact number of the relevant Environmental Planner
 - advice that the application may be inspected at Council's offices during normal office hours
 - the closing date for written submissions
 - advice that the authors details may be disclosed at some point in the determination process.
- An advertisement in a local newspaper.
- Notification period is for 14 days from the date of the advertisement in the local newspaper. Council maintains the discretion to lengthen the notification period if considered necessary.

Written submissions or objections will be taken into consideration in Council's determination of the development application.

Referral

Development applications will be referred to the NSW Police, NSW Department of Education, NSW Health and other relevant government agencies for comment where considered appropriate.

Scale and Character

- The premises is to be restricted in net floor area to no greater than 150m².
- Any new building or refurbishment of an existing building is to be designed so as to be compatible with the built form of adjoining premises and integrated into the streetscape. The finishes on the building are not to draw undue attention to the premises.

- There is to be only 1 visible entrance/exit at street level and it is to be discreet, safe and unobtrusive.
- The premises shall not display sex related products from windows, the entrance/exit or outside the premises.
- The premises must be numbered, with the number clearly visible from the street in a manner that does not draw undue attention to the premises.
- The interior of the premises must not be visible from any public place.
- Where the interior of the premises may be visible from neighbouring buildings, adequate measures must be taken to screen the interior of the building (ie. blinds, screens etc).
- Access for people with disability must be provided in accordance with all relevant legislation.
- Private viewing rooms or cubicles are not permitted within the premises.

Location

- Restricted premises shall not be located within 80 metres of another restricted premises, sex services premises, school, church, child care centre or recreational facility. This distance is to be measured on a direct route via the nearest public road.

Amenity

- Hours of operation must be restricted to between 9am and 7pm, 7 days per week, except public holidays when the premises is to be closed.
- There is to be no distinctive external lighting (ie. coloured globes).
- Spruikers (staff at the door or outside the premises who encourage patrons to enter) are not permitted.

Parking

Parking shall be designed and provided in accordance with the Greater Lithgow City Council - Off Street Car Parking Development Control Plan.

Signage

Signage shall be in accordance with the State Environmental Planning Policy No. 64 and Greater Lithgow City Council – Outdoor Advertising Development Control Plan². In addition, any signage must also comply with the following:

- Only 1 flush wall or window sign as defined in the Greater Lithgow City Council – Outdoor Advertising Development Control Plan is permitted per premises.
- The sign must not exceed 0.3 metres by 0.6 metres in size and may only identify the registered name of the business.
- The sign shall not display words or images which are in the opinion of the Council sexually explicit, lewd or otherwise offensive.
- Signs must not be illuminated.
- The sign must be compatible with the design of the building to which it is attached and the streetscape.
- No advertising is to be provided on bus shelters, seating or the like within the Local Government Area.
- At the entrance to the premises there must be prominently displayed, so as to be able to be read from outside the premises, a notice, printed in clearly legible letters at least 15mm in height, containing the following words: RESTRICTED PUBLICATIONS AREA — PERSONS UNDER 18 MAY NOT ENTER. MEMBERS OF

² Or should this SEPP or DCP be repealed, any amending or replacement SEPP or DCP
Lithgow City Council Policy Policy7_9 RequirementsForRestrictedPremises

THE PUBLIC ARE WARNED THAT SOME MATERIAL DISPLAYED IN THIS AREA MAY CAUSE OFFENCE.

Security

- The design of carpark, landscaping and entrance/exit should facilitate casual or formal surveillance.
- The entrance/exit to the premises must be designed to facilitate the privacy of workers and clients without compromising personal safety.
- Adequate lighting of the entrance/exit is essential but not to the extent where it becomes a prominent feature in the streetscape.

Building Standards

The premises is to comply with the provisions of the Building Code of Australia.

DEFINITIONS:

home occupation (sex services) means the provision of sex services in a dwelling that is a brothel, or in a building that is a brothel and is ancillary to such a dwelling, by no more than 2 permanent residents of the dwelling and that does not involve:

- (a) the employment of persons other than those residents, or
- (b) interference with the amenity of the neighbourhood by reason of the emission of noise, traffic generation or otherwise, or
- (c) the exhibition of any notice, advertisement or sign, or
- (d) the sale of items (whether goods or materials), or the exposure or offer for sale of items, by retail, but does not include a home business or sex services premises.

restricted premises means business premises or retail premises that, due to their nature, restrict access to patrons or customers over 18 years of age, and includes sex shops and similar premises, but does not include hotel or motel accommodation, a pub, home occupation (sex services) or sex services premises.

sex services means sexual acts or sexual services in exchange for payment

sex services premises means a brothel, but does not include home occupation (sex services).

Maintained by Department:	Development	Approved by:	Council		
Reference:	Dataworks: Policy Register	Council Policy No:	7.9	Effective Date:	11/5/09
Min No:	V1 - 06-414 V2 - 09-189 V3 - 14-335	Version No:	3	Review Date:	October2013 Aug 2014
Attachments:					



3. WATER SUPPLY

Policy 3.5

SEWER CONNECTIONS

Version 1

3. WATER SUPPLY

3.5 SEWER CONNECTIONS

OBJECTIVES

This policy outlines the standards required for connection to Lithgow City Council's Wastewater gravity reticulation system.

POLICY

1. General Provisions for Sewer Connections

1.1. Where a new sewer junction is required to be cut into an existing main, the applicant shall seek approval under Section 68 of the *Local Government Act 1993*. The work shall be carried out by Council following the completion of a Work at Owners Cost (WOC) application form. Costs to be charged at the rates published in Council's Fees and Charges in accordance with *Section 19 of the Local Government (General) Regulation 2005*. No work is to commence until the WOC application has been completed and submitted to Council.

1.2. Each property shall have a separate sewer connection, joint sewer services are prohibited under *Section 162 of the Local Government (General) Regulation 2005*

1.3. Properties that have been paying sewer access charges shall not be charged for a sewer junction cut-in installation if the property is adjacent to the sewer main.

1.4. Residential properties paying sewer access charges that require a gravity sewer main extension and are located within 30m of Council's sewer reticulation system and is technically possible to gravitate to that system will be provided a sewer connection.

1.5. Licensed plumbers with appropriate experience, insurances and WHS requirements in accordance with *Section 634 of the Local Government Act 1993* may install sewer cut-ins with Council approval and under full control and direction of Council's Water and Wastewater Development Officer. It is an offence under the Act and carries a maximum penalty of 100 Penalty Units

1.6. Where the sewer service connection is constructed in accordance with Council's Water and Sewer Design and Construction Specification, Council will maintain the service connection from the sewer main to the base of the boundary inspection shaft at the downstream collar of vertical shaft bend (Figure 1: Sewer Main Inside Property and Figure 2: Sewer Main Outside Property) or to the first collar downstream of the boundary trap for deep connections (Figure 3: Deep Sewer Connection).

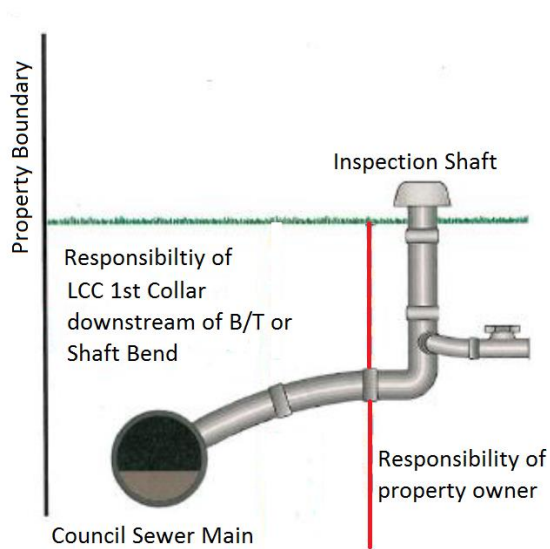


Figure 1: Sewer Main Inside Property

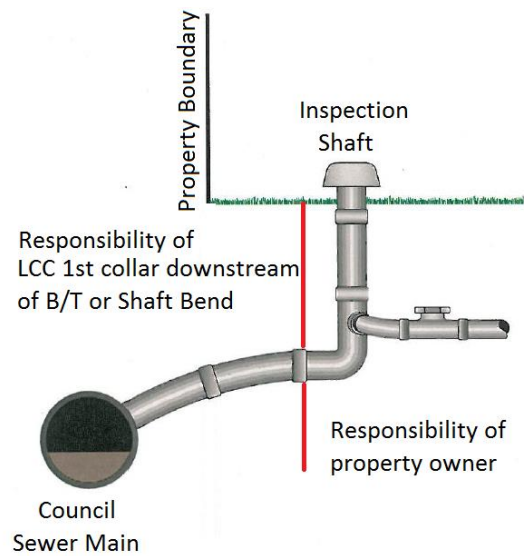


Figure 2: Sewer Main Outside Property

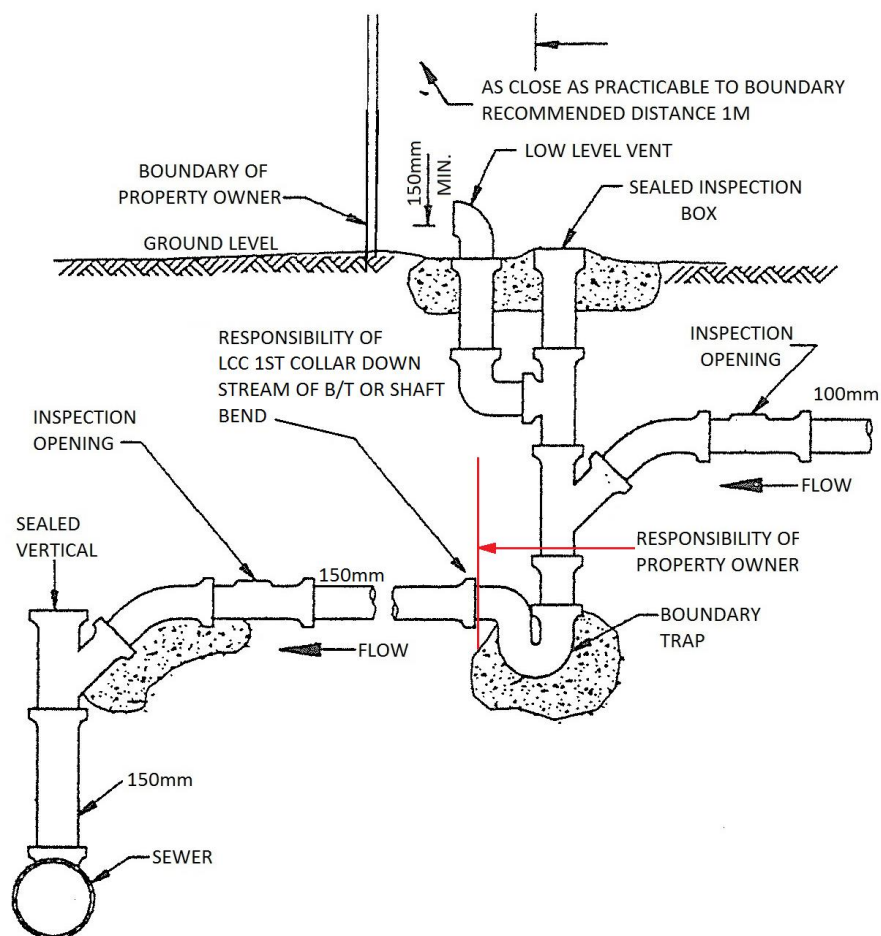


Figure 3: Deep Sewer Connection

1.7. Buried Vertical Risers (BVR) shall be used for connections at depths of 1.5m and greater.

1.8. Where the sewer service connection has not been constructed in accordance with Council's Water and Sewer Design and Construction Guidelines and Council's sewer is located within the property being served, Council will maintain to the collar of the branch junction with the main.

1.9. When properties have been identified with a common sewer line through a Development Application process that transverses another property then Council will provide where possible a sewer connection for that property at Council's cost. Connection of sanitary drainage to the point of connection will be at the owner's expense.

1.10. Where a 150mm vertical shaft has not been brought to ground level on vacant land or as part of a subdivision or any other connection to the sewer main as a point of connection, an inspection opening shall be installed directly upstream of the main junction branch prior to the vertical shaft constructed under sanitary drainage.

1.11. Prior to the connection to council sewer to pump raw sewage or effluent from a septic tank holding well, a section 68 application shall be submitted to Council. Applicants shall meet all requirements and conditions of 'Sewage Management Facilities' prescribed by the Local Government (General) Regulation 2005 and shall be of a type accredited by NSW Health. Package pump stations shall be approved only for residential domestic properties.

1.12. Pressurised sewerage systems connected to council gravity reticulation will only be permitted on a case by case determination by the Water and Wastewater Manager. Council does not accept Combined Pressure Systems for subdivisions.

1.13. New sewer connections servicing strata/community title developments shall be connected to Council's sewer main by a single individual property service pipe where practicable. (150mm Vertical Riser Point of Connection)

1.14. Each unit shall connect to a joint sanitary drainage line (owned and maintained by the community association or body corporate) via a separate, individually owned branch connection.

1.15. An inspection opening with BTS (bolted trap screw) raised to ground level is to be provided on the branch line at the connection point of each unit to the corporate common line.

1.16. The developer shall provide proposed sanitary drainage diagram to council prior to commencement of works.

1.17. New sewer connections servicing properties with commercial or industrial developments shall be linked to Council's sewer main by a single individual property service pipe where practicable.

1.18. In some cases a boundary trap may be required in industrial areas or when instructed by Council.

1.19. The occupant may require an approval to discharge liquid trade waste to Council's sewer and may be required to enter into a Liquid Trade Waste Service Agreement. Applicant is to provide proposed sanitary drainage diagram of installation for assessment with Economic Development & Environment Division and a Notice of Works for Plumbing and Drainage Works.

Maintained by Department:	Operations	Approved by:	Council		
Reference:	Dataworks: Policy Register	Council Policy No:		Effective Date:	
Min No:		Version No:		Reviewed Date:	
Attachments:	wnm				



3. WATER SUPPLY

Policy 3.6

FIRE SERVICE INSTALLATION

Version 1

3. WATER SUPPLY

3.6 FIRE SERVICE METERING

OBJECTIVE:

To define minimum acceptable standards concerning connections and metering of fire services. Fire services includes any services supplying water to sprinkler, hydrant or hose reel systems, either separately or in any combination.

POLICY:

1. Council has adopted the provisions of the Water Service Association of Australia's Fire Service Metering Code of Practice – WSA13-2013. Where this policy is silent the provisions of the Code will take precedence.
2. Council requires the installation of water meters on all new fire services.
3. Inline meters on dedicated fire services larger than 50mm are not to be used for billing purposes. The installation of meters is used to calculate Council's non-revenue water and can equally be used by owners to detect leaks and prevent waste of water.
4. On separate hydrant and fire service at non-residential properties, the device shall be installed close to where the service crosses the property boundary prior to any booster assembly. A hydraulic design is required for the following fire service assembly:
 - a. Stratum unit/Community development demand of 4 dwellings/units and greater; and
 - b. 32 mm assemblies or greater.

All designs are to be submitted by a competent person (Code of Practice 2.2.8) with a Certificate of Compliance.
5. Council's preference is the bypass metering arrangement in accordance with Section 4.3 of the Water Service Association of Australia's Fire Service Metering Code of Practice – WSA13-2013. Water that passes through the bypass meter will be used for billing purposes.
6. Prior to commencement of works to connect to Council's Water Reticulation, property owners must obtain approval issued under Section 68 –Part B of Local Government Act 1993 by completing a Water Service Connection Application Form. A person who fails to obtain an approval or who carries out an activity otherwise than in accordance with an approval is guilty of an offence under Section 626 & 627 of the Local Government Act 1993.
7. Existing fire services, where significant alterations or renovations are proposed that require a Section 68 Approval shall also be metered. Section 8 of the Water Service Association of Australia's Fire Service Metering Code of Practice – WSA13-2013 provides details on retrofitting meters to existing unmetered fire services.

8. Where water delivered to a fire sprinkler system in accordance with Australian Standards Automatic Fire Sprinkler Systems AS2118.1 or AS2118.6 is proposed to pass through a mechanical meter, a performance based solution document endorsed by a hydraulic engineer is to be submitted to Council's for approval. This document is not required for non-mechanical meters such as Magflow or other meters with full bore flow and negligible headloss.
9. Council will maintain a fire service connection from the water main to and including the water meter.
10. All properties within the Lithgow City Council Local Government Area connected to the reticulation system require a backflow prevention device in accordance with Council's Backflow Prevention – Containment Policy, Policy Number 3.4. **It should be noted that backflow prevention devices reduce pressure and shall be considered in the design process of fire services**
11. Council reserves the right to repair, maintain or replace a water meter used for billing purposes.
12. The meter is to be accessible for reading and removal or repair is unrestricted. Where meters are covered with unacceptable obstructions the owner will be requested to remove the offending obstruction at full cost. If such obstructions are not removed within 60 days, Council may remove the obstructions at the owners full cost

Maintained by Department:	Operations	Approved by:	Council		
Reference:	Dataworks: Policy Register	Council Policy No:	3.1	Effective Date:	2006
Min No:	V1 - 06-349 V2 – 09-189 V3 - 14-161	Version No:	3	Reviewed Date:	Apr 2009 Jul 2013 May 2014
Attachments:					

Water Restrictions

 council.lithgow.com/water/water-restrictions/

CONSUMER ACTIVITY	1	2	3	4	4a	5	6
Garden Watering	Sprinklers 8hrs a day 6am - 10am & 5pm -9pm (summer) 6am - 10am & 2pm -6pm (winter) Hand held hoses & micro- systems - No restriction	Sprinklers 8hrs a day 6am - 10am & 5pm -9pm (summer) 8am - 10am & 4pm -6pm (winter) Hand held hoses & micro- systems - No restriction	Sprinklers, hand held hoses & micro- systems 4 hrs a day 6am -8am & 6pm - 8pm (summer) 8am - 10am & 4pm -6pm (winter)	Sprinklers, hand held hoses & micro- systems 4 hrs a day on Odd dates for Odd numbered houses and on Even dates on Even numbered houses system 6am -8am & 5pm -7pm (summer) 8am -10am & 4pm -6pm (winter)	Sprinklers, hand held hoses & micro- systems 2 hours per day between the hours of 5pm and 7pm (summer) or 4pm -6pm (winter) on the following set days. Odd numbered houses Sunday, Wednesday and Friday Even numbered houses on Monday, Thursday and Saturday Tuesdays, no sprinklers, hand held hoses or micro-systems, buckets only permitted	Buckets only Sprinklers, hand held hoses & micro- systems prohibited.	Reused water, bore water or tank water only
Swimming Pools – Private	No restrictions	Topping up permitted Filling of pools prohibited New pools may be filled after installation	Topping up permitted by hand held hose for 4hrs between 6am-8am and 6pm - 8pm. Filling of pools prohibited	Filling and topping up of pools prohibited except with bore water or tank water.	Filling and topping up of pools prohibited except with bore water or tank water.	Filling and topping up of pools prohibited except with bore water or tank water.	Filling and topping up of pools prohibited except with bore water or tank water.
Washing paved areas or roof.	No restrictions	Buckets or trigger hoses only	Buckets or trigger hoses only	Buckets only	Buckets only	Prohibited except with council approval	Prohibited except with council approval

Washing Motor Vehicles	No restrictions	No restrictions	Buckets or trigger hoses only	Buckets or trigger hoses only	Buckets or trigger hoses only	Buckets only	Not permitted
PUBLIC & COMMERCIAL							
	1	2	3	4	4a	5	6
Public Gardens & Sports Grounds	Sprinklers 8hrs a day 7am - 3pm	Sprinklers 8hrs a day 7am - 3pm	Sprinklers 4hrs a day 7am – 11am	Sprinklers 2hrs a day 7am – 9am	Sprinklers 2hrs a day 7am – 9am	Sprinklers 2hrs a day on Monday, Wednesday and Friday 7am – 9am	Reused water, bore water or tank water only.
Market Gardens and Orchards	Sprinklers 8hrs a day 6am – 10am & 5pm – 9pm	Sprinklers 6hrs a day 7am – 10am & 4pm – 7pm	Sprinklers 4hrs a day 7am – 9am & 5pm – 7pm	Sprinklers 2hrs a day 7am – 9am	Sprinklers 2hrs a day 7am – 9am	Sprinklers 1hr a day 7am – 8am	With Council approval only.
Nurseries and Commercial Flower Gardens	Sprinklers 8hrs a day 7am - 11am & 5pm-9pm	Sprinklers 4hrs a day 8am – 10m & 4pm – 6m	Hand held hoses & micro-systems 4 hrs a day 7am – 9am & 5pm – 7pm	Hand held hoses & micro-systems 2hrs a day 7am – 9am	Hand held hoses & micro-systems 2hrs a day 7am – 9am	With Council approval only	With Council approval only
Public Car Wash	No restrictions	No restrictions	Machine - recirculation only	Machine - recirculation only	Machine - recirculation only	Machine - recirculation only	With Council approval only
Car Dealers Display Vehicles	No restrictions	No restrictions	Trigger hose and chamois only, 8am – 10:30am Monday, Wednesday, Friday Detailing sale vehicles - anytime within purpose built wash facilities	Trigger hose and chamois only, 8am – 10:30am Monday, Wednesday, Friday Detailing sale vehicles permitted anytime within purpose built wash facilities	Trigger hose and chamois only, 8am – 10:30am Monday, Wednesday, Friday Detailing sale vehicles permitted anytime within purpose built wash facilities	Trigger hose and chamois only, 8am – 10:30am Monday, Wednesday, Friday Detailing sale vehicles permitted anytime within purpose built wash facilities	With Council approval only

Bowling Greens, Motels Nursing Homes, Schools	Sprinklers 8hrs a day 7am – 3pm	Sprinklers 4hrs a day 7am – 11am	Sprinklers 2hrs a day on Monday, Wednesday and Friday for “in use” fields only. 8am – 10am	Hand held hoses 2hrs a day 8am – 10am	Hand held hoses 2hrs a day 8am – 10am	Hand held hoses 2hrs a day on Monday, Wednesday and Friday for “in use” fields only. 8am – 10am	Reused water, bore water or tank water only.
Fountains	No restrictions	Topping up prohibited	Reused water, bore water or tank water only.	Reused water, bore water or tank water only..	Reused water, bore water or tank water only.	Reused water, bore water or tank water only..	Reused water, bore water or tank water only.
Water Cartage from Town Supply	No restrictions	No restrictions	Domestic or stock purposes only Otherwise with Council approval only.	With Council approval only	With Council approval only	With Council approval only	With Council approval only
Automatic Cycle Flush Toilets	No restrictions	No restrictions	No restrictions	No restrictions	No restrictions	Not permitted	Not permitted

INDUSTRIAL	1	2	3	4	4a	5	6
Soft Drink Manufacture	No restrictions	No restrictions	No restrictions	Operation only 8hrs a day	Operation only 8hrs a day	With Council approval only	With Council approval only
Ready Mix Concrete	No restrictions	No restrictions	No restrictions	Operation only 8hrs a day	Operation only 8hrs a day	With Council approval only	With Council approval only
Abattoirs	No restrictions	No restrictions	No restrictions	With Council approval only	With Council approval only	With Council approval only	With Council approval only
Others	No restrictions	No restrictions	No restrictions	Operation only 8hrs a day	Operation only 8hrs a day	With Council approval only	With Council approval only

Penalties

Use of water contrary to this notice may result in:

- Court action where a maximum penalty of up to \$550,000 in the case of a corporation or \$5,500 in the case of an individual may be sought;
- Authorised officers may issue an on-the-spot penalty notice for \$220 to either a corporation or an individual and/or;
- A restriction on service or disconnection of water supply. (Note that in the case of restoration of supply, a reconnection fee will apply)



9. GOVERNANCE

Policy 9.11

ACCESS TO INFORMATION HELD

Version 2

9. GOVERNANCE

9.11 ACCESS TO INFORMATION POLICY

OBJECTIVE:

The objective of this policy is to outline principles regarding access to information held by Council and to facilitate the processing of requests for such access by the public and Councillors.

POLICY:

Council is committed to the following principles regarding access to documents and information:

- a) Open and transparent government
- b) Consideration of the overriding public interest in relation to access requests
- c) Proactive disclosure and dissemination of information
- d) Respect for the privacy of individuals

1. COMMUNITY & COUNCILLOR AWARENESS:

Council publishes specific open access information on our website which is free of charge unless to do so would impose unreasonable additional costs to Council. A list of documents listed under the Government Information (Public Access) Act 2009 (GIPA Act), Schedule 1: Regulations are also published unless there is an overriding public interest not to do so.

Other information may also be publicly available if sought in an appropriate manner, and this is listed on our website under the GIPA Act disclosure log. Such information will be provided free of charge or at the lowest reasonable cost if photocopying or Council resources are required.

Councillors also have a right to access council information that is reasonably necessary for exercising the function of their civic office, including communicating Council policy and decisions to the community, excising community leadership and representing the views of residents and ratepayers to Council.

2. BACKGROUND:

Applications for documents must be assessed in accordance with the Government Information (Public Access) Act 2009, in a timely manner and in accordance with the 'Access to Information Guidelines' and relevant legislation.

Depending on the nature of a request, and the form of access requested, charges may apply in accordance with Council's Schedule of Fees and Charges and relevant legislation.

Council's Principal Officer has delegated authority to a Right to Information Officer who will assess requests concerning Council's information and will assist the public and Councillors to gain access to information held by Council, determine applications requested and / or amend records in accordance with legislation.

Council will assess requests for access to information with reference to relevant legislation including:

- Government Information (Public Access) Act 2009
- Privacy and Personal Information Protection Act 1998
- Health Records and Information Privacy Act 2002
- State Records Act 1998
- Local Government Act 1993
- Environmental Planning and Assessment (EPA) Act 1979
- Companion Animals Act 1998

Broad requests for access to a large number of unspecified documents which, if processed, would divert substantial Council resources from operational needs may be refused on the grounds that such a diversion of resources is contrary to the public interest. Council will pursue ways to assist in defining the request to become more manageable and Council will endeavour to release alternate information that may sufficiently respond to the informal request.

Where information is released to an applicant under a formal access application, and Council considers that it will be of interest to other members of the public, the information may be provided for future inspection by the public and Councillors, free of charge.

The GIPA Act 2009 promotes openness, accountability and transparency, It allows Council to be proactive in providing information to the public and Councillors.

1. Accessing Information

The Right to Information Officer will deal with requests to inspect documents in accordance with the Government Information (Public Access) Act 2009 (GIPA Act) free of charge but reasonable photocopying fees may apply under the Act.

Council is governed by legislation that requires operations to be open and accountable, and to handle personal information in a fair and reasonable manner.

Council will ensure that legitimate requests for access to information are handled promptly and in a manner that enables members of the public and Councillors to access information which is in the public's interest. It is also recognised that privacy of others, legal and commercially sensitive information, will be handled in a responsible manner.

There is a right of access under the GIPA Act to certain documents held unless there is an overriding public interest not to do so. Any applications under GIPA Act will be processed in accordance with the Act's requirements and a determination made to release the documents or refuse access on the basis of relevant considerations under that Act. Charges for formal applications are in accordance with the fee determined by the GIPA Act.

Council will also provide access to information under the NSW Privacy and Personal Information Protection Act (PPIPA) 1998, and the NSW Health Records and Information Privacy Act (HRIPA) 2002.

An individual has the right to access and amend records held by Council which may contain their personal details, matters relating to their business affairs or their health.

If information held on individuals and is requested documents, files or systems should be made available. The GIPA Act provides for consultation with individuals or relevant third parties prior to the disclosure of information.

A Councillor may have an entitlement to information expressly included in the Model Code of Conduct for Local Councils in NSW (s 440 Local Government Act 1993). Clause 10 of the Model Code provides guidance on the requirement for an officer to provide information to Councillors. It states that Councillor must be provided with sufficient information to carry out their functions. As for an application under the GIPA Act the request must be in writing and determined in an appropriate timeframe as detailed in 5.

2. Open Access Information

Council publishes open access and mandatory releases information on its website unless there is an overriding public interest against disclosure or do so would impose an unreasonable additional cost on Council. Should costs be deemed unreasonable Council will make the information available to the applicant in another suitable format such as viewing a hard copy at the Administration Office.

Information identified as 'Open Access Information' and is available on Council's website includes:

- Council's policy documents;
- a publication guide with information about the Council's structure and functions, and listing the type of information that is publicly available;
- a disclosure log of formal access applications where in Council's opinion the information released may be of interest to other members of the public
- a register of contracts worth more than \$150,000 that Council has with private sector bodies
- a record of 'Open Access Information' that Council does not make publicly available on the basis of an overriding public interest against disclosure

In addition Schedule 1 of the GIPA Act Regulations certain documents held must be made publicly available for inspection, free of charge. The public is entitled to inspect these documents either on Council's website (unless there is an unreasonable additional cost to Council to publish these documents on the website) or at the Administration Office of Council during normal office hours. Any current and previous versions of the documents may also be inspected by the public free of charge.

Copies may be supplied for reasonable copying charges as shown in Councils adopted Fees and Charges.

'Open' Informal Access documents are:

1. Information about Council
 - The model code prescribed under section 440 (1) of the LGA
 - Councils adopted Code of Conduct

- Code of Meeting Practice
- Annual Report
- Annual Financial Reports
- Auditor's Report
- Management Plan
- EEO Management Plan
- Policy concerning the Payment of Expenses Incurred by, and the Provision of Facilities to, Councillors
- Annual Reports of Bodies Exercising Functions Delegated by Council
- Any Codes referred to in the LGA
- Returns of the Interests of Councillors, Designated Persons and Delegates
- Agendas and Business Papers for any meeting of Council or any Committee of Council
- Minutes of any meeting of Council or any Committee of Council
- Departmental Representative Reports presented at a meeting of Council
- Land Register
- Register of Investments
- Register of Delegations
- Register of Graffiti removal works
- Register of Current Declarations of Disclosures of Political Donations
- Register of Voting on Planning Matters

2. Plans and Policies

- Local Policies adopted by Council concerning approvals and orders
- Plans of Management for Community Land
- Environmental Planning Instruments, Development Control Plans and Contribution Plans

3. Information about Development Applications

Development Applications and any associated documents received in relation to proposed developments:

- Home Warranty Insurance documents
- Construction Certificates
- Occupation Certificates
- Structural Certification Documents
- Town Planner Reports
- Submissions received on Development Applications
- Heritage Consultant Reports
- Tree Inspections Consultant Reports
- Acoustic Consultant Reports
- Land Contamination Consultant Reports
- Records of decisions made on or after 1 July 2010 on Development Applications including decisions on appeals
- Development applications made before 1 July 2010 and any associated documents received

- Records describing general nature of documents that Council decides to exclude from public view including internal specifications and configurations, and commercially sensitive information

4. Approvals, Orders and Other Documents

- Applications for approvals under part 7 of the LGA
- Applications for approvals under any other Act and any associated documents received
- Records of approvals granted or refused, any variation from Council Policies with reasons for the variation, and decisions made on appeals concerning approvals
- Orders given under Part 2 of Chapter 7 of the LGA, and any reasons given under section 136 of the LGA
- Orders given under the Authority of any other Act
- Records of Building Certificates under the Environmental Planning and Assessment Act 1979
- Plans of land proposed to be compulsorily acquired by Council
- Compulsory Acquisition Notices
- Leases and Licenses for use of Public Land classified as Community Land

Copies of documents provided to the public and Councillors are done so for information purposes only and are provided by Council to meet its requirements under relevant legislation. Copyright laws still apply to each document and the copyright / owner's consent is required if any part of the document is used for any other purpose.

Council may include 'other' documents on the website which are frequently requested and deemed to be in the public's interest as a result of a previous request under the GIPA Act. Council will endeavour to release this information in response to an informal request, subject to any reasonable conditions as Council sees fit to impose. However, notwithstanding the lodgement of an informal application, Council may require an individual or Councillor to submit a formal access application for the information sought if the information:

- is of a sensitive nature that requires careful weighing of the considerations in favour of and against disclosure, or
- contains personal or confidential information about a third party that requires consultation, or
- would involve an unreasonable amount of time and / or resources to produce

3. Exemptions to Access

Council may refuse a request for information if there is an overriding public interest against disclosure or if searching for the requested information would require unreasonable and substantial diversion of the Council's resources.

Council will always explain, to the applicant, being a member of the public or a Councillor, the reason / s for applying an exemption.

Council will not classify information as exempt unless there are clear reasons for doing so. If documents partly contain exempt information, this information will be withheld and the remaining information will be available under the Act.

In determining whether there is an overriding public interest against the disclosure of the information, Council will fully consider the Public Interest Test.

The GIPA Act provides an exhaustive list of public interest considerations against disclosure. These are the only considerations against disclosure that Council will consider in applying the public interest test.

Considerations are grouped under the following headings:

- responsible and effective government
- law enforcement and security
- individual rights, judicial processes and natural justice
- business interests of agencies and other persons
- environment, culture, economy and general matters
- secrecy provisions (in legislation other than those listed in Schedule 1: Regulations)
- Exempt documents under Freedom of Information legislation in all Australian States except NSW

In applying the public interest test, Council will not take into account:

- that disclosure might cause embarrassment to, or loss of confidence in, the Council;
- that information disclosed might be misinterpreted or misunderstood by any person.

Council will consider any submissions made by an individual or a Councillor in relation to public interest considerations, as well as particulars personal to the applicant.

Under the GIPA Act there are 12 categories of information, 8 of which affect local government, for which there is a conclusive presumption of an overriding public interest against disclosure.

Local Government categories are:

1. Information subject to an overriding secrecy law (26 specifically named Acts)
2. Information subject to the direction or order of a court or other body with the power to receive evidence on oath
3. Information subject to legal professional privilege
4. 'Excluded information' (judicial and prosecutorial information, information about complaints handling and investigative functions, competitive and market sensitive information and information in relation to specific functions of the Public Trustee)
5. Documents affecting law enforcement and public safety.
6. Specific information relating to transport safety

7. Specific reports concerning the care and protection of children

8. Specific information relating to Aboriginal and environmental heritage.

Generally under the GIPA Act, Council cannot publish, and must refuse requests to disclose information in the above categories. Formal applications for 'excluded information' are invalid under the Act.

In dealing with informal applications Council will apply a similar decision making framework.

3.4. Accessing Information

The public and Councillors may obtain access to information as follows:

- Council's website
- A written request to Council which will be determined and a reply provided as to whether the information requested:
 - is *open access*, or *mandatory release* information that is readily available and where and how to get the information
 - should be made available as part of a *proactive release* of information
 - can be disclosed through an *informal release*, for example where no third party personal information is involved
 - Requires a *formal access application*, accompanied by the required fee and photocopying charges.

To make an informal request for access to information Council will require the public and / or Councillors to complete an 'Informal Access to Information Request' form but no fee is required with this application.

To make a formal request for access to information, a 'Formal Access to Information' Request Form must be completed. The Formal Application fee is defined in the GIPA Act and does not include GST. The legislation requires that a discounted processing charge be applied for pensioners, students and non-profit organisations, upon providing evidence of eligibility for a discount.

Council will acknowledge receipt of formal access application within five working days.

If a fee for photocopy is required the applicant will be notified of the amount payable and this amount will include GST. Charges will be calculated as per Councils current Schedule of Fees and Charges, applicable at the time of lodgement of the application.

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Numbering Style: 1, 2, 3, ... + Start at: 4 + Alignment: Left +
Aligned at: 0.63 cm + Indent at: 1.27 cm

5. Time Limits

As stated in 4) Council will acknowledge receipt of formal access applications within five working days and further notify applicants of its decision within 20 working days that is unless the applicant agrees to extend the time.

Informal applications will be assessed within 20 working days.

Council may extend the time by up to 15 working days where consultation is required with a third party or if Council needs to retrieve records from archives.

If access is deferred by Council, then the applicant will be notified, provided a reason for the deferral and given the date that the access will be provided. A decision to defer access to formal applications is reviewable (see Rights of Review and Appeal).

If Council does not decide the applicant's formal access application within the above timeframe, it is deemed 'refused' and Council will refund the application fee and the applicant may seek an internal or external review (see Rights of Review and Appeal) of this refusal. This will not apply if an extension of time has been arranged or payment of an advance deposit is pending.

6. Rights of Review and Appeal

Where a member of the public or a Councillor is refused access of a formal application, the Right to Information Officer will provide details of the reasons for refusal to the applicant in writing. An applicant who has been refused access by Council to a formal access application has three options of review available:

1. Internal Review:

Applicants have 20 working days from the date they are notified that their original application has been refused to ask for an internal review.

A request for an internal review must be submitted to Council on a completed application form and payment of the appropriate fee under GIPA Act.

This review will be conducted by the Principal Officer

2. Review by the Information Commissioner

If an applicant is not satisfied with the internal review, or does not wish one to be conducted, they can ask for a review by the Information Commissioner.

Applicants have 8 weeks from the notification that their original application was refused to ask for a review.

3. Review by the Administrative Decisions Tribunal (ADT).

If an applicant is not satisfied with the decision of the Information Commissioner, or an internal review by Council, or they do not want to take these options they can apply to the Administrative Decisions Tribunal (ADT).

If the applicant has already had a review by the Information Commissioner they have 4 weeks from notification of the decision to make this application. If they haven't had a review by the Information Commissioner they have 8 weeks from notification of the decision to make this application.

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There are no rights of review in respect of informal applications, but the applicant may wish to make a formal application to Council.

It should be noted that the NSW Ombudsman and the Division of Local Government also have a complaint handling procedures should issues arise.

Maintained by Department:	Corporate & Community	Approved by EMT:	10.01.11	Approved by CMT:	12.01.11
Reference:	Dataworks: Policy Register	Policy No:	9.11	Effective Date:	28 Oct 13
Min No:	V2 - 14-140	Version No:	2	Reviewed Date:	Oct 13
Attachments:	Lithgow City Council: Publication Guide – Access to Information Held				



8. FINANCE

Policy 8.9

EXTERNAL GRANT FUNDING POLICY

Version 1

8. FINANCE

8.9 EXTERNAL GRANT FUNDING POLICY

OBJECTIVE:

To ensure effective management of grants funded from external organisations, including procurement decisions. The key aims are to:

- Establish a framework for managing, monitoring and evaluating grants and grant funded initiatives;
- To ensure consistent and objective analysis of external funding opportunities to ensure alignment with Council's integrated plans (i.e. Community Strategic Plan, Resourcing Strategy, Delivery Program, Operational Plan); and
- To ensure that ongoing expenses beyond the term of the funding are transparent, agreed upon and are not burdensome on Council.

LEGISLATIVE AND REGULATORY REQUIREMENTS:

- Local Government Act 1993 and Local Government (General) Regulation 2005
- Local Government Code of Accounting Practice and Financial Reporting
- Accounting Standards
- Local Government Asset Accounting Manual
- Local Government Revenue Raising Manual

RELATED POLICIES AND PROCEDURES:

- SWP xx Grant Accounting

SCOPE:

This policy applies to all grants that require applications to be made. The policy applies to all Council staff and Councillors:

- Where Council is submitting an external funding application;
- Where Council is one of a number of partners in a joint external funding application;
- Where funding provided approves a grant application with variations to the original proposal.

DEFINITIONS:

"External Grant" means any assistance by way of a sum of money or other resource provided to Council by State, Federal or non-government agencies on the condition that the assistance is used for a specified purpose.

"Funding agreement" means a legally enforceable agreement setting out the terms and conditions governing funding determined by the grant-giving organisation. The form of the agreement will depend on the intent of the grant and the degree of control required. The forms of enforceable funding agreements include:

- Deed;

- Contract; and/or
- Exchange of letters.

POLICY:

Grants are an important source of funding for Council projects but need to be considered in the context of Council's priorities, plans and other funding options. Before applying for a grant, it is important to ensure that Council considers whole of life costs (capital grants) and any requirement for matching funds. Council must ensure that it can comply with any conditions stated in the grant application form and/or grant application guidelines.

All grant funded projects should be managed in accordance with best practice project management techniques.

1. Authorisation / Approval

Formal Council resolution is required prior to grant funding being applied for amounts over \$50,000 that are not included in the Delivery Program / Operational Plan.

Formal Council resolution is also required prior to grant funding being applied for where a Council contribution is required and that contribution has not been included in the Delivery Program / Operational Plan.

The General Manager may delegate authority to approve all other grant funding applications that are not included in the Delivery Program / Operational Plan, as part of the quarterly budget review process.

Any Grant funding applications that exceed the \$50,000 limit need to have a business case prepared to justify Council's decision to proceed with the application.

It is recognised that at times there is a short lead time for external grant applications that does not allow sufficient time for the proper authorisations. Should this occur, the General Manager, with the concurrence of the Mayor, will authorise the application and then provide a report to the next Council meeting.

2. Expressions of Interest Process

In some cases, there is an initial Expressions of Interest process followed by an invitation to submit a grant application. An Expression of Interest in a grant does not require a Council resolution as Council is not committing to a grant application. Should an Expression of Interest in a grant lead to an invitation to apply for a grant, Section 1 applies for grant amounts that are not included in the Delivery Program / Operational Plan.

3. Assessment Process

Before applying for a grant, an assessment should be carried out on the likely impact of the grant on Council. Questions to consider include:

- Does the grant align with Councils Strategic Plans?
- Does Council have resources available or budget funding (for grant applications prepared by external consultants) to prepare an expression of interest and/or a grant application?
- How will Council fund any matching contribution?
- What are the future financial implications?
- What impacts will it have on Council business?
- Does Council have the capacity and expertise to carry out the task or project for which they are receiving the grant?

- Are the necessary processes and requirements in place i.e. legal, governance, supervision, record-keeping etc.?
- What are the risks and emerging issues that may affect council's obligations to fulfil the obligations under the grant?
- Will the grant create expectations in the community or with internal stakeholders that Council will continue to deliver the service beyond the funding period?
- Whole of Life cost impacts if relevant.

3. Conflict Of Interest

The Code of Conduct applies to any grant application and in particular the need to declare any conflict of interest in relation to the grant application.

4. Recognition Treatment

Grant revenue is generally recognised when the grant funds are received or receivable; for example, where the control of the future economic benefits have been obtained and agreement is enforceable.

Where conditional grant funds are received in:

- advance: a liability would be recognised until the conditions are met; or
- arrears: revenue would be recognised once the conditions are met.

5. Records

Appropriate records will be kept in accordance with Councils Records Management Policy.

RESPONSIBILITIES:

The General Manager is responsible for the implementation of this policy. Budget / project Managers will be required to provide background information and recommendations in relation to applications in their areas of work.

REVIEW:

The General Manager will review the policy every 4 years.

Maintained by Department:	Finance	Approved by:	Council	Exhibition Date:	
Reference:	Policy Register	Council Policy No:	8.9	Effective Date:	
Min No:		Version No:	1	Reviewed Date:	
Attachments:					



8. FINANCE

Policy 8.1

EXCESSIVE WATER USAGE ALLOWANCE FOR BREAKAGES

Version 5

8. FINANCE

8.1 EXCESSIVE WATER USAGE ALLOWANCE FOR BREAKAGES

OBJECTIVES:

This policy provides a rebate for excessive water usage which may be provided to landowners when a breakage occurs that is beyond their control or would cause excessive water usage accounts that are inconsistent with previous bill levels for the same owner on the same property.

POLICY:

1. The policy applies to property owners seeking a rebate for an undetected leak on their property. A property owner is responsible for all water usage which is recorded on the water meter/s located on their property. The following conditions apply:-
 - 1.1. All requests must be in writing.
 - 1.2. A request for rebate must be received within a reasonable timeframe from the date that the leak was discovered or within 60 days of receipt of the consumption account.
 - 1.3. All leaks must be repaired and proof of the breakage in infrastructure will need to be substantiated by the way of a tradesman's account showing the date of repairs and or supply of goods.
2. If an application is received in writing for Council to determine an account as showing excessive water usage due to damage to infrastructure on property owner's side of the meter, the following criteria apply:-
 - 2.1. The leakage must have been significant and undetectable. Significant leakage is determine if the water usage for the quarterly billing period in question is greater than 100 kilolitres and is 1.5 times greater than the previous 4 quarters daily average usage. (Undetectable leakage is defined as occurring within pipeline breaks or connections in the ground, under slabs or within walls and is clearly not visible by the owner).
 - 2.2. Council may consider relief for the account if it is evident that the ratepayer will incur financial hardship.
3. The following steps will apply in assessing applications for rebates related to undetected leaks:-
 - 3.1. An assessment will be made of the applicant's average consumption for the period that the leak occurred.
 - 3.2. The average consumption is calculated by averaging the previous four billing periods or previous four equivalent seasonal billing periods depending upon the usage pattern that is evident. The most consistent record is used to calculated the average used.

- 3.3. Based on the difference between the average consumption and the water account for the period of the breakage, a 50% rebate will be applied to the account up to a maximum of \$2,500.
- 3.4. In cases where an applicant has a pensioner / concession discount, a full rebate of the difference between the average consumption and the water account for the period of the breakage may be considered.
4. Council officers with appropriate delegated authority may approve rebate applications in accordance with the criteria set out in Sections 2 and 3 of this policy. Applications for rebates which exceed the Section 2 and 3 criteria require approval by resolution of Council.
5. Property owners may alternatively apply for assistance, where eligible, under Council's Hardship Policy 8.6.

Sewer usage and Trade Waste Charges (non-residential properties)

1. Where a non-residential property, subject to sewer usage and trade waste usage charges based on water consumption, experiences an undetected leak which has not discharged to the sewer system, sewer usage/trade waste charges will not apply in relation to the quantity of water estimated to be the subject of the leak with consideration to the appropriate sewer discharge factor or liquid trade waste factor applicable.
2. Sections 1 to 5 of the above policy apply to any application.

Maintained by Department:	Corporate & Community	Approved by:	Council	Exhibition	29 May 2017
Reference:	Dataworks: Policy Register	Council Policy No:	8.1	Effective Date:	17 July 2017
Min No:	17-220	Version No:	4	Review Date:	July 2021
Attachments:					

From: SS GNB
To: [REDACTED]
Cc: SS GNB
Subject: RE: place naming application
Date: Thursday, 20 September 2018 12:24:57 PM
Attachments: image001.jpg
image002.jpg

Dear [REDACTED]

The Geographical Names Board considered the proposal to name a reserve 'Ron Bidwell OAM Rotary Park' at its meeting held on the 18 September 2018.

When considering the name, the Board considered the following guidelines outlined in the NSW Place Naming Policy:

- *Section 6.1.3 Language:* Geographical names shall be easy to pronounce, spell and write, and preferably not exceed three words (including any designated term) or 25 characters.
- *Section 6.1.13 Language:* Postnominals and titles shall not be included in geographical names. E.g. John Smith not John Smith AO. An exception is the use of 'VC'.
- *Section 7 Commemorative Names:* The person commemorated should have contributed significantly to the area around the geographic feature or locality. When such a name is applied, it shall be given posthumously, at least one year after the decease of the person. Naming living persons are by their nature subject to artisan perception and changes in community judgement and acceptance.

The Board resolved to endorse an alternative name 'Ron Bidwell Rotary Park'.

This name is approved to be advertised for public comment once the mandatory twelve month period after the date of death has occurred.

It is noted that this name exceeds three words however the Board believed that 'Bidwell Rotary Park' was not a suitable alternative as people may assume that the reserve is located in the suburb of 'Bidwill'.

If Council concurs to the name, the Board's secretariat will advertise the proposal on Councils behalf in March 2018. Can Council please confirm if it would like to proceed with the name 'Ron Bidwell Rotary Park'?

Regards,

Clare

Clare Hewitt | Statutory Officer | Geographical Names Board

Spatial Services | Department of Finance, Services & Innovation |
Level 3, 346 Panorama Avenue Bathurst NSW 2795
[REDACTED]



From: [REDACTED]
Sent: Friday, 7 September 2018 12:01 PM
To: [REDACTED]
Subject: FW: place naming application

[REDACTED]
Community & Culture | [Lithgow City Council](#)
Phone: (02) 6354 9999 | Fax: (02) 6351 4259

From: [REDACTED]
Sent: Friday, 7 September 2018 11:54 AM
Subject: place naming application

good morning

please find attached application

regards

[REDACTED]

Lithgow City Council

[REDACTED]
Community & Culture | [Lithgow City Council](#)
Phone: (02) 6354 9999 | Fax: (02) 6351 4259



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[REDACTED]



9. GOVERNANCE

9.20 Policy

MENTAL HEALTH and WELLBEING

Version 1

9. GOVERNANCE

9.20 MENTAL HEALTH and WELLBEING POLICY

PURPOSE

Lithgow City Council believes that the mental health and wellbeing of staff is key to organisational success and sustainability. Lithgow City Council is committed to promoting a sensitive and informed approach to mental health, ensuring that staff are aware of and responsive to the needs of those who are at risk of developing, who have, or are recovering from a mental health problem.

GOALS

- To build and maintain a workplace environment and culture that supports mental health and wellbeing and prevents discrimination (including bullying and harassment)
- To facilitate employees active participation in a range of initiatives that support mental health and wellbeing.
- To protect the rights of staff with a mental health problem and deal with all staff members equally
- Remove any barriers caused by misunderstanding, misinformation or lack of awareness of mental health issues.
- Identify and promote 3 key stages in the spectrum of intervention; Promotion/Prevention, Early intervention and return and recovery.

1. PROMOTION/ PREVENTION

CLARITY, RESPONSIBILITY, SUSTAINABILITY

- Lithgow City Council undertakes to maintain a safe physical environment according to WHS regulations.
- Lithgow City Council staff will have clarity around their roles and responsibilities, which will be realistic and sustainable.
- Lithgow City Council will endeavour to actively promote through internal communications the contents of this policy and various activities and interventions covered by this policy.
- There will be communication and transparency around all policies and procedures.

STRESS MANAGEMENT

- All staff members have the right to work in an environment free of harassment and/or discrimination. Lithgow City Council has a zero tolerance policy towards workplace bullying and harassment of any kind. (Dignity and Respect)

- Lithgow City Council recognises the complexities of modern work/life balance and is committed to supporting individuals in making this balance sustainable while meeting the needs of both the organisation and the staff member.

WELLBEING

- Lithgow City Council recognises that team cohesion and good interpersonal relationships are vital for wellbeing in the workplace.
- Lithgow City Council recognises that physical wellbeing is important to mental health.

2. EARLY INTERVENTION

DISCLOSURE AND EARLY INTERVENTION

- Lithgow City Council aims to have a culture that promotes disclosure, but also respects the need for privacy and confidentiality of its staff members' health information.
- Lithgow City Council encourages early intervention and help seeking treatment and will support staff requiring time off work to attend appointments with mental health professionals.
- Lithgow City Council recognises the importance of team leaders' and supervisors' involvement in the recognition and early intervention of mental health problems, and is committed to the provision of manager training in this area.

REASONABLE ADJUSTMENTS

- Lithgow City Council aims to have an understanding of the role, if any, that the workplace is having on an staff member's mental health.
- Lithgow City Council is committed to the provision and promotion of the staff members' Employee Assistance Program to all staff.
- Lithgow City Council is committed to the provision of reasonable adjustments in the workplace to assist staff in their wellbeing where possible.

3. RETURN AND RECOVERY

MANAGING ABSENCE

- It is the responsibility of Lithgow City Council to make sure that the staff member understands their responsibility to keep their manager informed of the reasons for absence and, when known, how long the absence is likely to last.

RETURN TO WORK

- Lithgow City Council aims to support all staff members' return to good health and their return to work.
- Lithgow City Council is committed to the provision of reasonable adjustments to facilitate the return of the staff member to work where possible.

GRAEME FAULKNER
General Manager
Lithgow City Council.

Maintained by Department:	People and Services	Approved by:	Council		
Reference:	Policy Register	Council Policy No:	9.20	Effective Date:	
Min No:		Version No:	1	Review Date:	3 years



LITHGOW CITY COUNCIL

J M ROBSON AQUATIC

CENTRE

MANAGEMENT PLAN 2018/19



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1. INTRODUCTION

This Management plan provides the necessary instruction for Council staff to administer the routine functions of its aquatic centre facilities, and provides a transparent means for the general public to understand the process.

The Management plan aims to ensure provision of a facility that promotes' healthy lifestyle and social interaction, for residents and visitors to the Region.

1.1 COMMENCEMENT

This Management Plan will commence, ####/####/####.

1.2 REVIEW PROCESS

This document will be reviewed annually during the Winter season by the Jim Robson Aquatic Centre Management Working Party. Alterations require the endorsement of an ordinary Council meeting.

1.3 APPLICATION

This Management Plan applies to all swimming pools within the J M Robson Aquatic Centre operated and maintained by Lithgow City Council. A copy of the Plan will be available from:

- J M Robson Aquatic Centre
- Lithgow City Council Customer Service Office
- Available for download from <http://council.lithgow.com/>

Patrons are encouraged to read and make written contributes to the plan.

This Management Plan does not affect compliance or observation of any Act or Regulation relating to the appropriate management of public swimming pools.

NSW Department of Local Government Practice Note No. 15 Water Safety, will provide guidance on standards not specifically discussed in this plan.

Royal Life Saving's Guidelines for Safe Pool Operations (GSPO) is recognized as an industry standard and as such will be used in conjunction with Lithgow City Council's Integrated Management System in the provision of safe aquatic facilities.

This Management Plan refers to Council Standard Working Procedure "Cash Handling" for management of cash at the JM Robson Aquatic Centre.¹

¹ SWP 3.3 Cash Handling

1.4 DEFINITIONS

In this Plan:

<i>Council</i>	Lithgow City Council
<i>Aquatic Centre Team Leader</i>	The qualified employee responsible for overall operation of the J M Robson Aquatic Centre
<i>Aquatic Centre Duty Officer</i>	The qualified employee responsible for the operation of the J M Robson Aquatic Centre on any given shift in the absence of the Aquatic Centre Team Leader.
<i>Shift Supervisor</i>	The supervisor of the shift. That could be the Aquatic Centre Team Leader or Aquatic Centre Duty Officer
<i>Pool Attendant</i>	The qualified employee primarily responsible for pool supervision, customer service and maintenance duties. A Pool Attendant of suitable experience can be temporarily appointed to the role of Senior Pool Attendant for the purpose of overseeing the operation of a facility in the absence of the Aquatic Centre Team Leader
<i>Pool Lifeguard</i>	Any qualified person, employee, volunteer or otherwise, on duty at the pool and identifiable by a red and gold Council uniform
<i>Learn to Swim Instructors</i>	The qualified employee primarily responsible for the safety and education of children enrolled in the Council Learn To Swim program.
<i>Pool Staff;</i>	Any Council pool employee on duty at the swimming pool, including kiosk, turnstile attendants and approved volunteers.
<i>Aquatic Responsibility Code</i>	The code developed by Council that communicates the standard of behaviour required to access Lithgow City Council J M Robson Aquatic Centre
<i>Emergency Evacuation Plan</i>	The plan designed to ensure the safe evacuation of people from the Lithgow City Council J M Robson Aquatic Centre swimming facility.
<i>Business</i>	Any company, sole trader, incorporated group, sports group, school, charity, event organizer or similar.
<i>Professional Coach/ Instructor</i>	Any person who charges a fee or is otherwise paid, whether by an individual, individuals club or association for the provision of swim training and or coaching.
<i>Aquatic Group</i>	Any swimming, water polo, triathlon club that regularly uses Lithgow City Council public swimming facility.

Facility

Any Lithgow City Council public swimming pool, surrounding buildings, grounds and fence line.

2. SWIMMING POOLS

Council aims to provide the following facilities and services at J M Robson Aquatic Centre:

- 50m heated outdoor competition pool
- Outdoor splash park pool
- 25m heated indoor pool with program area.
- Kiosk facility.
- Change room facilities.
- Shade structures.
- Club storage shed.
- Thermal Pool blankets.
- Hours of operation:

Monday- Friday	6:00am- 7:00pm
Sat & Sun	8:00am- 6:00pm
Public Holidays	8:00am- 4:00pm
Good Friday & Christmas Day	Closed
Christmas Eve	6:00am- 5:00pm
- Access;
 - 50m pool – ramp and stair access with ladders on lap side
 - 25m pool – ramp and stair access with ladders on lap side
 - Splash Park – Stairs
 - Change rooms- full access from inside and outside the building, disabled change rooms available.

3. ADMINISTRATION

3.1 RECORDS

- a) Staff will ensure all records for the operation of swimming pools are legible, and are sent to the central records for storage in Council electronic records system (ECM – Dataworks)

3.2 RECORDS TO BE MAINTAINED BY J M ROBSON AQUATIC CENTRE

- a) A daily running sheet with all events/ incidents/ maintenance and staff attendance etc. will be recorded.
- b) Regular pool balancing tests (chemical, PH balancing)
- c) Incident/ near miss reports
- d) A daily log of attendance by the public
- e) Details of sales transactions of season ticket and multi entry passes.
- f) Daily financial reports
- g) Pool Supervisors monthly report
- h) All other documentation required by the Council Integrated Management System.

4. WORK HEALTH AND SAFETY

4.1 GENERAL COMPLIANCE

- a) Staff, contractors and volunteers will comply with Councils WHS policies and procedures at all times.
- b) All incidents are to be reported, investigated and addressed in accordance with Council's WHS procedure.
- c) Any contractor undertaking work at the centre must undertake CENTROC induction training before being allowed to work on site.

5. OPERATING HOURS

5.1 POOL SEASON AND HOURS OF OPERATION

The swimming season will align with terms 4 and 1 of the school years so long as weather conditions are favourable and patronage is adequate.

Discretion is given to the General Manager to make minor changes to season start finish dates as well as spread of hours. Major changes will be put to Council for review and consideration.

Opening dates for the 50 metre pool and splash park will be advertised at the Aquatic Centre, on Council Facebook page; in the Village Voice and Lithgow Mercury; and on Council's website <http://council.lithgow.com/> in the month prior to opening.

Hours of operation will be set giving consideration to the requirements of key user groups and patrons subject to operational requirements and resource constraints.

5.2 ALTERATIONS TO USUAL HOURS OF OPENING

J M Robson Aquatic Centre will be closed:

- a) 5 pm Christmas Eve
- b) Christmas Day
- c) Good Friday

A pool may not open, may open late, or close early due to:

- a) Unfavourable weather resulting in absence or likely absence of swimmers e.g. heavy rain.
- b) Safety reasons e.g. lightning, equipment failure, contamination, vandalism.
- c) Interruptions to power supply
- d) In the event of imminent weather and or lightning the shift supervisor may close the pool until such time as the weather is considered safely past. During such times all patrons will be required to evacuate from the water and take appropriate cover until notified by the shift supervisor that it is safe to return to the water.
- e) A shift supervisor has the authority to close one or more pools, or the entire facility
- f) The pool season may be extended to accommodate special events, training for State or National level swimming championships, school holidays or favourable weather. The pool hours may be adjusted during this time to suite the actual use.
- g) During very hot weather the shift supervisor has the authority to extend the opening times of the pool giving consideration to available staff and the number of patrons present (25 persons within the facility).
- h) The shift supervisor will notify the organizer of any group in attendance for an event of an alteration to usual hours as soon as possible.
- i) The shift supervisor will notify the Aquatic Centre Team Leader of any changes to opening times prior to or as soon as possible.
- j) During brief power outages the pool can remain open if adequate disinfection levels can be maintained and all other areas of the facility can continue to operate safely. During extended power outages the pool will be closed.

6. OPERATING STANDARDS

6.1 WATER QUALITY

- a) Water quality at Lithgow City Council J M Robson Aquatic Centre will comply with guidelines set by the NSW Ministry of Health. Lengthy review processes have led to occasions where the Ministry standard has lagged behind current best practice. During these times the Aquatic Centre Team Leader may implement a regime outside of the Ministry's standards if they are widely considered by the Aquatic and Recreation Industry to be better.
- b) Chemical concentrations will be automatically monitored and controlled.
- c) Pool staff will manually test chemical concentrations at least twice daily to confirm that automated equipment is calibrated and working correctly.
- d) Water turnover times will comply with guidelines set by the NSW Ministry of Health or to the best capability of the pool's reticulation system i.e. filter built in the 1960s will operate at maximum capacity but cannot be expected to achieve the turnover rates of modern filters.
- e) Microbiological sampling of pool water will be undertaken monthly and tested by a NATA (National Association of Testing Authorities) accredited laboratory.
- f) The NSW Ministry of Health field officers are allowed free access to any facility to monitor Council's compliance with the current health standards.

- g) If adequate sanitization cannot be maintained for any reason the facility will be closed until the matter can be rectified.

6.2 GROUNDS MAINTENANCE

Lawns will be kept to the standard of prime parkland. Lawn weeds and burs (e.g. bindii) will be eradicated quickly when detected. With regard to watering, facilities will comply with all aspects of the Lithgow City Council drought management plan.

Gardens will be kept tidy and free of weeds.

Trees will be periodically thinned to promote growth and longevity and to assist in the prevention of limb drop.

6.3 BUILDINGS MAINTENANCE

Buildings will be kept in a clean and serviceable state. Improvements to buildings will occur, where budgetary limitations allow.

6.4 SWIMMING POOL MAINTENANCE

Programmed preventative maintenance of swimming pools is primarily carried out in the winter season. Maintenance issues that arise during the operational season will be dealt with in as timely a manner as possible.

6.5 POOL SUPERVISION

Council currently uses the minimum lifeguard to swimmer ratio of 1:100 as recommended in Royal Life Saving's Guidelines for Safe Pool Operation (GSPO).

Lithgow City Council has developed a program call Pool Super Vision™ or PSV. PSV takes a risk management approach to supervision, assessing the facility and patrons and then allocating supervision proportionately.

During periods of high patronage or higher risk, a higher level of pool supervision is provided.

Lithgow City Council has adopted the Watch Around Water program detailed in 9.2 of this plan to promote direct supervision of young children.

6.6 STAFF QUALIFICATIONS

Lithgow City Council aims to provide pool staff with the following qualifications as minimum aquatic industry requirements.

AQUATIC CENTRE TEAM LEADER	• Certificate IV - Aquatic cluster of competencies from Community Recreation training package • WHS Workplace safety induction • RLSSA Pool Lifeguard Licence • SafeWork NSW approved first aid certificate.
Aquatic Centre Duty Officer	• Cert III – Aquatic cluster of competencies from Community Recreation training package.

	• WHS Workplace safety induction • RLSSA Pool Lifeguard Licence • SafeWork NSW approved first aid certificate
Pool Attendants	• WHS Workplace safety induction • RLSSA Pool Lifeguard Licence • WorkCover NSW approved first aid certificate.
Learn to Swim Instructor	• WHS Workplace safety induction • RLSSA Pool Lifeguard Licence • Statement of Attainment Austswim Teacher of Swimming and Water Safety ✓ Austswim Teacher of Infant and Preschool Aquatics ✓ Austswim Teacher of Aquatics Access and Inclusion ✓ Austswim Teacher of Towards Competitive Strokes ✓ Austswim Teacher of Adults.
Kiosk/ Turnstile Staff	• WHS Workplace safety induction • SafeWork NSW approved first aid certificate • Basic safe food handling qualification

Many staff have qualifications over the minimum level. External and in-house professional development is provided for all staff to ensure currency of qualifications and competency of skills.

Pool staff comply with all working with children legislation as part of their employment with Lithgow City Council.

7. FEES

7.1 SINGLE ENTRY FEES

- Fees will be charged for pool entry and pool services in accordance with Council's current Operation Plan, Fees and Charges.
- A 'spectator' for the purpose of charging a single entry fee is a person who enters the facility to supervise another patron, watch an event or use the facility, without entering the water. For short programmed events i.e. water polo games (less than one hour) where a family is entering to watch, only one person will be charged the spectator fee and all other members of the immediate family will be admitted free as long as they do not enter the water.
- An 'adult' for the purpose of charging a single entry fee is any person aged 18 years or older and who no longer attends secondary education.

- d) A 'child' for the purpose of charging a single entry fee is any person under the age of 16 (e.g. not attending school) and who is still enrolled in secondary education.
- e) Children aged 3 years and under are permitted free so long as they have a full fee paying adult entering with them.
- f) A 'concession' is offered to those persons using the facility who are holders of, and can produce either a Centre Link issued Pension Card, a Department of Veteran's Affairs Pension Card, a Newstart Concession Card or a Senior Citizens' Card. A person's concession card does not entitle anyone else a concession.
- g) Pool Staff who are required to hold a Pool Lifeguard Licence as an essential qualification and who are entering the facility for the reason of training for the physical component of their Licence will be admitted free.
- h) In line with Council's value for Safety and Health, all employees have the opportunity to access Lithgow City Council J M Robson Aquatic Centre if they opt to be a member of Fitness Passport.
- i) Teachers will be admitted free for the purpose of supervising a school group at the pool.
- j) Resident swimming club coaches will be admitted free for the purpose of training club members.
- k) The carer of a person living with a disability will be admitted free for the purpose of directly supervising the person under their care.
- l) Individual who are prohibited from a swimming facility because of unacceptable behaviour or other contravention of this plan are not entitled to a refund.
- m) Council may enter into an agreement with schools and groups for a method of paying entry fees other than at the pool. i.e. invoice
- n) The Aquatic Centre Team Leader has the authority to grant the "approved groups" fee for one off visits of groups of over 40 people.

7.2 SEASON TICKETS

For the reason of setting season ticket prices to fairly reflect the service offered:

- a. A 'family' for the purpose of determining a fee for a family season ticket is a family unit of two adults in a relationship and their children up to the age of 18. The Aquatic Centre Team Leader has the delegation to consider personal circumstances which may require a variation from this definition. This will be done on a case by case basis for persons who bring the request for a variation. The Aquatic Centre Team Leader may wish to liaise with Council Service and Delivery Officer to maintain consistency across Council area.
- b. Season tickets are issued to a designated person nominated on the season ticket application form and are not transferable. Unauthorised use of a season ticket by a person who is not the holder may result in the cancellation of the ticket and no refund issued.

- c. Season tickets are only valid for the swimming season in which they are purchased.
- d. Season ticket holders must have their ticket in their possession whilst at the facility and are required to sign an attendance register prior to use of the facility. Patrons who cannot produce their season ticket when requested to do so by pool staff will be required to pay the relevant entry fee.

7.3 EVIDENCE OF AGE

- a) Children under the age of 12 years must be actively supervised at all times by a responsible person over the age of 16.
- b) Evidence of age can be requested as a condition of entry to a facility to:
 - I. Determine which fee to charge.
 - II. Confirm they are 16 years old for the purpose of supervising children under the age of 12 years.
 - III. To determine if the person is able to remain on the premises unsupervised by a responsible person.
- c) Discretionary authority is given to the shift supervisor to charge the appropriate fee if he/she is reasonably convinced that a person is not the age that they pertain to be and is:
 - I. Attempting to avoid paying the full fee, or
 - II. Attempting to enter the pool unsupervised, (i.e. claiming to be over the age of 12) or
 - III. Attempting to supervise another patron (claiming to be over the age of 16).
- d) Acceptable evidence of age will be a current "Proof of Age Card", Drivers Licence, or Australian Passport.
- e) A person who cannot provide evidence will be:
 - I. Charged the full entry fee.
 - II. Advised they are not eligible to supervise a person under the age of 12
 - III. Advised they are ineligible to enter the pool whilst not unsupervised by a person over the age of 16 years.

7.4 OTHER FEES

- a) A lane hire fee is applicable to large user groups of the J M Robson Aquatic Centre who wish to have exclusive use of lane space on a seasonal basis. The charging of a lane hire fee does not exclude the user from complying with any part of this Operational Plan. The lane hire fee is charged monthly or on a pro rata basis for part month use.
- b) An after hour's fee (per hour) is applicable to groups who have permission to hold an event outside of the normal operating hours. The relevant entry fee still applies to each member of the group in addition to the after hour's fee. Aquatic groups who have a seasonal booking and who already pay the appropriate lane hire fee are not required to also pay the after hour's fee so long as their program does not run over the agreed finish time.

- c) Council may apply a fee to the use and hire of recreational devices (springboards, inflatable pool equipment, etc.) which will be consistent with Council's Operational Plan and Fees and Charges.
- d) Council is able to provide one free entry day each year to celebrate a national or community event i.e. Australia Day, significant pool anniversary.

8. BOOKINGS

8.1 GENERAL

- a) All bookings must be lodged by submitting an "Application for Swimming Pool Lane Space". All fields on the applications must be completed.
- b) It is preferable that application are submitted at least one calendar month prior to a proposed event date.
- c) When the swimming pools are open, applications are received directly by the respective Aquatic Centre Team Leader and confirmations can be given verbally or in writing.
- d) A Swimming Pool User Agreement between the groups wishing to use the pool must be entered into before an event can commence. The Agreement will detail any supporting documentation required e.g. certificate of currency for public liability, professional indemnity.
- e) A risk assessment for the event and a site induction for the organisers must be completed before an event can commence.
- f) Afterhours events will be given consideration and the appropriate fee payable if the event is approved.

8.2 PRIORITIES FOR BOOKINGS

Each request to use the facilities during approved operating hours will in most cases be approved according to the following priority:

- 1) An event approved by resolution of Council.
- 2) National/ International events (including public holidays and days of national significance e.g. Australia Day festivities.)
- 3) State Events
- 4) Regional Events
- 5) Local Events
- 6) Annual school swimming carnivals
- 7) Relevant local incorporated swimming club events
- 8) Activities organized by Federal or State Government Departments
- 9) Non-swimming carnival school requests (e.g. school sport or physical education lessons)
- 10) Community groups
- 11) Charity fund raising events
- 12) Private swimming instructors
- 13) Commercial businesses activities

14) Private functions

8.3 CANCELLATION OF BOOKINGS

- a) Council has the right to cancel or change bookings at any time. Affected parties will be notified as soon as possible.
- b) Where a booking is cancelled, Council staff will endeavor to provide an acceptable alternative if available.
- c) Groups who are required to cancel an event will let the respective Aquatic Centre Team Leader know as soon as possible to allow for changes to staffing and programming of pool space

8.4 BUSINESS COMPLIANCE

A person or business wishing to conduct trade at a swimming pool must apply in writing to Council and be able to provide evidence of:

- a) A current Workers Compensation Policy, if they employ any staff
- b) Current Working with Children checks for any staff.
- c) A current Public Liability Insurance Policy (minimum value \$20,000,000.00)
- d) If instructing swimmers/ coaching professional indemnity insurance is also required.
- e) Staff being adequately trained and qualified for the tasks they are proposing to undertake and ensure that:
 - I. Any Equipment to be used at the pool is in good working order and designed and approved for the purpose for which it is intended;
 - II. Operations comply with this Management Plan.

8.5 LIMITATIONS ON BUSINESSES PERMITTED

- a) A business may not compete against a similar service already offered at the pool which is in good working order and designed and approved for the purpose for which it is intended; (i.e. commercial learn to swim)
- b) Council staff may prohibit any business which is not in keeping with this Management Plan or the principal purpose of a swimming pool
- c) The mailing address of the pool is not to be provided as a point of contact for a business
- d) The phone number at the pool is not to be provided as a point of contact for business nor is it available for use by a business, excepting emergencies when pool staff are not available to make an emergency phone call.

9. CONDITIONS OF ENTRY

9.1 LITHGOW CITY COUNCIL AQUATIC RESPONSIBILITY CODE

The following is the wording from the J M Robson Aquatic Responsibility Code which is a condition of entry that applies to all persons within Council's swimming pool grounds without written exemption from Council. The Code will be displayed at the entrance to the pool and at prominent places throughout the facility.

The Code is a safety initiative introduced to keep all pool users safe. Regardless of how you enjoy your water activities, always show courtesy to others and be aware that there are inherent risks in all water based recreation activities that common sense and personal awareness can reduce. These risks include shallow water, wet surfaces and patrons of varying age and swimming ability.

It is your responsibility to know and obey this Code. Pool safety is a shared responsibility that requires a cooperative and community approach. Observe the Code below and share with others the responsibility for a great experience at the pool.

- 1) Observe and obey all signs and warnings at the pool as well as all lawful directives given by Pool Lifeguards and Pool Staff.
 - 2) Always check the pool depth before entering the water. Enter the water in a safe manner and check for other swimmers before jumping in. You must avoid people already in the water.
 - 3) Always be respectful of other people and the nature of their particular pool activity.
 - 4) Never run on wet areas at the pool. Always move around the pool in a safe manner.
 - 5) If you are involved in, or witness an incident at the pool, remain at the scene, if it is safe to do so, and identify yourself to the Pool Lifeguard.
 - 6) Do not swim, bathe or undertake any other aquatic activity if your ability is impaired by drugs or alcohol.
 - 7) Always swim in water that is a safe depth for your capability. Take lessons from a qualified instructor to progress and learn swimming, first aid and resuscitation skills
 - 8) Children under the age of 12 must be actively supervised at all times by a responsible person over the age of 16.
 - 9) Parents and carers must communicate and establish responsibility for direct supervision of children at all times in and around water. Designate at least one adult "Water Watcher" to supervise children around pools especially during social gatherings. Don't rely on older siblings or other children to supervise swimmers and don't rely on swimming lessons, flotation devices or other equipment to make a child "water safe".
 - 10) Always swim with a friend and keep a look out for your mates.
- Our Pool Lifeguards are at the pool all day to assist, educate and help you to understand the Aquatic Responsibility Code. This will ensure that all pool patrons enjoy themselves at Lithgow City Council J M Robson Aquatic Centre. Irresponsible, reckless, and anti-social behaviour may result in immediate suspension from pool use and / or cancellation of season passes".

9.2 WATCH AROUND WATER

All Aquatic Centre staff are inducted to "Keep Watch At Public Pools" a program created by Royal Life Saving and subscribed to by Lithgow City Council. All staff understand

and instruct parents/ care givers of the importance of parental supervision at public aquatic centres.

Supervision of young children at public pools has been a concern for the aquatics industry for many years. There is often the misconception by parents and carers that the responsibility for supervision of young children lies solely with the lifeguards. Lifeguards are employed on a 1:100 ratio based on the expectation that parents will provide supervision of children.

WA Coroner Alistair Hope in response to a drowning in a public aquatic facility:

“Competent lifeguards acting responsibly should provide an important safety feature, but they are not intended to, and cannot be expected to, replace the close supervision of parents and teachers which is required for many children, particularly primary school age children”

Watch Around Water is an important industry driven program that contributes significantly to ensuring the safety and reducing risk at our public swimming pools. It provides a message in line with best practice to the public about effective supervision of young children at public pools, and demonstrates that the aquatics industry is organized and takes their responsibility for patron safety seriously.

The program is administered by Royal Life Saving Society of Western Australia and was adopted by Lithgow City Council J M Robson Aquatic Centre in 2013. It promotes the following safe supervision policies which are additional conditions of entry:

- a) Children **under 5 years** must be accompanied into the centre by a responsible adult over 16 years of age and supervised at arm's reach at all times.
- b) Children **under 5 years** must wear a Watch Around Water armband whilst in the facility. Armbands are a visual aid to assist Pool Staff in identifying who should be within arm's reach of an adult and a reminder to parents and guardians about the importance of close supervision for small children.
- c) Children **under 12 years** must be accompanied into the centre by a responsible adult over 16 years and supervised at all times.
- d) In order for parents or guardians to actively supervise they should be dressed ready to take immediate action, including unexpected entry into a pool

9.3 DIVING

The Royal Life Saving Society of Australia advises that there is a significant body of evidence to suggest that shallow water diving can lead to a range of injuries that include head injuries (broken teeth, scalp injuries and facial fractures), to the more significant spinal cord injury.

As such “No Diving” signs have been applied to the concourses around Council’s pools in locations where it is deemed dangerous.

Any group wishing to conduct dive starts into the shallow end of a competition pool for relays must conduct a risk assessment of the activity beforehand and acknowledge full responsibility for consequences arising from the activity. The group acknowledges that the Royal Life Saving Society and Lithgow City Council have warned against diving in such areas and that significant injury could result.

Any group that conducts dive starts at any area of Jim Robson Aquatic Centre pools must display the below sign after completing the risk assessment and complying with all required documentation, i.e. coach's certificates of competency etc.



9.4 ADDITIONAL CONDITIONS OF ENTRY

The following conditions of entry also apply to all persons entering swimming pool groups unless they have written exemption from Council.

A person must:

- a) Pay the entry fee on entering the facility or show a current season ticket
- b) Comply with Section 10 – Activities Requiring approval.
- c) Not partake in behaviour considered to be antisocial, provocative, abusive or violent.
- d) Not obstruct the entry/exit points to the aquatic centre
- e) Not bring glass or glass containers into the facility
- f) Not interfere with any pool safety equipment.

- g) Follow all directions for the safe use of any area of the facility including, spring boards, inflatable play equipment and children's play equipment.
- h) Not enter a pump room, chemical storage area, plant room, storage area, and kiosk or staff area.
- i) Not enter a first aid room except to receive first aid or at the invitation of pool staff.
- j) Provide evidence of age, if required:
- k) Wear an appropriate unsoiled bathing costume at all times.
- l) Be unsoiled before entering a pool
- m) Not urinate or defecate anywhere in the grounds other than in the public toilet.
- n) Not attempt to enter the swimming pool grounds whilst intoxicated or under the influence of drugs, nor bring or consume alcohol or non-prescription drugs onto pool grounds.
- o) Not cause or permit an animal that is under the person's control to enter or remain in swimming pool grounds. Assistance Animals excepted (see Section 16, Access for People Living with a Disability).
- p) Not smoke in any area of a public swimming facility nor within 4 metres of an entrance.
- q) Not take photographs, video or electronic records in change rooms.
- r) Not sit on, dive over, or otherwise interfere with lane ropes.
- s) Not damage, deface, interfere with or alter swimming pool infrastructure or signage.
- t) Not obstruct any authorized person or employee of, or contractor to perform their required duties.

10. ACTIVITIES REQUIRING APPROVAL – J M ROBSON AQUATIC CENTRE

A person must not do any of the following within swimming pool grounds without the written exemption from Council:

- a) Neither engage in trade or commerce nor distribute any circulars, advertisements, paper drawing or photographic material.
- b) Camp or reside on the land.
- c) Bring or leave any rubbish, refuse, scrap metal, rock, soil, sand or any other such substances onto swimming pool grounds.
- d) Remove any dead timber, logs, trees, flora, whether standing or fallen.
- e) Kill, capture or in any way interfere with any animal, bird, fish or other fauna, whether native or introduced, plant any tree, shrub, herbage or other plant without prior consent.

Offenders will be prosecuted under relevant State or Federal Law.

A person must not do any of the following within swimming pool grounds without approval from the shift supervisor:

- a) Bring or use inflatable devices such as air mattresses, domestic pool toys, or balls onto the grounds. This excludes PFD's (Personal Floatation Devices – Life Jackets) and flotation devices specifically designed as a “learn to swim” aid.
- b) Use scuba diving fins.
- c) Play or conduct any unapproved sport or contest.
- d) Enter or leave the facility by any other means other than through the main entrance provided.

Offenders may be required to leave the facility.

10.1 SWIMMING LESSONS

To ensure an appropriate level of safety and quality for the community, Lithgow City Council requires people wanting to conduct private learn to swim lessons at our facilities, to apply in writing and provide copies of the following:

- a) Current AUSTSWIM Certificate or equivalent
- b) Statement of attainment for Learn to Swim designated group. i.e. infants/ preschool.
- c) Current CPR qualifications
- d) Risk assessment undertaken
- e) Certificate of Currency
 - Public Liability \$20,000,000.00
 - Professional Indemnity \$20,000,000.00
 - Workers Compensation
- f) Working with Children Check – Certificate for Self Employed People; for more information visit <https://www.kidsqardian.nsw.gov.au/child-safe-organisations/working-with-children-check> .

Applications should state previous experience. Once an application has been received it can usually be assessed quickly and verbal approval given if application is approved. To assist with this all required documents must be submitted with the application and be current. Failure to do so will increase the application assessment time. Applicants will also receive a written determination.

Applications can be emailed to council@lithgow.nsw.gov.au .

Lithgow City Council
Attn: Aquatic Centre Team Leader
PO Box 19
LITHGOW NSW 2790

Once you have received approval you will be required to undertake a site induction of the facility and sign a site induction form. Please allow enough time (10 minutes) to complete this prior to your first lesson.

- a) All learn to swim operators can leave their business details at the Centre to be passed onto patrons enquiring about learn to swim opportunities. Learn to swim instructors need to comply with all areas of this management plan. Approval will only be granted where adequate lane space exists. Exclusive use of available lane space will attract the appropriate lane space charge. As mentioned in section 8.5 of this document any application may be turned down if the business is in competition against a similar service already offered at the pool which is in good working order and designed and approved for the purpose for which it is intended.

11. YOUNG CHILDREN

Children under the age of 12 must be actively supervised by a responsible person over the age of 16 at all times; “actively supervised” in this instance means that the supervising person shall be dressed in attire consistent with entering the water, be in the vicinity of and maintain visual contact with the child.

Teachers and/or instructors given charge of students at J M Robson Aquatic Centre will provide supervision in accordance with supervision requirements set down by the NSW Department of Education and Training.

With regard to supervision of school students, Lifeguards and Teachers on duty can be included as part of supervision ratios. However, Lifeguards often have other duties to perform around the facility that take them away from the pool. Alternative supervision will need to be arranged by the group during these times. Supervision of students must be constant and distractions restricted so far as practically possible.

11.1 CLOTHING

All children must:

- a) Wear a clean (unsoiled) bathing costume,
- b) All children under the age of 5 must wear a water proof nappy at all times when in the pool grounds.

11.2 CHANGE ROOMS

Children up to the age of 7 years are allowed to enter the change room of the opposite sex as long as they are accompanied by a supervising adult. The shift supervisor has discretionary authority to make exceptions to this if requested, decisions will be made on a case by case basis.

11.3 ABANDONED CHILDREN

Where a child under the age of 12 is identified as abandoned at the pool (i.e. without the required supervision), Pool Staff will firstly ensure the physical safety of the child and then attempt to contact the parent(s) or legal guardian via phone.

If a parent is unable to be contacted, refuses to collect the child or does not arrive within 30 minutes, the shift supervisor will contact either the NSW Police Service or Department of Community Services (DOCS) to arrange the transfer of the child into their custody. The Aquatic Centre Team Leader will be notified immediately.

The 24 hour contact number for DOCS helpline is 132 111.

Any child abandonment incident is to be recorded on a near miss form and noted on the Daily Running Sheet.

12. AUTHORITY

All Pool Staff are authorized to:

- a) Request a person to leave the swimming pools facility if they do not comply with any part of this management plan and
- b) Implement a temporary or permanent prohibition on entry to the facility.

If a person who is supervising another young person or child or vulnerable person is requested to leave the facility, the person/s they are supervising must also leave. Poorly behaved spectators, coaches, teachers, parents, visitors and other people may also be banned from a facility.

12.1 TIME OUT NOTICE

People who are banned from the pool may be issued a "Time Out Notice". The notice will outline the reason for the ban and the length of time which it is effective. People who return to the pool within the timeframe outlined may be charged with trespassing, and fined under the *Enclosed Lands Protection Act NSW Section 4(1) 1901*.

A ban at any one pool in the Council area applies to all pools operated within the J M Robson Aquatic Centre.

A ban will not interfere with a student's school education. As such any school activity which requires a student to attend the pool will not be included in the ban.

Before entering the facility after a ban the patron must arrange to meet with the Pool Supervisor to confirm that the specified "time out" period has lapsed.

12.2 REFUSAL TO COMPLY

A patron refusing to comply with the directions of Pool Staff may be banned from entering any Lithgow City Council Jim Robson Aquatic Centre grounds and issued a Time Out Notice.

Pool Staff are to contact the NSW Police or Council's Compliance Department to arrange the forced removal of an offender who will not voluntarily leave. Offenders may be charged with trespassing and fined under the *Enclosed Lands Protection Act NSW 2(1) 1901*.

12.3 APPEALS

A person who wishes to appeal the imposition of a ban is entitled to write to Council for a review, and state their reasons why the ban should not be enforced.

A review will be conducted within 15 days of receipt of correspondence, and the appellant notified of the outcome in writing. The ban will remain in place during the appeals process.

12.4 SCHOOLS SUSPENSION

During school hours, children who have been suspended from school, and released into the supervision of a carer will not be permitted into a facility without their designated carer.

Suspended children who are perceived by the shift supervisor to have arrived at the pool with the intention of interrupting a school group or teacher will be requested to leave the facility.

13. POOL LANE ALLOCATION

The following lane allocations are the default setting for a pool when there are no bookings:

- a) At least one (2) lanes will remain available to the general public at all times when the pool is open to the public for general use. Provision of an edge is preferable for both elderly and young swimmers as it offers a quick point of respite in the event of fatigue.
- b) Lane ropes will be installed for lap swimmers where practical.
- c) The shift supervisor can assign different swimming speeds to lanes e.g. slow, medium, fast.
- d) Lap swimmers are required to swim in a lane with swimmers of a similar speed and ability.
- e) The number of lap swimming lanes can be increased or reduced at the discretion of the shift supervisor.
- f) Lane configuration should provide maximum public benefit.
- g) The lane configuration should provide maximum public benefit.
- h) Lap swimmers are required to keep to the left of a lane (swim clockwise).
- i) The shift supervisor may temporarily ban the use of flippers, hand paddles or other swimming devices if they are perceived to create a risk to other swimmers.
- j) Pools with movable stairways will have such structures in place whenever the programming of the pool allows.

14. USE BY AQUATIC GROUPS.

14.1 GENERAL

- a) It is Council's responsibility to provide a facility that is safe for occupation and play and one that is regularly and appropriately maintained.

- b) If at any time a group perceives that the facility is, or has become unsafe then all practical measures must be taken to ensure the safety of its members. A representative of the group will notify the shift supervisor immediately.
- c) Aquatic groups must abide by this Management Plan and actively promote all conditions of entry to their members and visitors.
- d) All members will endeavor to maintain cordial relations with pool patrons, other coaching personnel, pool staff and Council officers.

14.2 EMPLOYEES & VOLUNTEERS

- a) Aquatic groups shall ensure that employees and volunteers of their group comply with NSW Child Protection Legislation
- b) Aquatic groups will be required to take out and maintain appropriate Public Liability, Professional Indemnity as well as any other insurance required by the Workers Compensation Act, in regard to the conduct of activities of the group within the facility.
- c) Coaches, instructors and other predominant members of their organization are required to complete a site induction with the shift supervisor at the beginning of each season. The site induction shall include the location of rescue equipment, fire extinguishers, telephone, emergency phone numbers, facility access any other items relevant to the workplace and Lithgow City Council Integrated Management System. Site inducted persons are required to sign a site induction form.
- d) The group must ensure that any professional coach/ instructors at the pool in their role as a professional coach/ instructor holds:
 - I. A current SafeWork approved first aid qualification
 - II. CPR qualification
 - III. Level 1 Coaching qualification or equivalent are held as a minimum.
- e) From time to time Council may request copies of the current qualifications to ensure compliance with this management plan and with any standing user agreement.
- f) Clubs must ensure that volunteer (unpaid) persons substituting, either long term or short term, for a professional coach/ instructor satisfy all other areas of this management plan except clause 14.2 (d) (III). Council may request copies of the same from substitute coach/ instructors performing duties at the facility.
- g) Supervision of participants under the direction of a coach, instructor or other predominant member of the club shall remain the responsibility of the aquatic group for the duration of the session. Before, during and after the session the group will ensure that any participant under the age of 12 years of age shall be under the active supervision of a person over the age of 16 at all times. Pool Staff shall not be included in this type of supervision.
- h) In the event of an aquatic emergency a coach, instructor or other predominant members of the group will be required to evacuate from the water all participants under their supervision. Those participants will be their primary consideration

during the emergency. Secondary shall be any assistance they can provide to pool staff up to the level of their training. Other members of the group may also be called upon by pool staff if further assistance is required.

14.3 LANE SPACE

- a) The shift supervisor has discretionary authority to alter standing bookings. Consideration needs to be given to safety, bather load and programming. Extra allocations can be rescinded at any time. The group shall not presume extra lane space will be available when programming sessions. Extra lane space may be charged at the rate set out in the Lithgow City Council Fees and Charges.
- b) Groups attending the pool during a booked time slot are not to use lanes set aside for members of the general public without the permission of the Shift Supervisor.

14.4 EQUIPMENT

- a) Except where supplied by the resident club, lane ropes, false start ropes, backstroke flags and starting platforms kept at a facility, are a Council asset. These will be maintained and insured by Council.
- b) Equipment such as that listed above will be made available to aquatic group users for use at training, swim camps, club nights, club championships and carnival type events.
- c) Being the primary user of the equipment aquatic users groups will be approached to discuss a co-contribution when equipment requires replacement and or up grading.

14.5 CLUB ROOMS

- a) All buildings (including club rooms) on Council land are a Council asset and will be maintained and insured by Council. Aquatic groups are to notify the shift supervisor if damage is identified or a repair is required.
- b) Alterations or modifications to club rooms and buildings cannot be carried out without written permission from Council.
- c) General cleanliness and tidiness of club room and buildings interiors is the responsibility of the associated club.
- d) Club rooms and buildings cannot be sublet or hired in part or whole without written permission from Council.
- e) It will be the responsibility of the aquatic groups to have adequate contents insurance for administrative equipment and gear stored in club rooms, storage rooms and buildings i.e. photocopiers, computers, stock, stationary, fridges, tables, training and equipment and swimming aids etc.
- f) Associated clubs will have access to club rooms and buildings at all times during pool opening hours.
- g) Associated clubs can obtain access to club rooms and buildings outside of pool operating hours and during the winter season by contacting Council and arranging a mutually agreeable time.

- h) Activities that take place inside of club rooms and buildings must not contravene any part of the Swimming Pools Management Plan or the principal purpose of the facility.
- i) From time to time Council may require the use of a club room for meeting or training purposes. This will be arranged with the associated group prior to any such event and shall be at a time that does not conflict with an event already planned by the group.
- j) Upon request aquatic groups must permit Council access to any locked areas for inspections, maintenance and repairs.
- k) Aquatic groups are responsible for any loss or damage to keys issued for the club rooms or facilities and their replacement must be paid for by the group.
- l) Aquatic Groups are accountable for maintaining control over keys issued.

15. RECREATIONAL DEVICES AND AREAS

15.1 SPRINGBOARDS

Where springboards are provided these will operate at the discretion of the shift supervisor. A springboard will be disabled (closed) by the placement of a sign/or barrier between the end of the board and the route which a person using a springboard correctly, would normally enter. Users of springboards must obey all directives and instructions given by Pool Staff and on signage. Safety is the paramount consideration when using a springboard. A person who uses a springboard without authorization, incorrectly or in a manner which endangers themselves or others may be requested to leave the facility.

15.2 CHILDREN'S PLAY EQUIPMENT

The use of any child play equipment is restricted to children under the age of 12 years. Non-compliance may result in the offender being required to leave the facility.

15.3 SPLASH PARK AND LEARN TO SWIM POOL

- a) Learn to swim pools are for children under the age of 12 with developing swimming ability. The shift supervisor may make exceptions to this upon request and with suitable reason.
- b) "Rough Play" is not allowed at any time.
- c) People who use the toddler's and learn to swim pools without regard for the safety of children may be requested to leave the facility.

Specific Splash Park rules

- d) No children over the age of 7 should be in this pool at any time.
- e) No running in the pool
- f) No pushing, pulling, bumping or interfering with other users. Rough play will not be tolerated.
- g) No climbing on sides or sitting on animals
- h) No flipping of the bird deliberately
- i) Parent supervision at all time (within arm's reach)

A refund of the pool entry fee will not be given to a person instructed to leave the facility due to incorrect use of a recreational device or area.

16. PROGRAMS

16.1 Swimming Lessons

Swimming lessons are run with the school terms at the aquatic centre. All swim teachers at the centre are trained in the Austswim Teacher of Water Safety course and follow the swim and survive program. Swimming lessons run on weekday afternoons, some mornings and Saturdays.

16.2 Aqua Aerobics

Aqua aerobics is run all year round in the centre. The aqua aerobics timetable is subject to change depending on staffing, lane space and attendance. Aqua aerobics classes are run by qualified aqua instructors

16.3 Swim Club

The current Swimming Club will be permitted use of the clubhouse as a storage area for their equipment. The Swimming Club must:

- Be incorporated and have a constitution
- Be run by an elected committee that consists of a list of the following office bearers; President, Secretary and Treasurer.
- Ensure that Coaches hold a current and valid AUSTSWIM Teacher of Swimming and Water Safety Certification or equivalent and CPR Certificate
- Have a public and professional liability insurance to the minimum value of \$20 Million dollars.
- Complete a Swimming Pool User Agreement form for approval before commencement of training
- Provide and maintain their own equipment.
- Ensure sufficient supervision to all children in their care.
- No underwater breath holding to be conducted (Hypoxic Blackout)
- In the user agreement they must nominate a liaison person or persons to discuss daily operational matters.

Swim club runs in the centre dependent on their booking and lane space. All swim club coaches are required to submit their qualifications to council and the aquatic centre before commencing training at the facility. Swim club is required to only undertake training when they have a booking and will only be provided lane space during these times. Swim club are to communicate with the team leader regarding lane usage and bookings

16.4 Independent swim Teachers/ Commercial Operators

See section 10.1 for details.

Commercial operators are person/s operating a separate business within councils Aquatic facility grounds. Operators conduct programs for the patrons who in turn pay a fee to the operator for the service. Commercial and private operators may

utilise the pool, operating times determined by availability Pool management and Council approval. Commercial operators such as LTS etc. may not Sub Lease lane Hire /space to another commercial operator or person.

16.5 Swimming Carnivals

Swimming carnivals are to be booked through the centre. A fee for the carnival booking will be required. The centre will organize for enough lifeguards to be on shift to cover this. Stop-watches and starters can be hired from swim club. Hire of equipment is too be arranged with them. It is the responsibility for the school to perform the custodial role of students in their care. A school must ensure adequate supervision to students attending the venue. In the event students are left without a teacher the children will be required to vacate the water immediately and the school be informed to arrange collection. The principal will be informed of the event in writing. Students under the age of 12 are not permitted to enter the pool grounds without a teacher present. Underwater breath holding (races) is not permitted (Hypoxic Blackout). It is compulsory for schools to participate in evacuation drills; this includes teachers ensuring their students are evacuated quickly. A school must complete a Swimming Pool User Agreement prior to commencing their swimming carnival.

16.6 School Swim Programs

School swimming lessons can be arranged through council. Council employed instructors are available for these sessions. All fees and charges are arranged through council and can be invoiced to the school if needed. Other programs may be run throughout the facility from time to time however, these are not approved without a risk assessment and approval through the appropriate path. Supervision requirements will remain the same as school carnivals above.

16.7 General Rules for Clubs, Schools and Organizations

A swimming club, school or organization wishing to utilize the swimming pool must:

- Have a current workers compensation policy/ WHS policy for any staff in their employ.
- Possess a public liability insurance policy
- Provide a completed Recreational Facility booking application form/Swimming Pool User Agreement with Council for approval prior to commencement of program.
- All group bookings will be presented on Councils Sports Advisory Calendar, and JM Robson Aquatic Centre Calendar (to be updated by Centre manager).
- Ensure that the number of clients can be accommodated in the pool space provided by Council to conduct their intended activities, council will provide

additional Pool Staff for organised group events on an as need basis (Guidelines for Safe Pool Ops).

- Provide all equipment associated with their activity. This includes kickboards, pool toys, balls hoops etc. and these items must be designed and approved for their intended purpose and be in good working order.
- Comply with all pool rules including strict adherence to the code of conduct on Prohibitions for swimming pools.
- Ensure that commercial activities and private swimming lessons are not undertaken at the pool complex with prior council approval and centre management.
- Ensure commercial /private activities such as private swimming lessons etc. implement hazard and risk strategies and documentation to support these strategies.
- Ensure changes to usage such as Day /Times/ Lanes are not undertaken at the pool complex without council approval & centre management.
- Ensure equipment used by commercial operators is not to be stored on council premises.
- Ensure all equipment is stored in an orderly fashion to avoid trip hazards.

16.7 General rules for Coaches /Instructors

Coaches and instructors including all commercial and private instructors will only be provided a dedicated lane if they hold qualifications appropriate to the specified level.

- Austswim Teacher of Swimming and water safety qualification
- Austswim Infant and Preschool
- Adults
- People with a disability
- Towards competitive strokes or equivalent level1/2/3/coaching (ASCTA)
- CPR
- Senior First Aid
- Work with Children Check
- Certificate 3 Fitness
- Aqua

17. ACCESS FOR PEOPLE LIVING WITH A DISABILITY

17.1 ASSISTANCE

Staff are to provide all reasonable assistance to facilitate the enjoyment of the swimming pool facilities by all patrons.

17.2 ASSISTANT ANIMALS

Trained guide dogs are permitted inside the facility.

17.3 POOL ACCESS

Council will aim to develop disabled access to all areas of Jim Robson Aquatic Centre.

17.4 LIMITS ON MANUAL HANDLING & CARE OF IMPAIRED PERSONS

Due to the risks associated with manual handling of people, pool staff are not able to provide assistance to persons who require any kind of lifting as part of their everyday use of the facility.

17.5 REFUND ENTITLEMENT

If staff are unable to provide the assistance required to facilitate access to the pool for a person with a disability a refund of pool entry is to be made.

18. EMERGENCIES

- a) The contact number for emergencies is 000.
- b) Council's Customer Service during operating hours 026354 9999
- c) Council's 24 hour Emergency Service number 026354 9999

19. EMERGENCY EVACUATION PLANS

Prior to any large event (e.g. a school carnival) the shift supervisor will implement a mass evacuation plan. The plan will be included in a brief site induction for the event organizer and assistants

20. ACCESS TO COUNCIL RESOURCES

- a) The phone in the facility is for the use of Council staff to conduct Council business.
- b) The phone in the facility is able to be used for children to contact parents. An appropriate fee applies.
- c) The phone in the facility is able to be used for emergency calls by members of the general public if no pool staff member can be found or if the person has been directed to by pool staff.

21. FEES AND CHARGES

Swimming pool fees and charges will be in accordance with those set out in the schedule of fees and charges that are an annexure to the Lithgow City Council Operational Plan for that year.

Revision Number	Description	Approved By	Issue Date
	Draft to EMT		
	Draft to CMT		
	Final version to EMT		

DRAFT



Agenda

Youth Advisory Council Meeting
18 September 2018
4.00-5.00pm

Name of Committee: Youth Advisory Council	
Item Number	Agenda
1	Welcome/Present/Apologies
2	Business Arising
3	Young Change Agents
4	Youth Working Group
5	General Business

AGENDA - YOUTH ADVISORY COUNCIL – 18 SEPTEMBER 2018



ITEM: 1 PRESENT AND APOLOGIES

PRESENT: Elyse Hudson, Brayden Drury, Farah Trifogli, Ollyvar Baber, Shifa Hargi, Claire Tilley, Eleisha Fisher, Jess Alexander.

APOLOGIES: Katie Coleman. Elli Kozicki

OFFICERS: Kristy Lenon

DECLARATION OF INTERESTS: Nil

ITEM: 2 BUSINESS ARISING

Youth Councilors gave an update regarding their progress on projects.

2.1 There was discussion about the progress of in gaining schools permission to publish their article/s in school newsletters.

2.2 There was discussion regarding the luncheon fundraiser. At this point in time members felt that enough was being done by larger businesses to fundraise for the farmers. They also felt that October was too busy to have a luncheon due to events such as Halloween and Back to Hartley.

2.3 Shifa had drafted a letter to request alcohol free zone signage

ACTION

THAT Youth Councilors approach their school principals and request if their article can be published in the school newsletters.

THAT The fundraiser luncheon for farmers be reconsidered at a later date.

THAT Shifa forward the letter to Council's Community Development Officers for follow up with appropriate authority.

MOVED: Elyse Hudson

SECONDED: Braydon Drury

ITEM: 3 YOUNG CHANGE AGENTS

Youth Councillors were advised to 'save the date' of October 8th 2018. As part of Council's 'Future Finders' Program a Social Entrepreneurship workshop will be hosted to provide Youth Council with a springboard to lead and create future change in the community.

ACTION/RECOMMENDATION

THAT The event is noted.

MOVED: Claire Tilley
SECONDED: Brayden Drury

ITEM: 4 YOUTH WORKING GROUP

Youth Councillors were advised of the General Managers interest in forming a Youth Working Group, what that would entail and the intended purpose of the group. Youth Council were asked if they would like to be a part of that working group. Youth Council were unanimously in favour of being a part of the Youth Working Group.

ACTION/RECOMMENDATION

THAT Youth Council be considered to be a part of the Youth Working Group

MOVED: Eleisha Fisher
SECONDED: Jess Alexander

ITEM: 5 GENERAL BUSINESS

Youth Councilors discussed if they thought the old netball courts could be revitalized into a youth space. Suggestions included handball courts, a community garden, a multi-functional court of netball and basketball, community library, obstacle court, legal graffiti art wall, and parkor.

This lead to further discussion about services in town that already exist; and how to best gain a better understanding of them – such as inviting guest speakers.

ACTION/RECOMMENDATION

THAT PCYC be invited to speak about their service.

MOVED: Elyse Hudson
SECONDED: Ollyvar Baber

There being no further business the meeting closed at: 5.00pm

Next Meeting:

16 October 2018 @ the Library Conference Room, 4.00pm-5.00pm
157 Main Street, Lithgow

Minutes

Operations Committee
2nd October 2018
Committee Room
4.00pm

Operations Committee	
Item Number	Agenda
1	Welcome/Present/Apologies
2	Confirmation of Minutes
3	Declaration of Interests
4	Business Arising From The Minutes
5	Cullen Bullen Sewerage Scheme – Update
6	Portland Sewerage Treatment Plant Update
7	CBD Revitalisation Project – Update
7A	CBD Revitalisation Project Stage 2 – Update
8	Drought Management & Integrate Water Cycle Strategy
9	Clarence Environmental Protection Licence – Pollution Reduction Program
10	Portland CBD Works
11	Lithgow Urban Footpath Disability Compliance
12	Piper Street Lane, Portland
13	Hartley Valley Road Widening
14	Recreation Capital Budget Reallocation
15	General Business
16	Next Meeting

ITEM 1: PRESENT AND APOLOGIES

PRESENT: Cllr R Thompson, Cllr W McAndrew, Cllr D Goodsell, Cllr S Lesslie,
Cllr S Ring, G Faulkner

APOLOGIES: NIL

OFFICERS: E Shirt, J Edgecombe, D Buckens, E Trudgett

ITEM 2: CONFIRMATION OF MINUTES FROM THE PREVIOUS MEETING

The minutes were presented to Council on 27th August 2018.

ACTION

THAT the Minutes of the meeting of 6th August 2018 be noted.

MOVED: Cllr R Thompson

SECONDED: Cllr S Ring

ITEM 3: DECLARATION OF INTERESTS

NIL

ITEM 4: BUSINESS ARISING FROM THE MINUTES

Lockyer Street – there has been further progress on this matter that will deal with the root cause of the issue of surcharge. Council has recently received the West Bowenfels Development Servicing Strategy that identifies the need to upgrade the Tweed Mills Pump Station. The pump station cannot currently handle additional load during wet weather due to restrictions on the pump size and delivery pipe work and requires upgrades to accommodate additional growth within the West Bowenfels area. Council is currently moving toward detailed design to undertake upgrade works within the current approved budget. To further improve and reduce the risk of surcharge a Request for Tender has been put out for sewer mains relining in the vicinity of Lockyer Street/Tweed Road to reduce the impact of stormwater infiltration. This outcome will remove the issue of surcharge long term rather than providing a temporary solution.

Curtin Place – It is not clear on the cause of the issue. It would appear to be an isolated incident as the surrounding residents were not impacted which would generally indicate that a partial blockage may have occurred which may have removed itself as no further complaints have been received.

Barrack Street – A survey was completed last financial year indicating that the stormwater pits were non-compliant. Works to widen the pits to increase flow during heavy rainfall have since been completed, making all stormwater pits compliant.

Stockyard Lane – Following discussions with JR Richards, it has been identified that through the construction of a concrete pad for the placement of residential bins, access for JR Richards trucks will be improved. JR Richards have confirmed that once the pad has been constructed, they will attempt to service Stockyard Lane and inform Council staff of the result.

ITEM 5: CULLEN BULLEN SEWERAGE SCHEME - UPDATE

SUMMARY

As provided to all Councillors on the 11th September 2018, below is the current program for the engagement of Consultants for Design of the Scheme.

- Call for Tenders from the Select Tenderers List: Wednesday, 14th September 2018
- Tender Close (may be subject to valid extension of time requests): Wednesday, 3rd October 2018
- Evaluation of Tender Responses: from 4th – 11th October 2018
- Report to Council to Approve Preferred Tenderer: 29th October 2018
- Concept design and contract administered: 30th October 2018

Further details of the program will be provided after the engagement is complete.

FINANCIAL IMPLICATIONS

- **Budget approved** - Yes
- **Cost centre** - 300034
- **Expended to date** - Nil
- **Future potential impact** – this project will service the Cullen Bullen community through a reticulated sewerage network.

RECOMMENDATION

THAT Council accept the update regarding the Cullen Bullen Sewerage Scheme.

MOVED: Clr S Ring

SECONDED: Clr R Thompson

ITEM 6: PORTLAND SEWERAGE TREATMENT PLANT - UPDATE

SUMMARY

Works are due for completion mid-October. The final commissioning was undertaken 26 & 27 September 2018 (details of the outcome where not available at the time the report was prepared) with final site works being complete as well as any outstanding defects.

FINANCIAL IMPLICATIONS

- **Budget approved** - Yes
- **Cost centre** - 300014
- **Expended to date** - \$10,221,496.34
- **Future potential impact** – This will improve the treatment process to a tertiary level in the Portland Sewer Scheme.

RECOMMENDATION

THAT Council accept the update regarding the Portland Sewerage Treatment Plant.

MOVED: Clr S Ring

SECONDED: Clr R Thompson

ITEM 7: CBD REVITALISATION PROJECT - UPDATE

SUMMARY

The attached report is to provide an update on the progress of the Main Street Revitalisation Stage 1 project as well as contract variations to date and the state of the budget.

FINANCIAL IMPLICATIONS

- **Budget approved** - \$2,899,000.00
- **Cost centre** - 100007
- **Expended to date** - \$3,077,443.49
- **Future potential impact** – Lithgow CBD Revitalisation Stage 2 budget to be utilised for finalisation of Stage 1.

RECOMMENDATION

THAT Council accept the report on variations effected to date and the current state of the budget for the Lithgow CBD Revitalisation Project.

MOVED: Clr S Ring

SECONDED: Clr R Thompson

ITEM 7A: CBD REVITALISATION PROJECT STAGE 2 - UPDATE

SUMMARY

The attached report is to provide an update on the strategic planning for the Main Street Revitalisation Stage 2.

FINANCIAL IMPLICATIONS

- **Budget approved – N/A**
- **Cost centre – N/A**
- **Expended to date – N/A**
- **Future potential impact – N/A**

RECOMMENDATION

THAT Council, subject to not compromising criteria for grant funding;

1. Utilise budgeted funds to begin the detailed design and costing process for the full Stage 2 Scope of Works; and
2. Continue applying for State and Federal grant funding to assist in the implementation of the Action Plan.

MOVED: Clr R Thompson

SECONDED: Clr S Ring

ITEM 8: DROUGHT MANAGEMENT & INTEGRATED WATER CYCLE MANAGEMENT STRATEGY

SUMMARY

The Consultants that are undertaking the IWCM have been asked to review the Drought Management Plan and that the Plan be delivered as an Appendix to the IWCM and that this be expedited and delivered as a separable document to the IWCM.

It was envisaged that the issues paper would be complete by the end of August but due to delays with Council's response the completion of this section of the work will not be complete till the end of September.

FINANCIAL IMPLICATIONS

- **Budget approved – N/A**
- **Cost centre – N/A**
- **Expended to date – N/A**
- **Future potential impact – N/A**

RECOMMENDATION

THAT Council accept the update regarding the Drought Management & Integrated Water Cycle Management Strategy.

MOVED: Clr S Ring

SECONDED: Clr R Thompson

**ITEM 9: CLARENCE ENVIRONMENTAL PROTECTION LICENCE
VARIATION – POLLUTION REDUCTION PROGRAM**

SUMMARY

Correspondence has been received from Centennial Coal advising of a Notice of Variation to Licence No. 726. The key items of this variation are:

U2 Wollangambe River Discharge

U2.1 By 31 December 2019 the licensee must cease discharges from licence discharge point 2 into Wollangambe River catchment, except when Lithgow City Council advises the licensee that it does not require or is unable to accept additional water.

U2.2 By 31 July 2021 the licensee must cease discharges from licence discharge point 2 into Wollangambe River catchment regardless of whether or not Lithgow City Council is unable to accept the discharge water at its water treatment facility, unless the discharge is able to meet a conductivity (EC) limit of 100 microsiemens per centimeter (us/cm).

Clarence Colliery have not confirmed their options to address the draft EPA Pollution Reduction Program. The potential issue for Council could be that water is no longer transferred to Farmers Creek Dam. It should be noted that Clarence have maintained that the transfer system is still a priority. Further information is to be provided 3 October by way of briefing paper provided by Centennial Coal.

FINANCIAL IMPLICATIONS

- **Budget approved** – N/A
- **Cost centre** – N/A
- **Expended to date** – N/A
- **Future potential impact** – The transfer of water to Farmers Creek Dam could cease.

RECOMMENDATION

THAT Council;

1. Look to finalise the Memorandum Of Understanding with Centennial Coal; and
2. Seek further information from Centennial Coal on proposed options to meet the Pollution Reduction Program (PRP); and
3. Engage WaterNSW / EPA and clarify licence limits on water drawn from Clarence noting the limit has not increased since early 1980, and that the current limit may impact on the current proposal being considered by Centennial in their response to the PRP issued by the EPA; and
4. Confirm Council's view that safety is paramount and administration seek immediate guidance from WaterNSW / EPA as to why the 'Dam Spilling' clause is no longer contained in the licence conditions.

MOVED: Clr S Ring

SECONDED: Clr R Thompson

ITEM 10: PORTLAND CBD WORKS

SUMMARY

A quote has been received for the work required to replace the garden beds in Wolgan and Williwa Street, Portland without removing any existing trees.

Description	Cost (excl. GST)
Steel grates (x15 @ \$920 each) (quoted)	\$13,800.00
Materials (base preparation, concrete, grout, joints, and seal)	\$9,200.00
Labour (2x staff for 5 days + 1x vehicle)	\$3,250.00
Total (expected) excl. GST	\$26,250.00
Total (expected) incl. GST	\$28,875.00

In summary, it is estimated that work required to replace the garden beds in the CBD of Portland to be \$30,000. This is unable to be costed to maintenance, therefore a decision would need to be made by Council to prioritise this work over already adopted 2018/19 capital projects or be made a consideration for the draft 2019/20 Operational Plan.

FINANCIAL IMPLICATIONS

- **Budget approved** – N/A
- **Cost centre** – N/A
- **Expended to date** – N/A
- **Future potential impact** – N/A

RECOMMENDATION

THAT Council make this project a consideration for the draft 2019/20 Operational Plan.

MOVED: Cllr S Ring

SECONDED: Cllr R Thompson

ITEM 11: LITHGOW URBAN FOOTPATH DISABILITY COMPLIANCE

SUMMARY

The attached report is a request for consideration of the persistent damage being caused to footpaths and kerb across the Lithgow Local Government Area by large trees planted close to concrete assets and the potential solutions.

FINANCIAL IMPLICATIONS

- **Budget approved** – N/A
- **Cost centre** – N/A
- **Expended to date** – N/A
- **Future potential impact** – N/A

RECOMMENDATION

THAT Council;

1. Accept the report concerning compliance with regard to Lithgow's Main Street Footpaths and Disability Standards; and
2. Include works to improve disability access in its Stage 2 for Revitalisation Project; and
3. Administration develop a Risk Management Strategy for disabled access; and
4. Council confirm its Risk Management Strategy with Council's Legal Advisor.

MOVED: Clr R Thompson

SECONDED: Clr S Ring

ITEM 12: PIPER STREET LANE, PORTLAND

SUMMARY

The attached report seeks to inform the Committee of a situation arising at 19 Piper Street, Portland as a result of capital works undertaken by Council and private development undertaken by the owner of the property.

FINANCIAL IMPLICATIONS

- **Budget approved – N/A**
- **Cost centre – 100355 – Burnett Street, Wallerawang**
- **Expended to date – N/A**
- **Future potential impact - \$8,000 available for the reconstruction of a section of Piper Street Lane**

RECOMMENDATION

THAT Council reallocate \$8,000.00 from savings obtained during the capital improvements to Burnett Street, Wallerawang to the reconstruction of the 30m section of Piper Street Lane adjacent to 19 Piper Street, Portland.

MOVED: Clr R Thompson

SECONDED: Clr S Ring

ITEM 13: HARTLEY VALLEY ROAD WIDENING

SUMMARY

The attached report seeks the recommendation of the Operations Committee and consideration of Council to the potential for road widening on Hartley Valley Road, in the vicinity of 150 Hartley Valley Road, Lithgow.

FINANCIAL IMPLICATIONS

- **Budget approved - NIL**
- **Cost centre - NIL**
- **Expended to date - NIL**
- **Future potential impact - \$40,000.00 incl. GST allocated to the widening of Hartley Valley Road.**

RECOMMENDATION

THAT Council;

1. Accept the report; and
2. Consider the allocation of \$40,000.00 to the widening of Hartley Valley Road, Lithgow in the 2019/20 Draft Operational Plan.

MOVED: Clr R Thompson

SECONDED: Clr S Ring

ITEM 14: RECREATION CAPITAL BUDGET REALLOCATION

SUMMARY

The attached report seeks approval from Council to reallocate funds within the Recreation capital budget for 2018/19 to facilitate the continuation of access improvements to the Lithgow Cemetery.

FINANCIAL IMPLICATIONS

- **Budget approved – N/A**
- **Cost centre – 100253 – Lithgow Cemetery Footpaths 2018/19**
- **Expended to date - NIL**
- **Future potential impact - \$20,000.00 incl. GST.**

RECOMMENDATION

THAT Council;

1. Accept the report; and
2. Approve the reallocation of \$20,000.00 from PJ100253 (Lithgow Cemetery Footpaths 2018/19) to fund the continuation of incomplete stormwater infrastructure associated with access roads at the Lithgow Cemetery.

MOVED: Clr S Ring

SECONDED: Clr R Thompson

ITEM 15: GENERAL BUSINESS

SUMMARY

Cook Street Plaza – Garbage Bins

It was advised that businesses around Cook Street Plaza have noted that there is a lack of bins in the general area of the Plaza. Suitable options have been investigated and require Council decision on style and fund reallocation.

RECOMMENDATION

THAT Council reallocate funds from Burnett Street, Wallerawang to purchase two bins for installation at Cook Street Plaza.

FINANCIAL IMPLICATIONS

- **Budget approved – N/A**
- **Cost centre – 100355 – Burnett Street, Wallerawang**
- **Expended to date – N/A**
- **Future potential impact - \$3,000**

ACTION/RECOMMENDATION

THAT appropriate actions and reporting be undertaken in relation to the items raised during general business

MOVED: Clr R Thompson

SECONDED: Clr S Ring

ITEM 16: NEXT MEETING

Next Meeting: Monday, 5th November 2018 at 4:00pm
Committee Room, Administration Building,
180 Mort Street LITHGOW NSW 2790

There being no further business the meeting closed at 5.30pm



Agenda

Economic Development Committee
Wednesday 3 October 2018
5:00 pm

Item	Agenda
1	Welcome/present/ apologies
2	Confirmation of Minutes from the Previous Meeting
3	Decline in Retail Working Party Update
4	Meeting With New Executive - Lithgow And District Chamber Of Commerce
5	Council Report Requirements
6	Council Values
7	Lithgow Economic Development Place Branding Plan 2018/2019
8	Lithgow Halloween 2018
9	Events Attraction Package Requests
10	Retail Shopping Habits Survey 2016 – Additional Research
11	Christmas Decorations 2018 Progress Update
12	Tourism and Events Working Parties Recommendations Actions To Date
13	Voting at Council Meetings
14	Next meeting

ITEM: 1 PRESENT AND APOLOGIES

PRESENT: Mayor Ray Thompson, Cr Wayne McAndrew, Cr Cassandra Coleman, Cr Deanna Goodsell, Cr Steve Ring, Cr Stephen Lesslie (5:01pm)

Late: Cr M Statham

APOLOGIES:

An apology was received from and leave of absence granted to Councillor J Smith who is unable to attend due to personal business.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

OFFICERS: Director Economic Development and Environment, General Manager, Manager Economic Development, Minute Taker

DECLARATION OF INTERESTS: Nil

ITEM: 2 CONFIRMATION OF MINUTES FROM THE PREVIOUS MEETING

COMMENTARY

The Minutes of the Economic Development Committee held on 4 July 2018 were adopted at Council's Ordinary Meeting of 23 July 2018 (Minute 18 – 203).

RECOMMENDATION

THAT the Committee note the adoption of the minutes of the Economic Development Committee held on 23 July 2018 by Council.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

Cr Ring questioned the relevance of items 5, 6, 13.

The General Manager gave the Committee advice on the items in question.

ITEM: 3 DECLINE IN RETAIL WORKING PARTY UPDATE

SUMMARY

To receive an update on the retail working party.

COMMENTARY

The decline in retail working party has now met on four occasions. In the period between meetings working party members have been conducting research into global and local economic conditions contributing to the decline in traditional retail activities. Research and discussion has then moved to possible solutions that could be recommended to assist local retailers in responding to these challenges.

The working party is now focusing on the preparation of a report to Council's Economic Development Committee which is due for completion at the end of October 2018. A meeting of the Economic Development Committee will then be called for the working party to present its findings and recommendations.

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - Nil.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT the Economic Development Committee note the update on the Decline in Retail Working Party be noted.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

CARRIED – Unanimously

Cr Statham entered the chambers. (5:08pm)

**ITEM: 4 MEETING WITH NEW EXECUTIVE - LITHGOW AND DISTRICT
CHAMBER OF COMMERCE**

SUMMARY

The purpose of this report is to advise the Economic Development Committee of an initial meeting between the new executive of the Lithgow and District Chamber of Commerce and Council staff.

COMMENTARY

An initial meeting was held on 26 September 2018 between the new executive of the Lithgow and District Chamber of Commerce and council's Economic Development staff.

The purpose of the meeting was introductory in nature; gaining an understanding of each party's future plans; providing examples of collaborative partnerships between local chambers and councils in other local government areas; and the beginning of discussions on potential collaborations. The meeting was a positive introduction and it is clear that all parties have the very best intentions for the future of Lithgow. It is intended to hold further sessions looking at refining and focusing on collaborative partnerships.

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - Nil.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT the Economic Development Committee note the report on discussions between the Lithgow and District Chamber of Commerce Executive and Council staff.

MOVED: Cr W McAndrew

SECONDED: Cr C Coleman

CARRIED – Unanimously

ITEM: 5 COUNCIL REPORT REQUIREMENTS

SUMMARY

In the past, the Administration has provided Council and/or Council committees with verbal reports and verbal updates when required. There is a necessity for Council to give the Administration direction as to whether it wishes to continue to receive verbal reports on occasions or whether Council wishes to receive written reports only.

COMMENTARY

Written reports to Council have the advantage of providing an audit trail of comment and recommendations. At times however, Councillors and Committee members have sought verbal updates on projects/issues from relevant staff during convened meetings and staff have similarly taken the opportunity to update Councillors on fluid situations, a case in point relating to the implementation of delayed tourism strategies as a result of not being able to recruit applicants to the manager tourism position for some six months.

Both Council and its Administration need to agree a format for reports to Council via resolution to give certainty of approach so as to avoid any criticism as to the manner in which Reports are provided and received.

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - Nil.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil in relation to the receipt of presentation.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT Economic Development Committee recommends that Council direct that Administration provide written and verbal reports to Council and its committees.

MOVED: Cr W McAndrew

SECONDED: Cr C Coleman

CARRIED

ITEM: 6 COUNCIL VALUES

SUMMARY

The current Royal Commission into Banking, Insurance and potentially Aged Services has revealed without question the lack of adherence to the basic values of integrity, honesty and fairness by corporate participants in those sectors, in their dealings with their customers and community members.

Lithgow Council is now in a position to develop the values it wishes to practice in its deliberations and to promote to staff and community in the hope that they will be

recognised and practiced by both Council and those that come into contact with Council and staff.

COMMENTARY

The recent Royal Commission into Banking and Insurance has revealed the significant damage inflicted on customers and the community when Corporations fail to implement and promote the values that they openly advertise to all in their annual reports as their guiding ethical principles. The ethical values of any organisation need to be applied in practice to promote confidence and stability in governance in both corporate and public sectors.

Lithgow Council has a Customer Service Charter and this is attached for Councillors information. Lithgow Council does not currently have a set of principles adopted or published that guide the Council or Staff in decision making on a daily basis.

Council now has an opportunity to consider its position on this matter and may wish to discuss a range of values including but not limited to-

1. **HONESTY.** Ethical executives are honest and truthful in all their dealings and they do not deliberately mislead or deceive others by misrepresentations, overstatements, partial truths, selective omissions, or any other means.
2. **INTEGRITY.** Ethical executives demonstrate personal integrity and the courage of their convictions by doing what they think is right even when there is great pressure to do otherwise; they are principled, honourable and upright; they will fight for their beliefs. They will not sacrifice principle for expediency, be hypocritical, or unscrupulous.
3. **PROMISE-KEEPING & TRUSTWORTHINESS.** Ethical executives are worthy of trust. They are candid and forthcoming in supplying relevant information and correcting misapprehensions of fact, and they make every reasonable effort to fulfil the letter and spirit of their promises and commitments. They do not interpret agreements in an unreasonably technical or legalistic manner in order to rationalize non-compliance or create justifications for escaping their commitments.
4. **LOYALTY.** Ethical executives are worthy of trust, demonstrate fidelity and loyalty to persons and institutions by friendship in adversity, support and devotion to duty; they do not use or disclose information learned in confidence for personal advantage. They safeguard the ability to make independent professional judgments by scrupulously avoiding undue influences and conflicts of interest. They are loyal to their companies and colleagues and if they decide to accept other employment, they provide reasonable notice, respect the proprietary information of their former employer, and refuse to engage in any activities that take undue advantage of their previous positions.
5. **FAIRNESS.** Ethical executives are fair and just in all dealings; they do not exercise power arbitrarily, and do not use overreaching nor indecent means to gain or maintain any advantage nor take undue advantage of another's mistakes or difficulties. Fair persons manifest a commitment to justice, the equal treatment of individuals, tolerance for and acceptance of diversity, they are open-minded; they are willing to admit they are wrong and, where appropriate, change their positions and beliefs.

6. **CONCERN FOR OTHERS.** Ethical executives are caring, compassionate, benevolent and kind; they like the Golden Rule, help those in need, and seek to accomplish their business objectives in a manner that causes the least harm and the greatest positive good.
7. **RESPECT FOR OTHERS.** Ethical executives demonstrate respect for the human dignity, autonomy, privacy, rights, and interests of all those who have a stake in their decisions; they are courteous and treat all people with equal respect and dignity regardless of sex, race or national origin.
8. **LAW ABIDING.** Ethical executives abide by laws, rules and regulations relating to their business activities.
9. **COMMITMENT TO EXCELLENCE.** Ethical executives pursue excellence in performing their duties, are well informed and prepared, and constantly endeavour to increase their proficiency in all areas of responsibility.
10. **LEADERSHIP.** Ethical executives are conscious of the responsibilities and opportunities of their position of leadership and seek to be positive ethical role models by their own conduct and by helping to create an environment in which principled reasoning and ethical decision making are highly prized.
11. **REPUTATION AND MORALE.** Ethical executives seek to protect and build the company's good reputation and the morale of its employees by engaging in no conduct that might undermine respect and by taking whatever actions are necessary to correct or prevent inappropriate conduct of others.
12. **ACCOUNTABILITY.** Ethical executives acknowledge and accept personal accountability for the ethical quality of their decisions and omissions to themselves, their colleagues, their companies, and their communities..

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

- Budget approved - Nil.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil.

LEGAL IMPLICATIONS

Nil.

ATTACHMENTS

1. Lithgow Customer Service Charter

RECOMMENDATION

THAT:

1. The Committee and the Council note the contents of the report for discussion purposes.
2. Administration provide a report to council on strategic direction and values.

MOVED: Cr S Ring

SECONDED: Cr D Goodsell

CARRIED

**ITEM: 7 LITHGOW ECONOMIC DEVELOPMENT PLACE BRANDING PLAN
2018/2019**

SUMMARY

To promote the Lithgow region we need to brand and market our “place” in order to attract residents, grow jobs and drive tourism.

An Economic Place Branding Plan has been developed for the 2018/2019 financial year. The Plan has two goals:

1. To research and develop brand collateral for the Lithgow destination, and
2. Develop and deliver a marketing and events campaign/programme (with industry).

COMMENTARY

Place Branding:

Place Branding has become one of the central concepts for promoting local competitiveness and for capturing significant mind and market share.

Place branding is the process of communication to a target market, it is a promotional strategy that includes all activities that increase the attractiveness of an area as a place for working, living and spending free time.

Branding a place or a region is no different to product or service branding – you have to own something that is distinctive and compelling to your target market.

Place Marketing:

Place Marketing is marketing designed to influence target audiences to behave in some positive manner with respect to the experiences associated with a specific place.

Our number one reason for marketing the Lithgow region is to promote it in a way that, if done properly, should attract residents, grow jobs and drive tourism. To promote the region we need to develop suitable marketing and advertising concepts.

Place Branding Plan 2018/2019:

A Place Branding Plan has been developed for the 2018/2019 that has 2 goals with aligned actions, depicted in the diagram below:

Lithgow Place Branding Plan – 2018/2019

GOAL 1 Research and develop Lithgow's brand collateral.	GOAL 2 Marketing and events programmes targeting key audiences.
ACTIONS 1. Conduct location research and develop "Destination Brand Essence Wheel". 2. Assemble location brand images bank. 3. Create "Destination Movies" for the region. 4. Develop and populate "Destination Lithgow" Youtube Channel. 5. Complete a transformation of the Lithgow VIC – from information to storytelling.	ACTIONS 1. Develop and deliver Lithgow Halloween 2018. 2. Develop and deliver LithGlow 2019. 3. Develop and deliver "360 Degrees of Lithgow" digital and social media marketing campaign with industry. 4. Create "Event Attraction" marketing collateral and distribute to market. 5. Update "Gateway Billboards" and complete audit and create plan for "Tourist Signposting".

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - \$47,583.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil.

LEGAL IMPLICATIONS

Nil

ATTACHMENTS

1. Lithgow Region "Brand Essence Wheel".
2. Creative Brief for Destination Movies.

RECOMMENDATION

THAT Council note the report and brief presentation on the Economic Development Place Branding Plan for 2018/2019.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

CARRIED

ITEM: 8 LITHGOW HALLOWEEN 2018

SUMMARY

To provide an update on preparations for Lithgow Halloween 2018.

COMMENTARY

Lithgow Halloween is a signature destination event for the region that now attracts over 10,000 people to the region. The Lithgow Halloween 2018 programme is well-advanced and 2018 sees two entertainment stages being used (Eskbank Street and the redeveloped Cook Street Plaza).

The iconic Aussie band the Cockroaches have been secured as the headline act for the Cook Street plaza stage, and the varied and diverse entertainment schedule spans from; amusement rides, to market and food stalls, to ghost train rides, to street and aerial performers, to youth bands, to sideshows and the skull auction in the Lithgow Library.

\$25,000 in sponsorship has been secured to date and a relationship with the Blue Mountains International Hotel Management School has been developed to use students to be conduct research and be the resource for attendance tracking at the festival.

Event Program at a glance:

Eskbank Community Stage	Eskbank stage will give the opportunity for some of our local talent to perform and entertain the crowd; a collection ten performances covering solo and dance and youth bands.
Cook Street Plaza Stage	The Cook Street Plaza stage area will profile the newly redeveloped precinct. Headline band the Cockroaches will be supported by Sideshow Annie; a 5 piece rock band.
Amusement Rides	There will fun for all with rides for young and brave from Super Slide, Flying Elephants, Circus Train Obstacle Course and the wild ride Round Up.
Ghost Train Rides	Lachlan Valley Rail will be running very scary Ghost Train Rides from Lithgow Station through to the Ten Tunnels and return.
Book Readings	Children's author Jacquelyne Lynn will be having her own marquee "meet the author" where she will have her book 'The Graves' on display and for sale and will be signing copies. Jacquelyne will be doing some readings and lots of fun things in her cackling cauldron.
Markets and Food Stalls	There will be a great range of retail and food stalls at Lithgow Tantalising food offerings from regional stall holders and the wide range of food from Lithgow's Cafes and Restaurants.
Aerial Performances	There will be spectacular performances high in the sky with Stuart Christie former Circus OZ star teaming up with international award winning street theatre artist Tahmour Bloomfield to create a dazzling show.

Skull Auction	Once again the extremely popular Skull Auction will be taking place in the Lithgow Library, come and checkout some the fantastic creations.
Street Performers	Tahmour K Bloomfield Tahmour is a professional entertainer who has been entertaining crowds all over the world for over 10 years. She is an amazing circus artist, physical comedienne, street theatre artist and cabaret performer. Stuart Christie is an accomplished circus star who will perform with Tahmour.

Marketing Program at a Glance:

1. Stand-alone Lithgow Halloween website.
2. Lithgow Halloween Facebook Page.
3. 15 and 30 second TV commercials airing on WIN and Prime TV Stations.
4. Sydney train network advertising.
5. Internal "Hero" Billboard at Lithgow Visitor VIC.

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - \$120,000. \$80,000 directly by Council and \$40,000 in projected revenue – Sponsorships, Rides, Stall fees etc.
- Cost centre – 600159
- Expended to date - \$90,862 in expenditure and commitments. \$23,865 income received to date.
- Future potential impact – Aiming to deliver event on budget. Income from rides can be dependent on weather.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT Council note the report on preparations for the Halloween 2018 Festival.

MOVED: Cr S Ring

SECONDED: Cr C Coleman

CARRIED

ITEM: 9 EVENTS ATTRACTION PACKAGE REQUESTS

SUMMARY

To advise of two applications for funding under Council's Events Attraction Package.

COMMENTARY

Two events have made funding applications via the Events Attraction Package funding stream.

The **Jet Black 24 Hour** is the premier mountain bike endurance event in NSW. Established in 2009 this event was held in the Lithgow destination (Rydal) for the first time in 2018. The success of the event and support from Council has influenced them to hold the event again here in 2019. Funding request of \$5,000.

Resilience is an event that has been developed by a group of local young men that will be a music festival that also showcases services available to youth/those-in-need (they have lost peers in their network to suicide). A great selection of bands have been secured from many different genres and the event organisers are looking to make the music festival and annual event. Attendance forecast is between 1,000 and 5,000 people. Funding request of \$5,000.

Both the events have direct links in the Lithgow Regional Economic Development Strategy 2018-2022 and recommendation to Council is that both events be funded the requested amount from the Events Attraction Package. A summary of the events and their potential benefits is outlined below.

Jet Black 24Hour:

- 23/24 March 2019.
- Almost 300 entries with support crews and families.
- Riders from across the country (5 states – 2018 data).
- Facebook followers of 12,000 – reach of over 80,000.
- Economic assessment conducted in 2018 showed event generated economic impact of \$325,000.
- 2019 forecast of 729 competitors, crews and supporters with economic impact of \$395,000.

Resilience Music Festival:

- Music festival combined with educating attendees on mental health and support services.
- Event organisers have liaised with local schools, youth, teachers and businesses and conducted a survey.
- The majority of the bands chosen have had personal experiences in the mental health space and have been encouraged to share their stories.

POLICY IMPLICATIONS

Policy 4.9 - Events Attraction Package – Section 356 of the Local Government Act 1993. The policy provides a number of criteria including only providing financial assistance to event producers and organisations that will deliver an economic and social capital benefit to the Lithgow Local Government Area and the Lithgow

community. Payments are capped at \$5,000 per event. Organisations receiving financial assistance of more than \$2,000 are required to submit an acquittal form, an audited financial statement and a written report that indicates how monies were spent and whether the outcomes identified in the application were achieved.

FINANCIAL IMPLICATIONS

- Budget approved - \$11,250.
- Cost centre – 600100
- Expended to date - Nil.
- Future potential impact – If Council approves the 2 current requests \$1,250 will remain for the remainder of the current financial year.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT Council approve funding of \$5,000 per event for the Jet Black 24 Hour Mountain Biking and Resilience Music Festival from the Events Attraction Package subject to each organisation agreeing to the acquittal requirements of Policy 4.9 - Events Attraction Package – Section 356 of the Local Government Act 1993.

MOVED: Cr M Statham

SECONDED: Cr C Coleman

CARRIED – Unanimously

ITEM: 10 RETAIL SHOPPING HABITS SURVEY 2016 – ADDITIONAL RESEARCH

SUMMARY

In 2017 Council endorsed a report on a 2016 Lithgow Retail Shoppers' Survey. At this meeting Council also resolved that funding sources be investigated for an additional survey to include the Pottery Estate Precinct. It is recommended now that there is no need to investigate a funding source to conduct additional research.

COMMENTARY

O April 2017 Council received and endorsed a report on a 2016 survey conducted on local shopping habits (38 face-to-face interviews and 178 online responses).

In response to the report the Council also resolved (Min No 17-100) that *“staff be requested to investigate a funding source to widen the scope of an additional retail survey to include retailers in the Pottery Estate precinct.”*

Since that point in time the Lithgow REDS 2018-2022 has been completed and endorsed by Council and that strategy includes priority actions aligned to the Lithgow

Shopping Precinct/CBD, and a community-led Retail Working Party is currently finalising a report to Council on online research conducted into the decline in trends and potential solutions at a local level.

As such, it is recommended now that there is no need to investigate a funding source to widen the scope of an additional retail survey including the pottery estate precinct at this date

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - Nil.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT Council not investigate a funding source to widen the scope of an additional retail survey to include retailers in the Pottery Estate precinct at this time due to the endorsed actions of the Lithgow Regional Economic Development Strategy.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

CARRIED

ITEM: 11 CHRISTMAS DECORATIONS 2018 PROGRESS UPDATE

SUMMARY

To provide an update on Christmas Decorations for the Main Street Lithgow area in 2018 and to discuss options given the limited budget.

COMMENTARY

With a budget of \$11,250 (for Lithgow, Portland and Wallerawang) for Christmas Decorations in 2018, quotes have been sourced from a number of specialist suppliers. The quotes have identified that the budget on hand will only realise limited decorations to provide a location-specific festive season atmosphere.

Current thinking is that trees and decorations are placed in the recently redeveloped Cook Street Plaza. Decorations will include; an outdoor Christmas Trees Cluster and a number of decorative garlands.

The two lots of decorations will be Council's items going forward, with the plan being to deliver additional items in each of the upcoming years to further broaden and expand on the decorations footprint.

Christmas Trees Cluster

3.6m, 3m and 2.4m tree foliage cluster decorated in tradition Christmas palette; gold, red, green and silver. Supported by a custom-made 1200mm high timber plinth. Cost \$7,527.

Garlands

Up to ten 2.7m in length green decorated garlands to enhance shop fronts abutting the plaza. Decorated in the matching colour theme as the outdoor trees. Decorated with balls in colours of green, gold, red and silver. Cost \$375 per garland.



Given that the reality of the available budget might not match community expectations, it is proposed to discuss the matter further at the committee.

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

- Budget approved - \$11,250.
- Cost centre – 600147.
- Expended to date - \$1,000 (plus in kind allocation to set up and remove traffic barriers) allocated to Portland Christmas festivities.
- Future potential impact – Approximately \$10,250 remaining in budget, although no allocation for Wallerawang is currently determined.

LEGAL IMPLICATIONS

Nil

RECOMMENDATION

THAT Council:

1. Note the Christmas decorations 2018 update report.

2. Transfer \$1,250 remaining in the Events Package fund account to the Christmas fund account.

MOVED: Cr C Coleman

SECONDED: Cr S Ring

CARRIED

ITEM: 12 TOURISM AND EVENTS WORKING PARTIES
RECOMMENDATIONS ACTIONS TO DATE

SUMMARY

To provide an update on the actions arising from the Tourism and Events Working Parties.

COMMENTARY

The Tourism and Events Working Parties to conduct research in the areas of the tourism model and events presented to the Economic Development Committee in March 2018.

The Working Parties recommended a number of actions and activities that could be used to advance tourism and events in the Lithgow region over the next 1 to 3 years. The Economic Development Committee and subsequently the Council adopted these recommendations.

A number of the actions have already been completed and this report is for information on progress with actions to date which are outlined in the table below.

TOURISM RECOMMENDATIONS	
18/19 -LCC continues its tourism role and in doing so, it engages with the local tourism operators.	✓ Tourism forum held at the Lithgow VIC to launch the transformation of the centre and outline the forward tourism plan going forward. Great turnout of over 50 attendees. ✓ 13 tourism business operations visits conducted YTD. Great responses received. ▪ Small Arms Museum ▪ Bushmans Motor Inn ▪ Zig Zag Motel ▪ Fernbrook Farm ▪ Gang Gang Gallery ▪ Eskbank House ▪ Glen Museum ▪ State Mine Heritage Park ▪ Lithgow Valley Motel ▪ The Lolly Bug ▪ Workies Club Motel ▪ Maingu Maragu ▪ Emirates Wolgan Resort ✓ Membership renewals and new applications flowing in; many returning after absence.
LCC engage with the tourism industry community to gain alignment on tourism management in future and the pros and cons of a future funding regime.	✓ Process underway to assemble "Lithgow Tourism Alliance" (follow-up letter post forum, newsletter story and direct approaches).
That Council considers developing a sustainable brand strategy aimed at target audiences most likely to visit the area.	✓ Place Branding Plan developed inclusive of a digital/social media destination marketing campaign led by Lithgow "Hero" movies (supplier briefing has occurred).
Actively pursue and identify suitable tourism grants.	✓ Liaison with Destination New South Wales on grant application for "incubator" funding for LithGlow 2019 (round opens mid to late October and application is currently being developed).
EVENTS RECOMMENDATIONS	
HALLOWEEN	
1. Professional market research on future.	Torrens University and LCC have a MoU in development to conduct research for tourism and events. To be undertaken in 2019.
2. Survey of attendees.	Students from Torrens University will be conducting surveys.
3. Target Cosplay groups.	Cosplay groups approached – minimal response.
Events Coordinator engage Volunteering Australia	Volunteering Australia directed us to Central West Volunteering and we have joined this organisation.

Expand Volunteers for Events.	Events Co-ordinator has met with Torrens University and a volunteer program has been developed for Lithgow Halloween.
Upgrade and use of industrial heritage sites for events.	LithGlow held at Blast Furnace Park in May 2018 to showcase the venue.
Develop Online Events Calendar	Briefing in August with ICT Coordinator on redevelopment of Lithgow Tourism Website inclusive of events calendar.
TAFE, UWS & Industry – Skills/Training plan.	Contacted TAFE and held meeting to develop plan. Site inspection and meeting held in July in their new learning hub. Will develop collaboration when the hub is activated over the next 12 months.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

- Budget approved - Nil.
- Cost centre – N/A
- Expended to date - Nil.
- Future potential impact – Nil.

LEGAL IMPLICATIONS

NIL

RECOMMENDATION

THAT the progress on actions from the Tourism Model and Events Working Parties be noted.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

CARRIED

ITEM: 13 VOTING AT COUNCIL MEETINGS

SUMMARY

The Code of Meeting Practice (the Code), adopted by Council on 30 September 2013, applies to all meetings of Council and its committees (where committee members are Councillors). The adopted Code complies with all current legislative and regulatory requirements.

This report seeks to clarify the recording of voting at Council meetings (Section 32 of the Code of Meeting Practice).

COMMENTARY

Section 32 of the Code of Meeting Practice states:

32 VOTING AT COUNCIL MEETINGS

- (i) Each Councillor is entitled to one vote. [S 370(1)]
- (ii) However, the chairperson has, in the event of an equality of votes, a second or casting vote. [S 370(2)]
- (iii) A Councillor who is present at a meeting of the Council but who fails to vote on a motion put to the meeting is taken to have voted against the motion. (This subclause does not apply to a Councillor who does not vote because he or she has pecuniary interest in the subject matter of the motion.) [LGGR 251(1)]
- (iv) If a Councillor who has voted against a motion put at a Council meeting so requests, the General Manager must ensure that the Councillor's dissenting vote is recorded in the Council's minutes. [LGGR 251(2)]

It has been the recent practice of the Council meeting Minutes Secretary to record the decisions of Council as "unanimous" where all Councillors have voted for a motion. Where a division on a motion is called or required, the names of those who vote for the motion and those who vote against it are respectively recorded in the Council's minutes (S32 (vi)).

For the purposes of clarity and transparency, it is proposed that Council record in the meeting minutes, the names of all Councillors who vote for or against all motions. Where a vote on a motion is unanimous and a division has not been called, the unanimous vote will be recorded in the minutes, without the necessity of recording the names of all Councillors voting for the motion.

It is also proposed that the voting record-keeping requirements will only apply to Council meetings and not to meetings of committees of Council.

POLICY IMPLICATIONS

Recording the names of all Councillors who vote for or against a motion is consistent with the adopted Code of Meeting Practice.

FINANCIAL IMPLICATIONS

- Budget approved – N/A
- Cost centre - N/A
- Expended to date - N/A
- Future potential impact - N/A

LEGAL IMPLICATIONS

Nil.

RECOMMENDATION

THAT Economic Development Committee recommends that Council record in the meeting minutes the names of all Councillors who vote for or against all motions. Where a vote on a motion is unanimous and a division has not been called, the unanimous vote will be recorded in the minutes without the inclusion of the names of Councillors. The voting record-keeping requirements will only apply to Council meetings and not to meetings of committees of Council.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

RECOMMENDATION

THAT matter is to be deferred and reported to the next full council meeting.

MOVED: Cr W McAndrew

SECONDED: Cr S Ring

ITEM: 14 NEXT MEETING

COMMENTARY

At the committee's first meeting in November 2017 the committee determined that "the General Manager determine when the next meeting will be held on a needs basis."

POLICY IMPLICATIONS

NIL

FINANCIAL IMPLICATIONS

- Budget approved – Nil
- Cost centre – Nil
- Expended to date – Nil
- Future potential impact - NIL

LEGAL IMPLICATIONS

NIL

RECOMMENDATION

THAT the General Manager determine when the next meeting will be held on a needs basis.

MOVED: Cr W McAndrew

SECONDED: Cr D Goodsell

Agenda

Finance Committee

8 October 2018

4:30 p.m.

Name of Committee	
Item Number	Agenda
1	Welcome/present/ apologies
2	Confirmation of Minutes – August Meeting
3	2017/18 Preliminary Financial Results
4	Audit Plan – Key Dates & Progress of Audit
5	Cr Ring Queries
6	Restricted / Unrestricted Cash at 30/6/18
7	September Performance Reporting to OLG
8	September 2018 Investment Report
9	October Council Meeting – Review of Finance & Assets Reports
10	Audit Action List
11	General Business
12	Next meeting – 12 November 2018

ITEM: 1 PRESENT AND APOLOGIES

PRESENT: Mayor - Cr R Thompson, Cr S Ring

APOLOGIES: Cr W McAndrew

MOVED: Cr Thompson

SECONDED: Cr Ring

OFFICERS: General Manager, Chief Financial and Information Officer (CFIO),
Minutes Taker.

DECLARATION OF INTERESTS: Nil

**ITEM: 2 CONFIRMATION OF MINUTES FROM THE PREVIOUS
MEETING**

The minutes of the Finance Committee Meeting held on 13 August 2018 were endorsed by Council on 27 August 2018 - Minute No. 18-231.

ACTION

THAT the Minutes of the meeting of 13 August 2018 be taken as read and confirmed.

MOVED: Cr Thompson

SECONDED: Cr Ring

ITEM: 3 2017/18 PRELIMINARY FINANCIAL RESULTS

SUMMARY

The preliminary Income Statement for 2017/18 was tabled. There has been minimal change to the preliminary Income Statement since the results were provided to Councillors on 7 September 2018. The preliminary net operating result for 2017/18 is \$2.574M surplus. The preliminary net operating result before capital grants for 2017/18 is (\$1.79M) deficit. The result is impacted by an extraordinary expense of \$918K for net losses from the disposal of assets (book entry).

The operating result before capital is expressed in the OLG's key performance measure, the operating performance ratio. The benchmark is at least a balanced operating performance ratio (expenses no greater than revenue). The preliminary operating performance ratio for 2017/18 is -1.98%. Council needs to continue to work towards achieving a balanced operating performance ratio.

For the other OLG performance measures, the preliminary ratios are above the benchmark – for the own source operating revenue ratio (74%), the unrestricted current ratio (1.81x), the debt service cover ratio (4.49x), the rates & annual charges outstanding ratio (5.92%) and the cash expense cover ratio (12.95 months).

ACTION/RECOMMENDATION

THAT the Council and the Committee note the preliminary 2017/18 financial results.

MOVED: Cr Ring

SECONDED: Graeme Faulkner

ITEM: 4 AUDIT PLAN – KEY DATES & PROGRESS OF AUDIT

SUMMARY

The CFIO presented the key dates from the external Audit Client Service Plan. It was noted that the external auditors had not met the deadline for the Audit Clearance meeting.

The Audit Clearance meeting will now be held in conjunction with the release of the Client Service Report on 16 October 2018. The external auditors have provided an assurance that the audit process is on track for Council to lodge its financial reports on time (due date 31 October 2018).

ACTION/RECOMMENDATION

THAT the Committee note the information provided in relation to the Audit Plan.

MOVED: Graeme Faulkner

SECONDED: Cr Ring

ITEM: 5 CR RING QUERIES

SUMMARY

Cr Ring provided a list of finance related queries to which the CFIO provided a response to each query. The queries and responses were discussed by the Committee.

ACTION/RECOMMENDATION

THAT the Committee note the information provided in response to the queries raised by Cr Ring.

MOVED: Cr Ring

SECONDED: Cr Thompson

ITEM: 6 RESTRICTED / UNRESTRICTED CASH AT 30/6/18

SUMMARY

In response to a query from Cr Ring, the CFIO tabled the preliminary 2017/18 Financial Statements Note 6(c) restricted cash balances.

The preliminary cash and investments balance at 30 June 2018 was \$33.97M. Of this balance, \$33.63M is either externally or internally restricted for specific uses or purposes. Unrestricted cash was \$342K.

The Committee discussed the implications of the information provided in the report supplied.

Details of the restricted fund balances will be included in each Quarterly Budget Review Council report.

ACTION/RECOMMENDATION

THAT Council and the Committee note the information on restricted and unrestricted cash balances as at 30 June 2018.

MOVED: Cr Ring

SECONDED: Cr Thompson

ITEM: 7 SEPTEMBER PERFORMANCE REPORTING TO OLG

SUMMARY

For the information of the Committee, the CFIO presented the September Performance Report to the Office of Local Government.

ACTION/RECOMMENDATION

THAT Council and the Committee note the information included in the September 2018 Office of Local Government Performance Report.

MOVED: Cr Ring

SECONDED: Graeme Faulkner

ITEM: 8 SEPTEMBER 2018 INVESTMENT REPORT

SUMMARY

The Committee reviewed the September 2018 Investment Report. The decrease in the investments balance due to September cash outflows and interest income being over budget were discussed.

ACTION/RECOMMENDATION

THAT Council and the Committee note the information included in the investment Report for September 2018.

MOVED: Graeme Faulkner

SECONDED: Cr Ring

**ITEM: 9 OCTOBER COUNCIL MEETING – REVIEW OF FINANCE &
ASSETS REPORTS**

SUMMARY

The following reports being presented to the Council meeting by Finance and Assets were discussed and endorsed for approval at the Council meeting on 29 October 2018.

2017/18 Financial Statements

THAT Council:

1. Note that the audit of the 2017/18 financial statements has been completed.
2. Authorise the signing of the statement on the 2017/18 General Purpose Financial Reports.
3. Authorise the signing of the statement on the 2017/18 Special Purpose Financial Reports.
4. Invite Dominika Ryan of the Audit Office of NSW, Council's Auditors, to present a report to Council on the 2017/18 Financial Statements at the Ordinary Council meeting scheduled for 26 November 2018.

Cessation of Water Saving Incentive Schemes

THAT Council cease offering the water saving schemes with immediate effect, with any rebate applications on hand at 29 October 2018 to be processed in accordance with the scheme guidelines.

External Grant Funding Policy

THAT Council:

1. Endorse draft Policy 8.9 External Grant Funding for public exhibition and comment for 28 days.
2. Following the exhibition period that Policy 8.9 External Grant Funding be returned to Council for adoption.

ACTION/RECOMMENDATION

THAT the Committee endorse the above reports for the consideration of Council at the October Ordinary Meeting of Council.

MOVED: Graeme Faulkner

SECONDED: Cr Ring

ITEM: 10 AUDIT ACTION LIST

The Audit Action Lists were discussed. The 2017/18 audit actions have been completed but some improvement actions are ongoing for 2018/19. The four remaining 2018/19 interim audit management letter actions remain on track for completion by the due dates.

ACTION/RECOMMENDATION

THAT Council and the committee note the updates contained within the Audit Action Lists for September 2018.

MOVED: Cr Ring

SECONDED: Graeme Faulkner

ITEM 11: GENERAL BUSINESS

Nil

ITEM 12: NEXT MEETING:

Next Meeting: Monday 12 November at 4:30 pm in the Committee Room.

There being no further business the meeting closed at 5:37pm.

ITEM FIN - 29/10/18 - 2017/18 FINANCIAL STATEMENTS

REPORT BY: CHIEF FINANCIAL AND INFORMATION OFFICER

REFERENCE

Min No 18-231: Ordinary meeting of Council held on 27 August 2018.

SUMMARY

The purpose of this report is to notify Council that the audit of the 2017/18 financial statements has been completed. The report also recommends that Council authorise the signing of the Statements by Councillors and Management, as required by Section 413(2)(c) of the Local Government Act 1993.

COMMENTARY

The Council's Financial Statements for the year ended 30 June 2018 were completed by Council staff and have now been reviewed and returned by the Audit Office of NSW, in accordance with legislative requirements as detailed below.

Details of the 2017/18 financial results will be presented by Dominika Ryan of the Audit Office at the 26 November 2018 Ordinary Meeting. The auditor will:

- deliver a brief presentation to the Council on the end of year result;
- review the Council's key financial indicators contained within the Financial Statements; and
- answer any associated questions posed by the Council.

A summary of the financial statements is provided in the attachment: Public Notice – Presentation of Financial Statements.

Annual Financial Statements Reporting Process

The Council's Annual Financial Statements are required to be audited by the Audit Office of NSW, and copies of the financial reports and the Auditor's report submitted to the Office of Local Government by the 31 October 2018. Both of these requirements will be met within the prescribed timeframes.

The Local Government Act 1993 has detailed provisions for the completion of the financial statements. The basic process under the Act is as follows:

- (a) Council staff prepare the financial statements;
- (b) The Council issues a statement that the accounts are in order;
- (c) The Council refers the statements to its external auditor (Min No. 18-231, Ordinary Meeting on 27 August 2018);
- (d) The Audit Office complete their work and return the statements with an audit opinion attached;
- (e) Present the financial reports and Auditor's reports to a meeting of the Council of which public notice has been given. The public notice must be given at least one week before the meeting and the meeting must be held not more than one month after the receipt of the Auditor's reports. The auditor may attend the meeting and must do so if requested in writing by the Council. (scheduled for the Ordinary Meeting on 26 November 2018);
- (f) The public notice must specify that the financial reports and Auditor's reports will be considered at the meeting and must indicate the right of any person to lodge submissions within 7 days after the meeting. The notice must include a summary of the financial reports;
- (g) Have available for public inspection copies of the financial reports and the Auditor's reports; and
- (h) Consider submissions at a subsequent meeting of the Council and advise the Office of Local Government of any matter which requires amendment to the financial reports. Submissions are required to be lodged

with the Council in writing by 4:00pm on Monday 3 December 2018. If any submissions are received, a further report on the submissions, together with Council officer comment, will be presented to the Council.

POLICY IMPLICATIONS

Nil.

FINANCIAL IMPLICATIONS

The completion of the 2017/18 financial statements is a legislative requirement and provides assurance that Council's finances are managed prudently and in accordance with accounting standards. The adoption of the recommendation of this report has no direct financial impact upon the Council's adopted budgets or forward estimates.

- Budget approved – N/A
- Cost centre - N/A
- Expended to date - N/A
- Future potential impact - N/A

LEGAL AND RISK MANAGEMENT IMPLICATIONS

There are no obvious legal or risk management issues associated with the adoption of the recommendation. The completion of the financial statements supports the Council in ensuring care and compliance is exercised in financial reporting.

ATTACHMENTS

1. Statement by Councillors and Management – 2017/18 General Purpose Financial Statements
2. Statement by Councillors and Management – 2017/18 Special Purpose Financial Statements
3. Public Notice – Presentation of Financial Statements

RECOMMENDATION

THAT Council:

1. Note that that the audit of the 2017/18 financial statements has been completed.
2. Authorise the signing of the statement on the 2017/18 General Purpose Financial Reports.
3. Authorise the signing of the statement on the 2017/18 Special Purpose Financial Reports.
4. Invite Dominika Ryan of the Audit Office of NSW, Council's Auditors, to present a report to Council on the 2017/18 Financial Statements at the Ordinary Council meeting scheduled for 26 November 2018.

ITEM FIN - 29/10/18 -COUNCIL INVESTMENT REPORT - SEPTEMBER 2018

REPORT BY: CHIEF FINANCIAL & INFORMATION OFFICER

REFERENCE

Min No 18-259: Ordinary Meeting of Council held on 24 September 2018.

SUMMARY

To advise Council of investments held as at 30 September 2018 and to note the certification of the Responsible Accounting Officer that funds have been invested in accordance with legislation, regulations and Council policy.

COMMENTARY

Council's total investment portfolio, as at 30 September 2018 when compared to 31 August 2018, has increased by \$30,000 from \$34,240,000 to \$34,270,000. Cash in Council's bank account has decreased by \$632,289.28 from \$674,256.92 to \$41,967.64.

There is an overall decrease in cash and investments of \$602,289.28 since 31 August 2018. As planned, cash outflows (e.g. payment of creditors) exceeded cash inflows as there is lower rates income received in the month of September.

If the movement in the bank account is negative, this is shown as a net redemption. If the movement in the bank account is positive this is shown as a net new investment.

The movement in Investments for the month of September 2018 were as follows:

Opening Balance of cash and investments as 01 September 2018	\$34,914,256.92
Plus New Investments – September 2018	\$8,500,000.00
Less Investments redeemed – September 2018	-\$9,102,289.28
Closing Balance of cash and investments as at 30 June 2018	\$34,311,967.64

A large proportion of Council's investments are held as restricted assets for specific purposes. Restricted assets may consist of externally restricted assets which must be spent for the purpose for which they have been received (e.g. Water, Wastewater, Stormwater, Domestic Waste, Parking) or internally restricted assets which have been set aside by Council resolution. Some internal restrictions are held to fund specific liabilities such as employee leave entitlements and bonds and deposits.

POLICY IMPLICATIONS

Investments are held in accordance with the Lithgow City Council's Investment Policy at the date of investing funds. On 14 August 2017, Council adopted a revised Investment Policy which includes the Minister's Investment Order of 12 January 2011.

FINANCIAL IMPLICATIONS

- YTD Budget approved – \$182,000.00
- Cost centre - 3259
- YTD Income to date - \$209,501.30
- Future potential impact – Nil

The Council's interest income for YTD is \$27K is over budget due to a combination of reserve balances being greater than forecast and improved investment returns. Should interest income remain over budget, a budget variation request will be prepared for Council's consideration at the Quarter 2 budget review.

Interest is paid on the maturity date of the investment. The budget for interest income is determined by the average level of funds held and the rate of return. Adjustments to the budget estimate are processed through Council's Quarterly Budget Review process. Interest Returns are determined by average funds invested and the rate of interest return.

LEGAL AND RISK MANAGEMENT IMPLICATIONS

Investments are held in accordance with the Lithgow City Council's Investment Policy at the date of investing the funds. On 14 August 2017 Council adopted a revised Investment Policy and investments comply with this Policy.

Risk is managed by taking a conservative approach to managing Council's investments and only investing in term deposits.

CERTIFICATION OF THE RESPONSIBLE ACCOUNTING OFFICER

I hereby certify that the investments listed in the report have been made in accordance with Section 625 of the Local Government Act 1993, clause 212 of the Local Government (General) Regulation 2005 and Council's Investments Policy.

Ross Gurney
Chief Financial and Information Officer (Responsible Accounting Officer)

ATTACHMENTS

1. Investment Register 2018/19

RECOMMENDATION

THAT

1. Investments of \$34,270,000 and cash of \$41,967.64 for the period ending 30 September 2018 be noted.
2. The enclosed certificate of the Responsible Accounting Officer be noted.



Agenda

Sports Advisory Committee
10th October 2018
5:00pm

Item	Agenda
1	Welcome/Present/Apologies
2	Confirmation of Minutes
3	Business Arising From The Minutes
4	Financial Assistance Requests
5	2018 LJ Hooker Reg Cowden Sports Star Of The Year Awards
6	Booking Requests
7	New Members
8	General Business
9	Next Meeting

AGENDA – SPORTS ADVISORY COMMITTEE- 10/10/18



ITEM: 1 PRESENT AND APOLOGIES

PRESENT: Clr D Goodwin, M Dean, G Ryan, T Crook, G Healey, L Kearney, A Magus, M Wren, R Marjoram

APOLOGIES: Clr J Smith, D Whitty, R Whitty

OFFICERS: T Fitzpatrick, J Edgecombe, E Trudgett

DECLARATION OF INTERESTS: NIL

ITEM: 2 CONFIRMATION OF MINUTES FROM THE PREVIOUS MEETING

The minutes were presented to Council on 24th September 2018.

ACTION

THAT the Minutes of the meeting of 12th September 2018 be taken as read and confirmed.

MOVED: R Marjoram

SECONDED: C Healey

ITEM: 3 BUSINESS ARISING FROM THE MINUTES

NIL

ITEM: 4 FINANCIAL ASSISTANCE REQUESTS

SUMMARY

A request for financial assistance has been received from Brenna Croker after her selection in the Tri Nations Tournament. It is recommended that Council provide Brenna with \$500.00 toward the cost of participating in the program, as participation will see her representing Lithgow in Germany during her involvement in hockey.

FINANCIAL IMPLICATIONS

- **Budget approved - Yes**
- **Cost centre - 600059**
- **Expended to date – N/A**
- **Future potential impact – N/A**

RECOMMENDATION

THAT Council provide Brenna Croker with \$500.00 toward the cost of participating in the Tri Nations Tournament.

MOVED: C Healey

SECONDED: R Marjoram

ITEM: 5 2018 LJ HOOKER REG COWDEN MEMORIAL SPORTS STAR OF THE YEAR AWARDS

SUMMARY

There were no written Junior nominations for the month of September 2018 received. Luke Thompson

Senior nominations for the month of September 2018 were received from:

- Phil Evans (CrossFit) – From 28-30 Sept. 2018, Phil represented NSW in the CrossFit Masters State of Origin on the Gold Coast. Phil finished 2nd place overall.

MONTH	JUNIOR RECIPIENT(S)	SENIOR RECIPIENT(S)
December/January	Emily Watts (Cycling)	Lachlan Sharp (Hockey)
February	No Nominations Received	No Nominations Received
March	Lucy Green (Tennis) Lithgow Lightning (Cricket) – Team Winner	No Nominations Received
April	No Nominations Received	David Palmer (Squash)
May	No Nominations Received	Lithgow Workmen's Valley Women's Bowling Club
June	Alex Evans (Swimming)	Roxsanne Van Veen (Cricket)
July	Under 12s State Age Team (Netball) Under 13s State Age Team (Netball) Joint Team Winners	Lithgow Bears Women's League Tag Team (League Tag)
August	Kade Inwood (Basketball)	Dale Ryan (Wood Chopping)
September		Phil Evans (CrossFit)
October		
November		

ACTION

THAT

1. The 2018 LJ Hooker Reg Cowden Memorial Senior Sports Star of the Year Award for September 2018 be awarded to Phil Evans (CrossFit)

MOVED: M Wren

SECONDED: M Dean

ITEM: 6 BOOKING REQUESTS**SUMMARY**

The following bookings were received between 12th September 2018 and 10th October 2018, and do not conflict with any other approved bookings.

Glanmire Oval, Lithgow			
User	Dates / Times	Purpose	Comments
Western Wildfires Veteran Cricket Club	Between 9.30am and 4.30pm on Sunday, 14 th October 2018	Over 50's Veteran Cricket	Approved subject to standard condition.
Saville Park, Portland			
User	Dates / Times	Purpose	Comments
Portland Touch Football Association	Between 5pm-8pm on Tuesdays & Wednesdays and 3.30pm-8pm on Thursdays from 4 th October 2018 to 2 nd April 2019	2018/19 Season Competition	Approved subject to standard condition.
Tony Luchetti Sportsground, Lithgow			
User	Dates / Times	Purpose	Comments
Lithgow Public School	Between 10.30am and 2.30pm on Friday, 21 st September 2018.	Lithgow Public School Touch Football Game	Approved subject to standard condition.
Western Wildfires Veteran Cricket Club	Between 9.30am and 4.30pm on Sunday, 16 th December 2018.	Veteran Cricket Game	Approved subject to negotiations with Lithgow District Cricket Assoc.
Western Wildfires Veteran Cricket Club	Between 9.30am and 4.30pm on Sunday, 27 th January 2019.	Over 60's Cricket Game	Approved subject to negotiations with Lithgow District Cricket Assoc.
Western Wildfires Veteran Cricket Club	Between 9.30am and 4.30pm on Sunday, 17 th February 2019 – to speak with Local Cricket to organise a different ground.	Over 60's Cricket Game	Approved subject to negotiations with Lithgow District Cricket Assoc.
Western Wildfires Veteran Cricket Club	Between 9.30am and 4.30pm on Sunday, 3 rd March 2019.	Over 60's Cricket Game	Approved subject to negotiations with Lithgow District Cricket Assoc.

Western Wildfires Veteran Cricket Club	Between 9.30am and 4.30pm on Sunday, 10 th March 2019.	Veteran Cricket Game	Approved subject to negotiations with Lithgow District Cricket Assoc and Lithgow Show Society.

The approved bookings calendars are updated after each Sports Advisory Committee meeting, and can be viewed and / or downloaded from Council's website <http://www.council.lithgow.com/recreationFacilities.html>

CANCELLATIONS

NIL

ACTION

THAT

1. All bookings detailed in Item 7 be approved.

MOVED: R Marjoram

SECONDED: C Healey

ITEM 7: NEW MEMBERS

NIL

ITEM 8: GENERAL BUSINESS

SUMMARY

Strategic Policy for Council Sporting Facilities

Cr. Ring requested Council staff investigate the feasibility, costing and funding availabilities of tiered seating for indoor and outdoor sporting facilities. Potential for the development of a strategic policy for Council facilities was raised. The purpose of this document would be to outline a list of priorities for improvement of local sporting facilities required to upgrade these assets to a standard commensurate with competitive standards.

Council staff advised that such work would need to be considered by Council alongside the safety and maintenance priorities of assets across the region.

RECOMMENDATION

THAT Council report back to the Sports Committee on the cost of tiered seating for both indoor and outdoor facilities.

Moved: M Wren

Seconded: T Crook

Appreciation

Appreciation was extended from the Croquet Club for the lock and gate provided and spraying of beetles.

Basketball Stadium

New scoreboards to be installed 19/20th October, with new backboards to be installed in the following weeks.

Police Boys Club

Investigations into moving the Police Boys Club down to the Tony Luchetti Sports Ground. Councillor's to start discussions with PCYC and Council on options and planning. To be investigated as part of the strategic plan.

ACTION

THAT appropriate actions and reporting be undertaken in relation to the items raised during general business.

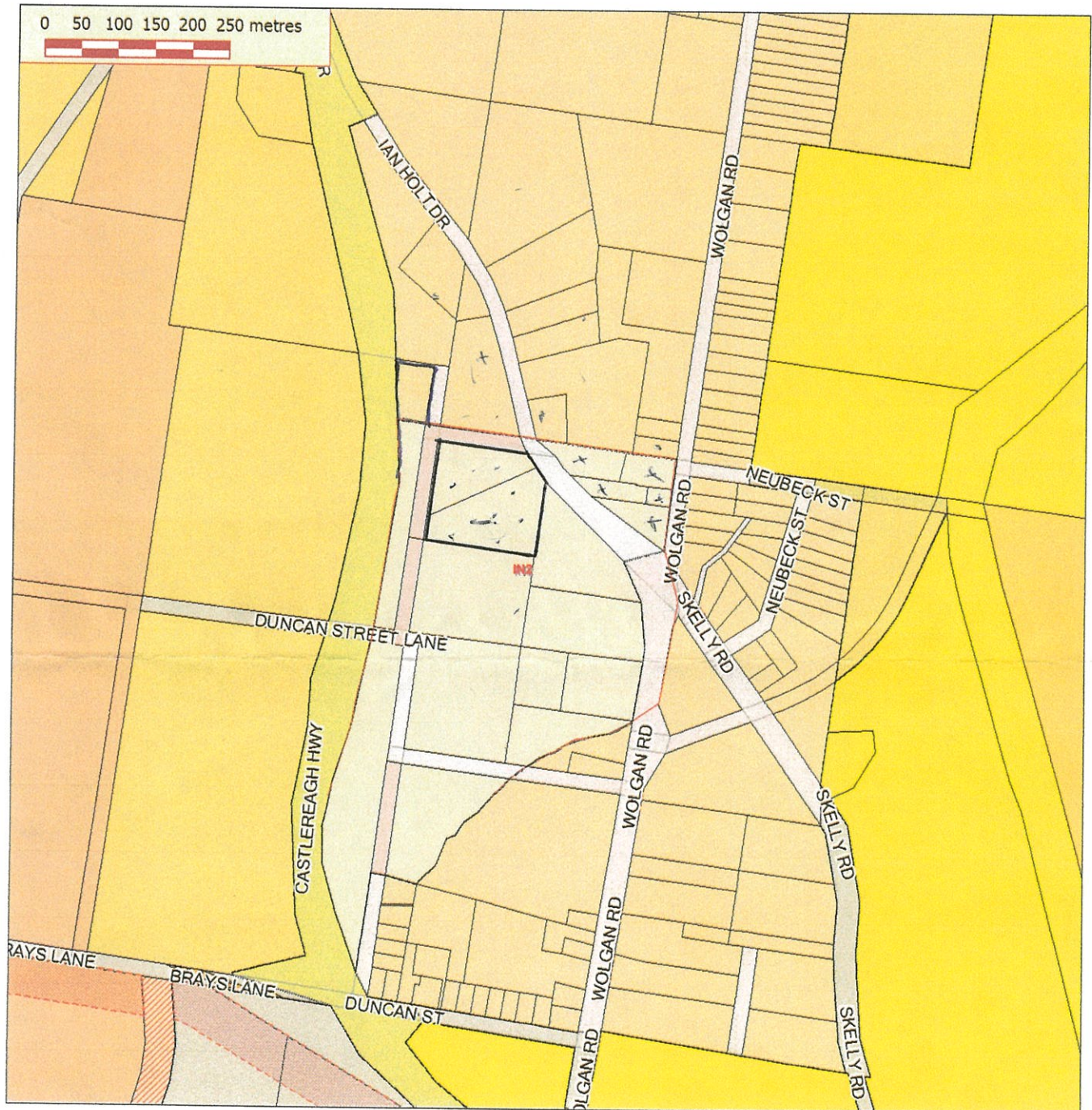
MOVED: G Ryan

SECONDED: T Crook

ITEM 9: NEXT MEETING:

Next Meeting: Wednesday, 14th November 2018 at 5:00pm
Council Chambers, Administration Building
180 Mort Street LITHGOW NSW 2790

There being no further business the meeting closed at 5.45pm



Map Scale: 1:8,245 Map Zoom: 1.441 km

Info Results

There are no features selected with textual information.



Disclaimer

This map has been created for the purpose of showing basic locality information over Lithgow City Council. Any error should be reported to the GIS Section, Lithgow City Council. This map is a representation of the information currently held by Lithgow City Council. While every effort has been made to ensure the accuracy of the product, Council accepts no responsibility for any errors or omissions. Any feedback on omissions or errors would be appreciated.

Subject: land zone

Date: Tuesday, 2 October 2018 6:50:40 pm Australian Eastern Standard Time

From: spookyhen7

To: Wayne McAndrew

Hi Mac

time line for the block of land that we have

We bought the land on the 04/02/2003.
we bought it from M.J.Ward
The solicitors were J.F. Joseph .

the address at the time was 1231 Castlereagh HWY Lidsdale

It is now 32 Ian holt drive

Rate lot description is LOT 1 DP914028, and LOT 1 DP914029 and 2 more .

From the time that we have had the land ,it was on the rate notice and billed as

RESIDENTIAL BASE from 2003 to 2014 then changed to light industrial .

We built a house on DP914028 in 2010 ,

Valuation of land act 1916 had our land as Undetermined ,or VILLAGE.
this changed in 2014

Also council rate were residential from 2003 until 2014 ,then to light industrial

So now we have a dwelling that was built in 2010, on 2.5 acres approx ,A vacant block next to this one approx the same area , that
now cannot be built on as this in now light industrial .

As shown on the plan ,Whalan's land was changed to light industrial in 2014 and it appears that our block was tied up in this change

When I spoke to council ,they told me that Whalan's applied to have their land re zoned ,but when I spoke to Whalan's they tell me
that they did not approach council

Also why would you have dwelling on 1 block ,then a light industrial block ,then back to residential again .

Also to consider ,the house straight across the road ,the old inn is heritage listed .

Also council have allowed 3 new blocks to be built on across the road .

Also 32 blocks are now before council for approval 300metre down the road.

I am very happy to meet with council any time so I can explain it better if required .

thank you

Peter Williams

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ATTACHMENTS:

Email advice from the Administration

The following information has been provided to the aforementioned residents as well as others who have asked similar questions.

As far as I can tell, the stormwater issue of note is not related to that which is above ground (as above ground water is captured by the large roadside drain alongside Inch Street Lane to the rear of 11 Inch Street) but rather the effects of ground water flow. Essentially, the existing Blast Furnace site is currently acting as a ground water recharge site as a result of its numerous subsurface tunnels and pathways. These site features can hold stormwater during consistent rainfall events of reasonable intensity, such as that which we are currently experiencing.

In a local-flow groundwater system, from the point of recharge, topographically low areas can become subject to significantly high-water table levels, sometimes being at surface level. When the water table level becomes the ground level, any ground level inconsistencies such as excavated dwelling sub-floors can become the groundwater outlet and subsequently become submerged with stormwater. Topographically, the blast furnace site is high while the residential properties of Inch Street are comparatively lower; the appropriate conditions for this phenomenon to occur.

The attached diagram is a good example of what I am describing, where the Blast Furnace is atop a hill.

From my knowledge and without any formal geotechnical or hydrological analysis, I can think of two options to resolve.

1. Fill the Blast Furnace site. This is cost-prohibitive and would probably not satisfy cost-benefit criteria.
2. Dig a groundwater well of sufficient depth and width, place strategically so it fills before any of the residential property sub-floors and pump the stormwater into the existing infrastructure that flows into Farmers Creek. This is still likely to be reasonably costly to construct and maintain however it may be an effective solution.

As Cr. Ring correctly notes, any solution and associated cost must be weighed up against other priorities of the region.

Diagram of ground water recharging

